



REVISED AGENDA

GREEN LINE COMMITTEE

June 1, 2020, 9:30 AM
IN THE COUNCIL CHAMBER

Members

Councillor S. Keating, Chair
Councillor J. Davison, Vice-Chair
Councillor G. Carra
Councillor D. Farrell
Councillor J. Gondek
Councillor W. Sutherland
Mayor N. Nenshi

SPECIAL NOTES:

Public are encouraged to follow Council and Committee meetings using the live stream <http://video.isilive.ca/calgary/live.html>

Public can follow the live agenda tracker at www.calgary.ca/agenda

*Public wishing to make a written submission may do so using the public submission form at the following link:
[Public Submission Form](#)*

Public wishing to speak are invited to contact the City Clerk's Office by email at publicsubmissions@calgary.ca. to register and to receive further information.

Council Members will be participating remotely.

1. CALL TO ORDER
2. OPENING REMARKS
3. CONFIRMATION OF AGENDA

4. CONFIRMATION OF MINUTES

4.1 Minutes of the Regular Meeting of the Green Line Committee, 2020 February 21

5. CONSENT AGENDA

5.1 DEFERRALS AND PROCEDURAL REQUESTS
None

5.2 BRIEFINGS
None

6. POSTPONED REPORTS
(including related/supplemental reports)

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

REVISED MATERIAL

7.1 *Green Line Update Stage 1, GC2020-0583*
****The public may present on this item****

NEW MATERIAL

7.1.1 *Green Line Update Stage 1, GC2020-0583*

7.2 Green Line Program Governance, GC2020-0582
****The public may not present on this item****

NEW MATERIAL

7.3 *Green Line Budget and Financing Approval, GC2020-0616*
****The public may not present on this item****

Attachment 2 held confidential pursuant to Sections 23 (Local public body confidences), 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*.

Review By: 2027 December 31

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

- 10.1.1 Green Line Governance Update (Verbal), GC2020-0624
Held confidential pursuant to Sections 23 (Local public body confidences), 24 (Advice from officials), 25 (Disclosure harmful to economic and other interests of a public body), and 27 (Privileged information) of the *Freedom of Information and Protection of Privacy Act*.

Review By: 2020 June 15

10.2 URGENT BUSINESS

11. ADJOURNMENT



MINUTES

GREEN LINE COMMITTEE

**February 21, 2020, 9:30 AM
IN THE COUNCIL CHAMBER**

PRESENT:

Councillor J. Davison, Chair
Councillor J. Gondek, Vice-Chair
Councillor G. Carra
Councillor D. Farrell
Councillor S. Keating (Remote Participation)

Councillor W. Sutherland
Councillor J. Farkas

ALSO PRESENT:

General Manager M. Thompson
Deputy City Clerk T. Mowrey
Legislative Advisor J. Palaschuk

1. CALL TO ORDER

Councillor Davison called the Meeting to order at 9:33 a.m.

2. OPENING REMARKS

No opening remarks were provided at today's meeting.

Moved by Councillor Sutherland

That Councillor Gondek be elected as Vice-Chair for today's meeting.

MOTION CARRIED

3. CONFIRMATION OF AGENDA

Moved by Councillor Sutherland

That the Agenda for the 2020 February 21 Regular Meeting of the Green Line Committee be confirmed.

MOTION CARRIED

4. CONFIRMATION OF MINUTES

4.1 Minutes of the Regular Meeting of the Green Line Committee, 2020 January 28

Moved by Councillor Gondek

That the Minutes of the 2020 January 28 Green Line Committee meeting be corrected, as follows:

That with respect to Report GC2020-0149, the following be approved:

Administration recommends that the Green Line Committee:

1. Receive the distributions shared during the Closed Meeting for the Corporate Record;
2. Keep the Closed Meeting discussions and presentations (Morning and Afternoon Session presentations) confidential pursuant to Sections 21 (Disclosure harmful to intergovernmental relations), 24 (Advice from officials), 25 (Disclosure harmful to economic and other interests of a public body), and 27 (Privileged information) of the *Freedom of Information and Protection of Privacy Act*, to be reviewed by 2027 December 31, and
3. **To continue engagement with key stakeholders, confirm public engagement in accordance with this presentation and invite the public to present at the 2020 March Green Line Committee meeting.**

MOTION CARRIED

Moved by Councillor Gondek

That the Minutes of the 2020 January 28 Regular Meeting of the Green Line Committee be confirmed, **as corrected**.

MOTION CARRIED

5. CONSENT AGENDA

5.1 DEFERRALS AND PROCEDURAL REQUESTS

None

5.2 BRIEFINGS

None

6. POSTPONED REPORTS

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

7.1 Green Line – Project Readiness Report, GC2020-0246

A presentation entitled 'Green Line - Project Readiness Report', dated 2020 February 21, was distributed with respect to Report GC2020-0246.

Councillor Davison introduced a group of Grade 5 students from the Calgary French and International School in Ward 6, along with their teacher Audrey Gelinas.

A clerical correction was noted on the Cover Report, Report GC2020-0246, page 5, under the header 'Delivery:' in the first bullet by deleting the word 'RFP' and by substituting with 'RFQ'.

Councillor Sutherland rose on a Point of Order with respect to comments made by a member.

Moved by Councillor Sutherland

That with respect to Report GC2020-0246, the following be approved:

That the Green Line Committee recommend that Council receive this report for the Corporate Record.

MOTION CARRIED

7.2 Green Line Q4 2019 Update, GC2020-0244

A presentation entitled 'Q4 2019 Updated and Annual Report', dated 2020 February 21, was distributed with respect to Report GC2020-0244.

Councillor Carra rose on a Point of Order with respect to comments made by a member.

Committee, by general consent, and pursuant to Section 6(1) of the Procedure Bylaw, 35M2017, as amended, suspended Section 78(2)(a) in order to complete the item before the scheduled lunch recess.

Councillor Carra rose on a Point of Order with respect to comments made by a member.

Moved by Councillor Gondek

That with respect to Report GC2020-0244, the following be approved:

That the Green Line Committee:

1. Direct Administration to proceed with Segment 1 of Stage 1 of the Green Line project;
2. Direct Administration to provide a cost estimate for a dedicated lane bus rapid transit route along Centre Street from 160th Ave north to 6th Ave south, as well as from Shepard to Seton in the south, to be presented at the March 31, 2020 Green Line Committee meeting;
3. Direct Administration to provide the best option for terminating the south leg of the Green Line LRT in the centre city without advancing the project over the Bow River in Stage 1, and the cost savings that could be realized and reallocated to the aforementioned north BRT option for the Green Line; and
4. Direct Administration to work with the Mayor's Office to engage with the provincial and federal governments to enhance the scope of the Green Line project to be a multimodal rapid transit strategy that accomplishes our mutual goals of: 1) reducing emissions, 2) increasing accessibility and inclusivity of transit for all Calgarians, and 3) driving investment and economic growth by

encouraging a more fulsome public transit network in one of Canada's most important urban centres.

Committee recessed at 12:29 p.m. to the Call of the Chair and resumed at 1:55 p.m. with Councillor Davison in the Chair.

Committee, by general consent, allowed Councillor Gondek to withdrawn her motion.

Moved by Councillor Gondek

That with respect to Report GC2020-0244, the following be approved:

That the Green Line Committee:

1. Move the 2020 March 31 Green Line Committee meeting to be held on 2020 April 23 to allow for additional engagement;
2. Direct Administration to continue engagement and invite the public to participate at the 2020 April 23 meeting; and
3. Direct Administration to report back on 2020 April 23 with final recommended Stage 1 alignment, business case, borrowing bylaws, What We Heard Report, and governance recommendations.

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 Carra

That this meeting adjourn at 2:01 p.m.

MOTION CARRIED

THE FOLLOWING ITEM HAS BEEN FORWARDED TO THE 2020 MARCH 16
COMBINED MEETING OF COUNCIL.

CONSENT:

- Green Line - Project Readiness Report, GC2020-0246

The next Regular Meeting of the Green Line Committee is scheduled to be held 2020
April 23 at 9:30 a.m.

CONFIRMED BY COMMITTEE ON

CHAIR

ACTING CITY CLERK

UNCONFIRMED

**Green Line Report to
Green Line Committee
2020 June 01**

**ISC: UNRESTRICTED
GC2020-0583**

Green Line Update Stage 1

EXECUTIVE SUMMARY

Green Line is important to the future of Calgary and benefits all Calgarians. It represents a significant investment in our transportation network, in our communities, and the future of our city. In its entirety, Green Line will deliver high-quality transit service to Calgarians in north central and southeast communities, and strategically connect communities, employment hubs, and key destinations for Calgarians who live and work across the city.

Green Line will not only provide more mobility choice for Calgarians and enhance future community building, moving forward with Green Line today will ready Calgary for tomorrow's recovery. Green Line Stage 1 will be an important part of Calgary's economic recovery. The Stage 1 investment will create an estimated 20,000 jobs and comes at a critical time when it is important to bolster Calgary's economy. Green Line is also a long-term investment in the growth and development of our city, it will be part of Calgary's global competitive advantage and will help attract new businesses and a young, talented workforce to our city.

In July 2019, Administration advised Council of the need to re-evaluate the scope of Stage 1 to bring the Program's cost estimates within budget, manage construction risk and improve the customer experience to best achieve the Green Line vision. Council directed Administration to undertake a review of the Stage 1 alignment and to complete a series of due diligence activities to confirm that Stage 1 has the right alignment, that Stage 1 is the right project for Calgary and that it will be delivered using the right approach.

This report presents a recommended update to the Green Line Stage 1 alignment and confirms:

1. That the updated Stage 1 alignment is the right alignment that can be delivered within budget, manage risk, achieve the Green Line vision and deliver the best value for Calgarians.
2. That the updated Stage 1 alignment is the right project for Calgary and meets the objectives set by Council, and the investment in Stage 1 will have significant mobility and urban development benefits for the City and provide long-term benefits to downtown real estate values and City assessed value.
3. That Administration has set up the right approach to enhance Council and Calgarians trust and confidence in The City's ability to deliver the Green Line Program on time and on budget.

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ADMINISTRATION RECOMMENDATIONS:

The Green Line Committee recommends that Council:

1. Approve Segment 1 of the updated Stage 1 alignment and station locations, as outlined in Attachment 3;
2. Direct Administration to Release the Request for Proposal (RFP) for Segment 1 no later than 2020 July 24, and to start construction of Segment 1 upon execution of the Project Agreement for Segment 1;
3. Direct Administration to advance enabling works construction in Segments 1 and 2;
4. Approve Segment 2 alignment and station locations as outlined in Attachment 3. Direct Administration to undertake the Segment 2 Functional Plan. For the Centre Street N surface-running and Bow River bridge components (16 Avenue N to Eau Claire), direct Administration to continue stakeholder engagement and communications as required when completing the following studies:
 - Mobility Studies Plan;
 - Access Management Plan;
 - Streetscape Plan; and
 - Bow River Bridge Plan.

Direct Administration to report back to the Green Line Committee no later than 2021 July 31 with the results of the above plans and studies. Direct Administration to prepare and release the Segment 2 RFP and start Segment 2 construction provided the Green Line Program cost estimate, including contingency, is estimated at no less than P80 and is within the approved Program funding;

5. Approve the North Central BRT improvement concepts identified in Attachment 7. Direct Administration to conduct the Functional Plan for the North Central BRT Improvements identified in Attachment 7 and report back to the Green Line Committee no later than 2021 July 31 with the delivery plan to construct the approved North Central BRT Improvements identified in Attachment 7;
6. Direct Administration to proceed with real property transactions based on the updated Stage 1 alignment, including the North Central BRT improvements, in accordance with the procedures as outlined in the previously approved Proposed Delegated Authority, Stage 1 Green Line LRT Project [C2018–0333].
7. Direct Administration to advise the Government of Canada and the Government of Alberta of Council's approval of the recommendations in this report, and seek approval to include the North Central BRT Improvements as eligible costs in the funding agreement; and
8. Notwithstanding the approvals above, should significant additional funding become available to extend the line northward prior to construction commencement of Segment 2 (not including enabling works), authorize Administration to redesign the Segment 2 alignment as needed to accommodate the expansion, returning to Council through the Green Line Committee with recommended alignment changes with respect to Segment 2.

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PREVIOUS COUNCIL DIRECTION / POLICY

In 2015 December, Administration presented a report to Council (TT2015-0881) which evaluated the long-term vision for the Green Line LRT Program. Since that time Council has provided Administration with extensive direction on the Program. A summary of key Council decisions relating to the alignment and procurement of the Green Line are outlined in Attachment 1.

BACKGROUND

On 2020 January 13, Council reconfirmed the Vision for the Green Line program as:

A city-shaping transit service that improves mobility in communities in north and southeast Calgary, connecting people and places and enhancing the quality of life in the city.

At the same meeting Council approved the following Outcomes for Calgarians for the Green Line Program to deliver a transit service that:

- Improves mobility by providing a frequent, reliable, and affordable service.
- Contributes to an efficient transportation network that promotes transportation choice and reduces congestion, travel times and greenhouse gases.
- Enhances connectivity between people and places including connections to the broader transit network.
- Creates a positive transportation experience – safe, accessible, comfortable and convenient.
- Contributes positively to urban realm, community development and revitalization.
- Contributes to the vitality of business in the community.
- Protects the environment by enhancing the City's environmental stewardship.

Planning for elements of the Green Line LRT started back as far as 1967. In recent years significant planning studies have been completed which have shaped the current alignment, including:

- 2012 Southeast LRT Functional Planning Study 1
- 2012 North Central LRT Corridor Planning Study
- 2015 Green Line SE Alignment and Stations Report
- 2017 Green Line LRT Alignment and Stations 160 Avenue to Seton.

Additional background on the Green Line LRT is outlined in Attachment 2.

In 2017, Council approved the Green Line Stage 1 alignment – 16 Avenue N to 126 Avenue SE (Shepard). Since that time the Green Line Program Team has advanced the planning and design of Stage 1, acquired the required real estate, prepared land for construction through an enabling works construction program and prepared procurement documents for various aspects of the program.

In July 2019, the Green Line Program Team advised Council of the need to re-evaluate the scope of Stage 1 to bring the Program's cost estimates within budget, manage construction risk and improve the customer experience to best achieve the Green Line vision. Council directed

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the Green Line Program Team to undertake a review of the Stage 1 alignment and to complete a series of due diligence activities to confirm that the Stage 1 has the right alignment, that it is the right project for Calgary and that it will be delivered using the right approach.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

The Right Alignment for Stage 1

Administration has re-evaluated the Green Line Stage 1 scope to bring the cost estimates within budget, manage construction risk and improve the customer experience to best achieve the Green Line vision. From the re-evaluation, Administration is recommending an updated Stage 1 alignment and station location plan, as outlined in Attachment 3.

At a glance, the updated Stage 1 alignment includes:

Segment 1 – Shepard (126 Avenue SE) to Elbow River. The alignment and station locations in this segment have not materially changed from the original 2017 Council approved Stage 1 alignment. Value engineering has been undertaken to manage cost and construction risk, as described in the section below.

Segment 2 – Elbow River to 16 Avenue N The alignment and station locations have materially changed from the original 2017 Council approved Stage 1 alignment, as described in the sections below.

North Central BRT Improvements. Customer service and transit priority improvements for the North Central BRT have been added to the Stage 1 scope of work and are described below.

Value engineering of Segment 1

The Green Line Program Team re-evaluated Segment 1 with the objective of reducing construction cost estimates and construction risks. No material changes were made to the alignment and station locations in Segment 1, instead the following opportunities were identified and incorporated into the scope of the updated Stage 1 alignment:

- Replacing a parkade with a surface parking lot at the Shepard LRT station;
- Revising the LRT alignment at Barlow Trail SE and 114 Avenue SE from an underpass concept to an overpass concept;
- Raising the track profile through the Lynnwood Ridge and former Imperial Oil Refinery lands to manage environmental risk during construction;
- Optimizing bus terminal and road layout at South Hill station; and
- Optimizing the size and scale of the LRT maintenance and storage facility.

The Green Line Program Team will continue to seek out additional opportunities to further reduce costs and improve customer service value during the delivery of Segment 1.

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Re-evaluating Segment 2 alignment and station locations

The Green Line Program Team is recommending updates to the alignment and station locations in Segment 2 to bring the cost estimates within budget, manage construction risk and improve the customer experience to best achieve the Green Line vision. The recommended updates include:

- A surface-running LRT on Centre Street N;
- A new LRT bridge over the Bow River;
- 2.5 km of tunnel through the downtown and Beltline;
- Four underground stations; and
- Two surface stations on Centre Street N, including a new station at 9 Avenue N.

The updated Segment 2 alignment, station locations and concept plan are presented in Attachment 4, which outlines:

- A summary of the alignment changes;
- A concept plan, renderings and descriptions to help illustrate what the stations, surface-running LRT and new bridge might look like; and
- The work program to advance the planning of this Segment and ready it for procurement and construction.

Engaging stakeholders on the updated Segment 2 alignment, station locations and concept plan

Engagement on the updated Stage 1 alignment focused on sharing the recommended changes with Calgarians and gathering stakeholder and public feedback to help Council members understand stakeholder and public sentiment towards the proposal when making their decision. Engagement was at the Listen and Learn level: We will listen to stakeholders and learn about their plans, views, issues, concerns and expectations and ideas.

From January 29 until April 30, 2020, stakeholders and public shared over 5,000 comments on the updated Stage 1 alignment at 15 in-person events as well as online. Feedback has been summarized in a What We Heard Report in Attachment 5, together with verbatim comments received during this period. Between March 15 and April 30, when Calgarians and the Green Line Program Team were limited by physical distancing measures imposed as a result of COVID-19, engagement proceeded with feedback provided entirely online.

The What We Heard Report captures a diversity of opinion for the project, including sentiments from Calgarians who are eager for the LRT service, Calgarians who are concerned about the project at this time and Calgarians who have a desire to slow the process to allow for more consultation. A strong preference and support for the original 2017 Council approved alignment as the “right” alignment was heard. Comments on impacts to vehicle movement, the area road network being impacted and increased traffic in the community were heard for Centre Street N. Feedback was received about the potential visual, noise and safety implications of a surface-running alignment in the Eau Claire area and concerns about a bridge over the Bow River, including comments related to construction and long-term impacts on Prince’s Island Park and habitats. A more comprehensive list of key themes can be found in Attachment 5.

The Green Line Program Team has reviewed the What We Heard Report, identified common stakeholder interests and identified ways that many stakeholder interests can be addressed

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through planning and design. A summary of stakeholder interests and potential means to mitigate have been provided in Attachment 6.

North Central BRT improvements

As part of the updated Stage 1 alignment, the Green Line Program Team is recommending that improvements be made to the existing bus rapid transit (BRT) service along the Centre Street N and Harvest Hills Boulevard N corridor in north central Calgary. These improvements will improve customer service and transit priority for Calgary Transit's busiest bus corridor.

The corridor currently carries just under 1,000 busses per day in its highest volume section between Beddington Boulevard N and 64 Avenue N and over 800 busses per day in and out of downtown Calgary. The corridor supports a peak transit ridership of approximately 30,000 customers per day with over 20,000 of those customers traveling in and out of downtown Calgary.

Attachment 7 identifies a series of potential bus operation and infrastructure improvements for the Centre Street N and Harvest Hills Boulevard N corridor. For the purposes of this review, improvements were recommended that will be most beneficial when paired with the updated Stage 1 alignment.

As part of the next steps for this work, the Green Line Program Team is recommending a more detailed study of the potential improvements to prepare a functional plan that will be used to advance the improvements to construction.

Evaluating alternate Stage 1 alignments

To confirm that Administration's recommended updated Stage 1 alignment will provide the best outcome for Calgarians, the Green Line Program Team retained Steer, an international public transit planning and project economics group, to undertake an Alignment Options Review.

Attachment 8 presents the Alignment Options Review Summary. This review evaluated eight different alignment configurations, which included both the 2017 Council approved and updated Stage 1 alignments, as well as other configurations that included a mix of BRT and/or LRT technologies, connecting or disconnecting the line, and the potential use of the existing Red Line tunnel between Stampede Park and City Hall.

The alignment options were evaluated through a Multiple Account Evaluation (MAE) process. This is an established process for comparing options and considers a range of potential factors or criteria to highlight the benefits and impacts of the choices available. The evaluation themes and criteria used were informed and consistent with both the Project Vision and Outcomes for Calgarians.

The MAE evaluation confirmed that the updated Stage 1 alignment, from 16 Avenue N to Shepard, with surface-running LRT on Centre Street N, a new LRT bridge over the Bow River and North Central BRT improvements, is the best performing option across a broad range of criteria and will deliver the best value for Calgarians within the approved budget threshold.

Benefits of updated Stage 1 alignment

The updated Stage 1 alignment can be delivered within budget, manage risk and improve the customer experience to best achieve the Green Line vision. The updated alignment will deliver the best value for Calgarians by:

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- Moving a high number of LRT riders (55,000 – 65,000) on opening day;
- Providing strategic rapid transit network connections, including Red and Blue Line LRTs and MAX Orange BRT;
- Spurring private redevelopment and investment opportunities; and
- Providing the greatest opportunity for incremental LRT expansions to north central and southeast communities in the future.

The Right Project for Stage 1

To confirm that the updated Stage 1 alignment is the right project for Calgary, Administration has developed a Business Case for this stage of the Green Line LRT and undertaken a review to determine how the updated alignment may affect downtown real estate values and City assessed value. Both the updated Business Case and Property Economic Impact Assessment identify long-term benefits which support the investment in the Stage 1 alignment.

A Business Case for the Updated Stage 1 Alignment

A Business Case for the updated Stage 1 alignment of the Green Line LRT Program is presented in Attachment 9. The purpose of this document is to:

- Articulate the case for developing and delivering Stage 1 of the Green Line LRT Program;
- Define the benefits and rationale for Stage 1, as well as the financial and delivery requirements to successfully deliver it; and
- Support evidence-based decision making and ongoing planning and design of Stage 1 in advance of procurement and delivery.

The Business Case has been updated using a revised approach to transportation investment analysis and benefits management. The approach utilized to develop the Business Case draws on robust analysis previously completed by The City and is informed by best practices applied in Canada and internationally that support analysts, planners, decision makers, and stakeholders to understand how a proposed investment performs against four crucial dimensions of performance:

- Strategic Case – Does the investment support the broader policy and planning goals of The City?
- Economic Case – What level of socio-economic benefit is generated by the investment?
- Financial Case – What are the funding and financing requirements to successfully deliver the investment?
- Deliverability and Operations Case – What are the technical and governance requirements to procure, deliver, and operate the investment?

The Business Case for the updated Stage 1 alignment of the Green Line LRT Program draws on over five years of planning, stakeholder engagement, and design to present an optimized investment for the City of Calgary. This investment will have a significant benefit to mobility and urban development for the City of Calgary, including:

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- **Improving mobility choices.** By providing fast, frequent and reliable transit service that strategically connect communities, employment hubs and key destinations, the Green Line LRT will save Calgarians time traveling to work, school and recreational activities.
- **Laying foundations for future expansion.** By delivering the most complex elements of the overall Green Line Program first, Stage 1 enables incremental future expansion to north central and southeast communities.
- **Catalyzing development** The Green Line LRT serves 10 station areas that are identified by Calgary's Municipal Development Plan as an activity centre or corridor. These areas are a priority for investment and development.
- **Integrated and cost-effective transit service.** The Green Line LRT will connect people to where they want to go using a new LRT that can be delivered and operated in a cost-effective manner.
- **Connecting the city.** The Green Line is the next step for completing Calgary's rapid transit network providing seamless connectivity with the existing Red and Blue LRT lines and four MAX transit routes.

Property Economic Impact Assessment

In accordance with Council direction received on 29 July 2019 to undertake a review of risks associated with any potential alignment decisions that affect downtown real estate values and City assessed values; Administration retained Hatch Urban Solutions to complete a Property Economic Impact Assessment for the Green Line, as outlined in Attachment 10.

The report identified the following key findings:

- Properties within 800m of an LRT station will generally see an increase in property value, with the greatest increase within 500m.
- Retail, office and multi-family properties will generally see the largest increase in property value within 20m of an LRT station.
- New LRT may spur development in areas where underutilized land will be converted into higher and better use.
- Additional value will be created from new, higher-density development that is mixed-use and designed with the public realm in mind.
- Uplifts to property values will not be evenly distributed and will vary depending on property type, land use and proximity to stations.
- Retail and single residential uses are more sensitive to station proximity than others and may see their values underperform for their market if not located within a certain distance of the station.
- During construction, there may be impacts in the form of business loss attributed to the loss of tenants due to disruptive construction.
- Station and light rail construction can generate negative impacts to local businesses, but business sustainability is a result of numerous factors, many beyond LRT construction.

While generally, over the long-term positive uplifts to properties within close proximity to the LRT stations can be expected along the proposed Centre City alignment, many other complex factors will need to be considered given Calgary's current economic situation.

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The Right Approach

Administration has setup the right approach to enhance Council and Calgarians trust and confidence in The City's ability to deliver the Green Line Program on time and on budget and in accordance with the Council-approved Program Vision and Outcomes for Calgarians. As part of this right approach, the Green Line Program Team has developed and is implementing enhanced program management, risk management and due diligence.

In February 2020, the General Manager of the Green Line Program presented the Project Readiness Report to the Green Line Committee. The report included information about the project readiness plan developed jointly by the Green Line Program Team, the Green Line Technical and Risk Committee (TRC) and external experts supporting the project. This was in response to the conclusions and recommendations of the TRC in their project deliverability review requested by the General Manager of the Green Line Program and by Council on 2019 July 29. The TRC is comprised of independent, external, professional project advisors possessing expertise in the areas of governance, procurement, commercial matters, stakeholder consultation, design, and tunnel constructability.

Due diligence and risk management: The role of the readiness plan

The readiness plan was developed to:

- Address gaps in program delivery identified by the TRC and required for successful execution over the ongoing alignment planning, procurement and construction stages of the program; and
- Support the successful completion of set-up, planning, procurement, and delivery activities required to be ready to go to market, with minimal impacts to the overall schedule.

The following principles guided the development of the plan:

- Structure: Defining how the program and the definition of key deliverables (including scope, procurement documents and cost/schedule definition) will mature over time;
- Focus: Establishing a sequence and division of work to efficiently allocate resources, prioritize activities, reduce unnecessary change, and eliminate re-work;
- Accountability: Establishing transparency and ownership of activities across the Green Line Program Team;
- Confidence: Re-establish confidence in the program and the realization of the vision from within the team as well as from within The City organization, Council and other key stakeholders; and
- Discipline: Create discipline across the program, reflected in the actions of every team member, to adhere to the plan and proactively support structure, focus, accountability, and confidence within themselves and their peers.

The readiness plan is intended to advance the Green Line program in its state of maturity for successful delivery of a complex mega-project. The readiness plan is currently being implemented and guides the work of the Green Line Program Team as they complete the planning phase of the project and move into the procurement and construction phases.

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Work Streams:

To execute on the readiness plan, four work streams with the following objectives have been identified and staff or external experts assigned to lead each:

- **Governance and Program Set-Up:**
 - Establish a governance framework that allows for effective and efficient delivery; and
 - Establish processes, procedures and onboard personnel with the necessary capabilities and experience required to support effective and efficient delivery of the program;
- **Planning:**
 - Establish a viable scope, technical solution and funding arrangement and develop the supporting business case documentation which demonstrates the need/basis for the successful delivery of the Green Line;
- **Commercial:**
 - Establish the procurement strategy, develop procurement documentation (Request for Quotation, Request for Proposal, Technical Performance Requirements, and Project Agreement) and manage smaller procurements and contract administration processes necessary for successful delivery of the program; and
- **Technical and Delivery:**
 - Deliver the enabling works program and develop the technical deliverables (including the design, estimating, schedule, and risk deliverables) necessary for successful delivery of the program.

2020 Goals:

To ensure focus, The Green Line Program Team is committed to achieve the following three goals for 2020:

- **Goal #1 - Governance and Staffing:**
 - Governance model is finalized, approved by Council and fully operational;
 - Senior leadership positions and required staff requirements are filled by people with the right level of expertise and who excel in the project environment;
 - Clear roles, responsibilities and authorities are defined, documented and embedded into the culture of the team; and
 - Program set-up and systems are in place and all actions identified through TRC reviews have been completed.
- **Goal #1 – Status Update:**
 - Report GC2020-0582 – Green Line Program Governance is being presented at the June 2020 Green Line Committee, the report recommends the establishment of the Green Line Program Governance Board, comprised of the

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City Manager along with individuals with a range of expertise in areas such as governance, leadership, procurement, engineering design, construction, project management, and P3 transactions in respect of projects comparable to the Green Line Program;

- Senior leadership positions are currently filled with permanent or acting leaders. Recruitment is underway to fill acting roles with permanent;
 - Clear roles and responsibilities have been communicated throughout the Program Team; and
 - Program set up is underway with systems being transitioned from pilot to operational.
- **Goal #2 - Planning:**
 - Segment 2 planning is complete and the cost and schedule for the complete Stage 1 is within the approved funding; and
 - An updated Business case is approved by Council.
 - **Goal #2 – Status Update:**
 - Segment 2 Concept planning is complete, this report recommends an updated Segment 2 alignment as part of the overall updated Stage 1 alignment, see Attachment 3. This report also recommends the next steps to complete the Functional Plan for the recommended Segment 2 alignment which if approved will be completed in 2020; and
 - A Business case for the updated Stage 1 alignment has been completed, see Attachment 9.
 - **Goal #3 - Delivery:**
 - RFP for Segment 1 and the LRV's have commenced;
 - Segment 1 enabling works are substantially complete; and
 - Segment 2 construction management utilities contract is issued and underway.
 - **Goal #3 – Status Update:**
 - RFP for Segment 1 will be issued on 2020 July 24;
 - RFP for the LRV's is completed and ready to send to the shortlisted suppliers;
 - Over 100 enabling works construction projects, primarily for Segment 1, have been completed to date with several more significant projects such as the 78 Avenue SE grade separation planned to start this year; and
 - Segment 2 construction management utilities contract will be released in 2020 July.

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Additional External Expertise with Mega-Project Experience:

To provide further due diligence on costing and to enhance risk management around the project, additional external project advisors with mega-project experience have been secured:

- **Steer:** Steer is an international public transit planning and project economics company. They were retained for their transportation planning expertise and for their expertise in writing project business cases;
- **Hanscomb Quantity Surveyors:** This international company has a 60-year history of providing tools needed to control costs and help ensure project success. Their role is to conduct an independent review of The City's cost estimates for the program;
- **SMA Consulting Ltd.:** SMA provides risk management advisory services to the project team. They were retained to assist the project team, the ESC and The City's Integrated risk management team with identifying, documenting, managing, mitigating, monitoring, transferring or avoiding risk. SMA's scope of work includes:
 - project controls program setup and implementation support; and
 - risk management, including quantified cost and schedule risk assessments.

Stakeholder Engagement, Research and Communication

Consultation for the updated Stage 1 alignment has focused on gathering stakeholder and public feedback to help Council members understand stakeholder and public sentiment towards the recommended alignment when making their decision. Council's decision is needed to maintain project timelines, allow the team to confirm project scope, advance key dialogues with stakeholders and complete additional planning, studies, and design.

For the engagement following the January 2020 release of the recommended updated Stage 1 alignment the Green Line Program Team hosted four open houses with approximately 780 people in attendance, six pop-up events with approximately 400 people in attendance, and five drop-in events with approximately 115 people in attendance – receiving over 2,300 pieces of feedback. A Citizen Perception Survey was conducted between February 20 and March 1. The survey was sent out to 2,818 panelists and was completed by 1,131 panelists.

Online participation was also strong. Over the same period of engagement, there were nearly 17,000 views of the engage portal, 7,500 visitors and 2,850 contributions. Feedback from stakeholders has been summarized in a What We Heard Report in Attachment 5, together with verbatim comments received during this period, and will be considered as planning for Segment 2 advances.

The City communicated with Calgarians about the updated Stage 1 alignment from June 2019 through May 2020, through a variety of City of Calgary channels including social media, The City of Calgary Newsroom, stakeholder e-newsletters, letter mail, roadside signage, and Calgary.ca/GreenLine. The focus of communications efforts was ensuring key stakeholders and the public had the latest, accurate information needed to understand the status of the project, why changes to Stage 1 were required, what the changes were and next steps. Since the

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conclusion of active engagement on the updated Stage 1 alignment, communications efforts have focused on changes to the project report back schedule for Green Line Committee due to COVID-19, public presentations online to report back on engagement and providing information to Calgarians on how they can participate in Committee and Council meetings.

Future Engagement

The Green Line LRT is a large and complex program. While stakeholder engagement will continue to support the planning work for Segment 2, and stakeholders will be engaged to inform the development of a program to support businesses and communities during construction, the nature of stakeholder engagement will evolve with the project. For the Green Line program, valuable input that has been gathered from Calgarians for more than four years has been used to define the contract requirements for Segment 1, and will be used to define the contract requirements for Segment 2 using a Design Build Finance (DBF) model for procurement.

In a DBF model, the responsibility for developing the detailed design for the project is part of the successful proponent's (Project Co's) scope of work. This means that under a DBF model, Project Co will use these requirements to develop detailed designs for the project, and it is the Green Line Program Team's responsibility to ensure the design complies with these requirements.

This process will take time, and Calgarians will be informed of progress as the designs evolve. While stakeholder engagement for planning input will continue for Segment 2, there will not be further opportunities for planning input for Segment 1. Instead, the focus for stakeholder engagement in Segment 1 will shift to implementation and supporting communities and businesses to prepare for and manage the impacts of construction.

Community and Business Support

Construction of the Green Line LRT will be disruptive, and the impact on businesses is top of mind for the Green Line Program Team. In preparation for LRT construction, the Program Team continues to build relationships with stakeholders and consult with the impacted business community to develop a Community and Business Support Program as directed by Council in 2015 (Taking Care of Business During the Construction of the Green Line NM2015-32).

The development of the Community and Business Support Program will begin in earnest upon confirmation of the Stage 1 Green Line alignment. As part of this program development an engagement process with impacted businesses will be undertaken. The purpose of this engagement is to learn from impacted businesses and to understand the potential impacts that Green Line LRT construction may have on their business operations. This input will allow for the Green Line Program Team to better plan for and help manage the potential disruption to area businesses. It will also provide opportunities for the business communities along the Green Line LRT to work together to inform the priorities for this program.

The Community and Business Support Program will be developed with consideration of input from impacted businesses and communities and will be in place prior to the start of construction of the Green Line LRT. As per NM2015-32, the Administration will report back to the Green Line Committee before construction begins.

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Strategic Alignment

The Green Line LRT is aligned with the future vision of our city as articulated in imagineCALGARY and is identified as part of the City's RouteAhead 30-year Strategic Plan for Transit in Calgary. The RouteAhead plan is aligned with the policy direction and strategic goals of the Municipal Development Plan (MDP) and Calgary Transportation Plan (CTP), the 2020 Sustainability Direction and Council's priorities.

Social, Environmental, Economic (External)

The Green Line LRT will result in outcomes which include social, environmental, and economic benefits for generations to come.

Social

The Green Line LRT supports mixed-use and mixed income communities to reach community aspirations for vitality, sustainability and affordability. Mixed-use neighbourhoods are the places where people live, work, play, shop and learn. Mixed income communities are financially accessible to all Calgarians. A major benefit of increasing access to rapid transit is the overall lowering of transportation costs, and the fundamental link between cost and affordability of housing, especially lower income households. Consideration for multi-generational communities and the places where residents can transition through all stages of life ensure a long-term, sustainable and resilient plan.

Environmental

The Green Line is expected to save 30,000 tonnes of greenhouse gas (GHG) emissions, equivalent to 6,100 vehicles. Investment in transit provides environmental benefits that extend beyond the reduction of GHG. Improved, higher quality transit service and complete communities attract higher levels of ridership, decreasing the environmental impacts associated with urban travel but also support compact growth which in turn provides health benefits. The Canadian Urban Transit Association (CUTA) has outlined the public health benefits of public transit to include improved urban air quality and increased physical activity, which can lower the risk for many diseases. Reduction in greenhouse gases and social health benefits are therefore realized by maximizing the transit investment. The City of Calgary has committed to reducing GHG from its corporate operations, through energy efficiency and conservation programs and a shift to using lower carbon and renewable energy sources.

Economic

Recommendations in this report were strategically conceived by integrating transit and planning. Leveraging the transit investment maximizes the economic return through land use with the intent of providing new and redevelopment opportunities along the corridor. This reduces the fiscal impact of growth and promotes integrated and sustainable development. The investment in transit provides the opportunity to attract global corporations in innovative industries to promote a diversified economy in Calgary. As a result, more population and activity generates sustained ridership and economic growth thereby creating a multiplier effect of the infrastructure investment.

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Investing in Calgary's future also results in economic resiliency through job creation, Gross Domestic Product (GDP) growth, with direct benefits resulting from construction, operations and maintenance, increased property values, savings for households, and productivity gains.

The Green Line project is putting Calgarians to work with over 100 Enabling Works projects completed to prepare for Stage 1 construction. Construction of Stage 1 is expected to create 20,000 direct and indirect jobs.

On opening day, Stage 1 of Green Line will provide Calgarians direct access to 190,000 jobs, with access to 225,000 jobs anticipated by 2048.

Financial Capacity

Financial analysis of the program including recommendations for capital budget appropriation approval and a proposed borrowing bylaw are included in GC2020-0616 (Green Line Budget and Financing Approval) and are not repeated in this report.

Current and Future Operating Budget:

Incremental operating and maintenance costs of approximately \$40 million per year (in 2016 dollars) have been estimated for the Project. Approximately half of the incremental operating and maintenance costs are associated with the Green Line LRT and the other half are required for the supporting bus network. Bus operating hours are required with or without the Green line in the southeast to meet population growth and to ensure coverage and adequate service levels.

With approval of the updated Stage 1 alignment the operating costs will be refined. Operating costs are dependent on a number of factors including: additional operating investments prior to LRT, LRV vehicle characteristics, operating speeds and actual ridership.

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Current and Future Capital Budget:

This report does not result in any changes to either the current or future capital budget requirements for this project.

The updated Stage 1 cost estimate for the Program is:

Cost Category	Updated Stage 1 Alignment (millions)
Program	\$805
Enabling Works	\$225
Real Estate	
Segment 1	\$218
Segment 2	\$171
Infrastructure (Rail, Utilities, Structures, Contingency)	
Segment 1	\$1,567
Segment 2	\$1,918
TOTAL	\$4,903

The program cost estimate contains the cost estimates for all projects in the program, many of which are at different levels of maturity. The complete Program Cost Estimate for Green Line has 2 components: a base cost estimate and contingency.

To review the base cost estimate work completed by the Green Line Program Team, Hanscomb has conducted two independent reviews of the capital cost estimate. The reviews provided a realistic analysis of the project development cost and a comparison with fair market values.

Findings from the initial review indicated that the base cost estimate, in general, provided by the City of Calgary appears to be in line compared with other major LRT projects across Canada as reviewed on a high level. The second review which was more detailed in nature identified a number of areas where the Program Team cost estimates could likely be reduced.

The reviews were positive and confirmed the quality of the cost estimating work which the Program Team is conducting. The reviews also identified a number of risks which need to be captured in the contingency estimating for the Program and recommended that the Program continue to diligently reduce project risk and improve project certainty.

Contingency is the second major component of the Program cost estimate. It is held within the Program budget to cover uncertainty in the estimate and schedule, as well as known Program

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risks. Contingency is calculated using foundational inputs from the base estimate, base schedule, and risk register. These inputs are evaluated by discipline experts and input into a Monte Carlo simulation. The resulting output is a range of possible Program outcomes, some of which are more likely than others.

Bent Flyvbjerg, University of Oxford (a leading voice of mega-project planning, governance and delivery) in a guidance document to the British Department for Transport “Procedures for Dealing with Optimism Bias in Transport Planning” June 2004, indicated the following regarding the use of probability in contingency estimating for mega-projects:

“The upper percentiles (80-90%) should be used when Investors want a high degree of certainty that cost overrun will not occur, for instance in stand-alone projects with no access to additional funds beyond the approved budget. Other percentiles may be employed to reflect other degrees of willingness to accept risk and the associated uplifts can be found in the Guidance Document.”

The most recent interim contingency estimate identified the Program budget including all contingencies is at approximately the 81st percentile (the P81) of potential Program outcomes. The Green Line Program Team is committed to keeping the contingency estimate in the range of P80-90 as recommended by leading experts.

Risk Assessment

SMA is assisting with due diligence of risk management activities and leading the management of risk on the Green Line in alignment with the Project Readiness Plan. Earlier this year, SMA commenced a review and update of the Green Line Program’s current risk practices and associated risk management tools.

Understanding risk and developing measures to either accept or mitigate risk involves the development and continuous improvement of three primary risk management components:

- A Risk Management Plan: a clear plan for identifying, assessing, and managing risks as well as communicating status and potential implications.
- A Risk Register: a comprehensive register of risks and thorough analysis of their impacts, and a repository for response strategies.
- Ongoing Risk Management: identifying and responding to risk through a proactive and empowered risk-aware culture.

Based upon the work completed to date, SMA’s risk assessment results indicate that the Green Line Program risk exposure is at the high end of the typical range of other major LRT projects at this stage. The program holds risk in all of the typical categories of an LRT mega-project, but higher risk than is typical has been identified in the following risk areas:

- Scope additions and uncertainty
- Governance and decision making
- Procurement and market conditions
- Contract interfaces (i.e. due to the use of multiple Design-Build-Finance contracts plus a separate LRV procurement)
- Canadian National/Canadian Pacific coordination

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- Scope and technical risks associated with Segment 2 (from north of Inglewood Station to 16 Avenue N)
- Current impacts of COVID-19

The Green Line team is acutely aware of the need to continue to prioritize effort on proactively mitigating these risks. There are significant actions the Green Line Program Team has and is taking to respond to these risks, including:

- Finalizing Segment 2 planning and freezing scope
- Streamlined, risk informed decision making
- Meeting established procurement timelines
- Retaining experienced project resourcing
- Continually looking to implement cost savings throughout the program

Monitoring and updating risks and risk response strategies will continue as the Program progresses. With team effort directed toward managing and controlling risk on the Green Line, the risk profile should continue to reduce over time. The risk assessment will be refined and updated to accurately reflect the evolution in affordability, schedule, and program risks as key milestones are reached.

For additional detail on risk assessment and risk management refer to Attachment 11.

REASON(S) FOR RECOMMENDATION(S):

The updated Stage 1 alignment achieves Council's Vision for the Green Line *"A city-shaping transit service that improves mobility in communities in north and southeast Calgary, connecting people and places, and enhancing the quality of life in the city."* The updated Stage 1 alignment will support Calgary's long-term economic recovery. As the City's largest job creation project starting construction of Green Line Stage 1 will be a critical component of The City's COVID-19 recovery effort, creating approximately 20,000 direct and supporting jobs.

The updated Stage 1 alignment provides the foundation for future investments in extensions when the time is right, and provides the opportunity to leverage this unprecedented investment to shape the growth of Calgary. These recommendations were developed after significant consultation, the evaluation of multiple options, and the validation through risk assessments and additional due diligence.

ATTACHMENTS

1. Attachment 1 – Previous Council Direction
2. Attachment 2 – Green Line Background
3. Attachment 3 – Green Line Updated Stage 1 Alignment and Station Locations
4. Attachment 4 – Updated Segment 2 Alignment, Station Location and Concept Plan
5. Attachment 5 – What We Heard Report
6. Attachment 6 – Common Stakeholder Interests and Mitigation
7. Attachment 7 – North Central Bus BRT Improvement Concepts

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8. Attachment 8 – Alignment Options Review Summary
9. Attachment 9 – Calgary Green Line LRT Stage 1 Business Case
10. Attachment 10 – Property Economic Impact Assessment
11. Attachment 11 – Risk Update
12. Attachment 12 – Public Submissions
13. **Attachment 13 – Additional Public Submissions**
14. **Attachment 14 – Additional Public Submissions**

REPORT NUMBER	REPORT	MOTION	DATE OF COUNCIL MTG
C2017-0467	Green Line LRT: Building the Core	<p>As follows... that Recommendations 2 to 6 with respect to Report C2017-0467, be adopted as follows:</p> <p>That Council:</p> <ol style="list-style-type: none"> 1. Proceed with Stage 1 Project based on: 16 Avenue N (Crescent Heights) to 126 Avenue SE (Shepard) subject to Council's final approval of the alignment, station locations, and transit oriented development concept plans based on the Class 3 capital estimate of \$4.65 Billion construction cost contingent on securing funding as per #2 and #3 below. 2. Prepare the required business case(s) for submission to the Government of Canada to support a request of \$1.53 Billion plus financing to support the Stage 1 Project; 3. Prepare the required business case(s) for submission to the Government of Alberta to support a request of \$1.56 Billion plus financing to support the Stage 1 Project; 4. Request the Mayor to work with administration in the beginning making the case for funding of the rest of the line, beginning as soon as possible; 5. Direct Administration to bring a revised financial strategy, pending confirmation of federal and provincial funding, and including capital, financing and operating cost models, to Council as part of the 2018 Business Plan and Budget deliberations; and 6. Direct that Attachment 2 and Distribution #3 remain confidential pursuant to Sections 24(1)(a), 24(1)(b) and 25(1)(b) of the <i>Freedom of Information and Protection of Privacy Act</i>, until the Green Line construction has been completed. 	2017 May 15, Strategic
C2017-0467	Green Line LRT: Building the Core	<p>Motion Arising... that with respect to Report C2017-0467, Council direct Administration to:</p> <ol style="list-style-type: none"> 1. Develop timeline scenarios for building the remainder of the Green Line showing the construction timelines assuming funding is secured for stations north of 16th Avenue North and south of 126 Avenue SE; 2. Seek funding options so that the remainder of the line can be constructed without interruption once the opening day scenario is completed; 3. Continue land acquisition of Centre Street North properties on an opportunity basis and develop funding options, in advance of construction; and 4. Host open houses to provide residents and businesses who are not part of the opening day scenario with information regarding the completion of the green line including land acquisition. 	2017 May 15, Strategic
TT2017-0534	Green Line LRT Alignment and Stations: 160 Ave N to Seton	<p>That Council:</p> <ol style="list-style-type: none"> 1. Adopt the recommended alignment and station locations for the Green Line Light Rail Transit (LRT) long-term vision from 160 Avenue N to Seton as per Attachment 1 and 3; 2. Adopt the recommended Green Line Urban Integration (GLUI) for the full Green Line LRT from 160 Avenue N to Seton as per Attachment 2; 3. Direct Administration to report back no later than Q1 2018 with a Stage 1: 16 Avenue N to 126 Avenue SE project update including a recommended contracting strategy and future staging approach; and 4. Direct Administration to bring this report forward to the 2017 June 26 Regular Meeting of Council along with the associated reports from the SPC on Community and Protective Services (CPS2017-0469) and the SPC on Planning and Urban Development (PUD2017-0471). 	2017 June 26, Regular
PFC2018-0207	Green Line Light Rail Transit Project Delivery Model Recommendation	<p>That Council:</p> <ol style="list-style-type: none"> 1. Approve Design-Build-Finance ("DBF") as the delivery model for the Green Line LRT project from 16 Avenue North to 126 Avenue Southeast; 2. Authorize the General Manager, Transportation, to negotiate all funding agreements with the federal and provincial governments, and the General Manager, Transportation, and the City Clerk to execute the funding agreements and any other agreements necessary to advance the procurement process. The General Manager, Transportation, and the City Solicitor will also sign off on the funding agreements as to content and form, respectively; 3. Direct that Attachment 4 and the Closed Meeting discussions remain confidential pursuant to section 23, 24, 25 and 27 of the Freedom of Information and Protection of Privacy (FOIP) Act (Alberta) until the agreements for the Project considered in this Report are awarded and financial close is achieved, with the exception, of information Administration needs to share with funding partners, which will be shared in confidence; and 4. Direct Administration to report back no later than Q4 2018 to the Priorities and Finance Committee of Council with the recommended budgets for approval including financing and confirmation of funding from the other orders of government for the Project. 	2018 March 19, Combined
TT2019-0811	Green Line Q2 2019 Update	<p>That with respect to Report TT2019-0811, Recommendation 1 to 11, Council, by general consent, requested that they be voted on separately.</p> <p>That with respect to Recommendations 2 and 4 through 11 of Report TT2019-0811, the following be adopted:</p> <p>That Council:</p> <ol style="list-style-type: none"> 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; 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; 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; 4. Direct Administration to have the Green Line Technical Risk Committee carry out an independent peer review of the following <ul style="list-style-type: none"> ◦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; 	2019 July 29, Combined

		<p>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;</p> <p>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;</p> <p>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;</p> <p>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</p> <p>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;</p> <p>10. Continue advocacy efforts with our funding partners to secure funding to complete the full Green Line LRT; and</p> <p>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.</p>	
GC2019-1591	Guiding Principles for Green Line Committee	<p>That with respect to Report GC2019-1591, the Appendix (Attachment 1) be amended on page 1 of 1 in Section "Green Line Project Vision" by adding the words "city-shaping" prior to the words "transit service that improves mobility."</p> <p>That with respect to Report GC2019-1591, the Appendix (Attachment 1) be amended on page 1 of 1, Section "Outcomes for Calgarians "by beginning the section with "A transit Service that", and adding "s" to the verbs, as follows:</p> <p>Outcomes for Calgarians</p> <p>A transit service that:</p> <ol style="list-style-type: none"> 1. Improves mobility by providing a frequent, reliable, and affordable service. 2. Contributes to an efficient transportation network that promotes transportation choice and reduces congestion, travel times and greenhouse gases. 3. Enhances connectivity between people and places including connections to the broader transit network. 4. Creates a positive transportation experience – safe, accessible, comfortable and convenient. 5. Contributes positively to urban realm, community development and revitalization. 6. Contributes to the vitality of business in the community. 7. Protects the environment by enhancing City's environmental stewardship." <p>That with respect to Report GC2019-1591, Recommendation 2 be added as follows:</p> <p>That Council:</p> <ol style="list-style-type: none"> 2. Amend the Green Line Committee Terms of Reference to add the following after Section 8 Meetings: <p>"8.1 Public Participation</p> <p>The Chair of the Green Line Committee will determine, prior to the publication of the Agenda, which items, if any, require public participation. This will be noted in the public Agenda.</p> <p>The Committee may, by majority vote, require an item to have public participation at the following Committee meeting.</p> <p>That with respect to Report GC2019-1591, the following be adopted, as amended, as follows:</p> <p>That Council:</p> <ol style="list-style-type: none"> 1. Approve and include the amended Green Line Committee Terms of Reference - Guiding Principles as an appendix as amended, as follows: <p>On page 1 of 1 under Section Green Line Project Vision:</p> <p>A city-shaping transit service that improves mobility in communities in north and southeast Calgary, connecting people and places and enhancing the quality of life in the city.</p> <p>Outcomes for Calgarians</p> <p>A transit service that:</p> <ol style="list-style-type: none"> 1. Improves mobility by providing a frequent, reliable, and affordable service. 2. Contributes to an efficient transportation network that promotes transportation choice and reduces congestion, travel times and greenhouse gases. 3. Enhances connectivity between people and places including connections to the broader transit network. 	2020 January 13, Combined

		<p>4. Creates a positive transportation experience – safe, accessible, comfortable and convenient. 5. Contributes positively to urban realm, community development and revitalization. 6. Contributes to the vitality of business in the community. 7. Protects the environment by enhancing City's environmental stewardship.</p> <p>2. Amend the Green Line Committee Terms of Reference to add the following after Section 8 Meetings:</p> <p>"8.1 Public Participation</p> <p>The Chair of the Green Line Committee will determine, prior to the publication of the Agenda, which items, if any, require public participation. This will be noted in the public Agenda.</p> <p>The Committee may, by majority vote, require an item to have public participation at the following Committee meeting.</p> <p>And further, a clerical correction is required to the Terms of Reference, under the section 2. Mandate, by deleting the fourth bullet in its entirety."</p>	
GC2020-0149 Green Line Project - Strategic Planning Workshop (Verbal)		<p>The decision of the Green Line Committee was:</p> <ol style="list-style-type: none"> 1. Receive the distributions shared during the Closed Meeting for the Corporate Record; 2. Keep the Closed Meeting discussions and presentations (Morning and Afternoon Session presentations) confidential pursuant to Sections 21 (Disclosure harmful to intergovernmental relations), 24 (Advice from officials), 25 (Disclosure harmful to economic and other interests of a public body), and 27 (Privileged information) of the Freedom of Information and Protection of Privacy Act, to be reviewed by 2027 December 31; and 3. To enable further public engagement in regard to the Updated Stage 1 Alignment in anticipation of the March 2020 Green Line Committee meeting, release to the public the Green Line Public Presentation. 	<p>2020 January 28, Green Line Committee Only</p>
GC2020-0244	Green Line Q4 2019 Update	<p>That with respect to Report GC2020-0244, the following be approved</p> <p>That the Green Line Committee:</p> <ol style="list-style-type: none"> 1. Direct Administration to proceed with Segment 1 of Stage 1 of the Green Line project; 2. Direct Administration to provide a cost estimate for a dedicated lane bus rapid transit route along Centre Street from 160th Ave north to 6th Ave south, as well as from Shepard to Seton in the south, to be presented at the March 31, 2020 Green Line Committee meeting; 3. Direct Administration to provide the best option for terminating the south leg of the Green Line LRT in the centre city without advancing the project over the Bow River in Stage 1, and the cost savings that could be realized and reallocated to the aforementioned north BRT option for the Green Line; and 4. Direct Administration to work with the Mayor's Office to engage with the provincial and federal governments to enhance the scope of the Green Line project to be a multimodal rapid transit strategy that accomplishes our mutual goals of: 1) reducing emissions, 2) increasing accessibility and inclusivity of transit for all Calgarians, and 3) driving investment and economic growth by encouraging a more fulsome public transit network in one of Canada's most important urban centres. <p>That with respect to Report GC2020-0244, the following be approved: That the Green Line Committee:</p> <ol style="list-style-type: none"> 1. Move the 2020 March 31 Green Line Committee meeting to be held on 2020 April 23 to allow for additional engagement; 2. Direct Administration to continue engagement and invite the public to participate at the 2020 April 23 meeting; and 3. Direct Administration to report back on 2020 April 23 with final recommended Stage 1 alignment, business case, borrowing bylaws, What We Heard Report, and governance recommendations. <p>NOTE: The above recommendations were not directed on to Council and stayed at the Committee level</p>	<p>2020 February 21, Green Line Committee Only</p>
GC2020-00246	Green Line - Project Readiness Report	That Council received the Report and Attachment for the Corporate Record. (2020 March 16)	2020 March 16, Combined

**Green Line Committee
2020 June 1****GREEN LINE BACKGROUND**

Planning for elements of the Green Line LRT started back as far as 1967. In recent years significant planning studies have been completed which have shaped the alignment, including:

- 2012 Southeast LRT Functional Planning Study 1
- 2012 North Central LRT Corridor Planning Study
- 2015 Green Line SE Alignment and Station Location Report
- 2017 Green Line LRT Alignment and Stations 160 Avenue to Seton

As the Green Line advanced through the various levels of planning, there has been a high level of collaboration across The City business units with portions of this work being reviewed by a variety of Standing Policy Committees (SPC) including: SPC on Transportation and Transit, SPC on Planning and Urban Development and SPC on Community and Protective Services. In the fall of 2019 City Council created the Green Line Committee to consolidate all reporting and increase due diligence.

Four Layer Planning Approach

The Green Line team developed and implemented a unique, four-layered planning and engagement process that served as the foundation for the holistic planning approach to the Green Line program. This approach involved collaboration and engagement across all City departments and extensive engagement with external partners, industry and the public. The goal was to ensure that other City programs and future opportunities were considered and incorporated where feasible or allowances made for later additions where possible. i.e. stations will have the capability to accept event programming such as live entertainment, pop-up markets and community events.

The four layers are:

- Transit Infrastructure;
- Connections to stations;
- Transit Oriented Design (TOD) supportive infrastructure; and
- City Shaping connections to services and local and regional destinations.

More than any other City project, the determination of the alignment and stations were influenced by an integrated approach to transportation, land use planning, city shaping objectives, and public engagement. The approach was taken to plan for and consider all future needs to minimize costly retrofits and changes later.

Public engagement has been ongoing since the development of the early functional studies for both the north and southeast segment of the corridor. Since the Green Line LRT was formalized as a single program at the end of 2015, ongoing engagement has included the development industry, Community Associations, City wide business units, and the public. Input from all stakeholders has been critical to developing recommendations regarding alignment and station locations, identifying connections to and from Green Line stations, the ongoing development of

land use planning concept, and city shaping principles. The amount of public engagement has surpassed any other project ever undertaken by The City.

Current funding for the Green Line LRT will enable the implementation of Layer 1 (transit infrastructure) and essential components of Layer 2 (connections to transit stations). Future project developments and partnerships with key stakeholders are anticipated to deliver the remaining layers. Together, all four layers will support the creation and evolution of well-planned, connected, accessible, affordable, and vibrant communities that support the use of transit in the community.

Layer One – Transit Infrastructure

The approved alignment and stations balance community priorities, are supportable by the stakeholders, align with City objectives, and demonstrate the vision that the Green Line LRT is more than a transit line; it is a city shaping opportunity. Other layer one infrastructure such as Bus Terminals, Park and Rides, Maintenance and Storage Facilities (MSF) and low-floor light rail vehicles have been designed to prioritize customer experience, ensure operational efficiencies and accessibility needs.

Layer Two – Connections to Stations

Layer two connections to stations have been prioritized to provide critical connections where there is missing or unsafe infrastructure that inhibits pedestrian access within a 10-minute walk to station areas. These connections enable citizens to safely and conveniently access Green Line's stations starting from opening day. Specific consideration has been given to those components that are critical to build with Green Line infrastructure. An example of this is the multi-use pathway connection that will be constructed as part of the south Bow River bridge crossing near 46 Avenue S.E. Other considerations include planning support for the provision of robust alternative transportation means such as various bike share, car share, micro-mobility (e-scooter), and pick-up/drop-off models of use.

Layer Three – Transit Oriented Design (TOD)

The third layer, TOD, was integrated with the early functional engineering process to ensure that the right framework is in place to realize TOD opportunities. Early initiatives, such as a 30-year market study, establishment of a developer advisory group and extensive community-informed station area design charrettes, helped inform where, how and what TOD was possible along the Green Line. More recent work, such as the city-wide TOD Implementation Strategy and the establishment of a corporate TOD program under Urban Initiatives, will continue to advance the City's commitment to the success of future TOD. Council approved The City's Transit-Oriented Development Implementation Strategy - Final Report (PUD2019-1515) at the December 4, SPC on Planning and Urban Development.

Layer Four – City Shaping

"City Shaping" is about leveraging Calgary's investment in transit infrastructure to strengthen and support the social needs of communities along the Green Line. It is about investing in people, places and programs that are near high quality transit service, making it easy and convenient for Calgarians to connect to them. Fulfilling the full potential of City Shaping will be a long-term process that extends beyond the delivery of the Green Line project and will require collaborative efforts by the Corporation and external partners. The current focus by the City Shaping team is to ensure infrastructure

built as part of the LRT project is done to maximize future City Shaping success. Inputs that prioritize a people-first approach focused on pedestrian experience and human comfort have been provided to support the development of quality public realm and urban design.

The Green Line program has been designed to best utilize The City's assets to create value for Calgarians both living near the line and throughout the city. The program team will continue to ensure that the design and delivery of Green Line provides high quality mobility and fits into and enhances the local communities it serves.

Since 2017, Administration has been advancing the planning and design of the LRT alignment for Stage 1 (16 Avenue N – 126 Avenue S), acquiring the required real estate, preparing land for construction through an enabling works construction program and preparing procurement documents for various aspects of the program.

The culmination of this work was presented to Council in the Green Line LRT long-term vision at the 2017 June 26 Regular Meeting of Council, Report TT2017-0534 (Green Line LRT Alignment and Stations 160 Avenue N to Seton), which was a holistic guide for future investments intended to transform communities along the Green Line LRT corridor considering people, places, and programs that are connected by reliable transit. Approval of the Green Line Functional study in 2017 completed the visioning and planning phase of Segment 1 of the Green Line project, whereby the alignment and stations were set, the necessary connections to stations were identified, high-level TOD concepts were completed, and the framework for city shaping implementation was approved.

Identification of Stage 1 as the Priority Project

The portion of the alignment extending from 16 Avenue N to 126 Avenue S.E. (Shepard) was approved by Council at the 2017 June 26 Combined meeting of Council, Report TT2017-0534 (Green Line LRT Alignment and Stations 160 Avenue N to Seton), to become Stage 1 of the Green Line program because of its ease of expandability, existing and planned transit network connections, projected opening day and future ridership and overall project readiness report (advanced stage of land acquisition, high support from the communities and design furthest along with the alignment and station locations).

Stage 1 is the most complex and expensive portion of the Green Line project and will complete the core foundation of the Green Line, enabling future expansion to both the north and south. Future expansions, much as in the case of the Red and Blue Lines, will be built in incremental stages as funding becomes available. Once complete, the Green Line will be a 46 kilometre light rail transit (LRT) line connecting 27 communities and is projected to serve over 200,000 trips daily.

July 2019 Direction to Revisit Stage 1 Alignment

In July 2019, Administration advised Council of the need to re-evaluate the scope of Stage 1 to bring the project cost estimates within budget, manage construction risk and improve customer experience. This re-evaluation explored opportunities across Stage 1. Prior to developing a revised recommendation, the Green Line Program Team started with reconfirming the Program Vision and outcomes. On 2020 January 13, City Council reconfirmed the Vision for the Green Line project as:

A city-shaping transit service that improves mobility in communities in north and southeast Calgary, connecting people and places and enhancing the quality of life in the city.

At the same meeting Council approved the following Outcomes for Calgarians which the Green Line project will deliver:

A transit service that:

- Improves mobility by providing a frequent, reliable, and affordable service.
- Contributes to an efficient transportation network that promotes transportation choice and reduces congestion, travel times and greenhouse gases.
- Enhances connectivity between people and places including connections to the broader transit network.
- Creates a positive transportation experience – safe, accessible, comfortable and convenient.
- Contributes positively to urban realm, community development and revitalization.
- Contributes to the vitality of business in the community.
- Protects the environment by enhancing City's environmental stewardship.

Attachment 3. Green Line Updated Stage 1 Alignment and Station Locations

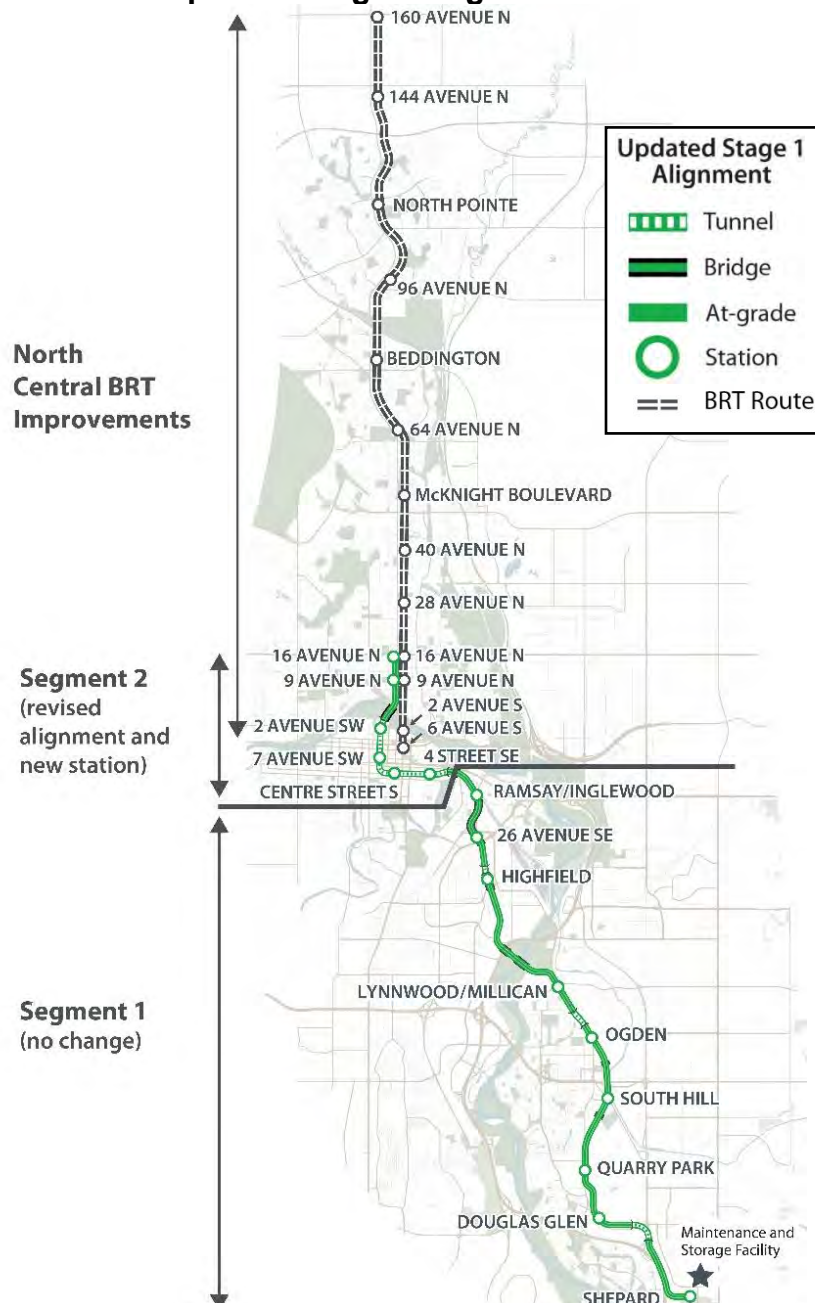


Figure 1. Updated Stage 1 Alignment and Stations, by Segment.

Segment 1 extends from Shepard (126 Avenue SE) to Elbow River. The alignment and station locations have not materially changed from the original 2017 Council approved Stage 1 alignment.

Segment 2 extends from Elbow River to 16 Avenue N. The alignment and station locations have materially changed from the original 2017 Council approved Stage 1 alignment.

North Central BRT improvements are recommended to be included as part of the Stage 1 program.



Green Line LRT

Updated Segment 2 (16 Avenue N to
Elbow River) Alignment, Station Location
and Concept Plan

Executive Summary

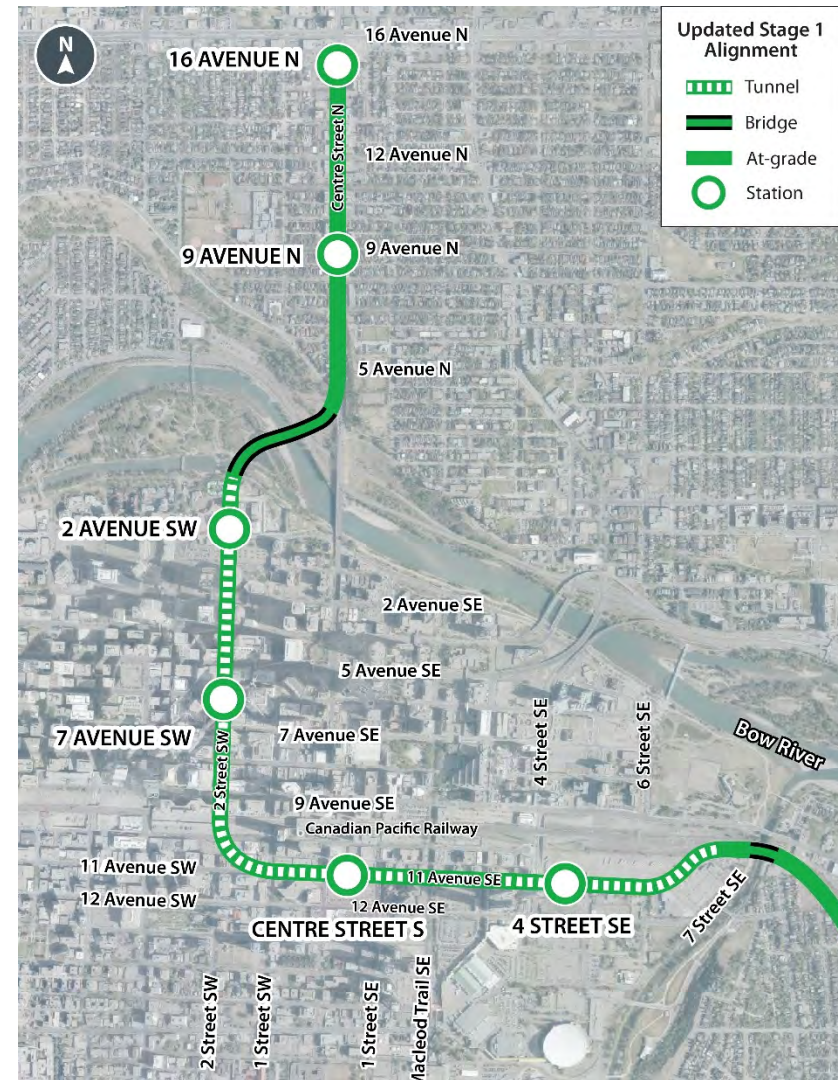
This document outlines the updated Green Line Segment 2 alignment and station location plan and presents concepts that illustrate how this segment might look like.

Segment 2 extends from 16 Avenue N and Centre Street N south to the Elbow River in the Beltline. The alignment was updated in order to bring the project cost estimates within budget, manage construction risk, and best deliver the vision of the project.

The updated Segment 2 alignment and station location plan includes:

- surface-running LRT on Centre Street N;
- a bridge over the Bow River;
- 2.5 km of tunnel in the Downtown and Beltline; and
- 6 stations (2 at surface, 4 underground).

To develop the updated Segment 2 alignment, station location and concept plan, planning and design objectives were developed from internal and external stakeholder interests and from public feedback from Green Line public engagement sessions, community meetings and stakeholder workshops. These design objectives will be used to inform the development of the functional design for the project.



Segment 2 – Updated alignment and station location plan

Figure identifies sections of Segment 2 alignment that are at-grade (solid lines), tunnel (dashed line) and bridge (solid line with black outline).

Centre Street N

The LRT alignment will run along the surface of Centre Street N in the middle of the road, with a single lane of traffic in each direction and no on-street parking.

16 Avenue N station, a terminus for Stage 1, will be located south of 16 Avenue N, while 9 Avenue N station, considered a community station, will be located between 7 Avenue N and 9 Avenue N.

Bow River Crossing

The Green Line LRT will cross the Bow River with a new LRT bridge. This bridge will also include a multi-use pathway for pedestrians and cyclists.

The bridge alignment will follow an s-curve in order to connect Centre Street N with 2 Street SW. The exact alignment and curve of the bridge will be finalized through the next stage of planning.

Centre Street bridge will be repurposed so that the two middle lanes are converted to dedicated BRT lanes to support improved travel time reliability for north central BRT to north Calgary. The outer lanes will remain useable for general purpose vehicle traffic.

Downtown (Eau Claire, Chinatown & Downton Core)

The alignment continues from the new LRT bridge across the Bow River, over the Bow River Pathway, and travels south until it transitions underground, through a portal that is located west of 2 Street SW and around Waterfront Mews SW.

The 2 Avenue SW station will be underground, and planning is underway to integrate the portal and station infrastructure into the future redevelopment of Eau Claire Market.

South of the 2 Avenue SW station, the tunnel will extend under 2 Street SW towards an underground station at 7 Avenue SW. Plans for the 7 Avenue SW station entrance have not yet been developed. The City will be exploring opportunities to collaborate with adjacent landowners to integrate station entrances into existing or future developments. If integration opportunities are not possible, station entrances would be constructed within sections of the 2 Street SW road right-of-way.

South of 7 Avenue SW station, the tunnel continues south under the LRT Red and Blue Lines and the Canadian Pacific Rail corridor and into the Beltline.

Beltline

Within the Beltline, the tunnel transitions from 2 Street SW to 11 Avenue S along a curve. The exact alignment and curve will be finalized through the next stage of planning.

There will be two underground stations: Centre Street S and 4 Street SE. The Centre Street S underground station will be situated in the vicinity of 11 Avenue SE and 1 Street SE. The 4 Street SE underground station will be situated east of 4 Street SE (Olympic Way SE).

The tunnel will extend eastward from the 4 Street SE station, along 11 Avenue SE, until it wraps around the north edge of the Calgary Transit Victoria Park Transit Facility. At this point, the tunnel will transition to the surface just west of the Elbow River bridge.

Moving forward

In order to advance the planning for Segment 2, a work program has been identified that includes the following key activities:

- Segment 2 functional plan;
- underground and integrated station design;
- Bow River bridge planning;
- mobility studies and plans;
- streetscape planning;
- access management planning; and
- reference concept design and technical design requirements.



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2017 Council Approved Stage 1 Alignment

The long-term vision for the Green Line LRT will be a 46 km route from 160 Avenue N (North Calgary) to Seton (Southeast Calgary) with 28 stations.

The 2017 Council approved Stage 1 alignment (*right*) and station plan consisted of 20 km of LRT and 14 stations between approximately 16 Avenue N (Trans-Canada Highway) and 126 Avenue SE (Shepard station).

In July 2019, Council split Stage 1 into two segments:

- Segment 1 - Elbow River south to Shepard station;
- Segment 2 - Elbow River north to 16 Avenue N station.

The 2017 approved alignment for Segment 2 included a tunnel which ran from approximately 16 Avenue N and Centre Street N, under the Bow River, under 2 Street SW and under 12 Avenue S, surfacing in East Victoria Park west of Olympic Way and 10 Avenue S. The alignment continued on surface from Olympic Way SE east towards Elbow River.

At a glance, the 2017 Council approved alignment and station location plan included:

- 4 underground stations and 1 surface station;
- 4.2 km tunnel; and
- 0.7 km surface running LRT.



2017 Council Approved Stage 1
Alignment & Station Plan, by Segment.

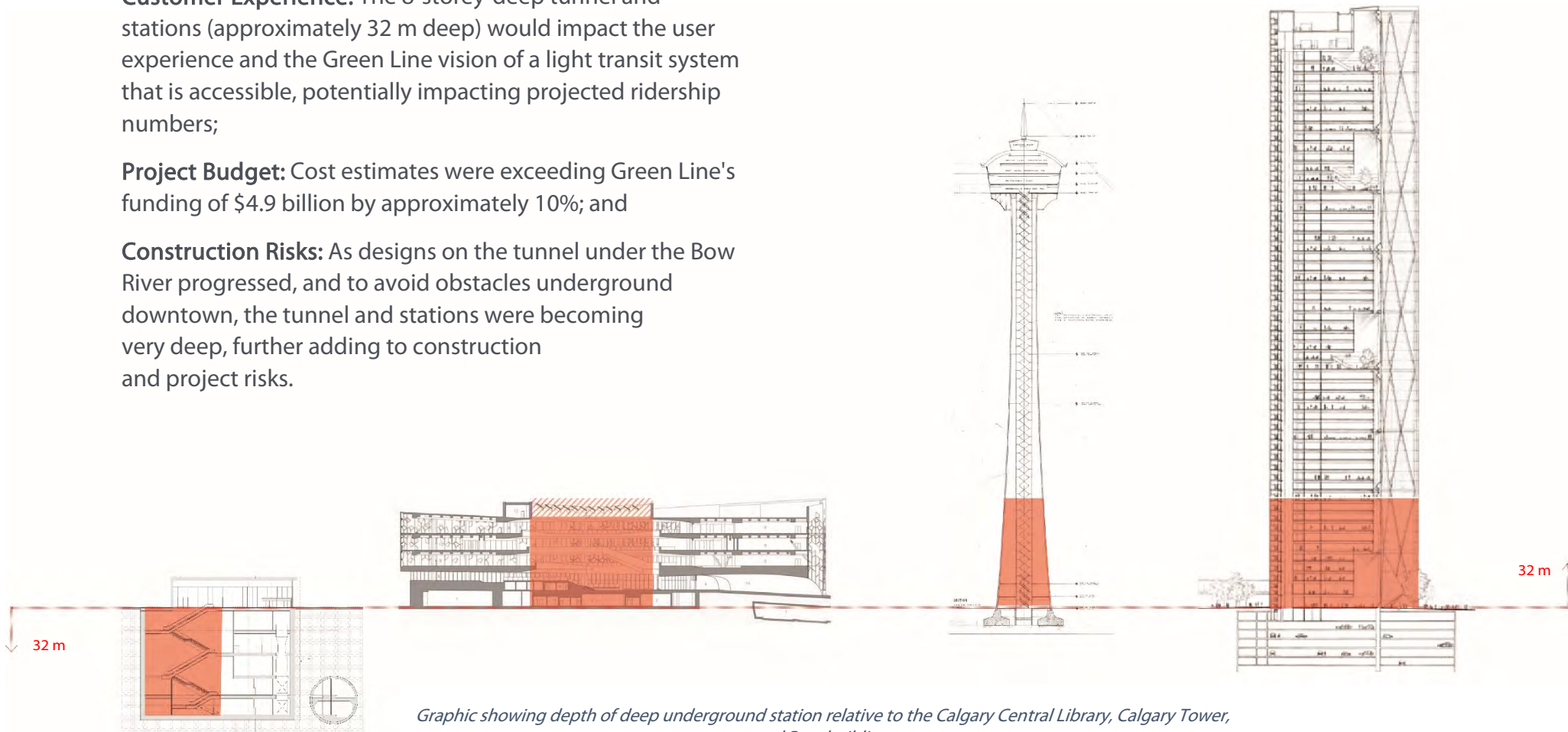
Re-Evaluating Segment 2

In summer 2019, the Green Line project team advised City Council of the need to re-evaluate the Segment 2 alignment for the following reasons:

Customer Experience: The 8-storey-deep tunnel and stations (approximately 32 m deep) would impact the user experience and the Green Line vision of a light transit system that is accessible, potentially impacting projected ridership numbers;

Project Budget: Cost estimates were exceeding Green Line's funding of \$4.9 billion by approximately 10%; and

Construction Risks: As designs on the tunnel under the Bow River progressed, and to avoid obstacles underground downtown, the tunnel and stations were becoming very deep, further adding to construction and project risks.



Graphic showing depth of deep underground station relative to the Calgary Central Library, Calgary Tower, and Bow building.

Alignment Options Evaluated

The Green Line project team evaluated multiple alignment options in Segment 2 in order to bring the project cost estimates within budget, manage construction risk, and best deliver the vision of the project. Alignment options evaluated included:

- shortening the length of tunnel;
- reducing the number and depth of underground stations;
- running the LRT on surface on Centre Street N, and along 10, 11 or 12 Avenues S;
- shifting the underground alignment from 2 Street SW to 1 Street SW;
- elevating the LRT track throughout the Centre City;
- truncating the length of Segment 2; and
- a bridge over the Bow River instead of a tunnel.

The different alignment options were evaluated against a series of evaluation themes that included cost and value, connectivity, risk and constructability, development opportunities, mobility, and environmental.



Cost and value



Connects people to places



Risk and constructability



Urban and regional development



Improves mobility



Environmental

Updated Segment 2 Alignment & Station Location Plan

An updated Segment 2 alignment and station location plan was identified through the re-evaluation process, which includes:

- surface-running LRT on Centre Street N;
- a bridge over the Bow River;
- 2.5 km of tunnel; and
- 6 stations (2 at surface, 4 underground).

The updated Segment 2 plan brings the project cost estimates within budget and manages project risk by:

- reducing the length of tunnel by 1.7 km;
- replacing sections of tunnel with surface-running LRT on Centre Street N and a bridge over the river;
- shallowing the depth of all underground stations; and
- reducing land acquisition costs by shifting the alignment to City right-of-way along 11 Avenue S.

The updated plan improves customer experience by making underground stations shallower and more convenient to access, and through the introduction of surface stations along Centre Street N, including a new station at 9 Avenue N.

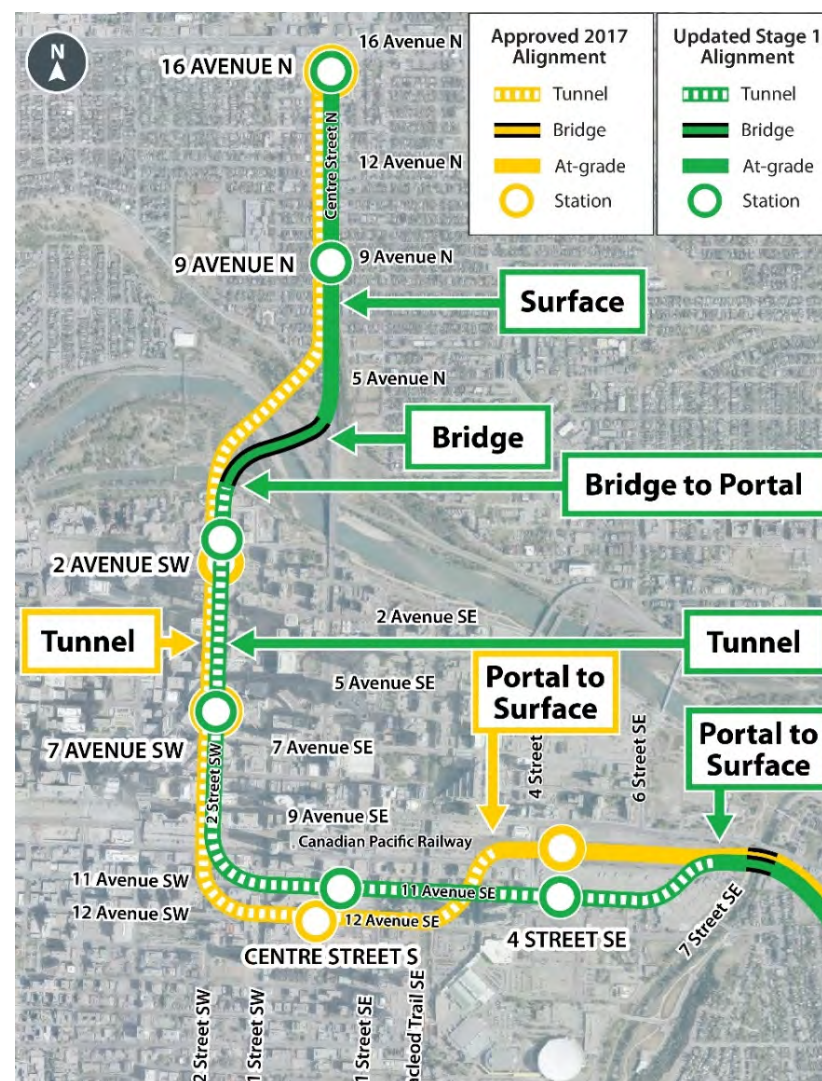


Updated Segment 2 - Alignment and Stations

Figure identifies sections of Segment 2 alignment that are at-grade (solid lines), tunnel (dashed line) and bridge (solid line with black outline).

A comparison of the 2017 Council approved and the recommended updated Segment 2 alignment and station location plans is summarized in the following table and graphic.

	2017 COUNCIL APPROVED	UPDATED SEGMENT 2
CENTRE STREET N	<ul style="list-style-type: none"> LRT in tunnel 16 Avenue N underground station 	<ul style="list-style-type: none"> LRT at-grade 16 Avenue N surface station 9 Avenue N surface station
BOW RIVER CROSSING	<ul style="list-style-type: none"> LRT in tunnel No multi-use pathway 	<ul style="list-style-type: none"> LRT on bridge Includes multi-use pathway over river
DOWNTOWN	<ul style="list-style-type: none"> LRT in tunnel 2 Avenue SW underground station 7 Avenue SW underground station 	<ul style="list-style-type: none"> LRT in tunnel 2 Avenue SW underground station 7 Avenue SW underground station
BELTLINE	<ul style="list-style-type: none"> LRT in tunnel and at-grade Centre Street S underground station (on 12 Avenue S) 4 Street SE surface station (on 10 Avenue S) 	<ul style="list-style-type: none"> LRT in tunnel Centre Street S underground station (11 Avenue S) 4 Street SE underground station (on 11 Avenue S)



Comparison of 2017 and Updated Segment 2 Alignment and Stations
2017 Council approved (yellow) and Updated 2020 Alignment (green).

Updated Segment 2 Concept Plan

This report presents the concept plan for Segment 2 to help illustrate what the updated Segment 2 alignment and stations might look like.

For each of the four areas (Centre Street N, Bow River Crossing, Downtown and Beltline) the following details and concepts are presented:

Planning & design objectives. Informed through common internal and external stakeholder interests, these have been and will continue to be used as guiding principles in the development of the plans for each area.

Alignment summary. An overview on the alignment and any next steps required to finalize. In areas with surface-running LRT, this will also include a description of the overall mobility network.

Station descriptions. A description of the stations and next steps required to finalize any details. In areas with surface-running LRT, this will also include a description of the overall mobility network.

What it might look like. A presentation on what each area might look like through the use of renderings, cross-sections, sketches and precedent photographs.

Centre Street N

Planning and design objectives

Centre Street N planning and design objectives were developed from input received through public engagement, community meetings, and stakeholder workshops. These have been used to guide the alignment and station location planning to date and will continue to be used as the planning and design for Centre Street N advances.

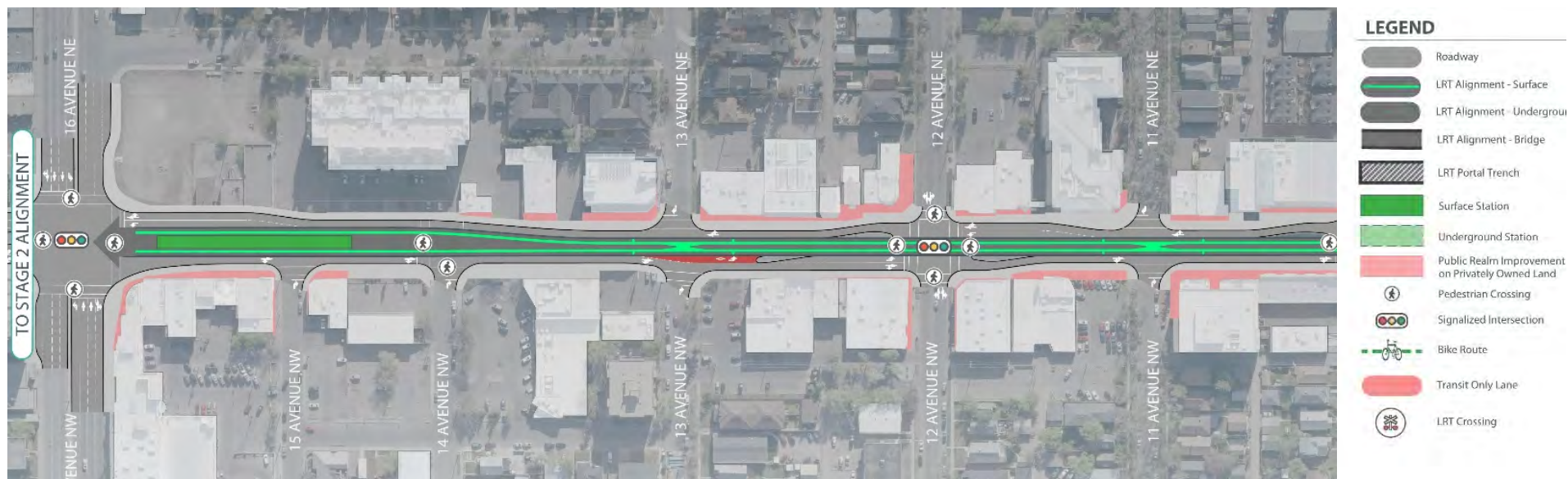
Common stakeholder interests:

- improve public realm and streetscape;
- reduce vehicular traffic along Centre Street N;
- minimize vehicular impact through community;
- consider adding 9 Avenue N Station;
- minimize impacts to existing businesses: access, parking, property values;
- minimize construction impacts to businesses; and
- support Centre Street N redevelopment opportunities.

Centre Street N guiding planning and design objectives

- urban realm that prioritizes pedestrian experience along the corridor;
- pedestrian connectivity across the corridor;
- facilitate reliable, efficient and safe LRT, BRT, local bus operations;
- manage vehicle access for local residents and businesses;
- minimize impacts to existing properties and businesses; and
- maximize future development opportunities, prioritizing transit-oriented development.

Alignment summary



The LRT alignment will run along the surface of Centre Street N in the middle of the road, with a single lane of traffic in each direction and no on-street parking.

A middle-running LRT configuration is being recommended, as it best balances:

- opportunities for pedestrian realm improvements, such as comfortable sidewalks and planting of street trees;

- safe movement of pedestrians, vehicles and LRT;
- access and circulation to businesses and into the community; and
- efficient LRT operations, with trains operating up to the speed of traffic.

LRT trains will operate in a guideway that is separated from vehicle traffic by a curb, and private vehicles will not be permitted in the guideway.



Motor vehicles, bicycles and pedestrians will be permitted to cross the LRT right-of-way at designated locations.

Safe pedestrian movement across the Centre Street N and the LRT right-of-way will be provided at every second block. Each pedestrian crossing will be managed through traffic signals.

Motorists can access businesses and the community through right turns, which will be permitted at every intersection, and through left turns, which will be permitted at signalized left turn bays at 7 Avenue N, 9 Avenue N, 10 and 12 Avenue N.

How the Green Line will extend north in the future is still being examined.

LRT guideway will be designed to allow BRT and Express buses to operate within the LRT guideway south of 13 Avenue N to the north end of Bow River bridge. Permitting BRT and express buses in the guideway will help improve transit travel time reliability along this stretch of Centre Street N, which is currently prone to congestion and delays bus movement.

From the LRT Bow River Bridge intersection to the south end of Centre Street Bridge, the two middle lanes of Centre Street N will re-purposed to provide dedicated transit lanes, which will extend the transit priority along the Centre Street into Chinatown.

Station descriptions

16 Avenue N Station

16 Avenue N station will be the northern terminus station for Stage 1. This station will be located south of 16 Avenue N and north of 14 Avenue N.

The station is being planned as a centre-loading platform with heated shelters. Pedestrians will be able to access the station from signalized pedestrian crossings at 16 Avenue N and 14 Avenue N.

This will be an urban station, whereby the scale of the station infrastructure will fit within the urban context.



Rendering showing what the 16 Avenue N station and adjacent streetscape might look like in winter.

9 Avenue N Station

9 Avenue N station will be located between 7 Avenue N and 9 Avenue N.

The station is being planned with two side-loading platforms. Pedestrians will be able to access the platforms from signalized pedestrian crossings at 7 Avenue N and 9 Avenue N.

This station is considered a community station, which will serve less riders than the busier terminus station at 16 Avenue N. As such, the size and scale of this station will be smaller than 16 Avenue N, which will allow the station to take up a smaller footprint and be more integrated into the surrounding community.

Given the smaller footprint of this station, customer amenities at this station will be simplified.

This station was not included in the original 2017 alignment as the station was very deep underground and cost prohibitive. In response to requests from the Crescent Heights community, the Green Line project team evaluated the feasibility of including this surface station in the updated Segment alignment and station plan.



Rendering showing what 9 Avenue N station might look like.

It is recommended that this station be included since it:

- Better connects the Crescent Heights community and area businesses with Green Line and the broader rapid transit network;
- Enables more opportunities for transit-oriented development in Crescent Heights; and
- Its smaller scale fits into the content of the neighbourhood within the project budget.

What it might look like

Centre Street N Streetscape Master Plan

As part of the Green Line project, a streetscape master plan will be developed for Centre Street N and will be implemented as part of the project delivery.

The Crescent Heights resident and business communities will be engaged in the planning for the streetscape master plan, which will help set the character for the street.

Streetscape improvements that will be delivered as part of Green Line include:

New sidewalks. Sidewalks will be constructed from building face to building face, pending agreements with private landowners. The new sidewalks will provide a consistent, comfortable and accessible walking surface along the entire Centre Street N corridor.

Tree planting. Street trees will be planted in areas with wider sidewalks. The tree planting plan will be developed as part of the streetscape master plan.

New furniture. New furniture will be provided, including benches, bike racks and waste & recycling bins. The look and feel of the furniture will be determined through the streetscape master plan planning process.

New streetlight poles. Pedestrian-oriented street lighting will be provided to improve illumination levels across the corridor. The new streetlight poles will be designed so they contribute to the character of the corridor. In addition, the poles may be designed to include provision for banner or flower baskets to be hung, which the business improvement area could program to animate and brand the street. The look and feel of streetlight poles will be determined as part of the streetscape master plan.

Pedestrian crosswalks. Green Line will deliver safe, signalized, well-marked pedestrian crossings at least every two blocks along Centre Street N. Thoughtful treatments can enhance the pedestrian experience with consideration to safety and legibility.

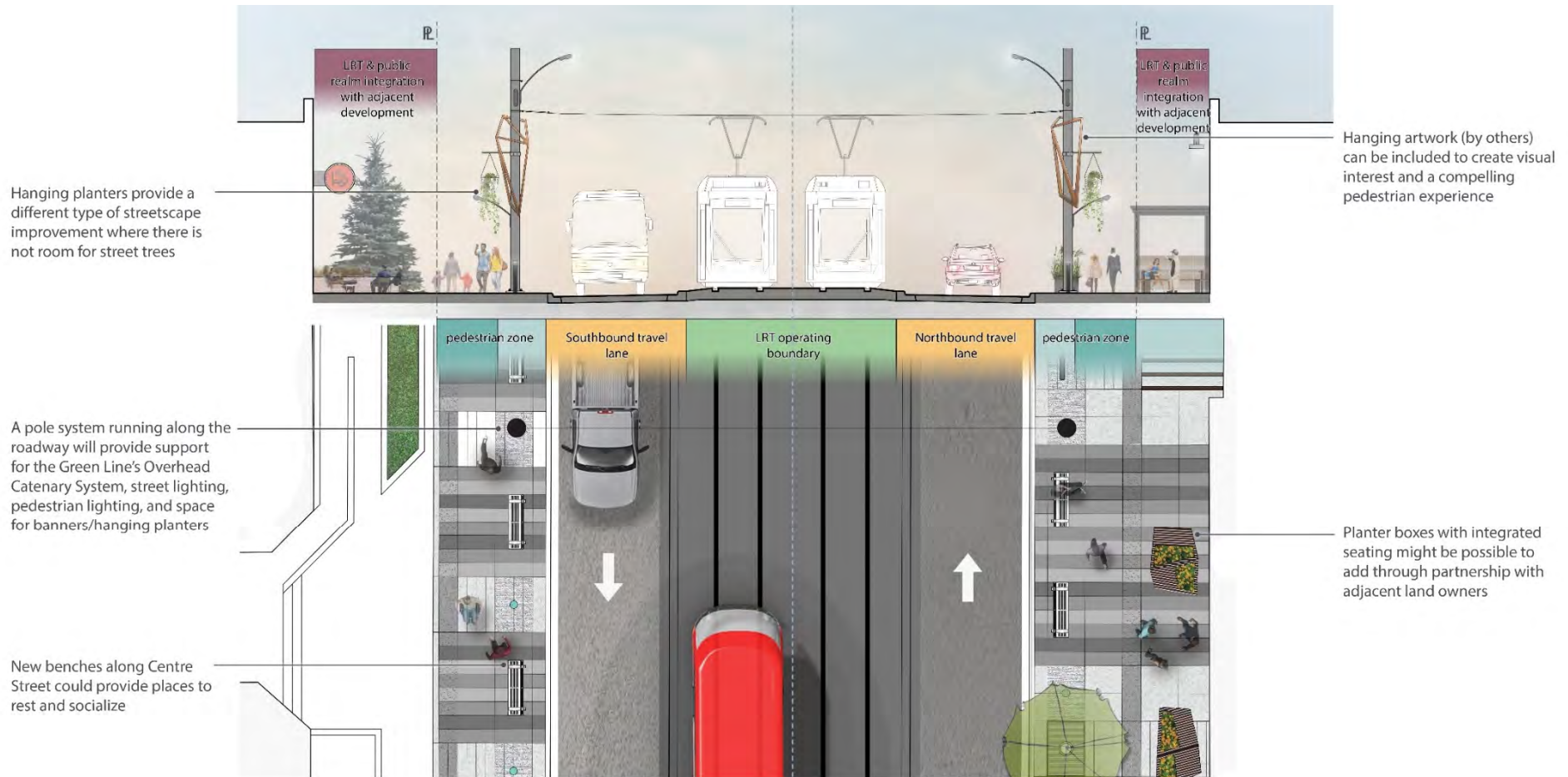


Rendering showing new sidewalk, streetlight poles and furniture could look like in narrow sidewalk areas.

Public realm with narrow sidewalks

The following cross-section illustrates what the public realm might look like in areas with narrow sidewalks. Urban design features would be provided, including new sidewalks,

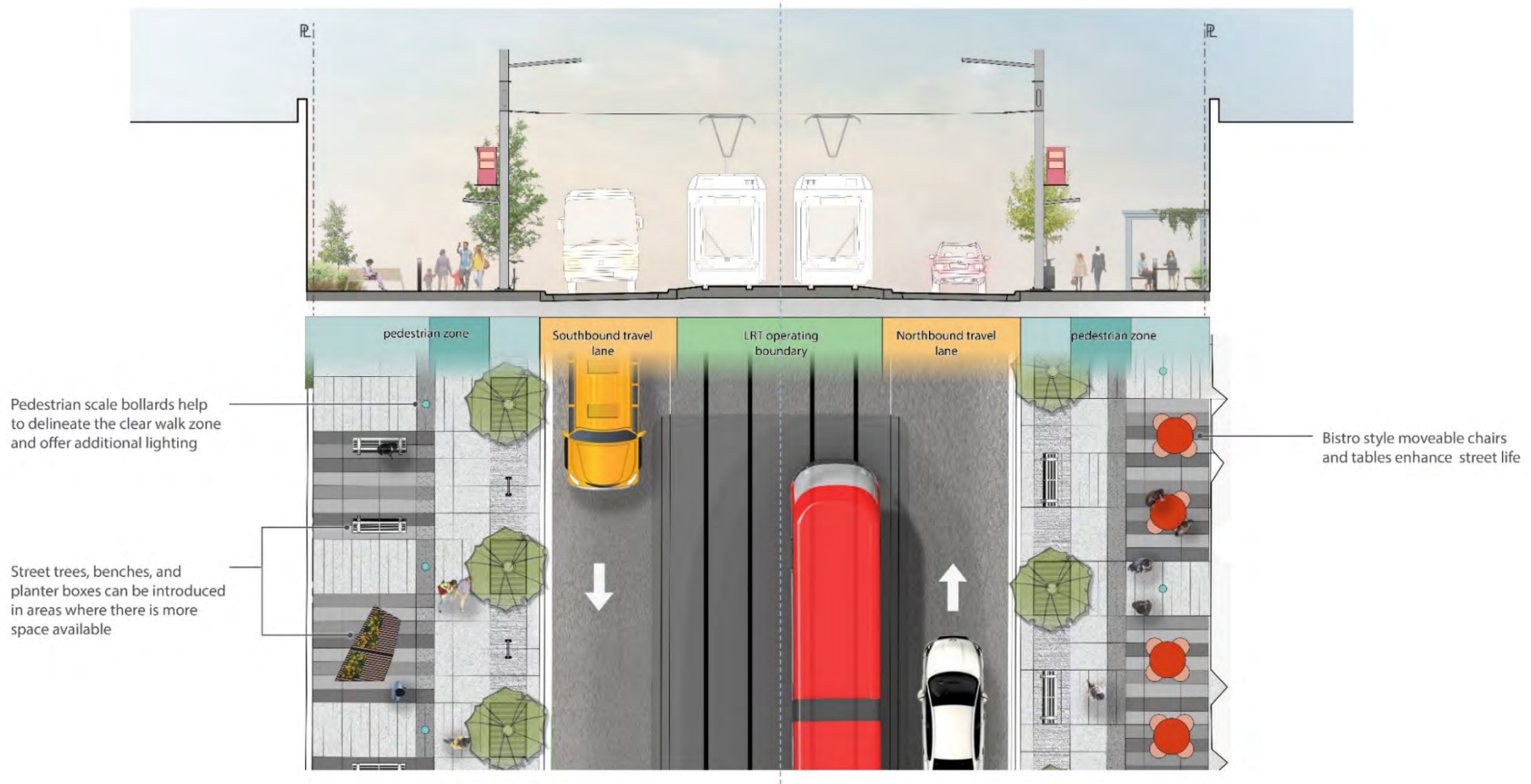
Pedestrian-oriented streetlight poles with opportunities for banners or flower baskets, and street furniture such as bike racks, benches and waste & recycling bins.



Public realm with wider sidewalks









The following cross-section illustrates what the public realm might look like in areas with wider sidewalks.

In this situation, there would be opportunities to plant street trees in addition to all other public realm improvements.



Centre Street Bridge – Transit Priority

LEGEND

-  Roadway
-  LRT Alignment - Surface
-  LRT Alignment - Underground
-  LRT Alignment - Bridge
-  LRT Portal Trench
-  Surface Station
-  Signalized Intersection
-  Bike Route
-  Transit Only Lane
-  LRT Crossing



To support improved travel time reliability for BRT users to North Central Calgary, the two middle motor vehicle lanes on the Centre Street bridge will be repurposed as permanent dedicated BRT lanes. The outer lanes will remain useable for general purpose motor vehicle traffic.

The transition from the BRT dedicated lanes on Centre Street bridge into Chinatown will be determined through the next stage of planning.



Centre Street N Bridge - Proposed BRT. Green Line will allow for the repurposed use of the existing Centre Street Bridge travel lanes.

Bow River Crossing

Planning and design objectives

Planning and design objectives for the Bow River Crossing were developed from input received through public engagement, community meetings, and stakeholder workshops. These have been used to guide planning to date and will continue to be used as the planning and design for the bridge advances.

Common stakeholder interests:

- preserve river pathway connectivity and enjoyment;
- minimize impacts to views;
- minimize impacts to adjacent residents;
- minimize environmental impacts;
- explore opportunity for multi-use pathway on bridge; and
- minimize disruption to Prince's Island Park (events, festivals, and community gatherings).

Bow River Crossing guiding planning and design objectives

- provide continued functionality and experience of the river pathway and Prince's Island Park;
- minimize impacts to views;
- incorporate flexibility for thoughtful bridge architecture options;
- minimize environmental impacts;
- mitigate construction impact to users of Prince's Island Park and surrounding area; and
- consider strengthened connectivity for people who walk and bike.



Alignment summary

The Green Line LRT will cross the Bow River with a new bridge. This bridge will also include a multi-use pathway for pedestrians and cyclists.

The bridge alignment will follow an s-curve in order to connect Centre Street N with 2 Avenue SW. The exact alignment and curve of the bridge will be finalized through the next stage of planning.

The bridge will travel over top of Sunnyside Bank Park, Memorial Drive, the Bow River, Prince's Island, the south Bow River Channel lagoon and the Eau Claire Promenade, before connecting into the portal at the 2 Avenue SW Station.

As part of the Bow River Crossing recommendation, the Centre Street bridge will be repurposed so that the two middle lanes are converted to dedicated BRT lanes to support improved travel time reliability for north central BRT to north Calgary. The outer lanes will remain useable for general purpose vehicle traffic.

What might it look like

Bridge alignment variations

The bridge alignment follows an s-curve in order to connect Centre Street N with 2 Avenue SW. The shape (radii) of these curves are constrained by the operating requirements of the LRT and will vary depending on the final design of the 2 Avenue SW station and portal, architectural bridge selected and location of bridge piers. The site plan on the right illustrates some example bridge alignment variations currently being explored.

The final bridge alignment and configuration, including shape of the curve, will be determined through the next stage of planning.

Bridge architectural types

There is currently no design for the Green Line LRT bridge. Instead, the Green Line project team has been reviewing different bridge types to determine which are compatible with LRT and could be considered for the crossing of the Bow River.

These bridge types differ based on their visual prominence, interface with the Prince's Island and the Bow River, span width and overall structural size. Some bridge types would have more prominent architectural features and others would have simpler structures that may blend into the surrounding environment.

Bridge types being explored include constant depth viaduct, trestle structure viaduct, tied arched truss, and cable stayed bridge.



Shape of possible bridge curve variations over the Bow River.



Constant depth viaduct rendering. *A constant depth viaduct is a simple bridge structure with evenly spaced piers and a constant depth structure between the piers. This type of structure allows for smaller piers, but as a result, requires that the piers touch down more frequently than other bridge types.*



Tied arch bridge rendering. *A tied arch bridge utilizes a moderate vertical upstand spine in the centre of the bridge to provide vertical support for a main span over the Bow River. A constant depth viaduct would be used on either side of the main span crossing Prince's Island Park and Sunnyside Bank Park.*



Cable stayed bridge rendering. *A cable stayed bridge utilizes a large singular vertical pylon in the centre of the Bow River to support two cable stayed spans on either side. On the north side, the span extends over the Memorial Drive, and on the south side, it extends over Prince's Island Park. This type of structure has a larger visual impact.*



Trestle bridge rendering. *A trestle pier viaduct is a simple bridge structure with evenly spaced v-shaped piers. The v-shaped piers reduce the clear span between piers which allows for a shallower bridge deck. The unique shape of the piers would require additional constructability considerations.*

Pathway connections & Eau Claire Promenade interface

The new LRT bridge will include a multi-use pathway for pedestrians and cyclists. The details of how this pathway will be incorporated into the structure, such as on a top, side or bottom deck, will be determined through the next stage of bridge planning.

Connectivity along the Bow River Pathway will be maintained through the LRT bridge design. Within the Eau Claire area, it is not yet known where the bridge will land. The Green Line team is working closely with The City's Eau Claire Promenade and Flood Mitigation Project team to understand the potential impacts of the LRT bridge crossing on the Eau Claire Promenade and to explore potential

measures to mitigate impacts to function, experience, and aesthetics of the pathway.

The intent is to minimize the impact to the promenade, and to complement the existing Eau Claire promenade and flood mitigation objectives. Should the bridge design impact the existing pathway, The City will mitigate by replacing or rerouting affected sections.

Although a preferred bridge architectural variant has not yet been determined, several preliminary bridge variants were placed in different view perspectives to help understand how existing views would change.



Rendering showing multi-use pathway on new LRT bridge.



Rendering of LRT bridge (constant viaduct structure), as viewed from McHugh Bluffs on north side of Bow River.



Rendering of LRT bridge (constant viaduct structure), as viewed from Waterfront Condominium on south side of Bow River.



Rendering of LRT bridge (constant viaduct structure), as viewed from Chevron Learning Pathway on Prince's Island Park.



Rendering of LRT bridge (constant viaduct structure), as viewed from west side of proposed bridge on Prince's Island Park.

Downtown

Planning and design objectives

Planning and design objectives for the Downtown were developed from input received through public engagement, community meetings and stakeholder workshops. These have been used to guide planning to date and will continue to be used as the planning and design for the Downtown advances.

Common stakeholder interests:

- provide great public realm;
- preserve river pathway connectivity;
- do not impact connectivity of east-west avenues and overall mobility network;
- preserve redevelopment opportunities;
- minimize impacts to existing developments; and
- do not negatively impact property values and leasing appeal.

Downtown guiding planning and design objectives

- integrate LRT infrastructure with adjacent development and public realm;
- provide continued functionality, aesthetic and experience of the Eau Claire Promenade;
- support continued vibrancy of cultural, social and commercial activities;
- minimize impacts to existing residential and commercial properties;
- enable adjacent future development potential; and
- minimize impacts to the mobility network.

Alignment summary



The LRT alignment continues from the new LRT bridge across the Bow River, over the Bow River Pathway, and travels south until it transitions underground, through a portal that is located west of 2 Street SW and around Waterfront Mews SW.

The portal will be integrated with the 2 Avenue SW station, and planning is underway to integrate both the portal and 2 Avenue SW station into the future Eau Claire redevelopment.

South of 2 Avenue SW station, the tunnel will extend under 2 Street SW towards an underground station at 7 Avenue SW.

After 7 Avenue SW station, the tunnel continues south under the existing Red and Blue Line LRT, and the CP Rail corridor, into the Beltline.

As the roadway will not be used for the portal or station, it will maintain the flexibility to be rebuilt with a new streetscape.

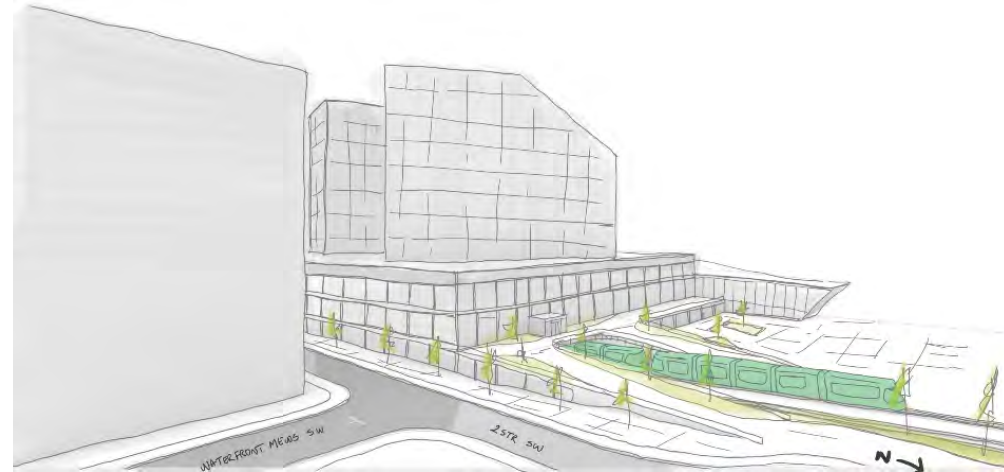
Station description

2 Avenue SW Station

2 Avenue SW station is planned to be fully-integrated directly into the future redevelopment of the Eau Claire Market site. Inspiration for this station design is being drawn from the new Central Library, which encapsulated Calgary Transit's Red Line portal.

By integrating this station into the redevelopment site, the LRT alignment will remain underground until the train exits through a portal at the north end of the property, in the vicinity of Waterfront Mews SW, and connects with the new LRT bridge.

This station layout means that Green Line will not impact the public road network in Eau Claire and Chinatown. The integration plans will also preserve the opportunity for the developer of the Eau Claire Market site to extend Riverfront Avenue SW to west into the development site, as envisioned in their development plans.



Architectural sketch commissioned by The City shows what the portal from underground to the new Bow River bridge might look like once integrated into the future redevelopment of the Eau Claire Market site.



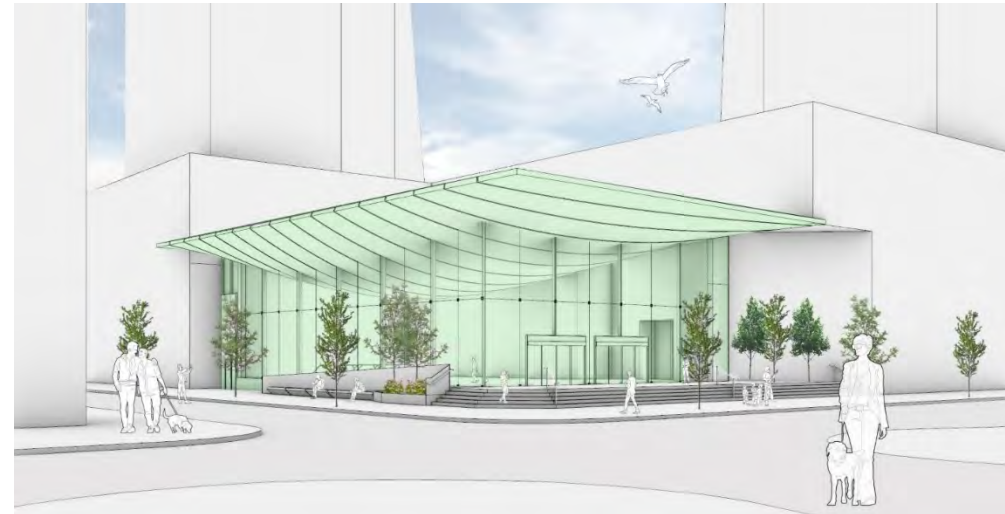
Architectural sketch commissioned by The City that depicts what a station entrance at 2 Street SW and Riverfront Avenue SW might look like once integrated into the future redevelopment of the Eau Claire Market site.

7 Avenue SW Station

7 Avenue SW station is planned to be located north of 7 Avenue SW. This will be the busiest station on the entire Green Line alignment and will serve as a key transfer hub between the Red and Blue LRT lines, as well as provide connections to key destinations Downtown.

Plans for the 7 Avenue SW station entrance have not yet been developed. The City will be exploring opportunities to collaborate with adjacent landowners to integrate station entrances into existing or future developments.

If both station entrances are integrated into adjacent developments, there will be no disruption to the existing mobility network. If integration opportunities are not possible, station entrances would be constructed within sections of the 2 Street SW road right-of-way. This would reduce the road to a single lane between 7 Avenue SW and 5 Avenue SW, while still maintaining access to existing parkades on 2 Street SW. Whether integrated or not on opening day, options for providing underground connections into 7 Avenue SW station in the future will be provided by providing pre-planned knock-out-panels. This will enable adjacent landowners to connect into the stations in the future, if it's not feasible to do so in the timeframe of Green Line construction.



Rendering showing what a station entrance may look like integrated into a future development.

What it might look like

2 Street SW Streetscape Master Plan

As part of the Green Line project, a streetscape master plan will be developed for 2 Street SW and will be implemented as part of the project delivery. This will enhance the pedestrian environment from the Bow River south into the downtown core.

Investing in streetscape upgrades and amenities will contribute to a downtown that is desirable to current and future businesses, residents and visitors. Thoughtful public realm design will seamlessly integrate public and private spaces.

Downtown residential and business communities will be engaged in the planning for the streetscape master plan, which will help set the character for the street. Streetscape improvements that will be delivered as part of Green Line include:

New sidewalks. Sidewalk will be constructed from building face to building face, pending agreements with private landowners. The new sidewalks will provide a consistent, comfortable and a walking surface along 2 Street SW.

New streetlight poles. Pedestrian-oriented street lighting will be provided to improve illumination levels across the corridor. The new streetlight poles will be designed so they contribute to the character of the corridor. In addition, the poles may be designed to include provision for banner or flower baskets to be hung, which the business improvement area could program to animate and brand the street. The look and feel of streetlight poles will be determined through the streetscape master plan planning process.

New furniture. New furniture will be provided, including benches, bike racks and waste & recycling bins. The look and feel of the furniture will be determined in the streetscape master plan.

Tree planting. Street trees will be planted in areas with wider sidewalks. The tree planting plan will be developed as part of the streetscape master plan.

Cycle Tracks. As part of the 2 Street SW master plan, The City will evaluate the possibility of including 2 Street SW into the overall Centre City cycle track network.

Integrated Stations

The Green Line project team will be exploring opportunities to integrate underground stations into adjacent developments. The project team will be meeting with developers and landowners in station areas to explore potential opportunities to collaborate on the integration of Green Line underground station entrances into existing or future private developments, or pre-planning potential future knock-out panel type connections. These collaborations may influence the final location of stations and their entrances.

Integrated stations can benefit The City, developments and transit users. For The City, integrating stations into existing or future developments can help lower the cost of land acquisition and construction costs. For developments, integrating stations into a building may help attract or retain tenants, and may attract new customers to support retail tenants. For transit users, integrated stations can help improve the transit rider experience, providing seamless connection from the LRT into an individual development and the broader +15 network.



Example of what an underground station entrance might look like fully integrated into a development, showing Bayview Station in Toronto.



Example of what an underground station entrance might look like before its integrated into a development, showing Broadway Station in Vancouver.



Example of what a stand-alone station entrance might look like, showing Canada Line in Vancouver.

Beltline

Planning and design objectives

Planning and design objectives for the Beltline were developed from input received through public engagement, community meetings and stakeholder workshops. These have been used to guide planning to date and will continue to be used as the planning and design for the Beltline advances.

Common stakeholder interests:

- minimize impact to mobility network;
- minimize impacts to future development densities;
- avoid impacts to existing developments: access, egress, servicing;
- support Rivers District and Stampede Master Plans and Events Centre planning;
- locate transit infrastructure to service existing Beltline communities; and
- integrate station entrances with development.

Beltline guiding planning and design objectives

- minimize impacts to mobility network;
- locate stations to support the vision of the River's District master plan;
- minimize impacts to Victoria Park Transit Centre operations;
- minimize impacts to Stampede Park and existing residential and commercial properties;
- explore opportunities for station integration; and
- enable future development opportunities and unlock density potential.

Alignment summary



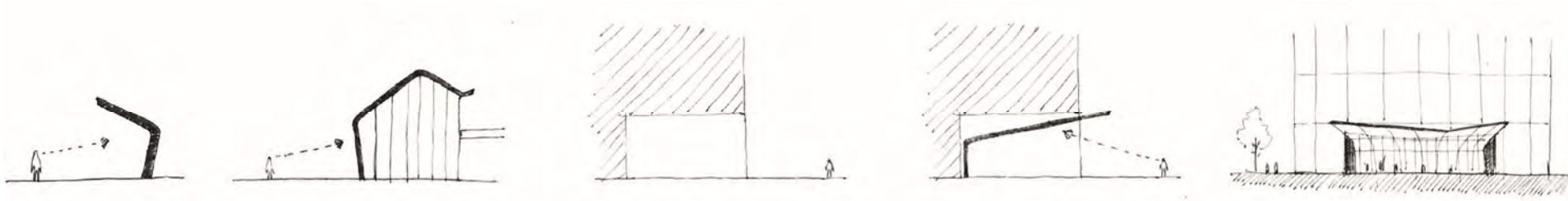
Within the Beltline, the tunnel transitions from 2 Street SW to 11 Avenue S along a curve. Various curve radii are currently under evaluation and being examined in terms of technical feasibility, train operations, constructability, risk, and capital costs. The final curve will be confirmed through the next phase of planning.

The tunnel will extend along 11 Avenue S in City-owned road right-of-way. It will cross beneath the existing Red Line tunnel and continue east towards the Calgary Transit Victoria Park Transit Facility.



The alignment travels along the north edge of the Victoria Park Transit Facility site, with a portal that brings the LRT to grade just west of the Elbow River, where it limits disruption to current operations of the bus facility.

The roadway configuration in the Beltline will not change from what exists today, as there is no above ground infrastructure that might trigger changes to the road right-of-way.



Station description

Plans for Beltline underground station entrances have not yet been developed. Exact station locations and entrances have not been finalized and are currently under evaluation.

The City will be exploring opportunities to collaborate with adjacent landowners to integrate station entrances into existing or future developments, or purchase land for stand-alone station entrances.

Centre Street S Station

Centre Street S station is an underground station, located at approximately 11 Avenue S and 1 Street SE. The station will have a centre loading platform with a concourse level above.

The station entrances can be integrated directly into adjacent development or can have stand-alone entrances.

4 Street SE Station

4 Street SE station is an underground station that will be located on 11 Avenue S, between 4 Street SE (Olympic Way SE) and 6 Street SE. Similar to the Centre Street S station, it can be integrated into adjacent development or can have stand-alone entrances.

What it might look like

Integrated Stations

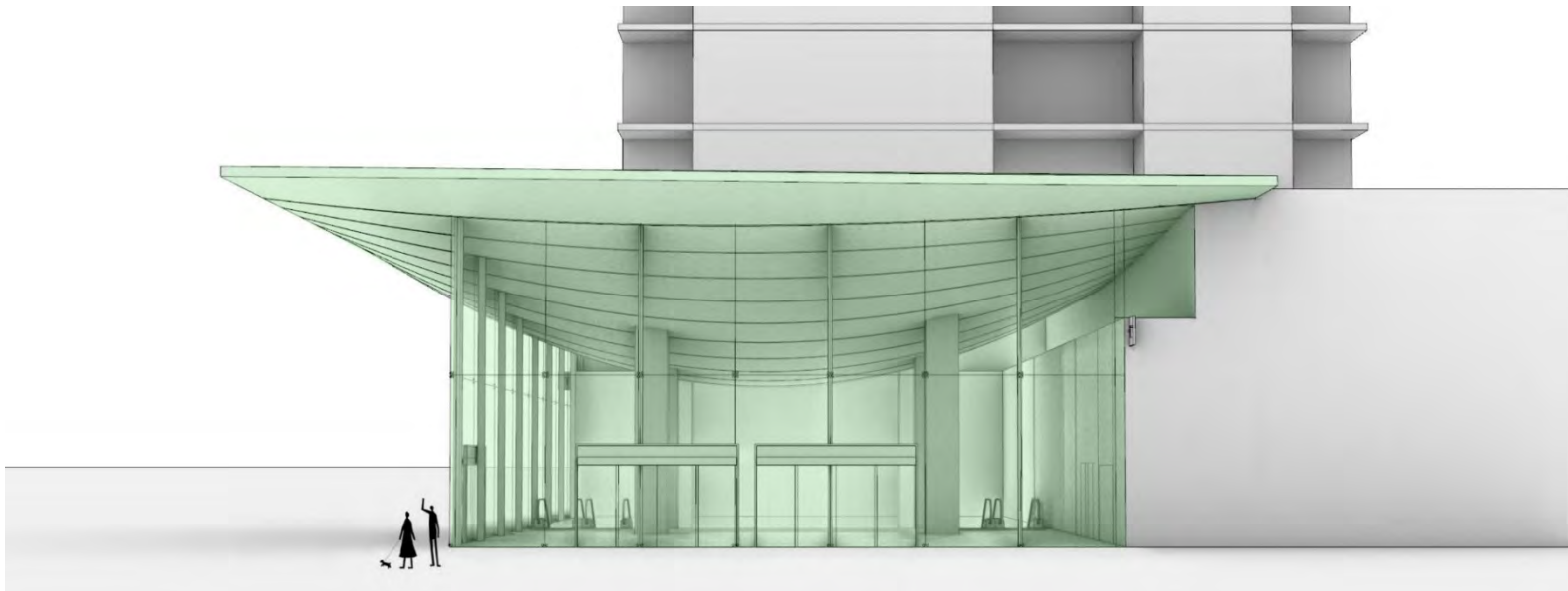
Similar to Downtown, the Green Line project team will be exploring opportunities to integrate underground stations into adjacent developments in the Beltline.

Refer to the Downtown Integrated Stations section for photos and renderings and that depict what integrated stations in the Beltline might look like.

Streetscape Improvements

The public realm and streetscape will be reinstated in areas where LRT construction is anticipated to create disturbances to both the roadway and existing streetscape.

Within the Beltline, this will include areas around the Centre Street S and 4 Street SE stations, and potentially in areas where construction will occur above grade. Public realm improvements within the Rivers District will incorporate the vision of the Rivers District Master Plan and will be coordinated with Calgary Municipal Land Corporation.



Rendering showing what a station entrance (shown in green) may look like integrated into a future development.

Portal

The portal will be located at the northern edge of the Victoria Park Transit Centre and directly south of the Canadian Pacific rail line. It will be designed in a way to allow for

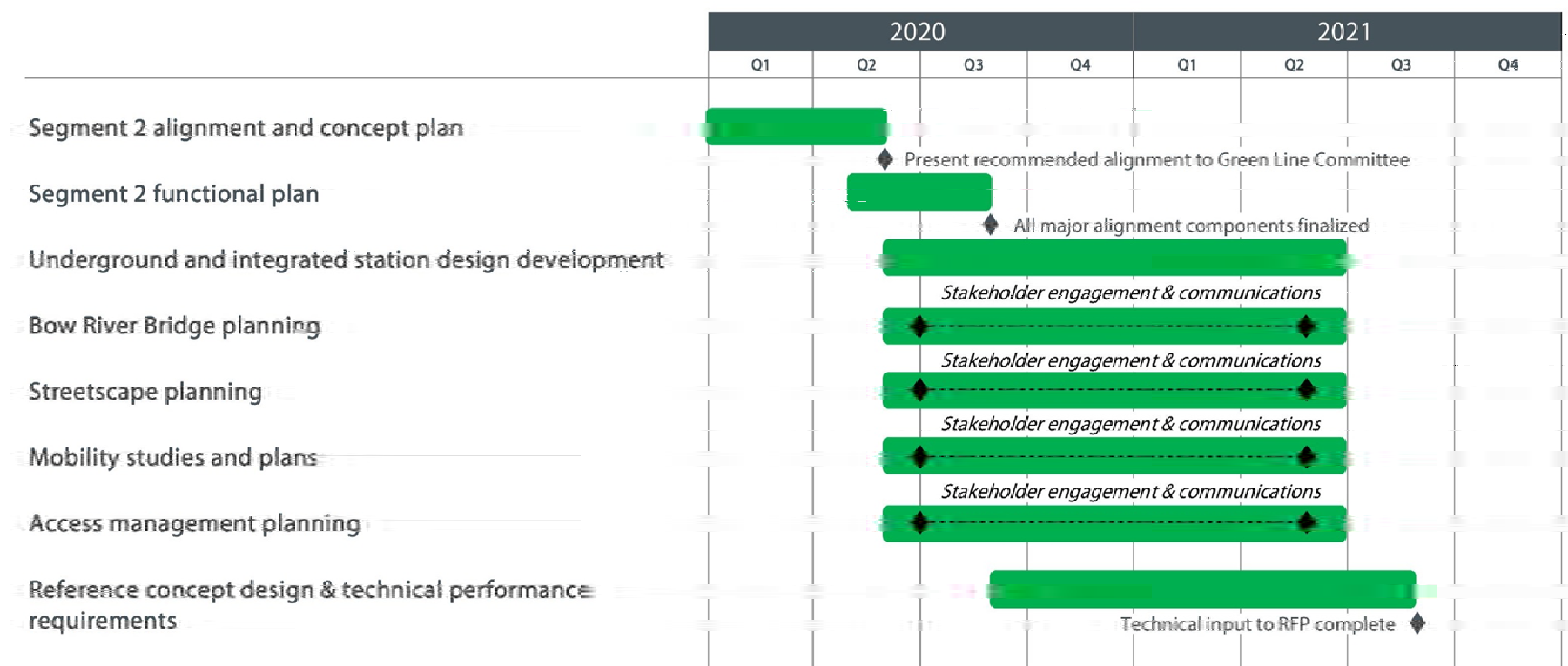
encapsulation within a future development, similar to the approach taken with the new Central Library.



Perspective rendering of LRT emerging from the tunnel portal before crossing the Elbow River.

Next Steps

A work program has been developed in order to advance the planning for Segment 2. The chart below outlines the key planning activities and identifies opportunities for stakeholder engagement and communications, where applicable, and descriptions of each planning activity are outlined in the following sections.



Segment 2 functional plan

The functional planning phase will:

- finalize the LRT horizontal and vertical alignment;
- confirm station box location, platform configurations and station entrance locations;
- develop roadway design for affected roads along the corridor;
- identify utility conflicts;
- identify preliminary property requirements; and
- update capital cost estimates and risk assessments.

Underground and integrated station design development

This design phase includes:

- developing design for station box and station entrances;
- working with Harvard Development Inc. on the integrated portal and station at 2 Avenue SW;
- exploring opportunities with landowners adjacent to 7 Avenue SW, Centre Street S and 4 Street SE stations to integrate underground station entrances in existing or future developments; and
- developing architectural concepts for stations and station areas.

Bow River Bridge planning

Through the next stage of planning detailed technical investigations and studies will include:

- developing a preferred bridge architectural concept, including urban design features;
- confirming bridge pier locations, in conjunction with construction procurement and environmental approvals;
- refining the bridge alignment and configuration, including the shape of the bridge curve;
- determining if the pathway is situated on the top deck, bottom deck, or on the side of the bridge;
- geotechnical, hydrotechnical, archaeological and survey investigations;
- environmental studies to ensure that the bridge design and construction plans minimize environmental impacts and meet municipal, provincial and federal regulatory requirements relating to fish habitat, wildlife and other environmental considerations;
- public engagement process to gather more specific input on bridge architecture objectives;
- identifying potential impacts to natural areas during construction and develop mitigation plans to limit temporary disturbance to vegetation and wildlife habitat; and
- development of plans to restore any impacts to the surrounding natural area.

Mobility studies and plans

Mobility studies and plans will include:

- Community Traffic Review and Plan to address changes to the mobility network and which may include additions and modifications to existing community traffic-calming measures; and
- Network Traffic Review to examine existing traffic patterns, determine which alternate routes will receive more traffic, and develop strategies to manage impacts.

Streetscape planning

Broad streetscape planning will be focused on Centre Street N and 2 Street SW corridors and include:

- analysis of existing conditions, use patterns, circulation, critical connections, constraints and opportunities;
- coordination with other current and planned streetscape and urban realm initiatives to ensure alignment and identify potential collaboration opportunities;
- engagement with stakeholders on general character, aesthetic and theme of streetscape designs, as well to explore potential opportunities on placemaking and city shaping initiatives;

- development of streetscape master plans, which outline the design vision for new sidewalks (building face to building face, pending agreements with private landowners), roadway and pedestrian oriented streetlighting, tree planting locations, new furnishings (benches, bike racks and waste & recycling bins), and pedestrian crossings; and
- development of materials palette, cross-sections, and configuration of streetscape elements to inform the next phase of reference concept and technical design.

Access management

This work program will focus on planning for opening day conditions for area businesses. A key focus of this work will be the development of a Business Access, Loading and Parking Plan that will explore potential solutions to manage access and parking changes resulting from changes to Centre Street N, including changes to on-street parking on adjacent avenues and new opportunities for off-street short-term parking.

Reference concept design and technical design requirements

- structural design of bridges and underground structures, such as stations, portals, and running tunnels;
- utility relocation and protection plans;
- noise and vibration studies to identify where mitigation measures might be required, such as installation of special track systems and other noise and vibration abatement measures;
- update capital cost estimates and risk assessments;
- finalize property acquisition requirements; and,
- draft technical specification requirements to include as part of the contract document for construction of Segment 2.



Green Line LRT

What We Heard Report

Updated Stage 1 Alignment

January 29 – April 30, 2020

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Executive Summary

Overview

The City undertook an extensive engagement process that resulted in broad support from Calgarians for the 2017 approved Green Line Alignment. To address concerns around project budget, construction risk and customer experience, the Green Line project team advised Council in July 2019 that changes to the 2017 approved alignment were needed. To support this change, consultation for the updated Stage 1 focused on helping Calgarians understand the proposed changes and gathering stakeholder and public feedback to help Council members understand stakeholder and public sentiment towards the new proposal when making their decision. Calgarians were engaged at a Listen and Learn level of engagement and were able to provide feedback on the potential changes.

Engagement was divided into two phases. The first phase was January 29 – March 3, and the second phase was March 4 – April 30. The difference in the phases is the level of detail that was available on the alignment. Phase 1 of engagement included online feedback opportunities, four drop-in sessions at a storefront on Centre Street North, and six pop-up events in various locations along the alignment. During Phase 1, The City of Calgary's online Citizens' Panel was invited to complete a survey on the updated alignment between February 20 and March 1. Phase 2 continued with online opportunities, four open houses, and one drop-in session. Due to COVID-19, the other scheduled in-person events for Phase 2 were cancelled and the online opportunities were extended to April 30.

This report summarizes the activities and results of engagement for Green Line LRT's Updated Stage 1 Alignment. A discussion of the themes of the feedback for both phases and a full list of comments received through public engagement is included in this report.

Summary of What Was Heard

The following question was asked for each of the focus areas of the alignment:

- Centre Street
- Bow River Crossing
- Downtown
- Beltline
- Enhanced Bus Rapid Transit

What are the opportunities and challenges you see with the updated Stage 1 alignment?

The following table summarizes the most commonly expressed themes shared through the public engagement process:

Focus Area	Key Themes
Centre Street	<ul style="list-style-type: none"> • Comments on traffic impacts on Centre Street, impacts to surrounding network and increased traffic through the community • Preference for having the train underground • Suggestions for alternate alignments and/or technologies • Feedback around pedestrian safety and connectivity across Centre Street • Interest in having a station at 9 Avenue
Bow River Crossing	<ul style="list-style-type: none"> • Comments about impacts to Prince's Island Park including wetlands, wildlife, and the environment • Suggestions on alignment and design • Desire for thoughtful bridge architecture • Preference for an underground alignment • Feedback on bridge impacts including view, aesthetics, noise from train impacting enjoyment of the park and activities
Downtown	<ul style="list-style-type: none"> • Comments on community impacts including local traffic, access, circulation, parking and impacts to existing properties • Feedback on reduced quality of life due to safety, privacy, noise and visual impacts of LRT • Suggestions for alternate alignment of the train and a preference for underground • Comments around impacts to Prince's Island Park
Beltline	<ul style="list-style-type: none"> • Comments supporting the updated alignment in this area • Desire for improved public realm and streetscape along with better community connectivity • Comments around minimizing impacts to mobility network during construction
North BRT	<ul style="list-style-type: none"> • Desire for improved transit service in the north • Feedback around traffic and mobility impacts • Support for BRT over LRT and the reverse

Project Overview

Green Line is important to the future of Calgary and benefits all Calgarians. It represents a major investment in our transportation network, in our communities, and the future of our city.

Green Line Vision: A city-shaping transit service that improves mobility in communities in north and southeast Calgary, connecting people and place and enhancing the quality of life.

Like Calgary's current LRT lines, the Green Line will be built in stages as funding becomes available.

At a Glance, the Green Line when completed, will:

- Serve Calgarians in 27+ communities
- Serve 60,000-65,000 LRT customers daily
- Support over 220,000 to 240,000 trips per day
- Consist of 46 km of track
- Include 28 stations (+1 with new 9 Avenue N station)
- Provide a future airport connection
- Support future Transit Oriented Development (TOD) in 10 stations areas

Green Line Stage 1 will deliver the first 20 km of LRT track. Stage 1 of the Green Line (16 Avenue N to 126 Avenue S.E.) is fully funded with committed funding from all three orders of Government. The City is currently assembling the land required for Stage 1, relocating utilities, and preparing the right-of-way for the main construction contract through an enabling works program.

Why update Stage 1?

In summer 2019, the Green Line project team advised Council about the need to review Stage 1 for the following reasons:

Customer Experience: The 8-storey deep tunnel and stations would impact the user experience and the Green Line vision of a light rail transit system that is accessible, potentially impacting projected ridership numbers.

Project Budget: Cost estimates were exceeding Green Line's funding of \$4.9 billion by approximately 10%.

Construction Risks: As designs on the tunnel under the Bow River progressed, and to avoid obstacles underground downtown, the tunnel and stations were becoming very deep by approximately eight storeys, further adding to construction and project risks.

Evaluation – June 2019 through January 2020

As part of the re-evaluation, the project team reviewed the entire Council-approved Stage 1 alignment from 16 Avenue N to Shepard. During this review, the team focused on improving customer experience, reducing risk, and controlling cost while respecting the communities the project is moving through.

Options evaluated for Stage 1 include the following:

- Updated alignment (16 Avenue N to Shepard)
- Options that look to connect into Red & Blue Lines using existing City Hall tunnel
- Options for separate north and southeast LRT lines
- Options for shortened line that stops in the Beltline or downtown (does not cross river)
- Bus Rapid Transit (BRT) improvements

Any Green Line alignment will be experienced differently depending on a person's unique community, business, property, or transit-user experience. The team worked to understand stakeholder interests and considered those interests as part of the analysis.

Target Audiences

Target audiences for this engagement are separated into primary and secondary audiences. Primary audiences are identifiable by their proximity to changes in the alignment. This covers the area between 16 Avenue N and the Beltline (west of Elbow River). Secondary audiences, while less directly impacted, are still seen as being interested in the project or in having an important opinion to share.

Meetings with stakeholders also occurred outside of this public engagement process. Not all stakeholders are captured in this audience summary.

Primary

- Communities of Crescent Heights, Eau Claire, Chinatown, Downtown and Beltline
- Crescent Heights Community Association
- Crescent Heights Village BIA
- Eau Claire Community Association
- Chinatown Community Association
- Chinatown BIA
- Calgary Downtown Association
- Beltline Neighbourhoods Association
- Victoria Park BIA

Secondary

- Green Line communities outside of alignment changes
- Green Line communities outside of Stage 1
- Future Green Line riders and other Calgary Transit Users
- Calgarians interested in the project

Respect for Diversity, Inclusion and Culture

The engagement approach was designed to be respectful of the diversity of people living, working and spending time in the Centre City. To make our engagement more inclusive, a number of steps were taken:

- ✓ Due to the proximity of Chinatown to the Green Line LRT alignment, Chinese-speaking residents were specifically targeted in marketing, communication and events. The approach was informed through conversations with key stakeholders and leaders from Chinatown. Efforts included:
 - Tri-lingual (Mandarin, Cantonese, and English) interpretation was provided at the Chinatown, Eau Claire and Crescent Heights open houses.
 - Translated advertisements were shared with the Chinatown BIA and CA as well as hand-delivered to Chinese businesses along Centre Street.
 - Chinatown Community Association and Business Improvement Area organizations were given engagement information to share through their member/resident channels.
 - The Crescent Heights Village Business Improvement Area (CHVBIA) and Green Line's stakeholder relations team door-knocked at Chinese businesses along Centre Street N to promote upcoming events. A language-interpreter was available and frequently used.
- ✓ Pop-up events were set up to ensure we reached Calgarians who may have not had the time to attend an event. These events took place in six locations: Eau Claire Market, Seton YMCA, Quarry Park YMCA, Anderson LRT Station, Vivo for Healthier Generations, and Thornhill Aquatic & Recreation Centre.
- ✓ A drop-in "storefront" was set up every week in Crescent Heights to increase public accessibility to the project team. Citizens could enter any time during shop hours to ask questions, provide feedback and learn about the project.
- ✓ Due to space constraints, some boards had to be placed upstairs at the Crescent Heights open house. Printed handouts of those boards were available for anyone who was not able to visit upstairs.
- ✓ A colouring station was set up at each storefronts and open house events to support parents who had young children with them.
- ✓ All venues were accessible to wheelchairs, walkers and strollers.

Engagement Overview

The engagement approach was designed to collect input at a *Listen & Learn* level (from The City's Engage Policy) on the updated Stage 1 alignment. Engagement took place in two phases: Phase 1 January 29 – March 3, Phase 2 March 4 – April 30.

Engagement Questions	How input will be used	Level of Engagement
<p>The following question was asked for each of the focus areas of the alignment:</p> <ul style="list-style-type: none"> Centre Street River Crossing Downtown Beltline Enhanced Bus Rapid Transit <p><i>What are the opportunities and challenges you see with the updated Stage 1 alignment?</i></p> <p>We also asked: <i>Do you have any other comments you'd like to share with the project team?</i></p> <p>Note - Phase 1 included maps with line drawings. By Phase 2, the technical team had advanced the designs and more information was available to share such as renderings.</p>	<p>Input is collected and summarized to help City Council understand public sentiment in relation to the updated Stage 1 alignment.</p> <p>The project team will consider feedback received as they advance design of the recommended alignment.</p> <p>Phase 2 of engagement helps Council and project team members understand to what extent the design details presented effect public sentiment of the updated Stage 1 alignment.</p>	<p><i>Listen & Learn:</i> We will listen to stakeholders and learn about their plans, views, issues, concerns and expectations and ideas</p>

Event Summary

Engagement took place from January 29 to April 30, 2020.

Phase of engagement	Event	Date and location	Participation
Phase One January 29 – March 3 Reference information included maps with line drawings.	Online engagement – Phase 1	January 29, 2020 – March 3, 2020	1797 contributions from 562 contributors
	Drop-in storefront	Wednesday, February 12, 2020 - 914 Centre St N	20 participants
	Pop-up engagement	Tuesday, February 18, 2020 - Eau Claire Market	75 participants
	Drop-in storefront	Wednesday, February 19, 2020 - 914 Centre St N	30 participants
	Pop-up engagement	Saturday, February 22, 2020 - Seton YMCA	78 participants
	Pop-up engagement	Saturday, February 22, 2020 - Quarry Park YMCA (TBC)	40~ participants
	Drop-in storefront	Wednesday, February 26, 2020 - 914 Centre St N	30 participants
	Pop-up engagement	Wednesday, February 26, 2020 - Vivo	78 participants
	Pop-up engagement	Thursday, February 27, 2020 - Anderson Station	45~ participants
	Pop-up engagement	Saturday, February 29, 2020 - Thornhill Recreation Centre	80 participants
	Drop-in storefront	Wednesday, March 4, 2020 - 914 Centre St N	15 participants
Phase Two March 4 – April 30 Reference information included more detailed maps and renderings as the design had advanced by this time.	Online engagement	March 4, 2020 – April 30, 2020	1304 contributions from 249 contributors
	Open House #1 – Beltline	March 4, 2020, 4:30 p.m. – 8:30 p.m. Decidedly Jazz Danceworks	125 participants
	Open House #2 – Chinatown	March 5, 2020, 4:30 p.m. – 8:30 p.m. White Diamond Conference Centre	115 participants
	Open House #3 – Eau Claire	March 7, 2020 – 10:30 a.m. – 2:30 p.m. Sheraton Hotel, Eau Claire	222 participants
	Open House #4 – Crescent Heights	March 8, 2020 – 10:30 a.m. – 2:30 p.m. Crescent Heights Community Association	316 participants
	Drop-in storefront	Wednesday March 11, 2020 - 914 Centre St N	20~ participants

Event Promotion

Green Line is a project that touches many Calgarians and can affect the way they live their lives. Promoting opportunities for public engagement and events is important in making citizens aware of opportunities to have their voice heard and their questions answered.

Promotion for public in-person and online engagement opportunities ran from January 29 to March 15 (the day The City enacted a State of Local Emergency due to the COVID-19 pandemic and online advertisements were discontinued). Event promotions were advertised to Calgarians in a variety of ways including:

- Two news releases to media (January 28 and March 4); and coverage in 42 online, newspaper, radio and TV news stories
- Emails to the Green Line e-newsletter distribution list which has over 3,000 subscribers
- Social media (Facebook, Twitter and Instagram) geo-targeted ads and organic posts
- Roadside signage (in Bylaw approved locations at Centre Street and 16 Avenue, on East side 3 Street N.W. North of Crescent Road; on East side Edmonton Trail N.E. North of 5 Avenue; and on South side MacDonald Avenue S.E.; East of 7 Street)
- Postcard mail drop to 2,200 residents and businesses within a two-block radius of the impacted area between the 16 Avenue Station and 4 Street S.E. station.

For the Chinese-speaking community promotions included:

- Translated postcards and posters
- Targeted Facebook ads
- Chinese language newspapers and newsletters
- Interview with Fairchild media (Chinese language radiPo).

Event Descriptions

Online engagement

Online engagement opened on January 29 at engage.calgary.ca/greenline. Participants were able to learn more about the project, the updated Stage 1 recommendation, and the research and context behind the recommendation.

Participants were able to view maps outlining the recommended alignment change. Each of the focus areas within the updated Stage 1 alignment were separated into unique sections. Within these sections, participants were able to answer the engagement questions as well as view the comments that other participants were posting. At the bottom of the page a “general comments” section allowed visitors to leave any final comments for consideration by the project team.

A second round of online engagement opened on March 4, 2020, in conjunction with the launch of our first open house. While the questions asked remained the same, the contextual information for participants was expanded significantly.

An updated package of informational boards was posted on the website. These materials were also presented in Cantonese and Mandarin. A large collection of image renderings was also added to each of the focus area sections. These images were created to help participants understand what each area could look like after construction is complete.

Large maps were also posted online. These helped to communicate current issues in each focus area as well as opportunities that could be implemented as part of the updated Stage 1 alignment.

Crescent Heights drop-in storefront

The Crescent Heights storefront was set up as a way to improve citizen accessibility to the project team. A vacant shop was rented at 914 Centre St. N on the historic Tigerstedt block in a high-foot-traffic area adjacent to small businesses. Storefronts were typically open for eight hours on a Wednesday.

Inside the storefront a display of about 20 boards were set up around the room to encourage participants to spend time and learn. After learning about the project, participants were encouraged to provide their feedback to the engagement questions on either stickie notes or a feedback form. Green Line team members were in attendance to answer any questions and to help record feedback. People came intentionally to the storefront as well as just “popped in” after seeing the signage outside.

Pop-up engagement

Pop-up engagement events typically involved a table staffed by two Green Line project team members set up in a high-foot-traffic area. Information about the updated Stage 1 alignment was shared on select display boards. Binders of more detailed information were also available for participants who wanted to read and learn more. At pop-up events people were also able to answer the same questions available online on stickie notes or feedback forms.

Open Houses

Four open houses took place once detailed alignment information and images were available to share. The open houses were stationed in the primary focus areas of Crescent Heights, Eau Claire, Chinatown and the Beltline.

Open houses ran for four hours and, in some cases, time was extended based on the volume of attendees. Project team members representing different subject matter expertise was spread around the room to answer questions, provide project information and help record feedback. Subject matter expertise was available for subjects such as design, engineering, real estate, tunneling, engagement, communications, Calgary Transit and more.

General information was presented upon entry, with booklets translated into Mandarin and Cantonese available. Chinese-language interpreters were also available at the Chinatown, Eau Claire and Crescent Heights events. Alignment information was separated by focus area and spread around the room. In areas with high interest in a particular focus, duplicate information was displayed to make it easier for participants to access.

Each focus area had an adjacent feedback table where participants could record their comments. In the centre of the room a general feedback table was also set up. This allowed participants to complete event evaluation forms as well as provide any non-focus-area-specific feedback. Colouring was available for children in attendance. Closed-captioned video question and answer was also projected allowing participants to receive answers to the most frequently asked questions in an additional way.

What We Heard

All comments have been transcribed and coded into different themes. This helps the project team to group areas of interest when reviewing feedback. Themes are listed in a descending order of frequency. This means the most common themes are listed at the top of the table, while

less common themes are listed at the bottom of the table. All comments are considered despite how frequently they are mentioned.

Tables of the themes for each focus area and for each phase are included in this section as well as observations on differences and similarities on feedback received in each phase.

For a complete list of all input that was provided, please see the appendices for verbatim comments.

Centre Street

Phase 1 and 2 Observations

The majority of the frequently heard themes from the comments stayed the same in both phase 1 and 2 of engagement. The feedback focused around traffic impacts, a preference for an underground alignment, proposals for alternate alignments and/or technologies, pedestrian safety and connectivity and a desire for a 9 Avenue station on Centre Street.

In the phase 1 feedback, there were a couple of strong themes around concerns on impacts to Prince's Island Park and not wanting a bridge for the Bow River crossing. These themes show up in the Bow River Crossing section as well.

In the phase 2 feedback, a theme around access for businesses and residents was strongly expressed. There was also a theme around improving the urban realm and a desire for a pedestrian friendly streetscape.

PHASE 1 – CENTRE STREET	
Theme	Theme description
Prefer underground (243 comments)	Comments indicated that an underground alignment on Centre Street N would be better, as a surface alignment would increase traffic congestion and accidents and decrease pedestrian safety. Participants indicated that an underground alignment was the better long-term option. Feedback cited the C-Train line along 36 Street N.E. as an example of why surface running trains do not function as well as underground alignments. Some comments suggested crossing the Bow River with a bridge, and then tunneling under Centre Street N.
*Negative impacts to Prince's Island Park (222 comments)	Feedback indicated that a bridge through Prince's Island would ruin the park. Participants were concerned about negative impacts to the wetland, wildlife, views of the park, general enjoyment of the park, events and impacts to tourism.
Traffic Impacts (165 comments)	Concerns on the reduction of traffic lanes and the congestion this would cause, especially given the lane reversal currently in place on Centre Street N. Comments about increased traffic on other routes into downtown as a result of the reduction of lanes on Centre Street N. Those who live north of 16 Avenue N and use Centre Street N as their route into downtown were concerned about increased commute times. Participants were concerned about an at-grade crossing at Centre Street and 16 Avenue N.
Proposals for alternate alignments and technologies (134 comments)	Several suggestions were made offering different alignment options, including: prioritizing building further north first, connecting to the airport, terminating downtown and building further south, returning to BRT instead of LRT for the project and using the Centre Street bridge instead of building a new bridge.
*No bridge (105 comments)	A lot of the comments wanted the tunnel instead of the bridge. There were also suggestions for using existing crossings over the river, stopping downtown and for alternate alignment. There were many comments around concerns over the impacts to Prince's Island Park.
Pedestrian connectivity and safety (86 comments)	A number of the comments indicated concern about potential for accidents with a surface running train. Mentions of concerns about how easy it would be to cross Centre Street as a pedestrian. There were also comments around the pedestrian environment with a desire for a more comfortable and attractive experience.
Want a 9 Avenue station (68 comments)	Many comments expressed an interest in a 9 Avenue N station now that the alignment is no longer underground. Feedback indicated that a station at 9 Avenue N would benefit area businesses, Crescent Heights High School and area residents with limited mobility.
Wait until budget for tunnel (59 comments)	Comments indicated that it would be better to terminate the current alignment south of the Bow River and wait until funds were available for an underground alignment before proceeding further north. Participants were concerned with proceeding with Green Line given the current state of Calgary's economy.

PHASE 1 – CENTRE STREET	
Theme	Theme description
Cost / Budget / Economy (49 comments)	This category of feedback includes a mix of sentiment. Some comments were around why not spend what is needed to do it underground. Some comments suggested not doing the project at all because of the current economic situation. Some comments were around staying in budget and being fiscally responsible.
General disagreement (49 comments)	Concerns over budget and the surface alignment were expressed. Some felt the project should not move ahead. Others didn't want the project to happen in this way because of impacts to park, community, pathway and traffic.
Other (42 comments)	This category included feedback such as: good for tourism, north is left out, find a cheaper way to tunnel, Calgary to Edmonton more important, put in a free fare zone, autonomous cars means we don't need this, check ridership numbers, LRT North and BRT South, align with area redevelopment plan, tunnel as far as you can, how is there approval without a detailed plan.
General agreement (41 comments)	Feedback expressed support for the revised alignment, citing the importance of access to transit and the reduced cost.
Engagement concerns (36 comments)	Some comments expressed disappointment in the change from the previously approved alignment, as it was created with extensive public engagement. There were concerns with the character limit for comments. Frustration about the length of the feedback period given the magnitude of the change to the proposed alignment was also given. There were questions about whether their feedback would be listened to by decision makers and the project team.
Community Wellbeing (35 comments)	Comments ranged from feeling that a surface line will further divide the community to the desire for a 9 Avenue station to support the community.
*Ok with bridge over the river (28 comments)	Comments expressed support for a bridge over the Bow River, giving examples of other well-used parks in the city adjacent to train lines. Stakeholders indicated that impacts to Prince's Island Park would be relatively minimal.
Street is too narrow for train / BRT and traffic (27 comments)	Concerns were mentioned that Centre Street N is not wide enough to accommodate the proposed Green Line alignment and two lanes of vehicle traffic and wanted to know if this would require reductions in the public realm to accommodate.
Would like BRT/MAX instead of train (23 comments)	Feedback suggested that a BRT would be less disruptive to the community and environment. It was also favored as being a more economical option.
Need to consider cost versus benefit (18 comments)	Comments stated that the cost savings did not outweigh the impacts of the proposed alignment to the communities of Crescent Height and Eau Claire, Prince's Island Park and Centre Street N. Stakeholders wanted to see a cost-benefit analysis of the proposed alignment.

PHASE 1 – CENTRE STREET	
Theme	Theme description
Noise concerns (16 comments)	Stakeholders were concerned regarding the noise impacts of the proposed alignment to residents and Prince's Island Park.
Property value decrease and business decrease (15 comments)	Comments centered around the concern that this alignment would result in a significant property value decrease. There was also feedback that this alignment would destroy small business.
Prefer side-running alignment (14 comments)	Feedback included not wanting stations in the middle of the road, feeling there would be less traffic interruptions, and that side-running would be better for pedestrians.
Desire for low floor, low speed train (12 comments)	Comments centered around the train taking less space, being better for the urban realm, having better retail exposure, and being better for crossing streets.
Prefer 2017 alignment (12 comments)	Feedback included seeing this as a long-term investment, feeling that the extensive consultation should be honored, and seeing the 2017 alignment as better for the park.
Include bike lanes in planning (11 comments)	Comments around seeing value in increasing multi modal options, wanting an increased focus on cycling and pedestrian realm and taking advantage of this change to create cycling infrastructure.
Do not want 9 Avenue N station (7 comments)	Concerns around increased crime, decreased quality of life, and reduced mobility.
At grade trains are ok (6 comments)	Feedback related to this option being financially viable, suggested having buses and trains share platforms, and emphasized integration of all modes of transportation.

**Please note that these comments were in the Centre Street section of the online comments and have been put in this focus area accordingly. The content was reviewed with the Bow River Crossing comments as well.*

PHASE 2 – CENTRE STREET	
Theme	Theme description
Traffic impacts (264 comments)	Participants indicated that traffic is already congested on Centre Street, and that reducing the number of travel lanes would only exacerbate this issue, especially given that there is currently a peak-hours lane reversal in place. Stakeholders were concerned about accidents in the vehicle lane, and how traffic would be maintained while the accident was

PHASE 2 – CENTRE STREET	
Theme	Theme description
	<p>cleared. Stakeholders indicated that other nearby corridors into the downtown, including Edmonton Trail and 10 Street NW, are not adequate to handle the additional traffic should Green Line be constructed at grade on Centre Street. Stakeholders were concerned with impacts to travel times for emergency services in the event of an accident. Stakeholders were concerned about a possible bottleneck where the proposed Green Line crosses Centre Street at grade to access the bridge over the Bow River. Stakeholders were concerned regarding future traffic impacts to 16 Avenue N if the Green Line eventually crosses 16 Avenue N at grade.</p>
Proposals for alternate alignments and technologies (152 comments)	<p>Stakeholders suggested the possibility of using a bridge to cross the Bow River, and then to put Green Line underground on Centre Street, possibly by way of a cut and cover tunnel. Stakeholders suggested not building Green Line north of the river, and if possible, extending the alignment further south. Stakeholders suggested alternatives to Centre Street N including 4 Street N, Edmonton Trail and adjacent to Nose Creek. Stakeholders suggested allowing vehicles and trains to share a lane. Stakeholders suggested using a BRT for the alignment north of the Bow River in place of a train. Stakeholders indicated they would like the train to connect to the airport. Stakeholders suggested using streetcars instead of trains.</p>
Prefer Underground (142 comments)	<p>Stakeholders indicated that they preferred an underground alignment along Centre Street N, regardless of whether the Green Line was tunneled under the Bow River or a bridge was built. Stakeholders indicated this would mitigate traffic impacts and improve pedestrian safety.</p>
Pedestrian Safety (138 comments)	<p>Stakeholders were concerned by the impact of increased cut-through traffic on pedestrian safety in residential areas adjacent to Centre Street N. Stakeholders indicated they wanted safe and efficient pedestrian and cyclist crossings. Stakeholders pointed to 36 Street N.E. as an example of how a C-Train line in the middle of a roadway creates a safety issue for pedestrians. Some stakeholders indicated a side-running alignment would be safer, as pedestrians would not need to cross vehicle traffic to reach the train platform, while other suggested a centre running alignment would be safer, as it would keep pedestrians from needing to cross two separated train lines. Stakeholders were concerned with speeding and impatient drivers creating pedestrian safety issues. Stakeholders were concerned that having the Green Line at surface on Centre Street N. would create a pedestrian realm that felt unsafe and</p>

PHASE 2 – CENTRE STREET	
Theme	Theme description
	would lead to an increase in crime. Stakeholders suggested lowering speed limits to improve pedestrian safety.
Manage access for businesses and residents (125 comments)	Stakeholders were concerned about restrictions in their ability to make left turns off Centre Street, saying this would make access to the community difficult for residents. Stakeholders were concerned about left-hand turn options that required traffic to come into the community. Stakeholders were concerned that the reduction in traffic lanes on Centre Street would lead to an increase in cut-through traffic in residential areas. Stakeholders were concerned that access to businesses along Centre Street would be more difficult.
Want 9 Avenue Stop (122 comments)	Stakeholders indicated that a 9 Avenue N stop would be of benefit to both the residential and business community, with some saying that without this station, the Green Line would bring no benefit to the communities between the Bow River and 16 Avenue N. Stakeholders said a 9 Avenue N station would benefit local businesses. Stakeholders indicated a 9 Avenue N station would benefit Crescent Heights High School students.
Pedestrian connectivity and safety (98 comments)	Stakeholders were interested in having quality pedestrian crossings along Centre Street N. Stakeholders liked the idea of lowering speed limits on Centre Street N. to help improve pedestrian safety. Stakeholders indicated that there are a high number of seniors who live in the area who rely on crossings for daily trips for food and other supplies, and that crossings should enable these trips. Stakeholder indicated that a crossing at 7 Avenue N would be important for accessing Rotary Park. Stakeholders were interested in a surface alignment that improved safety for pedestrians, with examples including preferring a middle-running alignment as it only requires pedestrians to cross one train right of way, and preferring side running because it reduces the risk of pedestrians jay-walking to catch a train. Stakeholders were concerned regarding cut-through traffic and wanted solutions to mitigate this. Stakeholders worried the proposed alignment would have pedestrian safety and connectivity issues like those of 36 Street N.E.
Public Realm Prioritizes Pedestrian Access (93 comments)	Stakeholders were interested in general improvements to Centre Street N for pedestrians, including wider sidewalks. Stakeholders indicated they wanted easy access to shops and restaurants along Centre Street N.

PHASE 2 – CENTRE STREET	
Theme	Theme description
Engagement process concerns (93 comments)	<p>Stakeholders were frustrated that studies such as the traffic impact study were not completed prior to public engagement, and indicated they needed more information in order to comment on the updated alignment. Stakeholders requested more information regarding decision making processes, cost and risk regarding an underground versus surface alignment on Centre Street N. Stakeholders were frustrated that the proposed alignment did not live up to the vision set through previous rounds of engagement. Stakeholders requested different renderings, including images of the line in the winter. Stakeholders were concerned by possible spamming of the Engage Portal site.</p>
Support Area Improvements (86 comments)	<p>Stakeholders were interested in making Centre Street N a more inviting destination by investing in the pedestrian realm and including aspects such as landscaping and public spaces. Stakeholders indicated that Centre Street N is not well suited to become a pedestrian destination, with some saying Edmonton Trail would be a better choice for these types of upgrades. Stakeholders indicated an improved Centre Street could be a destination for area residents as well. Stakeholders expressed interest in high quality urban design for new developments on Centre Street N.</p>
Business impacts (80 comments)	<p>Stakeholders wanted adequate programs in place to help businesses during construction. Stakeholders were concerned that increased traffic and turn restrictions would make it harder to access businesses along Centre Street N. Stakeholders indicated that traffic restrictions along Centre Street N would have a negative impact on businesses in Chinatown. Stakeholders were concerned regarding loss of parking for businesses. Stakeholders suggested offering property tax breaks to impacted businesses during construction. Stakeholders indicated that a 9 Avenue N station would be critical to support businesses along Centre Street N.</p>
Wait and do it properly (80 comments)	<p>Stakeholders indicated that an underground alignment through the downtown and along Centre Street N was a superior option, and that either the whole of Green Line or just the portion of the alignment north of downtown should not be constructed until there is sufficient budget to build what was set out in the 2017 approved alignment. Stakeholders were concerned regarding impacts to the Eau Claire area, Prince's Island Park and Centre Street N.</p>
Community Wellbeing (70 comments)	<p>Stakeholders were concerned that a surface running train would divide the community of Crescent Heights, much like the C-Train line along 36 Street NE. Stakeholders were concerned that the impacts of noise, reduced access due to removal of traffic lanes and turn restrictions and the possible increase in cut-through traffic would impact the quality of life</p>

PHASE 2 – CENTRE STREET	
Theme	Theme description
	of nearby residents. Stakeholders were concerned about crime at stations, and the possibility of this spilling into the adjacent communities.
Cost (58 comments)	Stakeholders were concerned by the possibility of cost overruns, especially given the current state of the oil industry and global economy due to COVID-19.
Prefer side-running alignment (47 comments)	Stakeholders indicated that a side-running alignment would be safer for pedestrians, as they would not need to cross traffic when getting on and off the train. Stakeholders indicated a side-running alignment would integrate better into the public realm, and that the wider sidewalks would help to improve the streetscape. Stakeholders indicated a side-running alignment would help increase foot traffic for businesses versus a middle-running alignment.

Bow River Crossing

Phase 1 and Phase 2 Observations

The primary concern that was expressed in both phases was around impacts to Prince's Island Park. The range of concerns included impacts on wildlife, the environment, the wetlands, fish habitat, views, pathways and activities in the park. In both phases, there was also a strong preference for an underground alignment. Most of the themes showed up in both phases of feedback.

Phase 2 feedback included more comments about ensuring thoughtful bridge architecture and speaking to bridge type preferences. There appears to be more opposition to the bridge in this phase but when you include the feedback on the bridge from Centre Street, this is not the case.

PHASE 1 – BOW RIVER CROSSING	
Theme	Theme description
Negative impacts to Prince's Island Park, wildlife and the environment (117 comments)	Stakeholders expressed a high degree of concern over the permanent nature of the impact to Prince's Island Park (PIP) and the Bow River. There was a high degree of concern for wildlife and the belief that once disturbed the wildlife would not return; this was part of a prevalent feeling that once park and wildlife are damaged they will never be the same. They described the quiet and tranquil nature of park as precious and hard to find in an urban centre, as well as important to preserve. Stakeholders

PHASE 1 – BOW RIVER CROSSING	
Theme	Theme description
	had questions and concerns about impacts to events such as Folk Fest and other summer festivals. Some stakeholders offered alternative routes such as Centre Street bridge or reverting to a tunnel.
Preference for an underground alignment (85 comments)	Stakeholders expressed a preference for tunneling under the river. An underground alignment is described as having less noise, improved pedestrian safety, better for Prince's Island Park, having less residential impacts and offering a better urban realm. It is described as a better long-term decision, preserving the river pathway and adhering to previous consultation.
Concern for river pathway experience and the importance of preserving it (47 comments)	Many stakeholders express concern that the bridge would ruin the river pathway experience. Concerns include physical disruption of the pathways system as well as experiential impacts such as noise impacts. A minority of stakeholders expressed acceptance of the bridge but expressed that it is critical to enhance and improve the river pathway and river pathway experience.
General acceptance of the above grade alignment (33 comments)	Stakeholders expressed acceptance or approval of a bridge over the river and park. Some articulated that it made sense to help reduce cost and risk. Some stakeholders suggested that it is important to make the bridge look nice in such a beautiful part of the city. Some stakeholders suggested that a bridge would have minimal park impacts and would help connect to transit needs in the north.
Noise Concerns (31 comments)	Stakeholders shared concern that a train over the park would cause noise issues in the park and surrounding area. Some stakeholders spoke about the noise impacts on park events such as festivals or Shakespeare in the Park. Some stakeholders felt increased noise would ruin the river walk experience. Some stakeholders felt added noise would result in negative mental health impacts. Some stakeholders felt both surface and underground alignments would introduce new noise.
Concerns on impacts to views and suggestions for solutions (26 comments)	Stakeholders expressed concern that a bridge would disrupt or ruin views of park, both from within the park and from adjacent housing. Stakeholders felt a large concrete structure over a natural area would be contradictory. Some suggested that a bridge could look nice but would have to be designed to either look beautiful or minimize impacts to views of the park.
Suggestions for alternative alignments over the river (26 comments)	Stakeholders suggested using alternative routes rather than bridging over the river; these include routing further east or utilizing Centre Street Bridge. Advantages include making an easier transition to the East, avoiding the park and utilizing an existing structure. Some stakeholders mentioned that Centre St would already have reduced lanes, which could transition well to the bridge.
Impacts to residential properties in Eau Claire (26 comments)	Stakeholders expressed concern over the impact to adjacent condominiums. Stakeholders felt that adjacent condominiums should not be expropriated to allow a bridge to be built. Other stakeholders felt the Green Line would be too close to homes and would result in lower

PHASE 1 – BOW RIVER CROSSING	
Theme	Theme description
	property values, a reduced quality of life and negative impacts on area children.
Project cost not justified / financial concerns (24 comments)	Stakeholders felt that only getting to 16 Avenue N did not justify the cost of the project or the impact of crossing the river and park with a bridge. Stakeholders also expressed overall concern with the cost of the project. Some stakeholders expressed worry that costs would continue to escalate.
Importance of thoughtful bridge design (22 comments)	Stakeholders stated the importance of thoughtful bridge design and architecture. Stakeholders shared that it must be an attractive bridge. Opinion was mixed on the preferred look of the bridge – some felt it should be iconic while others felt it should be minimalist or complement the natural surroundings.
Engagement concerns and requests for more information (18 comments)	Stakeholders expressed concerns having to do with the engagement process. These include running engagement during the winter, only allowing 140-character response to questions, and the belief that negative comments were being deleted. Some stakeholders felt additional information should be shared such as demonstrating the financial cost of negative impacts to the park as well as showing additional/different images of what it would look like.
Prince's Island Park won't be severely impacted (21 comments)	Some stakeholders felt that building an above-grade alignment would not significantly affect Prince's Island Park. Some felt that the east end of island is least disruptive. Some stakeholders shared that there are examples of other parks that are still great despite having trains near to or through them. Some stakeholders suggested sound mitigation measures could help limit noise impacts.
Incorporate multi-use pathway into bridge (13 comments)	Stakeholders shared that a bridge across the river should also include a path for bikes, and pedestrians. Some stakeholders felt it was also an opportunity for scooters to cross the river and connect to the cycle track.
General opposition to the alignment (11 comments)	This theme captures general statements of opposition against the updated Stage 1 alignment.
Preference to end stage 1 south of the river and other staging options (10 comments)	In disagreement with the proposed alignment, stakeholders shared mixed opinions on alternative phasing of the project. Some felt the south portion should be built first, ending downtown for the time being. Others felt the north should be built first and that the south portion should be put on hold. All comments shared a sentiment that the river should not be crossed at this point.
Do it right / wait until funding is available (10 comments)	Stakeholders expressed that it would be better to wait until a tunnel can be built than to bridge over the river. Stakeholders expressed a desire to hold off on the river-crossing portion until more funding was available.

PHASE 1 – BOW RIVER CROSSING	
Theme	Theme description
Impacts to future development in Eau Claire (9 comments)	Stakeholders felt that the 2 Street station could enable redevelopment in the area. Stakeholders shared ideas such as integrating the station with an Eau Claire Market redevelopment, introducing new cafes and small businesses, and adding event space on the west side of the bridge. Some stakeholders expressed concern that the station would drive other development, which would not be tasteful for the Prince's Island/Eau Claire area.
Other (37)	Stakeholders shared a variety of other comments for consideration by the project team.

PHASE 2 – BOW RIVER CROSSING	
Theme	Theme description
Concerns on Prince's Island Park, including nature and wildlife (263 comments)	Stakeholders expressed a high degree of concern over the permanent nature of the impact to Prince's Island Park (PIP) and the Bow River. There was a high degree of concern for wildlife and the belief that once disturbed the wildlife would not return; this was part of a prevalent feeling that once park and wildlife are damaged they will never be the same. They described the quiet and tranquil nature of park as precious and hard to find in an urban centre, as well as important to preserve. Stakeholders had questions and concerns about impacts to events such as Folk Fest and other summer festivals. Participants questioned whether other "world class cities" would put a train bridge over an urban park and shared their belief that no world-class city would do so. Some participants asked The City to adhere to historic agreement of PIP as donated park space. Some expressed concern there would also be long-term maintenance impacts in the park. This theme captures an overall opposition to the plan as presented with many participants simply stating, "SAVE THE PARK!"
Suggestions and comments surrounding alignment and design (136 comments)	Many participants suggested alternative routes that The City should consider. These comments were often part of a plea to find an alternative to bridging over the park onto 2 Street. Many of these included using Centre Street Bridge or running the route further east near Harry Hays building where there would be less impact to people and park. Stakeholders also commented on the Centre Street alignment, with many of them expressing concern over a surface running alignment. Some participants suggested just doing the south part of the line first, while others suggested just doing the north first. Some stakeholders questioned how the bridge would tie into Centre

PHASE 2 – BOW RIVER CROSSING	
Theme	Theme description
	Street N and expressed concern over impacts to traffic and the pathway system. Participants in support of the design expressed the importance of beautiful design, activating space beneath the bridge, and meaningful station names. Participants shared other unique ideas for the project team to consider. Some stakeholders shared questions and concern about planning for potential flooding.
Thoughtful bridge architecture options (105 comments)	Comments captured within this theme are typically positive in nature, with some showing support for the alignment and others showing acceptance or understanding. Stakeholders shared strong opinion that, if a bridge is built, it should be done in a quality way. Some felt this would be a minimalist bridge that blended with the park while others suggested it should be a “statement” or world-class attraction. Division in bridge style preference highlights a need for further engagement if this alignment is approved.
Preference for underground, including the original approved alignment (104 comments)	This theme captures a general desire to go back to the original underground alignment or to find a way to keep the line and stations underground. Stakeholders often expressed that underground was already approved and promised, and therefore what should be done. Some stakeholders suggested cut & cover as a way to dig a shallower tunnel, particularly around Eau Claire. Some participants suggested an underground station would offer better weather protection in the winter.
Think long term / wait to do it properly (99 comments)	Many stakeholders shared an opinion that if “it can’t be done right, we should wait until it can be”. This was mostly tied to an opinion that tunneling under the river and not bridging over Prince’s Island Park is the “right way”. There was a general opinion that we should wait until there is enough money to tunnel under the river. Some stakeholders suggested alternative options until we had money to tunnel under the river such as building the south leg first or running BRT in the north for now. Stakeholders shared concern and belief that The City is proceeding without all the information or studies being complete and that The City should have all that information prior to making a long-term decision; for example, identifying the cost of environmental impact. There was an overarching belief that The City should not rush and try to force this into a constrained budget.
General opposition, mostly to bridge (75 comments)	These comments were mostly simple statements of opposition to the proposed alignment, in particular to building a bridge over Prince’s Island Park. Many stakeholders expressed feeling a loss of trust toward The City since the previously approved underground alignment is now being changed.

PHASE 2 – BOW RIVER CROSSING	
Theme	Theme description
Noise and vibration concerns (58 comments)	Stakeholders expressed concern and opposition to introducing train and bridge noise into Prince's Island Park. PIP is described as a tranquil and quiet area in Calgary's downtown. Residents living nearby expressed worry over hearing early morning and late-night train noise such as squealing, braking and vibration. Stakeholders described PIP as the only quiet oasis for workers, visitors and residents in Calgary's downtown.
Residential property impacts including property values (56 comments)	Stakeholders expressed concern and frustration with necessary property destruction i.e. River Run. There was a sentiment that living next to the train/tracks/bridge/station will ruin quality of life at home. Stakeholders shared their belief property values will drop significantly with a train adjacent to their home. Some stakeholders described the impact to their residential home or investment as "devastating".
Visual impacts and concerns (49 comments)	Stakeholders expressed concern with having a bridge disrupt otherwise natural and beautiful views. Some participants described a disharmony or as having bad Feng shui. Some stakeholders expressed concern of adding light pollution to a natural area. Many stakeholders shared worry that a bridge will disrupt pleasant views. Other stakeholders argued that no bridge, no matter how beautiful, would make up for the negative visual impact.
Financial Concerns (49 comments)	This theme is closely related to a preference to "do it right or not at all"; however, a distinction in this theme is a feeling that The City is downgrading long-term quality due to short-term financial issues. Participants shared that this is not a good plan, but rather the only thing affordable. Some participants expressed concern that even the revised plan will go over budget at some point.
Engagement and communication questions/concerns (46 comments)	Stakeholders expressed frustration and distrust with previously approved plans being changed despite years of public engagement. Some stakeholders shared a belief that the engagement was "fake" or "token" and would not actually be listened to. Some expressed a lack of trust with the information presented, including a belief that information shared online was biased and only showing details that supported the proposed plan. Some stakeholders requested more information in future communication. Some felt that images used were misleading.
Desire for pathway or Multi-Use Path as part of bridge (42 comments)	Stakeholders felt it was important to add a multi-use path to the bridge. Some described it as being an important addition to Calgary's bike and pedestrian pathway connections. Some stakeholders suggested adding a lookout spot on the bridge so

PHASE 2 – BOW RIVER CROSSING	
Theme	Theme description
	pedestrians could stop to take in the views of the river and Prince's Island Park.
Pedestrian experience and safety impacts (39 comments)	Stakeholders expressed concern that the 2 Street station will block access to island for pedestrians and cyclists. Some stakeholders felt disbelief that access to Peace Bridge would be blocked due to pathway impacts. Stakeholders expressed concern that a critical cycling route would be disrupted by impacts to the pathway system.
General support (36 comments)	This theme consists of comments showing general support toward the proposed design. Some stakeholders showed preference to a bridge over tunneling. Other stakeholders showed understanding of needing to find a plan that was affordable.
Community well-being and mental health negatively impacted (36 comments)	Stakeholders expressed frustration and feelings that the communities of Chinatown and Eau Claire were being treated unfairly. Some stakeholders expressed concern that a surface level alignment and station would create further division between Eau Claire and Chinatown. Stakeholders shared their belief that this alignment would negatively affect community well-being including the mental health of residents and their children. Some stakeholders shared their belief that the Chinatown community is not being treated with respect.
Negative impacts to traffic (33 comments)	Stakeholders gave feedback that 2 Street SW is already congested with traffic and that it would become worse with a train and station there. Stakeholders expressed concern over having reduced traffic adjacent to large residential parkades. Some stakeholders explained that there will be increased conflict between traffic and people due to the proximity of the station to the road.
Crime and safety concerns (32 comments)	Stakeholders shared concern that a station near Eau Claire would bring crime, litter and violence to the area. Some stakeholders shared concern that children living in the area will be exposed to crime and social disruption. There were feelings of worry that bad behavior will become more prevalent in the area and that stations will become a gathering place for criminals.
Issues related to Waterfront condos (32 comments)	Owners of units in Waterfront towers expressed strong feelings of anger, frustration and devastation. Some owners expressed sadness that the quiet, peaceful home they had planned for would be ruined by noise. Other stakeholders expressed fear and frustration that their investment will lose value due to the proximity of the train. Some stakeholders had concerns and questions related to building logistics such as waste removal and parking.

PHASE 2 – BOW RIVER CROSSING	
Theme	Theme description
Issues and ideas related to businesses, revitalization and future development (29 comments)	Some stakeholders had questions about the future of Eau Claire Market and how it related to the Green Line. Some stakeholders had ideas for future development opportunities such as integrating the Green Line into future development. Some stakeholders felt that the design should intentionally focus on trying to revitalize the area. Some stakeholders suggested opportunities for tourism.
Construction Impacts (10 comments)	Some stakeholders expressed concern of additional impacts to the area during construction.
Impacts to parking (7 comments)	Some stakeholders shared concern over impacts to parking.
Desire to get the Green Line built faster (5 comments)	Some stakeholders expressed a desire to limit further delays and to try to get the Green Line built faster.
Other (60 comments)	This theme captures outlying comments for the project team to review. Some include comments related to flood issues, impact on trout, frustration with Councilors, and a preference for BRT.

Downtown

Phase 1 and Phase 2 Observations

In both phases, there was a strong desire to either see the alignment underground or for an alternate route. Many concerns were expressed around impacts to quality of life, community and the park. Feedback was also about impacts to the mobility network.

Phase 2 feedback saw an increase of specific impact concerns to existing properties adjacent to the alignment.

PHASE 1 – DOWNTOWN	
Theme	Theme Description
Prefer underground (53 comments)	Comments included: don't make the same mistake of the past, concerned about impact to properties, think long term, underground makes for a better city, better for winters, quieter, better for traffic.
Concern on impacts to existing properties (44 comments)	Feedback referred to ruining communities and cutting off access. It also spoke to further declining economy downtown and being bad for business. Comments mentioned causing congestion, noise, vibration and being bad for quality of life.

PHASE 1 – DOWNTOWN	
Theme	Theme Description
Proposals for alternate alignments (36 comments)	Comments about going further east using 1 Street SW, Centre Street or 1 Street SE. Suggestions for different connections to the red and blue lines including Victoria Park station, station under City Hall and Sunnyside station. There were also comments about using Centre Street bridge or other existing crossings.
Concerns about impacts to park (33 comments)	Comments were about concerns on impact to wildlife, wetlands and the environment. Feeling that this park needs to be preserved as a get away from the urban environment. Wanting to keep peace, green space, a place to take your children and space for leisure activities.
Impacts to mobility network (16 comments)	Concerns about congestion and going through a busy pedestrian area. Feedback about safety for drivers, riders and pedestrians being challenged with the alignment. Others felt that at surface made it more accessible.
Noise concerns (13 comments)	Feedback was around the noise from the train having a negative impact on residents in particular. Noise was also a concern for the park.
Redevelopment (13 comments)	There were comments about the positive redevelopment opportunity for Eau Claire area. There were also comments that this alignment would make redevelopment challenging.
Property values, downtown vibrancy (12 comments)	Concerns were expressed about property values being negatively impacted and increased difficulty renting properties. There were also comments that this alignment will be bad for business both during construction and after completion.
Integrate LRT with adjacent development / public realm (10 comments)	Concerns about there being enough space to have a good public realm. Opportunities were seen for integration with Eau Claire and Waterfront. A desire to have 2 Street brought up to complete streets standard. Looking for multiple entrances to stations.
Too expensive / wait to build (9 comments)	Comments around it being too expensive for what is being built and that the economy is not good enough to do this right now. There was also feedback about waiting until there was budget to build it underground.
Other (9 comments)	Questions were submitted around how this addresses the geotechnical issue, how this will work with floods, why downtown will be constrained for those in the suburbs, and why this would go south. Comments made about shadowing, crime and ensuring connections between lines are made clear.
General agreement (7 comments)	Comments about this alignment improving transit capacity into downtown, liking the shallower stations better and the minimal disruption to traffic.
General disagreement (5 comments)	Comments include being against the train, being against a surface alignment, and not needing a station at Eau Claire.
Support continued vibrancy of activities (4 comments)	Feedback about the importance of social, cultural and community activities in this area.

PHASE 2 – DOWNTOWN	
Theme	Theme description
Proposals for different design or routing (79 comments)	Comments received included suggestions for BRT instead of LRT, moving the alignment east, getting to the airport, stopping the alignment downtown, shifting different pieces back underground or not having a station at Eau Claire.
Quality of life impacts (74 comments)	Feedback was around the loss of privacy, increased noise and vibration impacts, loss of views, creation of division between communities (Eau Claire and Chinatown), mental health issues, and lack of safety.
Community impacts (65 comments)	Comments made around safety issues, increased crime around the station, loitering and littering, losing River Run, proximity to station, divisive to community, challenges getting around, less access to parking, loss of privacy, and increased noise and vibration.
Park impacts (60 comments)	Concerns were expressed about negative impacts to wildlife, wetlands, natural area, appeal to park goers and tourists, views, quiet and social events.
Noise and/or vibration concern (39 comments)	Feedback on the impacts of train noise and vibration on the ability to sleep, decrease in mental health, having no place to go for peace, and the impacts on children.
Prefer underground (35 comments)	Comments included the desire to save River Run condos, to save the park, to have better mobility, to keep the original alignment that had extensive consultation, to look at how to make underground cheaper, the feeling that it is better for residents, and the view that it is a better long-term choice.
Traffic impacted (34 comments)	Concerns were expressed about increased congestion, a greater number of accidents, less access to businesses and residences, reduced connectivity, and increased short cutting in community.
Property impacts (28 comments)	Feedback included concerns around loss of property value, impacts of loss of River Run property, losing views, and less attractiveness of property to renters.
Engage process concerns (27 comments)	There were comments around it seeming like biased information, didn't feel like anyone was listening, the process seemed rushed, there was not enough information (or enough details), and it felt like the decision had already been made.
Pedestrian safety (25 comments)	Comments about concerns around conflicts with pedestrians and the train, unsafe crossings, too many modes on 2 nd , potential for increased accidents and safety at station.

PHASE 2 – DOWNTOWN	
Theme	Theme description
Cost / Budget / Economy (20 comments)	Concerns around cheaper not necessarily being better, economy, not enough money, not right time, running out of money.
Wait & do it properly (15 comments)	Feedback included build in stages, request more money, do the north section later, and wait until there is enough money for the tunnel.
Business impacts (14 comments)	Concerns on access impacts to businesses, impacts on renters, and the feeling it would make redevelopment difficult.
Parking impacts (13 comments)	Comments on parkade access, the loss of parking, and impacts on local business.
Limits vehicle and services access to Waterfront (12 comments)	Concerns about garbage collection, utility access, emergency access, taxis, and moving trucks.
Bike routes impacted (6 comments)	Comments on concerns for safety, fear of bikes pushed onto sidewalks, and a suggestion to put in bike lane.
2 Street too narrow for train (6 comments)	Concerned that there is not enough space to accommodate a train along with the other modes of transportation.
Construction Disruption (5 comments)	Feedback on noise, dust, length of time construction will last, and the impacts on the park.

Beltline

Phase 1 and 2 Observations

In both phases, there were more comments of support for this alignment than those that were not. There were also comments around limiting impacts to the mobility network. There were also comments and ideas for improving the public realm and for station design.

Phase 2 had more comments around safety and security. It also included feedback on the Centre Street portion of the alignment.

PHASE 1 – BELTLINE	
Theme	Theme description
Alignment changes and opportunities (7 comments)	Stakeholders shared a variety of alternative alignment ideas for the project team to consider. Comments generally revolved around shortening walking distances and increasing accessibility for different populations.
General support of the updated Stage 1 alignment (7 comments)	Stakeholders shared general approval of the alignment as presented. Comments showed approval of the underground alignment and support for future development.
Support Rivers District Master Plan and Event Centre (7 comments)	Stakeholders shared approval of having a station close to the future Event Centre. Some stakeholders emphasized the importance of the connection between the station and Event Centre. One comment identified plans for a future park along the CP tracks in the Rivers District Master Plan and requested that the portal entrance not interfere with this plan.
Minimize impacts to the mobility network (6 comments)	Stakeholders showed approval of vehicle, pedestrian and cycling routes being maintained with the proposed alignment. Comments regarding specific properties were also shared for the project team to consider.
Integrate stations with existing properties and future developments (6 comments)	Participants expressed a desire to keep stations as close to existing transit lines and stations as possible. Stakeholders also encouraged integration with and support of future Transit Oriented Development.
Making important transit connections (5 comments)	Stakeholders expressed support for keeping the line in close walking distance to residential populations, existing transit connections and the Stampede grounds. Some shared other alternatives for the project team to consider.
Cost and budget (3 comments)	Some stakeholders questioned the need for an expensive underground alignment in the Beltline. One comment shared that the shallower tunnel should help to reduce costs.
Minimize impacts to existing properties (2 comments)	Questions about what impact the shallow tunnel would have on Lewis Lofts building and how a shallow tunnel/portal at Victoria bus depot would affect any future underpass under the CPR tracks at 6 Street SE.
Other (10 comments)	Stakeholders shared a variety of other comments for consideration by the project team.

PHASE 2 – BELTLINE	
Theme	Theme description
Support for proposed alignment (18 comments)	Stakeholders expressed a general support for the Beltline alignment. Positive attributes shared include having a train in the Beltline, keeping the alignment underground, support for 11 Avenue, and having grade separation at Macleod Trail. Participants also like the connection to the Event Centre as well as the potential for redevelopment in the area.
Station preferences and ideas (17 comments)	Some participants expressed confusion over station names, or desire for alternative station names. Other comments included suggestions for slight station changes; the most common were suggestions to have a station as close as possible to 1 Street SW as well as integrating well with the event centre and future development on Remington land.
Specific mobility issues (16 comments)	Comments highlighted various improvement areas for the project team to consider. The most common related to access between Beltline and Inglewood and Ramsay. Others mentioned cycling, underpass, sidewalk and traffic issues to consider.
Ideas for the project team (14 comments)	This theme consists of other ideas for the project team to consider. There are not consistent sub-themes within.
Centre Street N comments (11 comments)	Some stakeholders commented on the Centre St N alignment within this focus area's feedback section. The most frequent comments expressed concern over impacts to traffic as well as desire for a 9 Avenue N station.
Does not support alignment (10 comments)	The most common comments expressed a belief that tunneling in the Beltline is unnecessary. Other comments include a preference for 12 Avenue, a desire to stop at Eau Claire until we can tunnel under the river, and highlighting a missed connection opportunity between Red Line and Green Line.
Safety and security (10 comments)	Stakeholders expressed crime and safety concerns in underground stations. Westbrook station is described as comparable though concern was expressed that in the Beltline the concerns could be greater. Some participants highlighted the need for safety measures dealing with large crowds from the Event Centre, and others highlighted pedestrian and cyclist safety.
Events Centre and 4 St station (10 comments)	Stakeholders highlighted the importance of integration with the Event Centre and the need for effective crowd management. Some felt an underground station would be beneficial while

PHASE 2 – BELTLINE	
Theme	Theme description
	others felt it would be more advantageous to have a surface station.
Negative impacts during construction (9 comments)	Stakeholders shared various concerns about impacts during construction. Maintaining vehicle and pedestrian mobility is described as important. Some stakeholders highlighted the importance of having a strong business support program. Some comments spoke to specific business impacts and one comment requested that construction be coordinated with Event Centre construction to minimize impacts.
Underground concerns (8 comments)	Stakeholders shared concerns such as noise and vibration, crime and safety, and an underground alignment being unnecessary in the area.
Eau Claire / bridge (7 comments)	Some stakeholders spoke to the river crossing and Eau Claire area in this focus areas feedback tool. Walking and cycling connection opportunities are explained.
Minimize impacts to the mobility network (6 comments)	Comments captured within this theme are typically positive in nature, with some showing support for the alignment and others showing acceptance or understanding.
Specific property impacts (6 comments)	This theme captures comments related to specific properties and unique issues for the project team to consider.
Public realm improvements and considerations (5 comments)	Stakeholders shared suggestions for public realm enhancements including a desire to support increased density.
Issues related to the event centre (5 comments)	Stakeholders shared various issues related to the Event Centre connection for the project team to consider.
Alignment questions / ideas (5 comments)	Stakeholders shared various questions and ideas regarding the alignment for the project team to consider.
Ideas to support businesses (4 comments)	Stakeholders shared ideas to support businesses such as working with businesses and the BIA, and giving advance notice of road closures.
Enhanced station amenities (3 comments)	Stakeholders shared ideas for enhanced station amenities such as multiple entrances and exits, pick-up and drop-off areas and station security.

PHASE 2 – BELTLINE	
Theme	Theme description
Expand underground portion (2 comments)	Some stakeholders expressed a desire to extend the underground portion further east under the Elbow River.
Minimize impacts around river and pathways (2 comments)	Some stakeholders shared the importance of minimizing impacts around the river and pathways.
Ramsay (2 comments)	Some stakeholders highlighted the importance of the connection to Ramsay.
Focus on long-term decisions (1 comment)	One stakeholder stated the importance of prioritizing long-term benefit over short-term financial constraints.
North Calgary (1 comment)	One participant commented on the needs of residents in north Calgary.
Other (9 comments)	This theme captures outlying comments for the project team to review. Some include reference to zone fares, area redevelopment, and other project ideas.

North BRT

Phase 1 and 2 Observations

Phase 1 had more comments around the need to improve transit service in the north and feedback around transit concerns. There was also more feedback around impacts to traffic.

Phase 2 included both comments that BRT was better than LRT and then the reverse that LRT is better than BRT. There were also more comments around wanting dedicated lanes for the BRT.

PHASE 1 – NORTH BRT	
Theme	Theme description
Need to improve transit service in the North, including dedicated bus lanes and other ideas (32 comments)	Stakeholders emphasized the importance of improving bus service in the north. Many comments stated that the only way to truly improve service would be to have dedicated bus lanes, often referencing MAX on 17 Avenue and 14 Street as examples. Other ideas include building stations that will eventually be Green Line stations, adding queue jumps for buses and altering the bus trap at Beddington to allow more buses through. Some participants supported improving bus stop shelters while others stated that it would not be enough of an improvement when the real issue is capacity.

PHASE 1 – NORTH BRT	
Theme	Theme description
General concerns with transit in North (16 comments)	Stakeholders stressed the need for improved service in the north and shared a variety of specific issues and potential improvements. Route 116 was most frequently mentioned as having issues and needing to extend the hours of frequent service; a general request for extended peak hours was also stated. Other specific concerns were shared and have been forwarded to Calgary Transit for consideration.
Impacts to traffic (12 comments)	Participants expressed concern over reducing traffic lanes on Centre Street citing congestion issues, accidents blocking lanes and having to slow down for buses as current and potential problems. Some stakeholders supported bus only lanes while others did not.
Preference for a 9 Avenue Stop (7 comments)	Stakeholders expressed a desire for a 9 Avenue station stating that it would be good for students, community members and businesses in Crescent Heights.
Build LRT further north/Start at North Pointe (7 comments)	Stakeholders expressed a desire to get further north faster; some suggested starting in the north instead of south. Some stakeholders questioned why the project should go to 16 Avenue N now if that's as far as it can go. Stakeholders requested further extensions north including a connection to the airport.
In Support of North BRT (5 comments)	Stakeholders described enhanced BRT as a good interim solution until LRT can be built.
Preference for BRT over LRT in the north (5 comments)	Some stakeholders showed a preference for BRT over LRT citing it as more affordable and a more flexible service.
Comments regarding underground alignment (5 comments)	Stakeholders expressed a preference for underground alignment either along Centre St or for an underground station at 16 Avenue N. One comment suggested underground stations would be scary due to crime and drug use.
South BRT North LRT (2 comments)	Some stakeholders suggested BRT should be implemented in the South so that LRT can be built in the North first.
Other (18 comments)	Stakeholders shared a variety of other comments for consideration by the project team.

PHASE 2 – NORTH BRT	
Theme	Theme description
Prefer BRT over LRT (12 comments)	Stakeholders expressed preference for BRT in the north. Some shared that it would be faster or more cost-effective than LRT. Some comments suggested dedicated bus lanes would offer the same service as LRT.
Dedicated bus lanes to improve efficiency (10 comments)	Stakeholders expressed the opinion that dedicated bus lanes are necessary to improve bus transit service. Some stated that without dedicated bus lanes it would not truly be a BRT.
Prefer LRT over BRT (8 comments)	Stakeholders described a preference for LRT over BRT. Noise of buses and lack of comfort is described as issues with bus service. Some stakeholders shared concern that a temporary BRT solution will become permanent and reduce likelihood of LRT being built.
General support (6 comments)	Some participants generally supported the idea of improving bus service in the north. They shared that it would help to get vehicles off the road and be a good interim solution until LRT can be built.
Idea for other Transit improvements (5 comments)	Stakeholders shared ideas such as making a connection to the airport, adding a bus connection at 52 Street, using electric buses, and adding express stops at work destinations.
Comments and ideas related to cost (4 comments)	Stakeholders shared concerns and ideas such as making revenue off ads or architecture, reducing costs by building BRT and starting Green Line in the north.
General project comments (4 comments)	Some comments were general statements about the Green Line, referencing cost overruns, issues with underground trains and concern of project delays.
Improvements to pedestrian realm (4 comments)	Stakeholders suggested public realm improvements including tree canopy, a “museum of art” along stops, and beautiful stations.
Ideas for resolving expected issues (3 comments)	Stakeholders warned of expected issues including underestimating ridership, impacts of lost parking, and efficiently crossing 16 Avenue N.
Negative impact to drivers (3 comments)	Stakeholders expressed concern for lost driving lanes, population growth and future driving needs and loss of parking.
Preferences for a different stage 1 (3 comments)	Stakeholders suggested alternative Stage 1 including starting in the North or delaying the project until the full line can be built.

PHASE 2 – NORTH BRT	
Theme	Theme description
Not supportive of expanding BRT (2 comments)	Some stakeholders were not supportive of expanding BRT suggesting that money could be better used elsewhere in the project.
Ideas for improving traffic flow (2 comments)	Some stakeholders shared ideas to improve traffic flow such as opening the Beddington Trail bus trap and making Centre Street and Edmonton Trail one ways (opposite directions).
Current issue affecting bus service (1 comment)	One stakeholder identified a current issue with buses being delayed at McKnight.
Design issue (1 comment)	One stakeholder expressed concern that there may be issues with houses that have driveways facing Centre Street.
Adding heated shelters (1 comment)	One comment supported the idea of adding heated bus shelters.

Other / General Comments

Phase 1 and Phase 2 Observations

In both phases, there were many comments around preferring the alignment to be underground. They also both included concerns around engagement and project process.

Phase 1 had more concerns related to Prince's Island Park.

Phase 2 included more comments around concerns for traffic and pedestrian impacts.

PHASE 1 – OTHER/GENERAL COMMENTS	
Theme	Theme Description
No at-grade trains (45 comments)	Stakeholders indicated that the impacts of a surface running alignment on Centre Street N south of 16 Avenue N were too great, especially regarding traffic. Stakeholders were concerned that a surface running alignment on Centre Street N would have similar impacts to the C-Train along 36 Street NE. Stakeholders indicated a preference for an underground alignment. Stakeholders were concerned by impacts to properties along 2 Street SE.
Do it right - not cheap / wait to build N until can tunnel	Stakeholders suggested that the proposed alignment be shortened or put on hold until sufficient funding was available for building what was included in the previously approved

PHASE 1 – OTHER/GENERAL COMMENTS	
Theme	Theme Description
(41 comments)	alignment. Stakeholders indicated the cost savings of the proposed alignment did not justify the impacts. Stakeholders felt that the proposed alignment was shortsighted, and that the project should be built with long-term impacts in mind.
Impacts to Prince's Island Park (36 comments)	Stakeholders indicated the proposed bridge would have a significant negative impact on both Prince's Island Park and its users. Stakeholders were concerned regarding impacts to wildlife and natural areas of Prince's Island Park.
Engagement / project management concern (34 comments)	Stakeholders were disappointed by the change from the previously approved alignment, which had included extensive public consultation. Stakeholders wanted more detailed information and further consultation given the magnitude of the change between the previously approved and current proposed alignments. Stakeholders took issue with some of the questions and character restrictions on the Engage Portal.
Ridership levels (19 comments)	Stakeholders indicated that ridership north of the Bow River would mostly come from north of 16 Avenue and suggested that Green Line should either prioritize the north alignment or wait to cross the Bow River until the Green Line can extend further north. Stakeholders indicated that the south alignment should extend further south to the larger community stations.
Ensure pedestrian safety/accessibility/public realm (17 comments)	Stakeholders indicated that safe pedestrian crossings along Centre Street N and in the Eau Claire area are important, with some expressing concern that the proposed alignment would make both areas less safe. Stakeholders were interested in the proposed bridge including pedestrian and cyclist connections.
Negative impacts to traffic / will increase congestion (17 comments)	Stakeholders were concerned regarding increased congestion along Centre Street N and 2 Street SW because of the proposed alignment. Stakeholders were interested in limiting cut-through traffic in communities adjacent to Centre Street N.
Want MAX or other BRT options (instead of LRT) (16 comments)	Stakeholders asked for improved BRT service for north-central communities. Stakeholders suggested using BRT instead of LRT for the southeast leg of Green Line.
Too expensive / money better spent elsewhere (14 comments)	Stakeholders indicated that costs, as well as possible cost overruns are too high, especially given Calgary's current economic situation. Stakeholders were concerned that the City would not make back the operating costs of Green line.
Need to minimize noise impact from train (13 comments)	Stakeholders were concerned regarding increased noise caused by the Green Line, especially along 2 Street S.W. and over Prince's Island Park.
9 Avenue N Stop, other stops (12 comments)	Stakeholders expressed an interest in adding a station at Centre Street and 9 Avenue N.

PHASE 2 – OTHER/GENERAL COMMENTS	
Theme	Theme description
No surface on Centre (178 comments)	Stakeholders did not support a surface running alignment on Centre Street N, many indicating that they would prefer an underground alignment from the Bow River to 16 Avenue N.
Traffic Impacts (141 comments)	Stakeholders indicated that Centre Street N is a primary traffic corridor, and the loss of two traffic lanes would have a significant impact. Stakeholders were concerned about being able to access their communities adjacent to Centre Street N with the reduced travel lanes and turn restrictions. Stakeholders were concerned about cut-through traffic in Crescent Heights. Stakeholders were concerned about impacts to traffic on adjacent roadways such as Edmonton Trail and 10 Street N due to the reduction of lanes on Centre Street N. Stakeholders were concerned regarding traffic impacts of an accident in one of the traffic lanes on Centre Street N and how access for emergency vehicles would be impacted as a result.
Safety (81 comments)	Stakeholders were concerned about pedestrian safety with a surface running train on Centre Street N, both in middle and side running configurations. Stakeholders were worried about safety around station areas on Centre Street N as well as in the Beltline. Stakeholders expressed concern regarding how emergency vehicles would be impacted by a reduction of lanes on Centre Street N. Stakeholders were concerned regarding safety and vandalism for surrounding station areas. Stakeholders were concerned regarding the potential for increased accidents between trains and vehicles along Centre Street N. Stakeholders asked that pedestrian islands (pork chops) at the corner of 16 Avenue and Centre Street N. remain, as they allow for greater pedestrian safety when crossing.
Wait and Do It Properly (55 comments)	Stakeholders suggested waiting until Calgary's economy improves before building the Green Line. Stakeholders indicated that it would be better to wait until there was budget available to build underground. Stakeholders asked that the alignment north of the river not be built until sufficient funding was available to build the full north alignment. Stakeholders suggested approaching funding partners to explore further funding for the previously approved alignment.
Pedestrian Realm	Stakeholders indicated that a surface alignment in Eau Claire and on Centre Street N would have a negative impact on the quality of the streetscape. Stakeholders indicated that Centre Street N. is not well

PHASE 2 – OTHER/GENERAL COMMENTS	
Theme	Theme description
(53 comments)	suited to be a pedestrian destination, with some indicating that Edmonton Trail would be a better choice. Stakeholders indicated that pedestrian realm improvements on Centre Street N could occur independent of Green Line. Stakeholders were concerned that an improved streetscape on Centre Street N would encourage loitering by people who do not live in the community. Stakeholders indicated people would not want to visit Centre Street N due to the disruption of trains passing.
Engagement Concerns (53 comments)	Stakeholders felt like decisions had already been made, and that input through the current engagement process would not have an impact. Stakeholder expressed frustration that the proposed alignment did not honor the previous engagement done on the project. Stakeholders indicated they needed more time to fully evaluate and comment on the proposed alignment. Stakeholders asked why there were not renders showing the proposed alignment in the winter. Stakeholders accused the project team of only listening to feedback they wanted to hear. Stakeholders expressed concern that special interest groups were deliberately skewing the results on the Engage Portal.
Alternate Alignment (51 comments)	Stakeholders made a variety of suggestions of changes to the proposed alignment, including: connecting with the airport, connecting with the existing Red and Blue lines, running along Nose Creek, going as far south as possible and terminating downtown, using existing bridges to cross the Bow River, using a bridge to cross the Bow River followed by a shallow tunnel under Centre Street N., using an elevated alignment and having one station near 12 Avenue N. instead of one at 16 Avenue N. and a second at 9 Avenue N.
Business Impacts (32 comments)	Stakeholders were concerned that businesses along Centre Street N. may go out of business during construction, citing the 17 Avenue SW Reconstruction Project as an example. Stakeholders, including business owners, were concerned regarding loss of parking for businesses, as well as reduced access due to fewer vehicle lanes. Stakeholders expressed interest in a support program for businesses during construction, with examples being direct compensation or property tax breaks. Stakeholders indicated that a surface running alignment, especially in combination with a 9 Avenue N. station, would benefit businesses. Stakeholders cited 7 Avenue S. in the downtown core as an example of how surface running LRTs do not support street level business.

Citizens' View Panel Survey

Citizens' View is an online panel that encourages citizens to participate in shaping City of Calgary programs and services through surveys, discussions and engagement activities.

An online survey on Green Line LRT Stage 1 was conducted with Citizens' View panelists on February 20, 2020. The survey was sent out to 2,818 panelists. 1,131 panelists completed the survey by March 1, 2020.

When asked about the opportunities for the updated Stage 1 alignment, the most frequently chosen answer was cost savings (31%) with the second most frequently chosen answer being none/do not support (24%).

When asked about the challenges for the updated Stage 1 alignment, the most frequently chosen answer was disruptions to traffic/pedestrians (30%) and the second most frequently chosen answer was prefer underground (14%).

For the focus areas, the priorities were the following:

- Centre Street – Not interrupting key vehicular traffic routes (58%) and improving pedestrian access (53%)
- Bow River Crossing – Minimizing impact on the river pathway experience (57%), cost savings for future expansion of the Green Line (54%) and not interrupting key vehicular traffic routes (54%)
- Downtown - Not interrupting key vehicular traffic routes (57%), improving pedestrian access (54%) and minimizing impact on the river pathway experience
- Beltline - Not interrupting key vehicular traffic routes (56%) and improving pedestrian access (52%)

For the project overall, the priorities were the following:

- Maximizing connectivity to other transit (73%)
- Maximizing safety for pedestrians, vehicles and transit users (73%)
- Ensuring the project stays on budget (57%)

The complete survey results can be found in the appendices.

Next Steps

The Green Line Committee is meeting June 1, 2020 and will be making a recommendation to Council on whether to approve administration's recommendation of the updated Green Line Stage 1 alignment. Council will make their decision on June 15, 2020.

List of Appendices

- A. Verbatim Comments January 29 – March 3, 2020**
- B. Citizens' View Panel Report on Green Line Updated Alignment Survey**
- C. Verbatim Comment March 4 – April 30, 2020**
- D. Feedback Received Via 311**
- E. Feedback Received Via Greenline@calgary.ca**

What We Heard Report

Appendix A

Verbatim Comments (January 29 – March 3, 2020)

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For each of the focus areas (Centre Street, Bow River Crossing, Downtown, Beltline and North BRT Improvements), the following question was asked: What do you see as the opportunities and challenges with the updated alignment?

The verbatim responses of what we received through online and in-person feedback is listed below for January 29 – March 3. Appendix C contains the verbatim feedback received between March 4 – April 30, 2020.

Centre Street (Online)

Centre Street - Online
What I would love to see is a stop at 9th Ave North. Please don't assume everyone using the LRT is just going downtown.
Please reinstate 9 Ave N station now that the line is street level. Provide cost estimate and consult Crescent Heights.
North side gets no stops because we were getting an expensive tunnel. Now we get no stops and no tunnel. Maybe after okotoks gets the train.

Centre Street - Online
I don't have any problem with the alignment or bridge, but running at-grade on Centre Street would be a disaster at this location.
I think it would be a big mistake not to include the 9th ave north station. It would be an important stop for commuters who have accessibili
I do not want access to my business from downtown or North of 16th ave to be blocked during construction. Parking + access must remain.
Let's get the Crescent Heights station at 9 Ave back in the plans! I was sad to see it go last time round. No cost excuses this time.
Putting the line at grade on Centre St jeopardizes existing communities and bus routes, especially with the lack of stops.
With the elimination of the tunnel on Centre St N, it would be worth reconsidering the 9 St N station. It looks like this would leave just one lane in each direction south of 16th Ave compared to 3 currently with the lane reversal.
This creates the opportunity to add the 9th Ave Station back to the plan after it was removed because of the tunnel depth.
I am really concerned that running the train at grade will be a disaster not only during construction but even when the trains are running.
No station from 16th ave to downtown is garbage. Houses around 16th Ave into tuxedo are going to face horrible traffic issues. This sucks
Turning Centre street into a one lane north one lane south bound road is by far the dumbest idea I have ever seen in my entire life.
This is the worst section of the entire project. Tunnel coming out of the hill along the bow and under cetnre is the only acceptable way.
I'm concerned about the surface line splitting Crescent Heights in 2. How will this be mitigated?
Please reinstate 9 Ave N station if line is street level. Please also provide cost estimate on tunnel vs grade on this section.
Having LRT cross a busy arterial/the Trans Canada Highway at grade will be a traffic nightmare. Better to tunnel here than 11 ave SE.
So where does the traffic go? There are only a few connector roads crossing the river, and seems like this is going to take up lanes.
End stage 1 underground downtown, build a bridge, then back underground below Centre like Edmonton does from the UofA to downtown in future.
At grade will heavily restrict pedestrian mobility It will also introduce a industrial feel to a Main street hurting retail and commercial.
Centre St N south of 16th Avenue is narrow and will be congested as 4th St NW also uses Centre St to go dtown. Not enough room for surface
Better to save money now and do this right (underground center st) in a second stage than do it wrong and restrict mobility for generations
The green line should go to the airport so that we, like most other major city centres, would have our airport connected directly w/ thecore
A train at surface on Centre St south of 16th could cause traffic problems. Please consider an expanded BRT instead a North Green line train
Don't damage PIP; the wetlands are a special urban place. Cheap now, means expensive later. Bad for traffic, wildlife and people. Tunnel pls
I think this is a fantastic plan. No route will make every resident happy, but this plan strikes a great balance. Well done!
Green line should go north and to the airport!! A surface station at 16 and centre = pedestrian accidents and hold up transcanada traffic

Centre Street - Online	
Let's not be cheap with our future! A bridge over the Bow will impact precious wildlife habitat and the look of our downtown forever! Sad.	
1: Use one of the two existing river crossings over Bow R. 2: elevate through downtown. 3: tunnel below 16th ave	
I like the new alignment better. Given the extended timeline please update the 302 route stops to have better shelters...lights heat etc.	
A prime place for a TOD is a reinstated 12 Ave N Station, already some density there, as well as vibrant shops and businesses to expand from	
How about train crossing on Centre St? No extra ugly and noisy bridge needed!	
I worry that running the train up the middle of Centre Street (instead of underground) will result in a traffic disaster like 36th St NE.	
36 st NE is a nightmare; I imagine this will be same effect on centre st. I agree w Alicia, aligning on centre then, cross the Bow ON centre	
I would like to see a transit system like the one in Vancouver BC. The Sky-train makes a lot more sense and takes up a lot less space.	
Building on surface will create a nightmare on centre. Go u/g and plan this for the future.	
No one in north Calgary will use the LRT until at least 2030 when it reaches north Calgary. Restricting traffic is a big no no.	
Why would you restrict traffic into downtown for a project that wont be used? Bus breaks down no northbound traffic today! awful idea.	
You want to reduce traffic on the only major entrance into/out-of downtown for a project that won't be in service for 10 years? AWFUL idea.	
Why would you put the project on Centre street in downtown? How would you even move the train to the underground portion. Not thought through	
Who cares about the park, save money and build a bridge, just don't put the LRT on centre street, put it below centre street.	
The same challenges faced on 36 St NE will be faced on Centre St - increased vehicle delay, poor pedestrian & cycling connections	
A lower speed at grade train that is incorporated into the surrounding community is essential. A station at 9 Ave N should be included.	
The station spacing seems too long from 2 Ave SW to 16 Ave NW	
I'm worried about a level crossing at 16 Ave. Keep the station around 13 Ave to allow for a tunnel under 16 Ave & connections to Max Orange	
Centre St is a car sewer south of 16 Ave. LRT plus public realm improvements could make it into a nice corridor like 10th St SW.	
-Add 9 Ave station back into plan -Low-speed train that stops at every intersection - lights to allow ped and vehicle crossing -Quiet	
Why rehash the idea of the Train running underground between Centre Street and the Bluff? It was arrived at with EXTENSIVE consultations!!!	
Turning Centre Street, the only gateway to Calgary downtown from the Trans-Canada Highway into narrow roadways will be a disaster for all.	
Examples abound of what happens when LRT is run on surface in busy residential areas and road crossings.. 25th Av & McLeod; 36th Street NE;	
Ask Edmontonians about their surface run LRT experience in the downtown core? What have we learned for LRT on 7 Avenue corridor @ downtown?	

Centre Street - Online	
Crossing 16th Avenue, Trans Canada Highway at grade? That's a disaster for traffic, and human interactions, waiting to happen, everyday!	
On top of that, you are going to build a BRT sharing Centre Street to 144 Avenue North? At the same time? How is all of this going to fit?	
How will turning an already busy Centre Street into a surface LRT artery, bisecting Crescent Heights, hindering traffic circulation, scaring	
pedestrians, disrupting current and future developments, permanently changing the gateway to Calgary downtown affecting residents&businesses	
The Green Line needs to stop downtown, for now. Calgary compromised on the NE Blue-Line for cost, and we now deeply regret the design.	
You have a tunnel opening next to the confluence of the Bow and Elbow river, have we learned nothing from the 2013 flood?	
Opportunity: Increasing Centre Street vibrancy and multi-modal mobility options with (hopefully) new cycle tracks and widened sidewalks.	
With the green line at surface level on Centre St please add the 9th St N station to benefit Crescent Heights residents & businesses.	
The train travelling at-grade will reduce capacity of centre street for cars. This is terrible for commuters from the north-central region.	
Look at surface LRT on 36 st NE - a disaster, traffic, pedestrian risks, eye sore. Do it properly or we will regret it.	
You can't only have one station between the south side of the river and 16 ave NW, there is no benefit to Crescent Heights area !	
Tunnel it under centre street, especially at 16th ave. It will ruin 16th ave traffic if its surface	
Centre Street is already a very busy stretch of road from the core all the way to Mcknight. this will make it worse.	
The Greenline should be cancelled. Downtown has a 30 percent commercial vacancy currently evaluating conversion to residential rental option	
Looks good	
Centre street is already super congested. This will just make it worse.	
More reasonable costs. Seems like less convoluted construction. Easier access to stations closer to surface downtown.	
Keep it underground, if 36 ave train is any indication of what 16 ave would be like - dont do it.	
Having the line on the surface at Centre street will destroy already poor traffic flow and create a divide in the community.	
street level C-train cause disruption and risks are high especially with a high school close by. Build under or over but not at grade	
Max route needs 15 minute all day frequency to work along congested Centre St. Concessions must be made to keep the plan in budget.	
Is there an opportunity to place a station at/near 9 Ave SW? Would be near the high school and area businesses. Would the road be widened?	
Centre street simply does not have the free capacity to allow a lane being lost. It is evident from the fact that it has lane reversal.	
Crossing Centre Street south of 16 Ave. In Toronto, the stations are aligned with the crosswalks which works quite well.	
Where the bridge enters the middle of centre st will add further congestion in the mornings, moving unwanted volume to Edmonton Tr & 10th St	

Centre Street - Online	
Lay waste to commercial zone West side of Centre St. It will remove unwanted vape shops and Corona virus hotspots	
This will probably upset some people, but I think it's the best option for Centre street given the constraints.	
Defer North of Bow River until funds are available to tunnel. Tollgates to Cochrane, Airdrie, Chestermere and Okotoks	
The green line should end downtown. Having the BRT and the Green line on Centre St south of 16 Ave will add to congestion, not reduce it.	
At grade crossing of 16th Ave N will impact west bound emergency vehicles accessing Foothills. There will be blood on your hands	
At surface south of 16th will be a disaster. Already too congested. Can't afford to lose a lane to LRT. Put above grade or u/g to river.	
Hold off on North of the bow until funds for a tunnel are available. Centre and 16th Ave is already a nightmare, this exacerbates the issue	
If we're losing the tunnel on centre it makes sense to bring back the 9th ave stop. wouldn't be hard to do and would add a lot of value!	
Centre St need to terminate at SAIT or Bridgeland. This connects riders to MAX Orange E/W and to downtown so can build way more of the line	
Cutting lanes along a busy street+adding a crossing across TC highway is madness. We need a cost+impact assessment for at-grade vs tunnel.	
If at-grade is back on the table, then so should the 9ave station.	
The issue/cost with the river. Why not run the LRT in the open area that I thought was designated for transit on the west side of deerfoot?	
If 9ave station is reinstated,the 16ave station should be moved north of TC, distributing transit access among North Hill Communities fairly	
Why dont we do what vancouver has done & go over roads? This tunnel is a silly idea and waste of money. The whole LRT is a waste. Add buses	
My suggestion is not able to fit in the short space you allow . Please send me an email address that I can reply to . Thanks Bill	
If the LRT breaks down on Centre st it will disrupt both trains and traffic. Separate the trains from traffic!	
With surface alignment North of the river, any and all cost savings should be focused on driving the rail further north initially.	
I'm greatly concerned about intersection accidents and fatalities. The line should either be underground (dig and cover) or elevated.	
This entire project is far too expensive for taxpayers at \$5 billion. You could purchase 50 Boeing 737 max8 jets for that price tag.	
With the elimination of the tunnel, a 9 Ave N station should be re-introduced for consideration.	
A 9th Ave N station would be beneficial and is less cost prohibitive with an above ground line. Please reconsider!	
My challenge/ concern is limiting access out of Ramsay community and limiting emergency entrance in.	
Eliminating the deep stations is important as is reducing the amount of tunnelling required. Both will make the project more affordable.	
U left north Calgary in the delay zone again, you don't need to go thru downtown, SE to 16 Ave to CP tracks to north Central people can walk	

Centre Street - Online
I think that this is a good investment, but I'm wondering why the north line is being built first? The southeast and east have no lines.
There needs to be a stop around 8/9th ave. As the plan stands, this community will be inconvenienced by the train, but not benefit from it
Added traffic congestion and signals on Centre St. N south of 16th Ave. This is already a congested traffic area.
This goes against the preferred option of residents in this community, and further emphasizes how City Hall does not listen to residents.
No station between 5 - 9 AV N?
There are limited bridges from the north to downtown. centre street south is already congested.
Acquiring property along from 8 - 16th Ave north will be expensive, considering development of Condo's and businesses has been ongoing .
Centre St is critical infrastructure right at the edge of downtown. You cannot repurpose it. A tunnel will add infrastructure ... forever!
Hold off on the River crossing and Centre street alignment until we have enough money to do it properly underground. Ugly flyover-no thanks.
If lanes are reduced to one each way on center street south it will destroy the commercial corridor on both sides!
Going at surface across 16th ave is a terrible idea. It needs to be underground. Reducing Center st to 2 lanes is terrible too.
Do not build this unless it's off surface. Wait to do it properly. I think that traffic will be a nightmare with many pedestrian accidents.
Running at surface along Center St and a bridge over Princes Island Park is a terrible idea. Do it properly underground.
16 Avenue N being an at-grade crossing is a big red flag. The intersection currently as is, is a disaster for traffic during rush hour.
I think it's good that the City would like to increase the number of train-pedestrian collisions on Centre Street.
At grade on Centre Street N makes 9 Avenue N station more financially viable. Still needs to be buried under 16 Avenue N though.
The city should defer this portion of the project and use the Canada Line from Vancouver as a model. A direct automated airport connection.
This change negates years of solicited community input which overwhelming supported the below grade option; no characters left to type more!
The below grade makes sense in the long-run, despite the upfront costs. We cannot have a short-term mentality in this Project.
Please don't make it at-grade and destroy the recreational value provided by Prince's Island and surrounding parks. Stick to the original!
You must NOT run this line up Centre Street. You will destroy our neighbourhoods while adding little value to our residents.
Pt 2. This line is being built for the benefit of suburbanites-build it where you will least impact the daily lives of inner city residents
Pt 3 And to even think of building a crossing over Princes Island is utter foolishness. This is not a good plan and you must reconsider
Pt 4 This is shortsighted in so many ways. Run your BRT up Centre St - much more efficient in so many ways. Stop this now!!
PT 1: I do not understand why we are building a bridge over PIP and going up centre street. this is going to ruin the park ...

Centre Street - Online	
PT 2: and disturb traffic flow along centre street to save a few bucks. If the money is not there right now then build the north terminus...	
PT3: At Eau Claire and withhold that section until funding is available. Instead of trying to build as much as possible for as cheap...	
PT4: as possible build it right and build the rest later on, its the most sensible option that our crackerjack city planners are ignoring...	
PT5: Build the project right instead of disturbing multiple communities and thousands of people. use common sense.	
Pt 1.This has to be a kamikaze option right? Surely city hall doesn't believe that this was going to be well recieved. Grow some courage and	
Pt 2 save what's left of the budget and tell your constituents that it just doesn't make fiscal or logical sense to build north of the bow!	
Even the feds might pull their funding after seeing this disaster of a proposal.	
Traffic will be greatly affected by the surface train. Green line should not be on Centre street, which is one of the main road to downtown	
This is the worst idea and plan going. Citizens of Calgary should not really be surprised with this mess. Nenshi FUBAR yet again.	
Surface green line on centre street is a terrible idea. Wait and complete the project when there is enough money to do it properly.	
A surface line on Centre Street is not a good idea. We have an opportunity to do something right. We need vision.	
Please do not run the green line up Center Street at grade! Postpone this portion until it can be funded properly and done correctly.	
No 9th Street surface station! Bring it back!	
Work on getting simple turnstile rfid cards first. They exist in every "world class city" worldwide. Should be hard to miss 3 times, right?	
Rail can move many more people than vehicles so this at-grade option might not be so terrible after all. But PLEASE no @ grade X-ing @16!	
You can't afford new trains on Blue/Red lines. You will now have ground level trains that can only be used on Green line. Seems about right.	
Sorry at the present time our city economy is bottoming out. High Property taxes, High Utility Once economy improves I think it has possibli	
Building a LRT line at huge expense & then reducing access between downtown & 16th Ave is bad design period. Not cost effective planning.	
I'm glad that the line downtown is being kept underground - please don't have at-grade for 16th and center!	
A grade train across 16th will slow down traffic significantly. pedestrian crossing already does so, imagine now adding a train. BAD IDEA	
The viability of businesses and the pedestrian environment along Centre St is a major challenge. Historically surface transit kills business	
Interim map shows buses AND train going up centre. Buses should start north of 16th ave only. 16th ave crossing should be tunnelled.	
Why start construction downtown? Makes much more sense to start at north point and move towards downtown. Much higher ridership here	
Thousands of residents offsetting the new proposed surface route in an already busy area of the city with traffic during rush hours. Trash.	
Centre street is a major corridor into downtown. The at-grade plan will add congestion. It needs to be done properly, which is underground.	

Centre Street - Online
I'm a homeowner in Crescent Heights and would like to see the 9th Ave Station reintroduced now that it will be more economical above grade.
A MAX bus would be less disruptive to local businesses and the natural environment.
I think surface alignment on Centre Street is a terrible idea. If you're going to do this, just add more dedicated rapid buses.
Concerns: train to nowhere until the north section is built; creating a transportation canyon on centre street;
Concern for ability to cross centre street on foot or in vehicle. Concern with noise, construction, shortcutting. The list goes on and on.
Doing the green line properly is becoming far too costly in our current economic environment. This whole project should be put on hold.
Worried there is not enough road width to fit LRT, station platform, auto travel lanes and a wide comfortable sidewalk with lots of trees.
If using street surface to get North of the river now, might as well truly transform Centre Street. Use the Centre ST Bridge and extend line
Use Centre ST Bridge for LRT and an underground 16 AVE Stn will allow vehicle traffic to adjust to reduced lanes on bridge, and to the North
Do not run the green line at grade up center street. Wait until proper funding is secured to complete the project properly.
Who puts a transit station in the middle of the road? Move the green line to the far right northbound, and far left on centre.
Stop pretending like we are some city in Europe. Having a transit station in the middle of the road is just asking for problems.
Why is it even acceptable that a train run on grade level, that too on a busy street? Was the planning for 36 st NE not bad enough?
I hate the idea of having a train over PIP. Either go over the Centre St. Bridge, or wait for enough funding for a tunnel under the river.
Big mistake to dig up downtown streets with current economic situation. We are having a hard enough time
hurting those you are trying to help: tearing through downtown and parks to get as far as 16th Ave - Outrageous - stop at the city
An underfunded train on a budget? What could possibly go wrong?
This is permanent!! This is our ONE shot to do it right and for years the citizens were consulted and voted...now this? Disaster.
Not what was promised. Not what we voted for. Do the south portion that we can afford first! City and north once actually budgeted.
Run LRT down west side of Centre Street. Leave 2 traffic lanes that can switch one-way for rush hour either way. So LRT-LRT-car-car.
Why is the alignment is different in Victoria Park? Both options are tunnels... BRT is bad. Train or don't bother (eg: Ottawa BRT to LRT)
Already very busy corridor exiting the downtown. LRT would get in the way. 17av construction comparison. Changing the plan now is not cool.
Shelve Centre St leg until funding available to do it correctly. Do it right or not at all. Learn from your past mistakes. Pay it forward.
Don't like putting a bridge over princes island park. Will be an eyesore. On the other side don't want to see property loss in neighborhood
Wait to do the Centre St leg properly. Don't ruin Prince's Island Park and Crescent Heights. One lane N/S on Centre is absurd.

Centre Street - Online	
Running at grade on Centre street is a wonderful way to continue this city's tradition of picking the worst possible transit solution.	
Cut and cover for downtown, that's going to be a traffic nightmare for years. Could be the final nail in the coffin for dt businesses.	
People might not be too thrilled with another bridge crossing the river, especially if it's an eyesore.	
Terminate in down town. Build whole north section properly tunnelling under river and Centre St when funds are available.	
Don't build a bridge over Prince's Island, it will be bad for the park. Tunnel under Centre St. until at least N of 16 Ave.	
Project should maintain the tunneled portion, or wait until funding is available to do the work correctly.	
The 16th Ave station should not be at grade level. It should be tunneled or at least trenched like the SW 69th street station.	
Scrap the entire south portion use the money to build the entire north portion which would have actual ridership	
Concerned the south leg will not have any real ridership for many years	
Major disruption to Calgarians from Eau Claire to 16 Ave. N. as construction will cause problems for smooth commuting for residents for year	
Cancel the entire thing and use the money to wall off the NE part of the city from the rest of us. Immediate 90% drop in crime!	
Please do not put the Greenline at grade across 16th avenue now or in the future. We cannot have centre street turn into 36 street NE.	
BOTH > Noise impact assessment (NIA) and Vibration analysis must compile to Alberta Utilities Commission (AUC) along 2nd street/222 riverfro	
Cancel the entire thing and save the money to continue to pay bloated union salaries.	
Do it right or not at all. SE BRT makes more sense for a long time. Use the savings to tunnel properly from McHugh bluff to past 16 Ave	
Who's got stakes in the Shephard Crossing commercial development?	
This is a train from nowhere to nowhere. SE BRT = good.	
Est. short term cost reduction - what about homes & businesses along this very congested corridor, not to mention the noise & disruption? No	
I've used many transit systems across the world, and them being underground is what made them efficient; for the users and non-users.	
There should be up front investment into the LRT's future. Shortening the tunnel to save money now will cause permanent congestion on Centre	
There currently isn't enough capacity for vehicle traffic on Centre Street. Tunneling under Centre Street was the only option.	
Traffic will be worse, negatively impact the neighbourhoods, residences and businesses in the immediate area.	
Centre St should be (shallow) underground for better traffic and LRT experience. Delay everything north of downtown until enough \$ for that.	
Cancel the downtown/ south side portion start building from north pointe towards downtown and tunnel starting at 64th Avenue	
The train "turn around" station will be where on centre street exactly? Short sighted.	

Centre Street - Online	
Vehicle traffic use on Centre Street is going to suck! But maybe that's OK, I don't use it a lot now.	
Deletion of lane reversal from 20th Ave south will significantly impact traffic on Centre, 10th, and Edm. Tr. LRT must remain u/g on Centre	
Eliminating a lane of traffic while only running the line to 16th Ave will be a disaster for vehicle traffic and parking in the area.	
Vehicle traffic challenges for certain. Centre st N is already too busy during rush hour with lane reversals in effect. @ grade not ideal.	
At grade on Centre St will be a disaster for traffic, particularly at 16 Ave. Go overhead or wait until funds available to go underground.	
If it's not financially feasible to go underground on Centre Street north past 16th Ave, then don't go ahead with the North portion of line.	
Pls hear the less vocal but real north communities. Pls inform the public on feasibility & benefits on a platform accessible to Calgarians.	
An at grade crossing across 16th Ave along Center St will be such a nightmare that mothballing the entire project is a better option.	
More stations in the inner city. Low floor trains make it easier, and dense infill neighborhoods will encourage walkers.	
better connection to streetscape and business. Better connection to pedestrian options.	
This newer layout will be cheaper but also a traffic nightmare and an increased danger to pedestrians	
short term business disruption	
The LRT should run underground from the proposed bridge up to 16th Avenue (north of intersection). This is not the place cut corners!	
centre street and bow river crossing is better in the 2017 alignment, but the beltline alignment update is better, esp. with the new arena	
Reducing car lanes along Centre Street will reduce noise and make the street safer and more pleasant for pedestrians and benefit businesses.	
Straight up Cancel project. There is no trust in city leadership, no engagement on changes in Crescent Heights. Train goes underground to 16	
Who came up with the terrible idea of running above-ground LRTs in Calgary's one area of beauty & serenity? The tunnel plan was much better!	
A surface line running up Centre street past 16th ave is a poor plan. Traffic on 16th ave will be a nightmare, after it was just upgraded.	
Traffic along Centre Street is really congested. Moving the train line to the surface will cause even more headaches and eliminating parking	
This form of "engagement" is not sufficient need to re-open discussions with Crescent Hts. Not going under 16 is a terrible idea.	
Challenge - More rail at grade = more danger for pedestrians and TRAFFIC. Opportunity - Another pedestrian cross over the Bow River.	
Challenge - More rail at grade = more danger for pedestrians and TRAFFIC. Opportunity - Another pedestrian cross over the Bow River.	
Grade crossing at 16th will delay trains and cross traffic - no where else does C-train cross a major road. Don't make same mistake as SF!	
Don't build the north section until there is funding to do it properly.	
A train from Calgary to Edmonton would be a better investment. Perhaps plan ahead to connect the two cities.	

Centre Street - Online	
Include a Bicycle lane along side this route???	
You are cutting off another major artery to get downtown by vehicle - I see no plan to alleviate this there you plan is flawed and will only	
With decreased cost it is possible to bring back the 9th Ave Station	
Building from downtown to the areas with ridership is dumb. We should be building from ridership areas towards downtown more ridership.	
Provides better retail exposure / low floor LRT minimizes curb impact. An additional stop around 10-11 Ave would further boost this.	
Must be grade separated at 16th ave! I can live with surface on center but please find a solution to go under (over?) 16th. Be creative	
Pedestrian mobility N/S along center and E/W across. Must have safe and numerous crossings.	
The crossover of the train on the Bow River will have to be re thought. Ruining Prince's Island is not an option. Follow Memorial Dr E?	
See if The Boring Company can keep it underground past 16th Ave N at or under budget.	
This is ludicrous. Please please stop while you are ahead. Your new plan is no better than the last	
Opportunity to improve the public realm by creating safer pedestrian crossings along Centre Street	
Prince's Island Park and wetland will be ruined. Please reconsider. 2nd St entrance to park is extremely popular. Why ruin it?	
An additional stop at 7-8 avenue would be helpful, so it's not such a long distance between 16ave and downtown stops	
Centre Street is a major busy route. No room for LRT. Traffic all day. UNDERGROUND! Fire any planners that keep changing their minds.	
Have you spoken to Calgarians about the bridge over Prince's Island Park? Everyone's really upset that the new plan will kill area activity.	
You will ruin the sight line of Prince's Island Park. WHY?!	
Why are you ruining Prince's Island Park? People pay a lot to live on 2nd St at Waterfront. Stupid planners!	
Why ruin the Park and the wetlands? If you can't do it properly, why do it at all? Incompetent planners!	
I paid a lot to live on Waterfront condos on 2nd St. Stupid planners. I don't want a CTrain in my front yard.	
To the people complaining about the surface line down center street due to traffic and parking concerns... READ A BOOK (Street Smart)	
If you can't do it underground then don't do it at all. Not wise. And why are you ruining the Park. Incompetent!	
Big public transit projects are incredible opportunities to re-invent how we move and live in this city- ideally without (or less) cars!!	
Hey planners, please do not ruin Prince's Island park. Be smart and creative.	
I live on 2nd St right at the entrance to the Park. I don't want a Ctrain in my front yard. I bought the condo because it is peaceful. Arghh	
I don't agree with running the green line through or above Prince's Island Park or above ground at 16th Ave. Wait and build it right!	

Centre Street - Online	
The idea of running a train bridge over an iconic city park should never have even been presented, needs to be re-worked completely.	
The best train systems in the world are all UNDERGROUND. Why would YYC a new, modern, evolving city not want this?	
We already have two c-train lines that go through downtown. Why not build a line around the city? Maybe on the ring road?	
Why are you building a ctrain that runs through the Park? Idiot. It needs to be underground too.	
I know my neighbours and I would really appreciate revisiting the 9 ave (or south of that) station now that centre st is above ground	
Go back to the original trains. Go from center Street over the island and connect with the original 7 ave line. Save billions	
This is prime wetlands area. We paid a lot to restore it after the 2013 flood. Waterfront work JUST finished. Now rip it up? TERRIBLE IDEA.	
Horrible idea, please don't.	
I'm really concerned the surface grade will remove available lanes for vehicle traffic. I'd be willing to pay more tax to pay for the tunnel	
My idea is that this idea is unacceptable.	
I don't understand why you are going through Prince's Island Park. Bad idea.	
Needs to be underground and please do not destroy Prince's Island Park. What a disgrace if you destroy such a beautiful park.	
Another bridge over the Bow River is a terrible idea. Complete eyesore and disruptive to the environment of Princes Island Park	
If there's not enough money to build it properly then don't build it. No to grade level on Center St and no to going through Prince's Island	
This will ruin an iconic Calgary park, and should not be an option. Please find an alternative solution.	
Aren't there enough accidents between Ctrain-cars-people. Underground only. And who came up with the idea of going through Prince's Island?	
Surface train will cut Crescent Heights in half, reduce mobility.	
Bridge design needs to be iconic	
Do not go through Prince's Island Park and destroy the wetlands. Stupid planners!	
While the new surface alignment reduces costs, being submerged along Centre St south of 22 Ave would not divide the community as much.	
Congratulations!! Running a bridge over the park and right up to children's bedroom windows makes this the dumbest proposal of the decade!!	
GL to core ok. Omit centre ST, use current NE up to Nose Creek, new line past Spark to 96 ave over to Centre ST north. Nose Creek to YYC	
I would like a station at 9th Ave AND it to be FREE to downtown otherwise I don't see it being used very much or a benefit to Crescent Heigh	
Trains, cars and pedestrians don't go well together as per downtown and NE line. There needs to be separation between all.	
Surface line and bridge through Princes Island Park is a huge mistake and should never be built.	

Centre Street - Online
Running the line over prince's Island Park is a horrible idea. Leave it be and please find a different route.
Running a train up the middle of centre street bisects the neighborhoods and weakens the system. A great city deserves great solutions!
LRT is not a tramway. It is a TRAIN. Do not mix it with the other traffics (pedestrian, car...). And for God's sake do not ruin Bow Valley!
I think it makes sense to have an additional station on Centre Street N before 16 Ave.
Don't run a train through Prince's Island Park! You'll ruin one of the most beautiful public spaces in Calgary.
A surface line and a bridge through one of our major parks is a terrible idea. It will destroy the restoration of the island from the flood.
Surface LRT is fine for the bridge and northern legs up center st. But south of 16th ave really ought to be underground.
Building a surface line along Centre Street will, as councillors need to admit, will mean inevitable pedestrian deaths.
Surface line on Center St not practical. How am I crossing the street? Train through Park even dummer.
Who came up with the idea of a train running through Prince's Island park? Not too smart. Park and wetlands destroyed
Do not run a train through Prince's Island Park!
No surface trains! More accidents and deaths! No to Prince's Island Park! Planners you need to do your job better!
Existing LRT line downtown should have been underground. Don't make the same mistake twice. You only get one shot at these projects.
Underground till it is past 24th Ave N. The wait at 16th Ave will be terrible. LRT is better when it doesn't have to wait for traffic.
Underground only. No train through Prince's Island Park.
No to having a train through Prince's Island Patk. What were you thinking?
Who cares about a bridge near process island just build it, my only problem is centre street being at grade bad idea
Build towards downtown starting at north pointe, cheaper, and more gets built, better ridership
Why are we starting downtown? It is the most expensive part, and the least gets built.
At grade bad idea for centre street
Prince's Island Park is a tourist attraction. Locals visit the park from all quadrants. Don't destroy it by letting a train through the park
If the city does not have the budget to do it right, don't do it at all. You ruin an iconic city park if a station is built at Eau Claire.
Don't go through the Park and underground only. Enough accidents each year with current ctrain. Incompetent planners!
More surface trains mean more accidents and deaths. And why are you ruining Prince's Island Park?
No to running a train through Prince's Island Park! Is Fish Creek next?

Centre Street - Online
Centre is a busy corridor. What about flipping the script and building at grade from the outside in? And BRT into downtown.
Centre is a busy corridor. What about flipping the script and building at grade from the perimeter inwards? Then BRT runs into downtown.
The current option is ludicrous and not feasible. I would suggest crossing the Bow River on the lower deck of the Centre Street Bridge.
Options for shortened line that stops in the Beltline or downtown (does not cross river). This is a sensible option at this time.
The section of the train line should not be built until the remainder of the northbound line is built.
Reducing car lanes on Centre St will make Crescent Heights a more pleasant destination. The bridge will improve ped/cycle access to PIP.
I have grave concerns about the impact to my residence at Waterfront that borders on 2nd Street SW. Underground works, at grade does not.
Please do not run a train through the park and come out on 2nd StSW. Not sensible. Don't build it if there's not enough money
I am very concerned about this, being at grade and not underground, and that we simply cannot afford this development. Does not make sense
This is the worst thing ive read since the news on kobe.
As a resident on Waterfront 2nd St SW I am more than worry about the train on 2nd St. Please go underground.
Horrible idea!! Run it underground to not ruin the wetlands and to preserve our park's aesthetics. I agree, worst news since Kobe
This is some very irresponsible decision making. Someone compared this to news about Kobe's passing? Well I have to agree.
Underground only and do not run a train on 2nd St SW. It will ruin Waterfront and the park. Do it properly.
You are supposed to make the city more beautiful. Don't ruin the park and wetlands. Underground only.
Please do not put a train in my front entrance on 2nd St SW. Please please please
You are putting a train in my front entrance on 2nd St SW? And ruining the park? Please underground only. Plan it better
Why are you ruining the 2nd St entrance to the Park and destroying the Park and Wetlands? Underground only please.
I live on 2nd St Waterfront too. Don't put a train in my front yard.
Do not put a bridge over the Bow impacting the only true green park left in downtown Calgary, not to mention the historical significance.
Please do not go through the Park. Don't do it just because it is cheaper. Do it properly. Make it a world class project.
We live on 12 Ave NW (between Centre and 1 St). We are very happy about the green line in the neighborhood, despite being at street level.
Brilliant! We need a train in this direction. History tells us the "not in my backyard" attitude is temporary. Please continue.
The raised line should not go over Prince's Island. The scale and orientation is inappropriate. Take it alongside Centre St. bridge.
Crescent heights needs a train. Love the route. No issues from all the neighbours I've spoken with.

Centre Street - Online	
What world class city would put a train through an iconic park? Please don't! Underground only.	
Given the on-street alignment, reconsider the benefit of Centre Street and 9th Ave N station stop to the community.	
Destroying Prince's Island wildlife sanctuary to have mini LRT leg north isn't worth it. Ridership forecasts aren't downgraded properly.	
Build from DT south, take time, figure out acceptable north leg that doesn't kill PI wildlife area. Once urbanized, it's never coming back.	
Bisecting the Crescent Heights community with at-grade rail infrastructure. Put it underground or elevated.	
No to having a bridge at park.	
Do not divide centre street with the LRT. The neighborhood is developing and bisecting it will destroy it.	
Don't put a ctrain in my front yard on 2nd St.	
Waiting for surface traffic whilst on "rapid transit" is a much worse user experience than an 8 storey deep station.	
Put bridge alongside Centre Street bridge, not the park! Mistake putting this line up only major north-south long-distance artery in area.	
All these park concerns are from people living in the south that don't want the LRT going north, and want more LRT for them ignore concerns	
Why are we prioritizing the south leg, when the north BRT has way more ridership move north bet to south, build LRT north	
Reasonable solution to cross bow river	
No to train in Park. And underground only please. Surface train means more accidents & deaths	
Do not divide center st with a surface train. And don't go through Prince's Island.	
An above ground train is hardly two lanes wide. How much of centre street (sidewalks and shops and lanes) be train?	
And where does the turnaround station go? This is absurd. Do it when you can afford to do it properly.	
The challenges are laid out in Calgary Transit's 2006 "North Central Calgary Transit Corridor Review". Too sad for Prince's Island & bluff	
Why is the character limit so limiting?	
My overseas friends always ask why do we have a train on ground? Pls underground only & no to bridge at Prince's	
Eliminate single occ commuter traffic, reduce speed and a bike lane so as to create a people friendly shopping and walking district	
Be a man. Do the right thing. Underground everything. Much faster speed and safer.	
Why not a station on 9th Ave NW? Use some of the above ground cost savings to help the community and high school!	
Center ST N is too important a road to downtown to only have 1 lane of car traffic each way.	
Ridiculous place to put the train. Centre street is already congested. Put the train beside the Deerfoot connecting into the zoo station.	

Centre Street - Online
Another 36 street east mess on centre, more deaths, divided community. Great thinking. Bangkok more progressive system
Even highly regarded traffic engineers said this whole thing is silly. Remember when it was 4.5Bln for the WHOLE thing? Bamboozled?
Reduce the scope of the Green Line and end the project downtown. It is not worth it to build one stop north of the river by itself.
If it can't be built to the standards set by the communities - stop, build BRT and come back when we're better off.
We are doing this for the future of our city. Maintaining the tunnel option is a must have or this is an option that the BRT can handle.
If the greenline is at grade along centre St, does this mean widening& mowing down businesses? Tunnel is better. Centre St is already busy
I strongly do not like the proposed surface crossing of the Bow and the sterilization of Centre Street. Stick to the tunnel.
London subway is easily 8 stories deep. We are building long term infrastructure. Do it right. Costs always increase as info discovered.
Surface bridge impairs one of top views downtown - Centre Street Bridge. Will impair Field of Crosses.
Surface tracks on Centre St. will destroy major commuter route and increase probability of pedestrian deaths.
Sounds like a serious problem. Go underground N of 16 Ave, and consider popping out onto the lower level of existing Centre bridge?
i think you need a station at the top of the hill in crescent heights, figure out how the green line crosses 16 ave n before plans are set
A 9th Ave stop would integrate us easily with downtown. 16th Ave is at the far North end of our neighbourhood so not useful for residents.
A grade level LRT will divide crescent heights east/west, 9 Ave stop should be re-added, reducing centre street lanes is a big traffic issue
With the green line at street level put the station at 9 Ave N back in the plan. Do something positive for Crescent Heights.
Considering there are other options you decide the best is to put a bridge over the Park? Ridiculous! Don't divide center St either
Don't run a Train through the city's best Park. Our city's best events are not Folk "&Train" Fest or Shakespeare in the "train siren" Park.
Delay this project until we have sufficient funds. Centre Street is the heart of downtown. A tunnel is an absolute must! Avoid the clutter.
Centre St & 8/9 Ave N is becoming the representation of vibrant street life of Crescent Heights. There should be a station around there.
The at-grade redesign thru CH will divide our community and its walkability. Please defer this project until you have funds to do properly.
I agree with these remarks https://www.calgary.ca/citycouncil/ward-7/Pages/latest-news-detail.aspx?SidebarListCategory=0&ArticleID=320
Wait until we have enough funding to do underground tunnels. The impact on community and natural environment is too important to overlook.
Consider the impact on property values / safety with the installation of the above-ground station. Please WAIT until you can afford tunnel.
This is such a great project for residents and businesses. The 9th Ave station will provide a boost to an area that has so much potential!
Cancel the green line it is a waste of money in this economy. Go back to the BRT plan that was originally planned before the politicians t

Centre Street - Online
Continue the Saddle Town line, turn West to the Airport. One problem solved!
No stop on 9th Ave north shuts out Crescent Heights . CH needs a stop within the community which would benefit local businesses and people
Since the train is not below ground anymore, a station south of 16th ave North should be added back into the design.
As a resident of Crescent Heights I think it's vitally important to have a station at 9 Ave. Good for residents and businesses.
I'm a Crescent Heights resident and cross Centre St in my day-to-day living to get to shops, how will I be impacted with the line at grade?
Add surface station at 8 or 9 Ave N - as it's at grade the costs are no longer a major impediment.
Entire line needs to be underground.
A bridge over the river will obscure the river valley and historic centre street bridge, both are tourist attractions and community amenities
Opportunity with an at-grade line to improve the potential of a reduced timeline from construction to public use.
Integrating car, pedestrian, and cycle traffic ideas to have seamless connection between various transport methods with an at-grade line.
Running up Center street at grade is a disaster. Half the lanes will be removed. stop downtown until you can do it right.
Build starting at north pointe and move towards downtown, much more gets built, much higher ridership
At grade line is not a good idea for centre street.
Bridge over the bow is a good long term solution, just don't build centre street at grade bad idea.
Concerned east west traffic will be affected bigly though the neighborhoods with big train stations in the middle of the road.
At the very least move the LRT to the far right, and far left sides of centre street so we don't have big transit stops in the middle
I live in CH and I don't want a train at grade level. Bad planning. I don't want a bridge over Prince's either. Other options pls.
Don't destroy Prince's Island Park. I live in NW but often visit the Wetlands and park with my kids. Birds will be gone. Disappointed!
Is it Centre St. wide enough to fit 2 tracks? How many car lanes left? Will sidewalks shrink? Mobility N-S of Bow River could be affected.
NO surface trains along Center St. Why replicate all the problems with the LRT on 36 St? Pedestrian deaths and traffic chaos. NO!
Please do not do this. We need a stronger economy and that means transport on the outskirts of the City. Attract new industries. Use \$ better.
I support at-grade LRT on Centre St. Low-floor LRT on this main street will provide new opportunities for business & community amenities.
You all should terminate the South leg near Eau Claire. What is the point of continuing past the river up to 16th Avenue? Very messy.
Will there be an Intermodal terminus (BRT to train) along Center Street @ 16th Ave? Pass'grs dropped off in the cold to take a 5min ride?
Calgary should build a proper Intermodal Central Station/Hub downtown instead of a disjointed network. Like all properly built cities.

Centre Street - Online
Reducing Centre St to one lane will result in bottle neck of traffic at 16 Ave. People will still drive because there is no train north.
Are you proposing to dump BRT passengers at 16 Ave to then wait for a train downtown? How does this improve commute times for north Calgary?
Don't do it until it can be done properly. Centre Street is too busy to remove lanes of traffic to accommodate the train.
Students at CH high school would love a stop at 9 ave!
No to surface trains. Messy like 36th with train. Alternative to Prince's Island pls. Don't put a train through it.
What's the plan of vehicular traffic going N/S and E/W @ 16th/Centre Street? I bet it will be very congested if u go w/ ground level x'ings
Please do not ruin Eau Claire's beautiful park and wetlands home to the birds by having an unsitely train running through it. BAD IDEA!
A train down 2nd st & through Princes' Island Park adversely affects Eau Claire residents and wildlife and offers zero benefit to both. NO!
My idea is to scrap this very expensive project and replace it with bus rapid transit at a fraction of the cost with the same results.
People don't build/buy multi-million dollar homes in CH/EC just to have a train run through it. Consult and plan properly. Just don't do it
Cost to drill under Centre St is only 5% of total Stage 1 cost (\$250 million vs \$5 billion) - are we really saying we can't afford it?? (1/2
Can't we build the SE leg first keeping a tight rein on costs and then spend (a fraction) of the contingency on a Centre St tunnel?? (2/2)
Don't build North if you can't do it underground. The traffic cost to Centre Street is too high and 16th Ave is so easily accessible by bus.
You are proposing to destroy the green lifestyle of people to build a 'green line'. Don't do it if you can't afford to do it right!
I'm sad to see this direction taken by the City after committee recommendations were not taken! Sign the petition http://chnq.it/wXTYqCyg
The imminent arrival of autonomous electric vehicles could make LRT systems obsolete. I hope this has been seriously considered.
Can you imagine New York or London damaging their central parks with a train? Let's be world class. Don't damage our central park.
Build the South portion from Seton to the Core first and put the river crossing on ice till a cost-effective idea is proposed.
The bridge over our beautiful river is not an acceptable solution. This should be stopped now until a proper solution can be found.
Feel sorry for the residents who invested a lot living on Waterfront. Pls don't build a bridge and ruin it for everyone who visit the park
Why build south? it goes predominantly through industrial area with minimal service to residential areas. Needs a complete rework!
The 2nd street alignment should NOT be above grade until towards the end of north end of 2nd street by the river with 1000 units affect
No to bridge at River and no to at grade level on 2nd St. Terrible planning
the effects of bridge construction, shadowing, and noise impacts on the natural lands on the east side of prince's island park are troubling
I love the Green Line proposal! However, for it to succeed, the designs must: ensure safe and accessible pedestrian infrastructure on Centre

Centre Street - Online	
Building at grade on Centre St to 16 Ave no longer makes sense in Stage 1. Access to downtown will be terrible until built out further.	
Pls do not build at grade level coming out of Prince's Island. Ridiculous idea!	
No to additional surface trains in any areas. Terrible planning. Enough accidents already. 36th a mess already with the train.	
Great plan to ruin a beautiful green space in downtown. Don't do it at all if you can't build it right, which is underground.	
1/3 Not sure what is the point of building only to 16th ave. Buses are already servicing this route while this plan will reduce convenience	
2/3 for commuters (transit and vehicles), reduce property value along centre street and Eau Claire, not to mention destroy a beautiful park.	
3/3 Wait till there is enough money to do it properly, or do a smaller section like only the south leg for now till there is enough funding	
If there's not enough money to do it underground then don't do it. And why would you ruin a beautiful park.	
Staging transportation expansions has served the city well in managing costs and impacts. Go with what we can afford with balanced impacts.	
No to bridge in Park and no to surface trains on 2nd St. Ruin EC and Waterfront.	
No to grade level on 2nd St by Waterfront and Eau Claire. Makes no sense in destroying the area.	
My preference would be to cancel this entire project.	
I can't believe the city's contemplating running the train beside condos and over Prince's Island Park. Please go back to the drawing board.	
No rational actor runs a train through a major city's central park. The diminished value of the park would be a massive, permanent cost.	
Do not build a let bridge On princess island nor trolley like system on centre street. Just focus on brt line and bury line	
Should stay underground, otherwise makes no sense!	
This is the worst idea the City has come up with. I do not support surface alignment up Centre Street due to increased road traffic. Brutal!	
A train through our central park? No. The answer is obviously no.	
Who is going to ride the south portion from the middle of an industrial park? Not thought through. Build North section first.	
Who cares about less than one block of downtown and the edge of a park, transit is more important people will adjust. C street at grade bad	
Princes island park is barley a park, train will have hardly any impact, other than a whole at the far end, get over it people.	
Bridge is acceptable, however at grad centre street is not	
Condos beside princess island are not even that nice, they already have drug addicts near the park anyway	
All aboard! train through central park right on! do it! great place to get off and enjoy the views, maybe catch a few fish on the way home	
I'll vote for whoever gets rid of that tiny little park downtown. I won't vote for at grade centre street though	

Centre Street - Online
Bridge is an al go from me, at grade centre street no bueno
This makes sense to me. The Prince's Island crossing is over a little-used natural area. I can live with surface transit on Centre St N.
The bridge will ruin the city's most valuable park. The section on 2 St will limit access to residential units and destroy property values.
This is ill-conceived. At grade will negatively impact condos, neighbourhoods, and truncate the park and pedestrian pathway. Don't do it.
Disaster for Calgary with this new proposed alignment for our premier park utilized daily enjoyed by Calgarians. Costs outweigh benefits.
I 100% support the Centre St. north portion being surface-grade: Sunnyside is the most successful C-train station. Let's do the same up here
Surface oriented is the best option for accessibility and inclusive design. That includes bikes and pedestrians of all mobilities!
People moaning about values & condo impact - Look at Sunnyside. Highest condo values in the city with C-train running right by. It's FINE.
To all the people who doesn't care about the bridge and 2nd St ground level: would you say the same thing if you live here?
Residents paid a lot for Eau Claire and Waterfront. Park is enjoyed by everyone. Don't ruin it
I live in SE and don't support destroying park, 2nd St surface and center St surface. Think of others when you say you don't care
Sunnyside does not have the highest condo value. Check your facts
Reply to Satah: So putting a bridge/train through the park is nice?
What city would destroy a Wetlands /Park which is also a tourist attraction and visit by many? No to more surface trains either. Terrible!
Need a stop at 9th to gather Crescent Hts users. Stupid to have to backtrack to 16th.
Do NOT put the Green alone at Grade along Centre Street to 16th Avenue. If you're not going to do something right, then don't do it at all.
Bring back 9th Ave N station! An above-grade train with no stations to benefit local residents and businesses will destroy Crescent Heights.
What city would destroy a Wetlands /Park which is also a tourist attraction and visit by many? No to more surface trains either. Terrible!
No to more grade levels and no to destroying the Park. Pathetic!
Please do not put the train on the surface up Center St. It will be a traffic nightmare. How is crossing 16 ave at grade level a good idea?
Terrible planning. No to grade level on Center St and 2nd St. Stop destroying a beautiful park.
Don't put a train over Prince's island pls.
We need a 9th Ave Station! I am a mom with young kids and it would be great to be able to take the train to the grocery store and back.
Grade level=congestion. Look at 36th. More accidents more deaths too. And no to cutting through the Park. Insane!
Why can't the train go on Centre St. Bridge? The train should reduce car traffic to downtown and we could add a bike lane too.

Centre Street - Online
100% NO to unsitely, noisy train through beautiful Princes' Island Park - a beautiful wildlife habitat enjoyed by thousands of people
If centre st is already down to 2 lanes, why not continue down the bridge? Instead of 2 blocks over through a park and homes?
Please do not put the train crossing over Prince's Island Park. This is a terrible idea
The costs of a tunnel will pale in comparison to the longterm costs to families, children and a sensitive nature for generations to come!!!
Please don't permanently make centre street noisier, uglier, less safe and far less driveable.
\$100,000 per rider? (It will be over \$6B/60,000 riders). Just give those people the \$100k, they can invest it and afford ubers. Forever.
Do not change from original which was inclusive and many years of discussion. Mere weeks for such a huge change is slap in the face!
Putting the train on centre street bridge is even dumber, the reason people go downtown is the office buildings, which centre has none!
Calgary has 100s of parks who cares about one little section of the park filled with drug addicts?
Destroy property values? What are these people smoking it will increase property values, welcome to dense living baby!
I live in those condos, it would be great to have access to other parts of the city. Yes please!
Why can't we just scrap the project altogether since so many people don't want it?!
Cars are the best way to travel, bike lanes and trains in theory reduce congestion but never get used, because driving > trains
Trains are only trouble, look at New York, Toronto, Montreal congested, dilapidated, and antiquated they need more cars!
Wait people actually live in Eau Claire? I would say they need access to better parts of the city thats what I would say to Bobbi
Abolish all property rights and let big brother decide how everything is built comrades!
I have never once seen a tourist in Princes park, no one flies from New York to Calgary to sit in a park in Calgary. Who are they?
My kids love trains, they would be very happy to see a bridge over the park they could play with the train
How many people use the park in the winter for 6 months of the year impact is overstated.
A train station would bring more people to the park, this is a great idea let them enjoy the beauty!
What city would destroy a Wetlands? The same city that put a zoo on an wetland island. No one companies about the zoo do they?
Given the change to street level along Centre Street, it is an absolute must that the plan include an above ground station at 9 Ave-please!
Except for this year, there is skating on the lagoon in the Park in winter and where families skate is 40 feet from the proposed train.
This leg is a waste of money. Putting in a leg with one stop, serving residents that normally walk to work, is an abominable waste of money.
The City has worked on this for nearly a decade and still has no idea how to go north in a manner that will be a net benefit. Drop it.

Centre Street - Online
I believe a 9th Ave station would be beneficial to residents and businesses. Concerned about how the surface level will impact walkability.
1) It should be underground up until the train emerges out of the hill, then cross the bow river using Centre St.
2) If it has to be at grade, then there should be a 9 ave station so people don't have to walk all the way to 16
3) Should use the Centre St bridge, you save costs by not making a new bridge and it doesn't destroy an iconic city park. Please...
A surface crossing at 16th Ave is a terrible idea!! Centre Street & 16Ave is extremely busy. A surface crossing here is not logical.
The SW got a tunnel where the train had to cross Bow Trail. We want the same courtesy and consideration for traffic flow on the Green Line.
What was the point of consultations with stakeholders if you are just going to ignore recommendations. Scrap this albatross.
The North leg with one station and bridge is an incredibly expensive indulgence to get Council votes. Either build the North or SE line.
Why doesn't it go beside Edmonton Trail bridges to service East village where condos were built for non drivers? Don't ruin Prince's Is.park
For long term, the 2017 alignment is much better than the new plan in the Eau Claire, river and Crescent Height area.
Terrible idea to have at-grade train on Centre Street. Will increase congestion. Line needs to be buried. Defer this until you have funding
Having the line at grade on Centre Street is a TERRIBLE idea! The line should be underground from 20 Ave N to the river!
The City propaganda highlights potential benefits and does not seriously identify all costs. Please do a meaningful cost benefit analysis.
If the train has to be at grade through Crescent Heights, then a station at 9 Ave. N is a must. Also the river pathway must remain intact.
Calgary, destroying parks and endangering residents one train at a time... really? Use a tunnel. Nobody takes a train to go sit under tracks
Terrible idea. No to destroying Eau Claire. No to destroying Center St
A bridge at Prince's Island Park is shameful to even consider. Why ruin the centrepiece of the city to have a short-term savings.
Centre St will become a commercial ghetto by making it pedestrian and vehicle unfriendly and presenting an ugly streetscape.
With the updated surface line in the north, I believe there is an opportunity to re-evaluate bringing back the 9th avenue N station
Maybe look for some more funds from private petroleum club lunches to get the centre street alignment underground
A discussion on a proposal to Extend the North Central BRT route due to uncertain economic challenges that are plagued in the west
Think long-term and bury this section of the track. Also, please do not add another stop at or around 9th Ave N.
Green line is not necessary. It adds heavy burden on taxpayers. Alberta's economy is shrinking. Long-term outlook is not great for Calgary.
I am voting AGAINST Green Line. Calgary has a lot more things more critical and important to its citizens than building a new LRT line!
Lots of Restuarants in crescent heights rely on skip drivers, otherwise struggle . need to keep parking during construction and thereafter

Centre Street - Online
90% of customers drive. If we reduce traffic lanes, they will jsut go somewhere else with better access and parking at 13 Ave NW
Surface doesn't make sense. We spent 5 years on engagement to agree on underground. It makes most sense and preserve crescent heights charm
How fast will these trains go? They will be loud and ugly and dangerous. What if someone runs into the road? Will you have barricades?
Landowners will be stuck with property while tenants can walk out/relocate/not renew leases while paying high taxes. Doesn't make sense.
Calgary needs better connection from North to South - can we do BRT for now?
North Calgary already has a BRT, it is full, we need the train more than the south does.
A stop at 9th ave is an awful idea because it will ruin east west traffic
I am all for the green line just don't build the thing at grade on centre street
Why is everyone just magically against the green line now? Special interest groups?
Infrastructure is exactly what we need to stimulate the economy talks about, canceling the project is nonsense
The people that are against are the residents of Eau Claire. And I am Eau Claire resident who will continue opposing to this project!
We invested in our home at Eau Claire because this area is quiet!nNew infrastructure will bring more noise and traffic!
As a resident in Eau claire, I am strongly against green line!! It will bring noise and safety issues to the local community.
\$4.9 billion, which will balloon to a much larger number, is far too much for only 60,000 riders and all the harm the train will cause.
The line needs to be tunneled. Centre Street is already a nightmare, running a train down the middle of it will just make things worse.
I live in Crescent Heights and use Prince's Island Park daily - do not build this at surface grade and do not ruin Prince's Island Park.
If this is required to de-risk the project and increase its chances of delivery, so be it. Hope impact to Center St. express buses minimal.
This stupid idea of building a bridge over the river is ruining our beautiful park and wetland that we are used to so proud of, tunnel pls
An opportunity for Crescent Heights businesses along Centre st. would be to have a stop at 9th Ave.
The Green Line is an essential project to the health of our city—but only the previous plans. Not these ones.
I am strongly against the surface alignment. A surface crossing at 16th Ave would be a disaster. If we are going to do this, do it right.
No to grade level trains. No to destroying Park. Shame on you for planning this. !
Do not ruin the Park and do not have a surface train on 2nd St. Crazy!
Underground only. Do not put a train through the Park. Who came up with this ridiculous idea?!
Surface along Centre will be as bad as a street car in Toronto. But if it has to be surface, then a station at 9 ave N should be do-able

Centre Street - Online
No one with integrity votes to run a train through a park, at a total cost of \$100k per rider, with no real cost benefit analysis. Shameful.
Since the new alignment on Centre St. N would be at-grade, why not include a second station (say, at 10th or 12th St. N)?
Build the thing to Seton! The S.E. part of the city needs to have ready access to the rest of the city. We need access to the hospital
To spoil one of our best park spaces used by all of Calgary and tourists is shortsighted. "User experience" as an excuse is farcical.
IF 16 ave to be surface station then make platforms so that both buses and rail can stop at same place. Bus making better transfer.
I wonder about the numbers . . . 11,000 riders? From my experience there are fewer people coming into the core.
Isn't eau Claire being torn down and rebuilt anyway? Why are these people complaining about a project that will increase property value.
The numbers? Have you seen the buses along C street? packed every day at rush hour. North line would have much more ridership than South
How do people currently get to the hospital without a train? Hospital is irrelevant to train line. Fear mongering at its finest.
1) People acting like a train around Princes Island would ruin the park are crazy. Tons of park have trains in around them in this city.
2) Have you seen any of the parks along the CP rail? The parks along the exsisting C train lines? No one complains about them.
Put trains next to the sidewalks, not in the middle of the road. Transit stations in the middle of the road what are we Europeans?
Traffic is heavy on Centre St, and Edmonton Tr. How does removing 2 lanes make sense!? This also replicate the issues of 36 Street Ne surfac
My idea about the green line is has the city considered building it already. This has been consulted to death. We need this service Build it
List of parks with trains off the top of my head: Shaganapi point Golf, Wild Lands Park, Fish Creek, Glenbow Ranch Provincial park.
Bow Mount Park, Edworthy park, St Patricks Island park, Laycock Park All are very nice places to be!
How is this going to impact rush hour traffic along centre st south of 16th ave? Have there been any traffic impact studies done?
To people concerned about sound. Put a sound barrier on the bridge going over princes island, viola! Let people paint graffiti for art onto
To admires point, traffic south of 16 not a big issue, it is north of 16th that will become a nightmare in the future. 3 lane reversal there
How will the line be transitioning to grade at Center Street from the bridge? How with this impact traffic? Will it be in the west lanes?
I see no opportunities in the Green Line on the surface. It is currently a 4 lane road with a narrow sidewalks and no expansion room.
To preserve the traffic space the line should stay underground but not as deep.
Shame on you for putting a train through a park and mpre grade level trains. More accidents.
How is 2nd St wide enough to put a train at grade level comj g through the park? Feel sorry for the residents there.

Centre Street - Online	
No to more surface trains. Look at 36th. Terrible idea.	
What is economic payback for one stop north of the river? Wait until the whole north section is ready to build before going north.	
No to grade level on 2nd St or Center St. No to going through the Park	
Traffic will be horrible with only two lanes. People will still need to drive and this is a major route out of downtown.	
Calgary needs businesses that generate cash and jobs - one more train stop north of the river will not help that happen - save the money.	
If this can't be done properly, don't bother.	
Why the city wants to rush the downtown section?? No to grade level on 2nd st!!	
Why are going through this again, you had our opinions from forums what we wanted: a tunnel up to Centre St. This is nothing but lip service	
Beautiful mature bald eagle down by the river this morning at proposed LRT Green Line route. LRT means end of the islands wet lands wildlife	
Underground only! No to destroying Park. Who thought if this? Do it properly!	
Do it properly or don't do it at all. No surface level on 2nd St or through the park!	
More surface trains mean more accidents and more mess. No to a train through the park either. Crazy!	
How is 2nd St wide enough to have a surface train coming through the park? Feel sorry for the residents at Waterfront who paid a lot.	
How is putting a train through a Park a good idea? Support underground only.	
See previous sessions. Transit use of the future will not be based on office workers. Build community, tourist transport. Airport connect	
This character limit on feedback is ridiculous.	
Will they actually listen to this forum? Lots of "No" to more surface trains or going through Prince's Island	
Use the underground as much as possible. Spend money now to avoid expensive changes and revisions in the future, plan ahead for once!	
This is ment for future generations. The line has to be part of the community. It can't be seen as passing thru anywhere	
Spend the money to do it perfectly, go underground, no more traffic problems! The people want a good transit system, stop cutting corners!	
Hate 36th already with the train and you are building more? Not wide enough on Center St and 2nd St . Do it properly.	
There is a reason major cities go underground, it's an investment in your city and people so do it right! Sell the blue ring if you have to!	
Shame on you Councillors for destroying a beautiful park when there are alternatives. Ludicrous to surface on Ctr and 2nd St	
Expansion of the BRT on Centre is better & cheaper than LRT via the middle of Centre. Reducing traffic lanes by 50% is unacceptable.	
Stop deleting our comments for this engagement. This is meant to be transparent and you've given us a short time for feedback. Shameful.	

Centre Street - Online	
Transit use wont be for office work are you people crazy? Yes it will why do you think we have offices downtown for people to sleep in?	
Expand the LRT in the North give BRT to the south.	
If you put the trains in the side lanes there wont be a reduction in traffic it maintains 3 lane reversal no stations in the middle of road	
This proposal will devastate the community of Crescent Heights. It will just become a traffic corridor and a congested one. Very poor plan.	
End Green Line downtown and use savings to acquire properties to expand north when money is available. Run the BRT into downtown.	
Running a train through our best park will forever reduce the park's value. The reduced value of the park will cost more than a tunnel.	
Train in the park means park bad. I want park be good.	
I want train. I did not graduate high school if you are wondering.	
Mommy let me have 5 (five) minutes of internet time today for being a good boy, so I just wanted to say with a bridge, no tunnel train.	
No to more grade level trains and no to train over a park. Idiots. Do it right or don't do it at all.	
Ruining quality of living for all Waterfront residents. Underground only!	
Do not put a train in my front door on 2nd St. Shame on you. Ruin a park and the wetlands. All the birds will be gone.	
Why ruin a park by putting a train through it when there are other options? Shame on you councillors. Plan it properly not just the cheapest	
Surface trains=accidents=deaths. Don't ruin a park enjoyed by locals and tourists. Plan properly.	
Putting a train through a park and destroying wildlife is a terrible idea. Do it properly not just the cheapest. No to more ground level.	
Moved to Eau Claire to enjoy the park. Don't ruin it by putting a train through it. And no to more grade level trains. Underground only.	
Don't build a bridge through the park and no to more grade level trains.	
I didn't move to Waterfront so you can put a train in my front yard. I saw an eagle at the Park the other day. No more birds in future. Sad	
Keep the train below grade. Above grade will limit left-hand turns, restrict pedestrian crossings, and turn Crescent Heights into a ghetto.	
Underground only. And don't put a train through Prince's Island.	
Shame on you councilors!! Spent 6 years and came up with a plan to ruin Eau Claire and the park? No grade level trains!!	
At-grade trains will make crossing Centre st challenging, which is already a high-volume route. Could the tracks or stations be above grade?	
It's good to see the City looking for ways to make this more cost effective. Calgary needs this project. Let's get this built.	
Do not destroy the park with a train. Do it right or not at all. Underground if we want YYC to be a world class city	
Why build anything north of downtown at this time? It does not make economic sense to spend money now to basically just cross the Bow!	

Centre Street - Online
Keep the train underground. Don't cross the bow with bridge. Will ruin a lovely park. Imagine NYC saying surface train in central park.
Are we reducing sidewalks to get aboveground rail? Already the sidewalks are narrow and busy and feel dangerous.
More detail on the BRT improvements. Central NW transit is awful with multiple transfers, backtracking on routes to even get to a BRT stop.
The train above ground across the bow river/centre street would turn a one of the most beautiful part of the city to an eyesore
No to train over a park. Crazy idea. Underground only. Do not add more surface trains. Look at 36th. Nothing but congestion
I live on 2nd St. How is the road wide enough to have a train on the ground? Don't ruin the park.
No to more grade level trains. Terrible idea. Why would you want to destroy a park?
If I don't have enough money to do something properly I hold off. Why is YYC rushing this? Underground only!
Eyesore with a train over the park. MORE grade level trains means more congestion & accidents and DEATHs. Underground only. Do it right.
Continual high density expands past Seton Ave. SE despite Deerfoot's horrific congestion, & now 52st SE. Green line to Seton-only 1 line S.!
Please don't destroy Crescent Heights with this half funded, half finished plan. Put it underground, or don't do it at all.
No to above ground on Centre and through park.
No to grade level on Center St & 2nd St. And no going through the park. Do it properly or dont do it.
How can this been called a Greenline LRT when it will clearly affect the fish and wildlife with a bridge over the wetlands? No to bridge!
No to more grade surface trains. No to bridge over Park. Do it right. Make it a world class project. Underground only.
I hope councillors are listening. Seems like barely anyone wants a bridge over Prince's Island or more grade level trains.
I hope councillors are listening. Seems like everyone wants a bridge over Prince's Island and less grade level trains
I moved to waterfront specifically to get access to a train that gets me all around the city
No train through the park and no to more grade level train. Support underground only
Not enough money to do underground then don't do it. Don't do it just for the sake of doing it. And no to going through park. Crazy
Don't have a train going through the park. And no to grade levels.
Bridge over a train is not going to ruin wildlife.
No to more grade surface trains. Yes to bridge over Park. Do it right. Make it a world class project. Underground on C street
How does one more tiny little bridge over the bow affect the fish?
Paint the bridge over the bow no more eyesore

Centre Street - Online	
Why are you rushing to build it when it doesn't make sense? Don't put a train through the park and no to more surface trains.	
I live on 2nd St. I moved there to enjoy the park and have access to CTrain. But not a ctrain in my front yard. Underground only pls.	
Who cares if you are behind on your plan if you can't do it properly. Underground only and no to train through the park. Crazy.	
Eyesore and congestions with more grade level trains. Don't ruin the wetlands with a train. Underground only	
Grade level trains mean more congestion. 36th is all the proof you need. Do it right or don't do it at all. And why run a train through park	
Green line ain't green if you destroy the wetlands. Underground only.	
No to surface trains on 2nd and Ctr. Underground only.	
How can you possibly do a full consultation with all the involved shareholders in a 2 month period, unless this is merely a ruse?	
Doesn't the City need to do an environmental impact study since it is now planning on running a train through wetlands?	
we're absolutely against the at grade idea! Eau Claire has always been a quiet area, this is what residents paid for! touching wildlife is in	
Please consider other options. No to surface trains. No to Prince's Island. Hope Councillors are listening.	
Moved to waterfront for the park and the surroundings. Now it's all gone. Why are you putting a train in my front yard! Disgusted!	
No to more grade level trains. Underground only. No to train over Park. Plan properly.	
Councillors will do whatever they want. This forum is nothing but a ruse. No one wants more grade level or bridge over park.	
Pls do not let a train over Bow. All the birds will be gone. Park enjoyed by locals and tourists. Don't ruin it.	
Do not put a train through our central park. Do not damage our park.	
No to train over Bow. Who came up with the idea and who approved it! Shame on you.	
Say no to grade trains & go underground! We moved to Cres Hts to enjoy the quiet neighborhood and natural beauty. Do it right or don't do it	
This alignment is needed to advance the project. The traffic impacts to my commute down centre st. will be tough, but they are worth it.	
Ridiculous you are putting surface trains on Ctr, 2nd and through a park. 36th has multiple lanes with ctrain in the middle but still a mess	
Underground is the only way to go. Don't waste \$ if you can't do it right. And a train through a park? Ridiculous.	
Station between downtown and 16 Avenue N for the Crescent Heights & Renfrew communities (9 Avenue N?) and alk-ability focus W/E of Centre St	
I think that a bridge over prince's island is a very bad idea and will ruin the "oasis" that it is. Stops should be added at 9th & 22nd aves	
Tunnel under the hill on the North Side of the bridge to keep the train underground up centre street through Crescent Heights.	
Underground only and no to bridge over Bow. Didn't move to Waterfront to have the City destroy it. So ANGRY!	

Centre Street - Online	
Use Ctr St & 36th all the time. Create more congestion on Ctr with train. Hate 36th already. Disagree with bridge over the Park too. Crazy.	
I moved to Waterfront to enjoy the park and its serenity. I paid a lot for it too. I don't want to see a train when I step out. Underground!	
There's barely enough room for 2 lanes on 2nd St by Waterfront. Now you are putting a train through it? Underground pls.	
I live on 2nd St. Don't want a train in my front yard. And why would you ruin a park and the wetlands?	
Is City actually listening? Seems like obvious NO to more grade level trains or through Bow. Only seems to be concerned about getting 1/2	
2/2 the project started. Sad. Do it right or not at all. Support underground only	
Why the rush to start when it seems many object to over Bow and surface trains? I support underground only.	
Kyle & Larry: I think this forum is a farce. City will do whatever they want even with so many objections.	
downtown doesn't have the infrastructure to block another road for c-train; will create havoc to traffic resulting in more delays & accident	
Bring the downtown portion onto street level and cross the river with a bridge is a BIG mistake. Stick to the origin approved 2017 plan.	
Stage 1 alignment to have downtown rail and station at street level will create the problems we seen in 7th Ave and 36th St. NE x 10 times	
An overhead train would disparage a landmark public park. PI Park is a gorgeous and important area. The updated plan is disparaging and ugly.	
We need confirmation that all feedback is actually taken seriously.	
Use self driving vehicles which would be less expensive and more in tune with the future	
At-grade through Eau Claire/Prince's Island instead of underground only saves \$125MM on a \$5B project. Defer until you can properly fund it!	
Very much against the above ground portion through Prince's Island	
Wait until you have enough funds to do underground. Do it properly and make it world class. Why rush?	
Shame on you for destroying Park and creating more congestion with surface trains!	
My view now when I look out is a train. Disappointed & angry. Hope city is listening.	
City only cares about starting this project. They are already saying they are behind and need to start. They don't care about our objections.	
In no World does it make sense to ruin a beautiful park like Prince's Island, with an overland train track running right through, go Tunnel.	
No to train over Bow! No to grade level on Ctr & 2nd. Insane idea.	
Pls do not put a train on 2nd St or through the park.	
4.9Billion\$+6 years of planning for a train over a park to endanger residents, property, future development and devastating wildlife? Crazy!	
The City website is biased; the City highlights potential benefits of the train but does not address the harm the proposed train would cause	

Centre Street - Online	
Strongly opposed to above ground. Save up for the approved project or don't bother, buses on Center work well & don't cost \$5 Billion.	
Stick with the original plan of tunneling the entire section. Don't succumb to what a few rich guys want who will never use it.	
Centre Street should ban all gas vehicles and be dedicated to the train, bicycles, scooters and pedestrians only, for a greener inner city.	
Too many traffic problems on Centre St. if LRT is above ground. Possibility that traffic will overflow into residential areas.	
Classic City of Calgary planning. Revisions are poorly planned. Will be a traffic nightmare.	
Please do not run the LRT at Grade along Centre Street North, this will destroy our community. Tunnel or don't cancel it.	
Please tunnel along Centre Street North up to at least 40th Ave. 36 Street NE is an absolute nightmare.	
Please do not destroy our best city park by putting the line through Prince's Island. We need to preserve Calgary's greenspaces!	
Build tunnel underneath Prince's Island Park as orig. 2017 alignment. Do not destroy the nicest park in DT YYC. Think about the future.	
Underground only! No to destroying Park. Who thought of this? Crazy! Do it right or not at all.	
Originally the c-train was to go underground on 8th Ave SW. Saving money we did the botch up on-grade down 7th. Why repeat that mistake?	
Building over the princes island park wetland is not worth the cost savings. This wetland is a huge resource to the downtown area.	
Station at 9th Ave will bring noise, litter, crime, and congestion to the area, which will damage the residential quality of life in Cr Hts.	
I love the idea of being able to stop at princes island! Great idea I am all for it	
Bridge or bust!	
Chuga chuga choo choo all aboard what a great plan! However I think the North portion should be built underground not surface grade	
Wow I am In love with this plan! However I agree with the other comments. Train should be by the curb on centre street not on centre street	
I agree train should be by the curb not in the middle of the road. Not like anyone parks on c street anyways.	
People complaining about a bridge over princes are not engineers. They should listen to more educated people.	
Trains increase property value, especially in urban settings, like Eau Claire	
Electric vehicles do not feed all that farmland we have! More gas, gas, gas, gas!	
Tunnelling under a wetland is a recipe for a leaky tunnel that costs way more than it saves! Look at New York when it rains!	
The Person is biased; the Person highlights potential downfalls of the train but does not address the benefits the train would cause	
Look at all the parks in this city with a train near/through them no one complains about them bridge or bust!	
At grade C Street is a weak idea. We don't live in Europe. I moved away from there for a reason! Bad public planning cities too old!	

Centre Street - Online	
You cant tunnel 2 feet under a river bed, if you did it would cost significantly more than \$125 million.	
Why the rush to stop when it seems many want a bridge over the Bow.	
Sound proofing and a nice paint job no one will notice	
Run a train on me baby!	
The current alignment is the perfect opportunity to destroy communities, traffic flow, tax revenues and watersheds!	
A station around 9th Ave N would be ideal benefiting teachers/students to Crescent Heights High School and others to local businesses.	
End phase one line at downtown. Do not build a bridge across the bow. Build a tunnel as part of phase 2 on centre st.	
If you are not doing the tunnel, and eliminating lanes on Centre Street, do not bother doing this portion. Wait to do it properly	
Pls do not build more grade level and no to bridge over Bow.	
Bad idea with a train over Park. More surface trains mean more congestion. Center St & 2nd St is narrow already	
I live on 2nd St to have access to the Park and enjoy the serenity of the area. Pls don't put a train on 2nd and the Park.	
Putting it on street level does nothing to improve accessibility. Don't destroy prince's island with another bridge.	
Don't destroy the park with a train and don't add more surface trains.	
Surely underground solution is less disruptive to wildlife, environment, & residents? The cost savings seem limited given the implications.	
Don't damage park. Please.	
Tunnel is an opportunity to preserve the park, and not disrupt street level traffic, and be a "World Class City"	
Tunnel is an opportunity to preserve the park & river, and not disrupt street level traffic, and be a "World Class City"	
Surface along Centre is a bad idea. Keep it underground until before crossing the bow, then cross BESIDE CENTRE ST (AND NOT ABOVE THE PARK).	
More surface trains mean more congestion. Even worse to have a train over Park. Destroy wildlife an enjoyment for all.	
We should keep the tunnel - the negative impact on the environment and atmosphere of the River is significant. This RE-alignment is bad.	
Pls do not put a ttrain through the Park. Underground only or don't do it at all.	
Pop up at the Home&Garden Show this weekend would have made a lot of sense. Reducing cars to two lanes on centre will be your nightmare.	
Ignore the tunnel comments. Bridge will go over most eastern portion near centre street bridge. Under river is a recipe for disaster.	
Instead: two lanes devoted to regular bus traffic would accomplish almost exactly the same thing at minimal cost and environmental impact.	
Terrible idea to have a surface train on Ctr St. 2nd St coming out of Park narrow already. Underground only. And why destroy Park w/ train	

Centre Street - Online
Green Line project is a sham and should be scrapped ASAP. I have no confidence in The City's ability to manage project schedule and budget.
Bow River Crossing plan is extremely concerning and will greatly impact park enjoyment. Please go back to Approved 2017 alignment w/ tunnel.
The new design is horrible! Put back underground; preserve beautiful PI, and leave Centre for cars/buses. Put your citizens first!
create underground system or let bus service run through Center Street. Don't waste money on impractical infrastructure for future
Don't destroy the park.
Do not ruin a beautiful park and the wetlands. All the birds will be gone. Terrible idea.
Love above ground LRT through Crescent Heights. Will be great for having people stay and shop from one end to other-but we need a stop at 9
should have stop at 9th ave and Center st. Train should not stop at 16th ave
No to surface trains through park or 2nd St. Underground only
Crescent Heights already suffers from a significant volume of cut through traffic and this will make the problem much worse.
Avenues that dont have traffic lights to moderate traffic should be closed as they are elsewhere in the neighbourhood to stop cut through.
Crescent Heights has a problem with people using streets in the neighbourhood as free downtown parking which will be exacerbated by this.
Do not put a train through Park. No to surface trains on Ctr and 2nd St. Nothing but congestions and why destroy wildlife!
Absolutely horrible change in design. Keep the LRT underground through Prince's Island Park. No one wants a bridge. Disgusting.
I live at Waterfront. Pls do not put a train through the park or grade level trains on 2nd. Didn't move there to have a train in front yard.
Melbourne Australia has LRT trains that can become buses in congested built up areas/ go on track to zip to outlying areas. No hollowing out
Wait until you have enough funds to do underground. Do it properly and make it world class. Why rush?”
Pls do not destroy Park and wetlands with this plan. Underground only.
Terrible idea to have a train through Prince's Island. Why destroy it when other options are available? No to grade levels on Ctr St.
Horrible idea to reduce lanes on Centre Street.
Having LRT running North to the Airport is very important to encourage Tourism in Calgary (major resources to our City)
Did we not learn anything from the train line in the northeast? How many people get hit by the train or vehicles that stop on the tracks?
Street level trains are not a feature of world class cities. Adding more street level trains is not forward thinking
Don't understand why City wants to build more surface trains and destroy the Park as well
If the City wants feedback it would set up a booth at the Park. But reaction will be close to 100% negative, so the City won't do that.

Centre Street - Online	
Doubt if City cares what this forum is saying. No to more surface trains and no to destroying Park!	
Bring the train to East Village , Edmonton Trail instead of going through Ctr or Park.	
Ths Sky train in Richmond BC is the ugliest thing. Still blocks visibility even high up. Underground pls.	
Well planned assault on the public- dead of winter with no park goes to petition in the 6 week timeframe- you wont dare this during summer	
No to bridge over Park and no to surface trains on 2nd St.	
I think the low floor train would work well on centre street and would improve business accessibility.	
Make the area more useable for pedestrians and cyclists and attract people to the area for business, dining, and entertainment.	
I worry about impact to the park; Prince's Island is a wonderful space. Will the surface level trains eliminate car traffic on Center St?	
I like that this new plan makes the Green Line more cost-effective and therefore more feasible to build given Jason K's attitude to funding.	
Taking away 2 lanes in the middle of Centre Street is extremely short-sighted and will severely impact local communities.	
Keeping walkable access to the businesses on center. Will bus stops be kept near or where they are for business access?	
Why are we doing this if the city had no money it makes more sense to have a dedicated rapid bus route or an express bus to downtown	
Please do not build the bridge over Prince's Island, thereby ruining an area v dear to me, and a valuable civic gem and tourist destination	
The plan should strive to reduce traffic volumes on 12th Avenue in accordance with the Area Development plan.	
Dumb idea to run a train through a park. Underground only. 2nd St too narrow already. Nothing but congestion with train.	
I live on 2nd St. I did not move there so City can put a train in my front entrance. Underground pls.	
If you can't build it right under low budget, don't build it. Taking lanes away from Centre street is so short sighted! Tunnel only.	
You would be able to see and hear the train throughout much of the Park. What a lack of leadership, vision and competence. Terrible idea.	
Why is the City destroying Park? Destroying Center St and 2nd St. Waterfront just finished. Feel sorry for the residents.	
Running the train through Prince's Island is an awful outcome.	
Look at all the parks in this city with a train near/through them no one complains about them bridge or bust!	
I am all for this design lets go already.	
Great design but put the at grade next to the curb on the road not the middle. Less money to build transit stations, less traffic disruption	
I am okay with this plan, however I would like to see the centre street portion underground	
Eau Claire is a trashy area building the train there is the best possible idea.	

Centre Street - Online
People are overestimating the damage a bridge would do over the park.
City is showing great leadership for this project, I am all for it. However running at grade C Street is not the best longterm idea.
Princes island is not even that well used. World class? what are these people going on about.
Underground trains make more noise than at grade trains because the ground is denser than air. Density = better sound transfer
Putting the train under a river was always a bad idea ask Newyork how it worked out for them!
Absolutely no on goes to a city and thinks wow I can take the train downtown. People living here are the ones that use infrastructure.
2nd street is the perfect place to put the train, it defiantly allows for proper access to downtown.
A train station by eau Claire would increase access for the rest of the city to use the path network by downtown great idea!
LRT is a Calgary project that Calgarians will be using who cares about the tourists.
Why would we wait to build the project we have the funding now and a reasonable plan to get it built.
Laycock park has a train beside it no one complains about that park!
This will finally let me have access to other parts of the city.
Councillor Godnick has no idea what she is talking about. Train is a better idea than the BRT system. North central already has busses
Putting the LRT by the curb will improve passenger safety, and reduce traffic impacts by reducing pedestrian crossings.
The city will never be able to afford a tunnel under a river just ask New York how it works for them when it floods! Massive damages=bigcost
Don't build it like Ottawa. Most expensive under-utilized transit system in North America. We need a Ralph Kline in charge of this project!
Putting the train by the curb will reduce traffic impact as curtsied lanes are mostly for turning/ busses etc.
Seriously European LRT is so poorly designed because they put it in the middle of the road. Too much pedestrian problems.
We would all much rather see the LRT built cut and cover going up C street too much disruption for not enough benefit going at grade.
Crossing the street to wait at a station in the middle of the road is scary I don't want that. Causes too much traffic disruption as well.
If you build the LRT at the curb you can basically use existing bus stations as LRT stops. AND the best part you don't need to cut lanes out
Bad decision to deatroy the Wetlands when there are other options. No to more surface trains. Can't stand 36th already. More congestions
Streetcar-style LRT, with good pedestrian access, wide sidewalks, trees etc. Need station at 9th Ave to serve local businesses and residents
Could divide instead of unite communities. Won't benefit neighbourhood businesses, students, residents if no stop before 16 Ave. Traffic.
Every year someone dies from getting hit. Remember the little kid? 1 too many when you can prevent it. Either underground or don't build it.

Centre Street - Online	
Reduced lanes on Centre St. will push traffic to Edmonton Trail, which is already dangerous for cyclists and pedestrians.	
No to more surface trains. 2nd St is too narrow already coming out of the park.	
Centre St N needs to be tunnel - narrow street, business access. Surface will divide community, unsafe for peds. Do it right the 1st time	
Moved to Waterfront for the Park. Not for a train to go through it and coming to my front door. Underground pls. Invested a lot for my condo	
Crazy to put a train through a park and destroy the area. Underground only.	
I'm concerned that a train at grade on Centre St will push car traffic to Edmonton Trail, which is very dangerous for pedestrians.	
No at grade LRT line. Underground only. 36st is a disaster. Center would be worse as it is a direct route to downtown.	
While the tunneling machine is underground, can we save money by tunneling most of the eventual route? Just build what's needed now.	
100% NO to train through Eau Claire's Prince's Island Park.	
Some internet ghostwriters have invaded the forum and made nonsense comments such as building bridge in park and in trashy Eau Claire area	
It's a congested high density area already so a train passing through compounds that. It should be a tunnel through crescent heights	
I am very concerned about pedestrian and bike crossings on Centre St with an at grade train. It will divide access between Crescent W & E.	
It will destroy walkability (witness 36 NE). Major East/ west traffic disruption. Unsafe for pedestrians. Use BRT until can build tunnel	
Having a surface line will take up most of Centre St, causes noise, and is more dangerous, especially a surface crossing of 16th Ave.	
Forget train. Large 75 passenger gondola like Europe. Posts not tracks. Car every 5 minutes, , no traffic/pedes. issues & weatherproof	
https://www.thepetitionsite.com/en-gb/886/932/085/yycgreenline/	
Taking away two traffic lanes on Centre Street to accommodate the LRT is completely unacceptable. Put the LRT underground or cancel it.	
https://www.thepetitionsite.com/en-gb/886/932/085/yycgreenline/	
I hope the City is paying attention to this forum Seems most are against grade level and destroying Park. Underground pls.	
Pls do not put a train through the Park. Streets on 2nd & Ctr St too narrow to have a surface train.	
Underground. LRT at-grade along a major highway is absurd. 16th is a thoroughfare for many heading E&W.	
A station is needed at Centre St. and 9th Ave to serve businesses, access Rotary Park, and high density housing (apartments near Rotary Park)	
Concerned about safely crossing Centre Street to access the high school. Centre St, Edmonton Trail and 16 Ave unsafe for pedestrians	
This will increase traffic on Edmn trail, which is already far too car-centric. Plan needs a stop between Memorial and 16th!	
Total incompetence proposing above ground through Prince's Island, the river walk and 2nd Street. Wake up!	

Centre Street - Online
Some internet ghostwriters have invaded the forum and made nonsense comments such as not building bridge in park
How did this project get federal funding without having a detailed plan already in place?
Do not ruin Prince's Island with a train. Underground only. Wait until there is enough money.
Calgary's cold weather and poor transport force a driving culture. Now you are trying to force us onto a train that goes one stop...
Walk 18 blocks to wait at Centre st bus, to change at 16th Ave for greenline, this is inner city living/commuting

Centre Street (In-Person)

Centre Street (In-Person)
Prefer side-turning on Centre St. Seem to make more accessible stations, more integration
There is an opportunity to make it better for cars and pedestrians to cross centre street (E-W) with less N-S traffic
If surface have cars share train lanes
Continue buses in north add more buses on existing roadways
Side Running Train enables no formal stations just the sidewalks
Keeping the train over by deerfoot could create an opportunity to connect the residential areas to it by bus
Integrating into the community will be critical to make this work. Residential movement is so important here
Could there be a stopping point around 9th, instead of a large station? It's an important stop area, but with limited space
We may need to add east-west traffic calming which be a necessary pain in the butt
Need a tail stub Need space to stack trains No space at 16th will impact the highway
Query: why a five-block long tunnel under 11 ave south but at-grade on Centre Street North
Not in favour of a ninth avenue North station: 16th Avenue Station can adequately serve CH + two stations would eat up too much of Centre St North
The next 10-15 years will be a huge bottleneck in the area around Crescent heights
I do not see who this helps; especially in the Crescent Heights area. It seems like this is <u>just</u> to build a train
Very concerned with hearing train noise near our park in Crescent Heights throughout the night.
The lost vehicle traffic will be very negative for a lot of the local businesses i.e. lost customers

Centre Street (In-Person)
The Centre St bottleneck will deter people from going downtown at a time when we want them to go downtown
Around our home in crescent heights all our kids activities require driving, not a train. This will make it more challenging for us
9th Ave Station promised to community by councillor
If deerfoot is closed everyone goes Centre
I live in Crescent Heights now and I already have a hard time getting home from work now. Removing the traffic lanes will make it so much worse
High property tax area but ZERO transit value
hearing/seeing the train from my son's park ! (rotary)
Same amount of weekend traffic with less space = more congestion
decrease in property value (\$1.0 MM +)
16TH AVE IS ALREADY <u>CRAZY</u> !!!
No ridership for train on the weekend. Not used outside rush hour
9th Ave station increases crime in area (which is already bad)
BRT - How many lanes will it take If station is there width will not accommodate
Look back to the feedback already received Surface won't work
lost sidewalks on centre street (appropriation)
Crescent Heights residents would not ride the train - A LOT LOST for nothing
People here are both keen on a 9 Ave station, but also wary of it. Due to potential for crime and vandalism
The traffic will become very congested on Edmonton Tr, 4th, and side aves like 12th
Increased property values!
- Prioritize adding station at 9 Ave N - Provides access to Crescent Heights residents who are currently ignored
More viable density to support awesome small businesses
Need pedestrian + bike access to LRT bridge over the river valley. Most people who live here <u>walk</u> downtown. Pls make this work for our community
More vibrant street, less imposing for pedestrians
Having a train from here to Beltline will be a great advantage. Now I pay #10 - 12 for an uber
Could do a lane reversal on Edmonton Trail to help with traffic
Low floor design doesn't take as much space as typical trains

Centre Street (In-Person)
Bringing more business outside of downtown to centre
opportunity to add more cycling capabilities with less traffic
Better and more inclusive mobility
The crescent heights are should receive significant investment in streetscape + urban design. This will only be good if this is the "showcase low floor" example
make centre st easy + safe to cross
the stations must be where people want to go + where there is easy access. An example of bad access is the station "near" chinook mall'. Please take the time to do this right
Want to know how traffic entering and exiting downtown will be accomodated with 2 fewer lanes
bring back the 9th ave station please. 16th ave is at the far end of our community so I can't see all of us walking north to go downtown
Centre St between Samis Rd & 7th Ave is very narrow, only 1 sidewalk. How can the line fit?
With the train on the street it will "takeover" the street. It will limit access to the places on Centre St by creating a barricade down the middle
Does this make sense for something that is so long term - reconsider this investment
Look back at traffic data from when Centre Street Bridge was closed 14th + Edmonton Tr were choked
Consider going from bridge into bluff and under center street
Concern - will swing into park because of needed space + avoiding houses
The noise and visual impact will be imposing
1) In favor of a 9th ave stn providing adjacent businesses aren't impacted 2) with reduced roadway space on centre, a concern is higher volumes on edmonton trail
How does it work when c-train connects with centre?
Don't lose businesses on Centre Street
There is no value to me, living near 9th, to have a station at 16th. It won't be easy for me to get on, and won't add to the business environment here.
Hoping for arrival of greenline on the west side of centre opposite samis road versus cutting through Centre A St NW
CHCA spent many, many volunteer hrs initiating a traffic study years ago. We eliminated a lot of cut-thru traffic. Can we be sure these calming issues will be up-held to keep our neighborgood kid/dog/walker friendly?
There will be an assumption of no parking around Centre St. and that will be bad for businesses
Edmonton Trail impacts with traffic
Adding a bunch of wires along the top of centre street will not help beautify the area.
Need 9 Ave Staton!! 9 Ave is more central to many businesses, 16 ave is a dangerous intersection

Centre Street (In-Person)
I don't see the value in stopping at 16th. It won't help get train service in the north
Added stress to Edmonton Trail
If there were a station at 9th I would be concerned about crime and decreased property values in the area
If you are so focused on budget you end up with something unworkable better not to do it at all
Radius of turns while they are climinb is a concern - can they do the right grade
Used to come to surface at 24 - buying properties to widen it - what happens to properties from connection to 24th?
Choke point which will require <u>properties</u> makes more sense to go under center
Is it a trolley type of train? How does it function
LRT won't remove vehicle traffic - it just facilitates development in suburbs
16th + Centre barely works now it will negatively impact the #1 highway
want the green line + public transit but don't screw up traffic on centre
Learn from our mistakes -> surface C-train crippled traffic west
Want centre street to be inviting to peds & comfortable to cross
Want train on centre street, make sure communities still are connected
HOW DO YOU ACCESS BUSINESSES ON CENTRE STREET THEY WILL BE TOUGH TO GET TO
Shortcutting through private roads will be only option - not sustainable
16 AVE DOWN CENTRE IS CRITICAL FOR MOBILITY LOTS OF DRIVERS
Concerned about traffic backup on centre st bridge due to train exiting to bridge.
MIXED MESSAGES PUSHING BUSINESS DEVELOPMENT AND THEN MAKING IT TOUGH TO ACCESS THEM
With signalization stopping traffic for train will make it even worse Rush hour will be undoable
No benefit to the north - just stop in Downtown 7th Ave until you can go further north
North first they have the population + need
keep the 2017 plan + wait for funding to do it right
In favour of starting in the south
Do a better job of explaining - things like why the budget only covers 20 km
You need to make sure it's convenient

Centre Street (In-Person)
Prioritize transit to airport
People don't walk to stations where is the parking
Economy has works for Europe here not enough density
Economy has shifted - train should be delayed until we know if we really need it
Is there enough money for operations + maintenance
Consider going on a parallel street + not centre
drill into side of hill + go under centre + come up at 20th
slow/reduce traffic, make it more walkable + pedestrian friendly
Good idea to put a station @ 8 ave or 9 Ave near Crescent Hts school
Why not Edmonton Trail? More density for ridership
Revisit grade separation of traffic on Centre -> willing to accept (prefer) cars on same lane as train
Can traffic be on LRT lines? Have them work together
There needs to be a benefit to people in Crescent Hts. Should not be a "all pain + no gain" - need a station
Side Aligned Makes more sense for safety. Better for distracted pedestrians to not have to cross traffic to platform.
Cheaper to go surface at 4th St + use money for underground on centre
Input on criteria is needed
Lean from Sunnyside don't go on the main street if you go surface
Station should be north of 16th Ave and underground
Underground makes more sense in crscent heights than in beltline
Long term impacts - there needs to be more time
Desnity makes it difficult to park already without transit it will be not possible w/ 16th Station
mobility doesn't seem like it will work with surface on centre
Green Line as is is of no value to community without a 9th Ave Station
CENTRE STREET IS ALREADY SO CONGESTED
end at Ogden. Use regional train systems to get to Airdrie/Okotoks/Strathmore
Do the hard stuff FIRST. Build Ogden to North. Higher ridership along Centre Street N.

Centre Street (In-Person)
UNDERGROUND CENTRE ST IS CRITICAL
Centre St is major artery Can't become 36 ST Mobility acces to downtown is vital
Community is already divided this makes it worse
Go back to high floor trains + use existing bridges
THIS IS CRITICAL TO GET RIGHT
Prince's Island is a special part of the city. Make sure it's not ruined
Another Bridge created issues: life safety for rafters, disruption to river ecosystem (fish, birds, etc), fisruption of river flow -> erosion
What are the grade differences between centre street + new bridge?
Safety of underground stations an issue in the downtown.
Consider crime aspects - terrible downtown - who wants to go to underground stations downtown
water table makes this problematic
100 million should not go to BRT use it for LRT
Pick one buses or trains not both
don't double up no brt + lrt in same place (16th - 6th)
Laybys for buses required
BRT MAKES SENSE
<p>a) How steep is the grade of the proposed bridge over the Bow vs. The Centre St bridge grade?</p> <p>b) Can we revisit the Centre St at grade to be unseparated from traffic, similar to Toronto streetcars or other cities, where cars/buses can follow the train on the same lane?</p> <p>I'm concerned that the decision was made to drop the tunnel under the bow after consultation (months) with thousands of Calgarians who knew the cost would be higher + construction would be more complicated and were willing to accept longer phasing for the project.</p> <p>Comments/Queries Regarding Two Important Segments of the Centre City Stage 1 Green Line, and Three Very Important Intersections</p> <p>Where to Tunnel, Where to Run At Grade</p> <p>In the updated stage one alignment, it has been asserted that the 11th Avenue SE segment needs to be below grade to effectively pass under McLeod trail (northbound and southbound at 2nd and 1st Streets SE intersections, respectively).</p> <p>The updated at-grade configuration for Centre Street North at 16th Avenue is equally as sensitive an intersection as McLeod Trail SE, but currently contemplates a future at-grade intersection for the very busy roadways of Centre Street North and 16th Avenue, the Trans-Canada Highway 1.</p> <p>Why is 11th Avenue SE segment to be tunneled (cut and cover) under a one-way roadway in a wider right of way, but Centre Street is at-grade in the narrowest segment of the North Green Line corridor?</p> <p>Why could a segment of this tunnel not be reversed: a tunnel in the key segment of the Centre Street</p>

Centre Street (In-Person)
<p>corridor and run the train at grade for the less sensitive portion of the 11th Avenue SE segment? That is, take the 11th Avenue SE below grade where it needs to go below (at McLeod Trail but at-Grade from 6th Street SE to a portal east of 2nd Street SE (McLeod Trail northbound).</p> <p>Again, why a tunnel under several blocks of 11th Avenue SE, but an at-grade alignment on Centre Street? For two of the four long blocks between 6th Street and 2nd Street SE in the 11th Avenue Corridor, there is NOTHING along the North edge of the 11th Ave right-of-way but the CP Rail track and way. In Crescent Heights, there is a vulnerable residential community on both sides of the Centre Street corridor from 7th Ave North to 16th Avenue North.</p> <p>Consider the comparative distances:</p> <ul style="list-style-type: none"> • 6th Street SE to McLeod Trail (northbound) along 11th Avenue SE right-of way is 0.7 km • 7th Avenue North to 16th Avenue North along Centre Street North right-of-way is 0.8 km <p>It is suggested that a portal on Centre Street, South of 7th Avenue North, would be the least disruptive location for such a portal in the surrounding residential community.</p> <p>Respectfully Submitted, [Personally identifying information removed] Crescent Heights</p>
Prefer side-turning on Centre St. Seem to make more accessible stations, more integration

Bow River Crossing (Online)

Bow River Crossing (Online)
How will the bridge reconnect into Centre St N in an unobtrusive manner or without causing southbound traffic interruptions?
Fine with this portion, as long as prince's island is not destroyed completely.
A bridge can be done well, but make it look nice please! It more enjoyable for passengers too.
You are killing the Jewel of the City. Prince's Island Park. Way to go.
Please incorporate wide cycling infrastructure on this bridge. This is a major pedestrian route.
Do not destroy our green oasis in downtown! No design will make justice to the damage done to nature. Save this place for future generations
The island is the nicest park we have in this city. Let's not stick a train bridge in top of it for the benefit of saving some cash now.
This alignment will likely destroy the beautiful wetlands area at the end of Prince's Island as well as the greenspace on the bluff :(
Please spare the natural area on Prince's Island!!! We don't need to parallel existing bus/lrt lines.... start North green line at Banff Tr?
Destroy the park no one uses it. All other alternatives are bad ones.
A bridge over prince's island would ruin it

Bow River Crossing (Online)	
Bridge needs to minimize impact on the park and the pathway system. Design is going to be key & needs to be high quality	
This could be similar to "Kensington" LRT bridge so I see it as a good solution.	
Great cost savings idea. Calgary is GOOD at building bridges over the river . We have NO really great experience tunneling under it!	
Putting the train at surface along 2nd St is a short sighted solution related only to cost and will leave terrible legacy, put it underground	
Complete it now via bridge.	
Bridges can be made nice and would go over a tiny part east side of the park. Park being destroyed is fear mongering. Stop the NIMBYism	
Would like to see a new rendering video showing how things line up. At grade crossing at Centre could be tricky	
more transparency; how much does the crossing reduce the project? What is lost compared to the tunnel? This option cant be better? Can it?	
Terminate line at SAIT or Bridgeland station. Riders transfer to DT line or walk to MAX Orange stop.	
Lower cost and risk of bridge vs tunnel is understandable. Please minimize impacts to the Park and river pathway.	
To build a beautiful bridge that compliments our city and not a concrete lump like the 17th Ave BRT Bridge. Calatrava should make it.	
It would be great if the aesthetic of the bridge matches or echoes that of the Peace Bridge, adding to Calgary's distinctness.	
Having the train above grade over two prominent green spaces is absurd. Princes Island Park and the Memorial Stairs will suffer from this.	
A bridge over Prince's Island Park is counter-intuitive. When was the last time you spent time under a bridge in Calgary... #allaboutmoney	
The bridge is ok idea. Dont waste money trying to make it "beautiful". Just make it functional. Save money for other things.	
Bride will be impactful to sensitive area, so make the bridge special and as un-disruptive as possible to be architecturally attractive.	
Implementing this portion of the line commits Calgary to a bad design for political reasons. It should not be completed.	
The effects on wildlife and wetlands will be severe. User experience of Prince's Island Park will suffer. It is the only green space in DT.	
Affects culture and arts projects at Prince's island. Noise would affect Shakespeare on the bow, folk fest, etc.	
A fundamental change to the peaceful nature haven created in downtown with negative implications to wildlife and property views. Horrible!	
Tunnel is too expensive, so a bridge is a good compromise. Given that it will be on the east end of the island it shouldn't be disruptive.	
"Options: West of centre street is a park where kids play.	
East of it-no park.	
Who in their right mind would allow the currant proposal?"	
The proposed crossing will negatively impact Prince's Island Park. Please go back to the previous underground river crossing.	

Bow River Crossing (Online)	
Do not have the Green Line cut through Prince's island park. It will wreck it. Place it along the existing Centre St bridge or underground	
It will absolutely ruin the Prince's Island, Bow River, Riverwalk experience. The design must be sleek and fit with the park.	
Align the bridge closer to existing Centre Street Bridge to avoid ruining the experience and views of one of the best parks in Calgary (PIP)	
Local traffic, downtown rush hour traffic, pedestrians, park users, and bike path riders need to be accommodated.	
In the winter transit buses tend to get stuck going up Centre Street hill. How will a c-train manage the steep incline?	
This line belongs underground, having it go through Prince's Island is a terrible compromise. This needs to be done properly, not cheaply.	
The north leg from downtown as surface is awful all the way around but the bow crossing is the worst. I hate everything about this idea.	
No. More. Bridges.	
Impossible to minimize impacts on views, environment, and the park. You are putting in a bridge with a train crossing it.	
Idea below great, have bridge east of existing centre street bridge.	
Too damaging to Princes Island Park. Put bridge east of Centre Street.	
P1- The planning and design objectives need to be updated. It is missing the most important criteria. Lower cost. Cost savings. Reduce cost.	
P2 - The biggest cost savings of them all is to not do the project.	
Running a bridge over Prince's Island will ruin a large portion of the park, and one of the most pedestrian friendly areas (Eau Claire)	
I worry this will ruin prince's island park and the bow river pathway for pedestrians and cyclists	
The park is going to be destroyed and the Eau Claire TOD buildup is going to be atrocious if this is half underground, half above grade	
Utilizing Centre Street Bridge seems like an obvious money saving opportunity. Saves Princess Island too.	
"Sink it (tunnel) or swing it (east of Centre street)	
Avoid that park as the costs of a tunnel will pale in comparison to the devastation!"	
Don't pave paradise and put up a C-Train. Has the City calculated the reduced value of the park as a result of running a train through it?	
On a quiet day, stand a block away from a C-Trian station to understand the noise pollution a train will bring to our Park and Riverwalk.	
Running Green into downtown East of Centre St is a great idea. GL doesn't need 6 stations downtown, one good transfer point and out the east	
Project should maintain the tunneled portion, or wait until funding is available to do the work correctly.	
Ruining the only large DT park and established wildlife habitat we have. Destroying future options to make Eau Claire a real gem!	
Please do things right. The legacy of the above ground LRT (Stephen Av to 10th St) still impacts the commute from the west. #iameauclaire	

Bow River Crossing (Online)	
Shortsighted! This will be permanent blight over Princes Island park for the sake of cheapness and mediocrity. Do it right or not at all!	
What about the impacted residents? If cost is an issue, the residents will be screwed and sent packing. Thx City of Calgary! #iameauclaire	
1) Another poorly planned ill-funded scheme, but this time with permanent repercussions. Tearing up 2nd St, building a bridge through...	
2)parkland and pathways, ripping through neighborhoods; destroying homes and businesses all along the way. Awful.	
If this permanent dt calamity is inevitable can't we enjoy our skyline, our coveted parks, and commutes until it's fully funded and planned?	
Adverse impact on the quietness, view and use of the Prince's Island Park by the public and potential legal challenges of stakeholders	
You need to take into account the potential delay to the project and legal costs in your budget	
Great idea to cross the river via bridge but should core into north river embankment and run LRT u/g northward. Similar to LRT in Edmonton.	
Opportunities to make the bridge also a pedestrian/cyclist bridge over the Bow?	
"The bridge makes sense, however should tunnel into the north hill bank of the bow.	
@ grade alignment on Centre doesn't work. Need new route"	
opportunity to have combine access with bicycles and pedestrians across the Bow River.	
Save the park and our downtown. Build for the future and don't be cheap. Tunnel is the solution to less noise, better pedestrian experience.	
Challenges - increased noise, danger to wildlife habitat, eye sore, reduced value of the public park Prince's Island Park.	
Challenges - increased noise, danger to wildlife habitat, eye sore, reduced value of the public park Prince's Island Park.	
Trains need to run fast to attract users and this is hard to do at-grade with many crossings.	
It will be a huge mistake to spend money crossing the river when we only have enough money to extend the North line 0.8 km to 16ave.	
Tunneling under the Bow was crazy, this (or even the "first draft" plan from transit design department using Centre St Bridge) is better.	
The interaction with the existing MUP, pedestrian bridge and island must be handled very carefully	
Slope down the East side of Centre St S down Memorial E, and cross over the Bow River near the Drop In Center.	
Let's drop the ego here and approach Elon Musk's "Boring Company" and see what solutions they can offer, at/under budget.	
Multi-use pathway as part of the bridge	
Interaction with the riverwalk through Eau Claire - please keep this corridor great as it is used and enjoyed by 1000s of people every day	
Due to environmental impact, pedestrians and traffic safety, tunnel under river will be the best choice.	
Want the 9th avenue station returned. It is a long distance between eau claire and 16 Ave. and long walk to cross the river	

Bow River Crossing (Online)
The cost to build over the river is still too high, especially given there is only 1 station planned. End the line at 7th avenue for now.
The cost over the river for just one station ? This does not make sense. Better to concentrate on south of the river first.
We have an opportunity to build an underground subway and be at par with other world class cities, the bridge is not a good solution.
An above ground train station at Eau Claire is a terrible idea that will increase noise/traffic for residents and ruin the river walk
I don't mind a bridge crossing, as long as the rest of the green line north of downtown was underground
This seems to be a much lower risk and lower cost option
Bow River Pathway access and continued quality.
Sensible river-crossing solution considering all factors. Would like to see the bridge go into the hill and continue submerged on Centre St
Huge opportunity for a mixed-use Transit and cycle bridge similar to Portland.
Congratulations!! Running a bridge over the park and right up to children's bedroom windows makes this the dumbest proposal of the decade!
Don't create something that the future generations will blame you forever.. spoils the park, walkway and communities around - dumb idea
My concern the environmental and infrastructure impact of a bridge going into downtown through Prince's Island park.
A bridge with a train is highly impactful to the park areas and the river valley itself. Spend the money to do it right. The city's worth it
Above grade option will destroy the integrity and value of Riverwalk and Park. Think about residents of the area and park/riverwalk users.
Do not ruin Prince's Island Park for the people and the ecosystem that exists there. Wait to build the tunnel with proper funding.
If you don't have the resources to do it right then don't do it but don't ruin the city roads and parks
Ok so you want to divert a train to make sure it destroys a park and runs 20 feet from childrens bedrooms in the waterfront development???
The least appalling option for all Calgarians. You'll destroy everything the city has spent decades to build; the nature, the pathways, etc.
Bridge will provide more ped/cycle access to Prince's Island Park from the North. An iconic design will improve the view from Eau Claire.
The entrance to Waterfront condos underground parking will be blocked by surface routing along 2nd St. How will parking access be provided?
Can't you use the existing Centre St bridge instead of making a new bridge over Prince's Island? I don't want the park to be ruined.
Should use center street instead of 2nd street to avoid building a bridge over prince's island wetlands/park
Why not connect to existing lines (via centre st or kensington), save \$, & spare prince's island another disruptive, noisy, bridge?
No consultation has been done with the residents in Eau Claire! The government will be taking my home for a train to nowhere!
Building a huge bridge through princes island park is a very poor choice just make centre street bridge wider.

Bow River Crossing (Online)	
Events such as Shakespeare in the Park and Folkfest will be made less enjoyable with the train noise. Please don't harm the park.	
No consultation done with Waterfront 1000+ unit owners. The bridge is right beside the building, noise and vibration will impact residents	
City saves money at a cost to all Waterfront condo owners. They will lose the access to parkade, quiet community and scenic view.	
All owners in Eau Claire can sue City for change of route without due consultation with them. Why can't City re-route to Macleod Trail?	
Fine with bow river crossing who cares about a small portion of the park no big deal	
Destroying the connection between Centre Street, the Centre Street Bridge and the bluff, and bisecting Prince's Island is a terrible idea	
I think a beautiful above ground crossing, while not preferable to under, can look good if it complements peace bridge for instance	
Proposed bridge across the bow will negatively impact entire residential block east, both in terms of noise, sightline, and property value.	
Consider just using Centre St Bridge to cross the Bow, since surface alignment will decrease traffic on Centre St N. to one lane anyway.	
why decrease traffic down centre st until the very end, then veer off at the last minute just to ruin our only downtown park?	
Underground protects both the Bluffs and Princes Island. Can you imagine an unsightly bridge over the Bow?	
Drop a track onto the bottom lane of Centre street bridge with slipways from Centre street for cars to access Memorial. NO MORE BRIDGES!!!!	
The only way this proposal could be more idiotic is by running a bridge over a park and into a 1000 family residential building.O wait.. U.R	
need bike path and pedestrian walking path on the same bridge.	
To overcome the steep slope for bikes & pedestrian up from Memorial Dr to Centre St, can use escalator from Edmonton's 100 Street Funicula	
cover up the bridge like the Peace Bridge at Prince's Island Park to minimize the noise	
Do not destroy the island and the entire area! No bridge please. Don't be cheap.	
Crossing onto south side of river looks very problematic for park and existing residences. How high above 2 ST SW will it be?	
I absolutely loathe the thought of impacting Prince's Island Park at all, and am heartbroken at this option	
A city councilperson who votes for a surface bridge over the Bow automatically loses my vote to a new candidate.	
abridge can't be minimal in its impact to views. Do it underground or not at all, until there's funding. #3 bus and BRT are just fine.	
Short-minded solution. In Europe many crossings built over the 80/90s like this have been taken underground recently due to environm. impact	
This could be really beautiful through the park and across the river. If it minimizes costs so that this project can be built, I support it.	
I would like to see extensive research done about The impact on birds and wildlife in princes island if a loud Ctrain is going to cut throug	
A terrible solution - ruining east end Princes' Island Park for people and wildlife and lowering property values of nearby condos. COME ON!!	

Bow River Crossing (Online)	
The bridge/land connection on the north end should allow for a future tunnel portal if wanted later.	
This is going to affect the park, the environment, and all residences in the neighborhood. Not a good idea.	
I don't want to see the east side of Princes Island in the shadow of a massive concrete structure. Consider moving the line to 1st St SW.	
Build the South portion from Seton to the Core first and put the river crossing on ice till a cost-effective idea is proposed.	
Why build south? it goes predominantly through industrial area with minimal service to residential areas. Needs a complete rework!	
4.9Billion\$+6 years of planning... So a bridge can destroy a park, wildlife sanctuary and more that a 1000 family homes? Who's getting fired	
A train & a bridge through the Cities best park & the wetlands, seriously? Go back to school on this one. Horrible idea!!	
An ground-level station at North end of 2nd street just before entering a shallow underground route for downtown would be best. (Pt 1)	
The added expense of bridging the Bow river does not justify the short northern reach of the green line	
An attractive bridge crossing into the escarpment at McHugh Bluff with Pedestrian & Bike lanes on either side of the bridge would (2)	
give beautiful view of the downtown core, as well as the access to downtown for pedestrians and bike traffic. It will allow the use of (3)	
Parking lot below the bluff for park visitors, etc. For the space below the bridge, you can turn it into attractive destination shops, (4)	
The Bow river pathway is a major commuting thoroughfare, is heavily used by active Calgarians and visitors. It should not be impeded	
Restaurants, meeting spaces, etc. Also will provide a natural break / sanctuary for wetland on eastside of island from busier west side (5)	
of island. It will also provide opportunity to build a year/round event space / amphitheatre on the west side of the train bridge to host 5	
bigger events and cultural celebrations. West facing benefit from longer sunlight exposure, can incorporate solar / wind elec. generation	
They should level Eau Claire Mall for a station or for the Tunnel/surface "portal". Also this should be the most northern extent of the line	
Re-engerizing / beautifying east side of island, yet also an opportunity to develop into a wet-land demonstration area for children to visit	
One station North of the Bow is not worth the cost of a new bridge or tunnel. Use the Center St Under-bridge. And it will hide the tracks	
1000+ people use the bow river pathway to commute and for recreation and tourism. We don't need more restrictions like all of this summer	
Terrible idea. Wait till there is enough funding to do it properly without damaging the existing beauty of the park.	
A bridge is a great idea rather than a tunnel. I would think the bridge will go over the pathways and the east end of the park. No impact!	
Bridges are built by local companies...tunnels are not. The challenge is to design a bridge that complements it's location and settings.	
Why not put the train on the Centre St bridge if you're already going to use up 2 lanes of Centre St in Crescent Heights??	
A new bridge over the river will ruin views of Centre St bridge, the skyline, and ruin the river pathway/Princes' Island park experience.	

Bow River Crossing (Online)
The addition of numerous crossings at Centre St will reduce citizen/vehicle connections and turn the area into a ghetto!
The way to go is underground. Make Calgary downtown a place where people want to live and not just come to work. #SavePrince'sIslandPark
Green Line north section should be stopped entirely until it can be properly constructed underground.
Why just partially damage our central park? If our "leaders" just want short term savings, convert the rest of the park into a parking lot.
I don't know what the City is thinking. Prince's Island Park is a jewel. Why destroy it with a train. How stupid.
Don't destroy our central Calgary wetland with an eyesore and noise pollution.
Why is their only 140 characters to describe this destruction? I think I need to find a phone number and call non stop. How is that?
Yes to bridge crossing, it is a reasonable solution to the problem. Will barley affect the park.
Bridge is the way to go. Turning centre street into one lane north south is an awful idea.
People saying train should be underground have never lived near a train line it make no difference in sound, earth dense vibration travels
Who cares about one little entrance at the far end of the park get over it people bridge is the way to go here.
We have lots of parks a minor impact to the far end of the park is not a big deal.
Green-line south should be stoped entirely, north section should be built first.
I am all for a bridge out of downtown, not a big deal
As long as damage to the rest of the park is minimal I don't really care if it is bridge or tunnel.
Make sure the entrance to the downtown portion has a built in flood management system
Tunnels make as much noise as a bridge, the ground is dense and sound travels through it.
Anyone who has been to Toronto knows that you can hear the subway from street level princess island will be loud either way.
140 characters to cover the damage a bridge will do to nature, local residents, recreational grounds! Need longterm solution for 200+ years.
Tunnels in Montreal don't make noise. Same in many other cities across the world. Look at better examples!
We care so much about the environment in this city that we put yet another bridge across the river and now the wetlands! How green is green!
Train sirens from the train crossing through our Riverwalk will be heard throughout the park. This will damage the value of the park.
The siren noise, is noise pollution. In a Park. Way to go, City of Calgary. Pedestrian traffic, with have sirens constantly. Very stupid.
This site is removing comments against the bridge crossing. Have seen multiple comments against a bridge deleted!!! How is this forum fair.
"Lets take the family for a fun day under the railway bridge" ... said no parent ever!
2nd street at Riverwalk is one of the busiest pedestrian areas and a frequent area for running events. Don't damage this with a train.

Bow River Crossing (Online)	
Redevelop the Eau Claire Market along with the construction of the 2 ave station	
Terrible. Views, environment and use of Prince's Island will be irreparably damaged. Impact on River Run & Waterfront will be very bad.	
The project will be over budget. \$4.9B will soon become over \$6B, and only for 60,000 riders. That's \$100,000 per rider. Financial disaster.	
This bridge will detract hugely from the natural beauty of this area and impact residents immensely. NO to the bridge.	
Far more people enjoy our central park (hundreds of thousands) as compared to the alleged 60k who might use this \$5 billion+ train.	
Pedestrian traffic at Riverwalk and the end of 2nd street is incredibly busy in summer. With a ground level train, there will be fatalities.	
Ground level trains means there can be no sharing of trains between the other lines and this line, resulting in higher costs.	
The 14m minimum road clearance for tracks are not met on 2st. Only 11.85m now. Are you going to take even more of the already narrow sidewalk	
This means the train will literally run even closer - within feet of our childrens bedroom windows in waterfront every 20 mins all day!!!	
What parent would ever agree to this proposal- who would agree to child abuse like this?	
This will destroy the wetland and habitat for wildlife in the area. Think about the park and preserving the natural environment!	
Cross alongside centre, up from 1st street SW. Great dev opps downtown, less wetland impact, less length of bridge crossing	
I think it's great. I like the idea of a bridge rather than a tunnel.	
There's no way this will improve on the natural beauty of Downtown's greatest green space. Would you put the subway through Central Park?	
Please estimate the reduced value to Prince's Island Park as a result of running a train through it. Don't proceed without knowing the cost	
Well designed, with a cycle track incorporated, this bridge could be a helpful link over the river. But I'm worried about Prince's Island.	
Remember that reduced park property prices due to a train will mean those not close to the park will make up the property tax difference:)	
Terrible idea to cross the river at a world class park to pacify elites who never take transit and cannot dream of Calgary being great.	
We need to run this segment underground, it will be an absolute blight on Prince's island park and downtown.	
The City spent 8 years and \$400M planning the Greenline and the plan is to run a train through a park without accounting for the harm. WTF.	
Going under the river is the best option. Don't be "Penny wise pound foolish!"	
Terrible idea to have a station on 2 Ave and to cross the river at a world class park to pacify elites	
I think a station at 8 avenue will greatly reduce the effect the surface train will have on slicing the community in half and create a node	
Exacerbates downtown vacancy by decreasing condo values and deterring pedestrians from the Riverwalk. Consider transient population.	
North section should be built before further exploration downtown. Calgary is struggling to attract long-term residents in the core.	

Bow River Crossing (Online)	
Prince's Island is one of the few jewels in the inner city, and you're going to ruin it by running a train bridge across it? Why?	
Most Calgarians ignore Greenline news because it's dragged out 8 years so far. If most knew the Park was being damaged they'd be outraged.	
Having a bridge over Prince's Island Park will ruin one of the best parts of Calgary. The line needs to be underground from downtown to 16th	
Why only 6 weeks to respond to a sudden change made behind closed doors- keep it in a tunnel under the park as discussed for years before.	
Safety issues with train at grade at entrance way to park many pedestrians, children. Keep it underground!	
Costs of well documented mental and physical health effects for those exposed to a train outside their window will be a horrible experiment	
The updated alignment will ruin the beauty & tranquility that is Prince's Island Park!	
No one with integrity votes to run a train through a park where there is no cost benefit analysis completed that confirms a net benefit.	
"This is a terrible idea.	
This will completely decimate the park area, it's sense of community, and livability. Noise, view, and walking."	
Most people in Calgary have been to princes island less than 2 times in their entire life. It is not a big deal to berm it and run train	
Existing C trains are not eve louder than traffic noise.	
Berm the west side of the park expand the park, and run a train through it thoughtfully. It will barely affect the park.	
I have integrity and I vote for the project don't be insulting people!	
I for one would love to live in a slightly less pricy condo, this will increase the amount of people that can afford downtown life.	
The proposal affects less than 10% of princess island get over yourselves people.	
World class park? Go to any major city in the world and ask if they have heard about princes island park. No one outside Calgary knows it	
Anyone been to Central Park in New York? You can hear the subway in central park, yet people call it a world class park.	
Laycock Park has a much bigger much louder train, a highway, and a busy overpass beside it no one over their complains.	
Bottom Lands park has a big Chu Chu beside it it is still a nice park!	
St Patricks Island park is next to a highway, and a C train line it is still a very nice park!	
Edworthy park has 50-80 car diesel engine trains running through it no one complains! It is still a great park!	
Hey Bow Mount Park also has trains running through it! I love walking my dog there!	
Glenbow Ranch Provincial park also has a train going through it and that is my favourite park in the world!	
Fish Creek has a train through it no one complains. Princes island and the world goes mad!	

Bow River Crossing (Online)	
Wild Lands Park has CN rail going beside it I STILL LOVE GOING THERE!!!!	
Shaganapi point Golf course also has a train it is one of the nicest green-spaces in the city after all! Let's just work together!	
"Train = Bad	
Park = Good	
Figure it out city"	
I stare out the window all day longingly at the park, it's such an amazing view, and if a train was there I wouldn't see and birds there	
We should build a train! I would love it if tons of innocent geese got hit because of putting it in a wildlife area.	
Let's just drain the river! I would love it if my kids had a nice big pit to play in, I hate that eyesore of a river!	
Why even build a train? I could just snap away half the property value without spending all that money.	
Build a train, and make the property value pay for it!	
I didn't know the Simpson's Monorail episode was a documentary.	
I come to you with the greatest idea it - no it's not for you, it's more of an Edmonton idea.	
We need to build a MONRAILL, chant it with me, MONORAILL, I'll sing a song about it at the town hall meeting.	
A bridge over the river is okay. On north side it should go into the hill to make the tunnel under Center Street	
On south side the tunnel should go underground where the little bridge is now. Condos do not want noise of trains where now it is quiet.	
The drain river for the pond can be re-routed. The riverside pathway will remain uninterrupted. A new bridge to the island can be built.	
Bo The Cat convinced me, we should not build the train overtop the river. I'm sorry for my lack in judgment.	
I would like to thank Glenn Davies for respecting my opinion enough to read and alter theirs because they read a point they agreed with.	
Thanks for that Bo The Cat! I just wish city council was as smart as I am.	
Unfortunately, considering the current handling of this project, I don't think they are Glenn.	
Very true Bo! You must be a good cat, can I give you a virtual treat?	
Give me a treat! I love food yum!	
gives treat to bo	
GLENN LEE DAVIES GET OFF THIS WEBSITE NOW WITH YOUR PROTRAIN PROPAGANA I NEED YOU TO MOVE OUT OF THE BASEMENT AND STOP TALKING TO ONLINE CAT	
I'm sorry mom I've been a bad influence on this cat and all my protrain propaganda was terrible, just like those who think we should build.	
Glenn can I have another treat? I'm really sad after reading all the protrain comments...	

Bow River Crossing (Online)	
Glenn? Where did you go? I'm sorry for making fun of the protrain movement... come back	
WE NEED TO REMOVE THESE PEOPLE FROM THIS WEBSITE THEY ARE RUINING IT WITH THEIR PRO TRAIN PROPAGANDA AND OFF TOPIC DISCUSSIONS	
I wholeheartedly agree with John and believe this website should be fixed	
You are the problem you stupid cat	
THE ADMINISTRATORS ARE DELETING COMMENTS FROM BOTH GLENN AND BO THIS WEBSITE IS NO LONGER A VALID INFORMATION SOURCE	
A bit disappointed about yet another bridge and the fact that a tunnel doesn't seem to be feasible, but I guess we all are :)	
I don't mind a train through the park - it can contribute to city life! As long as bridge architecture is great and noise is mitigated.	
Save Calgary's Princess Island Park, return to an underground alignment	
Protect the Princes Island wetlands return to an underground alignment	
Forcing a needed up to 14 m design into a restricted 11 m 2nd street size is a design failure	
"Protect pedestrians and cyclists a ground level 2nd street puts the public at risk.	
Too many have died with historical safety gaps"	
Ground level 2nd street interferes with emergency vehicle access putting people at risk	
Stop deleting comments opposing the bridge, while hoarding comments in favour of one! Dont turn this forum into another joke! Tunnel the LRT	
None of my comments have been deleted. Someone is trying to make it look like there is less support than there really is.	
Stop deleting pro train comments!	
Yes John lets remove freedom of speech comrade only your opinion is valid! I think I know why moderators would delete your comments!	
Wow i never thought about all the parks that have trains in the city I agree, a bridge over the bow is a great idea! Lets do it.	
Lots of parks in this city have trains in/ around them I don't mind it at all and neither do the birds.	
Tunnelling under the park would create potential for a massive sinkhole like in Ottawa. :(
The reduced value of our island park, as a result of running a train through it, will be a greater cost than a tunnel. Don't damage the park	
I AM DOG WOOF WOOF I LIKE PARK IT IS FUN YES I DO AND THE PEOPLE GIVE ME PATS DON'T RUIN IT WITH A PARK	
Hey Bo... Im back, and I think the train is a bad economic move for the city as a whole.	
Hey Glenn! Missed you, glad you realised that the train could easily ruin the best park in the city. Got any treats for me?	
Oh for sure! Ive got a whole bag of delicious treats. You deserve them for being such a good train hating cats. *Gives bo the treats*	
Yum yum Glenn! Thanks so much for the I hate train treats. I do not like this train idea one bit!	

Bow River Crossing (Online)
GLENN LEE DAVIES GET OFF THIS HORID WEBSITE WITH YOUR ONLINE CAT CONVERSATIONS AND GET A JOB
That's tough Glenn
Nevermind, I just threw a massive toy train at a goose, and it hated it! The people also "didn't like it" and now i'm "in jail" got bail?
This park is smaller than those mentioned, also positioned in such a way that any noise from the train would be amplified. Tunnel that train
U took d right decision 2 go undergrd earlier. Now just bcoz of economic down turn don't make it wrong. Better delay d project & do it right
If we run a train through our best park, it will go down as the most money City Council has ever used to cause harm to our City.
Running a train over Princes Island Park is the worse idea ever! This is one of Calgary's jewels - why would anyone think this is positive
This alignment would diminish the value of our central Park, Riverwalk, Centre Street and 2nd St. Don't be wilfully blind to this huge cost.
absolutely crazy idea of at grade project. just because of no money?? shame on you City!!! going cheap even if a lot is a stake!
TEAR DOWN THE PEACE BRIDGE. TRAIN UNDER RIVER. Unrelated ideas.
\$5 billion for a train that would damage our central park? Don't do it. Stop the south line downtown and improve BRT north.
We cannot have two separate lines. This change will enable the original vision. Building good service north will be enabled by this.
Careful consideration of impact on park and river spaces in this area.
The plan is to poor concrete pillars through a rehabilitated wetland and break-up pathways the City already spent a lot of money on? NO!
At-grade through Eau Claire/Prince's Island instead of underground only saves \$125MM on a \$5B project. Defer until you can properly fund it!
The revisions are poorly planned! The c-train must be below grade through eau claire and the river crossing, otherwise this will be terrible

Bow River Crossing (In-person)

Bow River Crossing (In-person)
Incorporating some aspects of making the bridge a city/cultural icon that integrates with nature e.g. east village
A new bridge could open opportunities for people to get in/out of downtown on bike/foot/scooter
Have a pathway with the bridge like the MAX purple over DeerFoot Centre Street sidewalk too narrow
Noise from the trains arriving in the area
Some rendering support that Bow River Bridge (or north end of it()) might cut into McHugh bluff - should be avoided
"Bridge - destroys view

Bow River Crossing (In-person)
Reduces it to one lane with curve"
Crucial that from where train leaves Centre to where it lands in downtown be as light a footprint as possible
"THIS IS A HEARTBREAK
- WETLAND IMPACTS
- ENVIRONMENTAL
- RIVER PATHWAY"
"alot of seniors looking for quiet retirement - walk to park, share with family + friends
stay off our road"
They are stressing the seniors out would you do this to your parents?
Biggest challenge is destroying the aesthetic of Prince's Island Park and riverwalk i.e. concete overhead
Major concern is the physical impact to the wetland and bird species
Concern about impacts to birds and environment
A nice bridge cold make it look better, but all the columns/pillars will be an eyesore
"only solution is a tunnel - doesn't work otherwise
learn from your mistakes"
Won't at on at-grade station and crossing require all kinds of bells, gates etc? what a negative impact to a beautiful, peaceful area!
every committee member needs to look at 2nd street bird migration how to puit this monstrosity in this small space
concerned about environment + prince's island
Biggest concern is permanently damaging the wetland and environment of Prince's Island Park
DAMAGE TO WETLANDS IS IRREVERSIBLE
It won't feel right to have a bridge at Prince's Island. It will take away from the experience of the park
Agricultural calculation for updated stage 1? # people/birds going to die?
considering life span of bridges - tunnel makes way more sense for long term investment
Safety, access, disruption. value, river walk safety and experience
WHEN YOU AMMORITIZE IT OVER 100 YEARS IT'S WORTH THE EXTRA \$ TO BUILD THE TUNNEL
Growing calgary long term - need the tunnel surface doesn't serve growth NY did it right

Bow River Crossing (In-person)
Concerned brakes will make awful noise as it descends into downtown
height of bridge vs centre street bridge is centre street going to be blocked
misleading leveling of bridge [?] Where do you access bridge
Just do the south and stop at 7th ave or tunnel to 2nd ave + stop north BRT for future LRT
The traffic during construction will be absolutely awful. A tunnel might make it better

Downtown (Online)

Downtown (Online)
Would a road closure be required along 2 St SW north of 3 Ave to accommodate the tunnel portal?
I like this, as LRT ridership will be people riding to work mostly into/ out of downtown. focusing too much on the new district not good
Revitalize eau claire
Ensure it's obvious how to connect between the different LRT lines
Overall this part seems positive and will improve transit capacity into downtown without causing much traffic disruption
Overall looks good. Would be nice if 3rd St SW can remain open to east/west traffic. Shallow station design is big improvement.
This could boost surrounding developments but at the same time cause a lot of congestion for bikes, pedestrians and cars.
How does this impact the parkade entrances on 2nd that are north of Riverfront?
Yes! Revitalize Eau Claire!
Terrible. Cutting right through Riverfront condo entrance and Eau Claire townhouses. Imagine walking out of your home onto train tracks.
2nd Street is narrow, especially through the residential area by Eau Claire and Riverfront condo. How will you fit station and/or tracks?
Revert back to the full LRT infrastructure being underground. That's the best way to minimize impact to existing properties.
Why doesn't the Green Line connect into the tunnel under City Hall?
Useful as a private transfer for Transit, between Green and Red lines.
Downtown is staying protected by underground is crucial, this is a best case scenario. Hope for Downtown stations to have multiple entrances
What will 2 street portal and station mean for local residents?
2nd Street narrow as is with condos and townhouses in very close proximity. Where is the space for tracks and surface station?
Entrance to and from eau claire as well as condo and townhouses will be compromised. Not to mention noise and congestion.

Downtown (Online)
I hope this brings some much-needed new life to the Eau Claire area. Will it be part of the downtown free fare zone?
The alignment goes down 2 ST SW into Princes Island Park between two residential buildings putting a train on the building's doorstep.
Skips this - have the south line terminate at Victoria Park station. Riders can transfer to the red line if wanting to continue to DT
This plan seems better than the original. I do think future proofing design to allow for an additional station close to 10th ave & center.
A surface station on 2nd Ave will cause more problems than it solves. Calgarians deal with the LRT surface mistake of the past every day.
Think of generations into the future rather than short term money savings. Do it right like other world-class cities and go all underground
underground is necessary. more underground, the better. This way you actually create space for traffic, rather than convincing ppl to change
How are the residents of the Waterfront condo buildings supposed to deal with getting in and out of the parkade? Entrance is on 2nd Ave
Surface station at 2 Avenue SW makes it more accessible, and can be integrated into Eau Claire and Waterfront area.
Why not run the trains down Centre Street through China Town which is in need of significant urban renewal.
The green line should only downtown to connect with existing LRT lines. The tunnel should be designed with provisions for the 8th ave subway
How is this proposed solution addressing the major geotechnical challenge between 8 and 9 ave identified by the men that presented at council
Why loop it over a park crossing the Bow? Go straight down centre into China Town. Sink it (tunnel) or swing it!
The 2nd Avenue station needs to be underground. We might as well not have the Green Line if we are setting this line up for failure.
2nd ave station MUST be below ground. Don't cut corners to save a few bucks in the short term, otherwise we'll end up like Winnipeg.
Is this location not a floodway/floodzone? What is the research and emergency strategy to deal with flooding?
While world-class cities are boosting their green areas Calgary is slicing up its last remaining Downtown park. Use Centre St Bridge or dig.
I'm glad there will be minimal impact to traffic with this option.
Which Councillor do we vote out to change the surface station in Eau Claire? This is ridiculous, there will be push back every step.
How do Councillors who don't live in the area, representing the far suburbs tell people downtown they need to have their traffic blocked?
Changing 2nd ave stn to above ground and reducing 2nd St to 1 lane will significantly affect residents of Waterfront Towers (parking)
This change will affect the residents of the Waterfront Towers, especially parking. Why not select an elevated route alone 1st St SE?
Looking back through the documents, I cannot fathom why 2nd St SW was selected over 1st St SE. No major obstacles on 1st St SE corridor.
Also, 1st St SE corridor should be much cheaper to build as an elevated line. Will also minimize vehicular traffic impact once completed.
Station too close to Waterfront condo: damage to property, ruin neighborhood views, bring noise to the area and lower property values

Downtown (Online)	
The new alignment runs right through one of the busiest pedestrian areas in the core. It's ridiculous that this would be sacrificed.	
The downtown alignment excluding 2nd ave station is the only promising thing in this plan. Underground stations will be great for winters.	
Come in on the east side, make a station at 7av&4st for xfer to city hall. Boom, exit through east village. Don't waste time tunneling DT	
Wait until you have the money to bike underground and follow the example of other great cities in the world and do it right.	
Quality of life goes down for communities at 2nd st. The sound alone will be unbearable, asthetically ugly, and ruins wildlife protected area.	
Open excavation down 2nd street will further kill our downtown economy, think about ALL of us.	
PT 1 Eau Claire was sold to a private company years ago who have sat on it, now offering it up at a huge profit to the city. Bad business.	
PT 2 And at the cost of businesses and views and residences and our only parkland. Say goodbye to PIP while it lasts.	
1) Like an abusive relationship the city hurts the very people it pretends to serve: ruining the neighbourhoods of Downtown, Eau Claire,	
2) ... China Town, Sunnyside, Rosedale and Crescent Heights, and yet stopping short of providing transportation to anyone needing it.	
Melbourne is building a tunnel which has hit challenges, e.g. toxic soil. But guess what? It's going ahead. Why can't YYC? Have foresight!	
Look up images of cut and cover tunnels - now picture your morning commute.	
With the at grade train line north of 2nd Ave station, this will basically cut off the access to some developments along 2nd Street SW	
Fantastic idea running this underground. The short term costs of cut and cover are worth the long term gain of not having at grade LRT.	
Underground LRT was the only proper solution. Ridership will use it to go to offices great job on downtown design.	
Keeping the stations close to the surface is better than deep. A bridge across Prince Island isn't great, but I have faith it will look good	
Having the bridge will not look good, or sounds good, or be good for the wildlife, or people who enjoy the park. Aren't parks for peace & quiet?	
Surface stations are not only a danger to pedestrians they are noisy and take up valuable road space and increase traffic.	
A completely underground system like London, UK would be great. Warm in the winter. Cool in the hot summers. More room for wait areas.	
Again, let's approach The Boring Company (Elon Musk) and try to put most of the Green Line underground.	
Construction along 2nd Street using open cut or shallow bore could impact/building + buried utilities. Open cut = long traffic disruption	
If 2nd St is dug up for the tunnel, upgrade it to complete streets standards	
I fear the transition from the bow river bridge to the underground tunnel, poses a massive risk to the quality of the public realm,	
The best plan was to put underground if going on this route. If going above grade needs to be re-routed completely or wait and done right.	
There's no need to cut through Prince's Island Park. Reroute through Centre street or find another way into DT.	

Downtown (Online)
Concerned about the portal disconnecting the street grid (think: City Hall) and worsening the pedestrian environment.
Surface stations are much more convenient to access as a pedestrian!
Families with small children moved into the Waterfront building because of the park-now they get a train outside their window- its abusive!!
A tunnel alignment with a potential future blue and red line tunnel.
If you don't have the resources to do it right then don't do it but don't ruin the city roads and parks
Above ground crossing of Bow, park area and trails, and along 2nd will irreparably harm current/future development/use. Ridiculous concept.
A surface station in Eau Claire will be easier to use and better integrate with a redeveloped mall.
I live on Waterfront 2nd St SW. Why are you running a train in front of my building? Obviously you don't care because you don't live there.
The route should align with the current transit corridor in downtown to allow for better access to transfer
Should travel north on center street to pass through existing transit corridor and commercial area instead of residential
Going up second street is a waste of valuable taxpayer money- use existing routes!!! Better transfers that way anyway
What a betrayal. This will ruin business and all the people in the waterfront and Barclay Pde. Families invested to be near the park.
Running a train through the City's most valuable park will cause irreparable harm. Don't be wilfully blind to this massive, permanent cost.
The proposed green line along 2nd street above ground will create noise impact to waterfront residents near 1000 units as well as structural
The proposed green line along 2nd street above ground will create noise impact to waterfront residents near 1000 units as well as structural
The green line will disturb the Prince's Island Park and residents in the area. A undergrd solution should be explored rather than a bridge
The 2nd Street at grade station will disrupt pedestrian, bike and car traffic in the Eau Claire area and make redevelopment difficult
green line station should be able to allow easy connection to a future regional train station
How did an approved underground station at 2nd Ave with a tunnel under the Bow get completely changed to an at ground station and a bridge?
Bridge is monumentally bad idea & still impacts the taxes we pay. Have you no heart for those struggling? If can't afford tunnel, wait!!!
As a Professional Engineer (Retired) I was active in design of shoring for many excavations downtown. The soil conditions are terrible and w
We should avoid any underground work I suggest we go from Sunnyside station and up the bank towards 16 Ave at Center Street.
Why not use existing track from Sunnyside to Stampede then run along 25 Ave and rejoin existing design about 10th St SE?
An at grade station driving into the Park = eyesore and noise pollutant that will negatively impact quality of life, safety and the Park.
the impacts to the river properties and riverwalk amenities is potentially devastating. Do it underground or not at all in the Downtown

Downtown (Online)
A station at Eau Claire could prompt redevelopment. But the station should still be underground.
Instead of making a new bridge, why not make the train turn at 2nd or 3rd Ave, then continue it on Centre Street and use that bridge?
More convenient access to more shallow stations while maintaining cycling, pedestrian and vehicle infrastructure at-grade.
Calgary should build a proper Intermodal Central Station/Hub downtown instead of a disjointed network. Like all properly built cities.
Why build south? it goes predominantly through industrial area with minimal service to residential areas. Needs a complete rework!
When was the last time you heard someone say- lets take the kids for a relaxing day UNDER THE LRT BRIDGE?!!! Stupid idea- change it now.
Calgary should build a proper Intermodal Central Station/Hub downtown instead of a disjointed network. Like all properly built cities.
Having a surface station at 2nd Avenue creates a negative space for all the residents in the Waterfront towers. Will be a daily traffic jam.
Proposed plan is way too close to residential properties, increase congestion for residents, and ruin natural beauty of Prince's Island Park
Wetland Reserves. City preaches to us about protecting the environment. Please. How do you protect them with a train over top?
The cost of damaging our central park and riverwalk will be significant and permanent, in addition to lifetime operating losses. Not smart.
Why is the city so anxious to ruin the park. Do it right or don't do it. Its that easy. How many people will even use this stupid train?
Make sure the system has appropriate flood management system
Get over princess island park people. You will notice the train one way or the other
Anyone who has been to Toronto knows that you can hear the subway from street level princess island will be loud either way.
A couple of concrete pillars and the occasional train is barely noticeable
Go for a walk around the island and on 2 ST and see how can you insert a bridge and tracks at street level without creating a mess for all!
I live downtown and see thousands of people at the park daily. Why ruin it? This is very unique, it makes Calgary beautiful. No train!!!!
I walked through the park the other day, told someone about the train. They laughed. They thought I was kidding. I said "look it up" Dumb.
Please tell me this is a joke. It has to be. What other city would do this? Come on. Very embarrassing. Train through a park. Terrible.
"Lets go have a fun day under a railway line" said no parents to their kids... ever!!!!
Running a train through out best park will permanently reduce the park's value. Don't decide whether to proceed without estimating this cost
Running a train above ground through Riverwalk and the Park is contrary to most of the City's planning and design objectives. Don't do it.
What parent would allow a train to run within a few feet from their childrens bedroom windows all day? 1000 Waterfront owners? Never!!!!
1st SW is nearly vacant, empty lots dying for development. Half one block from Eau Claire and from china town. NO PARK HURT IN PROCESS

Downtown (In-person)

Downtown (In-person)
Would be good to do all construction on 2nd + 11th at same time to shorten disruption from construction
Shallower tunnel makes train stations easier to access
How will access for Waterfront Station residents be handled?
Why not 1 ST SE?
Go underground or 1st SE shuttle on 4th to get people from train station to other train station
Travel along 1st se and better integrate with the ample space and plus 15s
What compensation and assistance will be offered to businesses at Waterfront Station during construction?
Right now a lot of traffic comes along Waterfront up to Centre St. It will be so bad during construction
Very concerned about retaining tenants when construction is going on
WANT IT TO BE QUIET THAT'S THE VALUE OF LIVING THERE (WATERFRONT)
The property values in the neighbourhood of Eau Claire will likely go down.
Waterfront - access to parkade - noise from train - impact to tranquility of prince's island
WATERFRONT RESIDENT NO TO 2ND STREET
As a waterfront owner, we bought here to have peace and a good investment. This will ruin it.
Concerned about shadowed areas and crime underneath around Eau Claire
Concerned surface level station will end up dirty and not well maintained like 7 Ave is today
NOT NEEDED EAU CLAIRE STATION CAN WALK TO 7TH AVE STATION
CENTRE STREET BRIDGE IS BETTER OPTION
WHY ISN'T THERE MORE OPTIONS THIS ONE IS NOT OK
WE TOLD ALREADY WE DON'T WANT IT ON SURFACE PLEASE DON'T IGNORE US
Will there be compensation (financial) for people who bought at Waterfront expecting underground alignment? We are very concerned about property value during construction (securing tenants) as well as long term
The train should be as far from residential homes as possible. Move it to 2st SE if possible
The challenge here is that 2st is so narrow with the towers and it will feel congested
What is the distance b/w the station (2nd) and portal? The concern is access into the parkade, and access to businesses for pedestrians
Does having it on 2nd really reduce ridership by that much? We'd be way better off on 1s St SE.

Downtown (In-person)
The city is trying to promote downtown living, yet this will do the opposite
WHY NOT GO STRAIGHT UP CENTRE STREET FROM 7 AVE
centre street bridge -> why doesn't that work as alignment - can it take the load of train - what is life span of centre street
1. The proposed Green Line LRT in Eau Claire will have a significant negative impact on the quality of life of thousands of Waterfront residents. Noise pollution will disrupt the peaceful lifestyle of the community. 2. It will have irreversible damage to the quiet and natural environment of Prince's Island Park 3. The alignment should Not Pass through the Eau Claire due to low ridership demand from 7 Ave to the Waterfront. Walking and cycling will be greener than taking train. 4. Too many modes of transportation will cause safety issues for residents, especially in this existing residential zone.

Beltline (Online)

Beltline (Online)
The connection between the 4th St underground station to the new Victoria Park Event Centre needs to account for the large scale of people.
Maintain riverside multi-use paths on both sides of river under Elbow river LRT bridge/ transition from bridge over the river into tunnel
Maintain 7th Street access/route from 9th ave under CPR bridge/new LRT bridge on west side of Elbow (8th Street CPR crossing now closed)
How does a shallow tunnel/portal at Victoria bus depot affect any future underpass under the CPR tracks at 6th Street SE?
If this is a shallow tunnel what, will be the impact on the brick buildings of 11 avenue (Lewis Lofts)?
I like the portal entrance connection to Victoria Park station to connect the 2 lines. The distance is a long walk people for some people.
Bring the 4th Avenue station closer to the Victoria Park Station to minimize walking distance. Use an at grade or above grade 4thAve Station
I like that the alignment it's a tunnel now, closer to stampede. Will better serve stampede and the traffic leaving that area
Keeping stations as close as possible to existing lines & stations is ideal
Rivers District Master Plan shows park along CP tracks connecting to Elbow River. Would be nice if LRT tunnel portal doesn't eliminate this
Great alignment, especially because the stop is located close to new arena and the event centre. Brilliant!
No arguments here well done keeping the Beltline tunneled, keeps bike lanes protected and already dense community ready for underground rail
Shorter distance from the green line stop and the new event centre appears to be a good thing. Keeping it underground is good too.
this is pretty well done. No complaints here.
Could provide a weather protected access directly to the new Event Centre.

Beltline (Online)
Reduce tunnel length by connecting back to the approved alignment after Macleod. If at surface worked along CP, stick with that alignment
The Stations should be proper TODS like Vancouver. Not isolated like our other ones. Great opportunity for TOD in Victoria park.
Delete this chunk. It does not add value to the project. We have great transit through the DTcore and beltline. Dont need GL to walk 3 block
Great alignment through downtown, will open up area to future development, and minimizes impact well thought out.
Running along 12th av would put stations closer to most of the beltline.
New configuration works a lot better, keeping stations on surface and limiting depth of tunnels will save money and make it user friendly.
Great that its closer to new event centre and Victoria Park!
If most (or all) of the system can be underground below downtown (under all anchors or around them), this portion should be underground also
Please try to integrate the beltline station with future developments
I like the fact that more of the beltline is underground in the updated plan.
The city should consider going a little west towards 5th Street SW and turn at 17th Avenue SW for accessibility for all.
Shallower tunnel reduces cost and improves accessibility of stations.
I like this updated plan, but why did you extend the tunnel in the Beltline when you're trying to reduce the budget?
I see this as increasing costs to the public for this segment while increasing opportunities for developers. Who had input into this one?
The station at Centre St S should move to 1 St SE to minimize the distance downtown workers need to cross the underpass
I like your changes but wonder why you dont immediately come back surface after the 4th street east station.
Just end the line at 4ST SE @ grade. Then when there's \$ do the DT & north leg underground until 64th. Learn from the Canada line in YVR!
The train should come to 17th avenue
I am pleased the cycle track on 12 is being protected.
Critical transportation connections through Beltline, stimulates development and density. Maintain bike, ped and car infrastructure.
Why build south? it goes predominantly through industrial area with minimal service to residential areas. Needs a complete rework!
Push alignment to 13 Avenue so future arena station is directly underneath the arena, a la Union Station in Toronto.
Station directly across from Mustard Seed and Inn from Cold could result in a new area of bad behaviour seen at Vic station currently.
Full underground tunnel through the Beltline is ideal, as it provides minimal disruptions to all modes of transportation.

Beltline (In-person)

Beltline (In-person)
Shallower tunnels cost less and make it more user-friendly to access/get out of the stations
Bridge EastVic New or part of bridge being built?

North BRT Improvements (Online)

North BRT Improvements (Online)
Reinstate the 9 Ave N LRT station. I don't want to catch a bus backwards then do a transfer onto the Green Line.
If you're moving this back to a surface alignment, please consider adding 9 Ave station back. It will greatly improve usability
The BRT will be like the existing 301 and 300. On a snowy day they are all the same. Stuck unlike a LRT where things keep moving.
This plan will work only with the bus-only lanes. Copy 17 ave SE transitway model and use it for the future LRT tracks.
Time/traffic flow. Extend traffic light times for Centre St. n/sbound. Lane reversal/black diamond all or most of way to Northpointe?
BRT needs at least 15 minute frequencies all day and can't just be a bus line with fancy stops otherwise don't call it BRT
Love better shelters idea. Please move shelter at 64th&Centre closer to actual stop. Currently is three houses away and so not much use.
Need stop at 9th Ave for high school and nearby community/business.
If 9 ave LRT station is reinstated, no need for 9 ave BRT station.
I would only support this if the new stops were built to function with the future green line build, thus only awaiting tracks.
There should be a station close to 7-9 ave so all the people living in crescent heights dont have to walk 12 blks north, makes sense.
The North should only have a BRT. Green Line will create too much congestion in an already congested part of the city.
taking away lanes for center street north is a bad idea.
BRT is great, future lrt service must be underground from downtown to 64th Ave. Implementation should wait until funding allows
An underground station in the downtown core is scary given the current unsavoury atmosphere which is fueled by drugs.
Just build an above ground line from City Hall through Inglewood and south and ditch the skimpy bit from downtown to 16th avenue.
Buses Full in Mornings, always pass by without picking up anyone. traffic terrible center street. buy land (CHEAP NOW) and widen center st.
Buy Land now on center street expand it to prep while real estate prices are super depressed. if not don't complain later that its expensive

North BRT Improvements (Online)	
More BRT is great. Surface train on Centre Str. is a terrible idea. If we can't afford a tunnel to 16th Ave. then don't build it.	
BRT up centre Street is an excellent interim solution	
About dang time! BRT was a great pilot, upgrade those BRTs to MAX lines! It feels like they were left behind when MAX opened.	
Finish the Westbrook LRT station before starting anything new. Why is it still surrounded by a 10 acre lot of mud?	
Great interim solution but would like to see the 16th Ave stn. u/g. Centre must remain a 4-lane x-section south of 20th Ave.	
Unless additional lanes are built (like 14 St SW), it's hard to see how BRT would be much different than now.	
BRT is a much more flexible options. I think much more cost conscious versus laying tracks. Should be considered when possible.	
BRT needs dedicated lanes to be most effective. BRT be built in north that is separate from existing road infrastructure (at least partial)	
A good way to get transit to the North. Should have dedicated lanes.	
If The Boring Company can help and get the downtown portion underground, under the river and underground past 16th Ave N it would be ideal.	
Transit priority will be key to making this a success. I hope that travel time on 300 BRT will be reduced	
Additional lanes should be built to accommodate the BRT or it will be the same as now.	
Underground train at 16th	
I live in a northern hills community and work 9-5 in the SE. The new BRT does nothing to improve my situation without dedicated bus lanes.	
Dedicated BRT lanes would improve transit functionality and reduce dependency on car commutes. That will set the stage for LRT in future.	
Add queue jumps along 16th Ave. to allow MAX Orange to bypass the regular congestion that develops around Centre St.	
Add dedicated bus-only lanes the entire way, from Livingston/Carrington into the two-lane portion south of 16th Ave.	
How would an interface between the BRT and the LRT work at 16th? You'd need a train turn-around and a large bus interchange. ???? Where?	
Encourage people to walk or bike to brt to reduce traffic overall	
It is best not to end the BRT at 16 Ave. Continue the BRT into downtown. Transfers drastically reduce ridership. Increase frequency.	
Will the BRT end at 16th station? What about riders between 16th & DT - seeing as this proposal doesn't put back the 9th AV station?	
A good interim solution until funding and land acquisitions are feasible.	
BRT could run along LRT tracks, to minimize congestion on a reduced lane Centre St!	
Why build south? it goes predominantly through industrial area with minimal service to residential areas. Needs a complete rework! Go North!	
Initiate a CRL (community revitalization levy) on the properties along the BRT to fund its transition to LRT in the future	

North BRT Improvements (Online)
Having busses share above ground c-trains could help keeps busses on time and reduce traffic issues. (Similar to 7 Ave S)
Given the number of people that take transit in North Calgary it should be dedicated BRT lanes
BRT can serve downtown towards the North. Why spend money and run LRT all the way up to 16 Av now? Save \$\$\$ until you can run it undergrnd
It would be great to have a dedicated MAX Transit line operate on Centre Street with dedicated lanes, shelters, and real time bus info.
BRT is better than nothing, especially when the Cllr Chu can't be bothered to advocate for transit. Must have dedicated lanes&heated stations
Whatever the most Northern stop is on the BRT, it should have plenty of parking to accommodate those who drive in to catch the bus.
Centre should get a MAX line until green line is constructed but then no need to build the downtown to 16th portion in phase one.
What an awful idea, why would you want dedicated bus lanes. Traffic is bad enough with a three lane reversal. Bad idea.
Bus breaks down in a one lane north/south during rush hour? No traffic for today! Use your heads people
No. Scrap the south line and start building train from north point to downtown. More ridership that way.
Dedicated bus lanes would only make traffic worse. Half the time they sit empty instead of having cars moving through them during rush hour.
North already has busses why spend more money on even more busses when there is a need for an actual train.
Put the BRT in South Calgary, give North Calgary the train, and do it properly more ridership this way.
Build a trian to North Calgary all the way to North Pointe. The ridership is there already.
If we built the train to north pointe the city could take all the extra busses, and give it to the south for their BRT. Saves money
Nobody wants buses. Nobody. Extend the train route north and include the airport. Why exclude airport from the main system?????
It makes no sense to build a station just one station on 16th. Is it intended as a transfer point for BRT users?
Centre St N as a designated transit route. More people would use transit if it was the faster possibility.

North BRT Improvements (In-person)

North BRT Improvements (In-person)
Create a MAX route North that can be transformed into LRT with ease (similar to 17 Ave SE)

North BRT Improvements (In-person)	
Don't build more of the BRT <u>stations</u> Not moveable + waste of real estate	
BUS - Are there benefits to diverting to Edmonton Trail after 16 Ave	
- Are we going to force people to transfer at 16 ave N from bus? We don't want this	
- capacity of bus service needs to be confirmed (for North Cent residents -> PT)	
<u>Bus</u> Where could we have dedicated bus lanes?	
BUS - travel time must be the same or better (North Pointe to DT)	
Having heated shelters and some dedicated bus lanes will be an improvement in the short term	
Challenge with BRT is where it turns to two lanes around the bus trap. At least allow busses through there, or expand that to four lanes. That will make bus more express	
It would be a huge help even to have a rapid bus run along Country Hills from Viva area to Superstore in Country hills	
If you have to divert the BRT off Centre St at 16th (to different road) that's ok as long as the trip time remains the same	
Whatever you do, the north BRT must increase capacity and ensure trip time doesn't get worse.	
BRT is better bang for buck	
Comments from North Calgary Cultural Association Seniors. 1st Preference: Extend CT all the way to 160 Ave North if - 2nd: If 1st - not possible at this time please add-on BRT (ASAP)	
ACCESS to the core lines (LRT or BRT) has to be very good for those who don't live right on the corridor. If we rely on a wheel and spoke system, it has to be a good system. Without parking or bus connection it doesn't work	
- Definitely more dedicated lanes for buses: whether peak hours or full time. - Interested in idea of MAX service - Challenge will be getting que jumps to be effective @ McKnight	
bus- The 116 express bus can be over capacity at ~ 6:25	
ROUTE AHEAD - why isn't the transitway to east calgary a train - the dedicated lanes cause more congestion	
Improvements on Rte 118 -> two-way service for better connection to the 8	
Capacity on 301 plenty of buses come but plenty of people too	
Add a marked crosswalk on Country Village Rd by 15/C.V.R. so we can safely cross road to/from bus on north side. Need more capacity on 301's during peak	
* No 9 Ave stop for BRT right now. Map wrong	
Challenge will be on Centre Street South of 16th because the north busses will get stuck in the single lanes there	
Issues in area w/ syncing route problems ie. 116 to 86 to 301	
COULD A PARK + RIDE BE AVAILABLE ON 16th Ave post construction?	

North BRT Improvements (In-person)
SOONER? (up North)
Add more feeder busses, and add more 301 busses. It is so hard to get on the busses right now.
Side-running less impactful - traffic impact w/ centre - easy access from Sixth
Make sure all busses announce next stop and destination e.g. 86 and 301 This is a useful feature
How does the project ensure cars are not backed up at 16th Ave Southbound post construction or [illegible]
Eliminate 301 bus once the train can come all the way north to find funding to support the train
if we can't get further north why go to 16 at all
Please prioritize improved transit from north + south into the downtown area rather than the area downtown
Improvements t Rte 8. Too much sprea between some stops <SR in about this>
East-West travel important to in north - more than just Commuting
Improve 123, no gate use Harvest Hills to get to 14 St [illegible]
look at using Ed.Tr. Or 4 st for enhanced bus capacity
move 301's, hard to get on downtown. Timing or spacing of buses not good
transit app not super accurate
Better connection from Harvest Hills Community to North Pointe
Extend peak hours, buses still busy by 5:30 pm
I am 73 and use the on demand transit service now. It is very good fo me
The #116 should run longer in AM and PM. Run more connections to 201, and make sure you add capacity to it
Will we get a rapid transit connection from Red Line to Evanston?
Opportunity to add amenities to help prevent slips and falls getting to the bus. As a 73 year old this is very important
BRT enhancements amenities are nice but only adding more busses will really help

Other Comments (Online)

Other Comments (Online)
Crescent Heights needs a stop at 9 ave N. it was scrapped b/c of the tunnel, but now it should come back. Not everyone uses the LRT to just go downtown. The additional stop would benefit everyone south of 16th, including all the business along Centre st N. Please, please, please bring it back.
Yes. I couldn't find how much CO2 will the new stage 1 extension produce per day? Is there an analysis of the costs to our environment in Calgary, and what sources contribute to the emission of CO2 or generally what affects our environment during the construction, and post-construction (use) of the extended transit system.
Additionally, what steps would City of Calgary take to mitigate, reduce and/or even eliminate costs to our environment. Would be great if this information is actively shared
Good job, keep it up! Know you don't have an easy job.
I generally agree with the proposed route through the Beltline and Downtown. I do have concerns about the design for the bridge, the impacts it will have on Prince's Island, and especially the overall impacts on Centre Street.
I hope restricting traffic through communities off 17, 18 and 19th similar to what is done in crescent heights. Need to eliminate high speed cross traffic that will be attempting to avoid construction and ultimate mass traffic congestion. Also where we bus loop be established? Parking? We all know stage 2 probably will not be built for decades after stage 1 sits dormant.
Thank you for maintaining/retaining the hard fought for and implemented alignment around (instead of through) Ramsay.
Turning centre street into a one lane road North\South is the dumbest thing I have ever seen. Bus breaks down during rush hour? Looks like no Northbound traffic out of downtown today. LRT breaks down because Bombardier? One lane traffic, and over packed BRT for the day. I get that we want less cars but a redundant system with more options is much, much more important to me than just an LRT. Put the above grade tunnel over the bow into an underground tunnel to 64th avenue or do not build it.
Do not go forward with Center street at grade. There will not be heavy ridership until the thing reaches harvest hills which will be 2030, 2040. Obstructing traffic till then is a bad bad bad idea.
Please remind us of environmental impact of bridge over the Bow. Also want to see the design. Needs to be low profile to fit into existing environment and infrastructure.
North ridership on LRT will not be big until it reaches maybe 78th avenue north, or panorama hills. Until then it will be mostly bus and car. Persevere 3 lane reversal or this will cause massive traffic issues, that will spill over onto Crowchild, and Deerfoot, until 2030 at least. At grade is an awful long term decision for Centre street. Because no one will be able to ride it until then. Most already take BRT. Bare minimum tunnel it to past 16th avenue. The rest I am fine with.
Station in Vic park looks better for venue access. Just feels like the North part should almost end at Eau Claire until we can afford a better solution and do BRT upgrades the whole length of Centre Street N.
To run a bridge through a park is ridiculous. What are you thinking? People drive from all over to come to this park and you want to destroy it. Travel companies from all over the world have people stay at the Sheraton and the first thing they do is they take them to the park. Why do I know this? Cause I live there and I take photos on their iPhones and they tell me. Don't destroy this park. This is so stupid.
There is no room for a train, buses and traffic on Centre St. Please look at different options.
JB is asking about road closures. Wouldn't that be wonderful! Get rid of the cars DT and have a pleasant walking core! Please close a few roads!
Jen Kirby: Consider bringing the 4th Ave Station closer to Victoria park station to minimize the walking distance between stations. An above ground or at grade station could be considered in the Stampede area to match the Victoria park station architecture. An underground tunnel may not be needed near Stampede and East Village.

Other Comments (Online)
<p>As Calgary gets increasingly dense, people realise how important green spaces are. Walking through the shockingly peaceful wetlands in Prince's Island Park is truly fantastic and unusual place. It's so rare to be in the centre of a major city, yet feel like you're in the middle of nature. Watching a beaver build his damn this was an amazing experience.</p>
<p>You know this is a terrible idea for traffic on/around Centre Street. Transit is incredibly important, do it right, build a tunnel. Tax me more.</p>
<p>Keep up the great work! It's hard to implement a plan when the plan keeps changing. Calgarians generally appreciate how challenging your job is and we genuinely appreciate how hard you work. Thank you!</p>
<p>You had lots of feedback at Community level sessions on how Center Street North should go, and now change your minds as to what the City really wants to do! So this is just nothing but lip service to make us think you are listening, your just going to do what you want to do. Sorry don't buy into This design change! Look at Marlboro and crossings same design your trying to push. 16th Ave and Center being part of #1 hiway, your creating traffic tie ups when you give right away to trains.</p>
<p>Centre St surface is critical to get right. All the communities north of 16th Ave were shown nice plans on how surface LRT can integrate and improve our communities. If it's not possible to do it right south of 16th Ave how can there be any confidence in the plans continuing further north along the surface on Centre St?</p>
<p>Safety is very important - low-speed train please. But please, no fences. It should look like 7th Ave, not Sunnyside or 36th Street.</p>
<p>Instead of building the north-leg to 16 Ave N, the Green Line needs to temporarily stop downtown until more funding becomes available for a proper grade-separated system. We need to build this right, the Blue Line in the NE is a disaster - compromised for cost. A bridge over Eau Claire is so unsightly, and despite low-floor tech, the train running along Centre street will be invasive. For now, end the Green Line downtown - use the money to extend one more station south - to Prestwick.</p>
<p>if you're not going underground through 16th please don't do this. it will make overall traffic worse, so much worse.</p>
<p>The past history of c-train route implementation has been that it has destroyed the vibrancy, aesthetics and potential of every street it has run along. How will you do it differently this time - especially for Centre Street, south of 16th Ave N? Also, given that the c-train will run at grade, amongst traffic - like a bus - why not save the money & just add buses?</p>
<p>In order NOT to isolate the Green Line, it would be useful to have it connect "privately" under City Hall, giving full access into the Red Line underground in the south and by surface, at a point by 9 St St SW, assuming that the Green Line cars will be compatible to run on the present catenary power. It a;so enables new cars to run on present routes. I don't fancy the Green Line being isolated on its own circuit. Have followed Transit for 60+ years, all over Canada & Europe.</p>
<p>This is the best case plan we can work with. Stage 2 should consider the possibility of cut and cover tunneling north and burying 16h ave station. Bridges can be made nice so don't just go utilitarian style, think Vancouver. This is a fantastic compromise and you've done good work.</p>
<p>Will the BRT replace route #2,#3 and #17? If so, what about the stops at Samis Road? These routes run much more frequently than #4 on Edmonton Trail and there is a large population in apartments and condos south of 6 Ave NE.</p>
<p>"more transparency; how much does the crossing reduce the project? What is lost compared to the tunnel? This option cant be better? Can it?" Please dont compromise now and have future Calgarians look at that bridge as a reminder that woe could have done better. If the tunnel is better stick with tunnel. Stand up for what is best for the future of the City. Here is the Catch22 the planners are in, if the bridge is better why was the tunnel option presented?</p>

Other Comments (Online)
Overall I would have preferred that at least the entire north leg of Green was underground. There must be information from other major Canadian cities that speak to cost benefits over time coupled with practicality, traffic management and city environment. 36th Ave N is a great argument for not having more surface grade crossings both from traffic control and pedestrian accidents with the C train. As the city grows and more or longer trains are run cross & turning traffic control is harder.
I would really love for us to have a train that goes to the airport. Even just a small branching-off line that services that area, like the Sea Island in Vancouver. Aside from bringing Calgary on par with most other metropolitan cities, it would enable more people to work in that area who don't or can't drive.
Unless the Green Line is separated from traffic along Centre st N, it's benefits are minimal. If the LRT breaks down along that path, it will disrupt both trains and traffic. Better to separate them or have more BRTs.
This project carries enormous financial risk for Calgary Taxpayers. \$5 billion dollars with a cost overrun of probably 50% will bankrupt the city. Just think of how much money that is. In order for one human to count to a billion would take 31 years, 251 days, 7 hours, 46 minutes, and 40 seconds. You could purchase for instance 50 Boeing 737 MAX 8 aircraft for that amount of money. Please educate yourselves about what a huge amount of money this is.
Why even bother going north of downtown. this is of no value to all the transit riders in the north who will now have to get off the bus and catch a train and increase their already long commute. Continue to cater to riders/citizens in Calgary south. Apparently they pay taxes and the citizens in the north do not.
I really hope the design team isn't doing anything with the underground layout that would make it more difficult or impossible to move the existing line through downtown underground sometime in the future. Obviously, it isn't needed now, but someday, 7th ave will be too busy and the train will likely get moved underground (under 8th avenue). Anything done today that hurts that future project is short sighted, and stupid.
Do this right. Don't cheap out.
The city is only going to grow. You cannot remove lanes from Centre Street. Centre Street feeds directly into downtown. Not sure you can get infrastructure that is more important to the functioning of the city, long term. In 40 years will those lanes be missed ... you bet. You have to tunnel.
The City continues to push its mandate of making it hard to drive. 10 St. N.W. reduced lanes to accommodate cycle track, and now allows parking on Edmonton Trail. If you take away 2 more lanes on Centre St. how are people supposed to get to downtown? Not everyone can or wants to take transit or cycle. A bridge over the Bow River is a reasonable cost saving measure and less risky than a tunnel (which is good). Tunnel is still preferred option if cost and risk can be minimized.
Get some input, but make a decision and go. Accept that you won't please everyone.
The initial proposal's cost will pale in comparison to the cost of adding a bridge over a wildlife sanctuary in the near future. Nothing good has ever happened under a bridge no matter how great you make it look. Dont play even a small part in taking an inch from this jewel of a park. Please sink it (tunnel) or swing it to the other side of Centre street.
This team has the ability to convince council of the engineering merits of doing it properly rather than trying to save money to push the line through. Should the 2nd Avenue station be above ground, we will have doomed the project. This is not a world class city decision. Should the city continue to pursue poor transit design, I will seriously consider moving as the city is already failing on many other fronts (some out of its control).
I'm just concerned that we're spending money on frivolous redesign and losing sight of the long-term benefits by sticking to the original design (ie below grade). As a Civil Engineering EIT, it frustrates me that the City is deciding to not future proof this design. Can we please have one LRT line that can function properly and not be prone to accidents or delays due to inclement weather? Ugh!

Other Comments (Online)
I don't know if the planning team is cowardly sabotaging this phase of the project by having the overwhelming majority of the community oppose it, giving you an obvious out for postponing it, or if you are truly that out of touch and inept to think this is a viable solution. The fact that the materials provided in the engagement portal are so basic, it looks and feels like it was envisaged and proposed by first year university students. Also link to the engagement portal on the green line site!
Green line should be cancelled. Horrible idea that will impact traffic into downtown forever.
The at grade portion north of the river to 16th Ave will do nothing for the businesses, residents, of the community and will create traffic gridlock, noise, and unsightliness. Our taxes will be used for this project with no benefit to us, only negative consequences. Look no further than the current LRT running up 36th st, and you will see what the effects will be. Have you ever tried to make a left hand turn there during rush hour? It is nearly impossible. The new plan is very impractical.
All appearances are that the planning process is "scrambling" due to cost issues. Understandable, but ditch the bit north to 16th avenue as it is essentially walkable and well served by bus now. The \$\$ to go underground, over river, up a steep possibly unstable cliff not required now, never mind this idea is being "suddenly sprung" on residents in close proximity to center street north. When you get to the planning stage for north revisit the deerfoot valley option. It was always sensible.
The citizens and taxpayers who say "build it right" have my support. Don't be bullied by a retrograde provincial government into reducing your vision for the city which makes it highly attractive for the economy of the future. Nothing is more frustrating than to see a great public transit concept reduced to a bargain basement deal. As a tax payer I say build it right or don't build until you find the funding. Be creative! Lets not end up with another line with kilometers of track & no stops.
Why are we starting the building at downtown and going out makes much more sense to start at north point and build towards downtown. Would see much higher ridership
I am deeply concerned with the surface alignment on centre and having BOTH buses and Trains going up it - even on an interim basis. Eliminate the buses and put the train line under 16th Ave. More detail is needed on the design of the street scape for centre with the train - will it be in the centre or one side? What is being done to make sure that the pedestrian and business environment is good. Do not want the 'death' of local businesses on centre that occurred on 7th Ave with C-train.
I strongly believe that the green line needs to be underground to cross the river until north of 16 Ave. Center St can be difficult and dangerous to cross as a pedestrian as it is now, adding a train line at grade will make it worse and severely degrade the walk-ability in Crescent Heights. This is a great opportunity to think like a world class city and implement a plan what will benefit the city and its citizens for decades.
After years of engagement the trust is broken. Not sure why the train cant tunnel under centre street but enter in the embankment instead of having to go under the river. Surely that would save money and not create further issues on centre for a train that for many years will not benefit the ridership intended from the north. So sad and disappointed to see a bridge and train scaring our river valley even more. Hugely oppose this decision. If you are going to do something, do it right, not cheap
A more surface focused alignment threatens some of the most trafficked and pedestrian friendly areas in the city. Any LRT corridor should run over existing road right of ways, or underground. The small cost savings is not worth giving up Eau Claire and Prince's Island.
Please for the sake of our cities future, anything from 16th ave to Victoria park should be all underground. We need heated stations, with limited delays. We also need stations that will help develop Calgary into have actually TODS like Vancouver, helping increase long term ridership. If we can't afford the northern leg up to 16th ave, don't build it for now, build the downtown sections going southward or we will regret it like areas such as 36 ST NE. Redirect that money for an airport LRT.
Do it properly when it's properly funded. Stop at the city for now.
Very upset at the significant change. Please do not do something so significant on a budget. This is forever. We will be able to pay for this properly in the near future, please wait and do the city and

Other Comments (Online)
northbound portion properly. Don't hurt us downtown residents for those in the outer suburbs. They knew their situation when they purchased, now it's at our expense. You will devalue our homes, if we still even have one. Devastated.
Any rationale actor would complete a thorough cost benefit analysis before making a decision. To date, the City promotes financial benefits of the train, consistent with the political narrative that the train is a good idea, but disregards obvious and significant costs such as Prince's Island Park and the Riverwalk being reduced in value. Don't be wilfully blind to these costs. Please complete an honest and complete cost benefit analysis before making a decision.
Why is the hybrid plan out of the books now? Tunnel centre street N from 16 to the river, come out the side of the hill go bridge over the Bow, then argue further how to get through downtown. (At-grade is my opinion on that)
The route will be 20ft from our ground level condo and block access to our parking. We'll have to be bought out of the city. The bird sanctuary Ruined by having a bridge over top of it, Princess island park will be permanently damaged by a bridge & noise pollution. The riverfront will be defaced. The commitment by the city to build underground was not honoured. My children are sad that our Mayor would even consider destroying their childhood home. This is government at its worst.
Why the restriction on length of comments? Don't you want to hear everything that Calgarians are concerned about on this project? Or do you think you've heard it all before already? I'm not impressed.
If you are going to build surface transit on centre street. The absolute minimum that you could do is put the tracks on the sides of the road so that the LRT can share the same lane as the buses. and 3 lane reversal can be maintained to deal with heavy traffic.
Either build the entire north section including underground at 16th, or build the entire southern line to Seton from Eau Claire. I don't know anyone who wants the design currently proposed. Honestly whose going to get on at Shepard and I'm not going to take the Macewan Express and get off at 16th to get on a train so who else North of 16th would do that. Think about it!!
Why is the community team asking me if I'm LGBTQ+ or Aboriginal? Do gay people use trains differently? Do native people? Who is running this ridiculous City input system? Someone is being paid by the taxpayers to put people into different irrelevant categories for what purpose?
<p>Read these again. And again. Until you realize how silly the current plan is.</p> <p>https://calgaryherald.com/opinion/columnists/opinion-with-funding-delayed-should-calgary-be-thinking-about-brt-instead-of-lrt</p> <p>https://www.cbc.ca/news/canada/calgary/calgary-green-line-brt-vs-lrt-richard-white-former-transit-managers-1.5247339</p> <p>SE BRT now, proper north line ASAP.</p>
This project was originally to provide LRT North. This has been lost - urgently need North LRT all the way to the airport. We want to play in the big leagues, we have a fantastic airport and no way for travelers to enter our city - shame on us. Funding was granted based on this proposal, why was it then changed into a primarily southern LRT line? Residents living & traveling North need this underground line. Stick to the original plan & regain some integrity.
Train cars that cannot be swapped on other lines is shortsighted. Surface level for the downtown to 22 line is shortsighted.
Please don't remove two lanes of traffic from Centre Street. We have lane-reversal during rush-hour for a reason. Vehicular traffic to the core is only going to increase over time.
The current lane reversal system in place along Centre Ave, south of 20th Ave is critical. The City can still delete the Bow River tunnel but should core the new line into the north river embankment near the north end of Centre Street bridge. This would maintain the subgrade station at 16th Ave and would maintain the existing lane reversal system. Without this, the traffic pressure on 10th Street, 4th Street, and Edmonton Trail will be significant regardless of good LRT ridership numbers.

Other Comments (Online)
This plan is very different from what we were first consulted on. This is a significant change with very different impacts. When will community sessions be held to get community input? Not having this line extend passed 16th Ave is a major detractor. Having the LRT run up the middle of Centre Street will heavily impact vehicle traffic and parking in that area which is already heavily congested at times. So eliminating 2 lanes of vehicle flow will have a very negative impact. Also, 1 more stop.
The at grade alignment on Centre St N doesn't work. The only reason this route worked was due to the planned underground portion along Centre St N that essentially mirrored where there is a lane reversal program in place now due to current traffic congestion. To stay committed to this route alignment now with an at grade rail line is foolish. Underground or new route right away, explore Edmonton tr, 4th St NW or Centre St N alleys, Centre A, B etc. Should tunnel under the rear alleys actually.
A station near 8th ave and another around 22nd would be a good idea. These neighborhoods are buildin up with infills and there are lots of business along them. a single station at 16th won't encourage enough use.
It would be a huge benefit for the C-train to go to the airport and continue to connect with the northeast C-train at Saddletown.
BRT should be considered versus laying track. More cost effective and flexible for changing city and changing transit environment. When possible, separate from existing road system (not unlike a LRT options) to maximize effectiveness.
At grade on Centre street is going to be a traffic and safety nightmare. Do the right thing and build this portion underground. I currently take the #2 bus to work, what happens when I get to Centre street at 12th Avenue and centre street is a parking lot? This proposal is making things worse, not better for thousands of transit users.
I have lived in many cities in Canada; please take the concerns of residents seriously - control for NIMBYism, but listen to the features of the area that made them want to live there in the first place (and others visit).
Above-ground LRT is a terrible idea. If the cost of keeping it underground (tunnel) is too much, then wait for funding...having LRTs surface in the middle of one of the best preserved spaces in Calgary is going to ruin an area that families, residents, & visitors frequent.
2nd street and above ground?....Jamming a train right next to people's homes?? It's loud, ugly, damaging to the park, damaging to the quality of life in the communities, damaging to the peace and wildlife enjoyed at Prince's Island Park. Make the train go on bridges and roads already built and noisy, like Centre Street. I thought the greenline team believed in improving the quality of people's lives?? Clearly not. Great cities don't put trains metres from people's living-room windows.
If you can't find enough money to put in a tunnel, redefine the scope to account for it or defer the project for another year or two.
Need to re-engage with Crescent Hts community. 9th Ave station should be back with a surface line. No buses until north of 16th get station at 16th underground and across 16th Ave as a bare minimum. Need to keep on street parking, street trees and sidewalks - not sure you have enough right of way to have surface line as well. Streetscape is more important and we need to plan for the long-term even if that means delaying construction.
Its upsetting to see how delaying this project has led to more costs with less and more dangerous traffic causing rail.
When is the estimated competition of this project. I believe the city needs the project completed as soon as possible.
Eliminate the entire south section, start building from North Pointe, and tunnel from 64 the the bluffs across the bow river, bridge into downtown. You will get way more ridership this way, and you can build more stations like this.
Green line Cost for a fixed line that takes up extra space.

Other Comments (Online)
<p>Electric busses can go anywhere depending on demand and are environmentally efficient. A rebate for electric cars instead. Build more paid parking for the city. Save billions... This will ruin the new wildlife habitat at prince's island park... Migratory birds now settled and take their homes? Path system down. Changing entire plan with no public consultation because of now time and budget... Cancel and buy electric buses!</p>
<p>Must pass under 16th Ave without impeding the flow of traffic.</p>
<p>I am looking forward to seeing this project go forward, as it will provide great transit connections to my workplace</p>
<p>If the BRT route is going straight up Centre Street and since there are long range plans to bring the LRT- Can you get rid of the bus only crossing at Center Street and Bedington trail and open it to full vehicle traffic?</p>
<p>I am very concerned about the bridge cutting off and isolating the community of Sunnyside. Pedestrian connections and park space is very important. The bridge that is planned to run up through the communities is going to change the quiet residential feel to a high traffic, potentially dangerous area, with little thought to existing infrastructure. RUN THE TRAIN UP THE EXISTING CENTRE ST BRIDGE!</p>
<p>How will this affect the residential areas on 2nd St ?</p>
<p>As a resident of Crescent Heights (east side of centre street), I have a few concerns with the sudden change to an above-ground line.</p> <p>1- what is the commuter traffic mitigation strategy? I am concerned that frustrated commuters will short-cut through our residential streets. Children play on our residential streets. 2- Where will pedestrians and local traffic be able to cross centre street? 3- Will an additional station be added at 9th avenue? 4- Noise? Residents deserve details!</p>
<p>City planners need to do a better job planning and sticking to it, or get a job elsewhere. Why do we pay consultants if our planners are qualified? I feel they are not qualified, fire them, that is what happens in the real world.</p>
<p>I live at the Waterfront Condos on 2nd St. LRT will be at my front entrance. Where does the bridge end and grade level start? How high is this bridge?</p>
<p>Eau Claire was supposed to be a walkable community. To build any station above ground on 2nd Ave SW is a no go. Property values will immediately drop by 50%. You will destroy this community. All of us who have chosen to live in Eau Claire over the last 25 years will suffer huge financial consequences. Eau Claire was supposed to be the heart of the downtown residential community and now you are set to destroy this I-fe style. Ugly sight, dirt, noise and ground shaking is not acceptable.</p>
<p>As a resident living in 205 Riverfront Ave SW apartment, I value the quietness and beauty of the greenspace that is Prince's Island Park. By building an above ground station at Eau Claire, you fracture that beautiful river walk and ruin the experience for all Calgarians that visit this area in the summertime, as well as the many tourists that visit the Bow River pathway and Eau Claire area. Don't ruin the beauty of the area for cost cutting measures. This does not improve our city.</p>
<p>Second class thinking. London, New York and other great cities have extensive tunnels under much more challenging terrain. Chickened out Council, chickened our and don't preach cost control while enjoying two pensions and transition costs!</p>

Other Comments (Online)
Allow time for proper community engagement or else cancel going north of 7 Ave S. Wait until there is funding to do it properly.
I understand the importance of keeping in or under budget. So please don't cheap out and build something we will all regret. Further reduce the scope of phase 1 by moving the river crossing and all sections of centre st N to phase 2. Please do this right!
GL from south to core ok. Then use current NE line, branch off the new GL line North at Nose Creek, run past Spark to just before 96 ave(open area now south of new Hotel) over to Centre st North up to Carrington. Branch from 96th/Nose CK. east to YYC. Yes Centre ST to Beddington no line, however it has a good bus system straight to downtown and there isn't room to build the line. Delete Centre st bridge/tunnel, using current lines. The money saved on bridge/tunnel goes to YYC new line
I'd like to see the data on the idea of underground stations hurting ridership. Sounds like an anecdotal idea being used to justify a bad decision. It runs counter to the experiences in great cities. People take good transit! Consider what we want Calgary to be and spend accordingly. The original plan was well thought out!
Do not build at any cost (just because you have to build). Green Line is to go regardless, we all know that. But please do not compromise just to satisfy present tempers or trends or hardships. Stopgaps and makeshifts seem to have lengthy lives. This line belongs to the underground, at least where leaving downtown and for another mile or two.
I was thrilled with this project but now I am just disappointed. Do less and get it right. The BRT is a great way to extend the line until more sections can be built.
The train needs to be fast. Waiting for traffic is so frustrating as a train passenger. The train needs to be a first class transportation citizen.
The fact that a proposal to elevate this through Prince's Island even made to a community engagement exercise is extremely disappointing.
Contingency for a 9th Ave N station.
Please let me know when the next meeting is scheduled.
Go back to the original BRT plan.
I recall reading an article outlining the resentment felt in the Kensington community when the train went through there at first. The story ended with all the residents feeling happy about the train once it was done. I'd expect similar stories in 10 years. This train must be built!
The river and the park's precious ecosystem will be disturbed with a high line over the park. This is a precious park that supports a critical natural environment. If the old streetcar could climb the Centre Street hill then surely the proposed train can too. Why are you bothering to cross the river at all when it only goes to the TransCanada? Wait until you can offer more to the north!
You (edited out) are designing over my house. You are screwing over Calgary with a second rate option that will kick people like me out of their homes! If this was indigenous land it wouldn't be happening. Worried about cost of building a tunnel like every other 'decent' city has done? Then shelve the project until it can be done. Do it properly you leaches.
pure and simple once green space is gone its gone forever. build a huge bridge through princes island park and you go down in the cities history and one of the worst decisions ever made. once its gone its gone.
It would be negligent to decide to proceed with this proposed north alignment without first completing a cost benefit analysis, which requires a thoughtful review of costs including: reduced value of Prince's Island Park, reduced value of Riverwalk, financial harm to residents next to the line, reduced quality of

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life for those negatively impacted by higher traffic congestion downtown and on centre street, \$5B+ that will actually be spent and operating losses over the lifetime of the line.
I would prefer a dedicated bus lane with service every few minutes during rush hour that the LRT at surface level. The latter will destroy the neighborhood. A dedicated rapid bus lane and eliminating the counterflow will foster further community development. Also, maybe consider the bus lane being free like the LRT downtown.
Will the city actually be using a bridge to cross Princess Island Park, or will a berm be used instead (similar to the portion going through Inglewood/Ramsay)? I feel that a berm would better preserve the park-like nature of the area by hiding concrete features, and maintaining a green look.
For the 2nd St. bridge, you should use existing bridge near East Village or Centre Street and heading downtown for better connection and save money. Not to put a new train track beside the more than 1000 unit Waterfront buildings and put all the people's lives in danger. Also summer activities (Canada day), Stampede, folk festival, taste of Calgary activities etc. or jokers/bikers/family walk are all impacted and disturbed by the noise...it's going to harm Calgarians for this new green line.
The way that the green line is constructed through this area needs to be improved upon. It will disturb Prince's Island Park and will cause noise for residences in the area. An underground solution through this area would be more favorable.
There was extensive consultation and review to determine the original alignment. It is incredible that the required depth = actual cost of the line was not identified earlier. This is terrible planning. The real need is for the far north and growing communities. Bus lines or a tram south of Beddington would support community growth. Using the Nose Creek route would improve transit times for north of Beddington by 30%. It's a no brainer.
I don't understand how the BRT transfer to the LRT at 16th Avenue North will help shorten commute times for riders from north of Beddington! If I was on a bus I'd want to stay there until I got off downtown. The space required just for transfers would be huge at rush hour - and deserted most of the rest of the day. How would this improve Centre Street and 16th Avenue N? The area is already struggling but was starting to pick up - this would be a death knell to any revitalization effort.
Please think long-term, not for short-sighted cost advantages and build this properly with underground stations and tunnels. Limit construction as necessary. This is a generational project, not something short-sighted politicians should ruin for the rest of us.
In general, this proposal appears to be a good compromise. But more info is needed for consultation, esp the expected cost vs budget. At this time, if financially possible, turn the N BRT leg into rail, add a station on 9 Ave N, and commit to plan for a BRT for the S leg. Both current termini are too far removed from a large population to keep anyone happy, so a focus on one (the N leg) for rail is important from a city-building perspective.
Really, this thing just has an absurd life. It was 4.5 billion for the whole thing, then, 4.5 billion for half the thing. Then the council decides the half should start nowhere and end nowhere! No help for the south, no train to the airport, now, divide Centre with a surface train with NO station in Crescent Heights! So, no one rides from that whole community. The finest traffic engineers in the city told council to shelve it as it will cost over 9 billion. Build the BRT. The future may be diff!
Feedback form poorly designed. We are all putting responses in the little box above, which is bigger than the character allowance. This box buried further down. Smells like you don't really want feedback.
It would be negligent to proceed without first knowing the costs associated with this alignment, including: reduced value of parks and Riverwalk, reduced walkability of 2nd Street, increased traffic congestion downtown and on Centre Street and lifetime operating losses. These significant, permanent costs need to be identified and made transparent to citizens if the City is going to make a responsible decision that is best for the City, as opposed to a selfish political decision by council.
As a resident with two properties along Centre Street, I have long-awaited the Green Line. As much as I want this train like, YESTERDAY, I am willing to wait for an end-product that puts Calgary on the map. I strongly feel it is better for the esthetic and function of our inner city neighbourhoods to keep the train

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underground and build the dreaded tunnel. We need to be putting in infrastructure that makes sense for the future, not just a quick fix solution to fit a budget. Fundraise!
Owner in EC. The plan for an at-grade station + bridge across PIP will impact the community negatively: 1) heightened security concerns with more transitory people (proximity to DI), 2) noise levels, 3) view of bridge (train frequency) will lead to lower prop values (and tax). EC is a vibrant community hosting festivities because of its attractive location by the Riverwalk and quiet setting. People like this area because it is secluded from busy traffic if we cannot afford the tunnel, just wait.
Crescent Heights needs a stop on 9th Ave! We are a community worth visiting. Help us grow the retail/restaurants along Centre st.
As a resident of Crescent Heights I think it's vitally important to have a station at 9 Ave. This allows resident of CH East and West to use the Green line with ease. It will allow people to get off the train and visit all the great local businesses that are finally coming into our neighbourhood.
Unfortunately, the City has done a very poor job with the Green Line from the beginning. For starters announcing the route and estimated cost without any proper analysis. How many years has Green Line been on the table? We just seem to be going round and round in circles. Wish someone would make a decision and just get it done.
It's hard to imagine how all this is going to fit down 2 ST SW. What elevation/grade will the tracks take in front of Waterfront/Eau Claire? How will you accommodate traffic/access currently handled by 2 ST SW? There are a lot of details required to understand how this will look and its impact on the residences on and adjacent to 2 ST SW. What compensation plan is being considered for owners who purchased here before this update was revealed?
In for a penny, in for a pound. I would MUCH rather see a moderate tax increase than see a surface bridge by Prince's Island. I would implore you to re-examine underground options. A city council that votes for this option loses my vote to a new candidate automatically.
Create relief tracks on the green line so it is easier for trains to pass broken down trains.
I think you should go ahead with the first phase as soon as possible .The line from 130 se to where the new sports centre is going to be ,is all planed and has to be built before any other part because it includes the storage facility. The longer you put off the start the more it will cost.
Stop the line downtown until the section up past 20th avenue can be done underground.
Would strongly recommend starting from north pointe and building into down town. better to have one complete leg that will be used than half a leg that wont be used for 20 more years.
Don't destroy Price's Island Park with this train. Wait until we- the city - can afford a proper and less destructive route. Terminate the South route downtown. The north arm gives no value and is so messy.
PLEASE do not put the train above grade on Centre Street! The loss of lanes of traffic is going to cause massive disruption, both on Centre Street and 16 Ave. We have made do without this LRT route for so long...if we can't afford to do it now we should wait until it can be done properly.
The downtown stations are not very well placed to transfer between the other lines. I don't see the Eau Claire train station adding any value to that area with the poor transferability, you could walk from 7 Ave faster than going in and out of underground station and waiting for a train. The Beltline stations are too far out of Core without a middle downtown stop. Distance between 7Ave & 6 St and 11 Ave & Centre St S is too far for the density of people.
The new constitution process is ridiculous. You are obviously not looking for real input.
Vehicles that are both electrically powered and autonomous are on the horizon, and could be available for mass transit options within a decade. Electric power will make the vehicles quieter. Autonomous driving should make these vehicles cheaper to operate, more user friendly (door to door service), and with total flexibility in routes. It doesn't take much imagination to see how such vehicles could make rail mass transit systems obsolete overnight. I hope this has been seriously considered.

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The entire south leg does not make any sense. It goes predominantly through industrial areas and only skirts along residential areas. The north development serves a much denser residential base. The BRT makes economic sense if developed with an eye to future LRT if warranted.
Surface train on 2nd St is a horrible idea & having a bridge come down into several area condos immediate views is simply ridiculous. If you can't build a tunnel as originally planned then end it at 7th Ave & revisit in 10 years & when you can afford it. The new design plan simply looks like someone is trying to shoe horn in something at the last minute. Either build it properly, or don't build it at all.
I would like to know why going ahead with this is even being considered at this time. The city is broke. If there has to be a bridge over the Bow River, the bridge should include walking/cycling infrastructure to increase active transportation options from Crescent Heights into downtown. I am, however, concerned about the ecological impacts to the McHugh Bluff and Prince's Island Park. A bridge should be designed to minimize environmental and aesthetic disturbance in the area--the natural features of these spaces are important for the mental health of inner-city residents.
Yes. Stop the entire north section construction of the green line until it can be built underground.
I don't know why the city is so eager to destroy the best park in the city. Hasn't Calgary struggled enough? This park is beautiful and unique. The location is ridiculous. If we can't afford to build it how it should be, don't build it. It's pretty simple. We have survived this long without it. What will not survive is all the wildlife in the area. This is one of the stupidest ideas I have ever heard and I have lived here a long time. Just amazing.
I have a great idea. Don't put a god damn train over a park. How is that? HOW STUPID. What other city has a train over a park. Please tell me.....will wait patiently....
Make sure that the entrance/ exit for the tunnel can be blocked off from flood waters, and have an internal pumping system to prevent tunnel flooding.
This is a terrible idea. Ruin Calgary's most valuable park with a train going right through it? Squeeze rail cars right between a residential neighbourhood on 2 St SW? How will these residents access their parking ramps? Zero thought went into this plan. I will be doing everything in my power to take legal action against the city if this new plan goes through.
Make sure to minimize damage to Princess Island, other go with the bridge
Start planning for "complete street" rethinking of Centre St. N.
Has the City of Calgary sought enough options for the planning and installation of the green line and how it will serve all communities and be upgradeable as time moves on? After review of how the English Channel tunnel was planned and executed between England and France, I feel that the application of working transportation examples from the global community may offer additional options for our green line and our ongoing infrastructure. If this has already been considered, cool!
I live in the south and though it doesn't affect my neighborhood, putting the green line at grade along centre street to 16 Avenue is the wrong decision. It undermines the purpose of the Project. Do it right or don't do it at all. Focus instead on the downtown core/South, with the North having a BRT to the 2 Avenue SW station instead of LRT for this phase then. For the next phase extend the LRT from the 2nd Ave SW to 16 Avenue, with tunnelling under centre street. Do not repeat the same mistakes
I think a surface train up Centre St is a wonderful idea - as long as there is a stop somewhere between the bridge and 16th ave. An additional stop would allow people to get off on one end of Centre to shop and eat along the way to the next stop. Crescent Heights really needs this additional stop to grow our business district. We also have a larger lower income population that would use the train to get to other destinations in the city. Don't leave us out!

Other Comments (Online)
Tunnel makes more sense. Think forward not so present day. Vibrant cities need parks and transit. Running the train thorough a tunnel makes less noise and long term sense. Dosnt hurt views or mess up the already busy road. Save the road for cars and more bike lanes.
Yes to bridge, no to at grade centre street
Lets just cancel the greenline all together no one can agree therefor we should definitely not do it.
What is the cost of expropriating property to build this line? Rather than build one continuous line, build 2 lines then you can cut out the tunnel under downtown. Ground level trains means different trains for Green line vs Red and Blue lines - no inter-changeability, higher overall cost, less flexibility. This has not been thought out and is a waste of money. Stop the spending now!
I am relieved the alignment through the Beltline was not converted to surface track. This high density neighbourhood more than pays its way in tax revenue and is regularly passed over for urban amenity in order to subsidize green field development.
I live in McKenzie Towne and would love to have line out here, but the current approach is misguided. Each leg only makes sense if it reaches the suburbs. Letting a Maintenance facility dictate the first phase where none of suburbs are reached (North or South) is misguided. Pick a leg and build it out. If it's North do that, if it's the SE, great, instead the current plan will result in us spending twice the cost of the Canada Line with half the ridership.
I live in the NW and use the 301 almost every day. I would use the green line every single day. I realize that it will take time to get to the North, but in the mean time, without a real rapid transit route, we're being abandoned. The 301 is good but it could be better with more frequent buses, dedicated lanes. It's a good start but we should have our own MAX Transit line. It's sad seeing the maps downtown and seeing that we're the only area of the city without a real rapid transit line.
Would the council be able to have a discussion on value to this great cities tax dollars and future "realistic endeavours " in light of the recent past that has come upon us in the west.Living in the SE quadrant of the city and witnessing the remarkable task of the BRT SE route. Would a discussion in council bring forward a motion to visit all options in relation to tax payer value in future projects. Thanks
Green line is not necessary. It adds heavy burden on taxpayers. Alberta's economy is shrinking. Long-term outlook is not great for Calgary.
The reason that I choose to stay in Eau Claire is because of its quietness, safety and easy access to downtown. If greenline is built, everything will be disrupted and a lot of noise and safety issues will come by. Many people like me will choose to move out of the area and the property will drop. I am strongly opposed to the construction of green line!
Honestly, projects like this are why Calgary will never be an ACTUAL world class city. Instead of spending the money to do the most important part of the project PROPERLY, they're looking to cut corners right from the start. TUNNEL THE LINE THROUGH DOWNTOWN. If that means the line is shortened, FINE- run BRT lines north and south (with dedicated lanes and heated stations) to tie into the downtown Green Line. But do it PROPERLY, now. We have one shot at this, let's not screw it up.
The City spent millions of dollars on plans & engagement, 3 years ago. I participated &the community shared their concerns. What a colossal waste of time & money! As usual The City is short-sighted in their investments - as it is I can not get out of my community until after 6pm; as it is cars cut through from edmonton trail to centre st. at alarming speeds. Centre St. will become an ugly corridor. & don't even get me started on the negative impact to our beautiful Prince's Island. Brutal.
I am strongly disagree and disappointed about this idea of building a bridge over the river as a Eau Claire resident. I got a nightmare every day thinking about the future I have to see the train passing by my balcony, people inside the train can see me sitting on the balcony BBQing. I use to have a nice river view but not anymore and the value of my unit will be dropped. Also this project at surface will destroy the environment and the wetland that we always want to maintain it.Pls change!!
I want to preface this submission by acknowledging I understand the reasons why the City decided to reevaluate the green-line alignment. However, both the proposed bridge over Prince's Island Park and

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the surface alignment up centre (and more importantly, across 16th Ave) are bad ideas. Both these proposals will have dramatic negative effects on the public's ability to enjoy these areas and are shortsighted. If we are going to do this, it needs to be done right.
I am concerned about the impact on the park, noise near the park, views across the park, traffic impact (pedestrian and vehicle) on centre street. Underground seems a better option across the park unless you have ways of making the bridge attractive, etc.
Surface transit along Centre St. runs an extreme risk of killing the potential of that strip as a vibrant pedestrian-oriented Main street. Bridge across the river is fine, but tunnel under Centre St., otherwise it will end up like 36 St. NE, which is as far away from a mainstreet ideal as one could imagine. The City should be burying some of it's existing lines as well - like the Somerset-bound leg along the Stampede grounds.
This significantly impacts McHugh Bluff, the Bow River, its pathway & Prince's Island, some of our most important & popular park spaces used by people from the nearby communities, citizens from all over Calgary & tourists. The proposed changes including a bridge to carry the train over the river & Prince's Island, will substantially impact their natural & recreational qualities. All this to minimize "the user experience" of people on a train. Subways in Toronto, London & Paris seem OK to me.
This latest communication contains several spelling mistakes and incorrect dates. You need to do a better job of proofreading these communications before you post them online for public viewing. It reflects poorly on the communications department and City.
People whining about the bridge over the river are exaggerating problems. Many parks in this city are beside a train, and people don't cry over them. See any of the parks along Deerfoot, or the existing Train all are well used.
If the train is to run at grade on centre street the very least you can do is put it beside the sidewalks, not in the middle of the road. We can design things that are better than Europe. Don't just copy and paste their awful solutions, (with respect) use your heads!
Look at the disaster that is 36th street NE with the surface mounted train station. Pedestrian deaths and massive traffic delays. You cannot have a surface train crossing the transcanada highway!
Pls consider starting this project faster. The waste of money and energy on over consultations is depressing. This service is badly needed and we know it. Complaints are all anyone does anyways let them do that while we ride the train already
Laycock park, Bottom Lands Park, St Patrick Island Park, Edworthy park, Wild-lands Park, Glenbow Ranch and many other areas have trains going through them. All those parks are still vary nice and people go to them. Build a bridge over the park, and take steps to minimize noise (sound wall) it will be fine.
Traffic just south of 16th ave wont be that big a deal. HOWEVER when you extend the traffic north of 16th it will become an absolute nightmare to deal with because of the three lane reversal being turned into a 1 lane north 1 lane south. Think about the future over today please!
The wetlands provide a natural preserve as part of the park and offer to families access to wildlife and its experience a loss through a bridge is a travesty to the park legacy
2nd street is to narrow for needed requirements return to underground
Safety of pedestrians, East west traffic, cyclists are at risk. An above ground design on 2nd street puts the public at risk
Barclays walk and Mews at Waterfront have restricted access with a ground alignment
If you put the trains on the sides of the road instead of in the middle you can maintain 4 lane traffic. While providing the cheaper option.
No train is better than poor planning with a noisy eyesore destroying our downtown riverside atmosphere and the park. No above grade trains.
This could save those living north of the downtown core so much is cost of transportation and ease of access. The limited access to get from the NW to downtown, the zoo, Telus spark, neighborhood

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libraries, and grocery stores by transit is shameful. Sidewalks need to be maintained for accessibility and I think there needs to be thought given to the demographic of transit users. Those with limited mobility or caring for young children and the elderly need to be able to safely reach the bus stop
Please don't take a decision keeping just today in mind. Don't do something that the generations to come will blame you for taking a wrong decision. Do it once and do it right! Bridge over the river and on the princess island park is a bad idea. If the city cannot afford it then plan for a bus route from a station North of 16th Ave to the intersection with the downtown line until the city has the funds to do it right! Don't spoil the iconic princess island park. I hope better sense prevails!
It makes zero sense to not extend the SE leg to stations that will generate significant ridership numbers like MckEnzie Town, while spending billions to build a single station / bridge on 16 Avenue. A BRT for the North and fully extended SE line makes the most amount of sense.
Why bother with all the expense of crossing the river for only one station (ie a station to nowhere) on the north side of the river.
Without a 9th ave station, Crescent Heights bears all the burden of this plan, but with zero benefit.
14th Avenue alignment to 2nd St SW would be a better option. the park space could be used to make the turn northward.
greenline? not anymore, cause you are trying to destroy that tiny area for the wildlife! Eau Claire has always had a reputation of a quiet area, great for walking all year round, running, sitting on a bench and reading, basically enjoying the silence! Beside the wildlife, no one at City is thinking about residents who paid tons of money for living in this area. That's devastating for us the residents of Eau Claire! Pretty sure drilling and digging the ground will damage our building on the 2 ST SW
The feedback process is hard to find and inadequate, there needs to be an open, and anonymous, comment area. If I were a suspicious person, I'd wonder if city hall really wanted feedback at all. I know it's hard to be burdened by criticism, however, it's worse to be burdened by ignorance. Clearly the process doesn't work and the senior people at city hall don't want to acknowledge how mismanaged the city really is.
Thank you for your continued work on this project. Fast, accessible & frequent transit is freedom for many. Please continue to consider reworking bus routes - more frequent and new routes based on the continued changes in our city. Many cities with great success have created bus-designated streets. More people will use transit, if it becomes the faster/cheaper way to travel. Environmentally & resource wise - this has to be our future. Thanks again!
I understand the importance for saving money, but this is a lot like peeing in your own bathwater. Some sensible approach to the value of the amenity that is prince's island should be granted. Don't do the project if you can't tunnel under the river... You'll ruin what is likely the most popular park in Calgary - and it's irreplaceable.
<p>The realignment is poorly conceived and appears to have significant long-tail impacts, which will be liabilities.</p> <p>It should proceed down Centre Street, go underground 16 Ave and stay underground, could use the lower level of the Centre Street bridge, then duck underground again in downtown.</p> <p>This would mitigate eyesore concerns and may help with cost. Traffic on Memorial can be routed appropriately. Impacts on the lower level of Centre St. bridge are ok.</p> <p>Form is short, email snicol@gmail.com</p>
I lived 30 years in Huntington Hills and now 10 years in Crescent Heights. People in Crescent Heights won't use the train (we walk downtown) and those North of 16th Ave would ALL have to transfer at 16th Avenue. No one wants to cross the river from downtown only to have to transfer at 6th Ave. Don't bother building North of the River until you can build at least to 64th Avenue. I'm also concerned with congestion on Center Street. Without lane reversal the reduced capacity will be massive.

Other Comments (Online)
Don't ruin Princess Island Park
Nonsensical to put train line above grade through beautiful PI Park to save minimal dollars!!! In addition to the added congestion it will cause. Defer project until it can be executed properly.
A bridge over the river makes sense but the train should be underground on Centre Street. Also, an additional station at 9 Ave is required.
Already there is extreme traffic congestion on Ctr St and 9th Ave twice a day, due to buses carrying students to/from Cr Hts High School. Adding above ground LRT would be a nightmare. Not to mention the noise and disruption to the residential neighbourhood. Strongly opposed to any above ground LRT through Crescent Heights.
Do not build the train above grade to save money. Think of the failures of businesses along 7th AVE on the original lines has cost City of Calgary millions in the past in possible tax revenues and effectively killed a whole avenue in DT YYC. Parks, although not large tax revenue generator for the city have a perceived value. Many festivals and events happen in and around Prince's Island Park and having an above ground train line would detract from that. Environmental concerns over watersheds?
I am tired of all the bickering and constant reworking of the alignment and project. I would like counselors to respect the process and just get this done. We have been waiting for years for this project. STOP DEBATING AND ACTUALLY DO SOMETHING!!!!!!
I am very strongly opposed to having a station on or near 9th Ave. NW. The possibility that this might happen has caused me to have a great deal of anger, anxiety, and depression.
Long term thinking vs short term money savings, underground stations and access to events district key, would like to see south community's connected to LRT. LETS GO!
Put the train underground, if not put it by the curb to minimize traffic impacts. Stations in the middle of a road are dumb.
Finish the south leg all the way to seton before starting north phase. Increase bus frequency and routes to north in meantime. I live near potential 16th ave station, and do not agree with doing at grade tracks for one stop that is not needed. Transit for 16th to core is already in place with HOV lanes and buses. Complete south portion properly, and wait until tunnel for north can be funded. At grade crossing at 16th ave would be a disaster and ridiculous at the #1 highway.
I think the green line is a great idea, but the alignment over Prince's Island is not. I am also concerned about the businesses on Center St. The city nearly bankrupted the businesses on 17th avenue with the lengthy upgrades. Let's not do the same to Center St.
To minimize environmental impact, the bridge should not go over the wetlands and the quiet east end of the island. My idea: after the 2St&2Ave Stn, heading N, turn E and run parallel to Riverfront Ave until Centre St, under the upper deck, turn N and run along the E side of the Centre St bridge. Centre St bridge already has an underpass for the river pathway as to avoid potential tracks, could it be widened/upgraded to accomodate more foot/bicycle traffic at the point where it crosses Centre St.
Noise pollution will disrupt the peaceful lifestyle of thousands of waterfront residents. It will have irreversible damage to the quiet and natural environment of Prince's Island Park. The alignment should not pass through the Eau Claire due to low ridership demand from 7 Ave to the Waterfront. Walking and cycling will be greener than taking the train. Too many modes of transportation will cause safety issues for pedestrians and cars, especially in this existing residential zone.
Cost savings do not outweigh impact on congestion, environment, outdoor recreation, and beauty of the river. Don't do it please!!
Speaking from the perspective of a professional engineer who has overseen multi-billion dollar construction projects, I believe the entire Green Line project is poorly defined and should be scrapped ASAP. I have no confidence in The City's ability to manage project schedule and budget.
I am am in favor of the Green Line.
Melbourne Au uses lrt trains that are convertible to buses in dense, built up, congested areas that are very expensive to expropriate land. Buses run in heritage communities and along parkland then settle

Other Comments (Online)
on track to zip out at high speed to more outlying communities that are not as dense and have less urban hardscape. Works like a charm. Saves mega dollars on expropriating and Build tracks.
Prevents the hollowing out of older established communities the way Americans did with their subways
This will ruin the beauty of the downtown Waterfront area, Prince's Island Park and Crescent Heights.
Why ruin Prince's Island Park?!?! Keep the LRT underground!!!!!!
Calgary seems to be destined to be a third rate city with plans like these. Transit should take priority over roads and new communities
Building a Centre St N station is essential. The crossing of the Bow needs to be done in a way that does not interfere with the ecology and human use of Prince's Is Park and the river pathways. The bridge should include a walking and cycling pathway. The alignment through Eau Claire and Chinatown must attract people to the area, not make it more difficult for pedestrians, cyclists, and motorists.
Low floor or not, taking away lanes from Centre Street will create terrible congestion today. Wait till all that densification the Planning team wants to allow... Don't turn Centre Street into the mess that 36 street NE is.
Yes to bridge over princes island. No to surface at centre street at the very least you could move the trains to the lanes next the the sidewalk curb so you don't have train stations in the middle of the road.
The value of princes island park is highly overrated. Putting a bridge over it would not be that big of a deal if done right
Many parks in Calgary have trains around them/through them. Why people are getting up in arms is nonsense and should be ignored. Build the train with proper sound protection and art over the park and no one will care 10 years from now.
I get that putting an LRT on the street is cheaper now but in the long run when traffic becomes an issue we will be forced to put it underground. The combined cost of the decision would be higher than the now costs. Not good long term thinking
IF you absolutely must put the LRT at grade put them in the lanes beside the curbs. This way you can maintain 4 lanes of traffic, minimize cost to build transit stations, and maximize pedestrian safety since they won't be in the middle of the road.
Tunnel! Edmonton trail cannot handle increased traffic
Centre St and 16 Ave are not pedestrian friendly. Unpleasant for accessing transit although transit is much needed here.
Why do we need new downtown stations? Why can't we focus on getting the lines built to the communities who need them and YYC rather than rebuilding existing infrastructure in the downtown core? Council continues to approve new communities with zero transit infrastructure. Developers have capitalized off these misleading promises for years. When will the pandering stop and the actual project begin?
Build only south of the river and connect the North with a BRT until a tunnel can be built.
The safety problems of a surface train are obvious with regular disruptions in cold weather, and when there is a crash that stops everything.
Please rethink this route. Question - Since traffic along Center is going to be a mess with this train, why not just run the train straight down the Center st bridge? Why route from the top of the bridge across Prince's Island when a 4 lane Center st bridge is useless when it reduces to 1 lane each way at the top of the bridge? How do you plan to blast a train through princes's island without impacting the walking paths and impacting the beauty of the area?
I know I'm way too late but I'm sold on the gondola idea (http://gondolaproject.com/category/public-transit/). They're quiet. They can be big (>75) people. Way cheaper than trains. Don't interfere with traffic. Don't need as much staff (1 or 2 per station). Need more capacity? Throw another car onto the

Other Comments (Online)
line. Instead of a constant track you just have posts every x meters. Environmental! All electric. My only 2 questions: how to turn corners? & droop between posts on flat sections?
This is the worst plan I've ever seen. If we don't have money to tunnel the train and do it right (as approved in the original plans), don't do it at all. All communities in this area north of the river are screwed if this goes through. Traffic will be worse than it already is and commuting to and from downtown will be a nightmare. A bridge over Prince's Island Park? Way to wreck one of our prettiest inner city gems. As a current Crescent Heights resident, this infuriates me.
It needs to be underground. We don't need anymore surface crossing. Center street traffic will be disastrous esp during rush hour.
Any new LRT or BRT should not come at the expense of lanes for vehicular traffic. Reducing Centre St to one lane in each direction will significantly increase congestion, commute times, and pollution. If tunneling is not a viable option, then cancel the LRT/BRT or run it somewhere with less impact on drivers like Nose Creek or 4 St NW.
As long as you do not put the LRT in the middle of the road I do not really care if it is above or underground.

Other Comments (In-person)

Other Comments (In-person)
Transit only support [?]0% ish of population -> lower taxes, recreation facilities benefitting more people
Understand priorities of calgarians - maybe bigger benefit doing something else
What is the contingency plan for brake failure on centre street
Add bus lane to bl [?] . bridge
Hill is full of water under pressure So go to Nose Creek use same vehicles better economics
1 street west is a better option for the school for mobility like 10th St NW makes more sense
Edmonton Trail remove parking lanes bottom too steep
Nose Creek lots of development opportunity connect to existing at zoo
Scramble crosswalks on centre st ?
Is there research or data that explains whether a train is good or bad for adjacent businesses?
Building it for the wrong reason
need to see budget for full line
After hours not enough [?] who is using it just for events (events centre)
need a more condensed city to make this work doesn't make sense with sprawl

Other Comments (In-person)
Economics - ridership - sliding fees - pay more from suburbs cheaper for inner city - interest rates
greenline if not underground cancel it
As a pedestrian how do you cross over centre to bluff
Centre street as a community destination not a city destination
16th is an EMS corridor how will priority work trains/EMS
current situation we can't afford it + don't need it anymore
Extension to airport is more important re-examine nose creek
university more population
downtown no one is going there now
LRV will take out 4 lanes not two
need to measure actual width
Build more than just the core and the south
Not completely funded yet - how do you start w/o all the money
Operating costs not enough \$ for it right now downturn downtown
What is the ridership in the south that shows demand for the line to go south?
cost benefit analysis share the negative information as well
It is important to actually calculate the negative impacts of this option. What are the <u>costs</u> of these negative side effects.
How will meaningful (=ability to understand impact on my business) public consultation be make possible + when?
WHY ISN'T THE CITY SPEAKING TO THE NEGATIVE EMPACTS? cost/benefit analysis
if not enough money to do tunnel don't build
Operating costs 40\$ million shortfall a year passed onto taxpayers.
Engage Portal - comments deleted?
GL not necessary anymore Neil McKendrick not needed BRT is faster

Other Comments (In-person)
AWFUL TO HAVE IT SURFACE
ROUTE TO AIRPORT IS MORE IMPORTANT
DON'T DO IT IF NOT ENOUGH \$ GO UNDERGROUND
ECONOMY DOESN'T JUSTIFY IT
DON'T SEE RIDERSHIP BEING REALIZED
This is meant to be a legacy project. Break it into two segments if we can't do this right now
Try to get construction done as quickly as possible to minimize length of impact
WHY ISN'T THE AIRPORT PRIORITY FOR TRANSIT?
Find a way to reduce noise as the train enters the station
NO RUSH TRAIN SHOULD BE DONE WELL PRESERVE NATURE SAFETY, QUIET
Safety is not stated clearly or explicitly enough in the design principles
Access to Ramsay Station over tracks/ under tracks
water treatment plan dam
Single line is stupid -
Land coming back? Harvard waiting for City Elevation difference wait for 3'6 too slow/ice/snow

A wide-angle photograph showing the Peace Bridge in Calgary, Alberta. The bridge's distinctive red, curved steel arches are prominent in the foreground. Beyond the bridge, the Bow River flows towards the downtown skyline, which includes several modern high-rise buildings. The sky is blue with scattered white clouds.

Green Line Updated Alignment Survey

Citizens' View Panel

March 26, 2020

Prepared by:

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Background and Methodology

Background

Citizens' View is an online panel that encourages citizens to participate in shaping City of Calgary programs and services through surveys, discussions and engagement activities.

The Green Line is Calgary's next LRT line. Construction of the first 20km of the Green Line, referred to as Stage 1, is anticipated to begin this year, and will extend from 16 Avenue N (Crescent Heights) to 126 Ave SE (Shepard). An updated Stage 1 route was presented to Calgary City Council in January. The purpose of this survey was to gather feedback from Citizens' View panel members about awareness of and attitudes toward the updated Stage 1 Green Line route.

Methodology

An online survey was conducted with Citizens' View panelists on February 20, 2020. The survey was sent out to 2,818 panelists. Among the 1,526 who came to the survey site, 1,131 panelists (40% of the outgo) completed the survey by March 1, 2020.

The following findings are not considered statistically representative of all Calgarians. The work is exploratory as a result of the make up of panelists currently on the Citizens' View panel. The results should be regarded as directional and should not be projected to the larger population without research with a representative sample of citizens.

NOTE: A day prior to the start of fieldwork for this survey, there was a local media report about a private event with City officials and a group interested in pausing the Green Line project. This may be reflected in some respondent comments.

<https://www.cbc.ca/news/canada/calgary/green-line-private-event-petroleum-club-calgary-1.5467592>

Key Findings



Key Findings

Most panelists are familiar with the Green Line transit project.

- Eight-in-ten panelists are 'very' or 'somewhat' familiar with the Green Line project. However, only half of panelists have seen, read or heard anything about the proposed changes to the Green Line route. Of those that have heard/read or seen something about the realignment, one-quarter are confident enough to consider themselves 'very' familiar with the proposed updates. A further six-in-ten are 'somewhat' familiar.

More than eight-in-ten panelists feel that the Green Line is important for The City.

- Despite this, only six-in-ten feel that their own quality of life will be improved as a result of the project.

When comparing the original route to the updated route, panelists are most likely to cite cost savings as an opportunity of the updated route and disruptions to traffic/pedestrians as a challenge of the realignment.

- It is worth noting that one-quarter of panelists who commented see no opportunities with the new alignment, while one-tenth see no challenges to the updated route.

For the updated focus areas of Centre Street North, Downtown and the Beltline, panelists rank not interrupting vehicular traffic routes and improving access for pedestrians as most important out of the attributes tested.

- Three-quarters of panelists or more felt every attribute is important for these updated routes.

Key Findings – cont'd

Opinions on the Bow River Crossing show panelists believe the updated line resulting in cost savings for future expansions of the Green Line is more important than reductions to the cost of the project.

- Though the attributes found to be important in other focus areas hold true for the Bow River Crossing, resulting cost savings for future expansions of the Green Line and reductions to the associated construction risks prove to be slightly more important.
- Once again, all attributes tested are important to more than three-quarters of panelists.

When asked about a variety of priorities for the Green Line overall, maximizing connectivity to other transit and maximizing safety for pedestrians, vehicles and transit users are most important.

- Nearly three-quarters of panelists feel these attributes are 'very' important.

Panelists offer mixed opinions on what they feel the priority for decisions makers should be regarding the Green Line, however cost and user experience top the list.

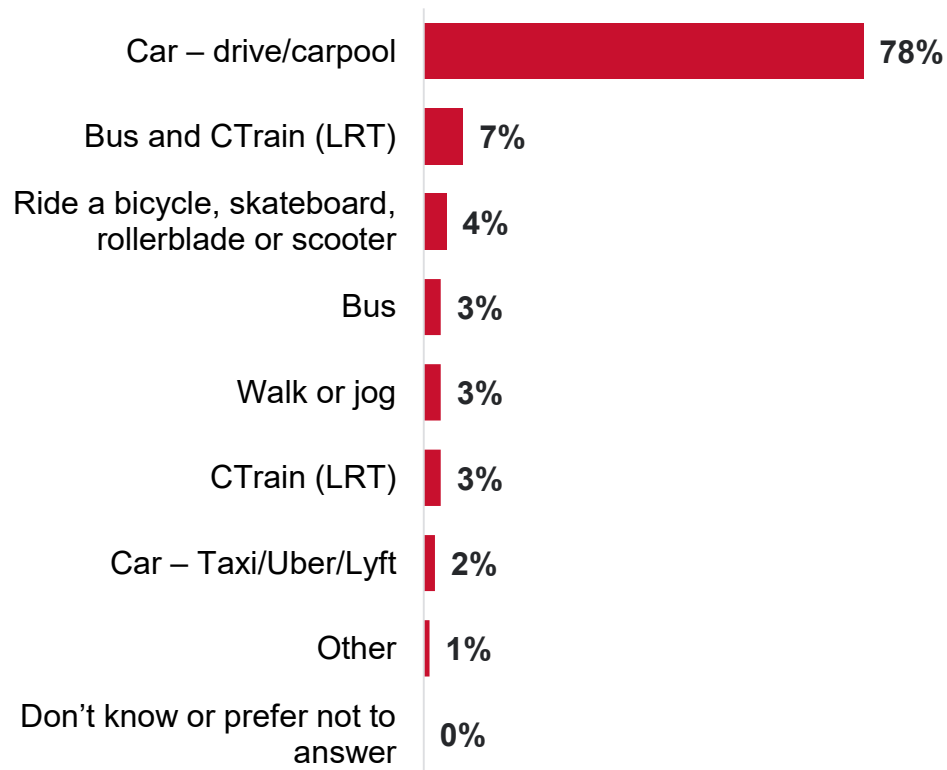
- Cost was mentioned by nearly one-third of all panelists (32%) as the desired priority for decision makers when it comes to the Green Line. However, there were still a number of panelists (18%) that emphasized the importance of doing the project right the first time, including some who specifically noted the added cost of 'doing it right' is worthwhile.
- User experience was listed as something that should be of prime importance to decision makers, mentioned by two-in-ten panelists (22%).

Detailed Findings



Primary Mode of Transportation

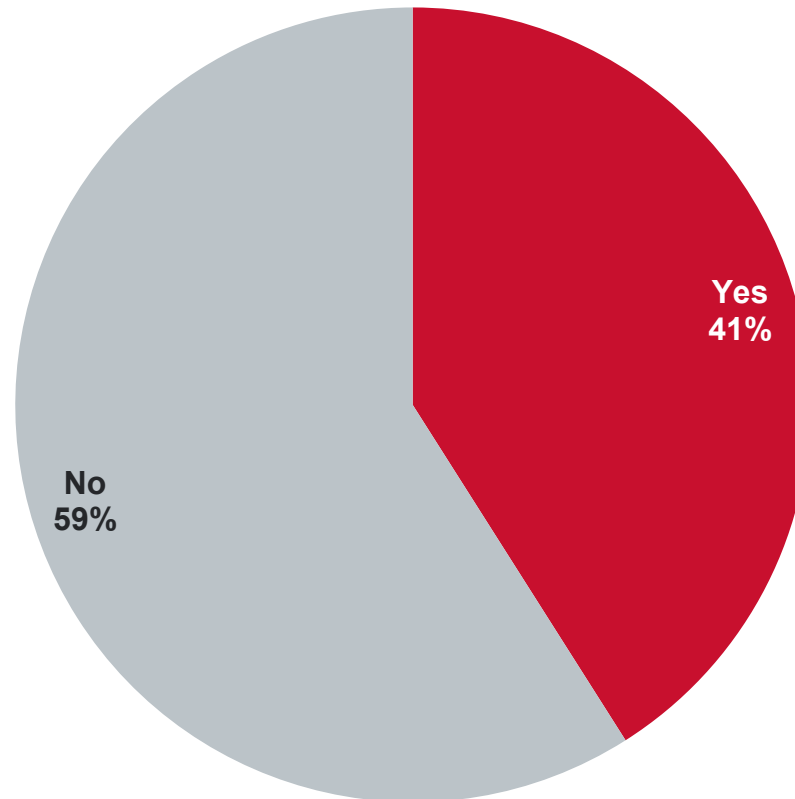
The large majority of panelists (78%) state their primary mode of transportation to get around the city is by car – either driving themselves or car pooling. Bus and/or CTrain is mentioned as a primary mode of transportation by only 13% (7% combination of bus and CTrain, 3% bus only, 3% CTrain only). Very few indicate that their primary mode of transportation is non-motorized.



Q: Over the past year, what would you consider your primary mode of transportation to get around the city? (n=1,131)

Household Use of Transit

Despite bus/CTrain not being prominent as a primary means of getting around the city, four-in-ten panelists (41%) indicate that they, or someone in their household, use public transit at least a few times per week.



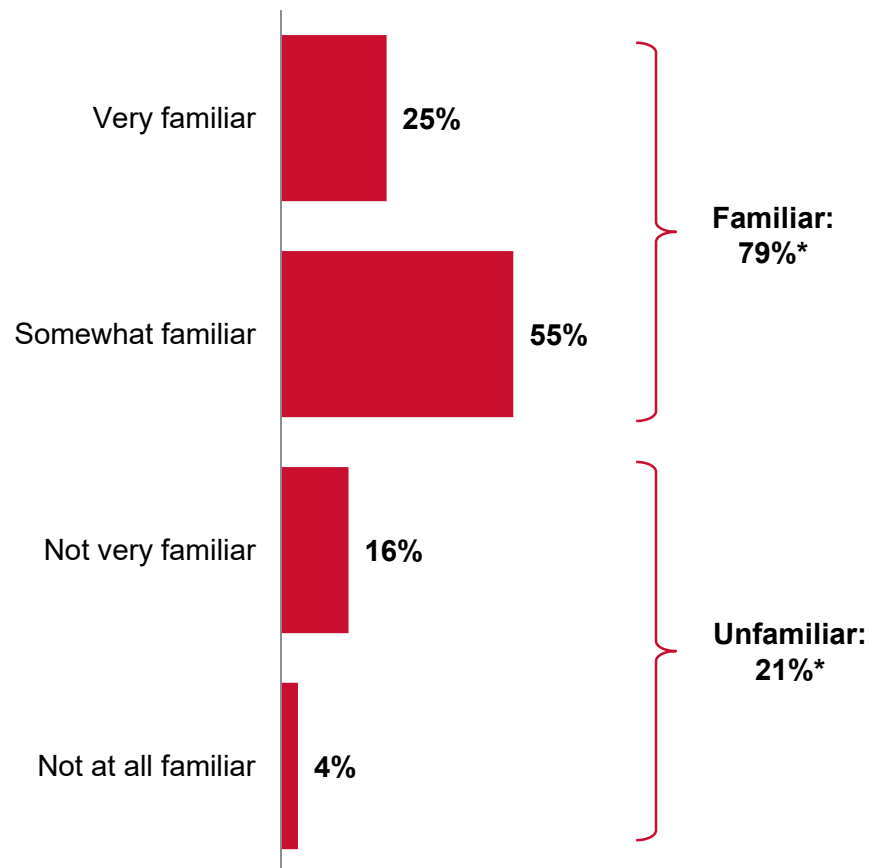
Q: Do you or anyone else in your household use public transit at least a few times per week? (n=1,131)

Awareness and Impressions of Green Line in General



Familiarity with Green Line Project

Most panelists (79%) state they are familiar with the Green Line transit project (25% 'very' familiar, 55% 'somewhat' familiar). Only 4% of panelists are not at all familiar with the Green Line transit project.

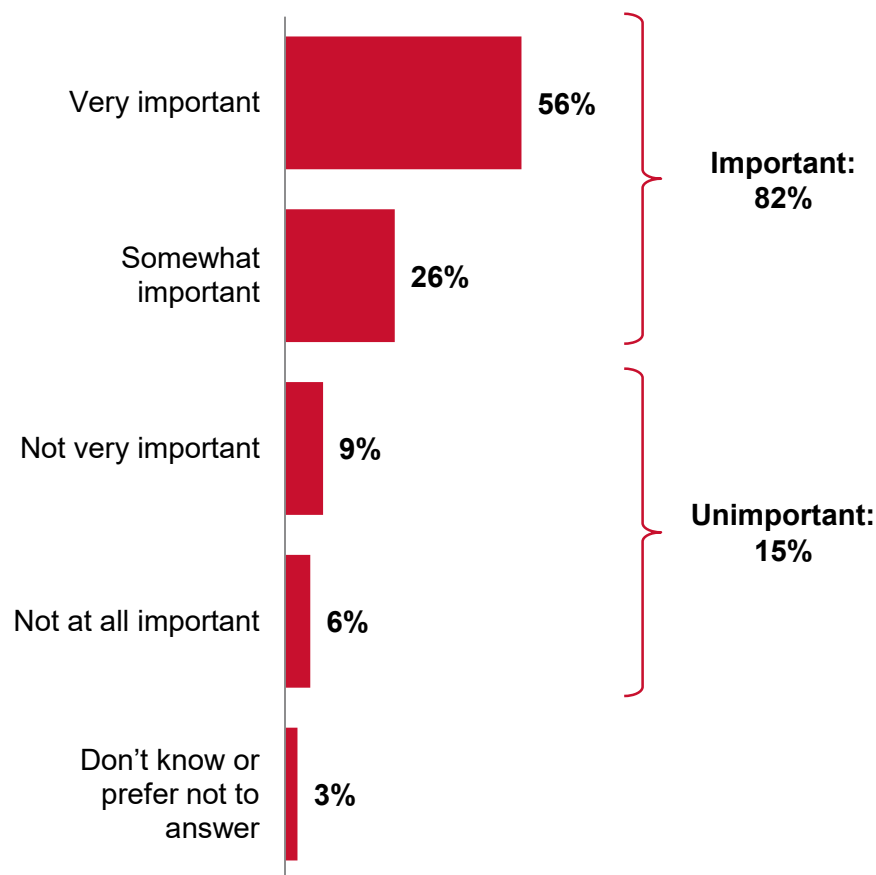


*Rounding

Q: The Green Line is Calgary's next LRT line. How familiar would you say you are with this transit project? Are you... (n=1,131)

Perceived Importance of Green line

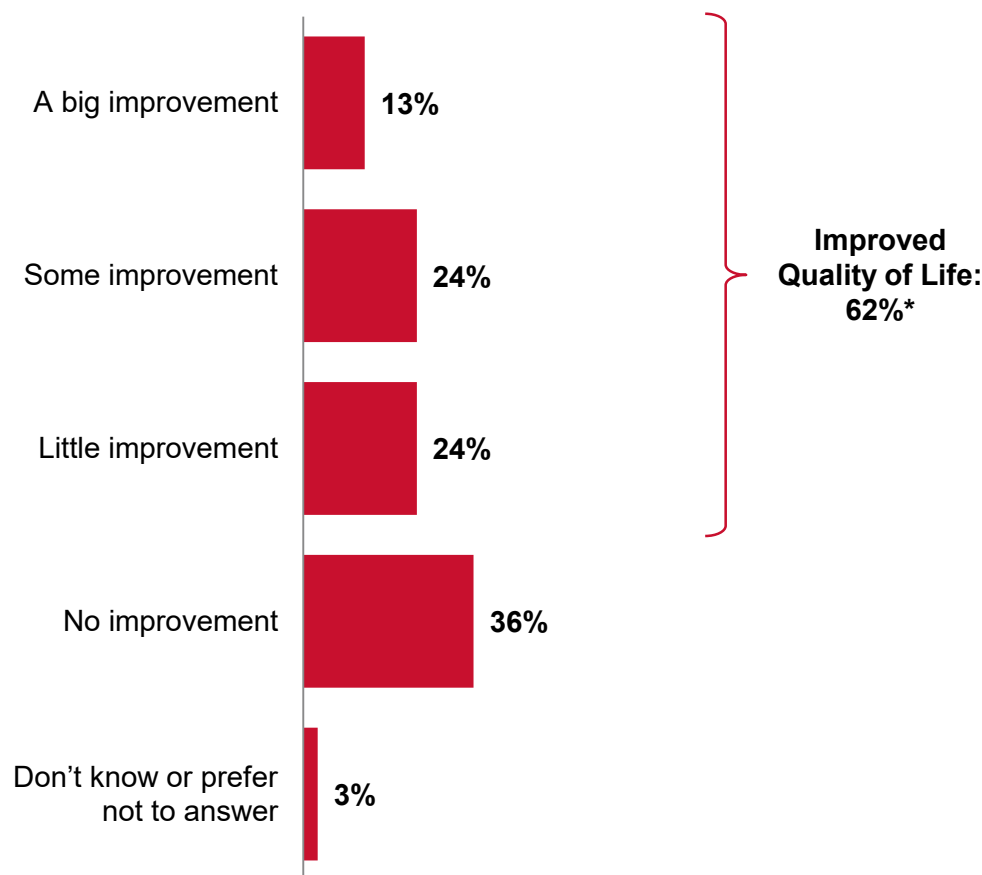
Panelists with any familiarity of Green Line were asked about the importance of the new Green Line for The City of Calgary. More than eight-in-ten panelists (82%) agree that it is important, with more than one-half (56%) indicating the Green Line is 'very' important.



Q: How important do you think the new Green Line is for The City of Calgary? (n=1,083)

Perceived Effect on Quality of Life

Despite eight-in-ten panelists feeling Green Line is important for The City of Calgary, just over six-in-ten (62%) feel that it will improve their own quality of life. One-third (36%) feel there will be 'no improvement' to their quality of life as a result of the Green Line.

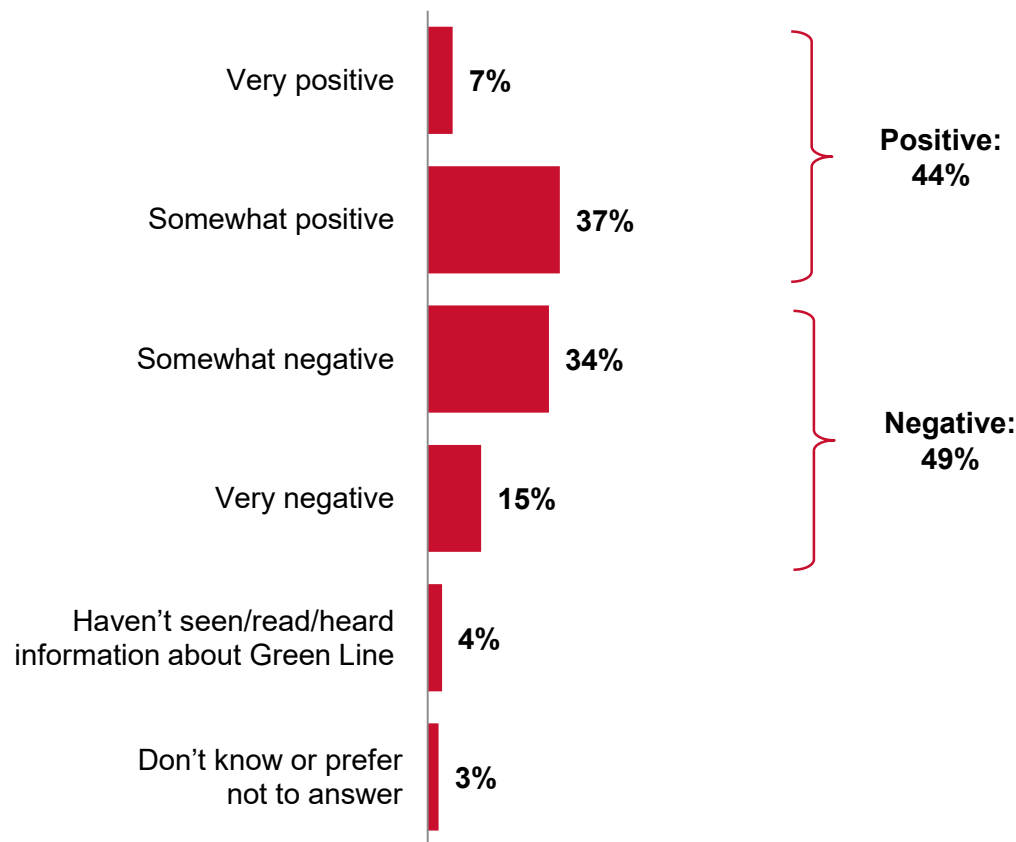


*Rounding

Q: How much of an improvement, if any, do you think the new Green Line will make **to your own** overall quality of life? (n=1,083)

Public Sentiment

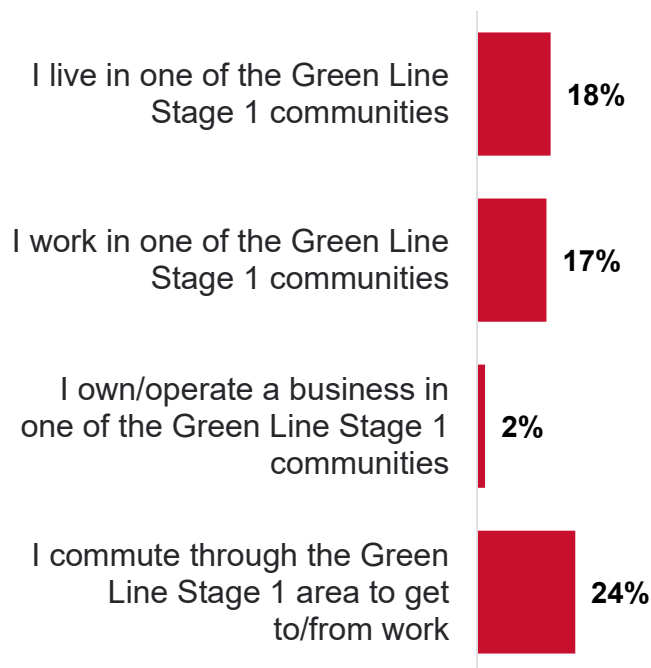
Panelists with any familiarity of Green Line are split on how they feel about what they are seeing, reading and/or hearing about the Green Line LRT project – 44% indicate what they see/read/hear is positive, while 49% state it is negative.



Q: Thinking about all of the information you have seen, read or heard about the Green Line LRT, overall would you say that what you are seeing/reading/hearing about this project is... (n=1,083)

Stage 1 Communities

To understand the relationship of panelists to the Green Line, they were provided with a list of Stage 1 Green Line communities and asked if they live in, work in, operate a business in and/or commute through any of these communities. One-quarter (24%) commute through a Green Line Stage 1 community, fewer than two-in-ten live in an affected community (18%) or work in one of these communities (17%).



Multiple responses allowed; total will not add to 100%

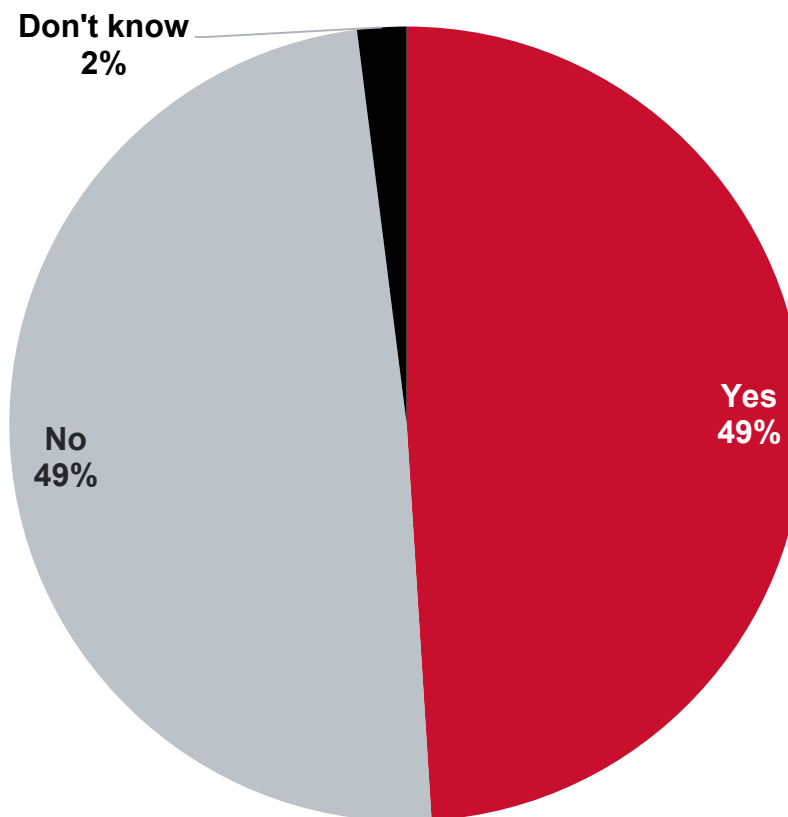
Q: Construction of the first 20km of the Green Line, referred to as Stage 1, is anticipated to begin this year, and will extend from 16 Avenue N (Crescent Heights) to 126 Ave SE (Shepard) and includes the following communities: Beltline, Crescent Heights, Douglasdale/Douglas Glen, Downtown (including Commercial Core, West End and East Village), East Shepard Industrial, Inglewood, Lynnwood, McKenzie Towne, Millican, Mount Pleasant, Ogden, Prestwick, Quarry Park, Ramsay, Riverbend (including South Hill Mobile Home Park), and Tuxedo Park. Please review the following statements and select all that apply. (n=1,131)

Awareness and Impressions of the Realignment



Awareness of Stage 1 Route Realignment

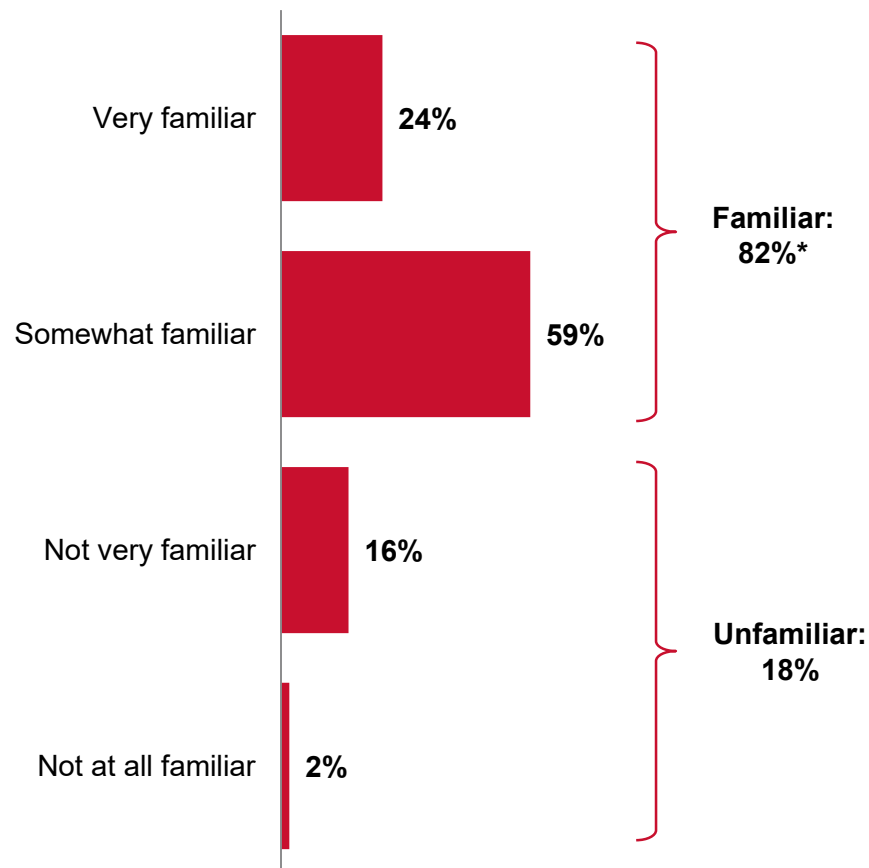
Nearly one-half of panelists (49%) have seen, read or heard about the proposed changes to the Green Line route, while the same proportion (49%) were unaware.



Q: An updated Stage 1 route was presented to Calgary City Council in January. Have you seen, read or heard about the proposed changes to the Green Line route? (n=1,131)

Familiarity with Stage 1 Route Realignment

Of those that had seen, read or heard about the realignment, 82% feel they consider themselves to be familiar with the proposed updates to the Green Line Stage 1 route.



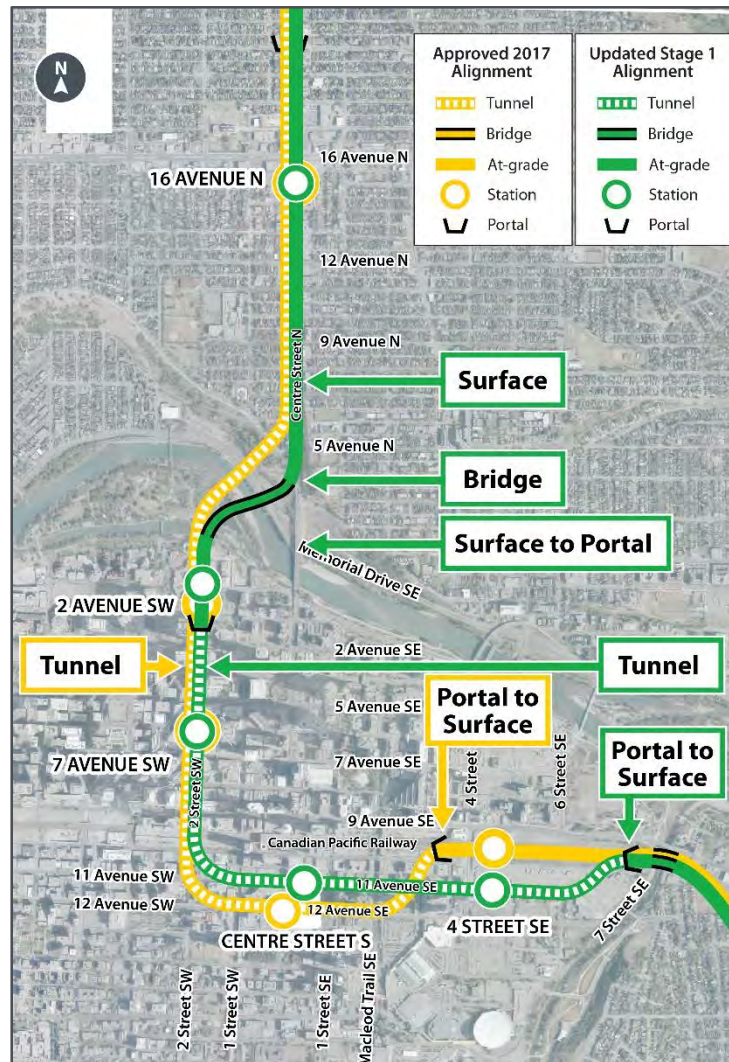
*Rounding

Q: How familiar would you say you are with the proposed updates to the Green Line Stage 1 route? (n=1,131)

Perceived Impact of the Realignment



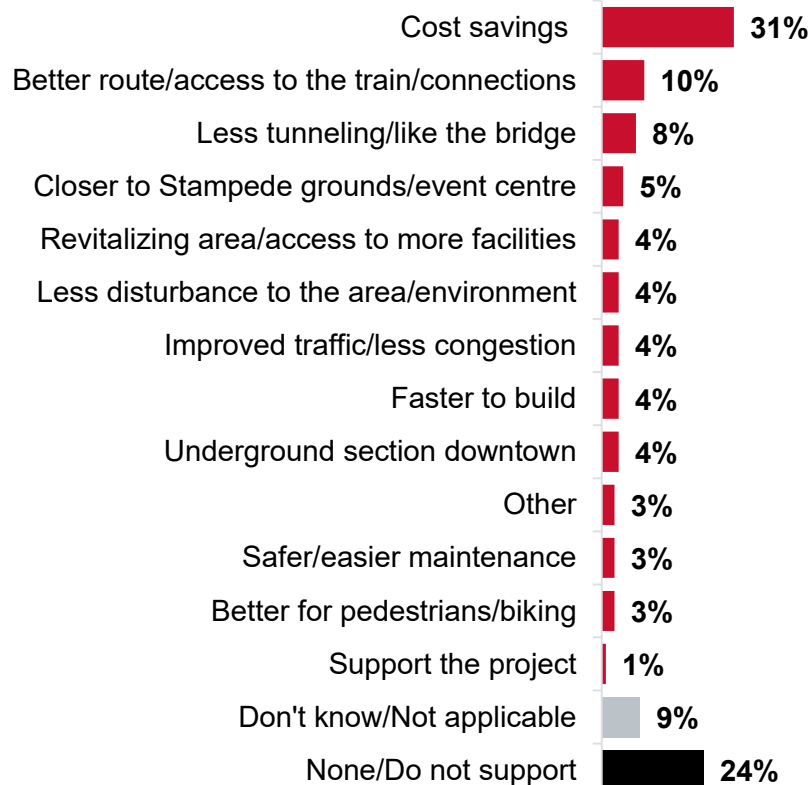
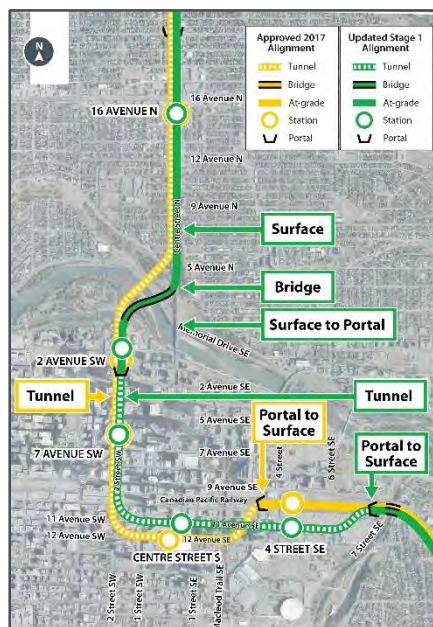
Stage 1 Route Realignment



This map highlights the difference between the updated Stage 1 route (green) and the originally approved Stage 1 route (yellow).

Stage 1 Route Realignment Opportunities

When shown a map and asked about opportunities of the Stage 1 realignment, cost savings is cited by nearly one-third of panelists (31%), with one-quarter (24%) indicating there are no opportunities. One-in-ten (10%) mention access to the train/connections and 8% feel less tunneling is an opportunity.

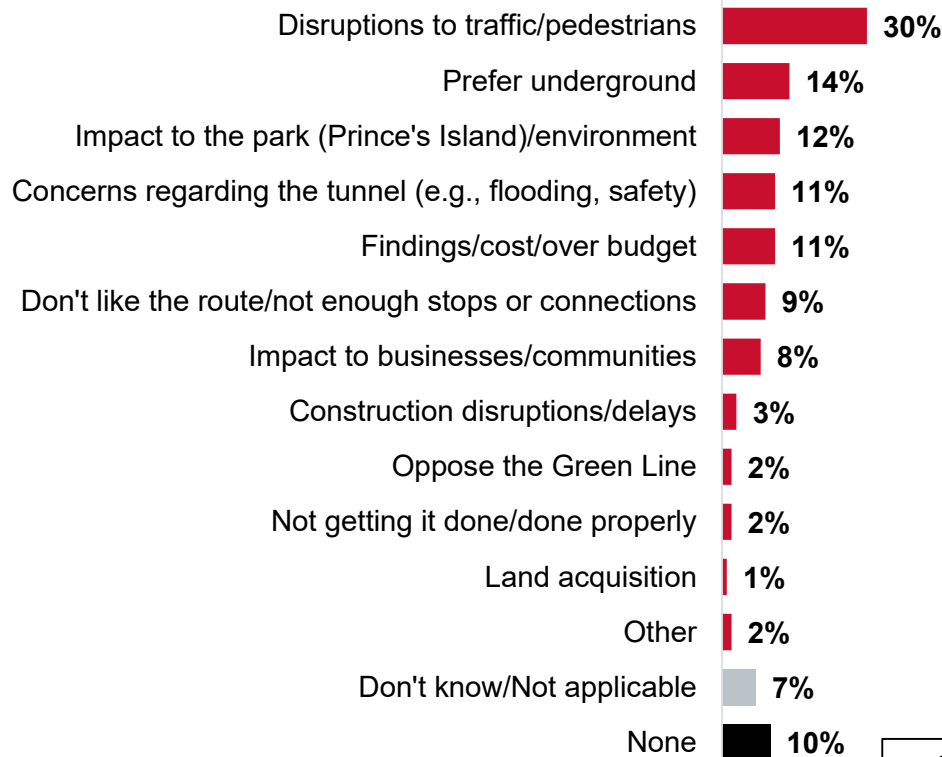
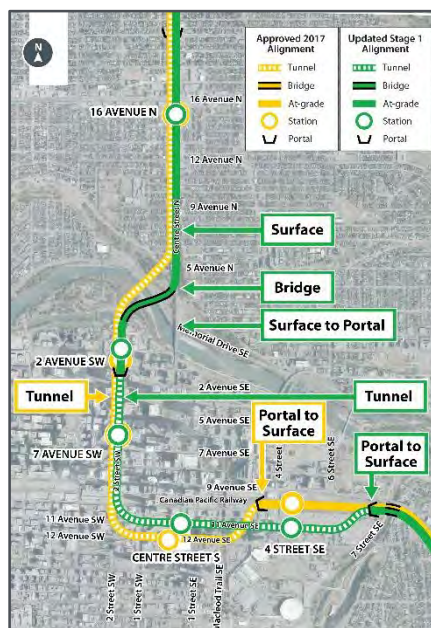


Multiple responses allowed; total will not add to 100%

Q: What **opportunities**, if any, do you see with the updated Stage 1 route (shown in green)? (n=705)

Stage 1 Route Realignment Challenges

When asked about challenges seen with the updated Stage 1 route, the most prominent concern is disruptions to traffic and pedestrians, with three-in-ten panelists (30%) mentioning this. Other challenges include a preference for the underground tunnel where it has been removed (14%), the impact on Prince's Island Park (12%) and concerns regarding the remaining tunnel, such as flooding and safety (11%). Cost concerns such as budget overruns are also mentioned by one-in-ten panelists (11%).



Multiple responses allowed; total will not add to 100%

Q: What **challenges**, if any, do you see with the updated Stage 1 route (shown in green)? (n=783)

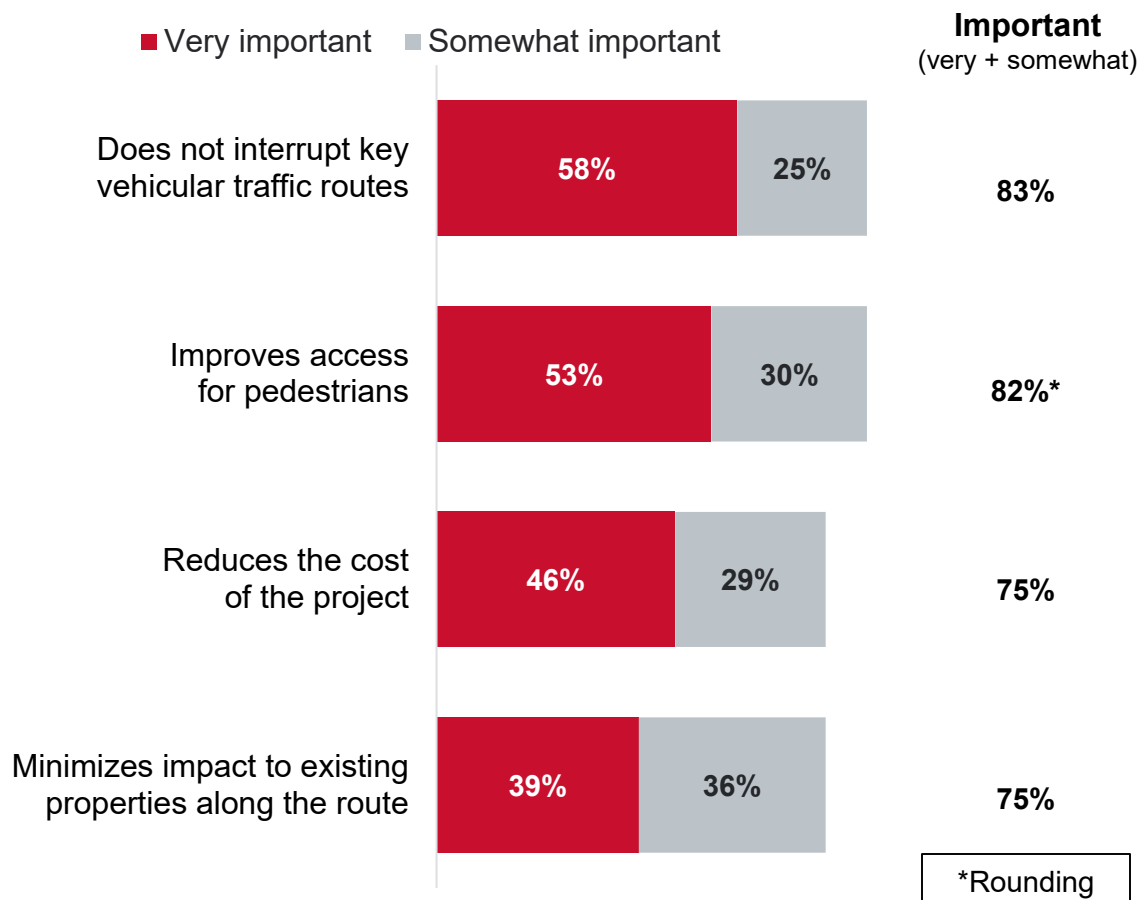
Stage 1 Four Focus Areas – Area One



Within the updated Green Line Stage 1 route, there are four focus areas. The first is **Centre Street N**. The key change for Centre Street N is a surface track up Centre Street (as opposed to an underground tunnel) with a surface station south of 16 Avenue N.

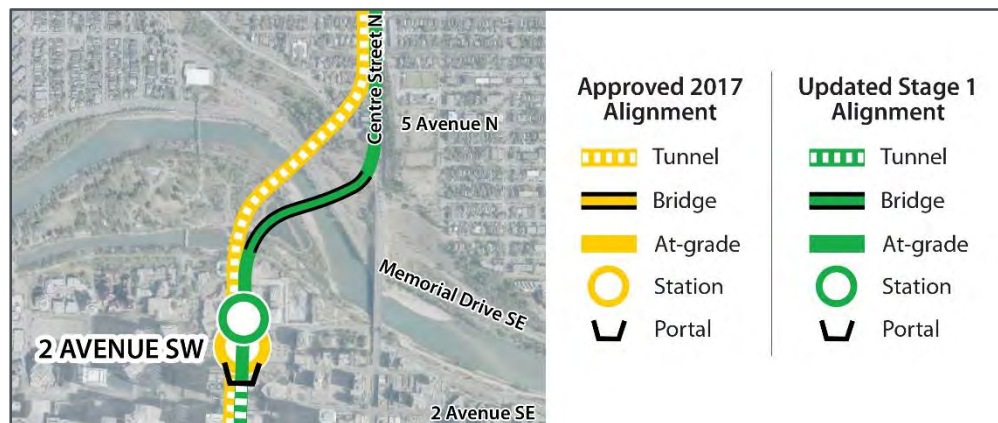
Focus Area One – Centre Street North

At least three-quarters of panelists feel that all attributes tested for the updated route along Centre Street North area are important. More than eight-in-ten panelists indicate ensuring the route does not interrupt key vehicular traffic routes (83%) and that it improves access for pedestrians (82%) are most important.



Q: Thinking specifically of the updated route along Centre Street North, how important is it to you that the updated route: (n=1,131)

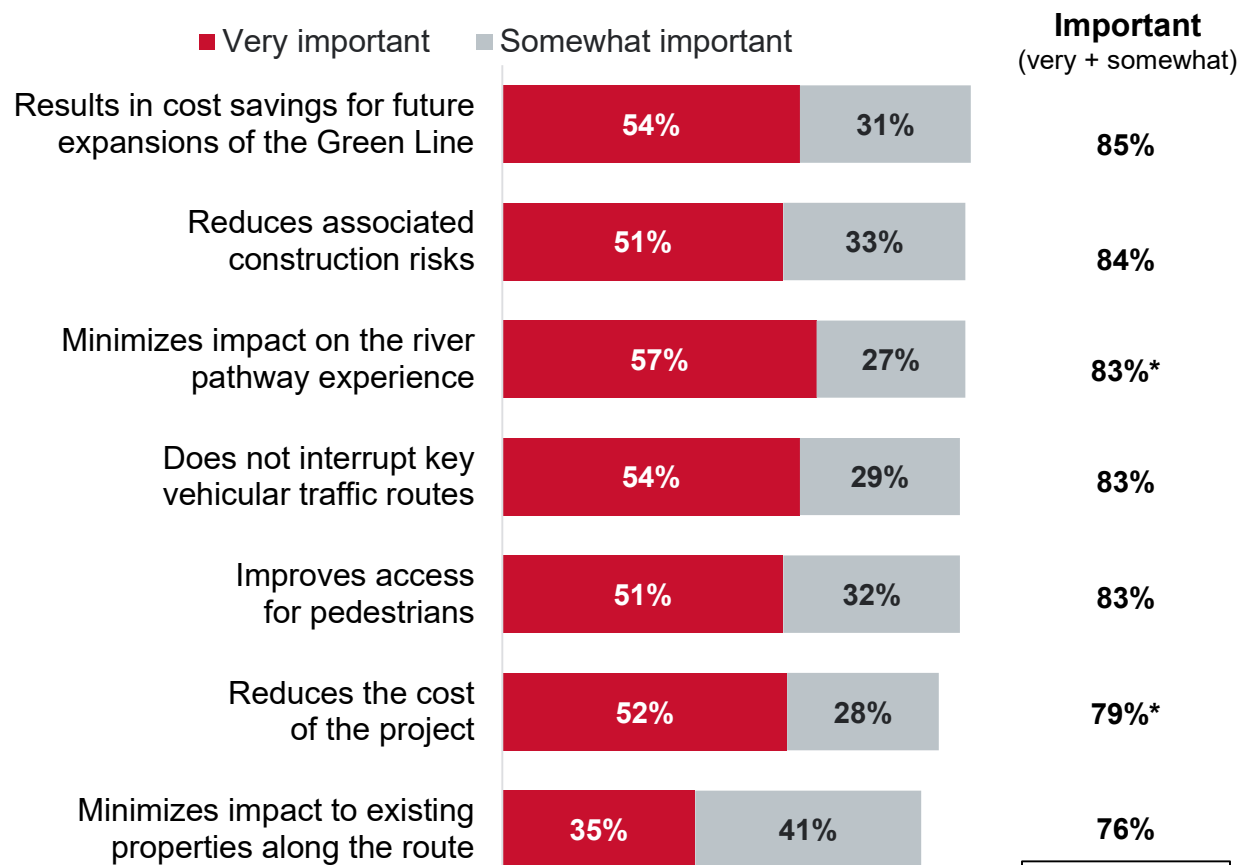
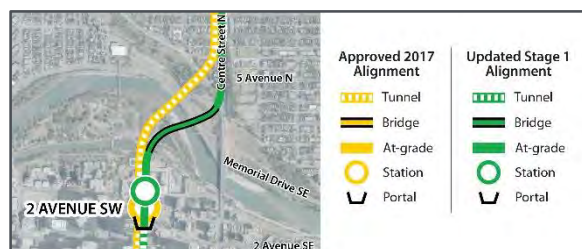
Stage 1 Four Focus Areas – Area Two



The second area of focus for the updated Green Line Stage 1 route is **Bow River Crossing**. The key change for the Bow River Crossing is crossing via bridge rather than tunneling under the river.

Focus Area Two – Bow River Crossing

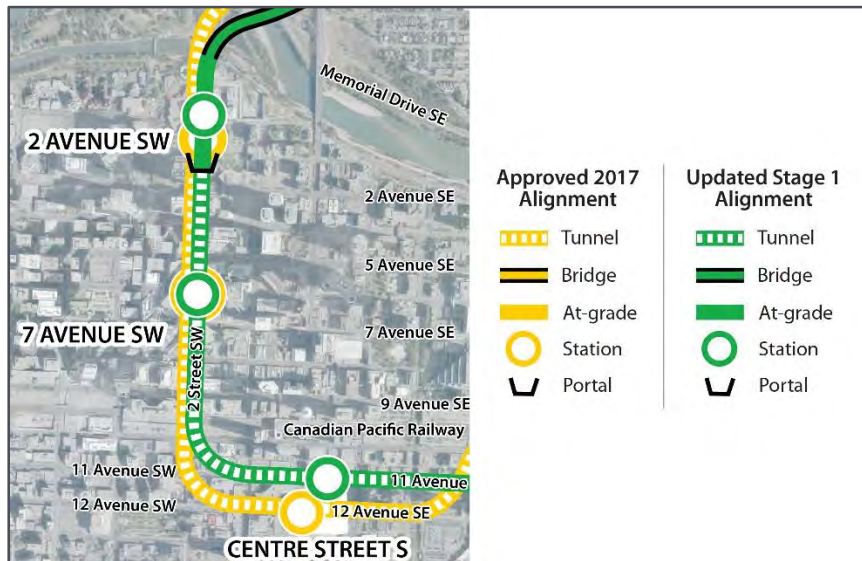
In considering the second focus area, Bow River Crossing, panelists cite resulting cost savings (85%) and a reduction of construction risks as being most important (84%). However, other attributes of importance are not far behind, with at least three-quarters of respondents feeling all attributes are important.



*Rounding

Q: Thinking specifically of the updated route over the Bow River, how important is it to you that the updated route: (n=1,131)

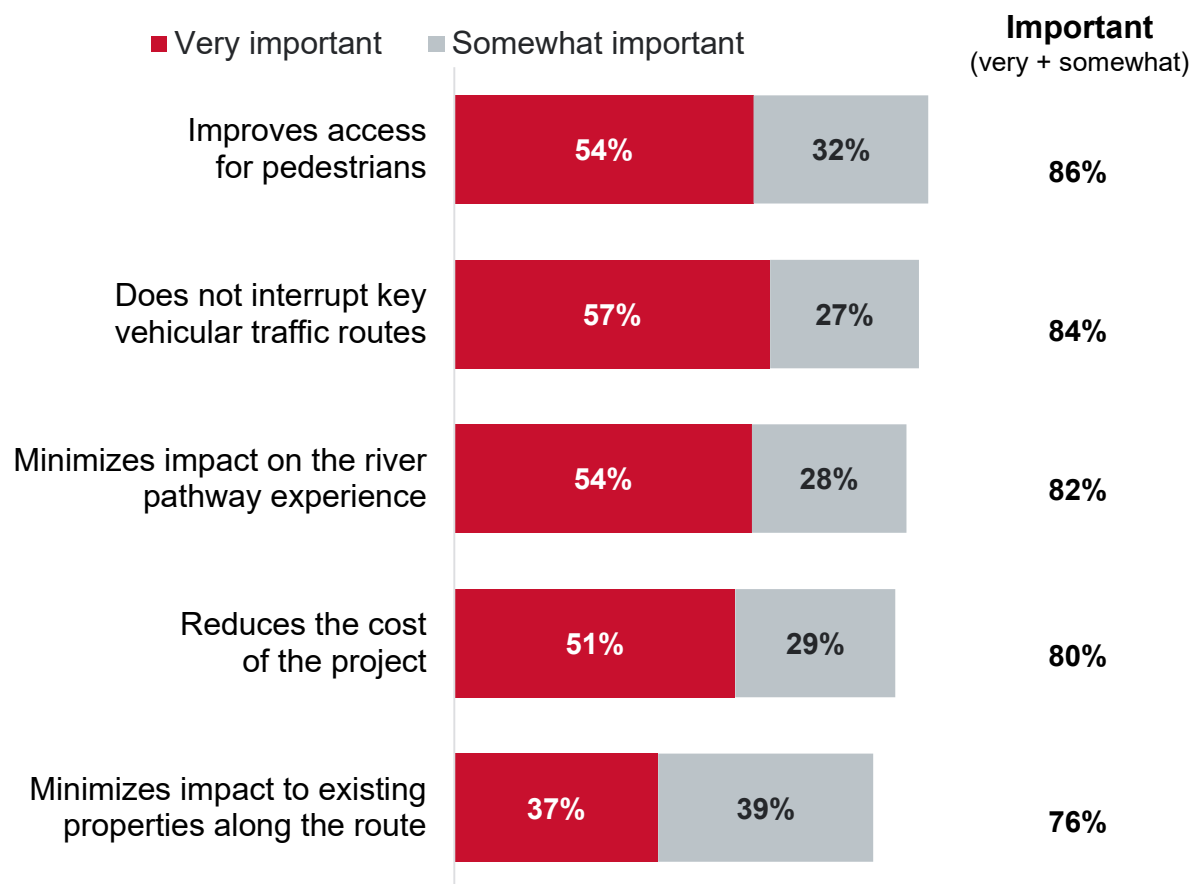
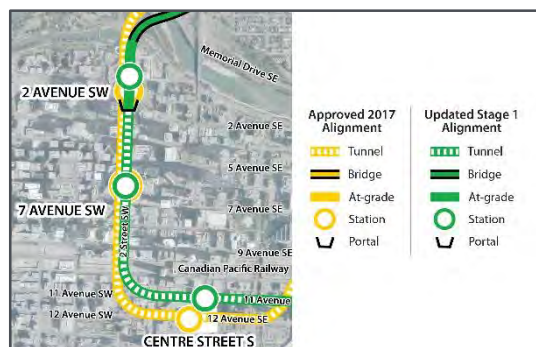
Stage 1 Four Focus Areas – Area Three



The third area of focus for the Green Line Stage 1 updated route is the **Downtown**. The key change for the Downtown is the inclusion of a surface station at 2 Avenue SW and an underground station at 7 Avenue SW.

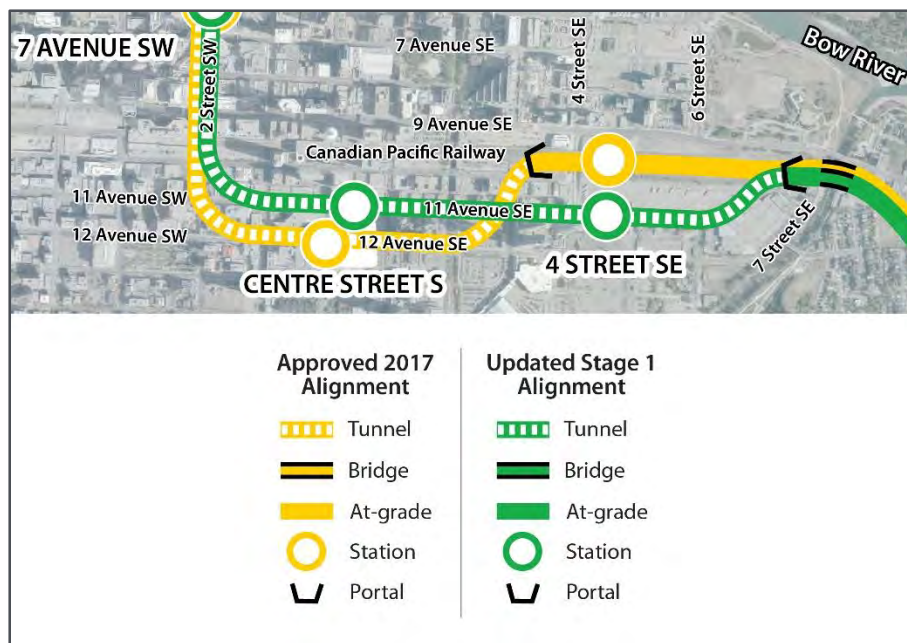
Focus Area Three – Downtown

As with the previous two focus areas, at least three-quarters of panelists also feel that each attribute tested for Downtown is important. For this area, the most important attributes are improving access for pedestrians (86%) and not interrupting key vehicular traffic routes (84%).



Q: Thinking specifically of the updated route in the Downtown, how important is it to you that the updated route: (n=1,131)

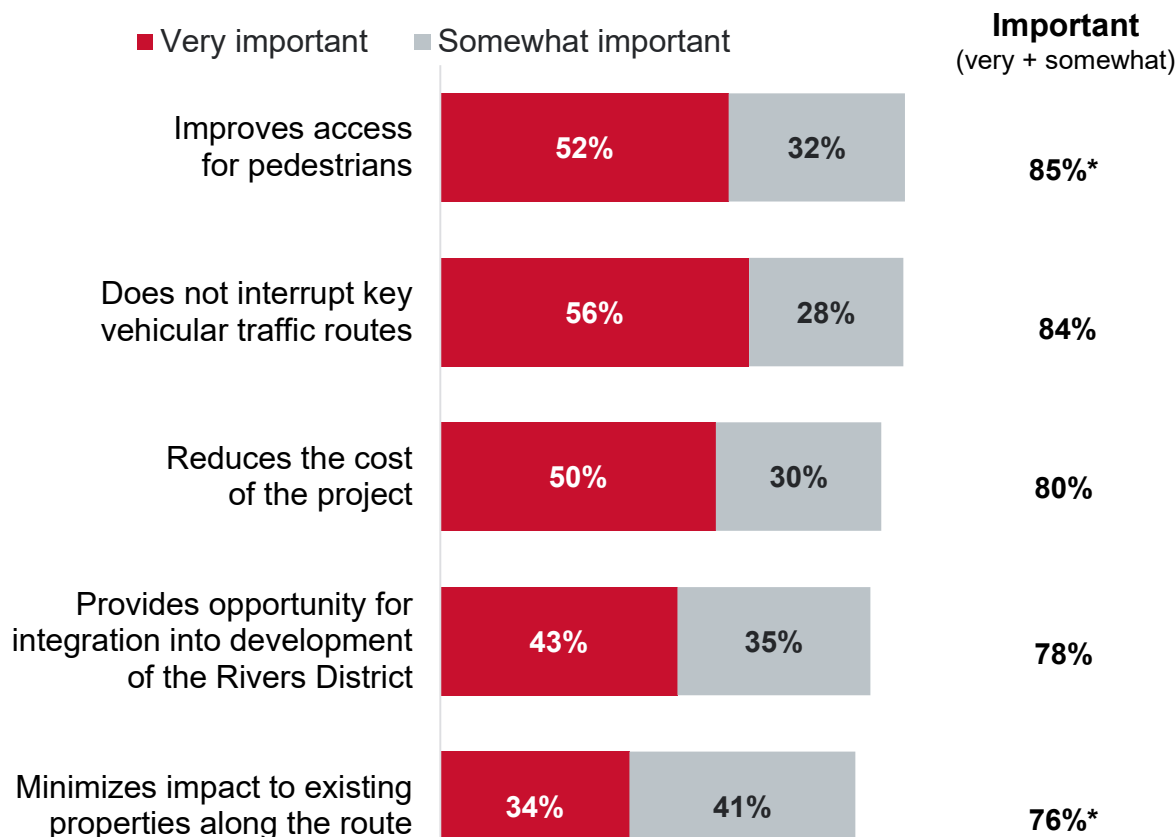
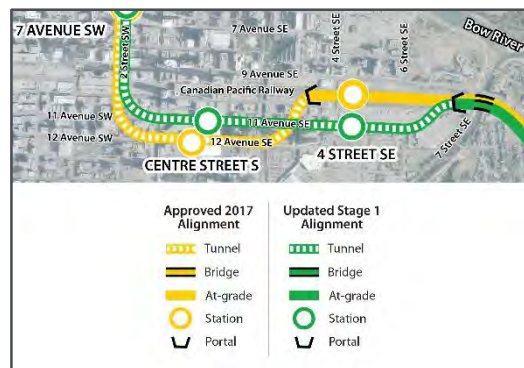
Stage 1 Four Focus Areas – Area Four



The final area of focus for the Green Line Stage 1 updated route is the **Beltline**. The key change for the Beltline is the move to 11 Avenue S. The originally approved route was on 12 and 10 Avenues S.

Focus Area Four – Beltline

Once again, the most important attributes mentioned by panelists, for the Beltline area are improving access for pedestrians (85%) and not interrupting key vehicular traffic routes (84%). As with the other focus areas, at least three-quarters of panelists feel each attribute is important.



*Rounding

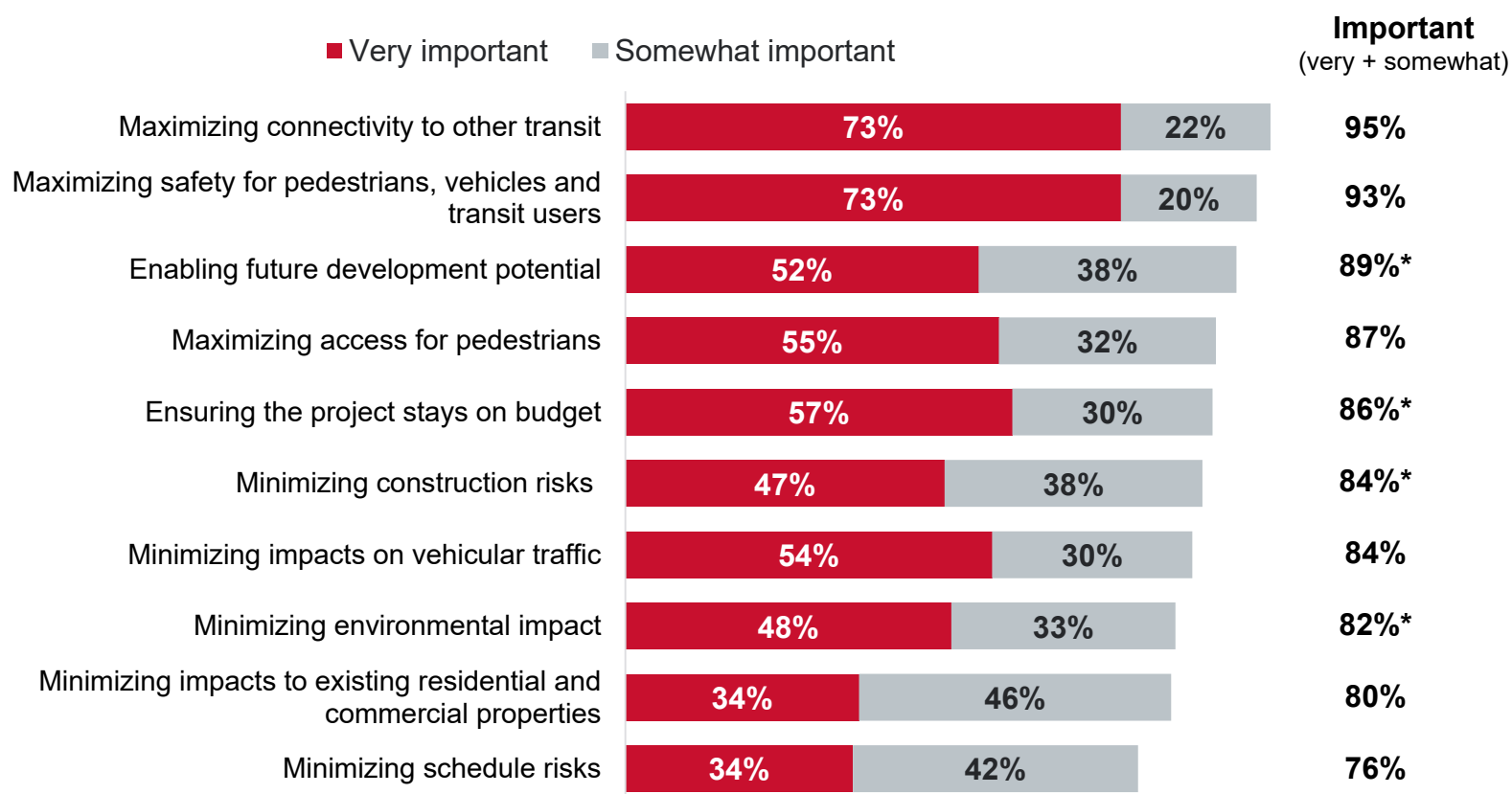
Q: Thinking specifically about the updated route in the Beltline, how important is it to you that the updated route: (n=1,131)

Green Line Realignment Priorities



Importance of Different Priorities

Panelists were asked about the importance of various aspects of the Green Line overall. Maximizing connectivity to other transit and the safety of pedestrians, vehicles and transit users were noted as most important, with more than nine-in-ten panelists (95% and 93%, respectively) citing them as important. Nearly three-quarters (73%) noted these attributes as 'very' important.

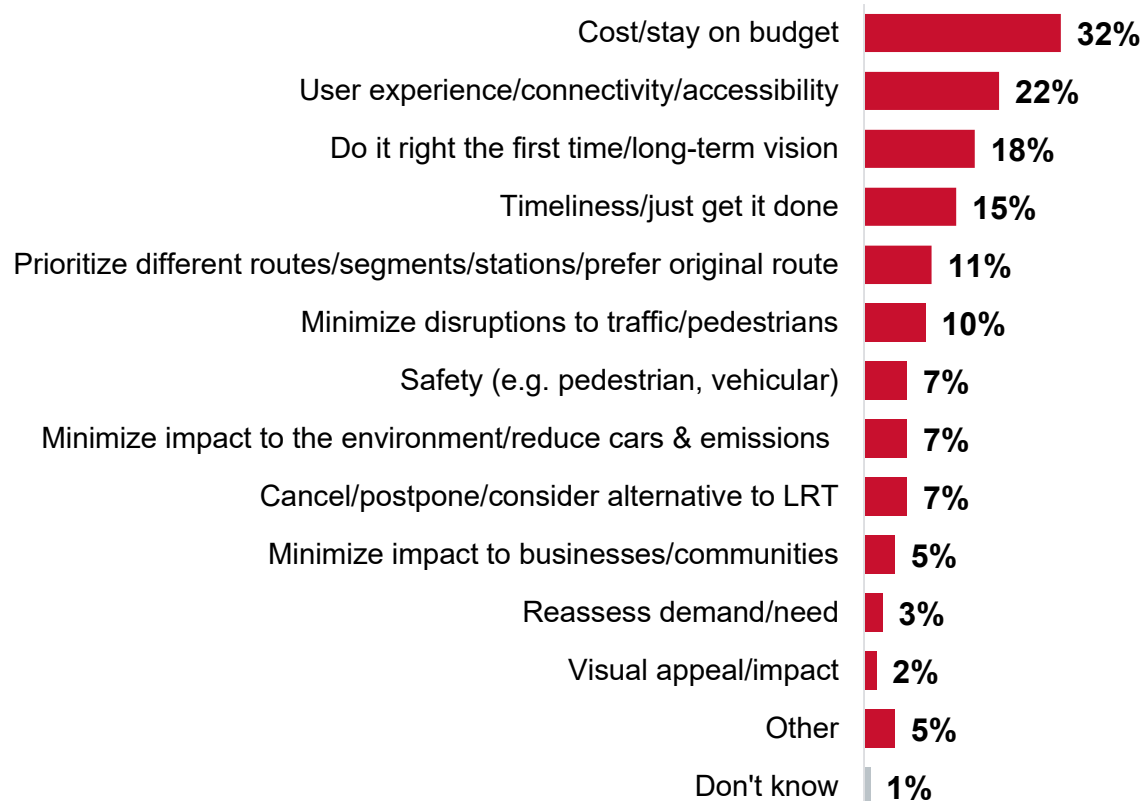


*Rounding

Q: Overall, how important are each of the following to you regarding the Green Line: (n=1,131)

Biggest Priority for Decision Makers

Cost was mentioned by nearly one-third of all panelists (32%) as the desired priority for decision makers when it comes to the Green Line. However, there were still a number of panelists (18%) that emphasized the importance of doing the project right the first time, including some who specifically noted the added cost of 'doing it right' is worthwhile. User experience was also listed as something that should be of prime importance to decision makers, mentioned by two-in-ten panelists (22%).

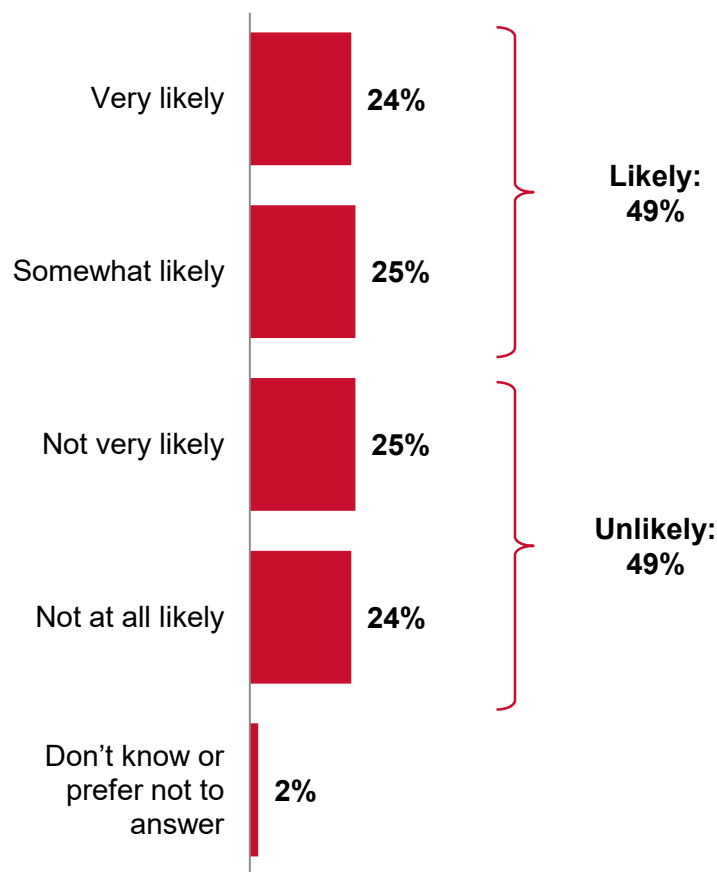


Multiple responses allowed; total will not add to 100%

Q: In your opinion, what should the biggest priority be for decision makers when it comes to the Green Line? (n=998)

Likelihood to Use Stage 1

One-half of panelists (49%) state they or someone in their household are likely to use the Stage 1 of the Green Line once it is completed. They are equally as likely to use Green Line as not to use it.



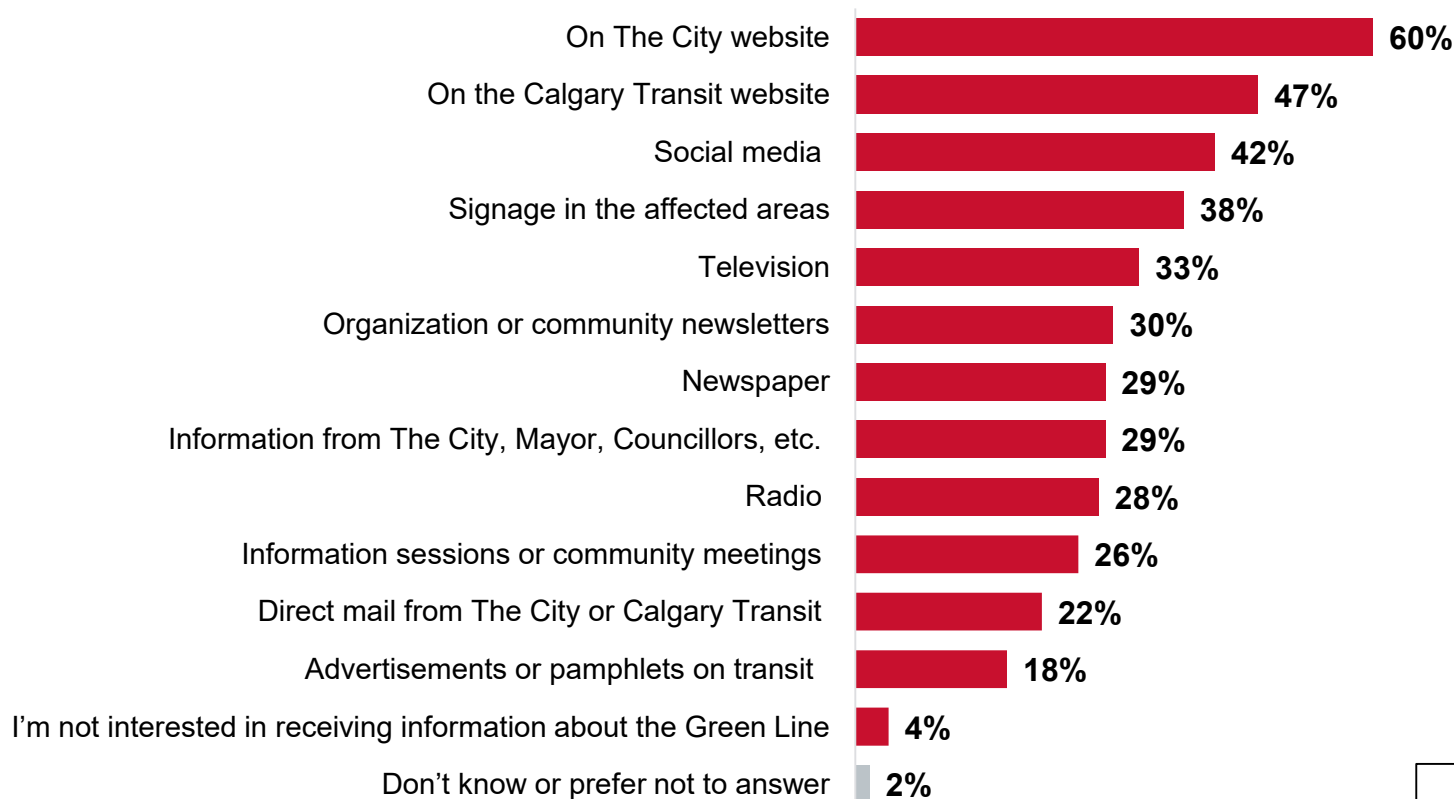
Q: Once Stage 1 of the Green Line is complete, how likely are you or someone in your household to use it? Are you... (n=1,131)

Green Line Communications



Preferred Information Channel

City websites lead the way for how panelists would prefer to access information about the Green Line Transit project, with six-in-ten (60%) mentioning the City website and just under half (47%) mentioning the Calgary Transit website. Social media (42%) and signage in the affected areas (38%) are also stated by more than one-third of panelists. Only 4% of panelists indicate they would not be interested in receiving information about the Green Line transit project.



Multiple responses
allowed; total will not
add to 100%

Q: How would you prefer to access information about the Green Line Transit project? (n=1,131)

Additional Comments

Of the panelists who left additional comments, there was an obvious divide, with some emphasizing the importance of getting it done and not delaying while others indicating it is not needed or this is not the right time. Ultimately, the additional responses were very mixed.

“Don’t do it for a long time.”

“DO IT before anything or any other project.”

“Does this really need to be built?”

“I think it’s important to get it done.”

“Pump the breaks”

“Quit stalling.”

“This should not be a priority”

“ [Green Line] should be a high priority.”

“Stop the Green Line now”

“Stop delaying the project!”

“Hold off if budget doesn’t allow”

“Expand the scope and budget.”

Multiple responses allowed

Q: Do you have any additional comments about the Green Line LRT project that you would like to share with The City of Calgary? (n=588)

Demographics



Demographics

Gender	
Female	47%
Male	51%
Prefer not to answer	2%

Born in Canada	
Yes	81%
No	18%
Prefer not to answer	1%

Age	
18 to 24	0%
25 to 34	10%
35 to 44	17%
45 to 54	19%
55 to 64	29%
65 or older	25%

Education	
Completed high school or less	5%
Some post secondary or completed a college diploma	28%
Completed university degree or post-grad degree	66%

Income	
Less than \$30,000	6%
\$30,000 to <\$45,000	6%
\$45,000 to <\$60,000	8%
\$60,000 to <\$75,000	7%
\$75,000 to <\$90,000	10%
\$90,000 to <\$105,000	8%
\$105,000 to <\$120,000	7%
\$120,000 to <\$150,000	11%
\$150,000 or more	20%
Prefer not to answer	19%

Visible Minority	
Yes	11%
No	85%
Prefer not to answer	4%

CoC Employee	
Yes	5%
No	95%
Prefer not to answer	1%

Quadrant	
NW	33%
SW	31%
NE	12%
SE	23%
Prefer not to answer	1%

Total may not add to 100% due to rounding

n=1,131 unless otherwise specified

Demographics Comparison

The demographic profile of the Citizens' View panelists who completed the Green Line Updated Alignment Survey was compared to that of the respondents to a recent Citizen Perspectives Survey, which was conducted by telephone with a random sample of the general adult (18 years of age and older) population of Calgary.

As a telephone survey using random selection of respondents and including both landline and cell phone numbers, the results of the Citizen Perspectives Survey are generally representative of Calgary's adult population. Comparing the demographic profiles of the respondents to the two surveys allows us to see if and how the respondents to the Green Line Updated Alignment Survey differ from the general population in the city.

The comparison indicates the following about the Green Line Updated Alignment Survey:

- Residents of the northeast quadrant of Calgary are slightly under-represented;
- Younger Calgarians (particularly the 18 to 24 age group) are under-represented and those aged 55 to 64 years are especially over-represented;
- There are fewer foreign-born Calgarians and visible minorities when compared to the general population of Calgary; and
- While household income is on par with the general population of Calgary, the respondents to the Green Line survey tend to have achieved higher levels of education.

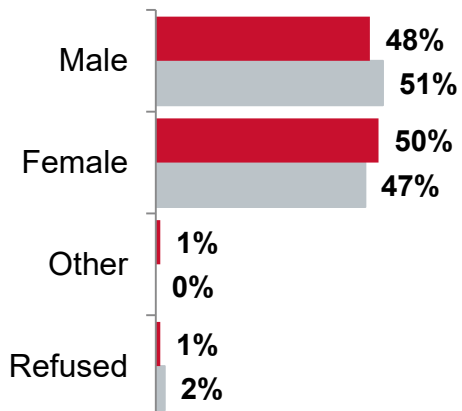
Demographics Comparison – cont'd

■ Citizen Perspectives Survey - February 2020 (n=500)

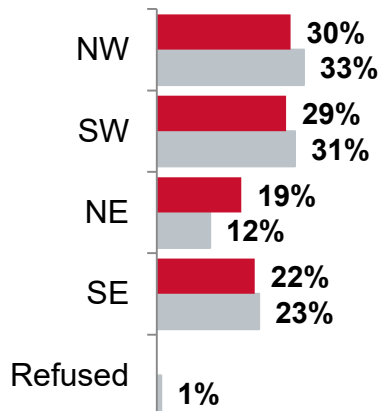
■ Green Line Updated Alignment Survey (n=1,131)

Gender

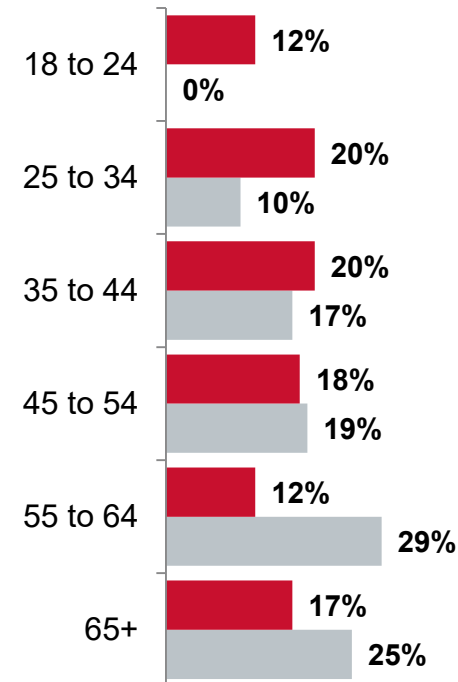
(asked, not inferred)



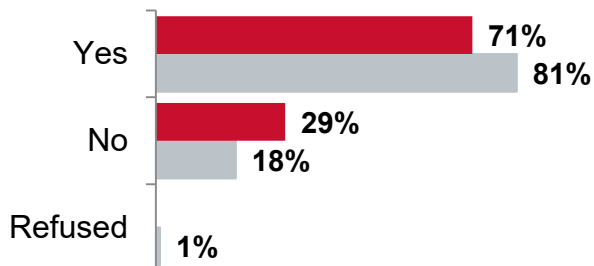
Quadrant of Residence



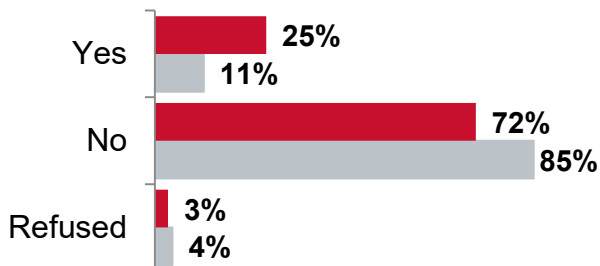
Age



Born in Canada



Visible Minority

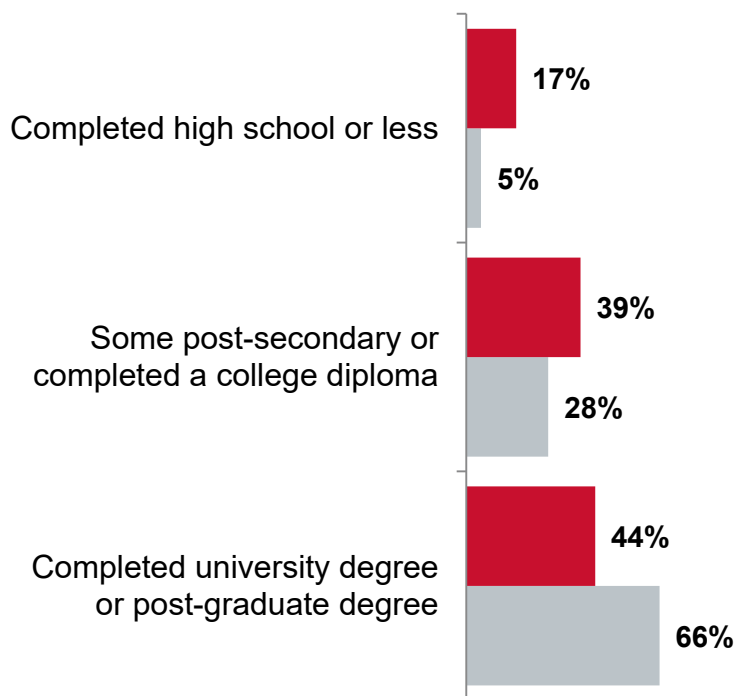


Demographics Comparison – cont'd

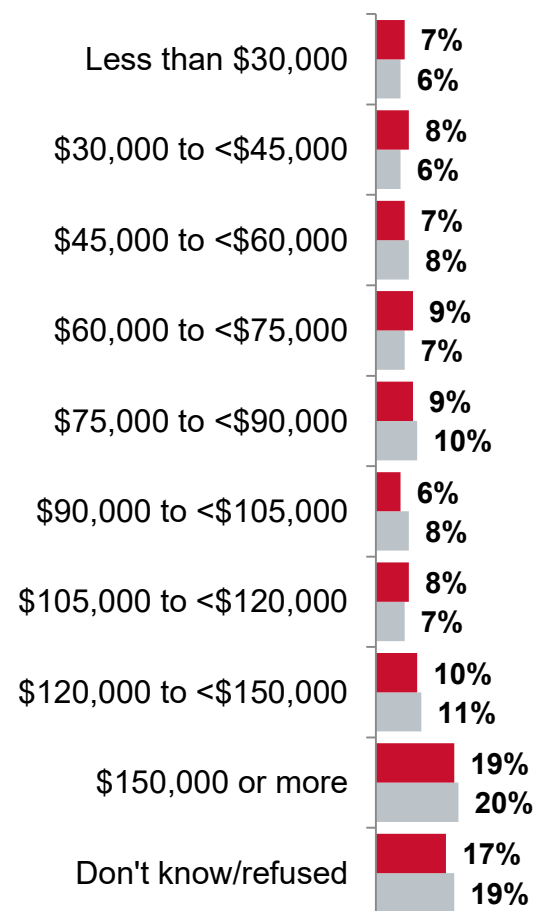
■ Citizen Perspectives Survey - February 2020 (n=500)

■ Green Line Updated Alignment Survey (n=1,131)

Highest Level of Schooling Obtained



Household Income





Contact

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**What We Heard Report
Appendix C
Verbatim Comments (March 4 – April 30, 2020)**

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For each of the focus areas (Centre Street, Bow River Crossing, Downtown, Beltline and North BRT Improvements), the following question was asked: What do you see as the opportunities and challenges with the updated alignment?

The verbatim responses of what we received through online and in-person feedback is listed below for March 4 – April 30. Appendix A contains the verbatim feedback received between January 29 – March 3, 2020.

Centre Street (Online)

City forcing you to take the LRT or sit in traffic with half the lanes as LRT takes up driver/cycling space. Shamefull!!!

The City doesn't appear to know or care if more people will be helped or more people will be harmed by the North alignment. End it downtown.

The 2nd street above grade by waterfront to cross Bow River will be dangerous to 1000 units resident in/out daily safety

Extend the Red Line south to Legacy east to Seton - connect with Green line - a circular route - scrap low level cars - stagnate platforms

A tunnel along centre street is the only logical way to prevent accidents and congestion along an important corridor

Crossing the Bow to 16 AveN is totally useless at this time. Stop at Downtown and prepare to merge with existing Red line.

Add value for Crescent Heights residents & businesses. Add a stop at 9 Ave N & pay close attention to pedestrian safety crossing Centre St.

Please do not do side running LRT. This makes it difficult for passengers to transfer stations in the event of a single-tracking event.

Interferes with businesses along Centre st . Destroys Princes Island Park and destroys the view that Eau Claire residents have of the river

Concerned about the lack of space for this plan, cutting a community in half and ability to safely cross centre st as pedestrian or driver

Inability to turn left off of Centre St as one proposal considers really restricts access for residents

Do not destroy our community, bury the line up Centre Street or do not build it.

Do not restrict access crossing Centre Street. The avenues where crossing are allowed will be full of traffic

Do not restrict the lanes on Centre Street, it will be a nightmare trying to drive in and out of town..

I would like to see greater integration of cycling infrastructure alongside the train line.

Scrap the whole thing if it can't be built properly, I do not want my community sacrificed for this mess.

I do not want my street to become one of the few East/West crossings of Centre Street.

This whole thing seems like a 'bait and switch'!

A surface level train could improve the pedestrian experience of Centre St. It's unpleasant now and fewer cars would make it better/safer.

Losing a vehicle lane and limiting left turns is a terrible thought.

I live in Panorama the train will not reach me for 10-15 years don't count on me taking transit to get into downtown.

Who the H**l puts a transit station IN THE MIDDLE OF THE ROAD? Awful idea.

IF YOU REMOVE THREE LANE REVERSAL I WILL BE VERRRRRRRRRRRRRRRRYYYYY MAD!

Any option that reduces 4 lane traffic to 2 for a project that will not be a sustainable long term solution.

Better pedestrian realm and will support Centre St. Shopping way more than the underground route. Much safer.

Are you kidding me the only options considered are ones that move from 4 lane to 2? Get out of here with this garbage. No to all of the above

I'd prefer that the train go straight up Centre Street Bridge, instead of having it's own separate bridge on Prince's Island.

Centre street will never be a pedestrian experience it never was meant to be one. It was always meant to be a way to get into and out downtown

Please do not put the LRT in the center of the road awful idea. What if a car losses control and kills pedestrians?

Cant wait for a bus to pop its tire and restrict all north or south traffic for a few hours a day

How is one lane of service for the BRT increasing reliability? If anything it makes the system unreliable in case of accidents.

This project will cause far more harm than good to transportation in the north. Please don't let politics trump what is best for Calgarians.

Why not connect new bridge to a shallow tunnel under Centre? Unwise to remove lanes S of 16th and cross 16th at grade, will create backups

Reducing Centre St. from two lanes to four is a horrible idea. Restricting left turns between 7th and 15th destroys community ingress/egress

Should use a shallow tunnel under center after bridge. Reduction of lanes and crossing 16th at grade is a disaster like 7th ave.

Build a barrier at center street north to protect the cars and vehicles or build a overpass through that area

What about rendering at 5th ave when you cross both lanes centre at grade with the train? Further bottle neck, disaster.

Two lanes on centre? Holy (edited out) politics.

A train on a major arterial road is simply idiotic. Think of the traffic congestion not alleviated by a train to nowhere!

Melbourne city Recently spent \$400M putting their rail crossings underground. Why is Calgary living in the 19th Century? This is hopeless!

This train is for spineless political selfish jerks. I wish this City had trusted leaders, but we do not.

So dumb to have a train through the Park. Ctr St will be chaotic with a train on ground. Just like 36th.

Slowing traffic on centre is awesome. I'm just concerned it would push more traffic to Edmonton tr. Is there a plan for that?

We hear is that Calgary wants to be a city that keeps millennials. Millennials don't want to see regression. Put it underground. Or we're out

Build the entire line underground.

Single lane on Centre?- GET REAL!- How does a ambulance reach an accident? Or Calgary evacuation? EMS on train? What a joke this is becoming

So where is it carved in stone space cannot be allocated for 9Ave station to maybe be built at some future date?

So why must both tracks be only on centre street. For part of the route 1A and 1B could have a single track.

"16Ave will be chaos. Lots of pedestrian traffic competing with car traffic to transfer.

If level have +15 for the people to transfer."

"WHY do you only show it in summer?

Winter happens every year in Calgary."

NO! PLEASE KEEP IT UNDERGROUND NORTH OF THE BOW RIVER. THIS IS GOING TO CAUSE A MESS FOR CARS AND PEDESTRIANS ON CENTRE STREET

There is no space for LRT on the centre street. This is unbelievable! Stop this "CANCER" of bad planning. Build "UNDERGROUND" if need be.

Extremely dangerous alignment in winter.

The 2nd street above grade station proposed location will create noise control problems, create mental health issues for 1000 units resident

Is the City's motto: "Planning for Yesterday, Today&"? Put it underground or don't build it. The north alignment is just embarrassing.

I think the biggest challenges will be financing and public support for this extremely worthwhile and important project.

This shared corridor with trains and vehicles will finally move Calgary closer to smart cities like Amsterdam and Melbourne! Great job!

The cross-sections showing large sidewalks and greater public realm areas are fantastic! Definitely a step in the right direction!

LOVE the alignment, LOVE the station design, LOVE LOVE LOVE Green Line!!! Can't wait for more housing connected to the main transit network!

No one is opposed to greenline if it's done right. Imagine if you live in Waterfront on 2nd St. I do. Devastated, sad & angry.

See it is always slower and less efficient to have it at grade which means more of us will just opt for driving at that rate. Underground!

Challenge: businesses that require a left turn for vehicles travelling from the north. Surface level c-train is a great idea though!

36 Street NE is a cluster-\$%^ for cars/peds/bikes. Thank you for using that community-dividing, hot-mess as a shining example for Centre St.

Love the opportunity to cover more ground with a train above ground; will be able to cover more area for less cost! Can't wait for jobs too!

Calgary's obsession with motor vehicles is bad for growth and attracting business, we need more public transit! Don't listen to the haters!

Love some of the station designs: Opportunity to make stations feel like a great place and positive sense of arrival-Keep up the great work!

"Green as a colour blind primary colour and word is not self evident!

Neither is Red or Blue self evident.

NS line North South Are"

Please include a 9th Ave station. I would use this everyday and I think there would be a lot more ridership if there was a stop there.

I think that the Centre Street North needs to be held back until there is sufficient money to do it right with tunnel and further north.

This benefits sprawling far away suburbs, but punishes inner city community of Crescent Heights who can't get in/out of the neighbourhood.

DO NOT BUILD A [language removed] BRIDGE ACROSS THE RIVER! For the love of our city, [language removed] tunnel or wait for more money. Terminate at Eau Claire NB.

Add more buses the peak. More economic & efficient. Stop with political empire building. Taking away 2 lanes from a main artery is insane.

Centre St is too important an artery and can't be reduced to one lane each way. Queues to turn left will block the traffic flow completely!

Since the line is now at surface, please add the station at 9 Ave N. Do something positive for Crescent Heights.

Do it right or dont do it. I am sick of level crossings for our LRT. How many people die annually? How many hours of time wasted by citizens

Build the line "UNDERGROUND". Don't screw it for future generations for ever. Even in developing countries, they're building underground.

As a resident of Crescent Heights, I would love to see a 9th Ave station. This accessibility would be invaluable for our family of four.

Add a bike lane down Centre Street for the safety of the cyclists!

Pedestrian walkways above the line at 10th ave would increase safety for students crossing centre street
9th ave station please!

9 AV Station being back on the table is good. Makes the corridor have even stronger transit and mobility options.

16 AV Station right up against 16th AV intersection implies that it won't be buried in future. I think it's important for this to be buried.

Busy road with trains and cars. Very dangerous in winters. How many fatalities are reasonably expected? This does not seem safe.

"No bridge over park

No grade level trains on 2nd street!"

As a Crescent Heights resident, I would really love a 9th Ave station. It makes the train more accessible.

We live 2 blocks from Centre St and we do not support a 9 ave station during the initial build. It can always be added later. Save \$\$ now.

With train in middle & single lane on either side, what happens if there's an accident? All the cars will be stuck. Efficient planning?

no to bridge over park and no to grade level trains on 2nd St.

we don't want see the bridge cross over bow river destroy the wet land and a beautiful park. Please keep it underground or not build it.

"Show us the worst option ,perfect solution to get tax payers to shut down green line north.

Put bridge across the bow east of center st"

Hoping the 9th Street NW station is built. Our 4-ones is on 12th and all residents support this idea.

We reside on 9th Ave NW, have a small child and are really hoping for a 9th Ave Station. It will improve walk ability. Please build!

Definitely in favour of a 9th Ave Station!

How are cabs and ubers expected to stop and pick people up on that street with 1 lane of traffic? We have winters.

do not build the line north of the bow as part of phase one. bury the line on phase 2. expande brt to north pointe

Put it underground where it belongs, do not ruin Centre Street for vehicles. If the city can't afford to build it properly, don't build it!

On Centre, build transit infrastructure that is silver/metal and cold. Have structures in place that work for events in winter

More details on budget that includes design, placemaking, sidewalks etc for centre street. scared you will run out of money before Bow River

Preserve access to businesses on centre street pre and post construction customers come from all over city and need to be able to access biz

Out of 100 customers, 80 will drive and they come to me because of street parking. If this is taken away, they will go somewhere else.

Need more information on the risks of going above ground. Feel city is not providing objective view. Give us more info so we can decide fair

Underground on centre would promote more development. Worried about pedestrian safety on surface and how kids cross the street.

Why still connecting in downtown? No one goes down there, if we can circumvent downtown, that makes more sense.

we are 30 years behind on transit, city needs transit to attract investment and tourism. Surface train is better for business.

If there is no stop between 16 and eau cliare, it doesn't make sense for my business in crescent heights. people will pass on train.

Our business relays on skip the dishes and take out right now. A lot of restaurants the same. Please maintain access for delivery drivers.

I will see how the construction period will impact by business. If its major, I will move to another community. Tram like toronto is better.

Funny that all the captcha images gets you to identify cars on highways and parking meters. Shouldn't it be transit?

I opened in Crescent because good location, lots of traffic passing by, decent income neighbourhood, mix of young and old. Need to preserve.

Portland works because it is MULTI-MODAL, cars can drive on tracks, bikes can be on roads. Please make multimodal.

The only way this will work for Crescent Heights and not make it feel like it's dividing the community, is including a 9th ave station.

Crescent heights solution needs to Minimize impacts to existing developments and not negatively impact property values and leasing appeal

I am a senior and I would like a stop south of 16th Avenue to help me get to Safeway and back with my groceries.

Solution to get driver buy in must help you get to destination quicker than cars, but still being safe for pedestrians .

A bike lane down Centre Street bridge would be great.

A stop at 9th would allow people to walk and shop to 16th. Great for Centre St. Businesses!!

CH high school students would benefit from a 9th ave stop. Especially once train extended to North.

Bike lane up from Downtown and up Centre Street for cyclists. We can all share the road!

Not everyone needs to get downtown, 9th Ave stop will help me get groceries.

Why is the city considering ruining our beautiful Prince's Island Park and Eau Claire district? This has been tried before and failed.

An above ground station reduces the effectiveness of rapid transit completely. But, center-run option is best.

Improve pedestrian experience along Edmonton Tr and 16Ave for people accessing transit. Too dangerous to walk there with small children.

Tunnel under center street (no 9th ave stop), exit tunnel at the bluff, and then bridge over to 2nd ave Eau Claire. Perfect solution.

Worried about increased traffic on Edmonton Trail. Already pedestrian fatalities there. Unsafe for children to cross to access transit etc

Scrap the whole thing on Centre St N. This alignment only works either underground or elevated. Affects a major traffic route too much.

The city must help lower taxes for businesses during construction on centre street or we can't survive

If we can't afford the underground or elevated option, then better to put the project on hold until it can be done properly.

"DO NOT build this during a recession. Costs keep going up for small businesses and this will devastate us."

What will happen north of 16th in the future? Can we see more details? will it be above? underground? How do you cross the transcanada?

we have a small tax base revenue to afford this. Calgary can't afford this. Lets make do with what we have.

Please preserve left turns at all the intersections otherwise my customers can't get to my business.

Do not borrow money to get this project done. The city and province and feds are taking too much debt.

How will the city handle debris during construction? customers will not come to our shop because there will be too much pollution.

We've already lost 50% of business this year. This will force me to shut down my business.

can the city open the cul-de-sac blocks that exist in crescent heights if they are going to reduce access on centre street?

IF you are only going to 16th and you're not going north for 10 or more years, then this is a bad investment. Please go further than 16th.

Age friendly cities mean good transit for seniors but it must not increase property taxes.

Must have stop at 9th avenue for crescent heights businesses or this will destroy my business.

Transit could be good for my business but they have to be able to stop near by!

Yes to less cars on Centre! it looks like there's lots of little shops but also seems difficult to get around - not welcoming to walking

This is not enough space for feedback! Need station at 9 Ave NE/Tigerstadt Block needs to stay as is.

Please save the Park. Do not build if not enough money. Center Street is not the best idea for train. What happens if there's an accident

Turning to/from Centre St & an Avenue is going to be terrible. Traffic is already bad on weekends & it's going to be worse with less lanes.

Build the bridge over the bow river high and wide, don't start another 36st N.E. nightmare with lights and signal arms. Build a stn at 9th.

I get that there's technical issues with tunneling under the river, but why cant the bridge punch into the hill and go under center?

For all the residents living on 2nd St, I feel your pain. If the councillors or their families live on 2nd St, this will never get approved.

Everyone who thinks Ctr St will be more pedestrian friendly with a Ctrain is crazy. Less people will go to Ctr because they can't drive.

Agree with Compassion 100%. Crazy to destroy a park. Once wildlife leave they don't return.
Underground only. Wait until there's enough money

Why the rush to get it started when there's not enough money. Underground only. Do not ruin a beautiful Park.

If there's not enough money, wait. Why is YYC rushing? Underground only. Save the Park.

This could give a real boost to the commercial area with the improved access.

Pls do not put a train on 2nd St. Underground only. I did not move there to have a train in my front door.
Terrible

Waste of \$ to hold open houses w/ cookies instead of building the tunnel!

If Nenshi and the councilors live in 2nd st, do you think they will approve the ground level proposal??!!
Too selfish!!

Tunnel only in Eau Claire! Do not destroy the park! If there is no money, please wait and do it right!

NO bridge across the park! NO ground level train on 2nd st!

Opportunity to improve walkability. Currently avoid 16 Ave, Centre and Edmonton Tr on foot with children bc of poor sidewalks, close cars.

9th avenue station needed for residents, access to shops, rotary park, bluffs

I support the 9th Ave NE station. 35yr living in Cres.Hts, I don't walk far, a station here would increase my mobility, no car needed anymore

85% of residents in Crescent Heights want the 9th Ave N Station according to the community FB page poll. The vast majority want it.

There is a great opportunity for a beautiful pathway over the water with the bridge. A multi-use pathway is a must with a viewing area.

May need to address potential traffic flow through the neighborhood to facilitate left turns off of Centre Street.

"Strong Yes" to a station near 9th Avenue North!

Side-running stations (9th and 16th Avenues) likely better for pedestrian environment."

Near-term 16th Avenue station design must NOT be an impediment to a longer-term 16th Avenue grade separation; plan carefully now!

Plan convincingly: i. parking access for Centre Street businesses and ii. avoiding traffic shortcutting in adjacent neighbourhoods.

Instead of 9 Ave station consider 7th & 8th, Eastside (across from park), build public space with art, seating, views ... good social ROI.

Greenline will reduce accessibility, traffic and business for Centre Street businesses. Train will pass by most while cars can stop and go.

I think this line should be realigned to go up Edmonton Trail and avoid Center St entirely. More room, LRT already crosses this area.

Opportunity to keep traffic on Centre St while limiting left turns: use left turn lanes to allow U-turns (see Portland's Yellow line LRT)

As a resident, I prefer the side-running alignment if it improves the streetscape/public realm, all car traffic should be 40 km/h max.

"Destruction of habitat, wetlands, pub space at prince island park.

Should keep underground .

All biz affected negatively ok n ctr st"

Definitely think a 9th Avenue N station should be included if at all possible.

Cut and Cover tunnel to put the project underground on C street

People in the neighbourhoods want to see an LRT. No one in the neighbourhood wants to see an LRT at grade.

At grade is not a good idea. Especially when there is already a major bus corridor on the road. Why would you want two competing systems

100% of people I have met with think running at grade is an awful idea, do not do it.

Why would you not allow cars/ busses to operate over the tracks like every other LRT option in Ontario? Short sighted.

Nothing says cozy like sitting next to an LRT sipping a cup of coffee in the middle of winter (sarcasm!)

Why would I bother going to centre street with all the future traffic issues when I could go somewhere without that issue?

The current plan North is a failure in terms of cost, vision and harm. Hold off on going north of 2nd ave. Do it right or don't do it.

I strongly doubt the business case for the LRT. Why would someone from Panorama come down when the lrt does not reach them?

Obsession with revitalizing centre street is misguided.

I prefer a speed limit of 50 km/h better for transit.

Cut and cover tunnel should strongly be considered. Not much more expensive, but a much better long term option.

Need for a station at/around 9 Ave.

Calgarians want the line underground or don't build it. Underground line means no traffic issues, warmer stations, no more deaths, etc.

Green line = Green lie = Bad planning.

City of Calgary: Common reason cannot afford to build underground. People: Good, then wait and stop wasting taxpayers money on surface line.

Doing it right should be priority. Used to think UG was best, but surface alignment offers AMAZING opportunity to have side running STN at 9

STN at 9th Ave N. love it! being able to enjoy outdoors, taking in sunny skies, fresh air, warm or cold, where I can easily be seen (safety)

Everyone says LRT at 9 Ave Please! buses are nuisance noisemakers. I hear them all day from my work(on Centre). Built it right above ground

Surface line please. It's a chance to pop into a store, buy lunch, rather than slugging down stairs and waiting for a train. Subways ugh.

Online Comments March 9 to April 5

How about having a better WIFI connection than Shaw Go open for example the WIFI in Toronto is so much better than this

I agree with reducing traffic lanes, but I still don't think running the train on the surface is a good idea.

I made a mistake in my previous comment. I should have said "Green line = GREAT line = Great planning." I love transit, and am happy for LRT

"Green line = Green lie = Bad planning."

Use the money to complete a full line. South should extend to South health campus! Would make it so much easier with no bus transfers.

Surface train will create a giant wall between east and west centre street.

Mainstreets team met with residents and told us that even an underground option would see street scape improvements/slower traffic etc.

Underground is better, allows for multi-modal options in the future. Lots of people bike/walk in crescent heights.

MARKETS ARE CRASHING. DO NOT SPEND THIS MONEY WHEN THERE IS SO MANY QUESTIONS ABOUT SAFETY/COST/CONSTRUCTION DELAYS/COST OVERUNS.

Getting to south hospital would increase ridership dramatically. Already proven demand. Then take time to focus on north central line.

Chinatown businesses already suffering. Do not block access into chinatown by taking away two lanes.

Is there a way to redesign the stations so they don't look so cold and metal? It doesn't fit with crescent heights.

Pedestrians are hit by trains all the time. Ask a transit operator. No one ever listens to front line staff. Stick with cut and cover in CH

bad decision - underground was a good idea. If you can't afford it, pause until you have the funding like all Calgarians have to do.

No barriers on centre - what about cars sliding into the train? major hazard. Same with busses. I come from NW. This will delay my journey.

"1. Centre St Configuration. Traffic congestion, Side Street Impacts, emergency vehicle impacts at peak hours.

2. Don't ruin the Park"

Traffic flow is horrid downtown near 7th ave. Should have been underground. Learn from your past mistakes. No more surface LRTs.

Do not enter into a project with half measures. Pay once, Cry once. Or defer the project until adequate funding is available. Stick with BRT

Why is it underground in the lowest density area of the beltline and downtown for usage? It should be a surface running train to reduce cost

If cost and safety are valid concerns, then shallow tunnel along Centre, bridge from escarpment to 2nd Street.

BRT is not only the most cost-efficient option, it would also better serve the needs of Calgarians.

Don't destroy the flow of traffic along Centre Street. Three lanes of rush-hour traffic reduced to one!? Stick to the tunnel plan.

Underground with escalator/elevator station at 9th ave. Think ny+hK. At grade with bridge is terrible idea - destroys natural beauty of rvr

Pause North until the City has a plan that is better than spending a few billion to go a few blocks and hoping it will all work out later.

This will go over budget like the \$1.5-billion west leg of the LRT which was budgeted at half that before it was built.

Why are we rushing if there isn't ridership to support building the \$5-billion line? Don't build LRT before we have the density to support

City was always going to redo the streets from mainstreets funding and even when it was slated to be underground. Don't mislead calgarians.

Don't clog up centre street for students riding the busses from the north. If no train for 20 years above 16th ave, this clog isn't justified

BRT = 70 per cent of the time savings of a full train, for about one-third the cost. Also more nimble to change to routes with demands

Could we have electric busses on the BRT? that would help with emissions.

Great to connect North and Central area for residents travel around with public transit; having C-train throughout would be clean and easy.

Cable bridge adds to the skyline, with reduced impact at the ground level (minimized concrete and shadows on the ground).

Do the BRT instead of the LRT line north of the Bow. Wait until there is the money to bury the line.

No clear plan to deal with traffic flows from the north into downtown. How will commuters go from 4th St and Centre street to Edmonton Trail

How does the greenline extend north of 16th? At grade? Destroy the 16 AV station to build an underpass?

Give 9th Ave N station some architectural interest, don't have a bland design. First stop before the city, make it interesting.

GreenLine planned route should include access to airport!! An opportunity to reduce travel time and carbon footprint.

Sorry I'll move my comment (about the airport) to the correct section.

Where will 911 first responders go during a traffic gridlock.

No surface train through centre street!! Tunnel or do BRT!!!! Don't split the neighbourhood in half!!

You will end up like Cambie in vancouver - lawsuits from home owners! Pause and do it right!

Just don't do it. Please. What is the purpose of building the line to 16th avenue when we already have numerous buses that go directly there

Do not build past the bow river. Bury the line in the future. I do not want to see a bridge over princess island park.

Will the C-train block the TransCanada highway when the next phase is built. There will be gridlock along centre street and 16 Ave. No train

"As a resident of Crescent heights:

Add the station at 9th Ave NE

Do not run the line down the middle of Centre St, use west side"

Now is not the time to spend \$5B on a train that will harm traffic, the riverwalk and park. Just go south for now.

#1 build south line from downtown to Shepard. No tunnelling. Busses are great for Centre St and for unforeseen events. No deluxe design.

Grade level trains will result in more death. Underground only

Surface train is high risk on centre street. Please do the traffic impact study and safety study. Accidents will be bad.

trench the tracks under 16 ave

The train north will harm far more citizens than it could benefit. City workers will benefit and their bias in presenting info is awful.

Bo says no to the terrible, harmful, park-damaging, traffic damaging, negligently expensive North plan. Stop downtown.

Heard fm 660 news Fri someone got hit by car then got hit by ctrain. No news afterwards. Is City covering up since planning more grade level

Concern: I heard it too and I thought it was strange. Couldn't find anything in Herald either.

I am concerned that the traffic flow will be too restricted with only two lanes, I propose curb side trains and three lanes in the middle.

Surface running on Centre Street between Downtown and 16 AVE is a concern. That said we need this line and we needed it decades ago.

How about a bridge into the side of the hill, then continue the climb underground to a shallow underground line to 16 AVE?

Running the train along 2nd St will add traffic and decrease parking to area already congested with vehicles and dangerous for pedestrians.

P. I. is the only safe park DT and is also heavily used by people from all over Calgary, and a wildlife refuge. Bridge destroys this asset.

1 lane now when there was 3? Motorists will demand a new vehicle bridge to downtown if this goofy thing is built. 1 step up 2 steps back

Centre St is already very well served by buses. If we can't build the Green Line now without massive damage to several communities, hold off

DO NOT put LRT stop on 2nd Ave 2nd St. Stations attract addicts, dealers, beggars, harassers, etc. Too close to decent residential areas.

This is an awful idea with no regard for impacted communities on either side of Centre Street, close to the core especially. Don't do it!!

Someone gets killed every year with the ctrain on ground. Isn't this reason enough to not build more?

\$5B for a train that will be underused is a terrible idea. Don't cause long term financial harm to Calgarians.

A cost benefit analysis of Green Line project needs to be presented to the public so that citizens can decide whether to support it or not!

Putting the station and track on street level in busy downtown is a stupid idea. Go underground - do it right or not do it at all.

Risks of accident and heavy traffic congestion are unacceptable high if put the downtown station and track at ground level.

The downtown portion of the Greenline passes by high density residential area and a number of senior housing. Move this portion underground

If we barely had the money for a train to nowhere before, we definitely don't now. Stop the madness.

I am glad you decided not to run the green line under the river but please use this bridge as an opportunity to add beauty and protect wildl

No K-mart special. Don't repeat 36 ST NE blunders. If can't afford now, don't rush, leave for future, and do it right (above or below).

Focus on building a great BRT on Centre St with dedicated lanes instead of at-grade trains. Turn around some buses at 16th to boost capacity

Underground only along centre Street. U can use HEPA filters in the underground air circulation to protect citizens next CoVid-19 outbreak.

do not build the train further than downtown. Wait to the money to bury the line underground.

Pls do not build more grade level trains or destroy park with a train. Ruins the tranquility of park with a noisy train

Do not have the train at grade level. Wait to have the money to bury the line. Have a transfer BRT and LRT downtown. Leave the park alone!!!

Would like to see more hostile architecture on Centre Street to prevent hobos from loitering in the area.

Very concerned that hobos from downtown will come up to the area and start causing trouble to the neighbourhood.

I strongly doubt the increased ridership from LRT on c street we already have busses if we want to go downtown.

LRT is yesteryear technology. Economy is collapsing and recovery is decades away. This service is not needed now or in foreseeable future.

More grade level means more accidents & deaths. Do not destroy park with a train.

This project will contribute greatly to the future of our city and Crescent Heights. I am strongly in favour of a 9th avenue C-Train station

This will be a disaster if it's not built underground through 16th ave N. Don't make the same mistake as 7th ave and 36th street.

All it will take is 1 accident and traffic will be a nightmare. How many times does a car/person get hit currently by the Ctrain weekly?....

Get bidders from outside Canada than giving contractors to your friends. They can build the underground line much cheaper or don't build it.

More grade level means more accidents & deaths. Do not destroy park withna train.

Underground only. Ruin the tranquility of park with a noisy train. Who came up with such a ridiculous idea.

"1. Should definitely add 9th Ave Station back into plan for more TOD.

2. Should choose Centre St. option that allows for a left-turn lane."

What happens when there is an accident on Ctr St with grade level trains? No one will be moving for sure. Don't ruin park either with train.

Cut and cover is not that much more expensive since you will be digging up utilities anyway.

Pls do not destroy tranquility of park with a train. Underground only.Wait until there is enough funding.

Do not run an elevated platform on Centre street. Toronto at grade better than Waterloo style.

Change centre street N to ONE way only towards downtown with CTrain runs on the surface. Change 4 street N to ONE way only towards North.

Make the bridge double deck, one layer for CTrain, one layer for one way traffic from downtown up to north 4th Street N.

Only 1 lane for each direction in Centre Street N will create traffic jam, frustrated driver, more accidents & deaths. Make it 1 way, 2 lanes

Run line centre street underground using cut and cover to build maintain 4 lane traffic.

How about we keep 4 lanes and do not build the LRT elevated, but running flush with the road this way people can still drive turn right/left

Costs: worse traffic on centre; worse traffic downtown; damage to park; damage to Riverwalk; etc. Why does the City not identify costs? Bias

Grade level trains will result more accidents & deaths. Underground only. No to train through Park either. Why destroy it?

Instead of running the Green Line along Center St. after crossing the Bow, have it run along Memorial and meet up with the Blue line.

I'm a little worried about the transition off Center St. onto the bridge crossing the bow. Put a short tunnel there to ensure driver safety.

This new re-alignment is going to create a traffic nightmare. Should have kept it underground, and do it right the first time.

Yes, let's constrict one of the major ingress/egress downtown routes and make traffic in this city even more horrendous. Great plan.

After crossing the Bow, run the train along Memorial, then run it along Deerfoot trail similar to what the red line does on the 1A in the NW

No grade level train!!! It will destroy the park!!

Underground only. Do not put a train through Park either.

Sidewalk alignment of at grade trains along Centre St would allow larger sidewalks and increased pedestrian safety and usability.

Preserve valuable green public space and include bike/pedestrian path on bridge to continue promoting iconic river valley pedestrian access.

Include 9th ave stop to increase pedestrian traffic to Crescent Heights, promote business development and more amenities in community.

Underground only. Train through park means noise and bad sightlines.

9th Avenue stop is vital to vibrant and viable commercial on Centre St south of 12th Av. No station will shift all activity closer to 16th

Tunnel sections at the 16th Ave crossing and the transition from Center to the bridge over Memorial are essential.

At grade crossing at 16th Ave?? Really? Construct the Green Line in shorter stages to ensure its done right the first time.

Why not run LRT on surface of Centre Street Bridge and use cut/cover tunnels on Centre Street.

Who gave you the estimate the project will create "20,000" job? A contractor? Someone who would get part of the construction money?

I guess how this affects residents living on 2nd St doesn't matter to the City or Planners. Underground only.

ABANDON the whole at grade idea and the bridge river crossing this will destroy this whole area, very bad planning Do it right or Not at all

start the south leg, do the city and north when we can afford to do it right. this is not to be done in a hurry and on a tight budget.

No to more grade level trains. Underground only. More accidents & deaths w/ grade level. Terrible for residents living on 2nd.

The north alignment will cause harm to the park, homes, riverwalk, traffic and to Calgary's finances. More will be harmed than helped.

Reduced transit ridership and a preference to personal modes of transportation (e.g. bikes, cars, scooters) post-COVID-19

Grade level trains on 2nd St is beyond devastating for residents. My balcony faces 2nd St. Pls underground only.

The cost of this project is unreasonable in light of the projected riders. Post-Covid, the cost will be even more harmful to all citizens.

Green Line thru Center St N and Downtown is the wrong route and too expensive! It does not reach the far North And South. Scrape it!

If the Green Line is going to be built as is, the estimate has been low balled. This city council only concern is to raise Taxes not saving!

Definition: Greenline - line of cash from taxpayers to unionized City workers through an unnecessary and harmful project. a.k.a "Greenlie".

How has the city considered lower ridership (now and into the future) as a result of COVID 19? Answer is you have not. \$4bn gamble with tax\$

Pushing this forward during the most challenging time our core industry (O&G) has endured is completely insane. Complete waste of taxpayer \$

Why won't the city use this as an OPPORTUNITY to save TAXPAYER DOLLARS and prepare for other CHALLENGES ahead? Bigger problems to deal w/.

Strongly object a C-Train bridge between Waterfront Towers and Eau Claire Townhouses, noise & crimes directly impacts residential life!!!

All residents need compensation for reduced property value due to a LRT route impact. City will have to pay more than saved project cost.

Green Line doesn't need downtown section, downtown has enough transit coverage. If it stops before Bow River, 2nd Street bridge can be avoided.

Don't waste any more money on this

The cost outweighs the benefit. It's not feasible!

Train from nowhere to an empty downtown. Why??? Cost is prohibitive, benefits questionable, especially now.

The full tunnel option should be built. It protects the city environment for the next 100 years. Above grade kills the cityscape like 7 Ave!

Need to rethink Greenline in a post COVID world. Should \$ be spent elsewhere?

If you have to go above ground, why not go on the east side next to the government building with less disruption to the park and residents.

End all backdoor deals. Unless this goes underground up Centre street cancel the entire project. Do this right

Build outside of the core, where the train would come above ground at Centre Street, connect core/river connections after.

Keep this line off of Prince's Island and away from the wetlands; find another way to cross the river!
#sustainabilityc #GreenLine #ecology

Keep this line off of Prince's Island and away from the wetlands; find another way to cross the river!

"The LRT should be in a tunnel under Centre Street:

1. Vehicle traffic will be diverted to Edm. Tr & 10th St

2. LRT ride north will be slow"

Please consider increased BRT to serve Centre St N instead of building a bridge through a park and reducing vehicle capacity.

Avoid over use of chain link fencing & safety barriers that divide communities and negatively impact streetscape. Seamless urban integration

We were promised Centre Street would not be like 36th Street NE. That is exactly what is being created. The LRT MUST go under 16th Avenue.

Keep this line off Prince's Island. Go underground on Centre St. N, or the alignment from south stops downtown, don't go North at this time.

To really infuriate commuters, ensure buses block the entire single travel lane every block for a bus stop. Add more bus stops too.

To make commuting even worse in the area, ensure trains stop while blocking 16th ave to further hinder East-West travel.

Is existing transit service still running (example: 301, 300, 3)? How will transit buses operate in the sections with LRT on Centre St?

Please do not direct traffic for turning into the residential areas.

Where are visitors to businesses going to park? Parking is very limited on Centre Street.

The above train on 7th ave looks terrible and was a mistake. Now the City wants to make 2nd ave, our central Park and Centre look terrible.

The biggest opportunity is to not build such a horrible thing. Get it underground or don't bother.

Centre Street is a busy thoroughfare. It doesn't seem like cutting down to two lanes of vehicle traffic is the right move long term.

Train must be underground-preserve the Park. The short term gain assumed by initial lower cost does not outweigh the long term risks/costs.

There should be no tunnels, it should be all above ground. The construction costs will be far less, shortened project time, more done.

I have two brief comments/inquiries in respect of the Green Line north of the Bow River but cannot get them into 140 characters!

LRT will have +++ impact on the environment. It means not using rubber tires and one more thing that lowers operation & maintenance costs

green line will give us an opportunity to make centre street look better, and nicer to walk on. Currently, it is not safe, and super noisy!

I love how bridge will connect north side of city to south and helps dramatically increased the possibility of having a 9th ave n station

the landing area of south end of bridge integrates nicely. There is lots of room for cyclists, pedestrians and families to hang out.

"KILL THIS PROJECT NOW!

It is a massive waste of money and Centre St is the only decent road to get into the core using transit or a car."

I trust the city to have a thoughtful approach when taking into consideration ecology and wildlife in our urban setting.

An LRT above ground would have less impact on water table and disruption to wildlife.

Don't have construction during nesting periods or times of local migration. DO IT RIGHT. A bridge is better for the environment. Not a tunnel

LRT's help get more people in and out of dt core, reduce unnecessary vehicles along Centre St make it more safe for pedestrians & residents.

People do not park on Centre St because it is too dangerous with the high speeds of traffic during non-peak hours.

Parking on Centre st is already limited because of the lane switching during peak hours in the morning and afternoon.

During the daytime, almost no one parks between 9th and 13th Ave. So the loss of parking is actually minimal, and certainly not significant

Please ensure new construction projects have public parking, as the city did with Kensington Gate. It's cheap and easy to use.

Getting in and out of downtown during peak hours is terrible. The LRT will really help improve the flow of traffic.

We don't need to replace parking on Centre Street. No one parks there. The city should require new developments to have public parking spaces

BRT is an excellent solution for Centre Street North. BRT also maintains the capability to handle vehicular traffic and parking on Centre St

"The challenge is to predict, and that is hard to do, especially about the future.

I do not see a future for mass transit."

This section must be underground. Must have a station at 9th Avenue. Don't build this section until these conditions can be met.

this is a horrible legacy to leave the city with, your council legacies will be linked with this forever. So make the RIGHT choice.

Concerned about the impact on PIP and adjacent ecosystem. Better option would be west of Chinatown - less enviro impact and revitalize area

I cant see a future Calgary where this is needed. Downtown office occupancy is falling and will never return. This needs to be rethought

I also have difficulty with surface options being considered more enviro friendly, as they destroy the only real downtown park

Running a train through townhomes, a central park and up center street will cause permanent harm. Don't cause permanent harm.

Fully disagree with the Greenline. IF mass transit has to be prioritized, it should serve the airport. No 9th Ave stop! Leave the crime DT.

Calgary needs JOBS! and infrastructure projects are an excellent way to create them, support local businesses, and help our economy recover.

Crescent Heights should not be used as thoroughfare. They've been used long enough, taxpayers subsidizing the rest of Calgary transportation

Build station at 9th. Help us to finally get good, environmentally safe, pedestrian-friendly cost-efficient transport to Calgary's north

LRT means we have lower labor costs which is especially important because it's already difficult for Calgary Transit too attract new drivers

Calgary transit is already wasting money on employee overtime. Build it right as a surface line LRT. Subways are DANGEROUS

LRT will help connect 10's of thousands of people in the inner core and help bring people out of downtown and more easily home and to work

the construction of the LRT will help create much needed jobs, hep businesses, and boost the economy

Putting more buses and BRT line along Centre St does not make any sense. These busses are noisy, disruptive, & bus drivers unpredictable.

A side running LRT station at 9th St would be a huge improvement to the community of Crescent Heights. Excited about it. Looks beautiful.

I'd be curious to know how much Calgary transit spends on overtime. Too much!!!! Having an LRT would help minimize those costs.

Make sure LRT offerse better protection for pedestrians from cars and trucks, more lighting and better sidewalks. BRT is terrible a idea.

Too many issues caused by subterranean transit. People complain about safety at substations, it's costly to maintain subways. No TUNNEL.

Centre North communities continue to subsidize transit for newer communities. Centre St needs reinvestment. LRT surface line please.

Centre st is terrible to walk, has 3 lanes of 1-way traffic at peak times. Surface LRT will help improve one of our oldest neighborhoods.

BRT would be detrimental to Centre St/ Crescent Heights / Chinatown. Has stopped investment. LRT helps bolster future investment.

9th Ave station is shown nicely fits into the neighborhood it will help slow down traffic while increasing traffic flow and movement of traf

centre st is derelict and more investment needs to be put into the street. this project will help bring this to the community into 2020.

Crescent Heights residents don't have access to adequate public transit. The buses are always full. Surface line lrt will make it better.

it's total chaos on centre st. Buses pull into traffic on both inside and curbside lanes. Get rid of them, build it right with surface lrt

Low floor LRT will be great for walkability and accessibility. It will be a marked improvement for the urban realm compared to existing lrt

Challenges: nimbys and penny pinchers. Get this guilt ASAP

Underground only! Business people still need vehicles to go in and out of communities. As population grows, going underground make sense.

The proposed north line is a negligent, harmful proposal. Financially irresponsible and harmful to the park and those who walk and drive.

If the City wants to spend \$5B for "jobs", why not spend \$5.5B for more jobs and build a train that doesn't damage parks, road and pathways.

Do not turn 4 St NW and Edmonton Trail NE into traffic sewers. They do not need additional capacity/speed as already they feel unsafe.

A station at 9th Avenue is paramount to helping Centre St north thrive, and the start of a train to somewhere

Get this project started ASAP. This and other projects connected to it will help create jobs and help get our economy through current slump

It's been proven infrastructure projects and support of them helps boost the economy, is beneficial in economic downturns

we need the jobs and economic development to support Calgary families now! Build the LRT and save money by doing it surface line up to 16th

Up to 16th is where stage 1 should end. Majority of users will be those living and working in the core - and we need better transport

Build it right and they will come! This means maximizing the long term investment required and build the Green Line UNDERGROUND!

Calgary needs better inner city transit. It should not take 3 buses to get from Crescent Heights to Ramsay or the nearest farmers market.

LRT will help get people in and out of downtown. No more clogging of cars trying to get out of parkades at rush hour.

Better LRT service means people will have better options than having to pay \$20-\$40 for parking downtown.

bring back the feeling of CH being a residential community- not a thoroughfare. I like how surface line allows me to shop while I wait.

Surface LRT will help reduce car traffic as more people use train, and make it more safe to walk along Centre Street

As a resident and business owner in CH, it would be difficult for me to support without a station at 9th Ave

I am opposed to taking parking away on Centre ST an the expanding of pedestrian sidewalks. This will adversely effect businesses.

Thoroughfare straight to 16th Ave would be a detriment to long-time established and emerging business district developing South of 14th nort

precedent set by having stations close along 7th Ave. 7th ave stations closer together than distance between 9th Ave and 16th Ave station

I'm really excited about the L RT it'll bring a vibrancy to the community and adding to it being an urban oasis feel

A train in Chinatown would help make it safer as long is it is above ground. I would be too afraid of what lurks in the subway.

Calgary transit is wasting too much money on overtime costs. LRT costs less in the medium term.

I used to think underground was way to go but thinking about what I like and enjoy when I travel the surface line with the bridge is excitin

I love Princess Island Park and a nice looking bridge will help enhance its urban Oasis feel.

And the low profile of the bridge samples helps us still see lots of sky! The pathway examples and bike lanes are cool too.

I would not feel safe using an underground station, especially in the winter when it is icy and dark.

Based on the effect of the Calgary economy from the pandemic and low oil prices the Green Line project should be postponed.

There needs to a bike path along side the entire train line. I don't see room for this.

Low floor LRT s a ridiculous waste and councils insistence on it provesthey are more concerned about remaking city than spending responsibly

Commuters from far north will be choked at the bottle neck that starts at 16 ave now. No parking terrible for businesses. Need a parkade.

I would like to see a station on Centre St. N south of 16th Ave as well. The people living between 2 Ave and 12 Ave have a long way to go

We need to not put a bridge over Prince's Island Park. The wetlands and public space are very important to all of us an need to be protected

Is the Crescent Heights BIA faking engagements on this platform?

Fake engagement being abused by special interest groups!

Fake engagement being abused by special interest groups?!

IS THIS A FAKE ENGAGEMENT PROCESS?!?!?

Fake engagement being abused by special interest groups?!?!?!?

FARSE! FARSE! FARSE!

Look at how open this process is to abuse! Is the city faking engagements and using fake social media metrics?!

Look at how open this process is to abuse! Is the city faking engagements and using fake social media metrics?!

FAAAKE COMMENT NUMBER 511!!!

WHAT ELSE COULD THE CITY BE FAKING IS THIS ALL A LIE?!

Is the city going to do anything about how they are using an engagement process that is open to faking on a 6 billion dollar project?!?!?

City is going to spend 6 billion on a project with a bunch of fake engagement instead of building a project properly?! what else is new?!?!?

If someone could fake all these comments how do we know any of the comments ever made on engagement portals are real!?

Look at how open to abuse this is!!!! I can spam comments 500 times!

LOOK I'm pro greenline!!! Build it how I WANT IT! Jerrymanderd results?!

JOURNALISTS SHOULD DO A STORY ON HOW COUNCIL COULD BE FAKING CITIZEN ENGAGEMENT!!!!

Look at how open this process is to abuse! Is the city faking engagements and using fake social media metrics?!

Jeromy Farkas! please look into all the potential for abuse this system has!

I wonder if anyone working for the city is making repeated comments to try and get what they want without proper engagement?!?!?!?

Does the city know that engagements could be faked so easily?!

Sean Chu should be investigating other council members, and city staff. This whole process reeks to high heaven!

Paging council Keating!!!

PAGING COUNCILOR GODNICK!

Nenshi are you going to fix these fake engagements?!

Ward Sutherland do you see this?! Looks like someone is faking the engagement process. Maybe we should fix this undemocratic process.

George Chahal can you look into how this system could be abused?!

Jeff Davison says hi everyone! This is definitely not a fake comment!

Carra, Gian Carlo did you know about this process?! Should someone be looking into this?!

Dear councillor Ray Jones. I have concerns of fake comment campaigns being used to push things through council.

Diane Urquhart. Should you be looking into how a process could be faked like this?!

Peter Demong. We should all be concerned of such a subversion of democracy! Please look into how engagements are not being used properly.

This website is a subversion of democracy! We are being lied to man! It is a fake comment system!!!!!!!!!!

Canadian tax payer foundation are you seeing this ?! look it is all fake !!

I bet 99% of the population do not even know this website exists!

Definitely would like to see a 9th Ave station. Area has seen recent revitalization which would be hurt by a surface line with no station.

I see bike racks but no lanes. how do people bike to the station? What about multimodal transport??

Building a tunnel under the bow is one thing but building a big bridge through one of our city's prettiest parks is a significant flaw.

There is already a bike path along the CP rail line into downtown no one uses it.

Why would you need a bike lane on centre street when there is already a significant bike infrastructure plan that is not even being used.

Why are all the comments about this process being fake being removed when they prove how easy this system is to abuse?!

Bike lanes are a no no

Why are all the comments against bikes and two lane traffic being removed this is a fake engagement!!!!

The moderation team is picking a choosing comments that are pro at grade only. Serious concern of bias from moderation team.

Building a tunnel under the bow is not a good idea. Building a tunnel UNDER center street is a much better idea.

Don't ruin Princes Island! Put the train underground

Why not keep the bikes on the trail paths that have existed for 40 years. If there was such a demand for cycling use them before building ne

Traffic bottlenecks will increase with a train on Centre St. Will back up 16 AVE. More accidents (see 36 ST NE).

At surface train on Centre St will cause more cars to cut through offset neighbourhoods (Crescent Heights) to get to other streets.

The City sent a reminder April 28 "Engagement closes April 30" -surely that would get lots talking. Centre St is the most contentious part

We should make the LRT at grade lets do it! crescent heights BIA approves this message lets go!!!!

city could mitigate cut-through traffic. I live in Crescent Heights & many people already speed & cut. It's a problem that can be fixed.

At grade rail line reducing traffic to one lane each direction will make impossible to drive in rush hour on Centre. Noise pollution too.

With likely funding constraints after COVID, it would be prudent to stop at 7ave and consider underground for Centre in future stage.

Centre Street (In-person)

Congestion is already bad at Centre + 16 Ave. I can't imagine how bad it will be with the addition of a LRT. Centre should be underground from the ridge/bridge in Crescent Heights to North of 16 ave.

Business owners are probably looking back at how business fared on 17th Avenue (SW&SE) in the last few years with sweaty, nervous foreheads today. To be blunt: We do not need more Calgary businesses shutting down due to overbearing, endless construction. We need a detailed, comprehensive PLAN this time.

"One of the biggest hinderances I saw taking the MP bus down 17th Ave was crossing the street - to go from one station platform to the other (e.g. EB Platform to WB platform), I had to wait for three successive ""walk"" signals. Not exactly a timely transfer!

If a goal of this project is turning Centre St N into a more pedestrian/bike friendly area, you may want to consider (both for this, and the 17th Ave Transitway as well) adding ALL-DIRECTION PEDESTRIAN XINGS at some intersections - they'd at minimum be better utilized than the two existing ones at Eau Claire!"

Side running will make the 9 Ave N and 16 Ave N stations more integrated into the street. Much less disruptive to build due to faster construction

"To maintain LRT speed and reduce collisions, Calgary may need to close side streets. This will significantly impact traffic flow in the adjacent neighborhoods.

- How will 16 Ave N intersection operate without major delays?"

Add 9 Ave Station! Great for the businesses there and the nearby school. Don't miss this opportunity!

How are we going to make sure that small businesses along centre street stay open + thrive during construction?

One lane for each street is going to be a challenge

you are impacting parking on Centre Street if you put C-train on top

parking for people visiting/utilizing the businesses on Centre St N - this will have an impact on residents !!
Parking on residential streets is already a problem!

"Traffic being re-routed into the community to make L turns -> more traffic cutting through neighbourhood
- safety is a concern

- traffic noise in the neighbourhood all day long"

Potential for grade separations @ 16th ave should be considered.

Questions about property impacts. (some property owners may want to sell). Timeliness of when information is shared

Side running configuration, more challenging urban integration

If you merge LRT and vehicles in the same lane concern this won't decrease transit commute times

Like side-running, but wonder about people stepping out in front of train.

Safe crossings for pedestrians and cyclists, please

cars & train will be in conflict

Don't want Centre Street to end up like 36 Street NE (divided by train with difficult crossings)

DO NOT GO ON SURFACE OF CENTRE ST! IT'S A MAJOR VEHICLE CORRIDOR THAT MUST BE KEPT. HAVE BRIDGE FROM DOWNTOWN GO INTO CENTRE ST. HILL AND TRAIN GO UNDER CENTRE ST. TILL PAST 20TH AVE

Without a station at 9th there's no real gain for the community. Unless it gets to 64th it won't really be worth it.

With traffic likely being pushed to Edmonton Trail, what could be done to make traffic improvements on Edmonton Trail. For example, fixing the issues at 16 Ave and Edmonton Trail

What to do about the traffic coming onto Centre St from 20 ave and 16 Ave? I'm highly concerned about this, Centre St. is a major traffic corridor! It would be better to bridge into the bluff and tunnel under centre until after 16 Ave

[written under above comment] AGREED!!

Having a side running train will be much safer for pedestrians without having to cross the path of cars

The side running would be especially nice during off-peak hours because it would add to the more peaceful streetscape environment

Having the train at street level would feel better; not like the barrier at 36th. You could even make the speed limit 40 kph to encourage safety for pedestrians

The only way to make this feasible would be to create 9th St Station + have more greenery/public spaces (otherwise it'll be like 36th - gross!)

Some distance from station allows for best development opportunities (Centre Street)

If you put the train on the side, it will help cars get along centre and help the pedestrians get on easily.

"* Huge opportunity for integration of development in Eau Claire.

- Comfort

-Safety

- accessibility

- services

- Build into the building to protect airspace above for development"

Please include 9 Ave N Station with side running trains

-> small businesses need to work with the city + promote their businesses. City should help them

-> work with businesses to have fairs / festivals during construction.

Please include 9 ave Station. Better access to Bluff pathways, businesses below 16 Ave, + connection to Crescent Heights community

Make it look like the portland/oregon line -> greenery.

Opportunity with curbside alignment - not the best outcome but the better of 2 options

Bilingual area needs to reflect the area by having bilingual (Chinese) on signs

Please add 9th Avenue Station. Help make Crescent heights a more walkable community with easier access to downtown to those unable to physically tackle the hill

Need a stop @ 9th Ave N. for high school + for encouraging people to come use the businesses along Centre St N.

Pedestrian friendly + revitalization of Centre St N in Crescent Heights

Add 9th Ave station!

Really hoping for 9 Ave Station, especially side-running.

Improve urban design/pedestrian focus down Centre St w 9 Ave N Station

I love that traffic will be slowed to "local street" levels. Making it safer for pedestrians + cyclists to navigate down Centre St. stretch would be welcomed!

9 Ave Stop

-> benefit: you will have an LRT in your community

Reduced volumes on Centre Street will encourage greater transit use.

"Interested in ensuring safe pedestrian mov't across Centre St.

Will there be a free fare zone on GL sim to Red & Blue (ie: 2 ave stat to beltline?)"

When Centre St was already closed a few years ago some parking improvements were missed

More bike infrastructure would help - Centre St could be used more for public things, less for cars

Underground is best - but if surface than yes 9 ave station

need to increase density, just need to do this well

Heated Stations Please

The stations could be more beautiful

Great idea do not slow down. Start doing it. Get rid over humber or SUV

Really would like the 9th Ave NW Station brought back! (Good for Cres. Hts & High School)

I like the ground level/above ground trains. Better rider experience

Do this as soon as possible. It's beautiful!

Go all the way to Airdrie

Adding 9 Ave Station on Centre St

I like the way this will improve Centre St. desirability

From my perspective, out of several options, the one that brings more people to downtown/Chinatown is the best options

Prioritize transit over traffic

I like the trains going up the Centre of the road, instead of at the sides

Love the at-grade train!

LOVE the idea of improving Centre St. landscape

Frustration with 16th Ave terminus need to extend north

Get rid of car lanes. Only train/public spacer and bike lanes

Make Crescent Heights somewhere to go, not just a place to pass through. Pedestrian friendly, outdoor space to enjoy 9 Ave station!

Trains going up the centre looks better

Train to airport

"Don't rush

Do it right

Funding"

The crossing (pedestrian) around really needs to be improved. There are lots of seniors here crossing the street, and shopping and restaurants. This area needs to be very good

Better street + people integration

Bikelanes

Reduces flow traffic through chinatown - makes it less congested

Safer for pedestrians to leave side running stations

Below grade train

Everyday the residents at The Madison (Centre + 16th) cross to shop at Lambda and Central Landmark. You must make it easy and safe for them to do so

Like the Portland model -> low to the ground

Traffic calming to be on 1st St. + 1A (parallel) streets to allow circulation

How does Centre Street Bridge traffic lanes & BRT connect into Chinatown? Needs to be simple to navigate for senior population in the area, simple signals & lanes & easy to navigate

16 Ave station should be north not south. Don't wait to solve 16 Av in the future. Won't you be reconfiguring the intersection anyway. Plus allows increased ridership + opportunities for redevelopment (e.g. Safeway)

Is it possible to close off 7th Ave NW - people use it to shortcut to Crescent Heights

"Totally impact the traffic on Centre Street. One way up one way down

Impossible!! Underground on Centre Street. No Budget? Wait until Budget enough!"

BRT share road?

vehicle short-cut?

"transit user - don't want GL @ grade (not an improvement) concern about disruption to area

- 16 ave is already crazy busy - how will transfers work?

- concern about impact to existing route & ride times impacts

- concern about impacts of accidents between cars & trains - bogs everyone down

- don't do this until you have \$\$\$"

"concern w traffic impact on centre - congestion. Supporting underground all the way to McKnight. If not enough budget, don't do it all - should be underground

- change current Red/Blue to underground @ 7 av."

Big issue if traffic cannot turn left to access businesses on the other side of the road. This applies to both NB and SB traffic.

I wonder building the Greenline LRT at Centre street is necessary. Will it help a lot of people getting a train to work? Is there enough parking lots for the people when they use the Green line LRT?

"Add more buses to Centre & Edmonton trail to deal w/ capacity

-concern about impact to PIP & geese in lagoon/wetland

-can get cheaper cost if open to other country bidders? (ie: China)"

"concern about traffic impact to Edmonton Trail - more traffic jams there. - 10 st & 14 st are also busy.

- local & regional mobility impacts.

- concern about train & people collisions"

The street enhancements are a nice picture however I'm not sure it is a big enough gain for the loss of traffic and the increased vehicle issues

With only two lanes of traffic what will happen with accidents or with left turns. This will take a lot of time for people to accept.

Impacts to mobility network seem to be too much

"We can't borrow more money for more stations

How much more will 9 Ave station cost"

It seems like downtown traffic is expanding to Centre St. As being one-way & harder, scarier for people to drive down? It would keep ppl actually keeping away from downtown & not gathering in downtown anymore!

vehicle short-cut

no "bridge" snake across river. Bad fung shei

Centre too congested. Use 4 St.

Would be helpful to know the angles of the bridges

Chinatown business will be "Zero"

If the city has no budget to build the underground tunnel at downtown, why not wait until the city has enough budget then build the Green line LRT?

"Not enough budget. Wait until enough budget.

Make it underground"

HUGE MISTAKE! RECONSIDER UNDERGROUND

Traffic still needs to flow reasonably

Concern that traffic will increase in the neighbourhoods around centre street

Concern of resident around Centre St: that it will be difficult to turn onto Centre St

Concern for traffic loss on Centre Str.

Underground better solution due to loss of traffic capacity

16 Ave station will create more issue than benefit. People there won't often use it and it will cause congestion. The solution is to go further north now to make it worthwhile.

concern around turning from Centre St./ holding up traffic

HAVE YOU SEEN THE EUROPEAN PLANNING FOR ON GRADE LOW TRUCK TRAINS?

"prefer underground - long term vision. Not short term solution - Don't do until you have \$ for underground

- feedback/engagement time too short.

- prefer to extend south."

question on how existing traffic on Centre will be accommodated along alt street (Ed. Tr very busy)

"Surface running is worse for traffic b/c now down to 1 lane in each direction

- concern over safety -> more people on street may lead to more crime e.g. use 7 AV SW as a example

- nobody wants to ride them at night"

"What happens if there is an accident in the traffic lane?

- left turns could back up traffic very badly.

- Edmonton Trail would be better. More condos, people who would take transit."

REDUCING VEHICLE FROM 4 LANE TO 2 LANE?

CENTRE ST WILL FEEL TOO NARROW WITH THE TRAIN

It won't work to get to Lambda shopping from 12 avenue. The streets are blocked (e.g. 10th), It will be very hard to get vehicles into this shopping area

Accessing the parking lot at Lambda shopping Centre (from both N and S) is very important, especially with the Chinese businesses and customers here

Accessing parking at Centra Landmark is very important for the business and Chinese customers. I'm worried the plan does not consider this

We totally disagree to build the LRT on the surface at the Centre Street. If the LRT is built underground (tunnel), we will agree. We agreed the 2017 LRT plan. Our visions should be in the long term. We should think of our future generations. The LRT Green line should be sufficient use for 30 to 50 years.

SURFACE TRAINS ARE FOR NON-BUSY CITIES. IT NEEDS TO BE UNDERGROUND FOR CALGARY.

BRT CONGESTION

If the LRT is built on the surface of Centre Street, I think a lot of shops in Chinatown will be closed.

Concern re: Centre Street on grade. (too narrow for buses and vehicles)

Concern that surface running on Centre St. will add impediments. Preference to make it underground.

Concern that 11 av on East side would become cul de sac. What impact would that have on residents?

Concern that people will not come to Chinatown when the number of lanes are reduced

"Is it practical?

Parking Cost?

Park-n-ride? "

Centre Street already over capacity without the proposed change,

Poor transit connections mean traffic lanes are still needed for people going from north to south in cars

Do it underground all the way to 16th Ave on Centre Street. One road up and down will have lots of traffic problems. What happen in case of emergency no way for Ambulance to go through!!

provide good commuting service for many people with limited means

" - don't ""split"" crescent heights

- personally, don't like running the train on either side. Two separate tracks much be crossed as a pedestrian"

Interesting changing the dynamic of center street From commuter to a local Road

Traffic changes from 3 lanes to 1. How does this change Deerfoot, Center street Underpass, Reconciliation Bbridge, 10th stret, 14th street etc.

" - sustainable/walkable environemtn

- mix use

- better use of public transportation"

" - parking

- noise control

- currant business

- left turn difficulty

- people from crescent heights use personal vehicle than public transit"

It should stick to the plan that train should go underground along the Centre Street north.

" - very concern about traffic along Centre Street north. By cutting two lanes off

- very difficult to make left turn"

If going through Crescent Heights above ground, should definitely put in a station at 9th Ave. There's lots of demand from high school and growing commercial area around Tigerstetd Block.

Currently, the centre St. N is blocked at south of Beddington Trail. This road block should be removed now, to build a full road to North and allow cars to drive through under Beddington Trail tunnel.

1. With north Green Line to be built, two lanes would be occupied by C-Train, and only two lanes for cars. It is not justified. I strongly think North Green Line to be cancelled.

The train goes nowhere. 16 Ave is just a highway. Train will split the neighborhood . No on street parking with urban realm limited by the width of the right of way. Stop before crossing the Bow River Please

Concerned about mixed traffic on Centre Street. I'd prefer a tunnel.

How if only Ctrain lines are allowed on Centre St. while diverting traffics along the parallel streets entering/leaving downtown area?

" - Tracks should NOT be run on surface of Centre Street until North of McKnight BLVD.

- Please consider terminating Phase 1 of the green line at the 2nd Street Station which would be the north terminus until sufficient funding can be secured to do it properly (i.e. underground)

I realize this would take years if not decades. "

"Centre Street - 16th Ave + passage down centre street - a side loading model is Best. look at Milan in Italy and paris - the centre platforms cause people to run through traffic to get to the centre platforms - highly dangerous

- will these be pedestrian overpasses. "

The community needs a station at 9th Street North - where residents live. Just putting a station 16th Ave makes CH a thoroughfare. It will also help to move more people often - the busses are already full south of 16th Ave N - a 9th ave station will help reduce congestion.

To me, it makes sense to have a 9th ave station prior to terminus of stage 1. I anticipate this will also help with transition to Phase 1 when it is funded.

" - 9 Ave station would help revitalize businesses that might be affected by the loss of traffic during and after construction.

- Love the at ground transit

- The North part will help commuters into downtown"

" - Parking around 16th Ave Station

- Need to get airport transit sooner rather than later, but this is a good first step

- commuting down centre (or alternate route) until this is built"

"Between bridge and 16th Ave Stn. route MUST be underground.

Must have 9th Ave Stn.

Don't build until you can do both. "

"(1) Traffic !!! I see very little discussion here about where the traffic that currently uses 4 lane centre street at peak hours will go once centre street is reduced to 2 lanes. Vague statements about ""studying"" Improved traffic flow on alternate routes - 10th Street, Edmonton Trail, Deerfoot, and that's

(2) about it. if these ""improvements"" are really available, presumably they would already have been made. There is nothing that speaks to budget all sections to imagine the resulting increased traffic flow on these alternate routes. My fear is that centre street in my neighborhood (Crescent heights) becomes

(3) a complete log jam with only one lane each way, not only during peak hours but off peak hours as well. If that happens, the net benefit to my neighborhood (other than some ""street scraping"" is zero, and the net cost in terms of day-to-day

(4) livability is substantial. Basically, we will be victims of a massive infrastructure investment designed to benefit other neighborhoods further out - and we get to pay for it just like everyone else. At this point, put me down as anti-greenline

"

" - has the city ran any pilots to see effect of one lane of traffic during rush hour?

- the suggestions for turning/pedestrians could be a disaster for traffic"

"UNDERGROUND

Pilot project w/ only 1 lane of traffic each way "

"Local businesses going to be impacted poorly

How do you turn? w/ 1 lane of traffic and train? You have 0 answers yet you want the public's approval? An above ground LRT is a failure. Take a look @ 36 street in regards to traffic flow and safety!"

" - Revitalizing/supporting businesses along Centre St.

- 9th Ave station will support local businesses and transit customers south of 16th ave. "

Minimizing disruption to local businesses during construction

Do you really want to replicate the unsafe, disastrous at grade crossing & traffic patterns of 36 St NE?

Concerned about potential collisions between buses and LRT

ON-ST PARKING FOR BUSINESSES

PED SAFETY IS A CONCERN

NOISE IMPACTS

HOW IS SNOW & ICE MANAGED

-"growth" will be around the stations, not in between the stations

BRIDGE MUST ACCOMMODATE ALL ACTIVE MODES

How will peds cross Centre St N?

Concern if transit is given priority when trains cross into centre turning -> traffic problems may ensue (like at west end of downtown - traffic backs up for 5 - 10 min)

Businesses will lose foot traffic

Only 2 lanes total for car traffic? Will crowd Edmon. Trail.

How to cross Centre St?

Improve traffic access to businesses on Centre St. @16th.

doesn't seem reasonable to have the Line above ground on a street that is not terribly wide & which crosses the TransCalgary - To go from 4 lanes of cars to four would seem to create issues around traffic, safety, flow, esthetics. Please consider a tunnel.

Do everything in The City's means to preserve small businesses on Centre St. & impacted route. Real people & families Lives Impacted

TRAFFIC NORTH & SOUTH MOVEMENT

Willing to pay more for tunnel under Centre Street (bridge OK)

16TH AVE STATION IS VERY VERY BAD. BUSINESS ON WEST SIDE DESTROYED

POOR VISION FOR TOD ON WEST SIDE!! 16TH AVE STATION

Traffic congestion. Also - no costings!

Is the station far enough from 16th Ave to let it grade separate at 16th in Future?

Traffic in rush-hour entering/leaving DT

TRAFFIC CONGESTION

Single lane traffic will have large impact to local residents and cause increased noise and congestion for the area.

Look to the disaster of 36 Street with above ground trains - unsafe for pedestrians, horrible traffic. Centre Street is a main thoroughfare - narrower than 36 St. Reduction to 2 lanes of traffic seems like a terrible idea. Short-sighted.

MOVEMENT OF EMERGENCY VEHICLES AT PARK MOVES NORTH & SOUTH

Yes, you are promoting less congestion on Centre Street. But people will go elsewhere. Edmonton Trail, etc. People will not take the train just because you think they should !!!

WANT THE TRAIN, BUT NOT IN THE MIDDLE OF CENTRE ST.

Take Longterm vision - ToD on both sides of Centre St/ 16th Ave

- Very concerned about construction another 17th Ave SW - how will business survive.

Reduce & Centre St. / 16th Ave access to properties and businesses is critical

Reduce & eliminate property taxes during construction to keep businesses alive & survive.

- Do not disrupt Centre street
- Access concerns to business

TRAFFIC SAFETY NO REAL ANSWERS

Why Centre St one lane up one lane down. Consider traffic.

With one lane what happens to traffic when a pedestrian crosses, a car turns, etc. Please provide data.

CONGESTION OF TRAFFIC TO ALL EXISTING BUSINESSES -> UNABLE TO TURN OFF STREET

- run a pilot and close 2 lanes on Centre St. during rush hour

Concern about surface tracks btwn 16 AVE & 7th Ave along Centre.

-> I feel putting the track underground for this section may be a better choice for the long term due to (1) Businesses along the section in Ctr Street is not going to drop the cont. to grow; (2) Pedestrian crossing safety (3) minimize the freq. stops along Ctr. Street for the train Note: this is w/o station on 9 AVE NW

How will vehicular traffic - back ups for accident? - emergency vehicles getting thru back ups?

Centre St. - 9 AV Station is valuable for businesses, Highschool & residents - increases riderships - bus loads of students here now can then use LRT if 9 AV station is there - streetscape & wide ped zone is important for people - would like to see bike lane added if possible

Re: Surface track along Centre Street Stage 1 -> Stops or tracks at the curbs is a better reference -> What are the risks to put Stage - 1 along Centre Street underground?

Centre St. - curb running tracks is better for pedestrian access (safer) w/o crossing traffic to get to station - would like more info on what are risks to putting GL underground? (specific construction risks like leaky tunnel, geology)

CAN CENTRE ST. BE UNDERGROUND FROM N. OF BRIDGE TO 16 AVE N? - What are risks in detail!

Concerned about impacts to Centre Street. I think a cut and cover tunnel would make more sense.

- going from 3 traffic lanes to 1 is going to be a challenge / destroy traffic
- why do we insist connecting two? There are no people that will go North-South
- there is lane reversal on Centre Street already, this will just complicate things
- 16th ave does not need a station - There is no ppl that will use that station
- side running LRT is better than running it down the middle
- we should not be rushing it - we need to do it right - not bldg past river
- the whole place will be mess. Traffic congestion

Bow River to 16th Ave will cause more problems that it addresses

With one lane what happens to traffic when 9 pedestrian crosses, a car turns, etc. Please provide data.

- not every train has to meet. Why do they need to meet?

BETTER TO DEVELOP MORE STATION NORTH THAN JUST 16 AVE

Introducing metered parking to increase the turnover rates thereby increasing traffic to businesses

- it is easier to access - cheaper - more transit customers
- more opportunity to explore what is on the street
- better pedestrian environment -> less car-centric design (there's many other ways to get into downtown FASTER than by car anyways!)

Please add the 3D pedestrian crossings!

As a resident near Centre St. and 16th ave, am totally in favour of a side-running LRT and 9th Station.

Opportunity to be transparent and share information with impacted businesses as the project evolves

Why doesn't the train go to the airport?

OK with BRIDGE AND CHANGES S. OF RIVER BUT WANT CENTRE ST BELOW GRADE

Yes to 9 AVE STATION!

LET'S BE HONEST: CENTRE ST NEEDS A FACELIFT.

Restricting traffic on Centre Street is problematic & causing huge backlog of cars each day

9TH AVE STATION IS CRITICAL

AIRPORT CONNECTION - WHEN WILL IT BE BUILT

BUS & TRAIN TO SHARE ROW to ensure reliable transit "efficient".

Opportunity for free-fare zone extension, DT to 16 Ave? great for business

OPPORTUNITY - PROPERTY TAX RELIEF FOR BUSINESSES IN THE VICINITY OF GREENLINE
ALONG CENTRE STREET

Suggestions to help local businesses - city should consider assembling land for TOD development @ 16 & Centre -> buy up property -> help with rent relief & reduce property tax as meaningful & measurable impacts - wider, more pleasant sidewalks will help businesses

What does it look like for emergency services using a using lane of traffic/LRT ROW

IS THIS TOO INVASIVE? HOW ABOUT A STREETCAR?

"Are we encouraging cyclists on the widened Centre St N Sidewalks?

Pedestrian Safety"

Concern about backups with the signal when it comes off and on to Centre Street.

Whatever was used for paving on urban realm for west LRT lasted only a few years

Shortening the tunnel and increasing the length that is at grade is a huge step backwards, with a negative impact on the community! This will affect Calgary for hundreds of years and is not the project we should cheap out on.

Don't like that vehicles cannot be shared with Red + Blue Line

Concern about vibration and noise impacting house along Center Street

This surface on Centre concept is the worst thing we've ever seen. All of the traffic going in/out of downtown won't fit on Edmonton trail or 10th. There will be gridlock downtown

Pushing traffic through community to facilitate left hand turns is a horrible impact on residents that already struggle with high volumes of cut through traffic.

" - INCREASED Noise, Congestion

- decreased property values

- our neighborhood is a quiet, quaint place where we care for our homes and each other - this erodes and will ultimately destroy the neighborhood + the property values + thus the property taxes gained from these homes"

Side running seems to be a much better option for keeping business pedestrians happy along Centre street. Much nicer sidewalks.

Noise & reduced property values

Thoroughly support the trains being above ground - (as in Minneapolis) - with lots of parks + wide sidewalks. Please make sure you spend the \$ and do it right the first time - it's an investment. And less cars on Centre!

"Too many uncertainties at this stage

go south right now as far as you can

wait until you know more

smarter use of \$

BRT will work for the north

too rushed to get it right in the north - it needs to be done right"

The biggest challenge I see with this process is acknowledging the engagement that has taken place leading up to 2017 approved alignment. We are now being told above grade is only option and that we love it - select from the above grade options. Rather we should revisit options for (1) shortening (2) reducing stations, etc. instead of ignoring public direction and especially if cost is a concern.

We don't want people speeding on 8AV b/c it appears to be Wider. It already happens - young families have moved away.

How will noise be mitigated in the 100 block of Centre St N

If I decide I don't want to live here, b/c of people speeding, my property value will be lower.

"Increase curb appeal for adjacent businesses? No - you are creating a virtual highway and I am not interested in living by or going to businesses by a congested transportation artery.

- Does not create! Greater community traffic it will remain a commuter lane. but one which will now be busy 24/7 - not just @ peak hours - all your doing is decreasing the livability of our neighborhood."

Crossover at 7th St. from East to West should be preserved

How do you not run out of money?

"Solve existing problems first

- social disorder

- 7, 8 + 9 NW

- cars, motorcycles along park + parties

- what are issues?

- sexual assault

- parties, noise, trespassing"

parking displaced from Centre St N will go onto residential streets and affect residents

Concern that removing parking on Centre street will push parking into neighborhoods

putting a signal on 8 AV will make it worse for people who live on 8 AV - seems like city does not care

- Left turns will be limited, not good

Thinks the negatives outweigh the positives.

SIDE Running Train!

Why wouldn't we use the existing spur line by the LRT flyover the Bow River to cross the river rather than this?

Side running trains to Protect People

West LRT had pretty pictures and posters too and then what was delivered did not live up to what was committed to

Don't increase property taxes.

- people will continue to J-walk across Centre St N like they do now / like happens on 7 AV SW (safety issue)

For people who have to keep driving (young parents), these impacts to traffic are devastating w no real alternative

If we want to improve ped Xing safety, can't we just do it now? How does GL actually facilitate this any improvements more than what the City could do now

There is already a lot of cut-thru traffic - how will we mitigate it when traffic is shunted off Centre St N

Need 9 Ave Station

Find other ways to get funding so we can do the tunnel under Centre St N

feels frustrating that we've abandoned the long-term vision

Must have five Bits

8th Ave NW already has way too much traffic for the street width/residential location. A light at Centre + 8th will only make this worse.

Recreating nightmare of 36 St NE

Thinks centre running, surface LRT works on Crowchild and Bow Trail, where there is traffic capacity. Not here

Abandoning underground feels like a loss of trust

Worried about traffic coming up Samus Rd from Centre, and then out through 8Ave/12 Ave, other roads

Not convinced this will help busines - I don't patronize businesses on 7th Ave - and try to avoid even walking on it. It's grungy and often people just hanging around, feels Unsafe! This is the reality regardless of any architectural/design visions.

Residents in Crescent Heights walk. With cut through traffic decreases safety.

"9 AVE STATION

- potential to increase problems w/ crime, social disorder

- limit easy street access to community"

"* Why not use existing crossover to Bridgeland and go north from there instead onew Bridge over Bow River?

* MUST have 9 Ave N. Station for Crescent Heights businesses + for residents to use

* If putting new bridge do not spoil look of Centre St. Bridge in any way"

"concerned that even NOW, turning off Centre St N is hard

concern it'll be even more challenging. "

concerned about increased traffic on 4 st to 12 Ave North. Would like to know future configuration. Traffic safety.

Centre Station will divide the community

Noise abatement design for nearby neighbours

a 10% price increase is not significant in longrun (20 yrs, 50 yrs) but design changes that impact/divide community are

"Where are 20 000 cars going to go while waiting for expansion past 16.

10st + Ed. Tr. Are already over congested. "

easy movement thru & across the community via cars - concern that this is maintained.

prefer/need for more time to evaluate alternative option to the surface recommendation.

" - will there be short-cutting restrictions into the community

- will there be noise mitigation? "

no safe crosswalks across the centre street

centre street is too narrow to put c-train on, eliminate opportunity to pass ppl

Cyclo-cable on Samis Rd.

"*concerned that centre st will be like surface train on 7 ave downtown - still is a divide & takes away community feeling.

*concern about short-cutting & increased traffic in residential streets

- traffic calming needs to be considered."

"Side running is

- safer for pedestrian

- better for businesses as there be more foot traffic by the stores

Need 9 Ave Station

- many businesses and residential in that area."

It seems like there will be a bottleneck where the train ties in with Centre St. It is concerning to think of what will happen to traffic on (Samus Road) 2 Ave

We chose to settle in Mt Pleasant for the convenience of driving a short commute to work. This is a neighborhood w/ many young families. School hrs leave us no choice but to drive. Edm trail + 10th St are not good alternatives. We need ctr street at 4 lanes to handle the population in this area. Delay project until there is money for underground to 16th.

Surface is fine North of 16th ave as there's way less traffic as everyone feed to and from 16th Ave.

Instead of valuing the quality of the inner city neighborhoods + the tax revenue they provide the City - the above ground proposal will ruin the neighborhoods, reducing property values + property taxes.

"Aleppo Shawarma

-> During construction I am concerned about parking in front and the sign is there as well

-> I would hope there would be parking maintained"

"Where are the traffic simulations that support fully reducing 2 lanes from one the main arterials into the city core ??

- how does this impact: 1) cut through traffic into the community?

2) edmonton trail traffic? "

Disruption to residents & businesses for no benefit

Concern about idling at 16th ave

" - If this can't be built underground then it should not be built

- Eighth Ave already suffers from extensive cut through traffic + non residents parking in residential permit areas

- Erosion of quality of life in inner city neighbourhoods
- \$ YYC can't afford this!!
- little value for cost
- removing on street parking will just push that traffic to residential streets
- have comfortable sidewalks?? NONSENSE!"

If we can't afford this to be built underground then it should not be built at this time! The presentations today confirmed this for us

"DO NOT PUT LRT ON Center ST

- Access For Traffic will be awful
- Community Impacts"

Will limitation be Placed on traffic Flow going south on 4th? Where does Centre traffic go in Future?

- " - access from neighborhood / to neighborhood
- reduction of traffic will create traffic"

Where will the 30,000 cars a day on Centre St going to go. Edm. Tr. doesn' have capacity, and we need to know the traffic plan.

Centre platforms result in crime

In Crescent heights we already have issues with parking that the City doesn't enforce. How can I trust the parking and mobility study will actually ever happen or ever resolve anything.

No place for bus connections at 16th Ave. Lots of bus ridership above 16th Ave N.

Uncertainty around alignment is hurting businesses.

Need tax reBate for businesses impacted

"Financially unaffordable for usage at \$3.50 one way per adult.

Uber Cheaper/Cost Friendly"

"Acces + egress in the community will be challenging

How to deal with centre + edmonton trail both busy

Don't consider centre in isolation factor in other routes

Designated school on East of centre is in Renfrew - to get across Edmonton trail will be tough"

Don't build a train to 16th Ave until you have funding to go all the way north. You'll wreck prince's Island and wreck Crescent heights for no gain

"9 Ave station is a councillor promise

Parking for businesses on centre around 9th has been an issue

If accident on lane of traffic or maintenance on track will break down network safety issue

hard to get down Edmonton trail today + you make it worse

"

make sure short-cutting thru community doesn't get worse. Need traffic calming.

"** concern about short cutting & need for traffic calming in residential street.

* concerned about unintended consequences of people violating new parking opportunities (if change from Res to short term parking).

need for more enforcement."

A BRIDGE CUTTING THROUGH ISLAND IS A BIG MISTAKE!!

TRAFFIC VOLUME IN NEIGHBORHOOD BETWEEN 4TH ST E AND 10TH ST W WILL
DRAMATICALLY INCREASE TO NIGHTMARE LEVELS. PUT THIS UNDERGROUND TO 20TH AVE N.

NO TO 9TH AVE STATION. If a station is needed, put between 11th and 12th Ave.

THIS PROJECT CONTINUES TO EXPERIENCE INFLATING COSTS. THIS CITY CANNOT AFFORD IT
TODAY OR EVEN NEAR FUTURE. PUT PROJECT ON HOLD UNTIL ECONOMY CAN SUPPORT
DEVELOPMENT.

This project is unneeded at this time. If you don't have the money to do it properly then don't do it.

No to Centre Street surface line - Transit is not an option for many working parents who need to get to school to drop off /pick up given limited school hrs/lack of Before & after school care options. Reduction of Ctr street lanes will add at least 30 mins round trip to my commute daily - Don't build the line until there is funding for underground

Not in favour of having a station at 9th Ave NE. Creates too much noise & garbage

GO UNDERGROUND OR JUST KEEP THE B.R.T. TOO MANY SERIOUS ISSUES TO ADDRESS
WITH THIS PROPOSAL.

FURTHER SEPARATES THE COMMUNITY OF CRESCENT HEIGHTS

train on Centre will further impact business viability on Centre.

Don't want the level crossing. Don't do bridge. Stop downtown.

Concern that crossing gate signal, where LRT crosses SB Centre St N lanes, will be noisy & disrupt residents like when Sunnyside Stn went in.

Removal of Parking on Centre St. destroys any Businesses that are trying to survive there.

I see no discussion of resolving the traffic congestion problems. Where is all that traffic not allowed down CENTRE St. going to go? What are the alternate routes?

We like the idea of a train in concept but will people from further north really use this if train stops @ 16 Ave.?

Sound and Scale can be concerning with the train.

Not enough discussion on 9 Ave. Lost in all the changes that are shown.

Community doesn't know what it is like to have a station at the end of the street.

Feeling that this will cut the community apart. East/West

- too much money is being spent to go to 16 Ave only

How are the existing transit routes going to be affected by reduced traffic lanes? If there is no C-Train station access to Crescent Heights we still should maintain the bus service we have now.

- How is snow removal handled with side running option?

Concerned about crime & reduction in safety for our parks / kids - bringing more people who don't live here. How will we be protected from crime?

- there will be a challenge with traffic thru Centre street

Undersirable Street Life on Centre St N. when there's a 9 AV station - maybe good for rental properties; not for us who own. I live on 10 AV N.

16th ave Station isn't usable for Crescent Heights

CAN'T UNDERSTATE THE IMPORTANCE OF QUALITY OF RESIDENTIAL LIFE NEAR 9TH ST STATION. PLEASE INVEST IN THIS NOT JUST FOR ENGINEERING

Need more clarity on traffic study and where potential traffic volumes may go.

To put a C-train line through Crescent Heights and provide the residents with no access to it via a 9th Ave Station provides NO Value to the surrounding community and disrupts the existing businesses, and livability of the community.

No cyclists on centre ST for single lane driving rd. Setup a camera to monitor center & 7 ave to gauge success and lawfulness.

Concern about safety & inreputable activity around station *9 AVE *

Surprise around change !!

Loss of pedestrian crossing at 7th ave.

9th Avenue NW station - not clear how this impacts residents trying to access Crescent Hgts.- east & west

Removing two lanes of center street for a street level train is NOT a solution 40K cars a day use center street to access downtown. The congestion this proposal will cause will be unmanageable.

Don't believe that this will ever be an urban destination.

Concern about train reliability & ped / vehicle interface - curb side bad idea

Building this lacks in the infrastructure if financing turns around, can't then develop tunnel.

Any street level solution requires a different type of train. Why hasn't the additional cost of maintaining two types of trains been discussed? Find a solution that uses one type of train. The current Type.

Increased traffic to Edmonton Trail and increased traffic through Crescent Heights East to reach Edmonton Trail.

We live on Edmonton Trail and we are concerned about the additional traffic that will be created.

traffic crossing LRT with cause more delay. At McHugh Bluffs & curb running

side running would work awful for traffic

concern for safety

short cutting needs to be studied

where will the traffic that currently uses centre street go? People will not use the LRT to come downtown!!

Challenges Centre St - Traffic jams - cut through traffic - No Left Turns - Businesses hurt

Bus traffic to 16th Ave & parking near Station would need to be managed

short cutting needs to be studied

9 Ave - provides service to neighborhood * supports station

7 Avenue connect to DOG park - Desire line. Need to plan for it

lack of trust with Community - changes to alignment - 16 Ave failure implementation

Bigger backup @ Edmonton TR & Memorial in AM peak than there is now.

increased traffic on community Streets with people looking for alternate N-S routes to downtown

16th Ave is already a mess 24 / 7 - Need more info on impact before approving

road congestion on centre street (going & getting out of dt)

-short sited idea to put a bus on Centre Street

9th Ave NE Traffic cutting through between centre / edmonton (and FAST unsafe traffic)

15-20 yr timeline for more stations - Why wreck our neighbourhood NOW?

How does this help the neighbourhood when you ran a railway through the middle of my community - you might call it "light" but it's still a railway!

How do we address the impatience with drivers as traffic slows?

300 route should be maintained to airport

Need sidewalk on both sides of Centre Street

Eau Claire resident concerned that cutting traffic capacity on Centre St N will make it much harder to head N out of downtown, on the only remaining corridors: Edmonton TR & 10 St N.

(1) Where does displaced vehicle traffic from Centre St. go? (2) siderunning LRT better for pedestrians but need to keep speeds lower.

Why do we have to build a stub to the North Green Line NOW? - It goes nowhere - it causes increased traffic congestion - it provides no benefit to the Northern communities that need it. - it destroys the crescent heights community - there is no future plan or budget on how to use it.

Remembering not everyone works downtown and residents need to get to the South and North.

- Better to have trains side running easier for people & crossing.

- don't support added station @ 9th due to pot. to increase social disorder in area - lots of issues now along escarpment. (between Cres park & Centre St.) Huge party zone.

_ cut thru traffic on 7 - 8 - 9 AV is currently a huge issue - added traffic light @ 8th AV will make it worse. - need more restriction to traffic here (gated like north of 12 AV)

illegal parking in permit zone is issue now. Need more enforcement

- make e - w connections for biking & pedestrians but not so much for cars. Need more enforcement in community to deal with partying & speeding / social disorder

/ Fire - - safety of EMS access limited due to traffic control measures <gates/no lefts/ no rights> incurring on response time - w/ loss of lanes and parking and addition of cycle - where are the bicycles and electric scooters restricted traffic flow by losing lanes and space - losing curbside parking to areas businesses - concern about looking like 36th St. <lots of transit hubs there> - cw/ the train and with the narrow space

I don't hear buses I find LRT trains very NOISY.

Pedestrian traffic walking east to west or vice versa across Centre Street will be challenging!

Parking to access Ctr Street businesses will move into residential neighbourhoods and if you restrict to permit holders, where will customers park? Negative to business & residential

Cut through traffic is already a massive concern. Above ground train on Centre Street will make it exponentially worse.

Going to negatively impact the Crescent Heights High School Access from the north.

Post it & dot Exercise an insult to people in the community

running up Deerfoot - or Nose Creek would remove restrictions on Centre Street

Correct Renderings would show The impacts more clearly!!!

Too much pedestrian traffic crossing centre street. These ppl will not adhere to traffic signals. There will be pedestrian vs. train accidents similar to 7th Ave

Sight lines b/w vehicles trains & pedestrians

Social disorder increase.

Concerned about increased drug use and crime if 9 Avenue station is included.

PREVENT THE INEVITABLE INCREASE IN CUT-THROUGH TRAFFIC.

Traffic will get pushed to Edmonton Trail. Need strategy to manage that

Traffic between centre street & Edmonton Trail will increase. Put my property @ Risk.

Crime is on rise in CH. Train will exacerbate that.

Residents off Edmonton TR concerned that at-grade on Centre St N means way more traffic on Edmonton Trail NE

Use a BRT

Concern about traffic through the community

Noise pollution from the train for residents.

Noise from train (even without bells & gate)

Left turns (vehicles) challenges

With City budget constraints (current), it doesn't make sense to spend the money to build now. If we can't build all the way to the end destination.

extremely high property taxes paid for ZERO VALUE

challenge will be a construction

Ensuring that the green line stops in Crescent Heights and doesn't just move people through our community

Inner City paying for whose sprawl. Taxes = No Value

Concerns about traffic moving to other streets

Many people use CH NE as free downtown parking currently straining parking situation for residents. That will only get worse.

Safety around 9th Ave station. Increase in bottle pickers

Concerned that traffic will use the avenues off Centre St to try to get north more quickly -> greater through traffic in residential areas.

Maintaining east west access for pedestrians

- neighborhood traffic will increase, not good

A bridge over the Bow river is a real eye Sore

- Station on 9th Negatives - drug dealings - theft etc. not a probable place for a station, residential area.

We have problems with parking already - SAIT, Centre St businesses, people driving here so they can walk downtown. The city has not been able to control that issue how will they control C-train parking in our neighbourhood?

-> crossing to C-train will be a challenge - pedestrian safety

Potential for noise wall between Centre Street & residents

Need more of a commitment and funding to extend north of 16 Avenue.

- challenges with putting bus on C-train tracks - will create traffic

why we are not continueing with the Bridge rather than going with a tunnel Option startup @ 2nd Av

Crossing on 7th Ave was used by peds & bikes - lots of people walking dogs to Rotary Park. Sorry to lose that crossing and concerned about safety

Will Centre Street become the next 7th Avenue cold, unfriendly, unsafe

Need to manage noise for residents on that back on to Centre Street

Cut through traffic into other areas of Crescent Heights (& Rosedale) if Centre Street is reduced to 2 lanes of car traffic

To support the local businesses in the area & ensure their clients have access to their businesses

The increase of traffic flow through both east & west Crescent Heights that a street level train will cause because of the removal of two lanes of Center Street will cause safety issues, increased noise and a reduced quality of living

Traffic impacts to surrounding smaller streets -> have to mitigate as roundabout not always working

To manage traffic crossing & turning in a responsible way

To support the pedestrian friendly goals of the main streets plan

Why do I want to get off the Centre Street bus at 16th Ave & transfer to a short LRT. I will hate you every day if I have to do this.

No to Centre St going to only 2 lanes - 10 St through Kensington is NOT a reasonable alternative for centre st commuters. Too many lights & traffic turning & illegally parked cars during rush hour - Edmonton trail will become a parking lot and all of ctr street issues will multiply on Edm trail

Since all preferred options as per previous feedback sessions have been ignored and the least favourable option is now going forward, why not reopen the option of putting it down nose creek? This would provide Park & Ride options and provide for the use of one type of train. Mainte

If we cannot build underground; and the city does not wish to acquire the appropriate amount of property to widen a transit corridor to the North why don't we re visit routing the Green Line up Nose Creek?

BLOCKING OFF ALL RESIDENTIAL AVENUES OFF CENTRE WOULD BE PREFERRED OVER ADDING LIGHTS AT 8TH SIMILAR TO KENSINGTON ROAD.

PLEASE - CH needs a STN AT 9th Avenue N to serve the community. Doing so will help move people in & out of the core. Allowing people OFF AT 9th - will help ease congestion and open up more SPOTS FOR USERS GETTING ON AT 16th AVE NORTH. THE SIDE RUNNING Design is ideal. integrates best and provides for safe movement like now the road would be a cull-d-sac to help prevent roadway being a thoroughfare.

ON CENTRE STREET, WE CURRENTLY HAVE The CT ROUTE 301 Running North. It does NOT serve our community as it stopS on 16th. I AM NOT A FAN. IF FIND THE BRT's unpredictable, don't feel safe walking or biKing around them. They Interupt and impede flow of car traffic & WASTE SPACE WITH DEDICATED LANES - but don't actually move that many people. The current BRT vehicles and busses in USE ARE NOISY! While lowercost initially - NOT as ENVIRO-friendly & require a lot of maintenance. Lets have metal wheels- NOT RUBBER TIRES

SIGNAL LIGHT @ 8 AVE PLEASE NO!! I LIVE IN THE 100 BLOCK OF 8 AVE NW - WE ALREADY HAVE TO DEAL WITH A HORRENDOUS AMOUNT OF CUT THROUGH TRAFFIC DURING RUSH HOUR - I COUNTED 38 VEHICLES IN 15 MINS RACING BY MY HOUSE - JUST A COUPLE OF DAYS AGO. YOU ARE FORCING ME TO SELL MY HOUSE. A HOUSE I HAVE LIVED IN FOR 25 YEARS. I AM VERY DEPRESSED

Congestions leaving the core - where will the traffic go? Into Crescent Heights? Over to Edmonton Tr. - one lane doesn't make sense to me - the interaction between trains in a narrow corridor - combining in tight space is a concern. if there is an accident the trickle down effect will be massive.

Do not get rushed into a cheap but poor solution which we will have to live with for 50-100 years. Stop downtown until the north segment can be done correctly (underground to north of 20th Avenue)

CONCERNS * Centre St N. - Limited access for every ave with left turn or right turn - will be altered or eliminated - Restricts the freedom of vehicle traffic - where is the representation - overhead wiring and signage - over abundance <like 12th Ave

A surface level train on Centre St. South of 20th Ave N will destroy a critical transportation link (Center St. in/out of downtown) and create massive traffic problems with intersecting roads (16th Ave / 20 Ave). It must go underground to maintain the neighbourhood and traffic flow

When is it going to be built? What is it for? Why do we need it? Why do we need a north run?

BUILD TO 7TH AVE & STOP WAIT UNTIL ENOUGH \$ TO GO REST OF WAY UNTIL 20TH AVE N UNDERGROUND KEEP EXTENDING AS BUDGET IS AVAILABLE

SOUNDS LIKE A REACTION TO NOT ENOUGH BUDGET INSTEAD OF A MINDFUL RESPONSE

WHILE I PREFER UNDERGROUND IT WOULD MEAN THERE WOULD BE NO POSSIBILITY OF HAVING A STATION ON 9TH AVE NORTH- AND THIS STATION LOCATION SHOULD BE A PRIORITY! IF WE WANT TO Preserve and serve the residents and business owners south of 16th Ave N. WE NEED A STATION ON 9TH AVE N.

To increase West-East pedestrian mobility

Complete South side first -> budget accordingly -> revisit original proposal for underground transit across Centre St. Do it as per original plan / proposal rather than new alternative plan.

Keep numerous pedestrian crossings on Centre Street. This is necessary for the community to thrive

Need to have Station closer to 8th Street.

THIS updated version of the greenline shows a lot of promise it will be done right THE proposed bridge styles that are a constant depth viaduct or trestle BRIDGE (with curve) ALLOW FOR IT TO NOT IMPACT THE VIEW negatively from both sides of the RIVER. I ALSO LIKE HOW this style PRACTICALLY MAKES it "unseen" while enjoying Princess Island PARK

TEST WITH A BRT FIRST, BEFORE BUILDING SO MUCH!

-pls maintain the lanes of traffic

Communicate traffic impacts to adjacent communities (Winston Heights) Better

I totally agree to reinstate the 9 Ave N Station to serve Crescent Heights residents!!!

MAKING A COMPLETE STREET WITH BICYCLE TRAVEL, IN ADDITION TO LRT / VEHICLE MODALITIES. PRIORITY PEDESTRIAN CROSSING SIGNALS

Opportunities to reduce Property Tax for businesses impacted by Construction

Suggestion to squeeze in 3 lanes on Center Street (less sidewalks)

Centre running is better than side running. No one wants to walk next to a noisy train track.

Reliability is important.

(1) - Vote for putting train centre running NOT side running. Vehicle traffic next to side walks is more friendly environment for community walkers - Centre running appears to be safer than side running

Vote to build 9 Ave Station, Walking 6 blocks to 16 ave not an option

Consider Safety on parallel streets (4th St, Edmonton Trail) as changes to traffic occur on Centre St. Concerned for safety crossing these other streets

NEED TO BUILD 9TH AVE STATION. WILL NOT USE LRT IF NOT BUILT.

LOVE A SIDE RUNNING LRT STATION AT 9TH ST IT WOULD PROVIDE SERVICE TO CH COMMUNITY & LOCAL BUSINESSES AS A RESIDENT I WOULD OTHERWISE NOT USE TRANSIT because it is nearly impossible to catch a ride on current system the buses are USUALLY FULL AND DO NOT HAVE ROOM FOR MORE PASSENGERS - SO WE JUST WALK DOWN INSTEAD. Thus - we don't actually have a current transit system that serves CH RESIDENTS.

Crossings and Safety are a concern along Edmonton Trail, 16 AV, Centre St. - Opportunity to make this more ped friendly for everyone (especially children)

9th Ave station important to help connect community

Maintenance on sidewalks is critical for making sidewalks safe and accessible for people (including strollers & walkers) eg. Snow removal.

PLEASE build the 9th Ave Station! Otherwise there is NO benefit to Crescent Heights community, only a huge disruption.

INCREASE URBAN CANOPY W/ ADDITIONAL TREES. CRESCENT HEIGHTS IS KNOWN FOR ITS TREES

Opportunity - Learn from Melbourne - traffic lanes designed to maintain access to properties

Side running tracks please! Many benefits to pedestrians

REVITALIZE EDMONTON TRAIL, WIDER SIDEWALKS, MORE TREES & STREET PARKING.

Opportunity for TOD development on SW corner 16AV & Centre ST.

9th Avenue Station is needed for aging population.

I HAVE limited mobility & will NOT BE ABLE TO WALK TO THE 16TH AVE STATION. In order to use the LRT the 9 Ave station is needed.

Need 9th Ave & Centre Station or it will kill businesses

Can train go "over" south lane of Centre St to avoid surface crossing?

Opportunity for Trees, Great Public Spaces, wider sidewalks with alignment to sidewalks rather than centre alignment.

It is vital for the community of CH to have a station AT 9th Avenue to serve residents where they live and local businesses. NOT having a station here will be a detriment to the business community. 9th Avenue STATION AS SHOWN NICELY FITS INTO NEIGHBOURHOOD. It would help slow down traffic while increasing flow and movement of traffic.

While I've provided 2 comments of process; if we do go above grade take the vision further! - remove cars & make it like a (wacnerfd??) only have bikes, peds, & transit. - treat it like Stephen Avenue! - shut the roads down for events, etc.

To have sidewalk aligned trains for better street scape

Focus on the South end of the line.

Opportunity to reduce cut-through traffic in CH community with side tracks. Reduced turns with side tracks will help Crescent Heights locals.)

Opportunity Wait to go to the north side of the river until there is budget to do it right / underground. Listen to input gathered during 4 years of consultation prior to 2020.

THERE NEEDS TO BE BETTER PROTECTION FOR PEDESTRIANS FROM CARS & TRUCKS - MORE LIGHTING & BETTER SIDEWALKS I like how the surface line allows us to keep the current cycle route in place.

DROP CARS UNDERGROUND FROM 16th TO THE RIVER (CNTR ST BRIDGE)

The city is holding redevelopment of Centre St. hostage to the building of the C-Train. Why can't we just redevelop Centre Street without the train?

TRULY CONCERNED - IMPACT -> First Recommendation -> Move 11Av SE above ground & Invest Funding in Tunnel under Centre ST. -> Second Recommendation -> only Build South Leg - Cancel North Leg -> 3rd Recommendation Cancel / Hold complete Project

The tracks on Centre St N belong on the outside to allow access to grade. There should be no need to add any infrastructure beyond a couple of signs indicating "9th Ave" or "10th Ave" station

PUBLIC REALM HUGELY IMPORTANT!

Running the tracks on Center St N at the outside curbs will allow left turns more effectively

Sidewalk / side running trains would provide better safety for pedestrians, no need to cross vehicle traffic.

'Bike lane?

low speed for safety of kids living nearby

Recommend Station at 9 Ave & Centre St. w/ side-running which is safer for commuters.

Could we go to 9th instead of 16th for now? It would be more cost effective. But if you can get 9th and 16th that would be great. It would be really good for local business from 9th to 13th

side running would be great so Bus & Trains could use the same lanes

Could Centre Street be closed to traffic at certain times of day?

*LOVE ABOVE GROUND LRT? GOOD FOR STOPS IF 9th AVE STATION.

Opportunities to reduce short cutting through 8th, 9th, 10th & 11th Avenues NW & NE: Close them all off to all but right turns. Only 12th Ave & 16th Ave for left turns.

-appreciate the urban realms improvement.

Need 9th Ave Station!

9th Ave Station is important opportunity to connect Crescent Heights to the rest of the transit system

Would love to see 9th Ave Station

- happy to hear no barriers & crossing arms - happy about planning process but concern about how people will still drive thru area.

NO 9th AVE STATION ALTHOUGH THERE ARE POSITIVES. THERE IS A VERY BIG NEGATIVE - - TRACK RECORD OF DRUG TRAFFICING AT ALL STA'S - ASSAULTS, STABBINGS - REALLY DON'T WANT THAT IN OUR SAFE CH COMMUNITY

- support 9 Ave station - need to address traffic @ 16 Ave - Happy to see urban design solutions - glad no barriers / fence

It will never be cheaper or easier than now to build th Green Line -> let's not get stuck like the subway line under old city hall when they thought it would be too hard then => great opportunity for job creation

I would love to see the Green Line go ahead instead of BRT - stations represent safer locations for women and in inclement weather - also less smoking which is great

Consider overhead running on Center. Less vehicle impact.

Just do it. Go all the way to the airport.

9th Avenue Station makes Sense in the community.

add lots of trees and placemaking on sidewalks to minimize noise for train

10th Ave has a lot of traffic already from high-school. Minimize impact of increasing it with turn movements

C. St. could become a real funky urban, walkable, hangable street with less traffic.

I would like to speak for the residents who live in Beddington NW. Few years ago, the City planned to build the Greenline LRT to Beddington NW but now they stopped the plan. My opinion there are so many residents in the North West, I think that the City should build the Green Line LRT to Beddington instead to South East.

Centre St to 20th Ave underground or stay with bus status quo

Regarding 9th Ave station, I'm not strongly opinionated. I still think people south of 16th would walk downtown. But it could be good for businesses in the area. There are also many aging folks in the area who could benefit.

I much prefer a side running alignment because it would be much safer for pedestrians

Opportunity to increase safety in crossings in the future.

9th Ave Station Please

There could be an opportunity to tie in bicycle right of way along the east/west side of Centre Street South of 7 Ave N. There is a lot of bank there that could be utilized to make a direct bike route in / out of downtown.

GO TO THE AIRPORT OR NOT NORTH OF THE RIVER NOW - TESTING W. BRT FIRST

Considering the people living around 9th Ave. and the businesses popping up here, I think it's critical to have a 9 Ave station. The train will encourage a pedestrian environment and bring more business to the shops.

It could be a neat opportunity to add pedestrian and cycling space onto the new train bridge. The ped bridge that is used now just south of the Calgary Curling Club could benefit from shifting some users to a new bridge.

I like the side running alignment because there's less traffic around the pedestrian space. It could be a better experience for pedestrians which is also good for businesses.

Need 9 Ave. Station - will encourage foot traffic - more foot traffic will help neighbour businesses

North bound and south bound to be next to each other so you can have lane reversals. This would help traffic flow.

Prefer no station at 9 Ave NE - too close to 16 Ave - people can easily walk to 16 Ave - look at distance between 39th S & Chinook

(?mortpehi & toulouse?) Canopy & hedged enclaves

What will Public realm look like in winter

What if we run out of money before you get across the river?

9th Ave Station will help local businesses

9 Ave Stn would help service area.

Where is the dedicated / protected bike lane?

Public realm of Place should fit in the context of the neighbourhood

Wait until the city gets enough funding to go back to the 2017 plan i.e. tunnel all the way to center street
* no "at grade" level train tracks along center street to 16 Ave

Cut & Cover do it on Centre Street

Make Centre a free fare zone.

Park along the escarpment could be enjoyed by visitors if there is a Station to serve it.

Investment in Centre Street feels like finally paying attention to an area that has felt abandoned.

happy about no gates, bells or whistles.

9 Ave stn would help increase property values in area.

If this neighbourhood is already walkable we don't need this

future 16th Ave crossing needs to be underground -> need to avoid demo of surface station when building north

Can train go "over" south lane of Centre St to avoid surface crossing?

Can train signal technology manage if only one track with north/south bypasses for oncoming trains at intervals ... every 10 blocks or something like that?

9TH AVE STATION PLEASE! - GOOD FOR CH HIGH SCHOOL STUDENTS - GOOD FOR SENIORS TO GET TO SAFEWAY & BACK - GOOD FOR LOW INCOME MOM'S WITH KIDS TO GET TO SAFEWAY & BACK - GOOD FOR BUSINESSES (PEOPLE CAN SHOP FROM ONE END TO OTHER)

GETTING 9TH ST STN RIGHT COULD IMPROVE THE NEIGHBOURHOOD VIBRANCY.

- Love the side running LRT option - less traffic running next to pedestrians

Opportunity for Community Hub. - public space where city, community and Business come together * Consider not spatial but temporal

Preference for side running from a pedestrian crossing perspective. (Easier to see the train and cars)

9th Ave Station Very important for students & community

To improve the street scape

Create a "Town Square" space, something for community to gravitate towards.

Would like to see grade separation at 16 Avenue.

Consider including Community space in future development sites (City - Community partnership)

9 Ave Stn please - No restricted turn movements please - More trees - More benches - Less clutter - Name the 9 Ave stn "Crescent Heights" - Please avoid removing businesses - Minimize dust - Work w/ developers on Street scape - 30 or 40 KM/h speed limit on Centre St N.

THE TRAIN WILL HELP GET MORE PEOPLE OUT OF THE CORE. CURRENTLY - DRIVING ALONG CENTRE STREET NORTH IS A NIGHTMARE. THERE ARE SO MANY BUSES & BRT LINES STOPPING / PASSING EACH OTHER - IT CREATES A LOT OF UNNECESSARY CONGESTION.

To add a 9th Ave Station

Improve streetscape and pedestrian environment on Centre St N.

A 9th Ave Station!!

Opportunity to close select streets in CH to mitigate cut through traffic. Focus on avenues that don't have traffic lights.

Given the current climate issues is there any consideration being given for using green materials, green roofs at stations, solar power, etc.? I think this is important.

9 Ave stn needed! How come New Arena gets new station & Crescent Heights doesn't.

show how pedestrian environment south of 7 Ave can be improved and the retaining walls

A surface train could transform Centre St N from a road to move single occupied vehicles to a vibrant street.

BRT north is good.

Station development such as shopping mall or residential development should be considered to cope with cost overrun!

-9 Av station is really important for HS students. We need it! - support LRT on surface, want project to start.

- Make crossing Centre St. safe & easier than it is today!

Better explain transit connections within community.

Perception of crime at 9 Ave stn is false. Other cities do it all the time. Need transit service in area

More opportunity with train running on outside of the road

9 Ave Stn needs to move south - more room

Prioritize underground from 16th through downtown, then use remaining \$ to build south as far as possible (may be shorter than now) to ensure core built 16th to Elbow underground

CENTRE ST IS CURRENTLY BROKEN, AND NOT COMMUNITY BUILDING ALMOST ANYTHING YOU DO WILL BE AN IMPROVEMENT.

West side running LRT needs to be examined

existing crime in area an issue - can project help fix things? CPTED, design.

- benefits will outweigh the challenges

High School & Community Assoc'n served by 9th stop

It will never be cheaper. Do it right now.

As change happens on Centre Street, consider traffic on side streets and impacts there - speed, cut through.

No Benefit to Community if there is No 9 Ave stn. Add it in!

- Station @ south end of Centre St is important for residents & HS students - want to see 9th Av Station

Opportunity to make Centre St like the Danforth St in Toronto

- opportunity to make Centre one way only & have Edmonton trail as one way (other direction)

Support this plan. It's good for the future. Needed @ Centre to service this community.

- good opportunity to make Centre St more pleasant

- pedestrian connection needed from Cres. Htg. To PIP via new bridge.

- tunneling thru Crescent Heights ??

Consider sensitively the left turn traffic on Centre St.

- Centre Street is not great as it is - though has been improving. Can we make it better?

CHCA has done a lot to improve street life on Centre Street - hope this can be enhanced rather than disrupted

Less overall Volume of traffic may increase safety

Cycling space on Centre (or near) needed to not discourage cycling for transit

-Would like a station @ 9th Ave if we are going to have at-grade train.

9 Avenue Stn would help mitigate loss of lanes on Centre Str.

20 year business owner happy at the idea of there being more people in the street and more customers

Why only a stop @ 16th and 2nd? - There should be a station between -> 8th & 10th <- doesn't make sense why you can't get off the train even though it stops.

Zoned fares are fair for folks who live closer to the core

Street car format more appropriate? Keep activity @ street level !!!

Prefer side running Makes sidewalk Better, doesn't divide community like centre running

* ADD BIKE LANES TO CENTRE ST. BRIDGE

We need 9th Ave Station

Side running option provides more opportunity for a better urban realm.

IF ONLY GOING TO 16th USE NOSE CREEK ALIGNMENT

-too soon, too fast. Why can't we wait.

9th Ave station is important to the businesses in the area. Can help to make it more of a destination.

Local business owners sometimes live outside of the community. Green Line will help them and their employees get there

will bring businesses to area

Train station on 16th ave may help deal with capacity on buses

We need 9th Ave Station

South leg must go to Seton

Put it back better than it was before

Dust & Debris limitation During construction

-could city consider extending free fare zone up Centre St. to help businesses along the corridor? Helps with fact that there's no parking. - also have free fare to 4th ST SE station.

Winter friendly design that makes it a transit attraction

Is there tax incentive for disrupted business

DISCARDED PREVIOUS CONSULTATION SO INSTEAD OF CHANGING IT TO SURFACE WHY NOT CONSIDER OTHER THINGS LIKE ELIMINATING SOME STATIONS RIGHT NOW UNTIL THERE IS \$ BE MINDFUL OF ALL FEEDBACK ALREADY RECEIVED

WE NEED A STATION AT 9th Ave to SERVE the community. A station at 16th Ave does not accomplish this and CH is not well served by transit. Buses are often full / over capacity all times of year.

The bridge over the bow should be simple and modern in design and have consultation of whether it makes sense to include bike and pedestrian traffic. MAYBE HAVE FOOT/BIKE Traffic below - instead of on sides.

WILL LOOSE SOME PARKING ON Centre but many people do not park on centre St. in dayTIME THOUGH A PUBLIC PARKADE FOR SHORT TERM Parking would be beneficial. This could also help generate some revenue. NEW DEVELOPMENT COULD INCLUDE PUBLIC PARKING - Like they do in Kensington.

Some people don't see the value in having cosmopolitan city where the inner city communities ARE CONNECTED. There is a lot of movement with in the inner city core. We pay high taxes per square foot of land, use less roads & require less of that infrastructure - but close our schools , blow-up our hospitals.

-Reducing vehicle traffic on Centre Street - though think it will still be wall to wall at rush hour. - Would be great to see investment in streetscape - making it more vibrant & pedestrian friendly - If train is at grade I think there should be a station at 9th Ave so we get some transit benefit.

-Safe crossing for pedestrians & bikes- aesthetics of the train running down Centre street - We have done a lot to build community and street life on Centre Street. Concerned this could set us back rather than help. - Ensure access into & out of community for local residents while discouraging cut through traffic

Please work on the Centre St turning options as sensitively as possible - the existing cut-through traffic on adjacent avenues can be punishing in morning & afternoon peaks - any opportunity to reduce impact of cut through traffic should be seized - er, plus

I have to be able to get home!

- To improve the pedestrian retail & community experience on Centre St N - to include a 9th Ave Station - To have sidewalk adjacent trains

-To support west-east mobility - to manage pedestrian crossings - to manage vehicle turns - to support businesses

-Green building - Architectural example (much like Central library) - Side align trains may promote better pedestrian use, safety - 9th Ave station addition will increase usage - Incorporate pleasant pedestrian/ bike pathways on bridge to increase usage of structure.

-Traffic diversion, especially during rush hour - pedestrian safety along trains - Increasing pedestrian traffic along Centre St. / across Centre St.

IMPROVE ACCESS TO DOWNTOWN FOR US SENIORS. MAYBE WE DON'T NEED A CAR IN FUTURE. VIBRANCY OF STREET LIFE WITH 9TH AVE STATION ESP. PROPERTY VALUES

DISRUPTIVE OF LIFE DURING BUILD. WHERE DOES EXISTING RUSH HOUR TRAFFIC GO. WHAT ALTERNATIVE ROUTES?

I AM VERY AFRAID OF TOD PRINCIPLES THAT COULD DECIMATE THE SUNLIGHT & QUALITY OF STREET LIFE WITH HEAVY MULTI-STORY DEVELOPMENT PLEASE DON'T MESS THAT PART UP!

-> Improving pedestrian experience -> I think having curbside LRT would be the most desirable - it would be more pleasant to have a quiet train go past every few minutes than the constant stream of cars & trucks.

-> Crossing Centre St. after construction -> How will vehicle traffic work with reduced lanes? Will the increased service of LRT & BRT really reduce vehicle traffic on Centre Street?

DO NOT DESTROY PRINCES ISLAND BY PUTTING BRIDGE ASSIGN ALL MONIES TO SOUTH LINE

- use vacant property that are empty to develop for art projects - Built in heaters at the train station. - Look at Subway Stations where the area is integrated in the community.

-> Will bus stops change? #2/#3/301 We need to keep the bus stops in front of businesses -> Don't think there is enough room on the road for trains and traffic. -> Run out of money before you even get across the river.

In favour of postponing GreenLine construction until we can do it right the first time.(might have to wait until UCP voted out). Why? - because the interim proposal is less than tenable - train stops at btwn 15 - 16 Ave N & people change to BRT to north Calgary. If one is on BRT already don't want to get off above ground & change when could have taken BRT right into downtown - we will be stuck with that until . . . Imagine a European citizen taking the train from downtown north go a few blocks and having to wait for a BRT in -20°C. - not a good civic planning look Calgary. - because - I live 1/2 block from Centre St N and do not want to hear the train running back & forth - cuts Crescent Heights community in half even more than it already is I want it to go underground where I can't hear it and it does not contribute to more city noise. - because the future is the train transport. so we must prioritize it for cities. - because Center St will be limited to 2 lanes and no bike lane forever next 100 yrs) - because bridge going across Princess Island

could cause ice jams & is pretty ugly over a natural area - because the city transit goes through my community either way - above ground or below ground - we need a train stop to access train transport network in the rest of the city. A train to the airport is a must for a world class city like Calgary. Underground from downtown to past 16 Ave worked because - lack of BRT bus turnarounds although that can be solved by going a little farther afield. - the technology exists in the world and is reliable to put a tunnel through a rocky substrate in the water table - we do it all the time. - Because with increasing winds to be expected in the next 100 yrs alot of above ground infrastrure is already at risk - especially bridges from west winds down the Bow River Glacial corridor. Safer underground. Recommendation. Post pone until we can get it right the first time. Alot of good design work went into that underground proposal. This does not have to be turned in a wicked problem.

Revitalization of Center Street

The impact of the LRT being above ground on vehicle traffic on both commuters and residents is huge and primarily negative. The budget restrictions preventing the previously approved below ground route should be reconsidered. A 10% increase in budget, or even more, to re-enable this option is well worth The benefits mitigate impacts over the many decades the line will be in use.

Improvement of Centre St for pedestrians & re-vitalization.

There seems to be a lack of data to support the changes to an above ground system from 16th Ave to downtown, besides COST. What are the differences LONG TERM (20+ years) between having an above ground system vs tunnel? Traffic improvements? Environmental impacts over the river & bridge? Attractiveness? Speed of travel for commuters on the train? Is this short sighted? Within the six criteria, what does this comparison look like @ 5, 10, 20, 30 + years? NOTES I completely respect the need to move the project forward within the budgetary constraints. My concern is if the long term vision & impact has been fully evaluated for the future of Calgary.

I think it is v. unwise to propose to build a bridge - or tunnel - just to take the line to 16th Ave and no farther. There is already excellent bus service from downtown to 16th Ave - no need to spend millions and millions to replace that. If funding is the issue, why not build the line north on 16th - sparing cost for tunnel/ bridge - and then have people transfer to bus at 16th. Or do this: (a diagram showing the bus going north on Center, turning east on 16th Ave N to SAIT and turning north on 10th St NE) Either option is transfer to bus at Center or continue down 16th to SAIT. Either stop line at SAIT or have it run alongside core line for a while, share bridge across river.

I see no benefit to Crescent Heights if the is no stop btwn 16th Ave and downtown. The plan only makes sense to me if we have a stop at 9th (or similar) Without the ability to get on the train from our community, we have the burden of disruption (noise, dust, traffic) during construction, obstruction to traffic circulation afterwards, but no gain.

Keep your promise to build the tunnel two years ago. We don't want the bridge. No money, don't build the bridge. Stop the project

Keep it Underground listen to your people

Build the entire line underground to avoid traffic problems. There is no space on the centre Street.

Bow River Crossing (Online)

City Engineers cannot specify cost/LRT type/bridge/sound/ environmental impact or guarantee funding but wants us to be good ltl taxpayers?!!
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I'd prefer a bridge type with the fewest pilings in the river- either arched truss or cable stayed.

I use the park daily and don't think a bridge will destroy the park as some others do. Just choose a good design and it'll look/feel fine.
--

Each Bridge pier is a target for graffiti. Murals Fade and look tacky... just like these bridge concepts. Put this line underground.
You can't camouflage a major bridge over the river. Embrace it's prominence and make it beautiful like the Fitzroy bridge example.
If you do go with a bridge I want it to be absolutely minimal a big cable bridge is ugly.
The only bridge that does not look ugly in my view is the trestle bridge. Cable/arched are waaaay to disruptive
Having a cable arch over such a tiny river seems like complete overkill, would be ugly and block view of downtown skyscrapers.
Minimal and whatever plan least blocks the downtown view!!!
The detailed plans show that half of the River Run condos will be demolished. Why does the City hide the damage it will cause on this site?
Why isn't the City transparent about the harm this project will cause? Traffic congestion, destroying homes, damaged park and riverwalk.
Please do not put a bridge pillar in the middle of the Bow. The Arch Truss is best as the Trestle columns are humongous
Will there be a more expensive and less used train in the world than our multi-billion dollar mile from 16th to 2nd? Political not practical
Princess Island is a gem, I'm concerned about impacts. Memorial Drive & train tracks poorly placed, so be careful with future plans
Let's see the renderings of the bridge from standing at the lagoon water edge. What a blight. Kiss the east side of PIP goodbye!
The bridge over the park, no matter how well designed, will permanently ruin Prince's Island.
No matter what bridge- (probably going to be the cheapest imaginable)it will still cary a 40ton train within feet of kids windows=childabuse
Please DON'T have the bridge crossing above the park. Put it beside Centre on the west side, but NOT PRINCE'S ISLAND.
The pictures show the River Run complex still standing, yet the detailed drawings show those homes destroyed. City: more honesty is needed.
North alignment will be harmful to traffic and will damage our best park and riverwalk. This plan will hurt more people than it helps.
This will only ruin the river walk. More grade separation is always better as Vancouver found out with their Broadway subway
2nd St coming out of Park is already narrow. You are literally putting a train in front of people's balconies. Stop it; underground only.
City is only concerned about min cost. Don't care about any of these comments. I live on 2nd St @ Waterfront. Beyond devastated.
City pls buy our condos on Waterfront & tear it down on 2nd St. This is devastating.
Calgary has an opportunity here to create a unique bridge design. Like Trestle and Arched Truss over Cable Stayed; CS design has been done.
City will go with the cheapest bridge which usually means the ugliest. Feel sorry for residents on Waterfront.
Didn't move to Waterfront so you can put a train in front of my balcony. Invested my life savings. Underground only. Plan it right.
Building a "beautiful" bridge will be too much which is why City is changing their plans. Only ugly designs need to apply.
Prince's Island Park is a very special part of Calgary that people from all over the City enjoy. Please don't put an LRT bridge over that.
Environment will be affected including noise, views and traffic issues. Will the City buy back or compensate the affected residential area?
The bridge should also be a pedestrian walkway.
None of these bridge options look ideal. Best to leave Prince's Island Park untouched! Using the middle of Centre St Bridge would be better.

The Cable stayed bridge looks great, adds to the skyline. Love this. Other than the trestle bridge I think rest look dated and an eye-sore
No to train over Park. What an eyesore. Coming out to 2nd St is a bad idea. Destroy the area for residents living there. Underground only.
How much did City spend to build the Peace bridge to make Park beautiful? Now ruin it with a train. Absolutely no vision. Shame!
The train above ground, no matter how well designed, will permanently ruin and further reduce Prince's Island's green presence for downtown.
underground only please, once green space is gone its gone forever.
I'm beyond devastated. I live on 2nd St @ Waterfront.
We can turn the bridge into an aesthetic art display with moving LED Lights to match the skylines. Example The SF Oakland bridge at night
Could be an architectural gem that becomes a Calgary landmark like the Peace Bridge has become.
The City doesn't know whether more people will benefit, or be harmed, by the north alignment. Why wouldn't the City know? Why? Corruption?
I too live on 2nd St @ Waterfront. Devasted is putting it mildly. Pls have it underground.
I agree with previous comment: City pls buy our condos on Waterfront & tear it down. Don't want to live beside a train. So sad.
Cross river beside Harry Hays, as the road there gets very little traffic and does not lineup with any parks
The new renderings are misleading. The midsection of the bridge is being shown and the nearby buildings and wetlands are excluded.
do not build the train past downtown past the bow. phase two can bury the train under the bow. use BRT to north of city
Single lane, one way traffic out of a 1000 unit building on a already busy road is ludicrous! Huge safety issue! Stick to tunnel over park
Underground only pls. Why all of a sudden to get this project going when there is not enough funds? Typical attitude by the City.
Once the wildlife leaves they do not return. Do not put a train over park
The renderings don't show the path through the park itself. Noise levels within park may be high, disrupts a peaceful greenspace in DT
Don't mind any alignment, just keep the bridge design simple and low key, i.e. no red, no high rise cables. River valley should dominate.
Granville Island (YVR) is under a bridge and it's very popular with tourists- parks, shops, market, events. A bridge doesn't have to be bad
The City bungles most major projects. The North alignment will go way over budget and will permanently harm traffic, the Park and Riverwalk.
I now realize that the city should not build a bridge, because despite not all bridges being bad, one going over insane amounts of a park is
The North alignment is just a disaster. The City spent over \$500M in the last 8 years and couldn't develop a good plan. Cut the cord.
The world is hunkering down for a depression and Calgary is building a \$5Bil bridge to endanger parks and children? Taxpayers must love it!?
World health organization lists several severe physical and psychological disorders in children from noise pollution.(40 ton train)
\$5 billion for a train to nowhere with more traffic congestion and park sacrificed? Is the city insane? Drain the swamp at city hall!
Like others, I moved to Waterfront on 2nd St for the Park & its serenity. Beyond devastated. Thank you Councillors.
Fire the councillors who don't listen to people and waste money! This is a democratic country/city.
Woah, cheap renderings made on computer without proper consultation! Don't ruin the park! Less concrete & more respect to nature or people!
All about money! How do you measure mental health and recreation? Preserve the island!

Make a bridge if you can master invisibility. Hide the ugliness of concrete, the noise, the lights, the heaviness of it all.
We're wasting our money to destroy our park. How sad. Let's build when we can afford the right solution.
Reading everyone's comments, thank you. Can't wait for the city to actually listen and build the proper tunnel.
"to ensure we are building the highest value transit system" = cheapest, most damaging solution. Sounds like fake politicians talk!
Just read the comments pls: https://www.tripadvisor.ca/Attraction_Review-g154913-d155236-Reviews-Prince_s_Island_Park-Calgary_Alberta.html
Can't believe you are putting a train in front of my condo. I will now see & hear train instead of birds & river. YYC buy my condo. So sad
Sharon: YYC doesn't care about your comments. This is a ruse so they can say they engaged our opinion. They will do whatever they want.
Environmental impact on Prince's Island Park. Impact on residents/owners of condos in Eau Claire
This is so devastating. I live on 2nd St
We really need an extension of the pathway on this bridge. Make a spot where people can stop and see our beautiful city.
Because this crossing curves across one of Calgary's best views, keep it as low-profile as feasible. No suspension bridge, however pretty.
Essential to maximize clearance of the crossing over the south-bank river pathway. Current 9th Street West crossing is too low.
I don't agree with running a bridge over one of the nicest downtown parks we have. This is a city building project. We should do it right.
I think that a 9th Ave station is essential. It connects the communities that are closer to core and would reduce the need for bus routes.
The train should run along the curb to reduce the need for specific "stations" that would take up a whole lane of traffic.
Go underground or don't do it! Don't be limited by near-sight political cycle. The "Expandability" sounds self-deluding talk of politician
Maintaining & improving function of Bow River pathway with increased population density, space constraint and respecting flood risk.
Bow River pathway redesign to maintain continuity of pedestrian & bicycle separation (Riverwalk, West Eau Claire) to improve function.
Reducing visual and physical impact of bridge structure on riverfront, park and river itself.
Similar to MAX Purple line, including a multiuse pathway along bridge would be great active mode travel enhancement.
The plan to go north over the river for a few blocks, at a cost of a few billion, is just terrible. Press pause until we can do it right.
The bridge provides an opportunity to create an iconic crossing of the Bow. The cable design creates a strong city icon.
No to grade level trains on 2nd St. No to bridge over park. Underground only. Wait until there is enough funding. More buses for now
I live on 2nd St. This is my worst nightmare. Have you asked residents living on 2nd how devastating this is?
Why doesn't the City identify costs: traffic congestion, damaged park and riverwalk? The City shouldn't present info in such a biased manner
\$5B cost is insane. Billions to get a few blocks to 16th is negligent. The North plan is harmful to Calgary. Please pause the North plan.
So disgusted you are putting a train in my front door on 2nd. You are ruining our lives. Shameful. Go down Harry Hays bldg. Nothing is there.
I need a permit to tear down a tree but you are destroying a Park without any consequences. Good job YYC.

Can we see the long-term numbers for the cost of a bridge vs underground. I think the maintenance & upkeep would be more costly than implied
The very short North segment is too expensive. Pause at Eau Claire underground until the City has a better plan.
Pls do not put a train in Prince's Island and grade level on 2nd St. I live on 2nd. I'm sooo sad.
The City is focused on how to complete this project but the more important question is: should we complete this project? No to \$5B expense.
I do not like the impacts of the Bow River crossing! Let's temporarily use BRT until we can afford to properly go underground.
Do you want to be the council that put another ugly bridge over the Bow and ruined Prince's Island Park? That will be your legacy.
no bridge over the bow and ruined Prince's Island park, no station on 2ave SW, the damage on the park is irreplaceable, property value down
I'm curious if immersed tube or cofferdam cut and cover options were considered for the Bow River tunnel. A cheaper, shallower tunnel option
This is my worst nightmare. I live on 2nd St. I didnt move there to live beside a train. Underground only
No to an extremely expensive, park and riverwalk damaging, train that doesn't even cross 16th ave. This is a bad idea. Pause south of river.
Terrible idea to build a bridge over Prince's Island and come out on 2nd. Destroy area. Underground only.
Stop at 2nd ave. Underground.
Underground from downtown all the way up past 16th avenue. Is council actually considering putting an LRT at ground across the Trans Canada?
Build green line along the 1st Street SW nearby the Harry Hays building as the station and bridge over the Bow River.
"Build green line along the 1st Street SE nearby the Harry Hays building as the station and bridge over the Bow River."
where did the wetlands go? go around them with a bridge, but then pave over them for access, NO BRIDGE OVER PARK
The City documents provide deliberately biased info. It looks like before and after information for snake oil. Why hide the harm? Dishonest.
No to bridge over Prince's and no to more surface trains. Underground only
The train north will damage traffic, our central park, river walk and will destroy homes. Why is the City wilfully blind to the harm?
Why doesn't the City estimate the damage to the park? Oh, right, they don't care about what is best for Calgary. Such bias. Sad.
City council cannot have a meeting and act like responsible adults. This group cannot be trusted with a \$5B project. Please just stop.
Underground only. Do not destroy Park and area. Is City really listening?
I'm so devastated. I live on 2nd.
This bridge will change the entire form of the river valley. The trestle or cable stayed bridge would compliment the valley nicely.
This will impact the entire feel of the river valley. Don't pick the ugly soviet austerity viaduct or that ugly wannabe arch thing
What about a compromise. A bridge into the side of the hill, then somewhat shallow underground until north of 16 AVE?
All these NIMBY's. Yes it will disrupt the park, but done right it's a feature (think central library).
To all the haters, think of the benefit of not having 90 diesel busses/hr on Centre Street would be too.
I didn't move to 2nd St to have a train in my front entrance. No to more grade level trains. Underground only.
The cost to go from 2nd ave to south of 16th is not worth it. Pause at 2nd ave underground.
Don't cross river and destroy park. Move alignment to east side of C St. Even better, BRT for north leg and river crossing on existing C St

1. Must include a multi-use pathway along bridge. Better gradient for cyclists
2. Choose bridge design that unobstructs view from McHugh
Don't ruin PIP for an expensive bridge to nowhere. We can't afford this disaster. Literally.
It's ridiculous to think that this route could be a desirable "feature" in park. It will be a hideous intrusion. Move to east side of Centre
Trestle bridge is the perfect choice of the ones shown. Does not impede views of downtown from the bluffs.
Do it right otherwise don't do it. Forget the short North segment, nightmare to people live on 2nd St. (train so close to residence)
big safety issue and traffic jam when people get in and out of the busy several hundreds cars parkade near Eau Claire;
The City makes no effort to fairly disclose the damage that the unreasonably expensive north alignment will cause. Negligent. Unethical.
Pls do not put more grade level trains. Do not destroy Park or ruin the lives of residents living on 2nd St. Underground.

Bow River Crossing (In-person)

There's only one time (chance) for this project. Tunnel is the best idea. I know the bridge will destroy the wetland and the park. I am so about set up in the future my view is the train. I am so regret why I sold my house and moved to downtown by river for my retirement life. If no money, pls don't build the bridge. keep the tunnel !!!
Putting this through Princes Island is foolish. Rather hold off until it can be tunnelled or do something different. Consider down 1st st East rather than west - less park disruption - The centre city needs all the park it can have as the current supply is limited
The portal can be incorporated into development and reduce the impacts, possibly even further to the north.
Bridge options show its technically feasible. Keep working on a better design (sure you will)
How does the pathway on the North Crescent heights hill top get intergrated into the new plan?
Please make the train quiet. Prince's Island should be a tranquil place.
-> north section will be busy, section over the river going north will be busy for cars
-> how does it going to affect the Canada day festivities?
Review the conditions of land donation from Peter Prince, including site of memorial bust
Peter Prince donated the island to the city, more research on conditions even if 100 years ago
Don't implement a flawed plan just because you think it will safe money! It will cost much more in long run - cause environmental problems, safety problems - Ruin Prince's Island park and Eau Claire/Property Values
Prince's island is a special part of Calgary! It should be maintained/protected as best as possible!
-> there will be a lot of challenges on 2nd Ave (i.e. access to parking for waterfront)
So unplanned! How do you get over/under 16th Avenue. Where do people park to catch the train. Not enough stops for businesses.
Prince's Island park is too sensitive for the development.
- Underground only or wait till you have money!
- Noise,
- Prince's island & Eau Claire has always been known as a quiet area
- No at-grade Underground only!
Center St is a busy area, reducing traffic lanes is silly. Wait and tunnel through rather than wreck Prince's Island
- challenges
- needs to be minimal impact to the island
Putting through through Prince's Island Park is foolish Consider 1st East instead

-> not good that the bridge is going over the park/wetland
Prince's Island is important green space for downtown residents + those who live across the city. PLEASE take great care in how the bridge is integrated, especially through that section.
Bridge over Prince's Island could be total span?
What about Wetlands.
The Bow river pathway isn't just used for recreation. It is an important transportation route for pedestrians + cyclists. Please provide appropriate + proper alternative transportation routes for these users throughout construction
RECREATION SPACE AT BRIDGE CONNECTION (UNDER BRIDGE)
Consider existing waste + recycling for Waterfront. Condo.
Concern over impact to wetland and natural areas on Prince's Island Park
Viewscape and blocking views for condos
Noise concerns for adjacent condos (waterfront)
Spend dollars on extending line further South and don't Cross River (do it in the future) - would improve ridership if we went further south rather than cross this river
As for the bridge prototype I feel like "Ushikuba" Bridge in Japan reflects an inobtrusive structure that reflects the flow of the river & shape of the island
Consider noise pollution over the island and Eau Claire properties - the island is an oasis and is much loved.
Please make the crossing as quiet as possible so that people in the park do not hear a loud, screeching, rattling train going overhead.
->minimal support post
->needs to be something that blends in
-> homes being impacted on 2nd Ave
-> noise level ↑
-> the bridge is <u>not</u> good
-> harm to environment
-> too noisy
-> renders the area useless
-> adversely affecting the area, property value
-> too close to residential (station on 2 ave sw)
↑ crime rate = not good for residents
<u>Focus on 1 Segment</u> Calgary historically built the beltline in segments. Should defer this section and Focus on South only. Come Back to North Section in the Future.
the bridge must not create a barrier" (no weird corners, or angles)
Don't feel that the impacts to Prince's Island and Eau Claire are worth it.
WHAT ABOUT FLOOD mitigation - stops at 3 St.
construction will be hard/will take a toll on the area/community
<u>No Plan for North or Budget</u>
- Stick to 1 segment begin the South and return to North in Future
- This is blending 2 segments (1 + partial) Stick to South and avoid costly \$ in downturn economy
We are very fortunate to have an island park Downtown Calgary and this crossing will have Significant Negative Impacts to community enjoyment wildlife + habitat
Creates noise + physical barrier destroying a key natural highlight of Calgary being Princes' Island Park
How does train go from bridge to centre street? Crossing traffic?
There is a baby beaver and wild life there next to the bow river there is a lake there and you guys will be going threw it and from high up in the air it is shaped in a heart. There is so much wild live there it is unbelievable. It is really special to other people. I call it by the name heart lake. I saw a baby beaver there. A mother beaver and canadian goose.If you guy keep destroying the wild one day there wl know more wild live and trees
- check documents. One referenced 11 storey deep tunnel.
- in 2017 you were fine with tunnel option. Was the bridge the idea all Along?

-what are alternatives to bridge? Or moving it to existing bridge? Why not centre street bridge? - if Green Line was accessible, wouldn't jobs move to South?
What is the life span of the Centre Street bridge? Why not rebuild Centre Street to work? A - didn't consider removing Centre Street bridge Wanted serious consideration for rebuilding Centre Street bridge to accommodate
concerned with wildlife aesthetic impacts to Prince's Island. If this is a 100 year project, why not stop downtown, expand the right way? Would prefer build further east with hub to transfer to other lines there. Still convenient.
You can't camouflage the bridge so you may as well make something beautiful considering where it's crossing
bridge needs to blend in the community
multi-use pathway on bridge
Accommodate future development and not hamper residents (waterfront + surrounding sites)
Preference for a simpler bridge type like Ushibuke bridge
Sleek and minimalist place. Opportunity for walking/biking on bridge
needs to be something 20th century, not something like Centre St Bridge
whatever is bridge needs to naturally belong in environment
whatever is built over the river should be a "nice fit", needs to blend in with surroundings
if we cannot build underground we should wait until we have enough funding to go underground
cable stay bridge is less intrusive. Have to make it the least intrusive
opportunity to create a unique experience across the river
Consider extension of free fare zone to improve/increase ridership
opportunity to create an experience that could be talked about around the world
Cycle/pedestrian pathway! (activate the bridge)
Good opportunity for multi-use path on the bridge
Look at rapid transit bridge in Jerusalem as a similar example
Concern that station area could end up being a "perfect storm: of uses that creates unsafe environment. - Consider eyes on the street - inviting place, active uses
Would like to put forth a proposal that the name of the bridge or even station reflect the history and importance of Eau Claire and Prince's Island. Can get more info from calgaryfounders.org
Bridge design that blends in w/ surroundings as it crosses over river would be best
If there's a bridge, Is it possible to have a walking path beside/underneath
if expropriating riverrun, is there a plan for the (non) market?
if bridge = needs to be "clean" looking
room to better understand N->S cycletrack connection
pedestrian bridge connecting ↓ Prince's Island path needs a redesign
Bike + pedestrian. Make the bridge a "place to go"
create a bridge design that looks natural and complements the beauty of the river
2nd St. "portal" upgrades need to be delivered w/ green line work... <u>not</u> after. PPP is <u>not</u> an option. This is public R-O-W
I like #6 and #7 they don't have any visual pieces above the bridge that will get in the way of the view
I prefer the bridge to a tunnel
Bridge design needs to consider harmony
Bridge alignment shaped like a snake right now
Bridges: #1 choice Tressle Bridge (picture #1)
I like the west LRT bridge. Something simple is good.
To make the bridge over princes island park look appealing
I've been waiting for this LRT for a long time. I hope this is the last time through
If it was already here, we could still be working

I like how this looks
Good idea. Go ahead
Would love to see more activity at Eau Claire Market
More opportunity if City takes over Eau Claire Market site
Concern that bridge connection with Centre Street impedes egress into Downtown. Consider tunnelling in escarpment and portal to surface on Centre St.
Make Riverwalk more businesses and recreation, bring more people, more activity
They should make sure the habitat on Prince's island is preserved
Put a café in Crescent PK for tourism
Make this area for people who live downtown a great destination (Rivers District Part 2)
The columns @ Prince's Island Park should be integrated into the park. Consider using art & lights to soften the impact
Prince's Island Park will be compromised, consider <u>significant</u> upgrades to the park so it is better programmed as part of GL project
Great opp to close 7th, 8th, & 9th Ave (NW) from Vehicle traffic and shortcuts - keep pedestrian & bike lane. Make 10th Ave NW the thoroughfare Route
Did we explore tunneling technology from China for more cost effective solution?
Station names matter! For 2nd ave, consider "Chinatown/Eau Claire Station" instead of 2nd Av."
Opportunity for Chinatown station
I like the idea of getting the train from the north. It will help bring people to Chinatown
Route east of Centre Street to avoid Prince's Island
WHY DON'T USE 1ST ST SW. TO CROSS THE BRIDGE
Prince's Island Park is the most beautiful park, so much use esp. in summer but there is a train track above the park
All of the other under/overpasses along the park are not places the public wants to go: under Reconciliation Bridge, Centre St. Bridge, Crowchild.... Peace bridge is the only one @ grade and is fine
Bridge over the Bow River is totally destroy the environment of Prince Park and the wetland where many many of birds live there! <u>No Bridge over Bow River</u>
So many parks users -> train tracks not good for the users - bicyclists - event participants - shouldn't go over the park
no one has a train line above a park - underground is ok -> eau claire should be end of the station
doesn't make sense to go so far when when it's going to SE on the other end -> should just stay on east end
wait for \$ to build tunnel
underground is better!
I'm concerned this bridge will make a beautiful park ugly. At a time we are trying to get people downtown this will likely make people not want to visit or work around here
Concerned the bridge will block my view from 5th floor NW corner of waterfront
The LRT Bridge should be part of the existing road bridge
Why destroy a wonderful island green space
It would look better to have a bridge parallel to the centre bridge. Looking at this curved design gives me goosebumps in a bad way. It's better to wait and find money to do it right
Impact to Prince's Island park event spaces are too high
need to consider waterfall on 2nd Street -> it's beautiful -> would the bridge be safe -> don't want to lose waterfall
I don't think stopping at 16 Avenue makes sense.
how narrow 2nd Street is - does the offset go near the waterfront building
how will people get into the parkage @ waterfront

petition site from Waterfront Condo board -> why would we have a train track above Prince's Island Park -> do you use Prince's Island -> would you want to be able to hear train tracks
Blocking view of River + pathway
how will City build near Eau Claire if City doesn't own the land
Concerned about buildings impacted by train.
<u>destruction of property values</u> for property owners overlooking PIP
Wonder if the track over Prince's Island will obstruct the peaceful park atmosphere that makes Prince's Island special. How do we make the underside of a train track bridge look nice?
Impacts to quietness + atmosphere of Princes Island
If you go to music festival/events/walks in park -> I don't want the train above
Visability of bridge. Noise + vibration
Concerned about noise and vibration with train along 2 Street
noise from LRT - in an otherwise quiet + serene area
I'm concerned about noise and vibration of the train. (impact to the building).
Noise + vibration concerns for adjacent condos
Too snake-like shape = bad luck/disharmony
MENTAL HEALTH to residents of Eau Claire
Concerned about wildlife on Prince's Island for Calgarians and tourists.
wetlands area is one of the prettiest areas in Calgary - bridge could really make things hideous
DESTROY WET LAND
LRT stop should not be right in front of Waterside parkside Building (dangerous)
Creates safety issues w. underpass. I don't want to run in the dark w blocked visibility w keys in my knuckles...
REDUCE # OF SUPPORT COLUMNS IN PRINCE'S ISLAND PARK
Feng shui concerns with design + bridge presense
Park is Don't damage our Park. No such park in other cities
CREATES MORE CRIMES AT 2ND ST. STATION!
Noise impact to 1000 units resident @ Waterfront
all Calgarians/next generation -> everyone uses Prince's Island Park - in the summer it's beautiful
going over park is a no no - lots of people use Centre Street ->with slow down traffic/quite narrow -> not wide enough
flood issues w/ train + soil structure
Every October to January so many birds migrate to/from the are around the island. A bridge here will disrupt the birds and they will not come.
I think we should go underground all the way to McKnight. Every day we have accidents around 16th. I would prefer to not cross the river now; to wait until we have the money to do it right
Really bad fung shue. The shape of the snake cuts the city in half. It's especially bad because it goes over the island. It should move east and be parallel to Centre Street Bridge.
If you don't have the money do do this right, wait. Centre Street is very well served by busses.
NO. NO. RIGHT NOW NOT THE TIME
If not money for tunnel, wait for funding or alternate funding
Increase in crime + undesirables
I'm concerned about the early morning and late night train operation
<u>unsafe area</u> lots of kids in + around PIP + Eau Claire Market
Eau Claire Market redevelopment commitment has been unfulfilled for a long time
Don't build these stations like you did on 7 Ave
Concerned about squealing sounds from the brakes as they come down the bridge.
Bridge looks wonderful
Create a lively design that draws calgarians + tourists

- keeping the bridge from overwhelming the experiences of individuals in the park areas - try to prevent it from "looming" over park users
- Disruption of green space - safety issue - underpass. - no matter how nice you make it it is still an above grade build w. dark spots and limited visibility - Centre st bridge, 4th Ave flyover, Crowchild - not where you want to be after dark
- bad integration to surroundings. - wetlands. - event/public enjoyment disruption. 0 small term thinking - wait until you can do it properly
- Shadow's and poor integration of the bridge Surroundings. - Integration w center street - Graffiti on Piers
I like the low rise bridge crossing the best -
win over the nay sayers This needs to be done now!
I am very concerned about the potential disturbance to wildlife in its natural area at the east of Prince's Island Park during the construction, and <u>especially</u> if contruction extends over more than one season
What about a bridge crossing to the EAST of the Centre Street Bridge, ending on Riverfront with a Chinatown LRT Station to connect Chinatown North on 16th Avenue to the Chinese seniors even further north on Centre Street? Then tunneling on a diagonal to connect a bit further southwith 2nd Street and eventually 7th Ave
Very concerned about the bridge crossing over Prince's Island - both the connection and maintenance (noise, distrubing impact on wildlife, the park, activities, etc).
- construction & noise impact during the projects length
Deteriorates the beauty of downtown
Noise regardsl of technoles it will be noisy
Environment destoy beauty and the ecosystem in PI
Don't be Cheap, do it right Underground
1. not doing the tunnel is small time thinking, it's a short time fix
2. if you are Looking at \$ it like looking at tail end of a DOG
-> princess island park should not be treated as transportation corridor
-> chinatown not being treated as a neighborhood
-> chinatown sould not be treated as a transportation corridor
Would like more information about traffic + noise impacts around 2 av station
opportunity for way finding to breakdown barrier between East west. "Check out local businesses"
How can the City better support and appreciate the business contribution? (e.g. property tax incentives, business wayfinding)
Underground will provide better long term benefit for - users in winter - environmental impact - maintenance - aesthetics - Princes Island Park users
Conflicting interests between vehicles + peds + train
High pedestrian traffic + recreation - mixing that with an at surface station
Concern that bridge will change the look of the park and how people will use it. Park is so quiet like Central Park NY. People's noise is good noise.
Don't destroy the park. - precious to the City. If because of budget, consider long-term vision and spend money to tunnel across Bow.
Destination restaurant Concern re: pedestrian foot traffic being blocked

Concern about noise from the LRT. Adjacent to Waterfront Development
Concern that LRT psychologically segregates Chinatown from Eau Claire.
Concern that surface station could be a destination for transient population and criminal activity - How will this work? - What are we considering?
Concern that above grade at Eau Claire - safety - aesthetics - "crown jewel" (Riverwalk + Prince's Island) - Subways should be underground.
Why not go further east, closer to 4 St E., and connect to Blue line. Cheaper and maintains connection
How come we have a tunnel under the english channel but we can't Cross the Bow? Cheap and shortsight decision
If you're going to cheap out, delay the construction of the south leg. Build the 16th N to Inglewood section now <u>correctly</u> (not over Prince's Island) - use a BRT going south of Inglewood for the time being and build extenstions south and north over time as budgets allow.
save the Park !!
<u>Stay Underground</u>
Has the new realignment been costed? If not, why is this option proceeding?
- noise/events - enmax amphiteatre noise ?? - fares & festivals in the park / noise ??
Flooding concerns on the promenade realignment. Pathway should not flood.
Concern that with one-way 2-Street will make Riverfron Ave. more congested (especially morning + evening).
Concern about the loss of pedestrian connectivity along the riverwalk
The above ground plan is Ugly. Let's not put all this money into something hideous. Spend more & do it right.
Evening rush hour is already congested around Eau Claire
Who is standing up for the park?
- impact to people Living in bldgs next to Eau Claire
NO
Constant misleading attitude. First underground NOW this. The City is no to be trusted
Need to balance developed downtown with green space free from development
Is this really the right decision as it's perminent ---> to go over park
One bridge can destroy the ambiance of Prince's Island park Would NYC consider running a train over Central Park? It would be considered madness
The train crossing one of 2 lanes of traffic as it climbs from river valley will effectively shut down traffic on the Centre St bridge
STAY UNDERGROUND AS ORIGINALLY DECIDED. IT'S A MATURE CITY'S WAY
WHAT IS THE DIFFERENTIAL COST BETWEEN THE ORIGINAL U/G TUNNEL & THE BRIDGE SOLUTION? BE OPEN, PLEASE.
<u>Stay Underground!</u> Save the park! Protect property value hence protect city's tax revenue!
Not supportive of the at grade alignment over Prince's Island Park or at 2 Street.
NO! if cost is high! Wait for when you have money! Save the park!
NO! it's bad decision to cross prince island! The loss is Irreplacable save the park
No. The above ground bridge is going to lower property value hence decrease city's revenue!
We're the innovative City with the most engineers per capita? But we can't built a tunnel?

I don't want to see a large abutment on either side of the bridge. In the median like in the NW.
<ul style="list-style-type: none"> • Safety impact to residents around the station. Feel not safe • Noise Although all measures are taken, there will be noise increase due to river crossing. • Environment Prince Island park is a so far well-protected wetland. Should strive to keep it intact • Do it right This is a permanent facility benefits the entire City. We should do it right. Cost shouldn't be an excuse at minority's sacrifice. Going to tunnel is the best & a MUST!
Suggestion Continue the north bound tunnel from 3rd Ave, to turn at Riverfront Ave, along Riverfront Ave to Central St. Continue tunnel across the river at Central St (this is the narrowest part to Cross).
Don't make the bridge stand out. Let it blend in.
ACTIVE MODES MUST BE INCLUDED WITH BRIDGE
Wait until there are funds to go underground
Use BRT only to make the connection north, and wait to do LRT right.
Periodic lighting of the bridge may be ok. But not every day.
Retail for underground stations. -> could this pay for tunnels
Is there a better plan to preserve parks
- This is the best Plan now Could it be Better
NOT DESTROYING THE PARK FOREVER IS THE OPPORTUNITY
Come into Downtown by Harry Hayes Bldg. + relocate to empty offices
Get Harry Hayes to move as there is a lot of vacancy Downtown
Minimize light pollution for train on bridge. Light impacting condos and light impacting wildlife. Can the bridge be invisible? (not really invisible, but reduced visual impact)
Centre St bridge as temporary option until have \$ for tunnel
London + NYC would not put a train through Hyde park + Central park. Why on earth would Calgary put a train through our park !!!! This is crazy
MINIMIZE bridges to preserve natural beauty
Any bridge should have a cycle path & pedestrian path.
Winter waiting underground preferred to surface
- can have cafes + stores underground
Go underground not above ground
Preference for a more signature like bridge like the cable stay option
Environmental improvements through reduced reliance on the automobile
Having C-train north bridge would have less environmental impact than emission, spilled oil/fuel, etc of increased cars.
save prince's island park!
include multi-use Pathway on Bridge
partner with River Run to redevelop
What other river crossings have been considered?
Riverside pedestrian corridor has been amazing (as a riverside resident)
You need to keep it!
Pathway connection on Bridge are essential
Arched truss bridge in Germany really great with lighting + arch separation from peds
We will Organize society and interest groups to make it right
The original underground plan is a great opportunity to show that Calgary is a major, mature, intelligent city that has learned the best way to do this kind of project from other major cities
Don't put a bridge over the Bow at Prince's island. The bend at the east end of Prince's island is a major habitat for wildlife. And wildlife. Please reconsider. Put it underground.
Can 2 Ave Station Move West Under Eau Claire instead
Use indicators + lights to ensure train operations know peds in wrong area
Ensure design for 2nd Ave station does not lead to bells + barriers in future due to uncontrolled crossing
Suspended bridge to have peds + cyclists underneath tracks not on same surface -> like red line
A shuttle bus could be introduced to carry people from the river to 8th ave and beyond.
If money is available for the project, do we need to do this in one "go", Lets build smart.

Option to enclose - or partially train to reduce noise + wildlife impacts
Prefer bridge to be more "invisible" w/ lighter material + smaller profile
Include pedestrian, bicycle, and scooter pathway with the bridge. Make it look good!
Consider stopping LRT at 7th Ave + wait to build rest when more planning done to do it properly - tunnel!
Build south leg to hospital and do not build north leg at 16th Ave now. Do one leg correctly!
If you want to save money, run the train further east, toward centre street
Changing a plan and consulting for less than 3 months is unfair to communities. Especially after previous 2 years consulting on old plan.
Go down the East side of Centre St over Memorial and go down by the Harry Hays
Technology is changing: - build south leg to hospital now - look at new technology for north leg! - automated trains/cars systems
- What are the opportunities for train station near (in front) of Harry Hays?
- lets do more study?
Why not go up Centre St. Bridge - no businesses or homes affected
Opportunities to enhance 2nd Street with station
the West Side of River Run Condos could be preserved
Bridge <u>MUST</u> have Ped lane, Bike lane/scooter lane?
Iconic new bridge!
Centre St or Mcleod would be better - 2nd Ave is too narrow & residential
Don't destroy P.I part -> move further east
NO BRIDGE PLEASE USE CENTRE ST. BRIDGE!
turn in to some st so more people could get on the train
Psychological barrier of having a train run through (segregate chinatown)
If you make the train and the big you would have to take some place down
Consider Elon Musk's "The Boring Company" - lowering tunneling costs by 90%
* Go down 1st ST SE instead of 2nd St SW. Give easier access to the <u>Harry Hays</u> building
Consider Ped facilities on Bridge
Redevelopment will be helped by 2 AVE Station
Riverwalk pathway crossing clearance + design need to be open + not too closed in
Yassss ----->
Slow down do it right! Environmental + safety concerns need to be addressed to Calgarian!!
Ensure design is not too industrial from Parkview
Cable stay bridge preferred.
Recommended - to have a booth for engagement on Prince's Island Park
Go underground on 2nd Street or move the path to 1st street or centre street.
JUST NO
GREAT CITY VISION
A HUGE opportunity to incorporate this bridge extremely well with Prince's Island Park. I like the design. If the bridge is built properly and beautifully so it's not simply a concrete slab, I think it will be a great addition. PLUS, It's being built on the part of the park which is largely quiet anyways. Build it - just do it right!
High risk to the environment + safety
<u>SLOW DOWN DO IT RIGHT</u>
add another lane on centre street like on crow child
Prince's Island is jewel of Park system - Wetlands.

<ul style="list-style-type: none"> - BRT less expensive - LRT braking will be NOISY
Has building the expensive part first 16th to Inglewood been considered? Bulding it correctly using the original plan is preferred. If costs are to be reduced, delay the southward expansions, and layer them in slowly in the future, using a BRT in the meantime
What other river crossings have been considered? And why were they rejected? More info and clarification on this would be appreciated.
Impact to Prince's Island Park cannot be undone. Residents & locals use the park for many activities all year long and having a train cut through the only greenspace in downtown would be a detriment
Too many to name here. NO OVER THE ISLAND. Regardless of current funding. Find another source. I thought calgary is supposed to be resourceful
Same questions. NO OVER THE ISLAND. Thank you for your time.
Should work with the developer @ Eau Claire to build underground station.
<ul style="list-style-type: none"> - >the track s/b underground -> It will effecting a lots of residents @ Waterfront area -> The LRT station at 2nd Ave will create lots of safety issue, noise and depreciate the condo Value :
<ul style="list-style-type: none"> - There are many family living at the Waterfront and Eau Clair area. - This project will cause a lot of issues to the area -> Noise * ->property value * -> safety issue*
Looks fine - my preferred bridge design is the trestle bridge viaduct option
<ul style="list-style-type: none"> - Limit impact on Princes Island Park - as per my comments regarding centre street above - the bridge should tunnel into McHugh bluff on the north bank of the river and continue underground until north of McKnight BLVD.
Bow River Crossing - it will disrupt the natural area of Princess Island. Geese and Birds will be displaced.
Bow River Crossing - Cable Bridge - remember Patello Bridge in Vancouver - ice collects on cables and falls onto cars - remember bridge in Italy that collapsed in 2014 due to faulty post tension Cables.
The style of bridges that do not obstruct to horizon fit with the neighborhood. Having it just for Train traffic will help traffic move more efficiently and this project helps better reflect the world class city we are trying to once again become. The train will mean LESS NOISE of traffic in Eau Claire and across the RIVER.
design a low profile bridge (as shown in the examples) so that it will not obstuct views from Princess Island looking EAST
Developing this transit corridor will help move more people in and out of the city CORE. There are many professionals who can help ensure construction has minimal impact on nesting land ecology during building stages. I think the long term impact would be minimal of wildlife + environment if done properly.
<ul style="list-style-type: none"> - Negative impact on property value - conflict with pedestrian -> vehicle traffic - eyesore.
go underground if we cannot afford <u>we wait</u>
<ul style="list-style-type: none"> - Noise abatement - environmental impact -> optics of wetland change - cost of property bought and demolished (eau clair, apartments) - property value for views in 108 2nd Street will take a big hit - large infrastructure casting big shadow on one of calgary's only intercity parks.
Once 2nd St. was the likely choice it was pretty obvious we would need some of the land between 2nd and 1st and north of Riverfront
Opportunity for great design of public infrastrucluer in the City!

Ensure the bridge doesn't cut off part of Prince's Island from the remainder. Ensure good connections between the two sides. Also, use the bridge as a conduit for the public realm and activate it -> eg public art, sports courts (like under downtown bridge in Vancouver and Gardiner in Toronto)
could working with Eau Claire Market - running up the middle of the parcel - void many existing properties?
Where the LRT 'lands' on the hill, engineering the flexibility of a future tunnel portal if in 20 years we find running on the surface was a mistake without needing to replace the bridge.
<ul style="list-style-type: none"> - free \$ from federal that we won't otherwise get? - build just the North half and have contingency to build south if we have funding - we are sandbagging cost estimates in order to get budget for suboptimal design - short term decision that we will regret impacts of train through park in future
UNDERGROUND
Protect the Park! Highlight of our core being turned into an LRT? Who's idea was this? Just because it's cheaper does not mean it's right. We only have 1 chance.
2-3 years to build a bridge across a river... through a natural inner city wetland & park used by so many all year long. Shame on you! You need to figure out an alternative or scrap this plan
construction and long term effects of wetland and park. Wildlife will be negatively impacted due to cost considerations which is wrong.
<ul style="list-style-type: none"> - Organize Citizens and First nations to get our opinion count - Please do it right do it underground - Build trust with citizens do what you said, do it underground
<ul style="list-style-type: none"> - Noise - Cheap - high maintenance solution - Cheap now expensive forever make it invest in now - cheap forever - makes downtown less attractive (gygsh) - ultimately ugly.
Integrating new Bow River bridge with existing pathway infrastructure
<ul style="list-style-type: none"> - Managing environmental issues (both natural environment <u>and</u> human environment) especially on east part of Princes Island Park. - Managing disruption to Princes Island, including cumulative effect w/ Jaipur Bridge replacement.
If you stick with original underground plan: <ul style="list-style-type: none"> - shows that we're a major city that can add important public transit options without making surrounding areas worse - less disruptive - can show off our engineering - can learn from other cities that have done this
<ul style="list-style-type: none"> - Noisy (even with dampening) - Disruptive - Destroying important natural habitat - Ugly - Devaluing expensive nearby property - Embarrassing: why can't we figure out how to do this underground?
The ideal design would be a tunnel. Wait until there is sufficient funds to build a tunnel. Using a bridge is a compromise to fit the budget. I think it will be a mistake. Save the funds over time until there is enough for a tunnel... or does the City not know how to SAVE money? A bridge will be repeating the same mistakes as in the 1980s, when the existing line was built above ground on 7th Ave. Then as now the decision was made to put the tracks at surface level and meet a deadline for the 88 olympics. We have had to live with surface tracks on 7th Ave since then. Again, wait until there is enough money available and make no compromises with the design - tunnel under bow and downtown. P.S. who put the tracks on the Centre St bridge if there no possibility of building a tunnel?
Concerned about access to Prince's Island due to 2 ST Station
- PLACE LRT STATION EAST OF HARRY HAYS BUILDING

- WHY BUILD PEACE BRIDGE AND BLOCK ACCESS WITH CURRENT ALIGNMENT
- TRAFFIC ISSUES 3AVE, 2AVE 1ST, 2ST
Waterfront property. The Bourgeoisie will still drive their cars! Therefore the transit system has limited value.
If we built Peace Bridge -> we are ruining access to it with Eau Claire Station due to increased vagrant traffic, crime, noise decline in the aesthetic value of waterfront
Properties along the waterfront were sold with the intention of an aesthetic appeal, this promise is being taken away.
Noise - Homelessness - Drugs } Too close to home
Future - rendering of bridge that's more realistic - No other great city Parks have Lrt - Don't Wreck the Park
If the line has to go above the Bow River, does it have to go on 2 St and Prince's Is?
Is it possible to cross at or adjacent to - Centre St, or east of Ctr. St?
I don't want to lose the Peace of Prince's Is.
Please go under ground & under river.
I am very much opposed to an LRT bridge over The Bow at Prince's Island. It's a major recreation area and a noisy train will seriously impact the atmosphere. Please reconsider and put it underground. Thanks.
Think of the Joni Mitchell song line of "We don't know what we've got 'til it's gone". This is a bad decision to Run a bridge thro' & above the only large-scale city park in our central core. I don't think they would ever consider such an option in Big city parks like Central Park or Hyde Park. Simple Silliness! No long-term vision!
- Prince's Island - Quiet Wildlife area - What's going to happen to the wildlife.
- Station closer to downtown - why no Tunnel North of River?
No More Prince's Island Park - the Bridge will take over - destroys natural Beauty
UNDERGROUND IS STILL THE PREFERRED OPTION
DISRESPECTFUL TO CONSIDER ABOVE GROUND - 1000'S Said NO
HOW CAN YOU NOT KNOW THE ELEVATIONS OF THE BRIDGE
MONEY IS THE WRONG PRIORITY WAIT TO DO IT RIGHT
Question -> How can we get CPS and Transit Security involved in the next sessions. Living in the outlook building, I'm very concerned about having a station right outside my home (safety)
Outlook building, perhaps parkade door timing could help ease the impact on traffic on the street. Perhaps "local access only" signage could also help.
I moved around Eau Claire to not need transit. Now I've made the investment in my home, I will receive the problems that come with a station and none of the benefit.
Living in the outlook building, I enjoy the peace of being by the park. It is a park for a mental break from the hectic nature of downtown. The sound of the train and bridge will rob us of the peace and tranquility of the park.
No train in Stanley Pk Central Pk Leave Parks alone
NOT HEARING FROM THE SENIORS - MOST IMPACTED LEAST VOICE
YOU NEED TO SPEND MORE TIME IN THE PARK
BOW RIVER, PRINCE'S ISLAND IS VALUED BY SO MANY NOT JUST CALGARIANS
PRICE OF TUNNEL IS NOT THAT MUCH MORE - CONSIDER WEATHER ICE & SNOW MAINTENANCE COSTS
PUT THE LAND ACQUISITION COSTS TOWARDS A TUNNEL - FEELS LIKE IT
Concerns about Sien Lok Park - it will be inshadowed - It is not okay to go through park.
- Should have sound/light/wildlife studies complete before bringing project forward for approval from Council
- Should go back to underground alignment
- We have one main park in downtown, and we're messing it up
-Impact to wildlife with LRT - shadowing?
- looks like you didn't do consultation because of change from original vision
-Interactionally, this is not in keeping with preservation of public space

- Did you take into account sound and light pollution
Cost saved by having bridges aren't worth the loss to the natural environment.
- Access to Parkade off of 2 ST a concern
Don't display renderings with pretty pics as it won't be that way.
- Environmental challenges not weighed enough
- Visual impact - Safety impacts
- People bought property for Prince's Island Park, should be better managed
- Congestion is already a concern, train is going to amplify this
- Safety concerns
- Wetland impact concerns, people come to this area to enjoy greenspace
- How will bridge impact the wetland - Alternatives to avoid wetland
-Most used space, train is going to have substantial impact on pedestrian flow
PARK IS OUR LEGACY FOR FUTURE GENERATIONS Please no train above ground!
Very nice bridges. But not in our natural park. Does Central Park NYC or Hyde PK, London have LRT thru?
May we please see alternate rendering, showing wind tunnel dark shadow under bridge w/crackheads not joggers. That is reality
DO NOT DESTROY OUR PARK!!!!
No Train through our park
Huge impact on Eau Claire residents No Benefit
WHY ARE WE BEING ASKED TO GIVE UP GREEN SPACE i.e Prince's Island Park to accommodate the over EXTENSION IN THE NORTH & ESPECIALLY SE BOUNDARIES OF CALGARY?
IN THE VIDEO GRAHAM EXPRESSED CONCERN ABOUT AN EMERGENCY IN THE TUNNEL. I WOULD BE MUCH MORE CONCERNED ABOUT AN EMERGENCY ON THE BRIDGE. I LIVED IN NEW YORK during 911 and was on a SUBWAY THAT WAS GOING INTO THE TRADE CENTER. WE WERE ABLE TO EXIT THE TRAIN BEFORE ABOVE LINE SUBWAYS
MORTIFIED TO SEE WET LANDS AND PART OF PRINCE'S ISLAND Potentially ruined. WHAT ABOUT MORE BUS ROUTES.
No tunnel, don't build! No Money, don't build!
Restoration of natural areas impacted during construction
Underground system would be a better long-term investment. SO COLD to wait above the ground.
SAVE THE WETLAND
Concerned about impacts to Eau Claire and that the connection is being made at all costs.
Constraints on BRIDGE CAPACITY to handle all of pedestrian, cyclists & trains
Bridge would impact natural area for residents and tourists which is imp. for Calgary
Trains over Prince's Island Park would destroy the peacefulness and natural asset of the area.
Seems like lipstick on a pig. Trying to fix something that is inherently wrong
I don't think Prince's Island Park should be impacted
I would not have bought a unit knowing the LRT station was next door. - underground meant construction but end state was ok.
What about the impact of noise on Wetlands?
Design Constraints from Federal & Provincial regulations on the bridge options
Concerns around safety for families in area with train
Crime concerns for parkades & surrounding buildings
Long-term thinking should be underground -> wait until money available
Waterloo & Ottawa train function issues with weather -> similar trains for greenline
Adding more congestion to pathway system - pinch points
Impacts to activities and the natural area. Long-term considerations & impact
Above ground aesthetics & pedr. Flow through area
LINE BETTER OFF UNDERGROUND FOR EFFICIENCY OF MOVEMENT OF PEOPLE
Save the PARK
- original concept has been compromised, no longer what the public originally supported - Pedestrian safety with above ground train. - long term vision for for recreational use.

Need more answers to outstanding issues to avoid delays like last time (tunnel VS bridge
Parkade at Waterfront & Safety
Concerned about activity of people under the bridge in the dark. (crime and drug use)
Concerned about sound and light impacts of train on the bridge.
Consider using rubber for train like Montreal to reduce noise
Mental well-being & break from "urban" in park
Please Stop the green line as it will take our park away!
Pedestrians, cars, & train sharing narrow road can be safety concern
Do not Destroy our GEM Park!
<u>DO NOT DESTROY THIS BEAUTIFUL RESIDENTIAL PARK & COMMUNITY</u>
It is sick that you want to put a train through our park!
Go underground not through the park.
A train would not be going through Central Park New York. Why destroy Calgary's gem with a train!!!!
Don't want to see the train from under the bridge.
We can still see the ruts in the ground from the test drilling
Very Disturbing Do not destroy our park
I want to stay in my home
Great way to ruin the Eau Claire Area
Does nothing for Community & Ruins Center Street
Noise & vibration for train on bridge
Under ground alignment preferred!!
Environmental impact of maintenance on the wetland under the bridge.
-> long term benefit is to have it go underground
School kids and families come to spend time at the park.
BIGGEST CONCERN THAT THE PROJECT WILL IMPACT PRINCE'S ISLAND PARK, WOULD BE LIKE RUNNING A PUBLIC TRANSIT PROJECT THROUGH CENTRAL PARK IN NYC
Concern about interaction between potential bridge and Prince monument in center of the island
Take the time to do the project underground when budget allows.
If you under ground it would cost more money.
Need to address vibrations to Condos
Riverwalk pathway under bridge is undesirable
TRAIN SHOULD BE PLACED AT LOCATION BEST TO PROTECT RIVER - WHERE LEAST DAMAGE CAN BE DONE ->DOWN CENTRE ST CROSS RIVER BESIDE 4 AVE BRIDGE
Need to spread congestion beyond core of downtown. Grow destination, build bridge further east lessen impact to environment and community.
Would be better to go to east Village. 2nd St already so congested.
Hope pathway can be maintained even in flood events.
CONCERN ABOUT NOISE AND VIBRATIONS AS WATERFRONT RESIDENT
CONCERN OF VIEW LOSS FROM WATERFRONT CONDOS
underground station better long term solution.
Safety from station patrons. Currently a desirable
This is outrageous. Don't destroy one of the most beautiful places in Calgary
A lot of people come to rest at the wetlands. A bridge will impact this.
Just go underground
you have depressed our property values at River Run for years with an on again off again mall, talk of Greenline, and flood mitigation - Convenient for you now to be offering market prices for properties. There are no comparable townhomes in size \$ on the Downtown Bow for River Run residents to move to. You should let River Run redevelop their property So instead of City gaining from it River Run's loss shouldn't be Future Development's -> City's Anthem, gain So much for populating the core 1 agler!
Concern on the biase of how this information is presented
Really concerned about impacts to the park with the bridge. Impacts to mental health and well being

Please think about the long-term vision & impact on the Park. The Bridge thro' a park? It will have impact on nature, esthetics, noise -- all impact the enjoyment of the only large park in the middle of our downtown core. I'd prefer to defer & focus on BRT into D/T from the North until we figure out how to tunnel it. Don't make the mistake of 7th Ave & 36 Street.
The entire Green Line Project is a waste of money. A BRT is the best option to move people.
Property value depreciation adjacent to station
The heart of Calgary is Prince's Island Park. We should keep it pristine as possible
Concern that there is negligence in not conducting adequate review of costs.
Concerned about maintenance and operations on the bridge.
Suggestion to review the number of families living in downtown with small kids
Make a decision for the long term of the City
CRIME at D.T. LRT Stations
2nd St not wide enough - should be underground
BRT is less impactful - LRT is not a good legacy unless it is done right
Okay with underground constr. - festivals affected - -parkade entry affects
YOU CAN'T GO OVER THE PARK - SPENT A FORTUNE ON CONSTRUCTED WETLAND ARGUABLY PRINCE'S ISLAND IS CENTRE OF CALGARY IT'S WHERE WEDDINGS, CYCLISTS, PEDESTRIANS, EVENTS HAPPEN
SAVE THE PARK! Let people have some quiet space in downtown
-access & circulation of traffic in Eau Claire
We cannot allow Trudeau to dictate our civic decisions by throwing money at us.
I don't want to see another bridge over the Bow River.
Introduce more renderings of the bridge from below.
- this train station will bring my condo value down
- the train would not be visually appealing no matter what you do
you would ruin Prince's Island
- Bridge may bring opportunities for homeless & other less than ideal activities
Preference to keep LRT on Centre St.
-access to peace bridge from Eau Claire, you will have a train track in between.
- train going thru a park is not good for park visitors
If you feel like you are rushing this, let's delay
Concerns about people accessing Watermark parkade after station construction
Can work to modify police schedule esp. foot patrol to keep 2nd Ave station becoming source of safety & crime concerns
-people walk to Prince's Island park. They do not need a station there
- the need for a station in Eau Claire is not supported by #'s travellers
- <u>Concern</u> - safety concern - surface station - littering - crime
- there is challenge with park being impacted by train Line
- Concern - environmental concern - park concern???? - this park is a "central" park (it's packed)
- Chinatown cannot grow, Chinatown needs people
CONSIDER LRT GOING OVER RIVER & UNDERGROUND ON CENTRE ST. - LESS IMPACT ON TRAFFIC - ALLOW TURNS & ACCESS TO BUSINESSES
Save the Park
Waterfront Parkside and others have benefitted in property value by allowing them to build w/o preserving a transportation corridor and now River Run has to go? Transfer of value Not ethical
We regret not burying 7th Ave, why are going above ground!
So no disruption for people that work downtown, but huge disruption for people that live there. So much for populating the core.
How much will this cost. How does this impact us Financially
Sound abatement for condos In Eau Claire
Concerned about pillars in wetland

It concerns me about the sound of the train on the bridge. It would be better for people at Waterfront to tunnel under the river.
SAFETY - concern about safety around station area
NOISE! Concerns from station and train coming bridge over the river.
tunnel closer to Centre Street Bridge to avoid LONG BRIDGE River is narrower there *Impact to island & park
Make it right. This is permanent.
I like having the station near Waterfront but I am concerned about the noise disturbing my daily life. Perhaps the underground could start further north so our peace is not disturbed at Waterfront
3% grade wheels only can handle that, what if the grade is more than 3%
- Could the line be moved further south?
- environmental impact of train line on prince's island park
- How are you accounting for the risk of flooding?
- why not put off the construction when funding is available to enable the tunnel
Running a bridge across Prince's Island is environmentally & esthetically a bad idea. It takes away the beauty of the island & the peaceful atmosphere for visitors.
focus on spending \$ on south communities and wait to build tunnel later
- East on Centre Street. What's the plan for the remaining four (4) lanes?
Drop may be too steep to Centre Street past Bow River.
Wait to build tunnel & north until have \$ as bus service OK now
Visual skyline view of downtown will be changed forever. Design must be considered with great care.
Will the new cars be able to use the existing Blue/Red line tracks?
There should be no impact to Prince's Island. This is donated land with building restrictions. Why hasn't this been mentioned?
Cross the river when we have the money to <u>do it right- underground</u> . Don't try to "fortune tell" the future saying that funding may not be there. Be positive. Do it well!
Would like to see rendering between abutment and 2 Avenue Station.
Interest in seeing similar residential condos as Waterfront near other low floor LRT systems. (And noise levels with that)
Concerned about wires on the bridge having a visual impact.
Preference to not have cable stay interrupt the view
Too infringing on park space (crossing river with another bridge & wake of that infrastructure)
Aesthetics & noise to Prince's Island park
Noise disruption if the bridge goes over the park
IF UNDER GROUND NOT POSSIBLE AT THIS POINT THEN DELAY PROJECT UNTIL ECONOMICS ARE BETTER
No No No
Please make the Jaipur Bridge <u>spectacular</u> & please build more pedestrian bridges to Prince's <u>Island</u>
I use the park a lot, and I'm concerned about noise levels in the park.
- if there is no money, you should wait for the \$ & build underground
To minimize the visual & environmental impact to the park & the river valley
Please check the 2002-2003 policy re: <u>Wetlands</u> (protection) approved by City Council
Try to build the Bridge close to center bridge, like Kensington red line. Less impact to the new condo Buildings and the prince's island park, the alignment is too closed to the pre-existing Building. The Bridge is over the park which is going to impact its usage.
Prince's Island Park is an urban oasis for residents of DT, those employed DT & visitors to DT. Much like Stanley Park in Vancouver, Mount Royal in Montreal or Central Park in NYC, Prince's Island Park is a refuge where one can escape to a green, tranquil setting away from the urbanized city core & de-stress and commune with nature. A bridge through the Park will destroy that feel visually. The sound of an LRT twisting & turning will destroy that peace. Do not destroy the jewel & heritage that PI Park is to YYC

LOVE HOW THE BRIDGE INTEGRATES with skyline. Less car traffic will mean less noise from centre street. Current buses are VERY VERY NOISEY & MOVEMENT UNPREDICTABLE AND NOT SAFE TO BE AROUND. LOVE PRINCES ISLAND PARK - A NICE LOOKNG BRIDGE WILL HELP ENHANCE ITS URBAN OASIS 'FEEL'
Princes Island belongs to all Calgarians
What mitigation will be put in place to protect Prince's Island & the wetlands?
Build to downtown, BRT to the NORTH.
Will Disrupt Festivals, Events, Music, Canada Day
WE NEED TO PROTECT OUR URBAN GREENSPACE - THE TRAIN WILL DESTROY IT.
the portion of the line over the bluff doesn't make sense - doesn't it go against the promise not to impact property value?
Bridge will block the view of the historic and attractive Centre Street bridge.
How did they come up with the budget for the tunnel & the bridge/on-grade station? What happens if two years later, The City says it can't afford to build the greenline based on this revised alignment???
How certain is the City about the cost of the revised re-alignment compared to the original approved tunnel approach. We need more supporting documents.
this concept seems to have come together very quickly - many of my questions could not be answered b/c things are conceptual - are we to take the city on faith?
Avoid Structure in river
If there is no budget to build this bridge/train line properly without destroying Prince's Island and Centre St., then DON'T BUILD IT!
Why are we even considering go over the river? Suggesting a ferry?
Keep it underground NO VISUAL IMPACT
Goose, Ducks, Coyotes, Wildlife have No Voice?
Trains will take away natural walking trails on hillside
Bridge through prince's island park wetlands area will ruin the best part of the park (sad face)
environment under bridge could worsen. Needs attention
Another bridge over The Bow River, which is already traversed by several bridges in the area is unnecessary.
A bridge for one north station will be a huge financial burden for the GL project.
Teachers at Crescent Heights ask how students who ride to and from school on big yellow buses from a wide range of communities will be delayed by a single lane of traffic (in each direction) on Centre St
Princes Island is an Urban Oasis for 100K & Corp Workers - Keep it that way
Destruction of the ambiance of Prince's Island Park
Provide a pleasant pedestrian experience feet away for the train
Discouraging inhabitants under bridge at park level
-Why don't you wait until we have the \$ to build the tunnel? - Why settle for the bridge??
Build the bridge under the bow river.
- Level crossing is a challenge From my perspective it would be nice if it merged on centre street vs crossing over it
Prefer to avoid going over Prince's Island Park
NYC Central Park would Never have a Bridge Crossing it
I am concerned about the train being too loud
Go back to Fed & Prov. Gov'ts to seek more funding for tunnel
<- YES
THERE ARE ENOUGH WATCH DOGS AND PROFESSIONALS AT THE CITY - I TRUST CARE AND A THOUGHTFUL APPROACH WILL BE TAKING IN CONSIDERATION OF ECOLOGY AND WILDLIFE - IE NOT DOING CONSTRUCTION DURING NESTING PERIODS OR TIMES OF LOCAL MIGRATION. A TRAIN ABOVE GROUND WOULD SEEM TO HAVE LESS IMPACT ON WATERTABLE AND DISRUPTION. LETS JUST BE SURE IT'S a great Bridge one that is JUST RIGHT & not costly

I walk to work every day. The Bridge crossing will cut through my pathway, causing me to stop for a C-Train I have NO access to use 2 years of construction will require me to walk a 1/2 K out of my way to get downtown
- <u>challenge</u> : goes close to Jaipur bridge. will be a challenge.
- crime at stations
Bridge over island is a bad idea. You should go back to a tunnel!
Bike path/crossing between Eau Clair & Prince's Island
If budget is a concern then why not wait until you've the funding to go under the River.
- centre st C-train crossing will be a challenge, will need to build a supporting wall
IMPACT ON NATURAL AREA GEESE POND ETC.
A Bridge across Prince's Island reduces the walkability of the island
Don't know why we're considering this plan.
Shouldn't even be considering this. It is a joke.
If the bridge has to go here - it should be minimal profile and designed for minimal disruption to birds and wildlife
Raise crossing height over Riverwalk
Frustrated with the crossing of Prince's Island Park.
Prefer to be along / closer to Centre S to avoid park & wetland
Seems like we are giving up so much (\$\$\$, loss of park space, construction disruption) for only marginal benefit (train doesn't go very far north)
Concerned that other councilors are not here.
So few people living in the neighbourhood would Pay \$6# to use the train to go downtown. Use the money on the South line to get it the actual volume.
-Concerned about the aesthetics of the bridge as well as environmental impacts.
-> where will the business turn when they drop off riders at 16 Ave?
- would like to see bridge have less impact on environment. Fewer piers for minimal impact.
BOW RIVER Xing Bridge -> extend the width to accommodate the bike lanes on delimited between cyclists and pedestrians. * safety* *Think about the temptation to scale a trestle-style bridge and potential for vandalism/ and class divides.
Bow River Xing Temptations. Arched Truss bridge -> to scale / jump Dvorcky(spell??) Bridge *safety*. -> Concerns - cable-style bridge - potential for closure? <u>GEOTHERMAL</u> * weather maintenance *heat the whole thing so it's dry & safe ->Worth the investment for 6 months/year
PRINCE'S ISLAND IS A MAJOR ATTRACTION FOR CALGARIANS & TOURISTS DON'T WRECK IT WITH A BRIDGE WRECKS VIEWS FOR WATERFRONT - NOT FAIR FOR THEM DON'T SPEND THE \$ NOW SUGGESTION TO ASK FOR DONATIONS FROM TAX PAYERS LIKE TORONTO
INCREASED TRAFFIC CENTER ST YES! - STATION WILL TAKE UP TOO MUCH ROOM 8 - 10 AVE NOT ENOUGH WIDTH FOR TRAFFIC LRT WALKING OFF & ON + LANES & SIDEWALK + NO FENCES ON CURB SIDES - PEOPLE GET HIT ALONG LRT TO DEERFOOT TRAIL
Has building the expensive part first 16th to Inglewood been considered? Bulding it correctly using the original plan is preferred. If costs are to be reduced, delay the southward expansions, and layer them in slowly in the future, using a BRT in the meantime
ADD STATIONS 16, 32ND McKnight OR 64 AVE TO AIRPORT - T - BUSSES BOTH DIRECTIONS - LEAVE CENTER ST ALONE - USE EXISTING LRT THROUGH DOWNTOWN & SOUTH. T-BUSSES, TO ACCESS EAST & WEST - SAVE MONEY!!
Simplier bridge structure preferred that blends in better
To include pedestrian & bicycle pathways a part of the bridge design yes !!
-make <u>Less</u> impact on the green space, both princess island & centre st north
+ FOLK FESTIVAL STATION IN EAU CLAIRE! <u>EXCELLENT</u>
I like the trestle bridge.
Look at options to go underground on north river bank instead of surface on Centre Street

Opportunity to better connect Crescent Heights & the North to P.I.P. & downtown for pedestrians /cyclists, too. (See Tilikum Bridge in Portland, OR)
WHY NOT HAVE LINE EXIT CENTRE ST ON EAST SIDE AND RUN LINE UNDER CENTRE ST. BRIDGE TO EAU CLAIRE. LESS VISUAL IMPACT.
Would be great to have pedestrian / bike options on bridge as seen in the cable bridge example from Germany.
Elevate train to avoid S-lane Stopping on Centre St
-Less environmental impact if we move the"(bend)" more south -> bridge & Centre Street
Keep the bridge design simple. The less you see, the better.
Preference to realign north tie in away from the bluffs. ((Wildlife / Flickers).
Ped connection on new bridge.
I would
I prefer a bridge that does not interfere with the view
-could we still consider crossing East of Centre Street, rather than West? Landng around Harry Hays Lessens impact on the park that way.
Can train meet Centre S further south near Samas Rd/pathway crossing to avoid natural area impact
Important to keep pathway South of Crescent Rd open & not cross tracks
Would like to see more information on the bridge design.
- How will Centre Street come to "Life". 16th Ave was supposed to do that & it Failed.
The sooner construction can start, the better.
Prefer low profile bridge to leave views
Prefer to have tunnel up to 40 Avenue.
YES
Prefer more artistic bridge.
-> south of 16 Ave is a great deal. North of 16th is not good
-this is a simpler option. There are no riskes, or bigger risks with this option.
- 9th Ave station is preferred
Opportunity to have integrated station w/ eau claire - would be great for area.
Will there be a free fare zone in downtown - opportunity?
If you tunnel from 2nd St to 16 Ave North, every issue we are talking about here is solved.
Make an architectural statement much like Central Library (smiley face) wellsaid!!
Imagine the views <u>FROM</u> the train !!!
Shared pathway on bridge
To include cycle & pedestrian crossing
Compensate for any green park space being taken over by the bridge structure.
Include wider platform for peds to stop & look over Princes Island
Cable stay bridge looks good & Minimizes Structures
Create a pleasant bike/pedestrian access along bridge to increase use and benefit to citizens (smiley face) LIKE
If running on surface on Centre Street, why not use the existing Centre Street Bridge as opposed to building a new bridge?
Maintain Heritage during design of bridge.
Include stairs / access from bridge to Prince's Island
-Quotes for Bridge and tunnel over/below the Bow River to make it were clear/Informative
Dedicated bike lane on Centre Street with decreased traffic lanes
MULTI-MODAL! Bikes & pedestrians please!
CONCERN FOR THE WETLANDS AT PRINCES ISLAND. IT IS A TOURIST ATTRACTION, BUT SHOWS OUR CITY GREEN SPACES
Where the bridge lands on Centre St: This could be the projects's Achilles heel if not improved upon: can we avoid the at-grade crossing?
Spires may be too tall Arched truss fits better
Ensure ped space on or under bridge

Include ped connection as part of bridge
Need to ensure Riverwalk Crossing is better than other bridge crossings that are dark & cramped
Important to maintain pathway crossing along Crescent Rd NW
Can train go under ground on north edge of river? (like Edmonton)
-> this is an opportunity to bring ppl to Eau Claire or right next to it
Would be nice to have a pathway on the new bridge. (checkmark) LIKE!
-if the bridge needs to be buildt please make it architecturally pleasing
-excited about user experience riding the LRT across the river & on the bridge <u>BOW</u>
BRIDGE DESIGN IS IMPORTANT Architecturally as it is VERY Visible throughout the River Valley
Make the bridge awe-inspiring!
Design the bridge as an art piece. Add to the landscape architecture (smiley face) LIKE
Bridge should be beautiful to reflect area - don't cheapout on bridge
I USED TO THINK UNDERGROUND WAS THE ONLY WAY TO GO - But after thinking about what I like and enjoy when I travel - this surface line with a bridge is exciting. I think it will be a huge benefit for local residents and myself who runs a business. NOW THAT THIS IS AN OPTION - I WANT TO BUY a condo on the southside in EAU CLAIRE LOVE IT!!!
I would like to see the Bow River Crossing Bridge looks like the one "Dvorecky Bridge, Prague, Czech Republic
BOW CROSSING -> It's unfortunate that the tunnel concept is off - above ground concern getting up the hill <elevated> is feasible - lets put some art into it - <It should be awesome> - that will allow vehicle traffic
INTERFACE WHEN BRIDGE GOES ON CENTRE NEEDS MORE ATTENTION LIKE WHAT'S BEEN DONE FOR 2ND
If the bridge goes ahead, it's important to me that local architecture / work is used as much as possible. I would also hope it is put to a public vote. It's important that those of us who live here and see it every day have a real say in what is chosen
I like what I see in terms of treatment under the bridge at Eau Claire. It's modern but also fits in with the natural environment which is important. And it is low profile as well.
BRIDGE From what I've seen so far, I prefer something less visually intrusive such as a low trestle bridge
THE LANDING AREA ON THE SOUTH END OF THE BRIDGE APPEARS TO INTERGRATE WELL WITH THE COMMUNITY AND ADDS POSITIVELY TO PUBLIC USE. THERE IS LOTS OF ROOM FOR CYCLISTS, PEDESTRIANS & FAMILIES TO HANG OUT. I LOVE HOW THIS BRIDGE WILL CONNECT THE NORTHSIDE OF THE CITY TO THE SOUTH. AND HELPS DRAMATICALLY INCREASE THE POSSIBLITY OF HAVING A STATION AT 9th AVE N
Giving the directly affected people a real say in the bridge design is very important. After all the past issues with public art etc. this would help restore confidence.
SH. A BRIDGE OVER THE BOW IS A COST EFFICIENT SOLUTION does not put it AT RISK OF costly repairs - post floods and provides the opportunity to have a 9th Street Station
- use vacant property that are plenty to develop for art projects - Built in heaters at the train station. - Look at Subway Stations where the area is integrated in the community.
-> Will bus stops change? #2/#3/301 We need to keep the bus stops in front of businesses -> Don't think there is enough room on the road for trains and traffic. -> Run out of money before you even get across the river.
Revitalization of Center Street
The impact of the LRT being above ground on vehicle traffic on both commuters and residents is huge and primarily negative. The budget restrictions preventing the previously approved below ground route should be reconsidered. A 10% increase in budget, or even more, to re-enable this option is well worth The benefits mitigate impacts over the many decades the line will be in use.
I do not want to see an additional bridge over the river - we have plenty of bridges already, and one at Centre St. So we should try to do this with an existing bridge. If Centre St. Bridge can't take the train, then the better plan would be to take the train down 16th, meet up with the line at SAIT/ Jubilee and cross over the existing bridge.

Keep your promise to build the tunnel two years ago. We don't want the bridge. No money, don't build the bridge. Stop the project
Keep it Underground listen to your people
-to include pedestrian & bicycle access on the river crossing
- to mitigate visual, environmental impact to river valley & park
I prefer the low profile, minimal trestle style, the cable bridge looks nice but I am concerned about birds & bats flying into the cables at dawn & dusk particularly. To light it up might look nice but it is also light pollution.
-Impacts on birds & wildlife - concerned about geotechnical challenges of building on the bluff - stability, erosion, etc. - McHugh Bluff is a great natural area with paths & native vegetation - hate to see that disrupted - Aesthetics of the bridge and noise for people enjoying the parks and pathways
I want to against this project. This project won't make money and will make more debt. Even to build the bridge over the river will destroy the wetland and the Prince Island park. I don't see we really need to have this train, no use. no good at all!!
Dear Councillors Please, Please listen to your people. Say NO and STOP build the bridge over Prince Island Park, it will destroy the Park and Wet land. Also no one want to live beside the C Train track. It's too close to the Residents Many, Many Thanks. Eau Claire Residents
-> If a new bridge <u>must</u> be constructed, minimizing impact on the environment must be the priority! -> Why not <u>wait</u> until we can afford the best possible option? Which, I understood, was a <u>tunnel</u> ! -> More BRT.
-> What irreversible environmental impacts are the result of yet another bridge over the River? -> Impact on bicycling? I have not seen any part of this plan that takes into account the increasing number of cyclers in Calgary.
How will the bridge affect wildlife in the park and river?
Yes! Helps with parking during special events at Princes' Island Park. Will make it better for local residents during those times.
Love how the low profile bridge fits into PI park. Does not impede views. Train will help get people into core and help people enjoy the park without creating congestion.

Downtown (Online)

The ground c train will block my entrance to my condo along the 2nd street.
Words cannot describe - horrible!
Lets put a 40 ton train outside council's children's bedroom window every 20 mins-day and night. Its child abuse clear and simple! Tunnel it
Okay, this whole segment looks like a mess. It would probably be better using 1st or Centre St for the downtown alignment.
This is a tragedy. The tunnel option was the best for everyone. Now the train will be slower, more disruptive, and damaging to the community
With cars leaving parkades (Waterfront & Eau Claire) during rush hour, 2nd St is already gridlocked. The train would make this so much worse
Put the train on 1st St SE, where there aren't people living at ground level on either side of the road and there isn't a wetland to destroy
A train down 1st st SE would increase accessibility to important public services in the Harry Hays building.
The tunnel was approved in 2017 because it's the best solution. If we don't have the funds to do it properly then don't do it at all.
Importance fo the Prince's Island Wetland - https://www.calgary.ca/CSPS/Parks/Pages/Locations/Downtown-parks/Princes-Island-Park.aspx

The wetland purifies river water and buffers against floods, don't disrupt it - https://albertawilderness.ca/issues/wildwater/wetlands/
It's an imposing implementation. If it's going to be done, it's integration into the area has to be complementary, rather than dividing.
Everyone know this unreasonably expensive project hurts citizens but benefits politicians. So sad. Corrupt City hall.
Go underground or don't do it! Don't be limited by near-sighted political cycle. The expandability sounds self-deluding talk of politician
Crescent heights needs to Integrate LRT infrastructure with adjacent development and public realm
Change the alignment to 1st St SW where people don't live there and that area can potentially be redeveloped
Close second street to cars, make the portal a public space, there is no need for cars on that street.
Currently no cycling facilities into east end of downtown between 4th St SE & 5th St SW. Consider cycle tracks along 2nd Street SW.
The City's front page Herald picture shows the River Walk homes, yet City intends to destroy those homes. City's false info is unethical.
The North alignment doesn't help the North. The \$5B cost makes no sense. Please politicians - do what's best for Calgary and stop North plan
2st surface station will lower property values and destroy the "premium" Eau Claire land value by increasing traffic and noise in the area.
How can a station be that close to the Waterfront apartments without violating noise bylaws? Residents have the right not to be disturbed.
no above ground station on 2ave sw, drastically reduce the property values and hence, decrease the City's tax revenue. especially now.
no above ground stn on 2ave sw, destroy property value, unreasonable noise, increase traffic. move the stn East on 1 ave SE
The City propaganda in support of the train is vile. Please present information fairly - benefits and harm. The train north is harmful.
I like it. Well integrated to the landscape and 2 ST is a with little traffic and interest anyways, aside from some crummy parking lots.
Who on earth thinks Eau Claire is a "premium market" anymore. It's a dead mall. Ripe for redevelopment and LRT at the door will help
Pictures of completed train in the summer with everyone happy. Pictures of current roads taken in winter with few people. City bias is awful
With the global recession coming, this project is far too expensive. Just build south for now.
City materials discuss the best way to build the train but don't discuss whether building the train will help or harm more citizens. Biased.
What happens when the train is eventually expanded to 4 cars? There will be little room to expand in the future.
Unbelievable that the map shows line going right thru Eau claire townhouses. 2 St station unnecessary. Dont destroy island and eau claire.
If think 2nd is "never used"; I invite you to come visit during the rush hours. An above ground station will compound the issue.

Downtown (In-person)

I have a vested interest in the waterfront building. I am concerned how the street level station will affect the value of the property. Not to mention all the noise, dust, etc during construction. In my opinion, it is not the best idea to run the train over Princess Island Park. Why can't the train run further east away from the park?
Have the tracks towards the east
- Keep it Underground on 2nd St and Prince's Island, and Bow River Crossing - You can't just go and demolish River Run houses for your Benefit!

- Noises, Vibrations, - Unwanted traffic, <u>crime</u> , We moved to Prince's Island because it's a quiet area!!!
- The Eco-system of the park will definitely change! How many bridges we need? - Additional Unwanted Noise - Quality of life & community around the park will be adversely affected. - Too much traffic.
If City has no funds for proper project - WAIT !!!
- Park is very sensitive area to accommodate such a development. No long term studies how this will impact wild life - It surely will negatively affect wetlands, wild life, & park visitors! - I don't think cutting costs to avoid doing it underground justify longer term enviromental effects
- Riverwalk home will be demolished, even partly is absurd - 2nd street is too narrow to accommodate a train - Neighbourhood prices will be negatively affected. People didn't purchase those so City can come in and turn this quite area upside down <u>Bottom line</u> : take it underground!
Make a walkable, inviting space for pedestrians
Portal opportunity Look at SAIT where it has a beautiful glass structure around it
Concerns about traffic and collisions in eau claire
Safety: security of riders in under-ground stations ??
- 2nd St is too narrow for train accomodation - Track will bring unwanted noise to residents @ 2nd. Street - Wetlands will definitely be disturbed -> Take it <u>underground</u> !
Ensure safe pedestrian crossings
2nd St is an important N/S cycling route through downtown. Please include cyclists in your design consideration (including making biking alongside + to/from the train appealing/possible)
2nd is a great cycling corridor now. Since cars have to be 1.5m from bikes, you may find cyclists riding onto the sidewalk or having other conflicts with cars.
It's very important to effectively plan so that the environment and bird species are not impacted around Prince's Island
Garbage removal at Waterfront. Now the condo board has arranged to pull garbage bins out to 2nd. When the road is narrowed it will not be possible to do this. How will waterfront get their garbage and recycling removed
I didn't move into the condo to have a train right out the door
Already busy - traffic - festivals
Concern about crime near 2 Ave Station
concern about wetlands + parks
Safety -> centre street separates safe (N) from unsafe (E) -> adding train station extends unsafe zone
Garbage collection on 2nd Street needs to be accounted for. Don't want to force garbage trucks + traffic to Waterfront
2 Ave goes through residential neighborhood
interested in impacts to future Eau Claire market development
noise
feels like the line could act as a symbolic barrier between Chinese community and "elites" (eau claire)
2 ave station is unnecessary when 7 ave is so close
loss of privacy
Concern portal will be a barrier between Eau Claire and Chinatown
I want the city to look at the different options -> example of Vancouver Waterfront -> there's even more space at 1 St SE -> would fit in better there
Do it right or don't do it
Quick turn-around on dropping the tunnel moving to Surface feels disrespectful

Concern about utility and waste access to waterfront
can the junction of the parkway @ curce @ south end of Prince's Island be feasibly built (i.e. pathway users, what about during floods?)
Concerned about noise at the 2 Avenue Station. I want it to stay quiet
Don't want area to get more complicated
Destroys Prince's Island Park, which is used by <u>all</u> calgarians
Concern that the portal will include protection (e.g. not level with sidewalk)
-East - West migration is constrained (limited to controlled intersections)
safety concerns with eau claire station - crime
anti-social behavior
hard to access eau claire and chinatown for local residents and visitors
DOWNTOWN TRAFFIC WILL BE "ZERO" ONLY 1 LANE FROM CENTER ST.
WHY RUSH? THINK ABOUT LONG TERM
DON'T BUILD IT YET IF YOU DON'T HAVE THE MONEY
Scooter + bicycles on sidewalk on 2 street - redirect off 2 street
previous routing studies - are they publicly available?
Eau Claire station is not needed by residents or business
are we doing the right thing by building above ground or just doing it that way because it's cheaper
should build tunnel under the river -> that area is our legacy
Wish it was still underground
Uncertainty is hard for residents who live adjacent
Cycling interactions on 2nd in front of Waterfront. Pinch point is safety risk.
ecology in the park -> during + after construction
litter
Concern about social disorder and adjacent to waterfront.
2nd street is already too narrow
- lots of condos right near where it would run
- noise
- vibration
- will interrupt people's ability to sleep
safety -> low floor -> will put bells/gates/barriers -> will interfere with events downtown
spent 2 years doing studies -> engineering reports -> underground tunnel was best
supportive if underground because no impact to traffic & roadway
- concern about Centre St business to survive w/o cars
- specific concern w access to Waterfront Dev't. - too many cars getting out of parkagde w 2nd St lane reduction
Concern about impact to PIP enjoyment of park - peacefulness of pathway
noise is big concern - impact on mental health
- look to screen mews to train
Centre St will be a gong show -> won't revitalize the area (e.g. kerby/33 ave)
How are events going to be handled in eau claire area in particular canada day
what happens to the mews road - is there a requirement by development or city
does the waste + recycling truck have space to turn around for waterfront?
safety issues around trying to fit in too many modes into too small a space on 2nd street
DT/Centre St - don't feel GL is good investment - not needed because no boom
- investment is leaving - no ridership on Centre @ 16 ave going downtown
- Concern about traffic impact @ Eau Claire \$ Centre St.
-> what is impact on downtown mobility & Centre - where will traffic go?
- BRT already doing job. Don't need GL
go back to original plan, put it out to international competition. Get cheaper bids that way. Chinese companies do much bigger projects cheaper and faster. Save money, reinvest in downtown!
Concern about noise impact to Waterfront Condo - impact to residents' mental health

best to stop at 7 ave. North to 16 ave doesn't help everyone - design of above ground station not good for winter
concerned about need for 2 avenue station. No employment adjacent for several blocks.
noise issues @ waterfront - train frequency - potential mental health issues associated w/ noise
can west portion of river run be maintained? - alternative access -emergency access
Use the Chinatown Cultural Plan engagement to help inform cultural elements & design
Love the High Line (NY) idea for the portal !!!
Consider social capital + ROI that could be lost at River (enjoyment of river)
Why not take bridge directly across and into the bluff (not s-curve)?
A good idea to connect Eau Claire and Inglewood communities to the downtown flow
Need to know - how can people access platform? J-walk or controlled crossings.
Why not elevated on 1st St SE.
Can the station be integrated into Eau Claire
Will there be any "free zone" on the Green Line? (like the 7th Ave free zone)
need to consider how existing Chinatown business customers will interact with the line. There is no train from Edgemont.
Integration of chinese cultural elements into portal and station "Fung Shui"
Downtown tunnel to 2 Av or to the River (terminus) If there was greater assurity that it is impossible to build tunnel, then fine, but don't asume we can't
Re: Running trains on ground on 2nd Street and building a bridge over Prince's Island Park are an unacceptable plan Trains running on such a narrow 2nd Street cause too much noise to affect the daily life and health of residents in that area as the trains are too close to the condos. Also three parkade entrances are on this narrow street. It is danger to all parties using the same road if trains run on it too. Building a bridge over Prince's Island Park ruin the park. City of Calgary spent lot of tax payers' money to build a park, wet land and river walk for calgarian family to have a safe place to relax and enjoy outdoor activities e.g. Music Festival, Canada Day, running, jogging, cycling, picnicking, dog walking etc. A noisy train running above the park and on the riverwalk will affect the activities and will also make it danger for people using the park and riverwalk. It is also a bad idea to build a tunnel entrance so close to Bow River. In case of flooding, of course we do not want to see it again, it would cause a huge expense to clean up the tunnel. I think there must be a way to <u>preserve the park and at the same time to build the north bound Green Line</u> . Keeping the original plan to have the trains running underground is one of the options. The revised plan with the train running on a narrow 2nd Street and with a bridge running over the park is totally unacceptable. I would recommend building the south bound Green Line up to 7 Avenue only during Phase 1 and redesign the route to north bound after adequate consultation with stakeholders. Green Line must be built in THE RIGHT WAY right at the beginning. If funding is the issue, please wait when we have the resources to do so. There is no rush to build Green Line from 7th Avenue to 16th Avenue N at the present stage as no one will benefit from it. It will only cause traffic congestion, safety issues,etc. for everyone using Centre Street to go to and from downtown. [name removed]
a beautiful, important people space at the 2nd St Station if landscape architecture is given and adequate budget to design an amazing public realm.
preserving the river pathway's ambiance Prince's Island Park as a quiet retreat reducing vehicular (train) noise + vibration making the river valley a destination for all Calgarians preserving the wetlands for thousands and thousands of birds (migratory + others) who fly in and around the entire area from 3 Ave SW to the Bow River and from 2 St Sw - to Jaipur Bridge + beyond
There will be lots of homeless hanging around at/near Waterfront if the station is right there. Please move the station - Security issue

Bad fengshui for residents' homes to be facing the C-train. Who wants to see a train when they look out the window?
Move the station away from Waterfront Condos
The train station at Eau Claire Waterfront buildings should be eliminated completely as it disturbs residents + natural habitat - noise pollution
Residents at Waterfront will have a tough time driving out from the three underground parkades. The train station outside of Waterfront should be eliminated - traffic jams - connect LRT from N to Downtown - new calgary symbol if well design
- wildlife (hit by LRT, impact on fish/water quality) - impact on waterfront resident & its value - noise/light pollution
7th Ave Station should extend South of 7th Ave to connect better with the east bound red and blue line platform. But it would all be better for the downtown and Beltline section to run above grade. See Vancouver.
2. If North Green Line is still built, I would like to the downtown section to go along 1st SE, instead of 2nd St SW, and adapt elevated format, instead of underground format.
Concerned about 2 Ave Station impact to Residential + Eau Claire
Wouldn't put over Central Park, Stanley Park, Hyde Park Why Princes Island park?
Loss of parkland, -> most Beautiful parkland Visually unattractive train
Lack of consistency in overall approach to City development. Spawl + densification impacts everyone
Noise & Loitering in front of residential
Lack of respect for Eau Claire. Decision makers don't understand what it's like for people who live here.
Concerned about noise from the train.
False advertising to show depictions with Eau Claire market being gone. Very deceptive!!
Please don't Demo my house. RiverRun
Street level concerns on Waterfront. Timtims w/ business owners.
Retracting from original underground LRT line at 2nd street. Decision
After seeing what happened with 17th Ave SW I am skeptical about claims to improve sidewalk amenities The reason I was told was that they ran out of \$ \$ \$
CONCERN ABOUT DRUG ACTIVITY ON 2 AVE STATION
Concern about redevelopment not occurring at Eau Claire Market. - Move station either further west or underground to limit noise and vibration to Waterfront residents.
How will train noise impact sleeping for residents
How big will elevators be.
Two-way traffic at Waterfront Mews now. Expect it will be used for public access.
Don't ruin the park! What about impact to traffic re: Centre Street?
Concerned about single northbound lane on 2 Street SW
MAJOR CONCERNS ABOUT <u>NOISE</u> AT 2nd ST
Concerned about divide between Chinatown to Eau Claire
Save the wetlands and the views of the river! - Claiming that the LRT station will improve sidewalk amenities seems disingenuous. If the municap government was really concerned with street life in the area they could do renovations without putting down an LRT station.
- was more effective to use 2nd st - 1st ST has utilities - too expensive to tunnel /trench to get onto CS Bridge
Can we start the curve to go across the Bow earlier?
Concerned about impact to parking on 2 Street SW

Save the park.
Don't put a train in our park.
Concerned about issues in Ottawa and Waterloo. At-grade trains in winter.
don't impact the island park
Feels like decision makers don't consider the little people
- impact on riverwalk and prince's island park
DESTRUCTION OF PARK IS TERRIBLE
- waterfront / riverfront condos facing train line and abutment
Traffic concerns for riverfront.
Traffic concerns on 2nd + 3rd E/W flow.
Concern about Sound impacts of adjacent/waterfront residents.
SAVE our beloved Prince's Island park, the wetland And the green space.
Concerned that we are not going underground, and not prioritizing the long term like other major cities.
What about Eau Claire Market?
Challenge
Increase In Crime In THE AREA BY INTRODUCING A Station At 2 Avenue
CONSIDER ENGAGING BORING COMPANY TO REDUCE COST ON TUNNEL
Concerned that the project won't go forward at all.
If the decision lies with council they need to be here to hear that.
With our economy it's hard to tell when the Eau Claire development, I'm concerned about it becoming an unfinished development. And how will it impact the already struggling retail businesses
Don't want to look at an LRT. Concerned about noise as well
Direct feedback forms. -> To Council
Devastating! The people being bought out won't be impacted because they will be gone.
Won't be used by local residents. No one wants to go up Centre Street.
Concern about the impact to the pedestrian experience
Destruction/environmental impacts of Wetlands in Prince's Island Park.
Noise/Security & Safety @ 2nd Ave Station.
- During construction, what impacts? Supports? To businesses along C. Street
- Parking/traffic
- how are we managing this?
- how will it be communicated?
- What is construction time frame?
I would prefer to have the train further east. Around the island, everyone comes there because of environment, nature and quiet. It would not be too far to walk a couple of extra blocks if it is further east.
- concern about vibration, safety impacts - increase in crime @ downtown station.
- concern about impacts to traffic ~ how will GL reduce traffic in the area or make current traffic jams worse.
- impact to Canada Day Fireworks from Centre St bridge? (transit user)
SAFETY + SECURITY @ STATION
Concerned about noise and vibration at 2 str station.
Wait for funding and better economy to be able to do this better
concern for increased safety and crime
keep alignment underground
don't impact wetlands
mixed values w/ wanting to be environmentally conscience, while impacting wetlands
The people in this area (Eau Claire) come here to unwind and relax. This is the only real green space in the inner city. I know you say you can make it good, there is no undo button once you start building. I really want to express how important it is to take it seriously
Ultimately. You need to consider that no matter how hard you try to make this good, it will be diminished once you build. Doing this will take away from one of the major selling features in an area we are trying to attract people to

How Many Pedestrians Will Be Killed Due To Surface Level LRT? It's A Small Price (10% More To Budget) To Pay for ALL underground LRT vs Pedestrian DEATHS. IF Budget NEEDS to be constrained then reduce LENGTH of LRT
Why did we do so much work on the old alignment only to throw it out?
Concern that council is now being presented with a single option, not choices.
Concerned about the whole Eau Claire impact with River Run, Waterfront, and Eau Claire Market.
Unsure what's going to happen at 2 Street. Seems like it shouldn't be there. Like a bait and switch.
I don't think it makes sense to built to 16 Avenue as part of Stage 1
It's frustrating that the plan was changed for residents in the area within 3 months (after 3 or 4 years of consultation)
Disagree with change in going above ground instead of under ground. Don't want this bridge to be here. Negative impact to Prince's Island Park.
Frustration with previous process that was not followed through on.
Punch a hole inside of Hill go under Centre ST
Short term cost savings of not going underground on Centre St. will be offset by long term costs of surface train (safety and other conflict)
It is nice to have Stn at Eau Claire Market!
At grade (surface) constrains bridge and Access
PARK SHOULD BE SAVED
SHORT TERM THINKING NOT TO BE UNDERGROUND
Concerns on traffic congestion - need 2 lanes for cars in each direct.
IF LRT IS ON Centre St DO NOT BUILD PAST 7th Ave (Phase 1)
Stations in this winter city need to be enclosed + heated
Seems like the project should not move forward. Property values dropping, and a burden to those who live nearby.
People buy into the riverfront area for the greenspace & quietness of the area. The Eau Claire condos are a known to have a premium in the inner core due to it's proximity the greenspace. Has there been proper thoughts to the impact on property value and general quality of life for the residents living in this area? Please consider this.
(1) Peace, quiet and safety of <u>thousands of residents</u> at Waterfront should be considered seriously. (2) Why the Greater Prince's Island Park is attractive? Because it is natural and quiet. Protect it! and protect wetland too, it is Calgary's Lung!!!
205 Riverfront It seems to me the re-zoning in this area is trying to include us with Chinatown next to the Cultural Centre. I am so concerned that the train will cut us from Eau Claire and officially make us Chinatown.
I am convinced there is corruption in this. Who Is getting the kickback, why else would they do this through such a high value area.
Even with all the pretty things you can add on, the constant rumbling of a train will make the most beautiful area feel like a slum.
In every other case we build in areas with more right of way.
it's a neighborhood with a lot of history. Now all that remains of what it was is the barley Mill. Now all these new people are coming in without understanding the history. The City really needs to take care to acknowledge these things. I am so concerned that we are letting go of this history. A train will destroy it.
This project will interfere with the highest property values in the city. Meanwhile the values are lower in the east - why not build there? Furthermore we can do this in a recession
I'm a member of the YMCA and I won't even be able to get there easily. Additionally, we already work hard to keep crime away. This is going to make it so much worse. Look at the central library: such a beautiful place but with so much crime around the station.
The block with Waterfront and 205 Riverfront will be put on the wrong, low-value side of the tracks.
Don't build this now in hard times and especially in a place where people pay a lot to be by a beautiful natural area. It would be so much easier two blocks to the east.

Noise + vibration - move further west? - move away from residential
Temporary parking - moving - taxi - emergency vehicles - How will this work on 2st @ WATERFRONT if only 2 lanes
VOLUME OF PEOPLE + TRAFFIC - access to Waterfront Parkade - how will this be managed?
Limited access from garage of Waterfront Parking lot users
Need to convey the other alignments that were explored, and why they do or don't work
What about businesses access Parking is already limited How long will construction be?
Why 2nd Street?
smaller lanes & access for cars on <u>2nd</u> .
Destruction of the city's prized greenspace for cost saving measures. Increased noise & traffic for local residents
Police statistics show that LRT stations attract crime. I don't want that across the street from my home.
Concern that station experience will be like 7th avenue. Crime, etc.
Property value concerns. - 2nd Street line will make <u>unbearable</u> noise and vibrations for apartment dwellers at Waterfront -> Despite claims of "quieter" low floor trains, it's still tons of metal moving at high speeds on metal rails. It will still be loud and grating.
Push Back April 23 date to get informed Feedback Summer Park users.
Noise for Residents at Waterfront
Obstruction of light & view for Waterfront Residents
SECURITY AROUND THE STATION AT NIGHT (DOWNTOWN STATIONS AREN'T GREAT IN GENERAL)
Very disappointed that city would Propose an above ground Bridge to go through Prince's Island!
safety of crossing is a concern for Pedestrians. Especially with Prince's Island
I prefer the project how it was before. Don't like the delays
Better rendering of the line and layout.
BRT would be a more cost-effective solution. Please don't destroy 2nd St and Prince's Island to build this deeply flawed, overpriced LRT
Concerned about drug activity by the station. Makes me feel unsafe. - Will the feedback from this engagement session actually be used or has the decision already been made and this session was solely for PR purposes?
Don't rush this decision, extend the time to engage all Calgarians on this decision, and do a whole review of previous studies to ensure the project is done right.
Winter City - plan to spend less on station will be a problem. We need enclosed heated stations.
Above ground station will have adverse impact on property value in the area. Residents purchased property at a <u>premium</u> to live near the riverwalk & Prince's Island Park. This project will ruin the premium qualities of this area: proximity to greenspace and the beauty of downtown Calgary, Quietness & peacefulness of area, due to less traffic
- move the line further west or underground to avoid disrupting residential life - end the Greenline before entering downtown
- I'm a Waterfront Tower B resident. My 3rd floor condo would directly face the 2nd Street LRT station. I'm very concerned about: - Noise and vibration from the train - "Less noise" from the low-floor LRT is not the same as no noise.

There's also other noise like the door closing bells. - LRT stations have a tendency to attract crime and vagrancy. - The above factors will destroy property values. This is my primary residence
- Where's the budget for this project coming from? Will I have to deal with years of delayed ongoing construction? - Will our input actually make a difference or is this just making a show of engaging the public
Greenline can connect people to business. So put it where businesses are, not where people are
The park (Prince's Island Park) will be impacted if the bridge is built there. Build in stages when you have the money. Keep it underground. The people who already live in downtown will not take the train. Why are you putting the train next to them.
- You want downtown to grow? Keep it underground, away from <u>homes</u> ! - Why over ground right where people live?? - Living next to a train is bad plan for communities, mental health etc. - It will divide the community - It destroys people <u>homes</u> and wildlife.... why would a city do that.
I live in Waterfront 108
1. Get advantage of citizen's tax 2. Green Line is unnecessary to build. 3. Using citizen's taxes to build, it's unfair. Should give more benefits to seniors instead of taking from us. 4. Deduct property tax 5. buses are enough for transport 6. should be careful to use the government funding.
- Noise + traffic from station - Upset that the plan has changed. - I'm against it. Don't want it right in front of my building. - Parkside resident
OPPORTUNITY RIVER RUN CONDO'S COULD WE PRESERVE THE WEST SIDE OF THE COMPLEX TO KEEP UNITS IN PLACE?
OPPORTUNITY RIVER RUN POTENTIAL TO ALLOW FOR REDEVELOPMENT OF THE RIVER RUN COMPLEX OR PARTICIPATE IN REDEVELOPMENT.
OPPORTUNITY CONSIDER THE IMPACT OF DESIGN AND DECISIONS ON/FOR FUTURE YEARS - DON'T
How will we address access to Parkside at Waterfront in by better configuring the turnaround
It would be helpful to know the distance between parkside and the platform on 2 Ave.
Airport connection would be a far better use of limited funds
- still exploring options - lots of possibility in Eau Claire Market
PREFERENCE FOR ABOVE GROUND TRAIN -> THE CITY SHOULD DO STUDIES ABOUT THE PSYCHOLOGY OF RIDING THE TRAIN - EXAMPLE TRAFFIC CONTROL ON ELBOW DRIVE - STOP PRIORITIZING CARS
STATION ADDRESSES WOULD BE USEFUL
Save the PARK
Move Eau Claire Station as far West as possible
- possible Station integration into the Eau Claire Market redevelopment
Airport connection is critical
Love it Build please - more transit in YYC is a great idea to move people around - South needs LRT
REALIGN TO GO UP CENTRE ST, SO NO IMPACT TO RESIDENTS
STOP LRT AT DOWNTOWN, RUN BUSES THROUGH DOWNTOWN AND TO THE NORTH.
Free fare to 16th Ave to be great alternate to encourage use & bring people to Markets
#save princes island park
Think about what is next in terms of technology. Not just trains.

- downtown 2 AV Station will help revitalize Eau Claire Market - make it easier for people get there & life there with more amenities - Access all over the city will be more convenient for transit users & people who live downtown - Will bring more people downtown.
New LRT should be much Quieter than current Fleet
- Why aren't we using CS Bridge - Bridge would require upgrades - Too difficult to get to belt line - too expensive
- using this time to learn & understand local businesses - want to inform businesses appropriately
- We are developing business support program - we want a better understanding from businesses
- WHY DO BUSES ALL LEAVE STATION TOGETHER VS BEING SPREAD OUT EVENLY - OFFSET BUSES THAT serve Similar Areas
GO BACK TO UNDERGROUND LRT LINE TO REDUCE COMMUNITY & ENVIRONMENT IMPACT
Desire for 2 Avenue station to move south of Waterfront Avenue
CAN ALIGNMENT GO UP TO CENTRE ST?
THUMBS UP TO REVITALIZING 2 ST!
ALIGNMENT TO GO UP TO CENTRE ST
AIRPORT CONNECTION IS CRITICAL TO CALGARY
Improve retail and pedestrian experience along 2nd Street
DON'T DESTROY THE PARK!!
Did you consider the impact on natural habitat in Prince's Island Park?
WE CAN BUILD PIPELINES BUT WE CAN'T BUILD A TUNNEL UNDER A RIVER TO SAVE OUR INNER CITY PARK!? SAVE OUR PARK!
End greenline at City Hall. Use BRT to serve the north end.
No above ground from Eau Claire to Memorial Please. We have a nice Park and this above ground Bridge across the Bow is NOT good!
Should revisit entire project with changes proposed. Not just a band aid solution here.
Suggestion to extend tunnel to the north, but not from 16 Avenue.
Pick either north or south. Don't try to do both.
My preference is to just build all the way to the south east (hospital) and use a different technology north of the Bow River (or when funding to go north of 16 Ave.)
Don't like the idea of a bridge over Prince's Island Park.
I am very upset that previously underground way approved. However after I bought my condo at Parkside West, this changed. I feel tricked. Now I am worried about constant noise and destruction of the environment.
If I were a resident of River Run I would be very upset for being forced to sell my home.
At Waterfront our renters mostly work downtown. They are not renters visiting from other places. This train won't be used by our renters and it will likely deter future renters.
I am concerned that more crime will be around the station. For example, more people will be around to follow cars into the parkade and break in.
I am a resident and I have invested in a few units in Waterfront. I am worried about the crime and deviant characters that will come with the train. With the added noise as well It will take away from the peaceful environment and drive down the value.
We are over 65. We invested in properties at Waterfront for our retirement. We count on the rental income from our investment - what will happen to us if we can't get renters now.
What will the impact on Edmonton Trail look like with Centre St down to two lanes? I worry about traffic cutting through our neighbourhood and my kids walk to Stanley Jones Elementary 8th Ave is also already getting very busy.
How high will the station be @ 2nd Ave SW / adjacent condos - what will their view be.
Need data on noise & vibration (decibel level)
Are you looking at Station design in Tokyo? <Stations stacked and Stop @the same place>
Concerned about noise at Waterfront Condos.
Traffic congestion on Centre St. and 2nd ST AREA
PARKING @ SURFACE SECTION IN EAU CLAIR
SUFFICIENT CAPACITY FOR 7 AVE STATION

Process Challenges: - Greenline team has arbitrary limitations that needs to be challenged. Why can't they engage with industry to gauge cost tolerances. Why can't they go back to the Fed & Prov levels to obtain more funding to do a proper tunnel.
I work at CH HS a good portion of the kids get bussed in from N of 64th - Those kids are already late! This alignment will also impact the school and the community. It seems that the GIL team and Council are not taking into consideration these impacts.
-> If it goes in as planned, concerns about loss of property value - present and future - options that seems that Council doesn't care - esp about the 100 ppl impacted by this alignment.
I just wanted to retire and now I don't think I can! <due to decline in property value w/ GL>
RIDERSHIP IN 2nd ST AREA. MOST YOUNG PROFESSIONALS PREFERRED TO WALK TO DOWNTOWN - CURRENT OLDER RESIDENCE HAVE LIMITED USE OF LRT.
CREATE TRAFFIC JAM NEAR CHINATOWN CAN HURT CURRENT BUSINESS.
Bridge across river will impact the beautiful River.
Need real data to the noise & vibration impact to the properties in the surrounding areas.
illustrations of stations before location and real concerns determined. Concepts OK but then folks expectations are planted.
Neighbourhood safety concerns. ACAD and SAIT had female safety and person property problems once train station arrived.
Potential legal actions from property owners for compensation.
Bridge across island is a dumb idea. Let the island remain peaceful & attractive. Build tunnel
Concerns over littering & crime.
Need to consider traffic congestion/patterns on opening day and in the future.
Market value impacts (Waterfront) - crime - noise - vibration
Concern about loss of parking w/ adjacent Waterfront condos
Very windy at portal location. Consider this in design.
PRINCE ISLAND PARK WILL BE DESTROY
CHINATOWN WILL BE DESTROY
Potential class action against the City
Underground stations means turnstiles! Start charging for use of train D/T. Tax revenue opportunity
I like the portal turning into a public space.
Sky train approach (elevated above ground) cheaper -- keeps ground level accessible to locals & business
More people could be able to enjoy Prince's Island Park as the station would add accessibility
Connects people who live in the north part of downtown to transit more.
Any public transit into/out of downtown is great and our city needs more.
I live near 2nd St. downtown and would love a train station closer to my building.
BETTER SERVE EAST VILLAGE BY RELOCATING GREEN LINE FURTHER EAST. EASE RED & BLUE LINE CROWDING
Love the improve of pedestrian experience - this could really re-vitalize Eau Claire
Love having a train station near Eau Claire - needs to be revitalized anyway.
I like how it will clean up Centre St. <u>Must</u> have good lighting at night.
A tunnel to 16 Ave solves all issues
Having a station near 2nd St downtown will make PI park more accessible and could bring more business/ life to Eau Claire Market.
Placemaking / changing the context of the neighbourhood should be done thoughtfully
Opportunity to connect Eau Claire / Chinatown in a more thoughtful manner.
ADD PEDESTRIAN BRIDGES OVER CENTRE ST
SAFETY - drugs - crime - personal safety PARKING LIVEABILITY - BE TRUTHFUL & REALISTIC - MAKE LRT ELEVATED - cheaper, faster, safer
Consider elevated alignment along 9 Avenue to 2 or 3 Street Stn @ 2 - 4 ST W ground level
Downtown Alignment Should end at eau Claire, not cross until we can tunnel
I am living in the deep south at McKenzie Lake SE. We always go to the downtown area and Prince's Island. We love the environment at Prince's Island and this is the best place in Calgary. I disagree the

City build and overhead bridge at the Prince's Island. I would like the City to build the tunnel instead of the overhead bridge. I would like the City to consider to build the GreenLine LRT at 1st Street SE. If the City doesn't have the budget to build the underground tunnel, I hope that the City will build when they have the budget.
Design the 7th Ave station with as many exits as possible to enable maximum connectivity with Blue/Red line, local bldgs, +15 network & streets. Good Luck!
UNDERGROUND IS BETTER ESPECIALLY ON 2ND TOO MANY IMPACTS -> RESIDENTS -> ENVIRONMENT -> NOISE -> VIBRATION -> WILDLIFE -> PROTECT THE WETLANDS WAIT FOR THE MONEY MORE BUSES WOULD BE BETTER MUCH CHEAPER
LOTS OF UNDERGROUND PARKING TO WATCH FOR - CHANGE THE ALIGNMENT TO ACCOMMODATE TRAIN - IF SURFACE RUNNING DON'T PUT ON 2ND ST
IF YOU ONLY HAVE 50% OF TRACKS - WAIT UNTIL WHOLE BUDGET IS AVAILABLE TO DO ALL 46 KM - WHY NOT LOOK AT ELEVATED CHEAPER + DOESN'T IMPACT TRAFFIC THE SAME WAY BETTER FOR IMPACTS TO COMMUNITY JUST USE MORE BUSES FOR NOW
CENTRE STREET IS ALREADY PACKED - DOESN'T MAKE SENSE TO REDUCE CAPACITY ON CENTRE - NO STATION UNTIL 16TH
WAIT UNTIL THERE IS ENOUGH \$ TO DO FURTHER NORTH - IDEA IS GOOD BUT NEED TO BUILD FURTHER - CHANGE THE \$ FOR SOMETHING ELSE RIGHT NOW AFFORDABLE HOUSING WE DON'T NEED THIS (GREEN LINE) RIGHT NOW
GO ELEVATED ON 9 AVE S & TERMINATE BETWEEN 2 & 3 ST SW - DO NOT CROSS BOW RIVER - STATION C EAST END OF DOWNTOWN
UNDERGROUND MAKES BETTER SENSE
CONTROL TRAFFIC IN RESIDENTIAL AREAS!
MAINTAIN EXISTING BUS SERVICE IN CRESCENT HTS.
Having better access to public transport helps make living in Eau Claire so much better! Makes it easy to pop up to Safeway on 16th and Centre (there is no large grocery store near Eau Claire)
It is very exciting to see a potential revitalization of Eau Claire
Make the transfer from Green Line to Red / Blue Line easy downtown
Solution must be safe! Lots of crime near the train
For renters - love having access to train. Can easily get around and not have a costly expense of a car. Great feature of living on a river!

Beltline (In-person)

11 Ave station should be as Far West as Possible to better serve the high density of the Beltline. 1st Street SW Station?

"The current names for the two stations are bland & could easily be confusing. We already have a Centre St. Station AND a 4th St. Station! Give them more engaging, landmark-focused names.

Ex.) BELTLINE station, EVENT CENTRE/STAMPEDE Station

BONUS: Picture it: ""I was supposed to go to McKnight-Westwinds Station but went to McKnight Boulevard Station by accident""

Possibly consider continuin the tunnel under the Elbow. If possible to minimize the amount of disruption to the current river pathway - do we really want a forth! bridge uin such close proximity - There is more than enough. Focus on long term not short short term cost.

The proposed alignment appears to be a good compromise. The grade seperation of Macleod Trail will maintain ped/bike/veh movements.

Need pickup + drop off areas @ stations

Security of underground stations in relation to homeless populations

Access and impacts to tenants during constriction. Potential parking relocation

Green Line constion schedule - don't build at same time as event centre!

"Impacts to Guardian -> Condo board

More questions than anything at this time"

"Confusion about station names

Centre Street, 4th Street (these already exists)"

if you are tunnelling as much as planning through the beltline why not continue the tunnel under the Elbow one less bridge over the Elbow

Don't make the stations too deep

Concern re: road disruptions during construction

Concern about increase in anti-social element and decrease in safety with proximity to station

pavement on 16th Ave S.E between 5th & 6th needs repavement, It's a hazard

bus barn is a "design" barrier". Hardest place for vehicles to get too

12th Ave/6th S.E bus entrance creates a Q & left turn buses create a hazard for cyclists

potential future underground' there are endless benefits with either of the two previously identified locations

General concern about impact to Lewis Lofts

Concerned about how alignment decisions and considerations are communicated to impacted stakeholders (Lewis Lofts)

Make sure safety is considered in underground station design. Worried about social disorder.

Is Centre Street station really necessary given other stations in proximity?

How does it impact the event centre? Needs a buffer zone

Challenge of access to Inglewood/Ramsay for emergency vehicle

Challenges Lack of cycling infrastructure / on east side of Elbow River Pathway

bus traffic compounded with event traffic & creates challenging environment for pedestrians + cyclists

increased activity while building the green line

dust, construction noise -> What is that going to be like?

"Clenmon Square

-> psychological services

-> children very sensitive to sound

-> how can you limit the impact of construction in this sensitive area"

I would be able to use transit more often!

Pop-up stores (local vendors) in the station??

Connect the community

could the bus barn be used as something else?

Supporting multi-modal travel: safe connections for cyclists from existing infrastructure to station(s) and safe/covered/secure bike parking

4th SE Station: ensure underground access can cope with large crowds & is not too "cavernous" during quiet times

Underground connection between 4th Street Station + Event Centre

Are we going to integrate 4 St. Station with Events Centre.

Improvements needed to 12 St underpass for mulimodal experience + mobility, safety

undergroundstation is positive development

Consider location of 4th Street Station further east to better serve future development on Remington Lands,

"Why not elevated + 15 level?

Less visual impact? "

Please consider how people will travel from 4st SE station to the "Event Centre" and the library/NMC. Lots of room for improvement to pedestrian realm between these spots.

Multiple entrances to Centre St Station to manage pedestrian traffic.

Offerig better connection to Ramsay? Will this bridge be people + bike friendly?

Opportunity for 12 av to be 2-way during construction to help mediate traffic congestion

"Make the 4th street station appropriate for large events (stampede/concerts/hockey/etc.)

The current stampede statio is cramped. Erlton is better."

"Public Realm and integration of 4St Stn. With the community all year plus high capacity (large crowds) safe, livable"

Improve ped. safety along 11 ave SW/SE (1st SE, Macleod Tr)

Happier that it is on 11 AVE

Integrate the stations into a development/building

"Is there opportunity to extend freefare zone?

[response to above] (yes please)"

Having a station where it is at 4th Street is great. It makes for greak walkability to downtown

Concern over too much noise+vibration in tunnel + will hear/feel it at street level

" - Would be better to invest in parking for businesses. Would be easier to get investment if the focus was on business

- more economic development means more tax revenue, means more investment

- need incentive for people to invest in downtown

- right now, downtown doesn't feel vibrant

- City not working for Business

- Why not spend money for Green Line on development in downtown to encourage economic growth in the downtown. use money to subsidize busness owners. downtown is so costly. subsidizing business, subsidizing parking sopeople come downtown. if goal is bringing people downtown, economic development would bring people downtown.

- need things/attractions for Calgarians in the downtown.

-More than just Stephen Ave and riverwalk downtown

- need more tourism

- right now, downtown more for the homeless

- need better engagement with people nearby for public art

- Possible to move spider sculpture in front of Temple @ 5 ave/10 st SW"

Integrate stations with businesses and street scapes

130 Av to downtown bus on deerfoot with dedicated lane to serve the north - more cost efficient than GL

Great decision! Keep going and catch up with rest of the world! :)

Encourage more density in Victoria Park area.

Minimize construction impacts on traffic & pedestrian

Same buses less crowded because C-train [drawing labelled "Zoo Station" and "64 Ave", with curved arrow going from one to the other]

12th Ave is a better alignment then 11th Ave and could afford direct connection with the Red line Stampede Station if there was a McLeod Trail Station

I like the changes to the Beltline station

" - Not great access to this area currently via Bus, from North

- This new expansion would greatly help my commute

- I would become a daily rider"

" - It's great there will be more C train connections in the Beltline

- Beltline is a very walkable area, but the spots around the proposed stations are dead + empty. Hopefully with certainly (finally!) for the train, development + public realm improvements can be encouraged!"

Please focus on good public realm around stations in the Beltline. The stampede station is a bad example, cut off from the neighbourhood. The sunnyside station is a better example (but is still cut off)

4th Street SE station being move to at grade would save a lot of money especially since an under ground station would need to handle the volume of passengers from concerts, hockey and the Stampede

under ground stations which may not be very busy at certain times of day should be built with security in mind

Wouldn't it save more money to stop heavily subsidizing automotive - only infrastructure?

Stampede & Flames traffic - 8 St. closure already causing grief in Ramsay (eg. 8 Ave SE)

Better connectivity of Beltline community East Village, and Inglewood

Lack of transfer opportunity between the Greenline and Red line in the Beltline

Incorporating 17th Avenue and its businesses into this plan

Wouldn't it save more money to end the LRT near the Elbow River and use a bus circulator?

Connectivity with thru city!

Love the connectivity of the Beltline to LRT access!

Thank you for bringing the train to the Beltline!

Save some money by - Removing 5th St SE future underpass - moving 4th St Station east and at ground level - enters tunnel before 4th Street SE

IN FAVOUR OF BRT ALONG ENTIRE GREENLINE MORE STOPS. ABOVEGROUND VIBRANCY. MORE THAN TWO STOPS THROUGHOUT BELTLINE

I like that the beltline section doesn't conflict with traffic

Investigate Toronto Relief Line - Green needs more transfer station to minimize congestion

Live cameras at cyclist intersections. Too many run red's and almost cause accidents

DO NOT NEED A 9TH AVE STATION - AN LRT SHOULD NOT HAVE STOPS TO CLOSE

No need for such a long tunnel along 11th Ave S. Come up to surface after MacLeod. Surface is good.

Security (ie difficulties of Westbrook multiplied by beltline issue at present)

(1) USE EXISTING LRT DOWNTOWN (2) USE EXISTING LRT GOING SOUTH (3) USE MONEY TO BUILD LRT UP DEERFOOT TO AIRPORT (4) USE S LRT - ADD TRANSPORT TO FOOTHILLS INDUSTRIAL PARK

-Stop downtown, no at-grade on Center St. - Keep tunnel under river

I live between Centre & Ed Trail on 7th Ave. If there is no station between downtown & 16th Ave I WILL NEVER take the Green Line.

WHEN WILL CALGARY HAVE ZONE FARES? - USER PAY

TIE IN EAU CLAIRE STATION DIRECTLY INTO DEVELOPMENT - AVOID TIGHT LRT TURN ON BRIDGE (FOLLOW OLD ALIGNMENT)

CHOKING CENTER ST FROM TRAFFIC will create short cutting in community -> CUT & COVER to 20TH Ave -> WHAT IS THE COST DIFFERENCE

PED & CYCLE connections on new BRIDGE

Build Bridge but go under or over Center Street

- Will you have zone fares soon?

PROTECT VIABILITY OF BUSINESSES ON CENTRE ST - need parking and car access - Night & weekends - COST TOO MUCH FOR FAMILY - easier to take LRT TRANSIT Frequency NOT AS GOOD

Underground stations may attract more crime (similar to Westbrook)

Public Safety at crossings.

No easy access to Fort Calgary area

Does the CTRAIN use the Centre St. Road - and does this cut down on the lanes on Centre Str.

KEEP TIGERSTADT BLOCK as is. 8TH Ave & 9TH Ave

The tunnel on 11th ave between Macleod and the Bow River seems un-necessary. Why not above ground??

Why extend underground at 4th St Station? Who knows if or when development will occur there. If surface level for Centre St why not along 11th after Macleod. I don't buy the rationale.

- cut through traffic on/off centre street is already a significant

WHY DOES IT TAKE SO LONG TO GET LRT TO NORTH CALGARY?

- Very concerned about connectivity - put LRT under Center

Beltline - would like to see another stop along the Beltline - one more stop closer to Sheldon Chumir or shuttle bus from stations to Sheldon Chumir

Consider connections to Sheldon Shumir & other health Centres

-9TH AVE STATION WOULD BE A GREAT OPPORTUNITY

We need a stop before 16th.

A station on 9th Ave

A pathway can be part of the bridge

Just a chance to say my piece again: no need to tunnel under 11th Ave SE from 6th Street to 3rd => tunnel under McLeod Trail where it needs to go below => run at surface for 6th to approx 3rd St SE to save \$\$ => if a surface config is good enough for Centre St North it's good enough for 11th SE.

Design 5th St SE Station as a multi-level interchange (streetlevel & underground), with many exits/entrances for a wide range of directions - And the same applies to the 1st St SW station.

- LIKE THE opportunity to have more walking and cycling on the new bridge.

Like more bridges They improve access in and out of downtown

MAKE BELTLINE STATION AS CLOSE TO 1ST SN AS POSSIBLE - ACCESS AT 1ST SW IS CRITICAL

DO NOT TAKE ALL ROAD SPACE AWAY ON CENTE ST FOR TRAIN - GL IS IMPORTANT TO CITY

Provide advance notice for road closures - Business Support

Endstate is great but please do well for business coordination - Business Support

Make appointments to meet with businesses and coordinate.

Provide more walking & cycling connections to Prince's Island on new bridge

BETLINE '300 year corridor? (1) IN THE FLOOD PLAIN & therefore Above or What provision for "Flood"
(2) MUST ENSURE ENLIGHTENED RIVER 'CROSSING"

Beltline (Online)

I like it. 12 Ave did not make sense in the original plan; it was extra distance for no reason

This is a positive change as it serves the event centre and is not at grade

Have a integration with the Event Centre so visitors can have direct access to the building, and be protected from the elements.

Run this underground along 8th ave till 10th street so all of downtown gets serviced and then use 10th st as there is little traffic there

Doesn't having a portal right next to the Elbow create an issue during flood events? Portal should be pushed to just east of 5 Street.

Centre Street Station should be moved to between 1 St SE and MacLeod. Both are major transit corridors and makes transfers easier.

Good that the stations are underground. 4th Street is closer to the Stampede and future arena. Centre Street doesn't matter where it is.

Opportunity to integrate 4 St stn with future event centre if line moved underground to 12 Ave

Elevated through the Beltline similar to West LRT is less than 50% of the cost. Go into downtown at 3rd Street East to City Hall.

Would have been nice to have an underground station at 2nd Street SW by 10/11/12th Avenues.

Make sure Centre Street station entrances are oriented towards 1 Street SW, which is where the activity and CPR underpass are.

If the train goes on 11th there is ZERO need for a tunnel, put this above ground. An underground station is unsafe

Pleased to see route along 11th Avenue South and station locations as well as the reduction of expenses with shallower tunnel options.

North BRT Improvements (In-person)

For buses going north, buses have to have a delayed merge back into traffic at McKnight

For houses on Centre St. w/ driveways that go onto Centre St, exiting those may be challenging

A lot of people use Centre St. for street parking. Losing this parking may have short-term consequences - Parking plazas may need to be considered

Why bother? Use the \$100m for better train improvements

Traffic concern of new communities that will need to use Harvest Hill BLVD

How much would \$100m improve centre street, couldn't we use this for tother part of the project?

Dedicated bus ROW will present better time savings, as opposed to intergration with existing traffic

Please make it a true BRT wit h a dedicated lane. Transit should have priority over single occupant vehicles

Would see benefits to heated shelters for BRT

Could we use more of the architecture for arderitising at MAX stations for revenue generation

Would like Beddington TR bus trap to be opened up to all traffic

Feeling of being forced into lifestyle change with BRT/LRT. Won't be able to use car anymore.

"Good transit service on North BRT may mean that we don't need LRT in the area.

BRT can provide the same service at a lower cost"

Like the idea of BRT vs. LRT (le) Curitiba

BRT is a more sensible solution given our population and reduced downtown traffic volumes post-downturn

Gen CONCERN OF PROJECT COST OVERUNL

OPPORTUNITY TO PRIORITIZE INVESTMENT FOR 52 ST BUS CONNECTION

"Pedestrian realm needs emphasis

Pro public transit

Would it be possible to have SE BRT instead? Autonomous bus instead of train

Kurtiba - dedicated buses was a really good way to do it - autonomous buses more inexpensive"

"BRT is same speet LRT

Go BRT instead get rid of LRT

Better use of \$

Not efficient to get to c-train

BRT makes more sense

"

THERE ARE SO MANY ISSUES CAUSED BY SUB TERRAINIAN TRANSPORT. PEOPLE COMPLAIN ABOUT "VIBRATIONS" AND IT IS COSTLY TO MAINTIAN. Surface level - as it is shown - looks well integrated into the community. As a resident of crescent heights - I can see the potential of this increasing mobility for EAST / WEST Traffic and minimize the community being used a a thoroughfare.

I WOULD TAKE TRANSIT MORE IF THERE WAS A TRAIN. THE TRAINS ARE QUIET - much more so than the BUSES. THE current buses in use for regular lines and The BRT 301 line are VERY NOISY! CAN'T WAIT FOR THERE TO BE A SURFACE TRAIN ALONG CENTRE.

Usage for Crescent Heights?

Buses are a worse user experience - bumpier - more exposure to second hand smoke at shelters

LET'S NOT HAVE A REPEAT OF POOR DATA when estimating ridership ONE OF THE BRT LINES - MAX ORANGE - HAS BEEN OVERCAPACITY & HAS ONLY BEEN IN poertion since November 2018

When Centre Street becomes local traffic only the road will be able to support an increased urban canopy of trees - integrate the kind of canopy that the rest of the area has!

Cost - there are lovely BRTs in other cities and these are much cheaper

Keeps people on the street and above ground

EXCELLENT. GO FOR IT. CONSIDER Streetcar!!

BRT with dedicated bus lanes would help more individuals on transit more quickly.

So many people use transit north of downtown they shouldn't have to wait for the train to have service improved

Just take BRT downtown. Forget bridges & expensive infrastruture

-> Improving BRT in the North is a good idea. Better of couse would be the Train! -> Here is an opprotunity: just postpone the Green Line until it can go all the way to the Planned Terminus!

Why invest all this \$\$ to build a 16-block train system. Especially when the transit service b/w 16 Ave N and downtown is already very good to excellent? Where is the value? -> Better to start building the train from the North to 16 AVE!

The BRT seems to make more sense north of 16 Ave. Far more flexible than a fix track system. By using electric buses, for example, would reduce noise issues.

Has turning Centre Street and Edmonton Trail into one ways been considered as an option for traffic flow?

The BRT route is noisy! You can hear all the buses going by. Please let us have a quiet train. It will bring peace to the neighbourhood.

Dedicated lane for BRT in north would be helpful 16th into downtown - do this instead of train for now.

Max BRT makes more sense for north side - end at 2 Ave for train

Include art in BRT stops "museum on the go"

North BRT Improvements (Online)

The project is too much delay, unlike other project only 2 years completed. I think we have to get some one else to make this happen.

How about having a dedicated transit lane (or 2) on the south side of 5th Avenue and a bus-only turn signal at Centre Street?

Ideally Green Line should be starting from north. Instead of BRT improvements, use funds to buy property for right-of-way for the line.

Make an easy interconnect (tunnels?) at Center and 16th to make it easy to transfer to 16th Ave BRT from the Green Line.

17th Ave SE was built for less than \$100 million and includes about 5km of separated lanes. This should be the Centre St design standard.

Take lanes away from traffic at all times of day, and in both directions to accomodate a faster and more reliable BRT service.

Looks great, please get this to the airport

North BRT allows for faster transit access to downtown from northern communities and potentially fewer vehicles on Centre Street

This will move us toward rapid bus lines = MAX (instead of the split btwn routes 300/301/302 being half-BRT and MAX routes being actual BRT)

This plan gives the North better rapid transit while waiting on funding for the Green Line. Not ideal, but helpful.

GreenLine planned route should include access to airport!! An opportunity to reduce travel time and carbon footprint. Replace BRT300!

A temporary plan only. The real benefit comes when the green line is extended north. At least they're thinking about north BRT.

Make the stations beautiful and have real time update screens like they do with the Max system.

Fears that Council will be content with the North MAX, and will delay developments for the Green Line north extension.

Priority needs to be on getting funding to build North of 16th Avenue up to 96th Avenue. Goal should be to get this built by December 2030.

Ensure that the route has dedicated stopping and passing lanes throughout the downtown (see 15/16 Streets in Denver).

Create Express bus routes for communities in North Central Calgary, that go directly from places that people live to where people work.

BRT absolutely needs to include dedicated lanes for buses that don't mix with other traffic during rush hour. Can't call it BRT otherwise.

Dedicated lanes for BRT route from 96th to 16th.

Make the North leg a priority. Council seems to forget the north when temporary solutions are made permanent.

Other Comments (Online)

Why does the S.E. part of the line have to wait for construction while you decide the downtown and North we the route from 4th street SE to the south so why start it and wouldn't have as much to do when the north route is ready

Make Green line and Red line a circle route from Sommerset to Seton - scrap low floor cars they can't be used on any other line - stagger the platforms - no center platforms - for the North - a switch near Zoo - west side of CPR tracks- north to 32 Ave - follow 32 ave - cut & cover through parkland - portal north of McKnight - downtown - on 7th Ave elevate the tracks using pedestals as done in Vancouver - how many riders from area south of 32nd Ave will use LRT - justify that with congestion.

Just build the underground station at Eau Claire from South and once you have the fund you can finish the north line. Do it right and do it underground through the bow river.

I'm curious about whether there's actually enough space on Centre St to have an LRT, two lanes of traffic and wide, pedestrian friendly sidewalks. Would be helpful to have dimensions available to confirm.

"What is the effect of reducing road capacity by 50 % (if not more due to limited movements allowed by the train) on center street to other Bow river crossing points into downtown?

10th street, 14th street, 4th ave flyover, 4th street... Lets say you are reducing capacity by 16 percent... is the train going to offset all of that?"

Would it be feasible to use a streetcar model on Centre Street and more congested or space-limited streets where the trains would share a vehicle lane?

Who had the awful idea to turn C street into a one lane north south? Do they even live in Calgary? I have seen high school students with a brain bigger than the constant that came up with this idea.

You maximize throughput to downtown by having multiple independent options. NOT by forcing one solution. Train down? great you can drive or take the bus. Weather bad? Great take the train going underground independent of weather. Not a lot of traffic feel free to drive. The company coming up with this idea should be fired and replaced by another who has half a brain.

At grade Centre street who designed this? Sounds like something a first year engineer who went on a trip to Europe and thought Wow If we Copled ThiS wE wOuld Be a WoRLd ClaSS citY. Instead of someone who actually thought through the implications of their actions. Fire the design team immediately.

Going from 4 lanes to 2 lanes is the dumbest idea I HAVE EVER HEARD. People that take transit downtown live in Pano/Huntington/Beddington/ country hills. The project will not reach them for 10-15 years why would you make traffic awful for that long a period of time. Not well thought out at all.

Bridge used should be absolutely minimal. A big cable bridge would look unnatural and ugly. Trestle bridge seems to have the least impact

Only options that create a 2 lane road from a 4 way? Are you people smoking crack or something? C street is a nightmare during rush hour with three lane reversal. Those people are not just going to magically drive to 16th drop off their car and take transit. Not thought through at all.

Reduce vehicle traffic on Centre street what? NO. If this is done major traffic issues will be created for the next 15 years until the project reaches places with actual transit ridership. I do not support any of these options for north on centre street.

What? reducing traffic lanes will only push traffic onto other streets that are not built for that type of density. I do not support any options running the LRT at grade on centre street,

No one wants centre street to be a pedestrian experience. It was always meant to be a road that gets the most people into and out of downtown. Trying to force the road into something it is not is not going to make people want to go there.

Who would think wow I want to go to centre street to sit next to a train, and sip a coffee? I sure wouldnt. That is what east village is for.

Just because traffic is lower now do the downturn does not mean it will stay low forever. I remember in 2006/2007 when the road was full of cars, AND busses running at max capacity. At grade does not account for this.

You will not stop people from driving to downtown. All this will accomplish is to push traffic onto other roads not meant to handle it. That will make those roads unsafe. Edmonton trail should be the pedestrian experience, not centre street

Any option that removes three lane reversal in unacceptable.

It seems like the project team is only taking the suggestions that they want to hear.

Cut and cover tunnel under centre street is a much better option than running at grade. More space for pedestrians, and more for people getting on off the train.

On what planet is having one day northbound a good idea? Bus break down no traffic for an hour while the bus has to get towed.

Very concerned what would happen if a flood hit the downtown again. Needs a system in place that would block off the water from entering the tunnel.

If your goal is to maximize reliability you want to keep the transit independent. If an accident occurred on the road/transit right of way it would create a system prone to random events making the system easily unreliable.

If you want to maximize reliability you should have an LRT independent of the bus/traffic routes. If they use the same rights of way this would make accidents have a much larger impact on the services than if they were independent.

I think you are making a big mistake north of the new LRT bridge. This will mean backups every rush hour, both from trains crossing 16th at grade and from creating a 1-lane bottleneck along Centre between 16th and the Centre St bridge. I thought eliminating the tunnel under the Bow and the deep stations would save enough money that we could keep some of the other aspects of the 2017 plan, like a tunnel under Centre??

This proposal is ridiculous and smacks of incompetence. 4 lanes to 2 on Centre? Reducing or halting left-turn capabilities on Centre? This is the best you can do? This plan destroys my neighbourhood and gives it no benefits. I'll bet you can't find two people in Crescent who'd approve of this cluster. Why not go underground at 16th, daylight on the hillside immediately west of Centre Bridge and build train bridge next to it? Do it right or don't do it at all - the latter my preference!

Centre St is very congested even during the lane reversal when there are three inbound/outbound lanes. It's a main artery for the North Central. Building an LRT isn't going to take that many cars off the road to allow for reduction of lanes; a BRT already exist for those who take transit. Can we not explore elevating the tracks, wouldn't this be less costly than tunneling it? If the tracks must be at grade, can we explore alternate routes, like 2 ST or 4 ST NW.

"You are deliberately confusing people. Who (%) will ride the train to go SHOPPING along Centre Street

If the tunnel is eight floors underground then WHY must it be just on road right of way. The only thing that deep is the City Hall parking.

WHY no WINTER illustrations? It is HALF the year.

from discussions with your team NO ONE has any actual train track operating experience.

Skip stops IMPOSSIBLE . Buses cannot be in same right of way ? 7ave has it."

Do not let overzealous NIMBYs deter you from the Green Line - this is fantastic and will help open up new mobility options for thousands of Calgarians today, and in the future. Your team is doing fantastic work, and I am excited at what the future brings along Centre Street!

This really disturbs me. This was the one saving grace for me with this city leadership as I expected they would maintain the river tunnel option. There was a reason why it was the best option and why other cities opt for more grade separation; it's always worth the cost and makes a better transit system that have better ridership and in this case it has to be tunnel as other options are damaging to the city environment. Vancouver, Toronto, and Edmonton all have more underground sections than us

The entire north portion is a terrible idea from Centre St through Eau Claire. Build it South. Don't ruin the park and homes and the market with no plan. We still don't have a plan for Jaipur Bridge!! This is an absolute disgrace to our City.

This pains me to see the city yet again taking the cheap way out. This will ruin the community of Eau Claire, it will ruin the River Walk and Prince's Island. The train service will be slower which it is already too

slow on the other lines compared to grade separated systems and the noise will ruin what is right now one of the nicest communities and parks the city has to offer. Realize that there was a reason the vastly more expensive option was opted for in the first place.

"Will any bridge option last longer than the Jaipur Bridge 52 yr life?

Is tunnel maintenance less than bridge maintenance.

Would LNG driven (future Hydrogen) locomotion cost less capital and less operating cost?

LNG trains could travel on existing rail to Inuvik I suspect!

Why use NG generated electricity instead of using it directly?"

if funds are not there to tunnel under the river right now, wait until they are. terminate the line at Eau Claire (underground) rather than ruining communities and screwing over traffic flow up centre street. Use your common sense and do it right the first time so you don't screw over future generations.

This new proposal looks awesome! I am excited for the construction start and to purchase the ticket to take a ride from 16 Ave N to Seton :).

take it underground find the money as i will never support building a massive bridge right through princes island park . Its stunning to me that you are even considering running surface up centre street , unless of course you own property along the route . just look at the 69 street alignment issues.and the cities former mayor.

When the line is extended past 16 Avenue N, ensure that it is buried underneath 16th Avenue since currently, that intersection is a disaster for traffic going through 16th Avenue during rush hour. Ideally with LRT, there should be less traffic going on Centre Street, so the light sequence could be more catered to 16th Ave traffic. But it's neglected if the train crosses it at grade. Too major of a intersection for it to be an at-grade crossing.

no to bridge over park and no to grade level trains on 2nd St.

Love how it needs to be underground through undeveloped east village but above ground through highly developed center street.

Can you please show the rendering of the bridge to include the nearby buildings and wetlands? It seems misleading, making comparisons of photos without showing the full span of the bridge, and only the mid section.

Centre Street is a critical artery for vehicles accessing downtown. Putting the train on surface in the middle of an important access corridor for vehicles is short sighted. The train will not replace the volume of vehicles commuting into the core on Centre Street, traffic will be horrendous for commuters. Putting the train underground to 16th ave north, like originally planned is the only reasonable solution. If the city can't build this project as originally designed, they need to postpone it.

Please consider making the bridge crossing the Bow River a public art by installing LED lights to blend in with the skylines in the background. For example The SF Oakland bridge creates interesting light displays at night.

Is it too late to reroute from 16th and Centre over to SAIT or Lion's Gate? Then just use existing stations & infrastructure through downtown and branch off from Central Library. Skip the whole river crossing and underground downtown issue completely and save some money. Would only add five or six extra stops for transit users to get to east end of downtown and would make SAIT and Northhill more accessible.

Need to walk on Edmonton Trail and 16 Ave to access max orange, future green line. To make transit accessible for all, these surrounding areas need to be safe for pedestrians. Currently focus is on cars, gas stations, building new gas stations, drive-in, fast food and autoshops. Traffic runs right next to the sidewalk. I will not walk on these streets with my small children, which limits which transit we can access. For diverse ages to use these transit options, make it safe to get there.

The at grade option on Centre St. N will have significant negative affects on a major vehicle route to downtown. It no longer is a viable option. The communities were consulted long ago and preferred resoundingly the underground option. If it can't be built then a new route must be examined. The future severe traffic congestion along Centre St is not being considered enough. It will be horrible. Edm Tr will also suffer. I am pro transit, but do it right or not at. Underground or elevated.

"Given the cost of this project skyrocketing and the current financial constraints for this city, the project should be shelved. Instead, build up a sinking fund reserve each year for the next 5 years and revisit idea then.

The new proposal to skip tunneling would create chaos in the neighborhoods as drivers look to alternate routes.

And a BIG NO to 9th Ave stop. If you need an additional stop, please between 10th & 11th where commercial zone exists.

In summary, cancel project for now."

Northbound Centre St portion needs to go underground and resurface north of 16 Ave to accommodate weekend vehicle traffic. Many of the shoppers and diners in that area are like my family: larger, multi-gen families who travel together to eat at the restaurants and cafes as well as grocery shop.

Please say No and stop build the bridge over the park

It makes far more sense to keep the line underground. Above ground will have too great an impact on residents of condominium buildings in Eau Claire along 2nd Street SW not to mention the environmental impact on Prince's Island Park. Build it when funding is available to complete the best solution. Haven't we learned from the issues of having built the Red/Blue line above ground along 7th Avenue? One death was too many!!!!

This bridge can be great, we need to put swings and other things below the bridge in the park

Do it right and wait until you have the money to go under the river at Centre street. Use buses until then. Build a bridge only if you can do so without harming Princess Island Park, greenspaces or bluffs and without ruining the city skyline. The 4th street flyover is a really good example of what not to do. The entire structure an ugly cement monstrosity with bases that are derelict without landscaping/beautification. As it will be around for a long time do it right, don't just settle.

"Like the engagement process and the number of people available to answer questions. I am in favour of transit development and think we should maximize what can be accomplished with the dollars available. I like both the south and north routes and the street level stations and routes. I believe that the development on Centre Street will result in a quieter more pedestrian friendly corridor. I am in favour of a 9th Ave. station

I would like to see greater development of BRT routes to the airport."

I applaud those who sacrificed their Sunday to appear at today's Crescent Heights open house.

9th Ave station must not interfere with Tigerstadt Block, think of long term social ROI and make Crescent Heights a destination.

Thank you for doing the hard work of public engagement! My suggestion is to get more subject matter experts on IG video, YouTube, etc. explaining in more depth areas of concern. For example, get a biologist to explain mitigation of impacts to Prince's Island wetlands and a traffic engineer to explain thinking behind the plan for left turns on Centre St.

Recognizing the challenges of the underground alignment and some opportunities switching to a bridge alignment, I am very concerned about the significant risks to the function and vitality of the public realm, as well as to residents, along the Riverfront. Given the train should increase overall transportation capacity on Centre Street, I am less concerned about this impact, but do support improvements that benefit people and business along the corridor.

"No bridge over wetlands. No habitat destruction. No Above grade station at 2nd street sw. Place on east side or underground as per original plan. Can't afford? Then wait.

Street level train on centre street will kill businesses. Have underground train and street level train stations!"

I live in the community and I do NOT want to see an at grade LRT it is a poor decision.

I have big concerns that the project team is taking data they want to see, and or falsifying data to guide the project to what they want to see instead of actually listening to the people living there. I am fairly certain the people they claim want to see it are creating astroturfed material to fit their narrative.

You can have a streetscape while not having a train why the focus on a train to bring the streetscape alive is beyond me. Look at any road in new york they all have streets with 4, 5, 6 lane traffic.

Why are you prioritizing the few people that live their over the many, many, many more people that pass through the area short sighted design.

Would prefer speed limits to be raised up to 60km/h so transit could be better used.

As a resident of present heights I would much prefer a cut and cover tunnel on centre street over the existing project.

Why are we trying to be like every other city? Copying other cities bad ideas is not a recipe for success. Thoroughly thinking through our own problems is much better. After careful thought I believe at grade LRT in centre street is an awful idea.

"Green line feed back -

1. Move bus stop on 16 ave and center nw to end of 15 ave. I Always miss the bus waiting (19/max) waiting for the lights. And 16 ave lights take a long time to turn. By the time lights turn I miss the bus every time.

2. Please consider the line to 28 ave

3. If you don't, please don't running express bus to downtown, otherwise trip planning will be 28 ave to 16 wait and then downtown. It will be worst than now. After spending all that \$ things will be worst. thx"

Prince's Island should be sacred. It's used by local residents, 100K office workers, all Calgarians and tourists to relax and destress. Think about people's mental health. This city has lost touch with it's constituents. It will do significant harm to local businesses along Centre Street.

Doing it right should be priority. Used to think UG was best, but surface alignment offers AMAZING opportunity to have side running STN at 9th Ave N. love it! being able to enjoy outdoors, taking in sunny skies, fresh air, warm or cold, where I can easily be seen (safety), have a chance to pop into a store, rather than slugging my way down under and waiting for a train underground. The buses are noisy. I hear them all day from my work (on Centre). BRT is such a nuisance. I live work & play in CH.

"How about having a better WIFI connection on c trains like for example the WIFI in Toronto is so much better than this Shaw go Open really sucks, how about building above ground or tunnel on Centre Street North because to protect the c train cars and vehicles from crashing into each other

The design of the Bow River bridge should be simple (Constant depth viaduct). Don't make it an eyesore and think of the maintenance (bird feces, graffiti, ect). Think of our weather (winds, rain, hail, snow). Think of the park/greenspace and the wildlife that would be impacted. Please make this a Calgary Project and do not bring in expensive designers/architects. We are in a recession and people have lost jobs. Hire them.

The removal of Centre St into and out of the downtown core is a major drawback to this proposal, the impacts to traffic, Businesses, side street traffic off of center and the ability to get emergency vehicles in and out of downtown at peak hours are all significant deterrents. This project should be placed on hold until funding is available to build it right the first time. The BRT should be used as our future default, up to the point all levels of government can fund this project.

"The 2017 approved alignment is a superior option.

The updated alignment will partition one of downtown's only green spaces. The partitioned corner of the island will reduce the usable park space, be a visual blemish on the park, increase noise, and create a segregated corner of the park that will inevitably attract needle users looking for an isolated public area.

There is a reason 3 of 4 lanes are used in rushhour to facilitate traffic in/out of downtown along Centre St. This is a vital road"

It's a great idea to expand our public transit system to communities in the North and give another way to travel downtown without driving and looking for parking. Coming from a modern city, Hong Kong, I am glad to see Calgary is evolving and catching up with easier public transit for residents and tourists to travel around easily though with the cold weather in Calgary, having the public transit underground would be much better and if money is a problem, start construction from the area in need!

Tunneling under Centre street would be the ideal alignment, transitioning where Crescent Rd NW and Centre A St NW intersect, and well worth the money in my opinion. But keep bridge over the Bow river (preferably the cable bridge to minimize the impact at ground level in the park / along paths). Adds to the city skyline, and has a minimal foot print. Pedestrian access on the bridge is not needed as you can already pass through park and cross over the bow on Centre st.

no bridge and above ground station on 2nd ave sw, the damage on environment of the park is irreplaceable, and drastically decrease the quality and value of downtown property, hence, DECREASE City's revenue from the property tax. Do NOT build the green line until we have funding for it. or reconnect the line to Bridgeland station, it's cheaper. Don't destroy the park without proper consultation and study of the unintended consequences of decrease of property value in 2nd AVE SW. Keep it underground

how can the city do this to residents around eau claire? it's NOT a win win situation, damage property value, decrease tax revenue to the city especially time like this. Wait til we have fund, or move it to 1Street SE or move east. it's too expensive . need to rethink the overall planning in eau claire area. it took so long to revitalize from the 80's now the city is going to destroy it.

"A clear plan on how the line would be extended north including maintaining the pedestrian realm design up to 50 Av N. Provide pedestrian crossing at every 2nd street.

This needs a clear traffic mitigation plan to avoid commuters using residential streets to get to Edmonton Trail from 4th and Centre Street north of 16th and vice versa.

Future expansion needs to now accommodate longer travel times. The communities of Tuxedo Park and Highland Park shouldn't face a highspeed train dividing."

Green Line should include access to airport. Don't miss this opportunity to reduce travel time for citizens of Calgary - I'm a local and I have been taking the 305 but it's a real pain especially in winter the logistics are a bit harsh, and it's time consuming (allow 1.25 hour from downtown, compare to 20 minutes via cab/driving). PLEASE consider it.

Build the BRT line. NOT the LRT line north of the river. My taxes are too high.

You have 500 characters left.

"The money would be better spent extending the south leg to the hospital where it would be more useful. Build the north leg when times are better and the city can put in underground or above ground where it would not disrupt the traffic flow. Cutting off two lanes of traffic rids the r

Lane reversals, putting more traffic on 10 st, 14 st and Edmonton tr (which is down to two lanes on the weekend due to allowed parking. You cut the community in half. No access to cross Centre St at any corner."

500 character limit? This tells me the City really does not want our feed back. This is not a "Need" (especially in Calgary's current economy, we are in a recession) This is someone's "Wish". Plus if you build this, are we ready for a 50% to 100% Cost Overrun!! If you are determined to build this go underground, wait for the economy to improve, and carry a huge contingency in the budget.

the world needs more public transport.

Hi there, please consider having three lanes, one for each north/south lane and middle lane for reversal during rush hour. the tracks could run curb side to make it easier for people to enter and exit train, as they would be on side walk. I also think the city would be better suited to adding more trees and shrubs not extra tables/sitting areas etc. thanks

"I'd really like to see the viability of a bridge over the Bow, into the side of the hill. Then continue the climb underground to a shallow cut and cover line, with the trains staying underground until north of 16 AVE. This would alleviate a lot of the traffic concerns and seems like a less risky proposition of a deep bore tunnel under the river.

PS. Please don't pick an ugly bridge for the river valley. That arch is dreadfully mis-proportioned and the viaduct screams soviet austerity."

Other Comments (In-person)

"Challenge

- train's going to be too slow"

"Opportunity

- Have Green line join Red/Blue line on 7th, either near Cvity Hall, or closer to 49t. In east Village

- go east on Blue line to nose creek, up to 64, back to Centre"

"Concerned Citizen's LRT Proposal

I propose the following regarding the new LRT:

1. A bridge over the Bow river will be much cheaper than the proposed tunnel. The 1.95 billion (probably closer to 3 billion now) for the tunnel will be greatly reduced for a surface route.

2. To create a connection for all three lines there are 2 options:

a) A connection for all three train lines at the City Hall station with both North and Southeast legs of the Green line as a Terminal.

b) A station east of 3rd Street for Blue and the terminated Green-North and Green-Southeast lines. The Blue line will function as a shuttle between the Red and Green Lines at the 7th Avenue stations

Note: In both cases the Green line will be split at 4th street with the Green lines on the outside of the existing Blue line as far away as possible, to accommodate room for platforms. (The tracks of Green have to have a position-swapping possibility before splitting.)

3. The difference between the platform levels of the Red/Blue and Green will be alleviated by raising Green 0.5 metre to meet the existing platform OR by lowering R/B by 0/25 metre and raising Green by 0/25 metre west of 3rd Street or West of 4th street in the 2b example.

4. All 4 sets of tracks will run along 7th Avenue. At 4th Street the Green will split and join depending on direction.

5. Both Blue and Green-N will use the existing bridge.

6. Green-N will veer north before or after the Zoo station and follow the CNR line to 64th Avenue where it will go west to join up with Centre Street N. To the north the street is wide enough to accommodate both car and 'streetcar' comfortably.

7. LRT is superior to a streetcar because it supports many people over long distances at fast speed. LRT speed decreases the number of units needed, compared to streetcar. For example, LRT the stretch along the CNR line will be covered in ca. 5 minutes by LRT travelling at 80 km/hr.

8. Centre street is well serviced by the existing bus lines. Adding a streetcar will make it even more congested and will not increase speed of travel.

9. The Green-SE will follow 4th Street to the south, east along 10th Avenue to a new bridge over the Elbow River, along the CPR tracks, to the previously planned south-eastern route.

[comment includes hand-drawn diagram]

"

"Get people (local) together to create system with vision like:

- 1/2 price operatopms
- tunnel faster/cheaper
- 1/2 cost of taxi for riders
- twice as fast

Needs to be either above or below ground

Property developers to invest it station integration + give developers density
could give only 1/2 parking"

"We have all the right tech people to create our own system -> would create jobs

Modern cities - saying subways make more sense - cost of land, weather

Washington DC - underground system"

"Change list from what was promised

Budget numbers keep changing

Why does it keep going up

Las Vegas convention centre - went faster + cheaper \$10m US/mile - 28foot diameter

these tunnels - North/South emergency"

"Subway makes more sense + should go all the way to airport + go to Airdrie

Could go Airdrie to downtown in 15 min

Catchment area for employees"

"Tunnel out to Cochrane + to Banff

Airport to Banff in under 1 hour (200km/hour)

Could build out stoney

Makodia lands

Just like Whistler"

"Low floor LRV not interchangeable with system

Red Line + Green Line circular route

Somerset - Seton

Tuscany North"

"Tunnel could work with autonomous cars

pay for premium"

"Centre Street to Stampede Station will be a wave of discontent - Violence in the area

Too close to Inn from the Cold, Mustard Seed, Alpha House -> difficult area, will be tough to keep it safe"

"The more people who use transit the better

More critical to get it properly built - Bridge is acceptable

Need to commit & build bridge correctly

Consider M.U.P. for bridge

Bike friendly opps needed to make it better"

"Concern about flood at portal and 2nd street

Free fare zone expansion into beltline + to 2nd ave

Long stretch of no stops on centre

more access to free transit - might help encourage use

keep in mind cycle tracks"

I note that you indicate that from a financial perspective you could either build from 2Ave to 16 AveN or stop at 2 Ave and extend the SE LRT down to McKenzie Town. I strongly suggest you do the latter because it will get the train close to a much larger population in the SE. In addition it will allow flexibility on in future options for the North line both in terms of technology and possibly alignment. Given that you are retaining the current Centre Street BRT running into 6 Ave in DT, feel is the right way to do I do not believe you would get more ridership on LRT from 16 Ave - 2 Ave than you could add from the better service you would provide in the South. The key to a successful LRT line is to get it out as far as possible to the residential development - most of [?] are located south of Shepard. If you would like to discuss further give me a call at [removed]. Thanks for Listening. Richard Parker

"The Green Line

It is time to seriously reconsider this whole project - what is proposed is too complicated - too costly - with no assurances of zero cost overruns - and who knows what the transit needs will be when this is completed.

Proposed downtown routes

To tunnel underground in downtown Calgary could be plagued with underground streams, unknown soil structures and potential building structure faults and failures. No one knows the soil structures at the

depth being planned and the potential problems that could be encountered during construction and during the lifetime of the tunnel.

Another problem with both portals of the downtown tunnel, particularly the one on Second Street, is the probability of river flooding. Flood water could do a lot of structural damage to the tunnel and the infrastructure. The cost to repair that damage could be difficult to determine at this point.

The track grade from the portal on Second Street to near the top of the hill on Centre Street will be very steep. I perceive it to be greater than what any railway would build. Where the trains exit from the Second Street portal there will be a steep grade of track - exposed to the elements that the trains will have to navigate. Imagine a train with steel wheels on steel track trying to go up or down a cold, wet or snowy track? Scary!! I would not want to be the operator or put the safety of passengers at risk.

How many people from the area south of 32 Avenue to the river are going to be making use of the LRT and will that number of trips be justified by the revenue compared to the cost of building and maintaining that section of track.

The concept of using lower level cars that are not compatible with the rest of the system must be the brain fart of someone who thinks more people would use the LRT if access to the cars was lower. The low level cars cannot be used on any other line! The restrictive use of the two models should dictate that only one should be used. The argument that the high level cars are not manufactured any more is nonsense. Place the order, the manufacturer will build it.

In order to lessen the impact on the area the stations occupy, why not offset the stations so that they are not across from one another? The result would be a narrower right of way. The platforms could be narrower with the exception of high volume stations.

My Solution

Make the Red Line and the Green Line a circular route using the same model of car. The Somerset - Tuscan (Red) line is already functioning well - extend the Somerset line further south to Legacy and over to Seton and back north on the route being planned - it can run through downtown and north to Tuscan. A circuit route - no tunnels - less cost and earlier completion date.

This way if riders want to go from south east to south west or the opposite way they can do so without going all the way downtown. I believe plans were in place for the Green line to stop at the Hospital. Why should someone from anywhere in the South West have to go all the way downtown and back out to the South East? Are you not building this line for the benefit of potential customers?

For those going south from downtown, every second train would go their way - no different for those going from downtown and selecting the Red line or the Blue line.

The North Section

A concept for the north - from downtown - a switch on the blue line near the Zoo and go north along the west side of the CPR right of way to a point immediately south of 32 Avenue North East - follow 32 Avenue on the south side - follow the Nose Hill Creek - cross over 32 Avenue and then cross Edmonton Trail at a point just north of 41 Avenue.

There is a park area that could be utilized as a transit corridor - either at grade or a cut and cover tunnel. I believe the local residents would favour a cut and cover tunnel in order that there would be less noise and the beauty of the area would be preserved.

The tracks could enter Centre Street just south of Laycock Drive. By using a cut and cover tunnel, the portal could be in the middle of Centre Street or the tunnel could extend north of McKnight Boulevard.

.l r

From this point the route could continue north as planned. Again, how many people from the area south of 32 Avenue to the river are going to be making use of the LRT and will that number of trips be justified by the revenue compared to the cost of building and maintaining that section of track. The disruption to the businesses along Centre Street caused by construction and upon completion, the traffic bottleneck that will develop will lead to a lot of frustration and inconvenience.

Leave the section of Centre Street from 44 Avenue South to the Bow River as it is and service that area with a good bus service. The roadway is not wide enough to run two tracks down the middle.

One of the drawbacks of this proposal would be the number of trains running on Seventh Avenue. Instead of going down, why not go up? In Vancouver and many other places, elevated tracks have proven to be the answer to ground level congestion. The upright supports could be near the curb and track level could be at the plus 15 height. The Plus 15 structures could be raised or incorporated with the track level. The upper level track stations could be serviced by escalators or elevators for the handicapped.

Al Moody - 243 Millcrest Way S,W. 403-256-8738 almoody@nucleus.com"

Explain updated Stage 1 legend for BRT

What's been done for noise analysis for surface running?

"Clarity on who regulates what

federal/provincial/municipal? What is DRO [?] vs AB wetlands etc?"

Share the assumptions behind the ridership models to help understand the why

visibility on sign from groups like EMS, fire, police, that they can still do what they need with alignment

share the costs for bringing it back to the original alignment

It is not beyond the Fed+Provincial partners to provide more money. Ask for the money now to do this right.

Criteria should be ordered in priority but also share rankings being considered in comparison

be transparent on the tradeoffs what else is changing besides alignment

information needs to be shared on rationale for options rejected - eg no capacity at city hall

Calgary needs it

At first I thought it was a bad idea but now I think it's a good idea

good to go through Chinatown -> will make it easy to get here

Concern that MSF is being built too large not opening day

need more consultation

retail along the line won't make it -> Lack of parking -> will get worse because it will only be 1 lane

don't want to just build it north of downtown to just make it look like we'll serve the north side?

people won't drive all the way to 16 ave -> won't serve the north side well -> doesn't make sense to build to 16 Ave in a bad economy

Stopping @ 16 Ave doesn't help anyone -> either build whole thing or wait until you have the budget to do it right (don't cross downtown)

consultation -> seems like public input not incorporated before decision was made

Now the economy is no good, properties decline in value, oil low price and many people lost their job, every body is worried about the economy. At this time if the City is going to build the Green line LRT, I think this is not the time.

A lot of people looking for jobs overseas. A lot of young people will not be able to get a job; why don't the city think of other projects to create jobs.

And also the city can do something to keep real estate's value

We should wait until the economy is better, then the city start to build the Green line LRT!

good idea in general

Consideration of impacts on private interests. How do changes impact stakeholders who have invested in earlier approved alignment

Is there any way to measure social + economic impacts?

Concern that it does not get to the airport.

was hard to find information about open house on the engage site

new SW bus routes are inefficient -> too many bus connections (used to be 5 minutes, now 45 minutes)

Max yellow doesn't have a lot of ridership, seems like a waste of \$

have complained to City Councillor about other issues and nothing happened, expect voicing concerns to council won't make any difference

I feel like consultation is just for show - councillors have made up their minds

Why not take the train along CPR line with no stops from 64th to downtown. It would be much faster. If it got people to 9th Ave you could then connect it to being close to the red + blue line

The City should stop building these far out communities. It forces all money to be spent on infrastructure that the inner city pays for. If building there, transit should be built first there (required) so we can help people get around faster, and cheaper long-term

You could have BRT go from 130th to downtown with no stops. Get people downtown fast and spend less on infrastructure. They could have dedicated lanes and only run during peak hours.

The visual impact to Eau Claire for train crossing Prince Island beyond repair.

To spend money only while ridership will "low" due to downturn oil economy

Pedestrian safety, particularly with the cycling/scooter menace. Calgary is not a safe city for pedestrians. Please consider pedestrians for a change

I think this project is very suitable for Chinese Community. We welcome this project. Good idea. I think City of Calgary try very hard to build this Greenline (Building a bridge) over the Bow river

Good work!

VERY GOOD DESIGN AND CONVENIENT LOCATIONS

TO CONVINCE THE SCEPTICS. THIS IS NOT NICE, BUT MUST. (TO BUILD LRT)

"opportunity to enhance areas of city (centre street, 2nd Ave, Eau Claire Victoria Park to make more walkable, pleasanter spaces

prepare Calgary for future"

"Safety -> only possible with reduction of traffic on Centre Street.

(can Edmonton Trail 4th Street traffic be increased?)"

To create more BRT line to make people more convenient to go around. Suggested BRT routes [line drawing of a circle with intersecting lines showcasing routes]

Not easy for people to come to downtown. Parking is a big challenge

NO BRIDGE MUST BE UNDERGROUND LONG TERM IMPACTS

Properties values along Ctr. Street will increase

My friends + myself can travel from 16 Ave N. to Jack Singer Hall a lot comfortably, especially in cold weather.

- "Resist to change: for senior group or some . . .

"Environment group need to understand that birds + the likes will come back after things (construction) get settle down"

"Maintenance on bridge – Calgary Climate – Prevailing Westerley Winds – River fog – tracks – (iced) flooding

Cost of Tunnel vs Bridge – Cost differential between bridge prototypes presented
graffiti on pilelongs.

Noise over the park – Shakespeare in the park (festivals are noisy but just for 1 or 2 days)

- Taking away a quiet place for calgarians/ fireworks Canada Day

- Wetlands – what is considered about the wild jewel.

- nesting – spring

- Noise for Residents – in Eau Claire – property values would have to be reassessed.

length of span of bridge – unlike LRT bridge straddling beside Louise Bridge.

- Tunnel under river – go above ground in Beltline

not even at street level – could be raised. 11th ave is not a beautiful street whereas Prince's Island is the jewel of the City's Parks.

Which bridge determines pilons and effect on parkland.

I am not in favour of a bridge over the island – know the thought is to connect more

How much money would be saved in a line did not go underground in the beltline – and the tunnel be built under the island being as Prince's Island is the Jewel of the Park System and 11th Ave is so non descript.

Thank you for your time.

[personal information removed]

I grew up here in the 50's and 60's and have a lot of knowledge about the island and surrounding area – My friend [name removed] is a descendant of Peter Prince. His brother [name removed] worked in the planning department of the City of Calgary. His sister in law was [name removed] late of the Calgary Foundation.

"

"Designs for downtown & beltline look fine, thrilled to see the plan is to go underground

Change for a great transfer point at 2nd St. and 7th & 8th Aves once the Red (& hopefully blue) lines are put underground.

Great opportunity to spur development along the CPR tracks east of 4th ST. (currently a wasteland in the heart of the city :()

* Thank you for the opportunity to comment"

Entire Greenline project is a Waste of money - objective is to move people and a BRT is Best and least Disruptive to Community.

my property values have declined significantly over the last 9 years since this project was proposed. How will this project improve my property value? I can see it decline more from the constant rumbling, noise, and vandalism that will result from the line.

"it is also very inefficient to have people offload from buses to catch a LRT from 16th ave to Downtown. It will be far easier to drive down and save the hassle

Will there be parking at the 16th AVE LRT Station?? If not - nothing has been achieved. "

"Almost none [opportunities] as Route runs to Residential area. May help those in North get to Downtown + terminal

If Downtown still a destination when done."

Make BRT look appealing.

"Will make 17th Ave work look like a breeze. Disruptive, Expensive Planning Incomplete + Ruins a part of Eau Claire + Centre Street

Very little value

In 10 years autonomous vehicles??"

"No Developer would ever be allowed to disrupt a Park

Waterfront owners negatively impacted

Cost and Timetable Unknown. Much more work required

Took over a year to redo Pathway"

"March 7, 2020

Green Line Committee Calgary AB

Dear Sir,

If alternation to the original approved Green Line plan is needed, please spend more time to consult with the affected community. Please show concerns and make changes to solve the problem. Current timeline for consultation is too short.

Since lot of people have concerns to have trains running through high density residential area on 2nd Street, please consider moving the bridge from 2 Street SW to 1st Street SE for the following reasons: - Train are not running next to high density residential area - 1st Street SE is a lot wider than 2nd Street SW - Bridge do not need to go over the park - Trains could go to downtown through tunnel to connect existing LRT. People can board on the LRT to go to other downtown business area if needed.

Please consider this option seriously as it could solve a lot of concerns of the affected area.

I don't think it is appropriate to include part of the north bound Green Line up to L6 Avenue in Phase 1 of the project when funding for the whole north bound Green Line is not available at the present moment: - Not too many people will benefit from just one/two Green Line stations on Centre Street as current bus routes with more bus stops are sufficient to help people to go to and from downtown in a faster and convenient way. - With reduction of 2 traffic lanes and the changes to vehicle turn movements, it will have negative impacts of the daily life of all people and business in that area.

Centre Street is one of the main roads for vehicles travelling from north part of Calgary to and from downtown and that's why lane reversals system is in place during peak hours.

It does not make sense to 'shift Centre Street N from being a primary commuter route to a street used more by local traffic' (as per information provided during Open House) in Phase 1. That cause too many negative impacts when there is no funding, no specific plan and no timeline to complete all the other stations in north bound.

Please build the south bound Green Line first as this is a new transit system in Calgary. The feedback from the users may help to build a better north bound Green Line in future.

Thanks

[name removed]"

"1. Not agree to build the Green Line.

2. Wast of money.

3. Underground is unsafe and will affect the at-grade high building.

3. Affect the city's safe. "

"Why would we get into contract with 90 day clause? Need certainty

BRT on 2nd Street is a better option.

Saves Park

Saves \$

Saves Stress"

"Don't do this project

Doesn't make sense here roads can be built there

Cost per passenger mile> between roads + LRT?

Why not carpool lane?

With telecommuting how many people are coming downtown still?

What about driveless cars?"

"Eau Claire - Partner with developer to create underground

Extra \$

Surface is not OK"

"Chinatown is already a problem with parking

Underground is the right way

7th Ave is not good

Invest in calgary's future

Surface depreciates property

Learn from Tokyo - good system"

NO BRIDGE MUST BE UNDERGROUND LONG TERM IMPACTS

GREEN LINE IS NEEDED

"Stop LRT at 7th

then go underground when \$ from 7 - 16"

"DON'T BUILD LRT ON SURFACE ON CENTRE - WILL BREAK MOBILITY NETWORK
DON'T DO IT"

Crossing from bridge to centre makes no sense go underground

Show me the numbers - don't believe the models

VALUES NEED TO BE CONSIDERED

"The one thing we said was no bridge

HONOR COMMITMENT"

"Would central park in NY ever do this

Bridge in park is short sighted"

"Bow river, park, pathway

nature is so important to everyone

so many visitors to the park"

This is all a fluffy piece of BS

"100 year project needs to be underground

feels like a done deal + no one is listening"

"Reuse the peace bridge for transit or something like that

train on surface is slow it needs to be underground

look up relief line in Toronto

Provincial budget is huge concern - won't get the \$"

"Looks like you are cheaping out - bridge

Toronto transit (ttc) bloor + yonge lines station - mistake

choke point

learn from that mistake

for 7 ave station

Denver look at it

get rid of cars + focus on transit "

"Toronto had street cars in center of street + cars going by

dangerous for pedestrians

Crossing centre street surface seems dangerous

don't like side running for impacts to street life it is more pedestrian safe

prefer siderunning"

"What if Harvard doesn't agree + can't use their land?

Stop at 7th ave underground

4 angry old rich white guys should not be able to derail project

looks like prioritizing business for underground instead of residential which makes no sense because
business goes home at 5 + residential is 24/7"

"pedestrian + cycling opportunity w/ new bridge

incorporate good design principles w/ bridge make it visually interesting

capture information on who is actually using transit "

For me and the people I know, the most important transit investment is to connect the airport to the blue line. That is the most important transit investment right now, Even if it was a shuttle, it's time to get quick access from airport to downtown.

"Prince's Island is a gem

peace + quiet

lots of wildlife attend of island

not lots of other wild areas in middle of city

bridge is too disturbing for people + wildlife

not right solution consider breaking north + south"

"BRT is more configurable can more more stops

get the developers to contribute to cover budget shortfall "

"Toronto, Halifax, Vancouver

make boards easier to find

17 ave makes skeptical because how run out of \$ for public realm

quality of life elements

businesses were hugely impacted

didn't get street trees + paving"

"park has highest usage

take care of our green space

wreck calgary's reputation

doesn't go far enough north to make sense right now - wait to go underground

park is for more than calgarians - tourists

it is loved worldwide"

"the park is valuable

an above ground train is wrong for the park

that is essential"

"do not disturb the park that is calgary's central park

so many events

it is so important don't destroy the park

legacy park you can't get it back

funded by tax payers

reallocate money to south line"

"Do it right - underground

wait until we have the \$

the damage could be permanent

spend carefully - economic times are challenging

do not destroy the park it is calgary's jewel

it's not about the noise"

My concern is not just with having a bridge, but also the everlasting work and maintenance that will necessarily occur.

Support a Side-running tracks More village-style setting on side-walk

Residents don't want to see "Right-left-left" turns - more traffic into community - have dedicated Left turn lane

What does it look like for emergency services using a single lane of traffic / LRT ROW.

IS THIS TOO INVASIVE? HOW ABOUT A STREETCAR?

Are we encouraging cyclists on the widened Centre St N Sidewalks? Pedestrian safety

Concern about backups with the signal - when it comes off and on to centre street.

Whatever was used for paving on the urban realm for west LRT lasted only a few years

Shortening the tunnel and increasing the length that is at grade is a huge step backwards, with a negative impact on the community! This will affect Calgary for hundreds of years and is not the project we should cheap out on.

don't like that vehicles cannot be shared with Red & Blue Line

Concern about vibration and noise impacting houses along Center Street.

This surface on Centre concept is the worst thing we've ever seen. All of the traffic going in/out of downtown won't fit on Edmonton trail or 10th.. There will be gridlock downtown

- Pushing traffic through community to facilitate left hand turns is a horrible impact on residents that already struggle with high volumes of cut through traffic.

-increased noise - congestion -decreased property values - Our neighbourhood is a quiet, quaint place where we care for our homes and each other - this erodes and will ultimately destroy this neighborhood & the property values & thus the property taxes gained from these homes.

Side running seems to be a much better option for keeping business pedestrians happy along Centre street. Much nicer sidewalks.

noise & reduced property values

Thoroughly support the trains being above ground - (as in Minneapolis) with lots of parks & wide sidewalks - Please make sure you spend the \$ and do it right the first time - it's an investment. And less cars on Centre!

TOO MANY UNCERTAINTIES AT THIS STAGE GO SOUTH RIGHT NOW AS FAR AS YOU CAN WAIT UNTIL YOU KNOW MORE SMARTER USE OF \$ BRT WILL WORK FOR THE NORTH TOO RUSHED TO GET IT RIGHT ON THE NORTH - IT NEEDS TO BE DONE RIGHT

The biggest challenge I see with this process is acknowledging the engagement that has taken place leading up to 2017 approved alignment. We are now being told above grade is only option and that we love it - select from the above grade options. Rather we should revisit options of (1) shortening (2) reducing stations, etc. instead of ignoring public direction and especially if cost is a concern.

We don't want people speeding on 8 AV b/c it appears to be wider. It already happens - young families have moved away.

How will noise be mitigated in the 100 block of Centre St N

If I decide I don't want to live here, b/c of people speeding, my property value will be lower

- increase curb appeal for adjacent businesses? NO - you are creating a virtual highway and I am not interested in living by or going to businesses by a congested transportation artery.

- Does not create "greater community traffic" it will remain a commuter lane, but one which will now be busy 24/7 - not just @ peak hours - all you are doing is decreasing the livability of our neighbourhood.

Crossover at 7th St from East to West should be preserved

How do you not run out of money?

SOLVE EXISTING PROBLEMS FIRST - SOCIAL DISORDER - 7, 8 & 9 NW - CARS, MOTORCYCLES along park & parties - What are issues? - sexual assault, parties, noise, trespassing

parking displaced from Centre St N will go onto residential streets and affect residents.

Concern that removing parking on Center Street will push parking into the neighbourhoods

Putting a signal on 8 AV will make it worse for people who live on 8 AV - seems like City does not care.

-> Left turns will be Limited, not good

Thinks the negatives outweigh the positives.

SIDE Running Train!

Why wouldn't we use the existing spur line by the LRT flyover the Bow River, to cross the river?

Side running trains to Protect People

West LRT had pretty pictures and posters too and then what was delivered do not live up to what was committed to.

Don't increase Property taxes.

-people will continue to J-walk across Centre St N like they do now/like happens on 7 AV SW (safety issue)

For people who have to keep driving (young parents), these impacts to traffic are devastating with no real alternatives

If we want to improve ped Xing safety, can't we just do it NOW? How does GL actually facilitate this and improvements more than what The City could do now

There is already a lot of cut thru traffic - how will we mitigate it when traffic is shunted off Centre St. N

Need 9th Ave Station

Find other ways to get funding so we can do the tunnel under Centre St N

In favour of postponing GreenLine construction until we can do it right the first time. (might have to wait until UCP voted out). Why? - because the interim proposal is less than tenable - train stops at btwn 15 - 16 Ave N & people change to BRT to north Calgary. If one is on BRT already don't want to get off above ground & change when could have taken BRT right into downtown - we will be stuck with that until . . . Imagine a European citizen taking the train from downtown north go a few blocks and having to wait for a BRT in -20°C. - not a good civic planning look Calgary. - because - I live 1/2 block from Centre St N and do not want to hear the train running back & forth - cuts Crescent Heights community in half even more than it already is I want it to go underground where I can't hear it and it does not contribute to more city noise. - because the future is the train transport. so we must prioritize it for cities. - because Center St will be limited to 2 lanes and no bike lane forever next 100 yrs) - because bridge going across Princess Island could cause ice jams & is pretty ugly over a natural area - because the city transit goes through my community either way - above ground or below ground - we need a train stop to access train transport network in the rest of the city. A train to the airport is a must for a world class city like Calgary. Underground from downtown to past 16 Ave worked because - lack of BRT bus turnarounds although that

can be solved by going a little farther afield. - the technology exists in the world and is reliable to put a tunnel through a rocky substrate in the water table - we do it all the time. - Because with increasing winds to be expected in the next 100 yrs alot of above ground infrastructure is already at risk - especially bridge from west winds down the Bow River Glacial corridor. Safer underground. Recommendation. Post pone until we can get it right the first time. A lot of good design work went into that underground proposal. This does not have to be turned in a wicked problem.

Opportunities to improve pedestrian access to transit - make Centre St. Edmonton Trail and 16 Ave safer to walk for all ages, mobilities - clear snow on sidewalks in the winter

Feels frustrating that we've abandoned the long-term vision.

Must have five Bits

8th AVE NW already has way too much traffic for the street width/residential location. A light at Centre & 8th will only make this worse.

recreating nightmare of 36 St NE

Thinks centre running surface LRT works on Crowchild and BowTrail where there is traffic capacity. Not here.

Abandoning underground feels like a loss of trust.

Not convinced this will help business - I don't patronize businesses on 7th Ave - and try to avoid even walking on it. It is grungy and often people just hanging around feel unsafe! This is the reality regardless of any architectural / design visions.

Residents in Crescent Heights walk. With cut through traffic decreases safety.

9 AVE STATION - potential to increase problems with crime, social disorder - limit easy street access to community

If move forward 9th AVE access is imperative for all residing in C.H. Community

* Why not use existing crossover to Bridgeland and go north from there instead of new Bridge over Bow River? *Must have 9 Ave N. Station for Crescent Heights businesses & for residents to use. * If putting new bridge do not spoil look of Centre St. Bridge in any way

Concerned that even NOW, turning left off Centre St. N is hard Concern it'll be ever more challenging.

concerned about increased traffic on 4 St to 12 Ave North. Would like to know future configuration. Traffic Safety.

Centre Station will Divide the Community

Noise abatement design for nearby neighbours

a 10% price increase is not significant in long-run (20 yrs, 50 yrs) but design changes that impact / divide community are

Where are 20 000 cars going to go while waiting for expansion past 16. 10 st & Ed. Tr. are already over congested.

-easy movement thru & across the community via cars - concern that this is maintained

- prefer / need for more time to evaluate alternative option to the surface recommendation.

-will there be short-cutting restrictions into the community - will there be noise mitigation?

- no safe crosswalks across the centre street

-centre street is too narrow -> put C-train on, eliminate opportunity to pass ppl

Cyclo-cable on Samis Rd.

-concerned that Centre St will be like surface train on 7 Ave downtown - still is a divide & takes away community feeling.

- concern about short-cutting & increased traffic in residential streets - traffic calming needs to be considered.

Side running is - safer for pedestrians - better for businesses as there will be more foot traffic by the stores that area.

- Need 9 Ave Station - Many businesses and residential in

It seems like there will be a bottleneck where the train ties in with Centre St. It is concerning to think of what will happen to traffic on (Samus Road) 2 Ave.

We chose to settle in Mt Pleasant for the convenience of driving a short commute to work. This is a neighborhood with many young families. School hrs leave us no choice but to drive. Edm trail & 10th St are not good alternatives. We need ctr street at 4 lanes & need lane reversal to handle the population in this area Delay project until there is money for underground to 16th. Surface is fine North of 16th ave as there's way less traffic as everyone feed to and from 16th Ave.

Instead of valuing the quality of the inner city neighborhoods & the tax revenue they provide the city - the above ground proposal will ruin the neighborhoods, reducing property value & property taxes.

Aleppo Shawarma -> during construction I am concerned about parking in front and the sign is there as well -> I would hope there would be parking maintained

Where are the traffic simulations that support fully reducing 2 lanes from one the main arterials into the city core?? - how does this impact: 1) cut through traffic into the community? 2) edmonton trail traffic?

Disruption to residents & businesses for no benefit.

Concern about idling at 16th ave

- If this can't be built underground then it should not be built - Eighth Ave already suffers from extensive cut through traffic & non-residents parking in residential permit areas - Erosion of quality of life in inner city neighbourhoods - \$ YYC can't afford this!! - Little valve for cost - removing on street parking will just push that traffic to residential streets - more comfortable sidewalks?? NONSENSE!

If we can't afford this to be built underground then it should not be built at this time! The presentations today confirmed this for us.

DO NOT PUT LRT ON CENTER ST - ACCESS FOR TRAFFIC WILL BE AWFUL - COMMUNITY IMPACTS

Will limitation be placed on traffic flow going south on 4th? Where does centre traffic go in future?

- access from neighborhood / to neighborhood - reduction of traffic will create traffic

Where will the 30,000 cars a day on Centre St going to go. Edm Tr. doesn't have capacity, and we need to know the traffic plan.

Centre platforms result in crime

In Crescent Heights we already have issues with parking that the City doesn't enforce. How can I trust the parking and mobility study will actually ever happen or ever resolve anything.

No place for bus connections at 16th Ave. Lots of bus ridership above 16th Ave N.

Uncertainty around alignment is hurting businesses.

Need tax rebate for businesses impacted

Financially unaffordable for usage at \$3.50 one way per adult. Uber Cheaper - cost friendly

ACCESS & EGRESS IN THE COMMUNITY WILL BE CHALLENGING - HOW TO DEAL WITH CENTRE & EDMONTON TRAIL BOTH BUSY - DON'T CONSIDER CENTRE IN ISOLATION FACTOR IN OTHER ROUTES - DESIGNATED SCHOOL ON EAST OF CENTRE IS IN RENFREW - TO GET ACROSS EDMONTON TRAIL WILL BE TOUGH

Don't build a train to 16th Ave until you have funding to go all the way north. You'll wreck princes Island and wreck Crescent Heights for no gain.

Why hasn't a street level proposal up Edmonton Trail been offered?

We support our Councillor for Ward 7 but will vote against her if she supports an above ground GreenLine @ the next election.

- concerned about unintended consequences of people violating new parking opportunities (if change for Res to start term parking). Need for more enforcement.

- concern about short cutting & need for traffic calming in residential street.

9 AVE STATION IS A CONCILLOR PROMISE PARKING FOR BUSINESSES ON CENTRE AROUND 9TH HAS BEEN AN ISSUE

IF ACCIDENT ON LANE OF TRAFFIC OR MAINTENANCE ON TRACK WILL BREAK DOWN NETWORK SAFETY ISSUE

HARD TO GET DOWN EDMONTON TRAIL TODAY & YOU MAKE IT WORSE.

Don't want repeat of above-ground train on 7th Ave Wait for underground tunnel

Airport line would be more beneficial

Concerns over costs & timelines - inability to deliver

Why wasn't most of investigation done prior to ask (2017)

Look at what Edmonton has for the number of bridges! We want more bridges! Look @ what happened during the flood - more bridges would provide additional access

ALREADY USING 8 OR 12 SINCE 16 IS TERRIBLE MAY AS WELL TERMINATE DOWNTOWN NEED TO SLOW FEEDER SYSTEM WALKING IS FASTER THAN TRANSIT TO GET TO EAST VILLAGE CENTRE STREET BRIDGE WITH SNOW & ICE & TRAIN?

SUSPENSION BRIDGE CAN'T DO 'S' CURVE - WON'T WORK BRIDGE NEEDS TO COME IN FURTHER SOUTH - 17 AVE SE BRT IS DOUBLE THE WIDTH - WON'T WORK ON CENTRE - WHO HAS PRIORITY ON 16th? NEEDS TO BE GRADE SEPARATED - CONFLICTS BETWEEN TRAIN & EMS/TIME

FINISHING SOUTH OF 16th DOESN'T DEAL WITH THE PROBLEM OF CROSSING 16th - BUSES TRYING TO GET DOWN CENTRE STREET 16 - DOWNTOWN WILL BE WAY TOO SLOWED DOWN - REDUCING CAPACTIY ON CENTRE IS UNACCEPTABLE - NUMBER OF TAXPAYERS TAKING TRANSIT IN CRESCENT HEIGHTS IS NOT HIGH - NO BENEFIT

TERMINATING SOUTH OF 16th FORCES PEOPLE TO CROSS 16th TO GET ON TRAIN - GRADE SEPARATION AT 16 IS IMPERATIVE - TIME TO DO CONSTRUCTION FOR 16 IS TOO MUCH - DO IT AS PART OF THIS - THIS IS NOT PRACTICAL FOR SUCH A WIDE SPREAD CITY - DON'T HAVE THE DENSITY

THE FURTHER OUT YOU ARE THE MORE YOU PAY TO USE IT - BUDGET FOR POTHOLES ON DEERFOOT - ALL NEEDS TO BE CONSIDERED - NO FLOW, DOESN'T WORK ON CENTRE STREET - MAKE THE TURN ON TO RIVERFRONT AND ON TO CENTRE STREET - 2nd AVE STATION HAS TO BE ELEVATED TO MAKE BRIDGE

TWO 90° TURNS FOR BRIDGE IS PROBLEMATIC - NO ROOM FOR PASSING OR TURNS TO GET ON CENTRE WITH BRIDGE - DESTROYING CENTRE STREET - TOTAL BUDGET 4.9 B STAGE 1 & EXTRA GOING NORTH / SOUTH DOUBLE IT - WHY DO THIS PROJECT?

WHO'S PAYING - IT SHOULD BE THOSE WHO USE IT - CURRENT BUS SYSTEM WORKS -WHAT DO I GET FOR 10B? - ELDERLY WILL NOT WALK TO 16th AVE - HOW WILL 7th AVE HANDLE ALL THE CAPACITY - FIRE HAZARD, EMERGENCY ISSUES - EGRESS ISSUES - WIDTH IS ROAD RIGHT OF WAY - NOT ENOUGH SPACE

Business Support Talk to the business Jim Harmony Lane. He's been through a lot. He previously tried to get a no-interest loan like they gave in Seattle but City hall shut him down. He'll tell you about how hard it was. Conversation with Phil Christianson and Ernie.

Business Support Go to Tim Hortons or any of the coffee shops around here. Talk to the guys drinking coffee there, the old guys. They won't approved this but they sure won't hear about this on the internet.

Business Support I am so worried about the businesses on Centre Street. They won't survive construction and won't come back after. Most small businesses are tied to the home. When the business goes the home goes next. It becomes a choice of food or paying the bills

If the city cannot afford building the train line in the best way possible (underground), it should not be build at this time. It is much more expensive to remove an existing infrastructure and rebuild it properly than to do it right in the first place.

Accessibility - integration of train with street - clearly marked & accessible street crossing for pedestrians

I would suggest we think of the core line as starting at 16th and getting as far south as we can from there.

* The ridership of this train - I don't think that if you build this surface train ppl will use it - I don't commute to work on a train because it adds time to my commute

- OVERALL - *Lack of Park'n'Ride - space Vic Park - unless you are going to build a parkade structure - which provides good revenue!

Generate opportunities for funding future projects - why does city release plans in advance of land acquisition? Could use this to fund projects

If you have the train underground it gives people space on the street. People need space to feel good and comfortable. It's what gives quality of life. Having the train on street will take away space and therefore quality of life. We can't add more space to the space we have. The train needs to go underground to allow us to use the space (little space) we have on Centre Street.

- Have to make GL accessible & convenient or people won't use it.

GO SOUTH - SURFACE IN BELTLINE & STOP BEFORE DOWNTOWN - WAIT FOR FUNDING TO DO NORTH SIDE PROPERLY - CENTRE RUNNING SURFACE IN BELTLINE - TECHNICALLY NO OVERHEAD WIRES - PUT IN TRACKS - IMPACTS PEOPLE WITH PACEMAKERS.

FORGET SOUTH AND DO NORTH WITH TUNNEL

Where's the cost / benefit analysis

Overall not happy with the process & communication

BEDDINGTON IS IMPORTANT DESTINATION FOR CHINESE COMMUNITY - THEY NEED THE TRAIN

Keep it up! The concept is sound & the alignment is good. Keep on pushing for this project!

BUS SERVICE FROM NORTH IS GOOD ENOUGH FOR NOW - DON'T SPEND \$ ON TRAIN

More park & rides at existing stations

CENTRE STREET REDUCTIONS TRAFFIC CUT THROUGH IS ALREADY TERRIFIC - PARKING MOVING INTO THE COMMUNITY ALREADY - NOT UNDERGROUND MAKES IT CHALLENGING FOR COMMUNITY - WALKABLE COMMUNITY IS IMPORTANT - TOUGH WITH SURFACE RUNNING TRAIN

Cost of usage for C-train NOT affordable.

Early: look at design Document: look at rules for construction - minimize duration of construction

Will there be property tax reductions for businesses during construction?

If no access to businesses and parking, businesses will struggle to pay rent. - Will there be parking during construction? - will there be compensation for impacted business?

- Will you have a sound barrier where bridge meets Centre St - will there be retaining wall.

9th Ave Station will be very Important to businesses and residents.

Shortcutting through to edmonton trail.

NEIGHBOURHOOD ACCESS TO HOMES AND BUSINESSES CROSSINGS AND CONFLICTS WITH LRT TRACKS & BICYCLES, PEDESTRIANS WITH FREQUENCY OF LRT TRAFFIC

Concern about multiple right turns to cross left.

Concerned Edmonton Trail is not adequate to take additional traffic. - Need to evaluate these parallel streets with changes.

I'm surprised and concerned that the traffic mobility study isn't being completed before Council makes a decision. I just don't think the volume will reduce on Centre St.

- What about Land being expropriated E & W.

Traffic increase on Edmonton trail will impact Winston Heights.

I do not support a 9th Ave Station because of the potential crime and deviant behaviour that will come to my home on 9th.

Spread of crime and antisocial behaviour up centre street along train line

The idea of not having a turn at 10th is concerning to me. This is how I typically get home to my home on 9th Ave now.

NO TO BRT - NO TO RUBBER TIRES EVERY FEW MONTHS INTO LANDFILLS - NO TO RUBBER TIRES THAT USE MORE ENERGY & COST MORE TO MAINTAIN WHEN COMPARED TO METAL LRT WHEELS.

The pedestrian crosswalk at 7th Ave & CENTRE NEED TO STAY. How will ALL THE ROTARY PARK USERS / BLUFF USERS CROSS CENTRE TO GET TO THE PARK / CRESCENT RD BLUFF?

If there's one thing to take away from this, we want you to know how upset we are by this change. People already cut through our residential areas: this will make it so much worse. I'm so worried about less space same cars.

Don't feel that any local residents will use the 16th Ave Station

Business owners on Centre St will be negatively impacted by disruption / esthetics.

"Long crossing" @ 10 & 12 are aggravated by Roads change in light timings

Centre Street Bridge can because a new kind of pedestrian corridor with cycling infrastructure

Increasing Density on Centre St. Will be key to maintaining a vibrant community on centre.

Hugely disappointed! - With the plan / timeline - With today's event - not really a lot of substantive answers - lots of deflating - No major open house north of 16th I wonder why! No platitudes please History - 20 years ago we were told LRT would reach 96 AVE N by 2020! Will it be another 20? Meanwhile S.E.W. - huge transit improvements N - where ridership is dedicated and financially supported we continue with more promises. So Cal North Central subsidizes to the rest of the system. The reward of CNC - destroy center street - so sub standard public transportation and far worsened vehicle access to downtown. Nice Work Team!

-9th Av Station not needed because buses are adequate today - local bus service is good enough for the community or people walk / bike.

-Don't want to see 36th St NE repeated, going cheap solution. - rather see LRT underground, even if going over budget.

- concerned about increased taxes (due to property value increase) but LRT @ surface is going to be an inconvenience.

- LRT should be underground so it can get up North faster to service out lying communities.

What does Centre Street look like as a non-arterial road?

Transit on the side of the Street NOT straddling lanes on either side. Requires easier access for road / street levels.

BEING A PEDESTRIAN DURING LANE REVERAL AM & PM IS A NIGHTMARE. THERE IS POOR VISABILITY & OFTEN CARS DO NOT STOP - THEY JUST PLOUGH TROUGH. WE ARE A NEIGHBOURHOOD. - A GATEWAY TO CONNECTING DOWNTOWN TO THE northside - not a speedway

**What We Heard Report
Appendix D
Feedback Received Via 311**

The following are comments received through 311 listed by date received. Edits were made to remove personal identifiers.

January 29, 2020

Global news request for feedback through engage - citizen is a senior & not online. Wants Council to consider riders with medical concerns such as beg on oxygen & lung conditions or collapsed lungs. With a change in pressure from above to underground, these health issues can cause medical stress which can be fatal - & this seriously needs to be considered. Caller has a massive bulla (sp?) which is a big balloon with air on the side of her lung & any change in pressure including something like the Cochrane hill, it will rupture & she would die. She already can't take the other legs of the LRT and this will restrict her even further & she is not alone in her health issues.

February 3, 2020

Caller does not think we can afford the Green Line

What We Heard Report
Appendix E
Feedback Received Via GreenLine@calgary.ca

The following are comments sent in by email listed by date received. Edits were made to remove personal identifiers.

January 28, 2020

I was recently in Medellin, Columbia, and saw they used cable cars (gondolas) extensively as part of their mass transit system for their low income housing areas. I was wondering if it may be worth exploring their transit system for a cheaper alternative to the green line project.

We know gondolas are effective in Alberta, as Sunshine Village operates a similar system. With all the extra costs coming from either building bridges or tunnels, maybe a cable car system would be worth exploring. As well, there would be other cost savings worth exploring, such as reduced staffing costs, reduced maintenance and operating costs, and increased in service reliability.

January 28, 2020

I am repeatedly frustrated and frankly disgusted when I hear of the City plans for transit and general city vision. The LRT was poorly conceptualised from the moment the first line was proposed. It is a symptom of the problem: disparate visions, or complete lack of vision, for the kind of city Calgarians wish to live in and quality of life. For the sake of brevity, here are the broad strokes of the current issue as I see it:

The city and Calgary Transit seem to complain that people don't use public transit to the extent they would like or that there is an over-abundance of ridership from certain areas. This ignores several facts:

- The LRT was originally created above ground (for the most part) due to budget and geological/structural engineering issues when the city was relatively young and the population distribution, neighbourhoods, and roadways were quite different from what exists today.
- There were people at the time who wanted a "proper" metro system that took a vision for Calgary as a major city with a rich culture and vibrant city life into consideration, but this was labelled impossible. As a result an LRT system was created that does not serve all sectors of the city equally. It also does not promote pleasant ridership, any business opportunities in LRT stations, or pride in a real metro/underground that realistically deals with Calgary weather, limited daylight during the late fall to early spring months, or changes in how and where people are living.
- The lines/areas with reduced ridership exist because people hate, yes HATE, take Calgary Transit and will do anything to avoid it within reason and ability of their pocketbook. It is inconvenient, unreliable, disgusting to ride on, literally nauseating (busses) with routes, odours, overheating, non-functional windows, and zig-zagging drivers that force you to get off early.

-Now, the province is cutting the budget throwing a wrench in the City plans. The City of Calgary needs to cancel the expansion plans. CANCEL. Can you imagine if a home owner needed to expand or renovate their home, then found out they didn't have the funds required and insisted on the reno/expansion but simply tried to make it smaller or of lesser quality? You may think this

would be acceptable. It could be... with one caveat: that reno would only be responsible and wise if you were not creating a structural change that would impact any future renos. The current City plan is essentially a major structural change that impacts transit for at least the next 40 years. STOP! Do things right, do them once, do them with vision. The LRT needs to be completely rethought, a new long term plan that creates a modern city needs to be created.

Calgary needs to look at Montreal, Paris (France), London (England), Santiago (Chile), Mexico City, and New York to see what real transit that contributes to a vibrant city looks like. We should be able to get around the city mostly by train and do our shopping, socialising, and entertaining within steps/blocks of a modern metro. It should be an extension of what and who the city values, supports, and fosters. Transit can be much more than how people get from A to B. In fact, it is a message that a city sends its population and the message our city sends is offensive. So if you aren't going to do it right... at least don't expand on doing it wrong. Green Line Plan/Expansion is a joke and shows the immaturity and incompetence of city planning.

Hoping saner minds prevail,

January 28, 2020

Just saw the proposed re-alignment of the Green line. As a resident of Crescent Heights I am quite upset. The proposed surface alignment along Center Street is going to cut our community in two!

This area was finally developing some foot traffic and walk ability, through local businesses and an active community association. Your proposal is going to turn Center Street into another 7 Avenue dead zone. And the vehicle traffic on Center Street is going to be horrible, with the lane reductions.

And the noise of the LRT moving at street level, with all the gates and bells, is going to create massive noise pollution. An underground path would have been so much less disruptive.

Very upset by this. Will definitely be voting for any municipal politician who is against this expensive monstrosity.

January 29, 2020

Original figures showed largest ridership for greenline was in North and as we have expanded north of ring road demand is increasing. The answer?? Get on a bus and ride to 16AV and then transfer to get downtown? Makes no sense!!! This all assumes trains can make it up from the river to Centre St. and what will be the cost to attain the land along Crescent Road and other properties as it works its way over to Centre. None of these factors are mentioned in the media reports. Concern seems to stop at the Bow.

January 29, 2020

Hello, looking at the map of the new green line, I am wondering what will happen to the wetlands on Princes Island. It is a fantastic wild area and it would be quite upsetting to see it go. Many visitors are impressed with Calgary because of its commitment to parks and green spaces. I feel it is not worth losing. The benefits of the wetlands far outweigh the train line. I am sure most people would agree. And from an environmental view, Calgary will look like it puts the environment behind development. I would prefer to see better busing going up Center Street, save a billion and provide quick, easy and accessible buses.

For this short portion of the greenline, it is not worth losing a wetland over development. Also the beauty to all the visitors who want to take photos of downtown Calgary from McHugh hill. It is impressive but will be lost to a short commute.

Thank you

January 29, 2020

This new line would benefit me since I work right on 2nd street and 2nd avenue, but running the train across Prince's Island will destroy our beautiful city and iconic skyline. Whenever visitors come to see me, I take them up to Crescent Heights to walk along the ridge so they can see our skyline and the mountains. Born and raised in Calgary, I am proud of my city and love to show off how spectacular it is to everyone and anyone....but this project will forever change how beautiful Calgary is.

This is the first time I've ever emailed about a city project, but I truly believe there has to be a better option. Since I saw this on the news, I've been showing my coworkers, friends and family and no one is happy about it running directly over Prince's Island.

Please, please find another route for this train line. I feel this is a wasted email and my voice will not get heard but I have to say something and try.

January 29, 2020

I own properties at the River Run complex. I have done nothing but bust my ass to pay for these properties.

What is my value of my properties after a train runs through it?

The amount of taxes, insurance, condo fees, mortgage I have paid is insane. This is my choice.

This train ruins Riverfront properties as well, which is adjacent to us. They just moved in! And our garage is at the very end of 2nd St. How would we access our garage?

I pay about \$25k property taxes per year plus my income tax. I need some answers; this is garbage.

Do you realize people from all over the world stay at the Sheraton and the first thing they do is go to the park? I know this because I live there and I am the one who takes their photos on their iPhones.

What about the Wetland reserve that the city preaches about. Don't care about that anymore? A bridge over it will destroy it.

Prince's Island Park is the jewel of the city and you want to destroy it. Well done.

January 30, 2020

Thankyou for sending me the email update. When the line goes to north hill is it going under ground to 9 ave n where it will surface up center street? Would it be possible to put one more station downtown core say at 6ave and then moving the one that was to be put at 7ave farther down may be 9ave. Would these be too close together to warrant the cost? I do like the fact that the train is now going over the river instead of under.

January 30, 2020

I hope you are well. I am a civil engineer and from my perspective, I think it would be better if this project have any extension from the Calgary international airport and the hotel zones of NE. It will help the travellers to have an easy access to move all over the city.
Thanks for giving us the opportunity to share out thoughts.
Kind regards

January 30, 2020

We are strongly against the greenline on surface at the Eau Claire and Prince Island Park area. It will affect its peacefully environment and also create safety issue for the pedestrians. People enjoy the park by using 2nd Street very often. It is too close to the Waterfront buildings. 2nd Street is a narrow street. The parking entrances of Waterfront and Eau Claire Market are also on 2nd Street. I am sure it will create more accidents if the greenline will be on surface. It is really unfair for the Waterfront owners and residents. More noise, and lower condo value will be the result.

Thank you for your attention.

January 30, 2020

I am responding to the newly announced route proposal for the Green Line. The bridge over Prince's Island Park, with trains running every 10 minutes severely disrupts wildlife and the overall enjoyment of the only green space in downtown Calgary. The environmental impacts are severe.

I think the City should strongly reconsider the route.

January 31, 2020

I'm very concerned about the new green line, particularly the part where it will fork off from Center street and veer towards 2nd street with a bridge.

Where exactly will the bridge go?

How high will it be?

Will it disrupt the views of the residents in the riverfront area and condos (who have paid a lot of money to live there and enjoy the peacefulness and view daily)?

How will the added traffic to the area affect the park and wetlands?

The description does not describe this part, which is a very significant part.

I look forward to a response.

February 1, 2020

I am strongly against the Greenline on surface at the Eau Claire and Prince Island Park area. It will affect its peacefully environment and also create safety issue for the pedestrians. People enjoy the park by using 2nd Street very often. It is too close to the Waterfront buildings. 2nd Street is a narrow street. The parking entrances of Waterfront and Eau Claire Market are also on 2nd Street. I am sure it will create more accidents if the Greenline will be on surface. It is really unfair for the Waterfront owners and residents. More noise, and lower condo value will be the result.

Thank you for your attention.

February 3, 2020

Has the city considered the depreciation of Prince's Island Park once there is a train through it? What happened to the plan of making 2nd St SW mainly for pedestrians. It was a good plan. Now a train?

The amount of weddings, graduation photos taken at this park every weekend in the summer is epic. This park is not just important to the people who live here, it is important to all of Calgarians.

Do we even need this train? Let's say it's \$2 billion for just that segment crossing over the Bow and through the park. You could take that \$2 billion, invest it at 5-6% return and give \$20 to each commuter to take an Uber. Ok that was tongue in cheek obviously I just think the city is hell bent on this train and I don't know how badly we even need it.

The home owners at River Run want answers. I have Real Estate here that could likely be worthless. River Run has been here for 24 years. We deserve answers.

February 7, 2020

Usually comments are generally negative so I want to say I'm pleased with the new shorter tunnel.

I'm a proud Calgarian so I always want the best for our city.

One of 10 questions I read to a Mr. Thompson was crossing from the middle of Centre St to connect with the bridge over the Bow River. My thoughts would be to go under the West traffic lane. This also helps reduce the total decent angle into downtown. I would also have the same system of separating LRT cars from traffic as our current higher platform cars do.

I'm wondering if a Centre St bridge entry to downtown was considered?

Although likely more expensive to go under the CPR tracks it would have the 7 Ave stations closer to the blue/red line stations.

Although 15-25 years away, have you considered how the greenline would interfere with a redline downtown tunnel? Greenline Centre St on grade stations would be a solution.

I've heard the redline could run underground along 7 Ave. Any truth to this idea?

Wishing you all the best in your Greenline planning and construction 🙌.

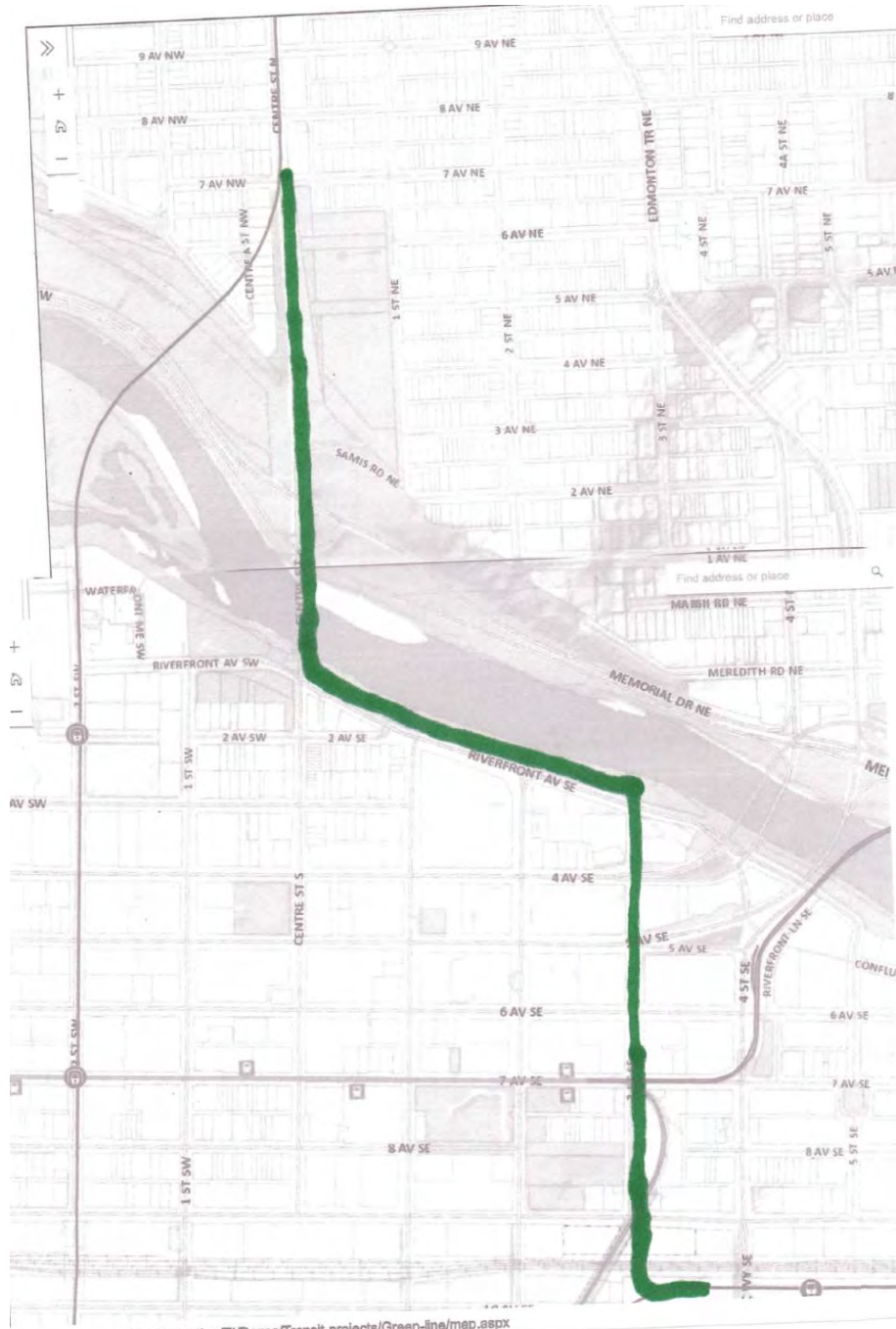
February 7, 2020

No My suggestion is for the Green Line to continue down Centre Street , cross the Bow River, along Riverfront to 3 rd Street then south to tie in where it is to head East before going South. This makes sense to me instead of what seems like a round about way to get the line going South.

I am sure a station could be figured out that would allow riders to change to the other trains.

The benefits :

- No need to tunnel
- Hundreds of millions in savings
- The City must have the plans for the 10 Street LRT bridge that goes across the river, may need some minor adjustments but the design is done
- Completion time would be sooner



February 7, 2020

I have a condo at the Waterfront condos at 2nd St SW and Riverfront Avenue. Access to the underground parking is along 2nd St, north of Riverfront Avenue. The proposed surface routing for the Greenline along 2nd St. will block access to the underground parking for the condo complex. What plans does the City have to provide access to the underground parking for the Waterfront condo complex.

February 16, 2020

The current plan for the Green Line is going to destroy local small businesses along Centre Street. Crescent Heights is becoming a hub for community and culture, and the construction of the Green Line is going to disrupt and destroy what local small businesses have been building.

February 19, 2020

I was unaware until yesterday that it is the intention of the City to run the Green Line through McHugh Bluff, the Memorial Drive Field of Crosses and then through Princes Island Park. This can't really be the plan, can it? We have so little natural beauty in our downtown area and the intention is to run an LRT line through it? Surely there must be alternatives. Please tell me that there are alternatives. I do not live nor work downtown but this saddens me as a life long Calgarian. I guess the next question is also, do we really need to do this as our industry (oil and gas) is dying and is not being replaced by seemingly anything else in the downtown core. Is this really going to be necessary by the time it is complete? I am not seeing any news about corporate incentives, or restructuring plans for the energy sector to adapt to a world more opposed to carbon every day. This seems very short sighted, abhorrently expensive and unnecessarily ruinous. Please reconsider.

February 20, 2020

Why not connect from Sunnyside then proceed NE up to connect with existing route at 16 Ave and Center St? On the South take off at Stampede and proceed along South bank of the river to existing route?

February 21, 2020

Thank you for your engagement with the community on this issue.

The recent project amendment now has the surface "alignment" along Centre St. North just past the bridge. A few points:

- Do you have a more detailed map/plan of the area around Crescent Heights which shows detail of the impact? The plan on the website is not that detailed and past videos and plans of course had the tunnel.
- The original plan (quite some time ago) proposed an underground station at 9th avenue N. Is there a consideration of having a level station at 9th avenue N? It seems the residents of Crescent Heights/Rosedale will have a lot of impact, but not much benefit. A station at 9th avenue would change that.

Thanks for your assistance.

February 23, 2020

Other than only occasional use during a period of about six years of car ownership in my late twenties, I've been a regular user (though not daily; I've lived a few years too close to work for that) of Calgary Transit for 40 years. I would like to see Calgary Transit's routes expand, its hourly coverage widen, its frequency increase, and its ridership double. Ideally, it would be paid for through carbon taxes. Ideally, public transit would be free.

The Green Line is one possible way of expanding and improving Calgary's public transit system. It would be sexy and comparatively fast, and it would draw in some new people. I would happily ride it, if it were available. I, personally, am not completely sold on it. Getting another train through downtown Calgary, whether by tunnelling or by building overpasses and bridges, will be

extraordinarily expensive. How many BRT buses could we run along the same route for the same amount of money?

In favor of expanding public transit,

February 27, 2020

My concerns for the Greenline is specific to the portion of Greenline which changed from underground design to above ground from North of the river to approximately where it goes back below ground.

I own an apartment in the Waterfront complex.

I attended one of your open houses.

After attending your open house providing information on the proposed Greenline expansion, I have the following concerns:

I think the portion of green line which uses above ground design from north of the river to 3rd Ave is a bad design for the following reasons:

- a, Environment - the light rail installation would completely destroy the Prince Island park environment from a peaceful/quiet park like setting.
- b, Noise - the rail cars would generate sufficient noise to affect every house hold on the 2nd street neighborhood to cause noise issues and subsequent degradation of property values.
- c. Traffic - with the installation of 2 tracks on 2nd street would likely won't allow easy access to the park, Eau Claire or Waterfront parkade. Furthermore, the few parking spots currently available on the street would likely be reduced/eliminated as well. This would also drive away the availability of parking space around the Eau Claire/Waterfront complex. With the additions of rail car in the neighborhood would likely cause more traffic issue during rush hours, since the intersection of 2nd street and 2nd avenue are used by a lot of cars during rush hour to access the lower level of Centre street bridge. At this day and age, no major city would expand a rail system into downtown without going under or above ground.

The original design which uses an underground design is a good design which would address most, if not all, of these issues. I think if Calgary cannot afford to build infrastructure the way it should be built, we should either come up with better solutions or wait till funds are available.

February 28, 2020

- In Europe and elsewhere Hydrogen Fuel Cell Trains produced by Alstrom are operating.
- In Canada there are Fuel Cell technologies readily available.
- A City-Corporate combined proposal to use such technology in Calgary would share costs.
- Elimination of the need for overhead power lines reduces height clearances and construction cost.
- Provision of Hydrogen fuel facilities allows other City vehicles to operate zero emissions compared to diesel.
- Carbon Fibre nano cell technology is used to safely store hydrogen fuel in floors/ceilings of vehicles.

- Calgary would lead Alberta in switching to the technology.
- Fuel cell units when not in regular operation plug into City facilities to produce mains power.
- Fuel Cells can be 'reversed' to produce their own hydrogen fuel where this is advantageous.

March 2, 2020

I have lived most of my life in Calgary. I grew up in Sundance in the deep south and went to high school Downtown. I currently live in Sunnyside and am an Engineer for a heavy civil and industrial construction firm.

I am writing today to express my concerns with the new bridge option over Prince's Island. Calgary has a unique and fantastic park in Prince's Island. There are not many cities with a large park area where one can go and get away from the bustle and hustle of a busy downtown core. While living in the deep south and either working or going to school downtown, Prince's Island was a regular stop for jogs, or just relaxation to find some piece and quiet away from the city noise. Prince's Island is also a very convenient and beautiful green space close to my current residence. We enjoy the numerous festivals and cultural activities that go on in the park. This is a green space that is enjoyed by **ALL** Calgarians and I feel it is in poor taste to add a clunky loud LRT line through a rather interesting part of the park.

My overall comment is to do this project RIGHT. I believe the RIGHT choice is to move forward with this project with an underground tunnel. If we don't have the money to do this project correctly at this point in time, lets just put a pause on it. I believe we would do future Calgary a disservice if we put our green line LRT through/above some pristine green space. Some current examples of Flyovers that do not work with pedestrian motivations in the city of Calgary are:

- 1) 4th avenue flyover off of Memorial Drive. Despite the recent renovations, there are still shadows and I rarely see people use the space.
- 2) Just across the river is the 5th ave flyover. Here is another shadowy portion along the river that can be a little interesting in the evenings. People do not stop and enjoy the river here.
- 3) C-Train Bow River crossing at Kensington. This bridge, despite the pedestrian overpass, does create a barrier in the area. Most people I know ignore the shadowy overpass and instead walk the extra block to 10th street. Note the shadows and barriers that the pathway along the river has to cross at this point. Here is another area that people do not stop and enjoy the river despite the pedestrian access across the river here.
- 4) consider the pedestrian underpass along the bow river at Crowchild trail. Here is another shady eye sore on an otherwise beautiful river walk.
- 5) Think about the Center street bridge interface with the river walk. How many people stop near the center street bridge to enjoy the sunshine and quiet of the river at or under the bridge?

With these examples in the back of your mind, please consider the shadows and eye sore that a new Green Line bridge over the bow river will create. If the bridge is built, the aura of that portion of Prince's Island will be forever changed. How much is that worth to Calgary as a world class City? Our society is putting a price tag on a diminishing resource (green space). In my opinion, this green space is priceless and we can wait until we have the funds necessary to build a tunnel under the Bow River as was initially approved. As a taxpayer, I am willing to put my money where my mouth is. Raise taxes if necessary to do the green line right and build a tunnel under the river. The RISK of a cost over run building a tunnel vs. the CERTAINTY of ruining a beautiful green space should make this decision very easy for all Calgarians.

There are a number of other issues that I see with this plan that I won't go into depth with including but not limited to:

- 1) Property values in the area, especially of the new condo buildings just east of second street and whatever new development happens in Eau Claire
- 2) Safety aspects of creating a shadow/dark area in a quiet park environment.
- 3) River Safety with even more piers/concrete.
- 4) Disconnecting the community of crescent heights.
- 5) Traffic just past 7th AVE N on Center street... Calgary just keeps putting more lights on our roads for some reason...
- 6) Prime Property acquisitions on Center A street and Crescent RD NW... There is prime multi million dollar real estate there for sure which would be better spent on a tunnel.

Thankyou for the time in reading my letter.

March 4, 2020

Hi guys, is this a possibility?

Both tracks on the right side, and then the left 2 lanes are for cars.



March 4, 2020

w when are you going to start the green line on Ogden Rd that we were promised 4 years ago or is it just a make work project for city hall workers

March 4, 2020

Unfortunately I am unable to make any of the public meeting times regarding the Green Line changes.

I have serious concerns about the proposed updates to the Green Line surface plan along Centre Street. As a long time resident of East Crescent Heights this design proposal will fracture the walkability of our community, where at any time of day you see pedestrian traffic crossing at all avenues from 6th N through to 16. Not only will this significantly reduce the walkability of Centre St. and community residents crossing between east and west but will likely reduce business traffic, as pedestrians face further challenges to crossing - this as the TigerSteldt block is seeing a bit of revival.

In addition, the rapid commuter transit concept is at odds with a streetcar-style LRT. If the intent is to indeed reduce commuter traffic a Nose Creek alignment would be more logical. Once at 16 Ave and Centre St. most mobile individuals could walk downtown in the time it would take to walk to station and get downtown.

Our City has repeatedly demonstrated that surface-based LRTs are eyesores, pedestrian inhibitors and do not create safe, inviting, walkable environments.

If the budget does not exist for tunnelling I would rather see the project delayed until such time as funds become available - or the Nose Creek alignment is further considered.

March 4, 2020

I believe the north leg of the Green Line should not be built until below grade construction to 16th Ave is viable - even if that's 15 years away. North Centre Calgary has acceptable traffic patterns and I don't believe drastically changing a major car transit hub (centre & 16th, and centre st completely) is well thought out.

Please scrap the north leg of the Green Line as it is laid out today.

March 4, 2020

First of all, your website is ridiculous....is this really where one gives feedback?

Click on this link below...and where does the engage page take you....unbelievable..

https://www.calgary.ca/Transportation/TI/Pages/Transit-projects/Green-line/home.aspx?utm_source=calgary-ca-homepage&utm_medium=other&utm_campaign=major_projects

Now the Greenline itself.

Get the line across the Bow...somehow...and then up Centre Street N...

DO NOT take away from the current Centre Street Traffic. Reducing the lanes from 4 to 2 is ludicrous...

Have you been to New York City....built the line, above the traffic on Centre Street...its that simple...

Need I say more...?

Never, have I seen such utter bungling of a project...and its proposal...

WHY?

Been to Chicago, Los Angeles, San Antonio....Miami? Boston...?

Lets get some proper planning...not this nonsense...

March 5, 2020

I am of the opinion, we can't afford this proposed subway line.

Coming from a background in the Construction Industry, I notice the direction is not a straight line going south and if there is a less expensive way of building, it would be a straight line.

I am sure there are reasons why it should be this way.

I have read in the Newspapers we may get a 9% tax increase this year or next.
I wonder where this all ends.

March 9, 2020

Well done to your team for putting together such a professional and informative Open House.

As discussed, a poll is up on the Crescent Heights Community Facebook page (private group, 461 members) to sample opinion on the 9th Ave N Station. I had seen previous messaging from the Green Line team that there was a split on opinion with respect to the 9th Ave N Station. That is NOT the case, the overwhelming majority (83%) want the 9th Ave N station to be reinstated. I want to ensure the voice of the silent majority is being heard in this consultation process. You will make the community very happy if you bring the station back.

Best of luck with your final recommendation to Council, and I'm hoping (like many in the community), the 9th Ave Station forms part of that recommendation.

March 9, 2020

I understand there are proposed changes to the green light route, to include a bridge over Princes Island Park and tracks through Centre Street, up to 16th ave.

As a tax paying resident of the City of Calgary, I strongly object to the re-route. The 2017 approved alignment is a superior option. The 2017 alignment leaves Princess Island Park intact, and will not hinder traffic from 16th ave, south into downtown.

The updated alignment will partition one of downtowns only green spaces. The partitioned corner of the island will reduce the usable park space, be a visual blemish on the park, increase noise, and create a segregated corner of the park that will inevitably attract needle users looking for an isolated public area.

Centre Street is a vital traffic route into downtown. There is a reason 3 of the 4 lanes are used in the morning and evening to facilitate traffic in and out of downtown. It is a vital corridor. To destroy the flow of traffic, to save the cost of tunneling is a mistake.

The 2017 approved alignment is worth the additional cost, to leave Princess Island Park, and Centre Street intact. Please vote the updated alignment down.

March 10, 2020

We recently became the developer of a site in the area of the future 16th Avenue Green Line Station. We are looking to develop the 30,000 SF site as medium density multi family residential.

We wish to contact you to express our concerns of having an above ground LRT station across 16th Avenue. This is a material shift from the planned underground station originally proposed. It was on this basis that stakeholders supported the project. I think this departure is going to cause lasting and incurable problems on 16th Avenue, which will remain a major thoroughfare for the city.

Above ground LRTs are basically just buses and function about that well for LRT passengers and vehicle commuters. In Edmonton it has created a monumental problem around Kingsway. The city is better off not having the LRT than with what they have installed there. It has constant traffic control issues and is notorious for missing scheduled times.

The station needs to be underground across 16th Avenue. The street is incredibly busy as-is. Hoping to add significant traffic on an LRT line is excellent but it needs to consider the realities of core arterials.

16th Avenue should be a focal point of density around the city and is really in a pocket where a lot of non-offensive density can be added along 16th avenue. The city's \$90 MM investment along 16th avenue has not yet yielded much development along the arterial – most development has been focused on 17th avenue. Doing this wrong is going to discourage development because fewer residents will be willing to want to live next to an unsolvable traffic cluster.

We believe in the area and in the long-term viability of the location as a highly-walkable, urban and connected location. But the infrastructure has to be done right. Jamming up traffic on an aggressive street is not the right path. An underground station with a safe tunnel or bridge for pedestrians is a far superior measure. Ultimately, I think this is the only way to safely connect pedestrians from Tuxedo Park to Crescent Heights. To get across the street right now, I have to jog. For someone with limited accessibility or with younger children, this becomes much more dangerous.

The spine of this community is along Center Street N, south of 16th avenue. The better that connection can be from the north – without hurting vehicle traffic is absolutely essential. This C Train station is going to share the responsibility as a major C Train station at the cross section of major vehicle traffic. That is okay (and can work to the benefit of the last mile problem) if traffic is not unnecessarily prohibited to flow with an above ground crossing across 16th Ave.

I hope that the team is taking concerns of the development community seriously on this.

March 11, 2020

WFGLO's (Calgarians) list of questions for the Calgary GreenLine Team and City Council – Please include these questions & answers to what is submitted to City Council

1. Time Line

- a. Why is the City in a hurry to get this new proposed line built?

- i. The consultation period for the 2017 approval was 2 yrs.
- ii. The consultation period for the new proposal to overturn the 2017 approval is less than 12 weeks?
- b. Why is the City putting the GreenLine in, in Chinatown, before the Chinatown development project is finalized?
- c. The tunnel option was chosen as the best option to the City of Calgary after two years of consultations and studies. Olympic Plaza floor was all decked out with the map of the option. The proposed change in that option is a closed-door decision without involving the communities openly and the new study only took a few months for the recommendation.
 - i. Please list out and present the assessments the City has done to all the different options?
- d. Why are is the City in a rushing to start a project, that a lot of us seem to disagree on? The City's argument is probably the longer we wait, the more expensive it will get. Spending more money to get it underground and do it right then rush it with a cheaper option is better.

2. Consultations

- a. Why does the City not to provide sufficient time for consultation with the most impacted stakeholders along 2nd Street to 16th Avenue N? It took a long time to get a plan approved based on having train running underground all the way from 7 Avenue to 16 Avenue N. The City should not make such a big change without adequate consultation.
- b. Why are the open houses not as widely advertised as the original 2015 GreenLine proposal?
- c. These open houses were scheduled weeks ago and only a select few received notifications of the schedule via email. Why?
 - i. Is it expected from those who received notice to buy advertising to inform over a million citizens of Calgary of the outcome of the Green Line Team's decision to change the underground alignment approved in the 2017 broad and its lengthy public engagement process?
 - ii. Is it not the City's responsibility to communicate with Calgarians?
- d. On Thursday, March 5, the day after the open houses began, an article appeared in the Calgary Herald. Should this not have been done in advance?
- e. Why is the City hesitant? Is it not confident in their proposal?
- f. Will the GreenLine Team report to the Green Line Committee in city Council Chambers on April 23 that the Team chose not to give the public, reasonable advance notice of the open houses so that busy Calgarians could plan even a few days ahead to participate?
- g. OR will the report only include the comments and the head count at the open houses as if they reflect, in any way or to any degree, the concern that would be felt by

citizens if they knew of the impending threat to their favorite park, Prince's Island, and the well-used and well-enjoyed Bow River pathway?

- h. Project staging
 - i. Match downtown commuter demand; recovery in employment and occupancy appears to be a long-time horizon.
 - ii. Staging would manage decreasing community impacts to improved alignment choices in addition to funding management.

3. Alignment

- a. Why must the alignment be one big one from the South to the North
- b. Why can't it be in 2 phases and DO IT RIGHT the 1st time with proper consultation and plans – re-dos are very expensive and voters have a long memory – elections are only a year away
 - i. Phase 1 – from the South to 7th Ave now
 - ii. Phase 2 – from 7th Ave to the North later after additional consultation
- c. In City (include Council) meetings, it has been stated that, if the proposed 2nd St SW over the Bow River to 16th Ave alignment is not done now, then there will be loss of ridership. However, in the Mar 4th Open House preview, it was mentioned that the ridership for GreenLine at 16th Ave will be the current Bus and transfer ridership. So,
 - i. The car traffic on Centre Street will NOT drop. How does this help reduce traffic on Centre Street?
 - 1. These drivers will find another route – 10th Street or Edmonton trail
 - 2. These drivers will not catch a bus from the North to come to 16th Ave as there is no park & ride on 16th Ave
- d. If the Greenline only goes to 16th Ave N, most citizens in the North will not benefit from it anyway for years. Citizens getting on a bus to get them to the 16th Ave would prefer to stay on the bus all the way to downtown. How will the City achieve its aim to reduce cars going into downtown?
- e. In the Feb 27th meeting with the WFGLO group, The City presented the notion that the Riverfront Ave SW would have less traffic since only one lane on Centre Street each way. However,
 - i. Riverfront Ave SW traffic comes from Memorial Drive through the under bridge of Centre Street bridge
 - ii. Where is this traffic going to go, as the proposed plan only allows for North bound traffic on 2nd St SW at Riverfront Ave SW?
 - iii. The rush hour traffic in the afternoon will be worse than it is currently which causes road rage. How much road rage is the City will to accept?
 - iv. Where are the bicycles going to go – on the side walk?

- v. None of your renderings so any bicycles on 2nd St SW or Center Street?
Why?
 - 1. Please show vehicles with bicycles and scooters on renderings
- f. Why can a tunnel not go underground between River Walk and 2nd Ave SW but can go underground at 2nd Ave?
- g. Can the North and South not connect with the existing lines crossing the river (Bridgeland)
- h. Many large cities with great transit have transfers even within central areas
- i. Chinook Station is 3 blocks away from where the people need to be
 - i. Why is 2nd street classed as the center of downtown?
 - ii. All of 7th Ave is the center of downtown so the alignment could be anywhere on 7th Ave
 - iii. Why not 1st SE? there is a lot of space there and a not residential impact.
 - iv. How will the red-blue interconnection limits be mitigated as contrasted to the park & community impact and cost of 2nd street
- j. How are you making sure that the Eau Claire ARP and the Chinatown ARP are being considered with this alignment?
- k. GreenLine is a new transit system in Calgary with trains running low on the street. It would be better to build the south bound route first. Get feedback from the users, see how the trains operate in Calgary's weather then build the north bound GreenLine with improved design.
- l. The City's is now showing that the alignment will be going through part of Eau Clarie and the River Run Condos, why not
 - i. Build the portal from River Run Condos using its parkade?
 - ii. Go across to the Eau Clarie parkade?
 - iii. Put the station underground at River Run or between River Run and Eau Clarie
 - iv. Carry on to 7th Ave underground.
 - v. A portal is proposed at 2nd St and 2nd Ave so what is the difference

4. Construction

- a. Is this above grade alignment estimating less than eleven (11) meter to resident windows from center line of 2nd street SW? See Appendix A below
 - i. What is the City's planning about NOISE IMPACT ASSESSMENT (NIA) to?
 - 1. Waterfront Site 1 Towers A B C & D
 - 2. Waterfront Site 2 Towers A B C & D

3. Waterfront Site 3 Towers A& B east of the cul-de-sac

- b. How is this above grade alignment of 40 tons train being so close to 1,000 units' residential towers CONSTRUCTIBLE?
- c. Please explain noise control process during construction when different type heavy machinery such as a) screw-piling b) hydrovac c) boring & shoring the bank will impact 1,000 units' residents around Waterfront Sites 1, 2 & 3 for years?
- d. What will the electrical cables look like both on the bridge and 2nd St? – NOT like the unsightly mess that is on the bridge over the Bow River at Edmonton Trail!

5. Vibration analysis, Structural analysis and physical building of Waterfront foundation analysis.

- a. The proposed above grade green line along 2nd street SW going north will be less than eleven (11) meter to the South-West corner of Waterfront Site 1 Tower B
 - i. Please provide prevention program for 1,000 units residents to avoid 'Structural deterioration' such as 11-year-old concrete foundation wall of Waterfront Site 1 Tower B when boring of underground GreenLine portal to overhead train line LESS THAN 11 meters?

6. Safety

- a. Construction on 2nd St SW will impact 1,000 units' residents. Please provide safety plans for
 - i. Pedestrian (especially senior citizens)
 - ii. Vehicle safety issues
 - iii. Traffic safety issues
- b. What are the City's plans for Waterfront Mews SW and Barclays Parkdale SW roads?
 - i. These are currently private roads not for City use
 - ii. Drivers will use these as a shortcut to get into downtown
 - iii. Residents at Waterfront and Eau Claire cannot afford to maintain such heavy usage of the roads
- c. The lack of separation of traffic between the trains and general public
- d. The area is filled with families and kids in the summer months.
- e. Drawings present a barrier-less train system from the pedestrians.
 - i. What happens if there is a fatal incident?
 - 1. Will it be at the time that gates to be added and train signals to be installed?
 - 2. Please put bicycles, scooters and pedestrians in the design.
- f. Will bicycles, scooters and pedestrians be added to the bridge design and how this will impact safety and other regulatory requirements?

- g. How at the 2nd street landing, this non-train traffic can interconnect to the path and 2nd street safely?
- h. Emergency Access
 - i. Does the design meet the emergency access policies for the changed road configuration?
 - ii. Does the City have all the emergency services sign offs?
- i. Will there be an LRT pedestrian crossing at 2nd Ave Station?

7. Environmental

- a. What kind and level of pollution footprint is the GreenLine going to add to the environment for?
 - i. All Calgarians and tourists visiting Prince's Island park and those residing the GreenLine's path
 - ii. The birds, fish, nature etc.
- b. Garbage, phlegm, cigarette butts are often found at C-train stations. How will this station be different?
- c. The underpass and pillars of the bridge often fall victims of graffiti and ideal locations for crimes. How will this be prevented?
- d. What are the crime statistics where are stations in/hear residential areas?
- e. How will the City deal with the extra garbage and graffiti issues to the buildings at Eau Claire, Waterfront and River Run?
- f. Destruction of the lagoon where so many vegetation and animals call home.
- g. The shadowing from the bridge will be permanent.
- h. Has the City gone through proper environmental studies before creating a proposal to have the bridge(s) going over the wetland during and after the construction?
- i. Any thoughts given to the long winding bridge of c-train running 100 + times /day will destroy the limited "Natural Beauties" asset of Calgary?
- j. Putting LRT bridge over iconic Public park and wildlife habitat and wetlands will permanently destroy its appeal with noise, air and water pollution. If the LRT can't be under the River don't do it. the general public's interest does not seem to be taken into account at all
- k. Does the Princess Island plan meet the wetland policy of the city?

8. RFP for the train cars

- a. When is the RFP going out to buy the train cars?
- b. Which companies are being asked to bid?
- c. Why are all the cars being purchase at the same time when the plan is still not approved?

- d. How will the City ensure that the train cars purchased will work in Calgary's climate?

9. Access issues

- a. The GreenLine and 2nd St/2nd Ave will block access to the Chinese Cultural Centre
- b. Narrow roadway at Waterfront properties – how will the big trucks such as garbage, moving, recycling etc. be able to maneuver especially if the train is in the way
- c. How will Emergency vehicles maneuver in such a tight road space?
- d. What if there is the train in the way?
- e. Where is the access to 2nd St station?

10. Budget

- a. What is the funding model?
- b. When will the funding be available from the Provincial and Federal governments?
- c. How much is currently being borrowed?
- d. How much is expected to be borrowed for the life of the project?
- e. How much is the borrowing costs? What are the interest costs going to be?
- f. Please provide a comparison of underground to on grade – it was mentioned in a couple of meeting that revealing the budget compromise the City's bidding process; but total dollars should not compromise bidding process?
- g. Please provide the summary comparison of alternate routes so the public could evaluate the trade-offs not currently visible.
- h. What economic analysis being done?
- i. We're in the middle of the worst economy in decades (and it's about to get worse) so how can the city justify spending this much?
- j. The maintenance costs associated with at surface and/or above ground development will surely be more than doing it in the tunnel/underground due to more complex infrastructure at surface level. It will surely offset the building costs in the long run. Has the City looked into that?
- k. This is purely political decision to build such a short line for that much money? This decision makes no practical sense at all.

11. Emphasis on Transparency

- a. In the recent Readiness Plan presented to City Council in February, the topic of recruitment of personnel for the "Program's success" was discussed. The accountability and responsibility of persons hired to assess the very initial Greenline are the key contributors to the original proposal and ultimately the approval of this Greenline route.
- b. Since transparency has been repeatedly emphasized by the City, the City needs to assure the public that all those employed by the City and recruited consultants to

research whether this route really protected and enhanced the “economic, social and environmental well-being of present and future Calgarians” and that “processes, procedures and staff have the required project experience and other required elements not currently in place provide successful delivery program” as per the Greenline Readiness Plan Presentation

- c. As the persons who contributed to all aspects and factors leading to this decision, Calgarians need to be assured that conduct of due diligence ensured in the best interest of Prince’s Island Park, surrounding businesses and residents.
- d. What is the recruitment process in ensuring that the qualifications, process for Request for Proposals for exterior consultants from the very initial planning, conduct of due diligence, in determining the deciding factors for this Greenline route going over Prince’s Island Park into 2nd Street Eau Claire?
- e. What is the recruitment process in ensuring that the qualifications, process for Request for Proposals for exterior consultants from the very initial planning, conduct of due diligence, in determining the deciding factors for this Greenline route going over Prince’s Island Park into 2nd Street Eau Claire?
- f. How is the RFP selection conducted to hire external subject matter experts; such as the environmental real estate aspectributors to the original proposal and ultimately the approval of this Greenline route.
 - i. Were these consultants hired from within the city, outside the city? Are they local companies who understand the uniqueness of Eau Claire, Crescent Heights and Prince’s Island as a Calgary Landmark?
 - ii. Were these consultants hired for the real estate consultation - understanding that Eau Claire, Crescent Heights and Prince’s Island is Calgary’s upper scale core downtown area where owners and tenants pay for the location of being on a quiet park - and that while public transit and C-trains enhance value for neighborhoods in general; it is contrary to neighborhoods that have one of the highest sale medians in the City?
 - iii. Were these consultants referred to large companies or boutique shops; how can the city ensure that these consultants are objective, qualified and understand Calgary’s different areas and demographics?
- g. City is not being transparent on what the affects will be and how the decision is being made showing only the benefits with artificial renderings but disregarding true costs and public opinion

12. Noise (NIA)

- a. Waterfront Site 1 Towers B & C houses more than 20+ floors. As it is well known that sounds travel upward
 - i. The train noise will create tremendous impact to every resident in the complex of 1,000 units
 - 1. What is City’s plan/s to mitigate NIA for Waterfront / Parkside of 10 towers along 222 Riverfront Ave

- b. It was mentioned in the trains are low noise polluters, please provide a video of the noise from inside houses adjacent to the train as close as the 2nd street alignment is going to be.
 - i. What is this decibel level?
- c. Overall, the train is going to be too close for comfort and will affect the QUALITY OF LIFE for 1,000 residents that live at Waterfront
- d. Government of Alberta (Alberta Utilities Commission – AUC) have Rules 12 for Noise Control
 - i. What guideline will City's to use concerning NIA especially to (2nd floor, 3rd floor), all the way to top floor? As sounds travel upward.
- e. NIA will create mental health issues to 1,000 units' residents (including children and the elderly)
 - i. From the train operating every 15 minutes interval, 22 hours per day (88) times per day running along 2nd street SW
 - ii. From the GreenLine users waiting for trains especially at night
 - iii. From the maintenance crew performing inspections ad repairs to the track
 - iv. From the gates and bell signals – In the City meeting, Citizens have heard that none will be places but it is very obvious that there will be in the future – just as 10th where these had to be installed
 - v. Please provide the plan for residents around 1,000 units to prevent "mental health issues"?
- f. How can an LRT station be that close to the Waterfront apartments without violating noise bylaws? According to the City of Calgary website: "In Calgary, residents have the right not to be disturbed by noise." During the open house, they talked about the low-floor trains and side barriers but in the end it's still a large train passing by, to say nothing of the warning bells and announcements. It will still be very loud
- g. How will the City compensate the Waterfront and Parkside Condo owners to replace windows to noise reduction windows?

13. Quality of Life

- a. Quality of Life was in the original proposal
 - i. Why did the City drop this?
 - ii. What quality of life assessments are being done?
- b. The propose GreenLine will be approximately eight (8-10) meter/twenty-five (25-30) feet to building windows where local residents (Waterfront Site 1 Towers B & C WEST facing) will be impacted the most in terms of quality of life – visual impact, noise impact, vibration impact.
- c. How does the City propose to resolve these quality of life issues?

- i. Loss of property values as the legacy of Waterfront and River Run is now all Railyard.
- ii. Loss of view. It is especially unfair for those who have bought the home facing the river.
- iii. Loss of privacy. Residents from the ground to the 4th floor will need to lower the window covering. Reduction of Sunlight into the units
- iv. Loss of income to the landlords as their units are way less desirable with the trains are so close to the building and 22 hours a day
- v. Higher maintenance costs because of the vibration from the trains.
- vi. Residents facing 2nd Street SW will be the most affected but all the condo owners will not be exempted.
- d. How will the City compensate loss in property values?
- e. Did you consider the effect this is having on residents living on 2nd St who are most affected by your decision? Instead of seeing the park and hearing the birds, we will only see and hear the train for almost 24 hrs a day once completed.
- f. What is the point of engaging when it seems like Councillors have decided already?
- g. Letters from Residents. See Appendix C Attached

14. Bridge

- a. Why does the City not to provide options for the location of the bridge? They should be able to find another place for the bridge which can eliminate the impact to the park and the high-density residential area on 2nd Street. We cannot accept that the current plan is the only option.
- b. What is the design process for the bridge?
- c. Is the s-curve the only alignment for the bridge?
- d. What will the elevation of the bridge be going South at the Bow River bank?
- e. If the tracks are at grade level when they reach Centre Street, then looking at Centre Street bridge South bound, it does not get to grade level till 2nd Ave SW
- f. If the bridge is lower than the Centre Street bridge how will flood mitigation work?
- g. How will the bridge effect the River Walk where the bridge is current slated to get to grade level?
- i. How will this be flood proof?
- h. When the train makes its way on and off the Centre Street bridge, the other traffic will have to stop to allow this to happen. As can be seen at 7th Ave and 9th St SW junction, trains turn at an incredibly slow speed because of safety and they do not coordinate to turn at the same time, the flow of the trains will create traffic chaos for the other vehicles including BRT 301, 300.

15. Federal and Provincial

- a. What is the status of the required applications, & which are these, under the Provincial and Federal acts?
 - i. Will these applications be publicly disclosed and if so, will the city post?
 - ii. Proponents of development are solely responsible for demonstrating adherence to all relevant provincial and federal legislation/regulations. However, upon the submission of proposed Land Use/Outline Plans, the Planning Authority will circulate the plans to:
 1. Alberta Environment – re: Water Act;
 2. Sustainable Resource Development, Public Lands and Forests Division –re: Section 3, Public Lands Act;
 3. Sustainable Resource Development, Fish and Wildlife Division – re: Wildlife Act;
 4. The Department of Fisheries and Oceans – re: Fisheries Act;
 5. Environment Canada’s Canadian Wildlife Service – re: Migratory Birds Convention Act and Species at Risk Act.

16. City Studies

- a. What studies were done for the following and please share them
 - i. Safety audit of the design. The design on 2nd street has no gates or barriers to protect pedestrians
 1. How can the stated design be reconciled against the 10th street experience of pedestrian fatalities prior to gate installation?
 - ii. Does the design meet sound or vibration constraints for proximity to residential housing?
 - iii. What are the ridership assumptions which drive the disclosed ridership numbers and route location selection?
 - iv. Please provide Vibration studies, structural deterioration as well as concrete foundation wall fatigue studies?
 - v. Which other studies were performed? What were the results?
 - vi. Property Values?
 - vii. Effect on wildlife and environment in such a sensitive area as Prince's Island park?

17. Other jurisdictions experiences

- a. Is the City of Calgary closely monitoring Ottawa’s experience with LRT and Waterloo-Kitchener’s experience with LRT?
- b. What if Ottawa's light-rail trains are actually unfixable? RTG’s maintenance arm, hired for the singular purpose of keeping things running, has been at it for nearly six months without success.

c. The Waterloo Kitchener LRT continues to have a rocky start with 1 pedestrian killed and LRT accident with car in the first 8 months of operation and train defects delay higher-frequency LRT service in Waterloo, Kitchener.

d. See Appendix C below

A -



B – City Wetland Policy - attached

C – Resident Letter –

I am beyond devastated on your new proposal for the Greenline.

I sold my house in the suburbs and moved to Waterfront to enjoy the wildlife and serenity of Prince's Island Park. I specifically purchased my unit on 2nd St because the park is only steps away from our front entrance, unlike other Waterfront units. I wish it is our condos you are tearing down so I don't need to hear and see the train everyday from now on. Buying the condo at Waterfront is the worst decision I have ever made in my life.

After visiting your information session and talking to one of your Planners, it seems the primary reason to use 2nd St is because it is most efficient in connecting passengers to connecting trains. I was in complete tears leaving the session. Did you consider the effect this is having on residents living on 2nd St who are most affected by your decision? Instead of seeing the park and hearing the birds, we will only see and hear the train for almost 24 hrs a day once completed.

You talk about engaging Calgary citizens for their opinion in order to maximize user experience of the Greenline and wanting to minimize the impact this will have. You can, of course, say you are minimizing the impact by going through 2nd because most people do not live on 2nd St. It sure sounds politically correct to say the City is engaging the public for their opinion, but at the same time, the Mayor is saying they need to get this project started as soon as possible. Or when my Councillor Druh Farrell said something along the lines of "originally freaking out about the revision but is now happy after seeing the new drawings". What is the point of engaging when it seems like Councillors have decided already? There are many comments disagreeing with the new Greenline revision but are Councillors listening? It sure doesn't seem like it and the website is nothing but a front. If Councillors or their families live on 2nd St, I highly doubt Councillors will support the revision.

I support the Greenline but only underground. If there is not enough funding, then don't build it. Why are we rushing to start a project a lot of us seem to disagree on? Your

argument is probably the longer we wait, the more expensive it will get. I rather spend more money to get it underground and do it right then rush it with a cheaper option.

I sincerely hope all Councillors will take into account how this revised Greenline is detrimental to many residents living on 2nd St. and reconsider.

D – <https://ottawacitizen.com/opinion/columnists/adam-what-if-ottawas-light-rail-trains-are-actually-unfixable>

<https://www.therecord.com/news-story/9567302-ion-train-defects-delay-higher-frequency-lrt-service-in-waterloo-kitchener/?s=e>

March 12, 2020

I attended the City's scheduled public engagement session at Eau Claire market today and was disappointed that no one was present to engage with.

I attended personally in order to convey my strenuous opposition to the proposed bridge over Prince's Island.

Please see attached photo taken this time last year in the wetlands. This is a beautiful, precious natural spot. I realise this is a busy city, and I would not be shocked if the wetlands' future included some modifications, while remaining a park and greenspace. However, a bridge overhead will obviously destroy the wetlands.

Of broader importance, the proposed bridge would irreparably damage the value of the more popular west side of Prince's Island. The sight and sound of the bridge will be obtrusive to every part of the island and area. I live near the Sunnyside train station: the sound of trains passing by is a constant (I'm omitting the station sounds) - I can tune it out at home but could not in a greenspace. Nor could the wildlife or general tranquility that the island supports.

The ecosystem services of Prince's Island are immeasurable, to me personally and to the City itself. Ecosystem services can be defined as "the many and varied benefits to humans gifted by the natural environment and from healthy ecosystems" (Wikipedia), and they should be considered prominently in your planning process when this publicly significant greenspace is concerned. Prince's Island and area is my heart in Calgary. It is the place I can go and relax and feed my spirits. I cannot imagine living in a city without access to such greenspace. I daresay it is likewise the heart - and peace of mind - of Calgary as well. It is a tourist destination and a major draw for corporate workers on lunch breaks in good weather, and a significant number of people recreating on evening and weekends.

Incidentally, I recall one of the justifications for the controversial pedestrian Peace Bridge being the notion that no berms could be placed in the water. How can one then justify the berms of a massive train bridge?

A train bridge over any part of the island would be a terrible and irreparable mistake. Once again, I strenuously object to the proposed bridge over any part of Prince's Island. If you must revisit the routing, then revisit the routing. This is no matter to be sacrificing long term value for short term expedience.



March 15, 2020

I have been to the public information session at Eau Claire Sheraton and learned more about the Green Line revised plans. First of all, in my opinion, the Green Line plan is an unnecessary capital expenditure whether or not Calgary is in a recession. Movement of people downtown from the North is handled efficiently with a bus system.

Calgary needs a LRT to and from the airport. Most cities of a Calgary size has rail transport serving their international airports. Calgary has spent extreme Funds to improve the airport but no efficient way to move people to and from the airport.

Returning to the Green Line LRT going from 16th Avenue N over Princess Island, it is my opinion that the revised plan of building a bridge from centre street bridge entrance over Princess Island would really harm the beautiful view that we currently have from the bluffs. It would disrupt the wildlife that use the ponds in Princess Island. To visualize what the bridge will look like, just take a look at the bridge from Bow Trail. It is extremely ugly but since it goes over the industrial area is acceptable. The proposed Green Line Bridge will also be ugly and destroy one of the most beautiful views that Calgary has.

With this LRT project, centre street traffic will divert to Edmonton Trail causing more traffic and noise. I live close to Edmonton Trail and have trouble now driving out onto Edmonton Trail. It will be impossible once the Green Line project starts.

In my opinion, the purpose of the Green Line as it is planned is to move people to and from the south east of Calgary. It's best to start this line from downtown and head it south and eliminate the north part of the line. We need to preserve the beauty of the bow river and the Princess Island. It is not logical to proceed with the north part of line to move people such a short distance. If I lived in the North, I would drive and park rather than take a bus and then an LRT. This interruption in commuting would add time to my work day and lessen my commuting comfort.

Therefore, please consider my comments. As tax payer, I reject the City using my money for this project.

March 20, 2020

I would also like to comment that I went to an open house a couple weeks ago and I am very impressed with the information that was presented.

During the open house, I was intrigued at the philosophy for center street and turning it from a commuter street to a local street. If that is the philosophy, why are we not putting the line over the center street bridge? Would this not be more efficient than running a new line on a new bridge? I feel that having 4 lanes of traffic on the center street bridge is very useless if we run the green line down center street. We may as well have the portal on Center street if That street is going to no longer be a commuter road in and out of downtown.

March 24, 2020

I am writing to express my upset with the proposed route and construction design for the Greenline. I live in Northwest Calgary and have a concern with several issues.

1. At grade tracks: Calgary has done this before and it has proven to be a mistake. "World class cities" all either bury or elevate their tracks. At grade tracks increase the risk of accidents with both pedestrians and cars and create horrible messes with traffic. Why would the City spend a great deal of money to create more dangerous transit? Ending the tracks at 16th Ave with an at grade intersection will seriously impede traffic on 16th Avenue and open the door for more train/car conflict.
2. Ending the line at 16th Ave: As a resident of the north and someone who has used public transit to commute for many years, I resent that the track has been shorten so much as to be useless to me and other northern residents. The line was supposed to be "our turn" and instead it is now proposed to be a huge impediment rather than truly useful addition to our transit system.
3. Plans for Centre Street: At the moment Centre Street is the main commuter route for thousands of cars and public transit buses daily. (Traffic calming on 4th Street NW has hindered that route.) With 4 lanes (almost), restricted parking at peak hours, the brilliant lane reversal, and a major bus route, Centre Street manages commuter traffic admirably. The proposed plan to run the C train down the middle, removing two full lanes, destroys that. The need for buses will remain and where will all the cars go??? In a perfect world, we would not need cars, but we must acknowledge that we do need them. Destroying existing routes will not magically make all those cars vanish. Instead, it will force them to other routes, including through residential neighbourhoods, increase commute times, community complaints and driver frustration. All of that decreases safety on the roads.
4. Damage to businesses: it is no secret that businesses in Calgary are suffering. What will happen to the businesses in this area when it becomes even more difficult to reach them? Commuters will not suddenly begin to make use of those services. Instead, they are focused on getting home. People purchasing larger items will not find transit useful and will likely chose to engage their business elsewhere.
5. Inefficient transport: The vast majority of people using the public transit on Centre Street come from much further north than 16th Avenue. Ending the line there is of no benefit to them. Will they have to take a bus most of the way, and then transfer to a C train at 16th? Or will they stay on their buses and avoid the C train altogether? In either case, the very expensive new C Train does not benefit them at all. In fact, it will make the situation much, much worse for them by increasing the traffic volume as more cars are squeezed into greatly reduced capacity, slowing traffic for both cars and buses.
6. Disregard for cars as a viable, and often necessary form of transportation: The 2019 Driving Cities Index named Calgary as the #1 city in the world for driving. That is an incredible feat! This means that drivers in Calgary spend less time idling in traffic at a great cost to both the environment and productivity than anywhere else in the world. It is time to recognize the cars must have a place in our transportation plans, and keeping traffic running smoothly and efficiently is a worthwhile and necessary goal. This proposal does considerable damage to that goal by increasing danger of accident and certainly increasing travel time for all Calgary drivers in the north central part of the city. Instead of valuing this great achievement, this proposal seems to be actively striving to destroy it.

The population in north Calgary continues to grow rapidly with the ever ongoing addition of more subdivisions. It is not feasible to fail to recognize this growth and the need for improved transit to

downtown Calgary. The north has been very underserved by recent changes to public transit. This new proposal not only cuts out the vast majority of line to the north from the original proposals, but goes even further but removing the one current road that functions adequately as a funnel for downtown commuter traffic and makes it nearly impassable. It also makes it more difficult and time consuming to use 16th Avenue North. ***If you can't improve transit to the north, then at the very least please don't make it much, much worse for us. If this proposal is the best that you can do in the current times, then please, please, please don't do it at all.*** I am asking you to stop all work on this line until the economy improves enough that we can build it right.

April 7, 2020

When are you guys going to wake up, and not spend money on projects with no real value? This whole thing is just a pet project of someone in city hall, and we can not afford it!!!!!!
Get real people!!!!

April 9, 2020

There are thousands of people out of work *right now*. Maybe consider starting early ?

April 27, 2020

Has the City of Calgary done any ridership modelling in the last month to support the need for this Mass Transit project given the social changes due to the COVID 19 pandemic and the collapse in oil prices? Is there even a future for the oil and gas industry in Alberta? We have the Mayor of Calgary and the Prime Minister of Canada both with the same agenda, that is to pivot Calgary away from the oil and gas industry. This will radically reduce the number of people using mass transit.

In addition:

1. Because of COVID 19 and the need for social distance will people even want to ride on an LRT to commute?
2. As a good part of the down town offices are already empty and the push to decarbonise the Canadian economy, will there be enough people using the LRT to commute to work.
3. As many people are now working from home will the ridership drop even more.
4. The cost of this project has already doubled once (when it went from \$5B for 40 k to \$5B for 23k), how can we feel confident that the cost of this project will not go up again? Especially as the Bow River crossing in phase 2 will be very expensive.
5. Do we really need to spend \$10 or \$15B for a new LRT line when there will not be the ridership to justify it?
6. As the price rises, who will pay for the additional cost? the Federal Government, Alberta Government or City Hall? If it falls on City Hall how will the finance it? Will that be by raising the residential property taxes again in 2021 to 2027?
7. Why does the website not clearly show what the proposed cost are going to be for the full project?

I strongly suspect that this Mass Transit project is too expensive for Calgary to finance, plus there will not be the ridership to justify it.

April 28, 2020

I totally disagree with another BRIDGE OVER THE BOW! Underground is needed or hook the train to the present train over the Bow!

April 28, 2020

I would like to expand on the comments I submitted on the Green Line website.

Centre Street North

The Green Line LRT should be tunnelled under Centre Street from 24th Avenue N to the river bluffs for two major reasons:

1. Centre Street is a major commuting corridor for the northern half of the city. Derating this asset will push more traffic onto Edmonton Trail and 4th Avenue SE which is already restricted by the Memorial Drive traffic lights and the heavy traffic load already on 4th Avenue. Derating Centre Street will also push more traffic onto 10th and 14th Streets NW which are already at capacity trying to funnel traffic into the western side of downtown. The cost of upgrading these streets should be included in the cost of placing the LRT on the surface of Centre Street. In spite (or because) of being a major thoroughfare, Centre Street is a vibrant shopping & business district.
2. The Green Line is intended to provide an enhanced means of travel when the line is extended to the northern communities. Being in a tunnel along Centre Street means that the LRT will be able to travel much faster along this segment, probably saving about five minutes per trip. The benefits to the passengers in 10 years will add up to more than \$200-\$400 million cost of burial. The surface alignment will require lengthy waits at 12th, 16th and 20th Avenues. We have the opportunity to get this decision correct now, instead of moaning how we got it wrong for the next 100 years.

Bow River Bridge

My preference would be to see the LRT buried under the Bow River to protect the natural and park spaces along the river and Prince's Island. However, I understand the cost of deep burial is too significant. The LRT bridge should have an appearance that complements the arches of Centre Street Bridge. Whatever bridge is chosen will detract from the beauty of the park and pathway spaces in a manner similar to the 4th & 5th Avenue flyovers.

April 30, 2020

I am sending my comments via this email as your website only allows for 140 characters - that approximately only 25 words. I fear you really don't want our opinions.

First I'd like to point out that you have presented a new concept/plan for the North Green Line during a period when at least half of that time we've been in a pandemic. Asking people during this time to think of anything but their safety and health and that of their family and their communities is insensitive and dismissive.

That said, I have taken the time to try to gather my thoughts on the new proposed plan.

Residential Traffic:

When asked what the city will do to prevent traffic from cutting through the residential neighbourhood of Crescent Heights the response was that additional studies would need to be done, but not until after approval. How can you approve a plan that doesn't have answers for the residents of Crescent Heights as to how we will be affected by traffic?

To be successful the proposed Green Line plan is already planning to rely on the use of residential streets of Crescent Heights to make it work. From what I understand, with this new plan, there are 3 ways that traffic may/will be directed through the community of Crescent Heights:

We do not want our residential streets of Crescent Heights to become inundated with traffic. Our community has high pedestrian utilization – people of all ages

(children, seniors, work professionals) moving through the neighbourhood to our parks and amenities and walking to and from work.

The Green Line proposal is not viable if it cannot be successful without imposing such traffic measures on our residential community.

The Green Line Ends At 16 Ave:

For how long will 16 Ave be the end of the North Green Line?

The plan currently has the trains stopping at 16 Ave N with no approved timelines or funding to complete it. There are no guarantees if and when it can be extended as it is dependent on future funding proposals and budgets.

Why create such disruption to our neighbourhood to run a train to 16th Ave N when you have no idea when you will be able to extend it? It's a train to nowhere.

Commuter Traffic Mitigation Strategy:

There is no commuter traffic mitigation strategy. Where are the 20-30,000 vehicles that travel on Centre Street each day going to go? I was informed that a broader plan will be done after approval – we need to know before approval to know whether it should be approved – whether it's do-able.

Calgary already has too few commuter arteries going north compared to the south, with a large portion of our population in the north. We need a train, but we need to find a way to keep those arteries open just as they did south of downtown Calgary.

Accessibility:

How will the trains be accessible if they are 14" from street level? No one at the open house could answer this for me.

With a standard curb height/height of the sidewalk being 6", does this mean that our Centre Street sidewalks will need to be raised to 14" to make them flush with the train to make them accessible?

9th Avenue Station:

I was informed at your pop up open house that transit doesn't bring crime to neighbourhoods. When I spoke to our city police they suggested just the opposite – that there is an increase in crime where the train goes.

There are too many questions without answers. As a long time community resident of Crescent Heights, I believe that the proposed plan to have the Green Line run above grade on Centre street will have a very negative impact on our community.

April 30, 2020

Submitted to the Green Line Project Team - April 30 2020

**Green Line LRT - Community Panel
Summary of Panel Discussions
Monday April 27, 2020 - 6:30 - 9:30pm**

Host: Chinatown BIA

Moderator: (Professional Engagement Consultants)

The participants represented Board Association stakeholders of the Eau Claire, Chinatown, Crescent Heights, Tuxedo Park and Northern Hills Community Associations and Business Improvement Areas.

Purpose of the Panel

To engage the Community Associations and the Business Improvement Areas in a collective sharing of information, perspectives, expectations and outcomes of the Green Line LRT – Stage 1 alignment and infrastructure asset decisions.

Only once at the outset (March 4 at the Telus Convention Centre), has there been an all-inclusive presentation to all community, business and owner / manager stakeholders which was all-encompassing of the entire Stage 1 alignment. As the Green Line Public Engagement closes on April 30th, this panel is the only other all-inclusive and all-encompassing group forum.

What Did We Share, Deliberate and Understand

General and Overall

The general consensus of the panel were:

- 100% belief that the Green Line LRT
 - Is a much-needed and overdue transit project for north and southeast Calgary,
 - Is a significant connector of people and place to enhance the quality of life of Calgarians,
 - Needs to be build as a 'legacy' infrastructure asset to fulfill desired outcomes over the longterm,
 - The Green Line Project is a tightly framed financial and time-based initiative that must be done right. It goes without saying that the Green Line Project must be built within available funds and effective risk management consideration. Therefore, there must be full and public disclosure of options of 'what's in' and 'what's excluded' in scope including full cost disclosure.
 - The public must be fully and regularly engaged in relations to project alignment approval, design, build and commissioning...again more information including cost estimates is needed

- Must preserve, protect and conserve the natural beauty of Prince's Island Park, the wetlands, and the Bow River within federal, provincial and municipal statutes, policies and standards,
- Must protect the ecological, environmental and living entities as best as possible,
- Must provide Calgarians a high quality of life, the preservation and protection of their personal property and wealth, and an effective, efficient mass transit system
- Must be in concert with other community and land use development initiatives including but not limited to the Eau Claire Area Redevelopment Plan, the Tomorrow's Chinatown Cultural Plan, and the Chinatown Local Area Plan,
- Must respect and provide fair (ideally future value) compensation of property where land acquisition of land sales is involved
- Many, not all, believe that Stage 1 of the Green Line LRT must be designed / built in segments starting with segments of greatest confidence and validation of cost and risk; this includes in order:
 - From Sheppard to Elbow River / Inglewood (no concerns)
 - Elbow River to Beltline (subject to Victoria Park property owner resolution of 10th vs. 11th Ave SE alignment)
 - Beltline to 2nd Street / 7th Ave SW (no concerns)
 - 2nd Street / Riverwalk (proceed only if following concerns are addressed:
 - Move the tunnel portal away from 3rd and 2nd Ave SW directly over 2nd Street to the Riverwalk, thus build a tunnel in its entirety of the downtown core
 - Avoid, if not eliminate, traffic congestion, on and off-street impact on 2nd Street plus 2nd, 3rd and Riverfront Avenue SW
 - Maximize potential for land, building, business and parking along 2nd Street and the Eau Claire and Chinatown community including Waterfront Condo, and the Eau Claire and Chinatown community including Waterfront Condo, QuadReal Property, and Harvard Property (i.e. Eau Claire Market and Plaza) development.
 - Provision of a 2nd Ave to Riverwalk located underground LRT station on Eau Claire / Harvard Property lands

** It should be noted that a couple of stakeholders expressed great reservations about downtown and 2nd Street development if negative consideration (i.e. undesirable bridge) for a Bow River crossing exists.**

- There are divergent options for support of the remaining segments of Stage 1 from Downtown to Centre Street / 16th Avenue North; specifically,
 - Prince's Island / Wetlands / Bow River Crossing
 - Development on the Prince's Island and the wetlands must be with minimal negative effect on the community, residents, environment, ecology, and property investments.
 - Development of river crossing via a tunnel is preferred but it is realized that it may be prohibitive due to funding constraints
 - Development of the bridge crossing must be considered to minimize the interruption of pedestrian/cyclist flow east/west (i.e. connecting Eau Claire, Chinatown, East Village); and must limit the negative impact on citizen's enjoyment of Prince's Island Park's uninterrupted natural beauty
 - Development of a bridge crossing must not impose a blight to the market valuation of property in the vicinity, the enjoyment of property by owners and residents, the physical and visual amenities that can contribute to the mental health challenges

- Development of a bridge crossing must not impose a blight to the market
- It is suggested that The City evaluate alternative Bow River crossing including:
 - A non-conflicting connection of the bridge crossing at the top of the Centre Street bridge to allow a free flow of north and south vehicle traffic from Calgary north to Chinatown and the downtown
 - A low profile bridge to minimize the visual blight
 - A multi-modal bridge to accommodate cycling, pedestrian use
 - A realignment of the bridge from 2nd Street SW directly north across the Bow River into McHugh Bluff at Crescent Heights to a tunnel to Centre Street.

****It should be noted that Crescent Heights expressed reservation against a tunnel under the community due to environmental sensitivities****

****The Community Panel largely acknowledges that a bridge crossing is inevitable if a complete Stage 1 and 2 Green Line LRT remains the goal. Minimal impact of the river cross is most critical.****

- Centre Street North to 16th Avenue
 - Development of Centre Street mass transit option is crucial to serving Calgary residents north of 16th Avenue. The 301 Express is one of Calgary's highest transit routes and many riders from the Northern Hills communities remain under served.
 - The City must immediately consider service level improvements from Calgary north communities whether this be short term enhanced BRT or longer term expanded BRT including dedicated roadway.
 - Any Centre Street BRT service would need to be maintained into the downtown core.
 - Centre Street LRT alignment is important to long term mass transit for Calgary North.
 - The direct community stakeholders in the Crescent Heights community aspire to develop a Centre Street urban realm that promotes strong neighbourhoods, prosperous business enterprises, vibrant main streets, and safe / protected neighbourhoods through great infrastructure public realm development, enhanced storefront retail / services, comfortable sidewalks and safe pedestrian crossing, and traffic calming measures along Centre Street and adjacent east-west avenue roadways.
 - The proposed alignment needs to include a robust traffic management strategy for both during construction and after project completion that addresses through
 - Indirect community stakeholders upstream at Tuxedo and above and downstream in Chinatown, Eau Claire and Downtown support aspirations of Crescent Heights development. These stakeholders hope Centre Street LRT development does not impair long term traffic volume and flow along this roadway into the downtown, otherwise traffic volumes will divert to 10th Street NW, 4th Street / 12 Avenue NW, and Edmonton Trail and impairing related community and business development.
 - Most prefer
 - An underground LRT alignment under Centre Street
 - LRT station in proximity of 9th Avenue N though this will introduce higher density, transit-oriented development considerations

- Completion of the Centre Street alignment with a 16th Avenue N intersection development including a terminus north of 20th Avenue.
- Require more information in regards to Center vs. Side running track and LRT stations south of the 16th Avenue station at Centre Street North alignment traffic on residential streets and does not create a blight on neighbouring main streets

Attachment 6: Common Stakeholder Interests and Mitigation

Introduction

Administration has reviewed the What We Heard Report (Attachment 5), summarized the results from engagement sessions, including common stakeholders' interests, and identified ways some of these can be addressed and mitigated through the planning and design process. Specific responses have been provided to address stakeholder common interests by presenting additional information, identifying potential solutions and sharing additional scopes of work that are planned to be included as part of the Green Line work program.

Interest-Response Matrix

Public engagement took place from January 29 to April 30, 2020 and included a series of in-person and online engagement opportunities to share additional details about the updated Stage 1 alignment with focus on the Centre Street, Bow River Crossing, Downtown Core and Beltline areas.

In March, four open houses events were hosted in communities where changes to the alignment are being proposed, including the Beltline, Eau Claire, Chinatown and Crescent Heights. In addition, six pop-up information sessions and five drop-in storefronts were held in February and March along the entire future Green Line route from North Pointe to Seton. In total, engagement events were attended by nearly 1,300 Calgarians and over 4,200 comments were collected.

Input gathered through these engagement events was compiled and analyzed to identify common stakeholder interests. Common interests are organized by focus area and categorized under general themes to which a response and/or potential mitigation measure has been identified. Focus areas include:

Centre Street: specifics to Centre Street alignment (Centre Street N from 7 Avenue N to 16 Avenue N), includes surfaces stations at 9 Avenue N and 16 Avenue N.

Bow River Crossing: specifics to new bridge over Bow River (abutment at Eau Claire Promenade to abutment and transition onto Centre Street N), includes existing Centre Street Bridge.

Downtown Core: specifics to Downtown alignment (2 Street S.W. from Bow River to 9 Avenue S.W.), includes stations at 7 Avenue S.W. and 2 Avenue S.W.

Beltline: specifics to Beltline alignment (11 Avenue S from Elbow River to 2 Street S.W.), includes underground alignment and stations at Centre Street S and 4 Street S.W.

Common stakeholder interests and our response: Centre Street N

Interest:	Response:
Desire to include a station at 9 Avenue N as part of updated Stage 1 alignment	<p>The Green Line team is recommending that a station at 9 Avenue N be included as part of the updated Stage 1 alignment.</p> <p>An evaluation of this station concluded it will provide added connections to the community and area businesses and enable opportunities for future transit-oriented development.</p>
Movement of local traffic and increased short cutting through the community	<p>The project has identified planning and design objectives to:</p> <ul style="list-style-type: none"> • Manage vehicle access for local residents and businesses • Minimize impacts to existing properties and businesses <p>The mobility network in Crescent Heights will change with a surface-running LRT on Centre Street. A Community Traffic Review and Plan will be developed to address changes to the mobility network, which may include additions and modifications to existing community traffic-calming measures.</p> <p>The recommendation for a middle-running LRT configuration on Centre Street will help manage local traffic concerns as this provides a balance between left-turn access and train operations without significant impacts on local community traffic.</p>
Loss of roadway capacity on Centre Street and impacts to surrounding mobility network	<p>Operating Green Line as a surface-running LRT on Centre Street will reduce the number of vehicular lanes from four to two. It is expected that Centre Street will shift from a commuter route to one that provides more local circulation and access for businesses and residents.</p> <p>It is expected that traffic volumes will drop on Centre Street as drivers move to alternate routes, such as Edmonton Trail, Deerfoot Trail, 14 Street N.W. and 10 Street N.W.</p> <p>A Community Traffic Review will be undertaken for the area to examine existing traffic patterns, determine which alternate routes will receive more traffic, and develop strategies to manage impacts.</p>
Desire for improved pedestrian safety & more comfortable pedestrian environment	<p>The project has identified planning and design objectives to:</p> <ul style="list-style-type: none"> • Provide public realm that prioritizes pedestrian experience along corridor • Provide pedestrian connectivity across corridor. <p>Streetscape improvements will be included as part of Green Line and will include new sidewalks up to building face (pending agreement with private land owners), pedestrian oriented street lighting, opportunities for tree planting, and new furniture such as benches, bike racks and waste and recycling bins. Pedestrian safety and connectivity across the corridor will be improved by providing signals at all pedestrian crosswalks.</p>

Impacts to businesses from surface-running LRT and Green Line construction activities	<p>The project has identified planning and design objectives to:</p> <ul style="list-style-type: none"> Minimize impacts to existing properties and businesses <p>On-street parking will be removed with the introduction of a surface-running LRT on Centre Street. A Business Access, Loading and Parking Plan will be developed to explore potential solutions to support local businesses. This plan may look at changes to on-street parking on adjacent avenues and new opportunities for off-street short-term parking.</p> <p>Green Line will be developing a Community and Business Support Program to help businesses plan for and manage the potential impacts of construction.</p>
Increased noise, crime & social disorder due to LRT	<p>Public safety and security are important to The City. Crime Prevention Through Environmental Design (CPTED) principles, which considers how structures, spaces, lighting and presence of people can help to address safety and security concerns, will guide the design of LRT stations and the streetscape.</p> <p>Calgary Transit is committed to keeping customers safe when using Transit services and employs a variety of resources and tools to ensure station areas are monitored 24-hours, seven days a week, and access to immediate help is just a text or call away.</p>
Desire for increased capacity and frequent, reliable transit service to communities further north	<p>The ultimate goal is to build the complete Green Line from north of Stoney Trail to south of Seton. The recommendation being made is based on the current available budget and allows for continuing to build the Green Line in stages as funding becomes available. We continue to explore all funding opportunities to expand Green Line LRT construction for future stages. Should funding become available sooner than anticipated, then this could create opportunities to enable quicker, more cost effective and community-focused expansion.</p>

Common stakeholder interests and our response: Bow River Crossing

Interest:	Response:
Environmental impacts on Prince's Island Park and the constructed wetland and lagoon	<p>The project has identified planning and design objectives to:</p> <ul style="list-style-type: none"> Minimize environmental impact. Mitigate construction impact to users of Prince's Island Park and surrounding areas. <p>Impacts to the constructed wetland and lagoon can be mitigated through bridge planning and design. Environmental Specialists provided input into the initial bridge planning and recommended that the bridge minimize its footprint within the constructed wetland.</p> <p>Additional environmental studies will be completed as part of the bridge planning and design process to ensure that the bridge design and construction plans minimize environmental impacts and meet municipal, provincial and federal regulatory requirements relating to fish habitat, wildlife and other environmental considerations.</p> <p>During construction there will be temporary disturbance to vegetation and wildlife habitat. Construction activities will be managed to reduce impacts in the area, and The City will restore the surrounding natural area.</p>
Bridge impact on river pathway users	<p>The Green Line team has identified a planning and design objective to:</p> <ul style="list-style-type: none"> Provide continued functionality and experience of the river pathway and Prince's Island Park. <p>Connectivity along the Bow River Pathway will be maintained through the LRT bridge design. Should the bridge design impact the existing pathway, The City will mitigate by replacing or rerouting any affected sections.</p> <p>The City is recommending that the new LRT bridge include a multi-use pathway for pedestrians and cyclists, which will provide a new connection across the Bow River.</p> <p>The Green Line team is working closely with The City's Eau Claire Promenade team to understand potential impacts of the LRT bridge crossing over the river pathway and explore measures to mitigate impacts to function, experience and aesthetics of the pathway.</p>
Bridge alignment and geotechnical considerations	<p>The project has identified planning and design objectives to:</p> <ul style="list-style-type: none"> Incorporate flexibility for thoughtful bridge architecture options. <p>The bridge is needed to cross the Bow River and connect between 2 Street S.W. and Centre Street N, and the configuration requires curves in the bridge alignment. The shape (radii) of these curves are constrained by the operating requirements of the LRT.</p>

	Through the next stages of planning, The City will conduct detailed technical investigations and studies to refine the bridge alignment and configuration, including the shape of the curve.
Bridge impact on the views of adjacent residents	<p>The project has identified planning and design objectives to:</p> <ul style="list-style-type: none"> • Minimize impacts to existing residential and commercial properties. • Minimize impacts to views. <p>The City has been evaluating different bridge types and producing photo renderings from different viewpoints to understand how views may be affected. The renderings have demonstrated that simple bridge types can minimize the impact to some views. The next stage of bridge planning will provide opportunities for citizens to inform bridge architectural design objectives.</p>
LRT operation on the bridge creating noise that affects park and pathway users and adjacent residents	<p>The project has identified planning and design objectives to:</p> <ul style="list-style-type: none"> • Provide continued functionality and experience of the river pathway and Prince's Island Park • Minimize impacts to existing residential and commercial properties. <p>Green Line's low-floor LRT system is expected to be quieter and generate less vibration than the existing Calgary LRT system. The project has adopted internationally recognized guidelines to help evaluate the potential effects noise and vibration from transit systems.</p> <p>A series of measures will be implemented to mitigate noise and vibration, including undertaking noise and vibration studies to identify where mitigation measures might be required and installation of special track systems and other noise and vibration abatement measures. In addition, specifications for our new light rail vehicles (LRVs) will outline requirements to make the LRVs quieter than Calgary's existing fleet.</p>

Common stakeholder interests and our response: Downtown

Interest:	Response:
Impacts on local traffic, access and circulation	<p>The project has identified planning and design objectives to:</p> <ul style="list-style-type: none"> Minimize impacts to the mobility network. <p>The Green Line team responded to concerns expressed by area businesses and property owners by revising the plan of the 2 Avenue S.W. station area by moving the portal and station out of the road right-of-way and integrating the LRT infrastructure directly into the future Eau Claire Market redevelopment site.</p> <p>By integrating the station into the redevelopment site, there will be no impacts to the existing road network in this area and therefore no changes to local traffic, access or circulation.</p>
Reduced quality of life due to safety and visual impacts of LRT	<p>Public safety and security are important to The City. Crime Prevention Through Environmental Design (CPTED) principles, which consider how structures, spaces, lighting and presence of people can help to address safety and security concerns, will guide the design of LRT stations and the streetscape.</p> <p>Locating 2 Avenue S.W. station out of the roadway and into an adjacent redevelopment site moves the station further away from area residences, thereby reducing the visual impact and providing an opportunity for an integrated redevelopment.</p>
Impacts due to noise & vibration from LRT operations	<p>Green Line's low-floor LRT system is anticipated to be quieter and generate less vibration than the existing Calgary LRT system. The project has adopted internationally recognized guidelines to help evaluate the potential effects of noise and vibration from transit systems.</p> <p>A series of measures will be implemented to mitigate noise and vibration, including undertaking noise and vibration studies to identify where mitigation measures might be required and installation of special track systems and other noise and vibration abatement measures. In addition, specifications for our new light rail vehicles (LRVs) will outline requirements to make the LRVs quieter than Calgary's existing fleet.</p>
Residential property values decreasing due to proximity to station	<p>In many cities, Calgary included, high density residential developments experience a positive uplift in property values when new rapid transit stations are built within close proximity to a development.</p>

Common stakeholder interests and our response: Beltline

Interest:	Response:
Interest in improved public realm & the roadway and sidewalks	<p>The Green Line Project Team has identified planning and design objectives to:</p> <ul style="list-style-type: none"> • Locate stations to support the vision of the Rivers District Master Plan. • Explore opportunities to integrate station entrances into adjacent developments. <p>The public realm and streetscape will be reinstated in areas where LRT construction is anticipated to create disturbances to both the roadway and existing streetscape.</p> <p>Within the Beltline, this will include areas around the Centre Street S and 4 Street S.E. stations, and potentially in areas where construction will occur above-ground. Public realm improvements within the Rivers District will incorporate the vision of the Rivers District Master Plan.</p>
Underground station design, safety and security	<p>Public safety and security are important to The City. Crime Prevention Through Environmental Design (CPTED) principles, which considers how structures, spaces, lighting and presence of people can help to address safety and security concerns, will guide the design of LRT stations and the streetscape to mitigate against undesirable activities, including crime and graffiti.</p> <p>Stations will be appropriately sized to accommodate peak passenger volumes and event loading requirements.</p>
Negative impacts during construction	<p>Our contractors will be required to manage construction dust, noise and debris, similar to other City of Calgary construction projects.</p> <p>The City will be developing a Community and Business Support Program to help businesses plan for and manage the potential impacts of construction.</p> <p>The Green Line project team will be working with Calgary Municipal Land Corporation and other area stakeholders to manage the potential impacts of concurrent construction projects in the Beltline, such as the Event Centre and BMO expansion, among others.</p>



GREEN LINE LRT

TECHNICAL MEMORANDUM

NORTH CENTRAL BRT IMPROVEMENT CONCEPTS

Document Number		Rev B
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Revision Record					
Rev.	Description	Originator	Checker	Approver	Date
A	Draft Issued for Discussion	David Thatcher			March 29, 2020
B	Report Issued for Green Line Committee	David Thatcher	Josh Workman		May 8, 2020

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1 BACKGROUND

The Centre Street N and Harvest Hills Boulevard corridor in north central Calgary is Calgary Transit's busiest bus corridor, as illustrated in Figure 1. The corridor currently carries just under 1,000 busses per day in its highest volume section between Beddington Boulevard N and 64 Avenue N and over 800 busses per day in and out of downtown Calgary. The corridor supports a peak transit ridership of approximately 30,000 customers per day with approximately 20,000 of those customers traveling in and out of downtown Calgary.

This memo provides a review of existing bus service on the Centre Street N/Harvest Hills Boulevard N corridor and identifies bus operation improvements and infrastructure modifications that could strengthen bus operations in north Central Calgary.

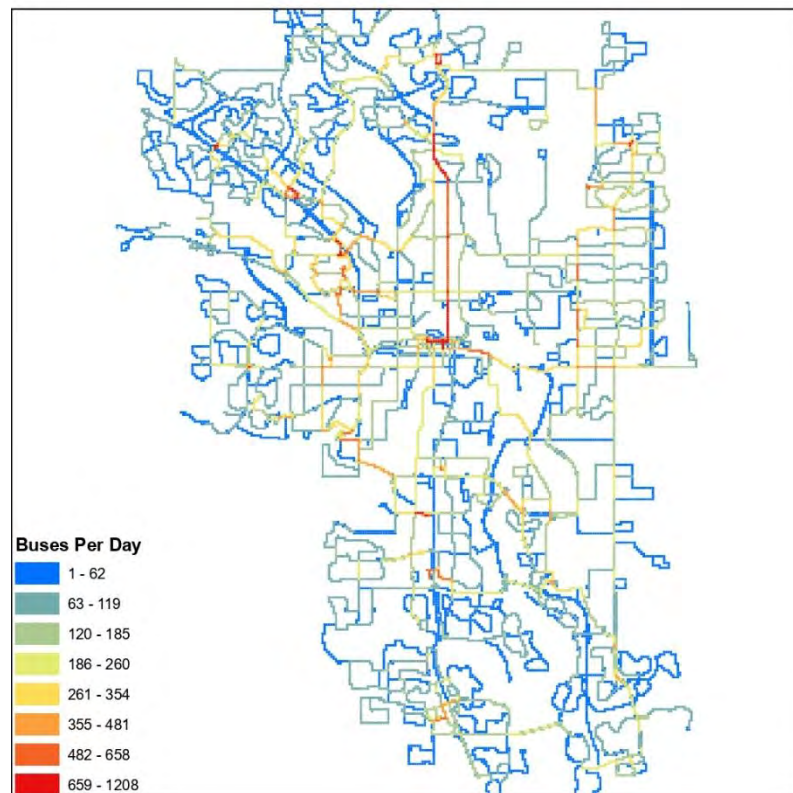


FIGURE 1 BUSSES PER DAY IN CALGARY

2 EXISTING BUS OPERATIONS

2.1 EXISTING ROUTES

A review of existing bus service was undertaken to identify opportunities to improve bus service in north central Calgary. Existing bus service in the corridor is comprised of a mix of in-street BRT, peak-hour express routes and local bus service.

BRT ROUTES

Route 300 – Airport to City Centre: This route provides service to and from the Calgary Airport seven days a week from 5 AM to midnight on a 20 to 30-minute frequency. It enters the corridor at 96 Avenue N.

Stops along the corridor: 96 Avenue N, Beddington Boulevard, 78 Avenue N, 64 Avenue N, Northmount Drive / 56 Avenue N, McKnight Boulevard N, 40/41 Avenue N, 28 Avenue N, 16 Avenue N and 3 Avenue N.

Route 301 – BRT North/Downtown: This route provides service between the North Pointe bus terminal and park and ride lot and downtown Calgary seven days a week from 5 AM to midnight (weekdays) on a 4 to 5-minute frequency during peak periods. This route runs the length of the corridor from the North Pointe park and ride lot to downtown.

Stops along the corridor: North Pointe, Panamont Gate N, Country Hills Boulevard N, Harvest Oak Gate N, Country Hills Road N/96 Avenue N, Beddington Boulevard N, 78 Avenue N, 64 Avenue N, Northmount Drive/56 Avenue N, 40 Avenue N, 28 Avenue N, 16 Avenue N and 5 Avenue N.

EXPRESS ROUTES

Route 62 (Hidden Valley Express): This route provides express service from Hidden Valley, MacEwan and Beddington to downtown. This route provides six inbound busses between 6 and 7 AM and five outbound busses between 4 and 5:15 PM. This route enters the corridor at Beddington Boulevard N.

Stops along the corridor: 40 Avenue N, 28 Avenue N, 16 Avenue N, 4 Avenue S and 5 Avenue S.

Route 64 (MacEwan Express): This route provides express service from MacEwan, Sandstone, and Beddington to downtown. This route provides nine inbound busses between 6 and 7:30 AM and 10 outbound busses between 4 and 5:30 PM. This route enters the corridor at Beddington Boulevard N.

Stops along the corridor: Beddington Boulevard N, 40 Avenue N, 28 Avenue N, 16 Avenue N, 4 Avenue S and 5 Avenue S.

Route 109 (Harvest Hills Express): This route provides express service from Harvest Hills to downtown. This route provides five inbound busses between 6 and 7 AM and four outbound busses between 4 and 5 PM. This route enters the corridor at Harvest Oak Gate N.

Stops along the corridor: Bergen Crescent N, Bergen Road N, 40 Avenue N, 28 Avenue N, 16 Avenue N, 4 Avenue S and 5 Avenue S.

Route 116 (Coventry Hills Express): This route provides express service from Coventry Hills to downtown. This route provides seven inbound busses between 6 and 7 AM and seven outbound busses between 4 and 5 PM. This route enters the corridor at County Hills Boulevard N.

Stops along the corridor: Country Village Way NE, Country Hills Boulevard N, Harvest Oak Gate N, Country Hills Road / 96 Avenue N, 40 Avenue N, 28 Avenue N, 16 Avenue N, 4 Avenue S and 5 Avenue S.

Route 142 (Panorama Express): This route provides express service from Panorama Hills, Country Hills Village, Harvest Hills and Country Hills to downtown. This route provides five inbound busses between 6 and 7 AM and five outbound busses between 4 and 5 PM. This route enters the corridor at County Hills Landing / 96 Avenue N.

Stops along the corridor: Country Hills Road / 96 Avenue N, 78 Avenue N, 40 Avenue N, 28 Avenue N, 16 Avenue N, 4 Avenue S and 5 Avenue S.

LOCAL ROUTES

Route 2 (Mt Pleasant to Killarney 17 Ave): This route provides local service starting at the 78 Avenue bus terminal and generally along the parallel 4 Street corridor. This route provides approximately 5 busses per hour during peak periods and operates between 5 AM and midnight. This route enters the Center Street N corridor at 12 Avenue N and has 5 stops along the corridor.

Route 3 (Sandstone to Heritage LRT Station): This route provides the longest continuous local service along the Centre Street N corridor. This route provides approximately 8 busses per hour during peak periods and operates from 4:30 AM to midnight. This route enters the Centre Street N corridor at Beddington Boulevard N and has 28 stops along the corridor.

Route 17 (Renfrew to Ramsay): This route provides local service between Renfrew, downtown and Ramsay. This route provides approximately three busses per hour during peak periods and operates between 5 AM and midnight. This route enters the Center Street N corridor at 12 Avenue N and has five stops along the corridor.

Route 32 (Huntington to Sunridge): This local route travels along the corridor from the 78 Avenue Terminal to 64 Avenue to provide service to points east of the corridor. This route provides approximately four busses per hour during peak periods and operates between 5:30 AM and 11:30 PM and has five stops along the corridor.

Route 88 (Harvest Hills): This route provides local service between Harvest Hills and the 78 Avenue Bus Terminal entering the corridor at Harvest Oak Gate. This route provides service from 5 AM to 1 AM on a 30-minute frequency and has six stops along the corridor.

Route 114 (Panorama/Country Hills): This route provides service between the North Pointe park and ride and the 78 Avenue Bus Terminal through Panorama Hills and Country Hills. This route provides service between 5 AM and 1 AM on approximately 30-minute frequency and has seven stops along the corridor. This route enters the corridor at Country Hills Road / 96 Avenue N.

Route 124 (Evanston): This route provides service between the North Pointe park and ride and the community of Evanston. This route provides service between 5 AM and 1 AM on an approximately 20-minute frequency. This route enters the corridor at Country Village Link, but does not have any stops along the corridor other than North Pointe.

There are several other local routes that are on the corridor for a short segment to access the 78 Avenue Bus Terminal. These routes include Route 4 (Huntington – 78 Avenue N to 72 Avenue N), Route 5 (North Haven – 78 Avenue N to 72 Avenue N), Route 20 (Northmount Heritage – 78 Avenue N to 72 Avenue N), Route 46 (Beddington – Beddington Boulevard N to 78 Avenue N) and the Route 146 (Beddington – Beddington Boulevard N to 78 Avenue N).

There are also several local routes that are on the corridor for a short segment to access the North Pointe park and ride. These routes include Route 86 (Coventry Hills – Country Village Way NE to Country Village Road NE), Route 123 (Sage Hill / North Pointe – Country Village Road NE to Panatella Boulevard NW) and Route 421 (Panatella – Country Village Way NE to Panatella Gate NW).

2.2 EXISTING SERVICE / VOLUMES

Collectively, the various bus routes that operate within the Centre Street N and Harvest Hills Boulevard N corridor make this the busiest bus corridor in the city. The figures that follow provide additional information on the number of buses that operate within the corridor.

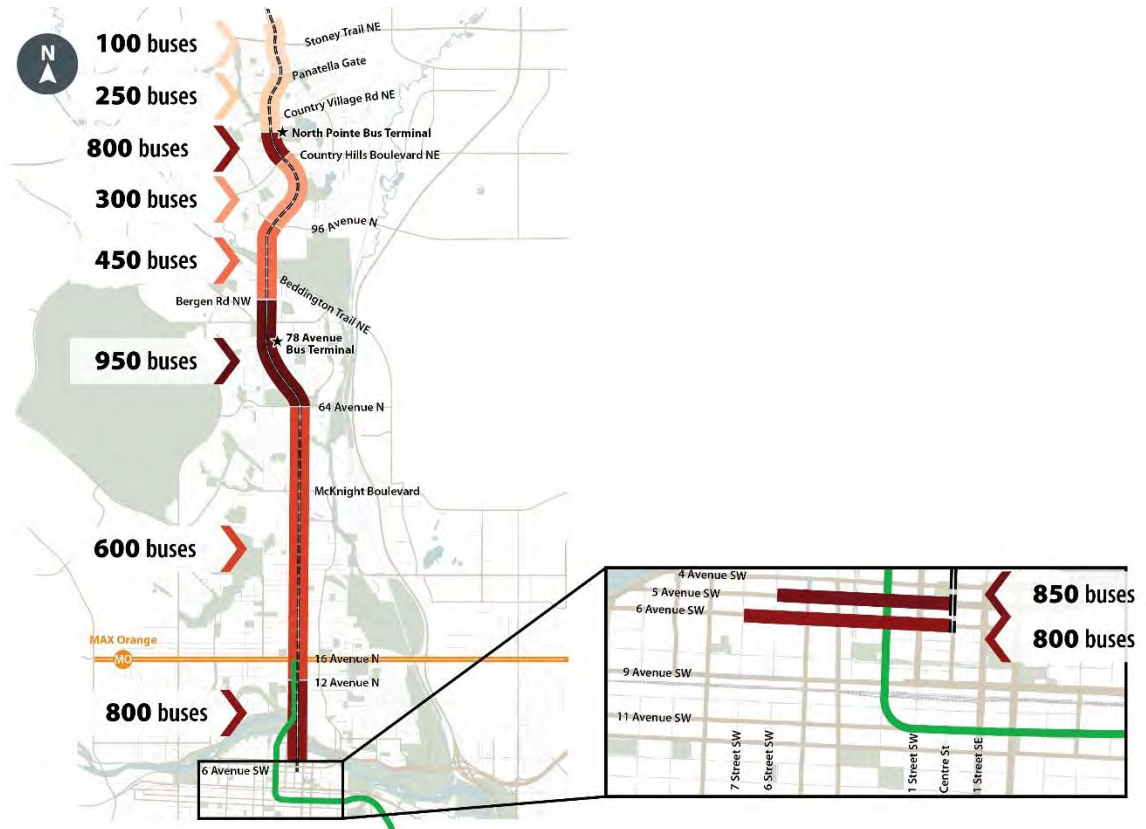


FIGURE 2 WEEKDAY BUS VOLUMES (CENTRE STREET N AND HARVEST HILLS BOULEVARD N CORRIDOR)

Figure 2 illustrates the total volume of busses on the corridor per day, on a segment by segment basis. The stretch of Centre Street N between Beddington Boulevard N and 64 Avenue N carries 950 busses daily, which is the highest concentration of busses within the corridor.

Figure 3 provides an approximate number of buses on the corridor in the peak period, by route and on a segment by segment basis. As illustrated in the figure, there are over 70 busses per hour in the peak direction of flow in the segments in and around the 78 Avenue Bus Terminal. Across Centre Street bridge, there are over 60 busses per hour in the peak direction of flow, which equates to more than one bus per minute.

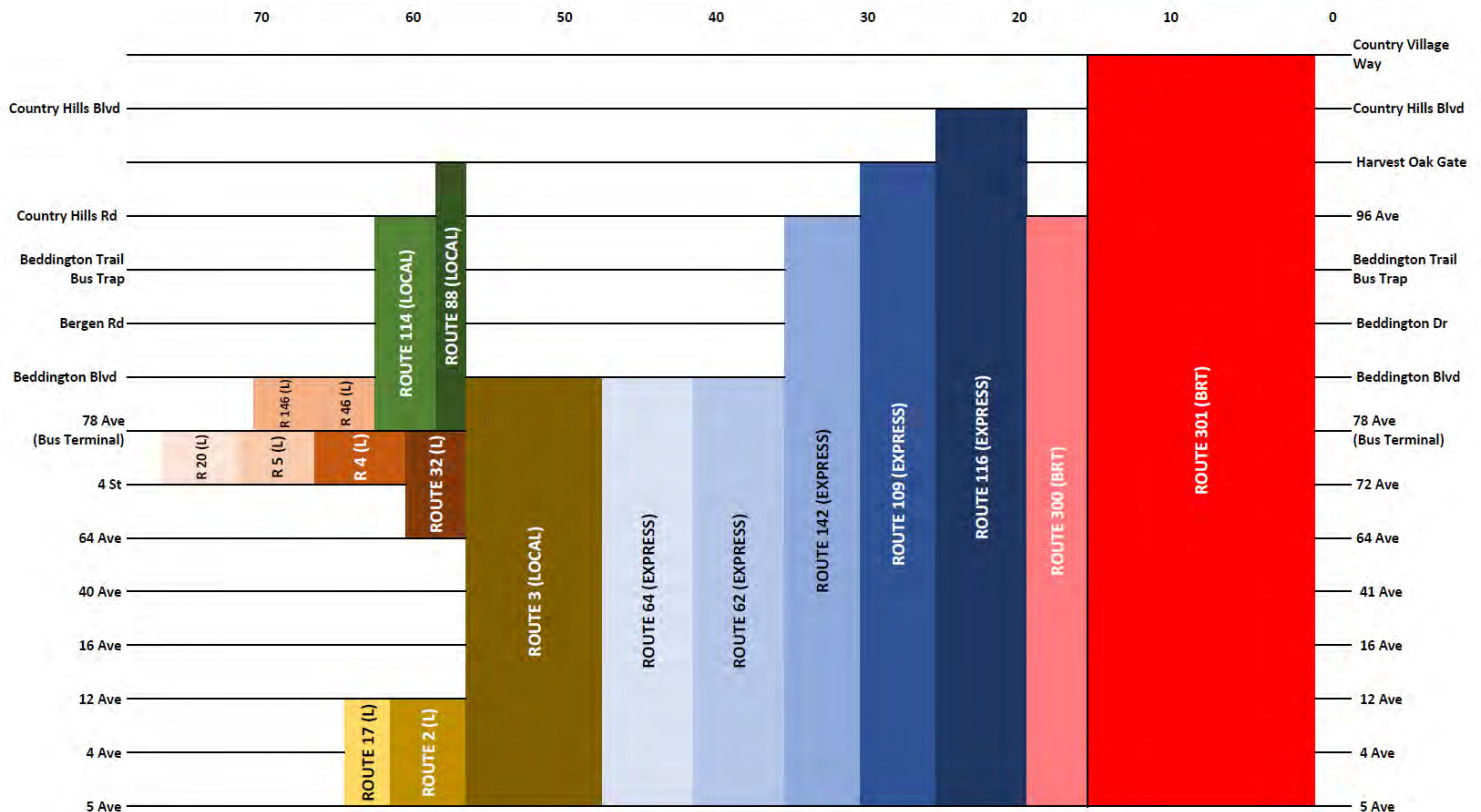


FIGURE 3 PEAK HOUR/DIRECTION OF FLOW BUS VOLUMES (CENTRE STREET N AND HARVEST HILLS BOULEVARD N CORRIDOR)

Figure 4 illustrates the total boardings and off-boardings per day along the corridor. Note that the numbers shown on the map represent the total boardings and off-boardings within the surrounding area of the Route 301 stops, including those from other bus routes that use the Centre Street N and Harvest Hills Boulevard N corridor. This graphic illustrates that the areas around the North Pointe, Beddington Town Centre and 16 Avenue N bus stops are the busiest along the corridor.

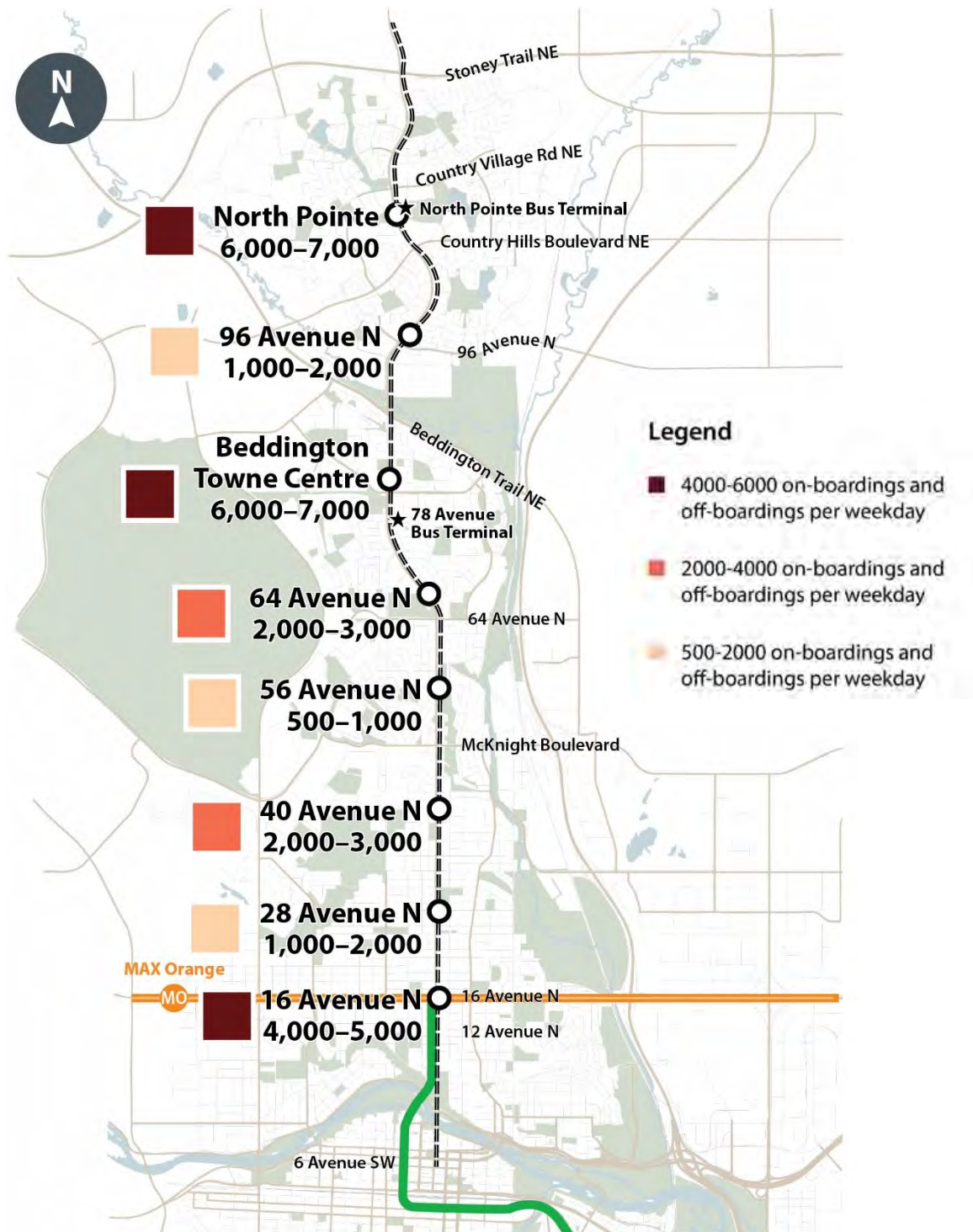
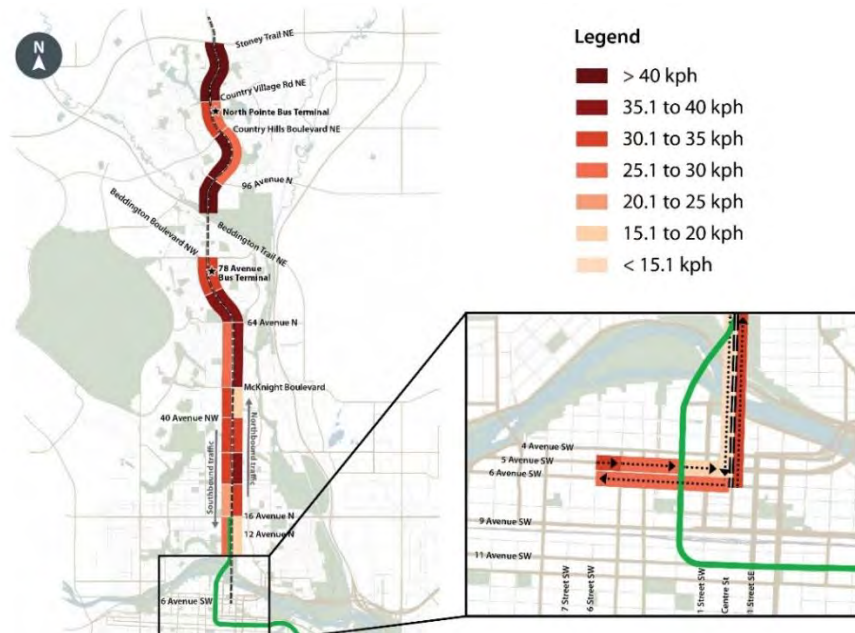


FIGURE 4 BOARDINGS AND OFF-BOARDINGS (CENTRE STREET N AND HARVEST HILLS BOULEVARD N CORRIDOR)

2.3 EXISTING TRAFFIC & BUS OPERATIONS

In evaluating the overall operations, we compared average general-purpose traffic and bus speeds within the Centre Street N and Harvest Hills Boulevard N corridor. Figure 5 illustrates the general-purpose traffic and bus speeds in the corridor.

GENERAL-PURPOSE TRAFFIC SPEEDS



BUS SPEEDS



FIGURE 5 BUS AND GENERAL-PURPOSE TRAFFIC SPEEDS (CENTRE STREET N AND HARVEST HILLS BOULEVARD N CORRIDOR AND DOWNTOWN)

As illustrated in Figure 5, bus traffic along the Centre Street N and Harvest Hills Boulevard N corridor and through the downtown generally operates slower than the vehicular traffic in the same sections of roadway.

These bus speeds take into account acceleration and deceleration of the busses, but not dwell times at stops. Given the gap between bus and general-purpose traffic travel speeds there is room for improvement in the bus operations within the corridor.

The other observation that can be made from the corridor speed figure is how much busses slow down through the downtown core. The adjacent pictures illustrate some of the challenges with the existing downtown bus operations, which contribute to lower bus speeds. There is significant vehicular congestion throughout downtown. While busses generally overtake the curblane during peak periods at stop locations, they have to navigate turning traffic at intersections, parkade entrances and alleyways.



While not factored into the speed data presented in the above speed figure, one significant area where existing bus operations lose travel time is in the dwell time at bus stops along the corridor. This is due to the time it takes for each customer to board the bus and pay for their trip. An example of this can be observed at the stop located at the intersection of Centre Street and 4 Avenue S where it can regularly take 45 seconds or more for passengers to board the bus.

2.4 EXISTING TRANSIT PRIORITY MEASURES

A number of transit priority measures have been implemented throughout the Centre Street N and Harvest Hill Boulevard N corridor to improve bus operations. An understanding of the measures currently in place is important in order to identify areas for operational improvement throughout the corridor. A summary of existing transit priority measures is described below.

- **Transit Signal Priority (TSP):** Over 60% of the traffic signals along the corridor have TSP measures. These measures extend a signal's green time if a bus is approaching.
- **Bus Trap:** There is a bus trap located just south of Beddington Trail that allows bus-only access to travel between Centre Street N to the south and Harvest Hills Boulevard N to the north. This bus trap provides a significant travel time advantage for busses travelling along the corridor

from points north of Beddington Trail as the connections to Centre Street for general purpose traffic are much more circuitous. Northbound busses are required to stop and wait for a gap in the southbound Harvest Hills Boulevard to eastbound Beddington Trail on-ramp traffic.

- **Queue Jump:** Queue jumps provide a bus only lane on the approaches to an intersection to allow busses to bypass the queue of vehicles at an intersection and provide a priority movement through the intersection. These are currently provided on both the northbound and southbound approaches to the McKnight Boulevard N intersection (approximately 500m in the northbound direction beginning at 43 Avenue N and approximately 350m in the southbound direction beginning at 54 Avenue N).
- **High Occupancy Vehicle (HOV) Lanes:** HOV lanes are provided from approximately 20 Avenue N into downtown. These lanes are signed to allow busses, vehicles with two or more people in them and bicycles to share the curb lane during the peak hour in the peak direction (southbound in the AM and northbound in the PM). Based on field observations, there are a significant number of single occupancy vehicles that regularly utilize these lanes during peak hours, adding to congestion in the HOV lane and therefore reducing the benefit for busses.

3 BRT IMPROVEMENTS

The balance of this document reviews a series of bus operation improvements and infrastructure modifications that could strengthen bus operations in north central Calgary. For purposes of this review, we have considered what modifications would be most beneficial when paired with the Green Line updated Stage 1 alignment recommendation.

Green Line Stage 1 extends from 16 Avenue N to 126 Avenue SE. The terminus at 16 Avenue N is temporary, as the alignment will extend north along the Centre Street N corridor through incremental expansion projects. Given the initial terminus at 16 Avenue N, the project team has identified the need to improve bus operations along the Centre Street N and Harvest Hills Boulevard corridor. This report outlines a series of improvements. Some of these improvements will require additional investigation and analysis before determining a preferred suite of recommendations for implementation.

Several of the corridor modifications discussed below require further investigation and analysis before confirming if they are warranted for investment. This would be accomplished through the preparation of a functional plan. As part of the next steps for this work, The City will be advancing a more detailed study of the below noted improvements and preparing a functional plan that will be used to advance the preferred suite of improvements to implementation.

The below list outlines BRT improvements from north to south. For quick reference, a graphical summary of these improvements is shown in Figure 7:

- **North Point to 160 Avenue N – lengthen BRT Route.**

The existing BRT route has a northern terminus of the North Pointe Park and Ride. With significant residential growth occurring north of Stoney Trail, consideration should be given to the timing of extending the BRT into the new communities north of Stoney Trail.

- **Harvest Hills Boulevard N & Coventry Hills Drive NE/Panatella Boulevard NW – Intersection Improvement.**

The City of Calgary Roads is expected to implement intersection improvements at this intersection this year to provide a northbound dual left turn to address a queue spillback issue that occurs in the northbound left turn during the PM peak period. This spill back issue currently impacts the operation of the Route 123.

- **North Pointe – Shorten the bus loop around the park and ride lot.**

Route 301 busses currently do an approximately 1km loop around the block when they reach the North Pointe park and ride lot (Harvest Hills Boulevard N to Country Village Road NE to Country Village Link NE to Country Village Way NE) before traveling back south on Harvest Hills Boulevard N. Consideration should be given to shortening this loop.

- **Harvest Hills Boulevard N & Country Hills Boulevard N – Add queue jump.**

Country Hills Boulevard was identified as a location for future grade separation as part of the Green Line North Functional Planning Study. In advance of the grade separation, consideration should be given to the provision of a queue jump at this location.

- **Harvest Hills Boulevard N & Country Hills Road NW /96 Avenue NE – Add queue jump**

We recommend that additional study be conducted on this intersection. We have received comments from both bus operators and Calgary Transit staff that there are operational issues through this section of the corridor. Additional study will be required to determine if queue jumps or modifications to the left turn lane(s) will best address the operational issues at this location.

- **Bus Trap (South of Beddington Boulevard) – Add a traffic signal and a northbound acceleration lane.**

As noted in the review of the existing transit priority measures through the corridor, the bus trap requires northbound busses to stop and wait for vehicles that are traveling southbound on Harvest Hills Boulevard. Consideration could be given to the provision of a traffic signal that would stop southbound traffic at this location to prioritize the northbound bus movements. Additionally, consideration for a longer northbound acceleration lane for the busses should also be reviewed.

- **Beddington Boulevard N to 64 Avenue N – Dedicated bus lanes & overall bus operation review.**

As noted in the review of the existing bus operations along the corridor, this section of Centre Street has the highest daily volume of busses in the corridor. This 1.8 km section of Centre Street also generally has a wider right of way than much of the southern portions of Centre Street N.

We recommend reviewing the bus operations through this section of Centre Street in more detail to determine the benefit of providing dedicated bus lanes or if other improvements would be more appropriate. One of the key considerations that will need to be taken into account is the operation of the 78 Avenue Bus Terminal and how these operations would or would not benefit from the provision of dedicated bus lanes through this area.

- **Centre Street N & McKnight Boulevard N – Review operation of existing queue jump.**

As noted earlier in this memo, queue jumps have been provided on both northbound and southbound approaches to this intersection. However, there is a need to review the operation of these queue jumps to see if any improvements can be made to address the issue of right turning traffic blocking buses from being able to continue through this intersection.

- **McKnight Boulevard N to 16 Avenue N – dedicated bus lanes.**

The provision of bus only lanes would enhance the bus operations along the Centre Street N corridor. There are several different ways that this could be accomplished. One way would be by dedicating the curb lanes for exclusive bus use throughout the day. A red color is often used to designate these lanes for bus use as illustrated in Figure 6 below.

Similar to the HOV lanes that currently exist on Centre Street south of 20 Avenue N, compliance is one of the main challenges associated with any curbside configuration is that this lane is required to be shared with right turning vehicles. Right turning vehicles are usually allowed to enter the turn lane one block prior to the locations where they would be turning right. However, there are no physical barriers preventing through traffic from traveling in the curb lane. Another option would be to only designate these lanes as bus only lanes during the peak periods. This type of approach allows the curb lane to be utilized for parking in the off-peak periods. This again can pose compliance issues because in addition to the issues highlighted above, towing would be required to clear the lane at the start of service if any vehicles were still parked in the curb lane.

One consideration with the provision of bus only lanes through this portion of the corridor is that it will result in a significant displacement of peak hour vehicular traffic. This displacement will be considered as part of the broader network study that is planned to be completed for the area north of the Bow River.

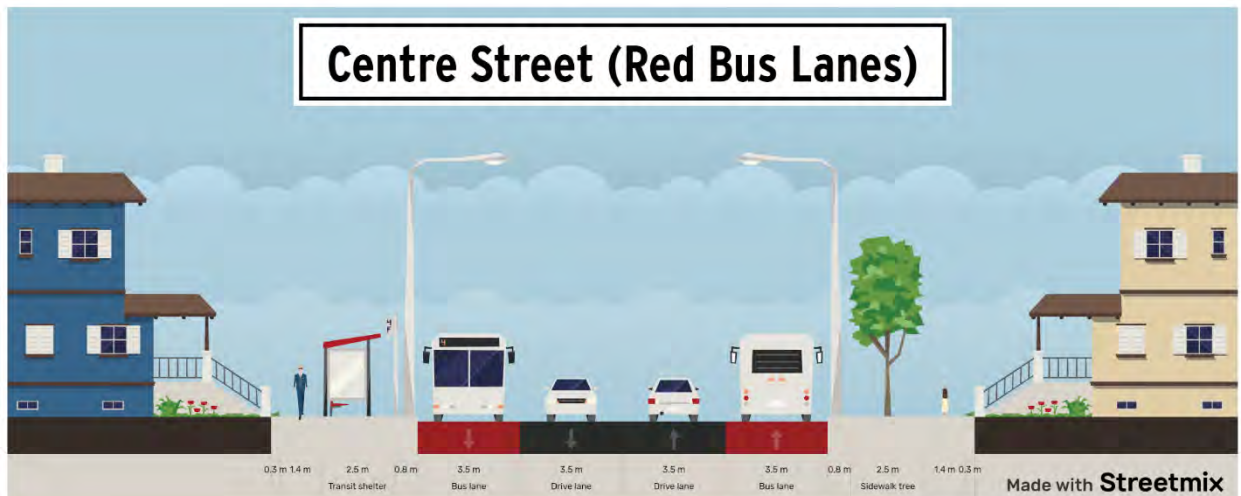


Figure 6 Curbside Bus Lanes

- **Busses Sharing the LRT ROW:** The LRT guideway on Centre Street N will be designed to allow BRT and Express buses to operate within the guideway south of 13 Avenue N to the north end of the new LRT bridge. Permitting BRT and express buses in the guideway will help improve transit travel time reliability along this stretch of Centre Street N, which is currently prone to congestion and delays bus movement.

- **Centre Street bridge - dedicated bus lanes.**

There are currently four vehicular travel lanes on the Centre Street bridge. With the construction of a middle-running at-grade LRT on Centre Street north of the bridge, the section of the corridor just north of the bridge will be reduced to two travel lanes. As a result, two of the bridge lanes could be designated for bus only use. Other items that will need to be considered when making this determination is the lane configuration that will be required when entering downtown. If it is ultimately determined that only a single lane can be provided, it will be used to accommodate busses in the peak direction of flow (southbound in the AM and northbound in the PM).

- **Downtown – bus operations review.**

The operation of busses on the loop through downtown is an area that requires further study. As noted in the description of the existing conditions, the bus operations through downtown are quite slow. In some locations, bus operations may benefit significantly from the provision of a dedicated peak hour bus lane adjacent to the curbside stop locations.

- **Corridor Wide - improved customer amenities.**

In addition to the above noted operational improvements, we are also recommending that improved customer amenities be provided. This would include amenities such as MAX BRT stations which include elements such as near-level boarding, real time information, enclosed heated shelters and improved lighting and security.

- **Corridor Wide - transit signal priority.**

It is recommended that transit signal priority be installed at all remaining intersections where it is not currently present (under 40% of the signals in the north corridor). In addition, in the locations where transit signal priority has already been provided, it should be reviewed to see if any additional improvements can be made to its operation.

- **Corridor Wide - off-board fare payment.**

Calgary Transit has identified the desire to provide off-board fare payment throughout the MAX BRT system in the future. As noted in the review of the existing conditions, it can sometimes take 45 seconds or more to board the bus at certain stop locations due to passengers having to board through the front door to pay or prove payment to the bus operator. Off-Board fare payment would allow customers to board by both the front and back doors of the bus and would substantially reduce the boarding time. While this may seem like a minor improvement, this could reduce the overall travel time by as much if not more than many of the improvements listed above.

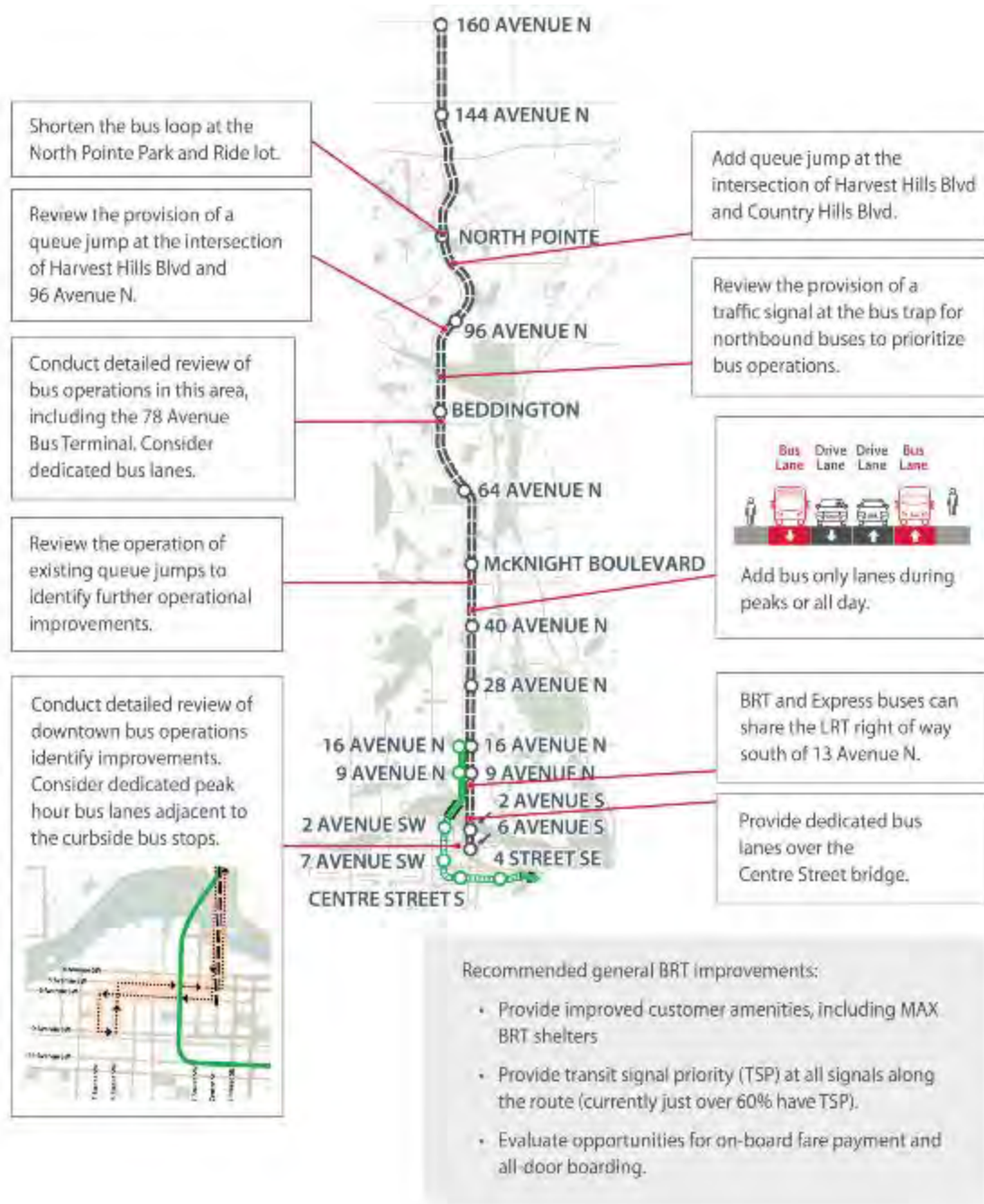


FIGURE 7 BRT IMPROVEMENTS

4 CONCLUSIONS

This memo has presented a series of bus operation improvements and infrastructure modifications that could strengthen bus operations in north central Calgary. For purposes of this review, we have considered what modifications would be most beneficial when paired with the Green Line updated Stage 1 alignment recommendation. As part of the next steps for this work, it is recommended that The City advance a more detailed study of the improvements and prepare a functional plan that will be used to advance the improvements to implementation.



Green Line LRT

Technical Report

Alignment Options Review Summary Report

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Revision Record						
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Executive Summary

Introduction

The purpose of this report is to summarise the outcomes of the Alignment Options Review undertaken for the Green Line LRT project program. This Alignment Options Review was undertaken as directed by the City of Calgary Council on July 29, 2019, in response to Administration report TT2019-0811. City Council directed Administration to review the Green Line program to ensure the project continued to meet the original objectives set by Council and that the project would deliver the best possible outcomes for Calgarians within the approved budget threshold.

Overview of Evaluation (MAE) Methodology

To support the Alignment Options Review, a Multiple Account Evaluation (MAE) framework was used to review and assess a range of potential options to ensure that the Green Line project delivers the best value for Calgarians with the available budget. This is an established process for deciding between several options, considering a range of potential factors or criteria which may impact the decision.

The MAE process provides a documented, evidence-based approach to decision making that provides an audit trail for the public and elected officials as to how options were selected and, for the options that were rejected, why that was the case. The MAE framework flows from the project vision and desired project outcomes, which inform the evaluation themes and ultimately the evaluation criteria.

The Green Line Project Vision and project outcomes were established following a broad-based public engagement process led by the City of Calgary, along with the development of an initial evaluation framework.

The MAE framework and evaluation process uses readily available data and professional judgement to:

- Considers a range of quantitative and qualitative impacts and benefits and identifies and informs the trade-offs between potentially conflicting objectives;
- Assesses the alternatives against the project vision and outcomes, examining the direct and broader public policy impacts; and
- Provides decision makers and the public with a transparent, user-friendly, evidence-based tool to help them examine, engage, evaluate and document alternatives.

Green Line Project Vision, Outcomes, Themes and Criteria

The Green Line Project Vision and project outcomes were established in 2015 following a broad-based public engagement process led by the City of Calgary, along with the development of an initial evaluation framework. The Green Line Project Vision was reconfirmed by Calgary Council on January 13, 2020 as:

“A city-shaping transit service that improves mobility in communities in north and southeast Calgary, connecting people and places and enhancing the quality of life in the city.”

Further on January 13, 2020 Calgary Council approved the following *Outcomes for Calgarians* for the Green Line project:

A transit service that:

1. Improves mobility by providing a frequent, reliable, and affordable service.
2. Contributes to an efficient transportation network that promotes transportation choice and reduces congestion, travel times and greenhouse gases.
3. Enhance connectivity between people and places including connections to the broader transit network.
4. Create a positive transportation experience – safe, accessible, comfortable and convenient.
5. Contribute positively to urban realm, community development and revitalization.
6. Contribute to the vitality of businesses in the community.
7. Protect the environment by enhancing City's environmental stewardship.

Supporting the Project vision and the Outcomes for Calgarians, six themes and criteria were established as set out below.

Evaluation Theme	Threshold Assessment	Criteria
Mobility: A transit project that improves mobility	Ability to carry the projected demand	Design capacity and expandability
		Upgradeability/Expandability
		System ridership and benefits
		Vehicular and Active modes
Connectivity: Connecting People to People and Places	Connectivity to people	People served by the Green Line
		Strategic transit network connections
Development: Urban and Regional Development	Connectivity to jobs	Downtown (north of 9th) jobs served by the Green Line
		Minimizing impact to existing developments
		Maximizing opportunities for future development
Environmental	Potential environmental impacts and risks of construction	Quantitative assessment of environmental risks and unmitigable impacts from construction and operations
Cost and Value	Funding Availability and Eligibility	Capital cost
		Operating and maintenance costs
		Eligibility for provincial and federal funding
		Value and lifespan of investment
Risk and Constructability	Project risk assessment	Identification of significant project/owner technical, delivery or financial risks

Summary of Options Evaluated

The options in the following table were evaluated against the criteria using information provided by the project team using available information and, where required, used appropriate professional skill and judgement to assess the relative impacts or performance of the option. Data sources included City transportation model data, population and employment data sets, and data provided by Calgary Transit. Not all options were modelled in full; where applicable, data was interpolated/extrapolated to undertake the evaluation.

Option Number	Description
A1	2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard
A2	Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements
B1	North BRT and Southeast BRT
B2	North BRT and Southeast LRT terminating in Beltline
B3	North BRT and Southeast LRT connection to Red Line
B4	North LRT and Southeast BRT
C1	Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S - Two systems
C2	Southeast LRT terminates in Beltline; North LRT terminates in Centre City - Two systems

Alignment Options Review Recommendations

Considering the performance of each option against the Project Vision, Outcomes for Calgarians, themes and criteria within the MAE, and, importantly, the capital cost and other constraints of the Alignment Options Review, **Option A2, the Updated Stage 1 Alignment - 16 Avenue N to Shepard, is the highest performing option.** The performance of the recommended option (Option A2) has been summarized below against the other options.

Criteria	A1	A2	B1	B2	B3	B4	C1	C2
Mobility								
Connectivity								
Development								
Environmental								
Cost + Value								
Risk + Constructability								

Mobility – Option A2 can meet the projected long-term demand, as can A1, C1 and C2, while options B2 and B3 accommodate the projected long-term demand south of the Centre City only and B4 only accommodates the long term demand in the north. Upgrading the North BRT LRT poses challenges for options B1, B2, and B3, while operational impacts during the upgrade of the South BRT in options B1 and B4 could be limited to the off-peak direction. Option A2 has no requirement to be upgraded and therefore has no issues.

Connectivity - Option A2 provides a direct north-south connection through the Centre City, as do A1 and B1, while options A1, A2, B4 and C2 also provide LRT connections to the Red and Blue line and option B3 and C1 only provide a connection to the Red Line LRT. All options except Option B1 fail to serve the full population to the north and south, however with A2, improved BRT service will be extended beyond 16 Avenue North improving connectivity for new and existing north central BRT users.

Development – Options B2 and C2 require a walk connection to sections of Centre City and do not provide LRT directly into the Downtown, while all other options provide direct connections to key employment destinations in the Centre City.

Environmental – Environmental risks are relatively equal across options, with Option A1 posing the greatest risk of disrupting contaminated soils due to significant tunnelling and Option A2 introducing additional risks from a new river crossing. Options B2, B3 B4, C1 and C2 are slightly less risky with reduced tunnelling and associated soil contamination impacts.

Cost and Value - Option B1 delivers full system, maximizing operational cost benefits at the lowest estimated capital cost, but the capacity provided does not meet long term projected demand. Long term capacity needs are also not met by sections of B2, B3 and B4 limiting their long-term value due to the cost of upgrading.

The estimated capital costs for options A1, C1, and C2 exceed the existing funding envelope. Significant operating costs may be associated with providing feeder bus service north and south of terminus locations (N+SE: options A1, A2, C1 and C2; SE only: options B2, B3 and B4). Option A2 sits within the funding envelope, provides value in that it meets projected demand and does not require upgrading, although it does still incur significant bus operating costs until the system is expanded.

Risk and Constructability – Options A1 and A2 include geotechnical risks due to significant underground infrastructure, A1 more so than A2, while Option A2 includes new Bow River crossing. Option B1 poses challenges for vehicle movements and bus operations within the Centre City. Public perception of BRT as an inferior mode relative to LRT has the potential to impact ridership for options B1, B2, B3, and B4. Additional political and public perception risks are associated with changes to previously announced corridor technologies in Option B4. In addition, options that include LRT to the North would incur significant schedule delay (2+ years) which may create challenges with the availability of funding from senior levels of government.

Conclusions

The evaluation indicates that that within the constraints of the review, **the updated Stage 1 alignment (Option A2) is the best performing option across a broad range of the criteria.** Option A2 is a variation on the original project, but that focuses on reducing the tunnelling risk and trades off the cost of tunnelling and underground options with the impacts of running at-grade. The inclusion of BRT improvements will provide additional benefits to new and existing north central BRT riders over Option A1. Option A2 also provides improved service to the communities in both the north and southeast and provides direct connectivity to the Centre City as well as to the Red and Blue LRT lines and the MAX Orange bus line. In addition, this option addresses the most technically complex and capital intensive aspects of the long-term vision and has the highest state of delivery readiness. It will also best facilitate future extensions and demonstrates the City's commitment to implementing the long-term vision for the Green Line LRT – a cornerstone of Council's approved transit plan – *RouteAhead: A Strategic Plan for Transit in Calgary*.

1 Introduction

1.1 Project Development to Date

The long-term vision for the Green Line light rail transit (LRT) project is to serve and connect the growing populations in north central and southeast Calgary with a fast, frequent and reliable, high quality transit system. These communities are growing quickly and, over the next 30 years, the population in the north central is expected to increase by over 50% from 170,000 to over 250,000 people and in the southeast, the population will double from 135,000 to over 270,000 residents. The full project will ultimately be 46km in length, serve Calgarians in more than 27 communities with 29 planned stations and eventually carry over 200,000 trips a day.

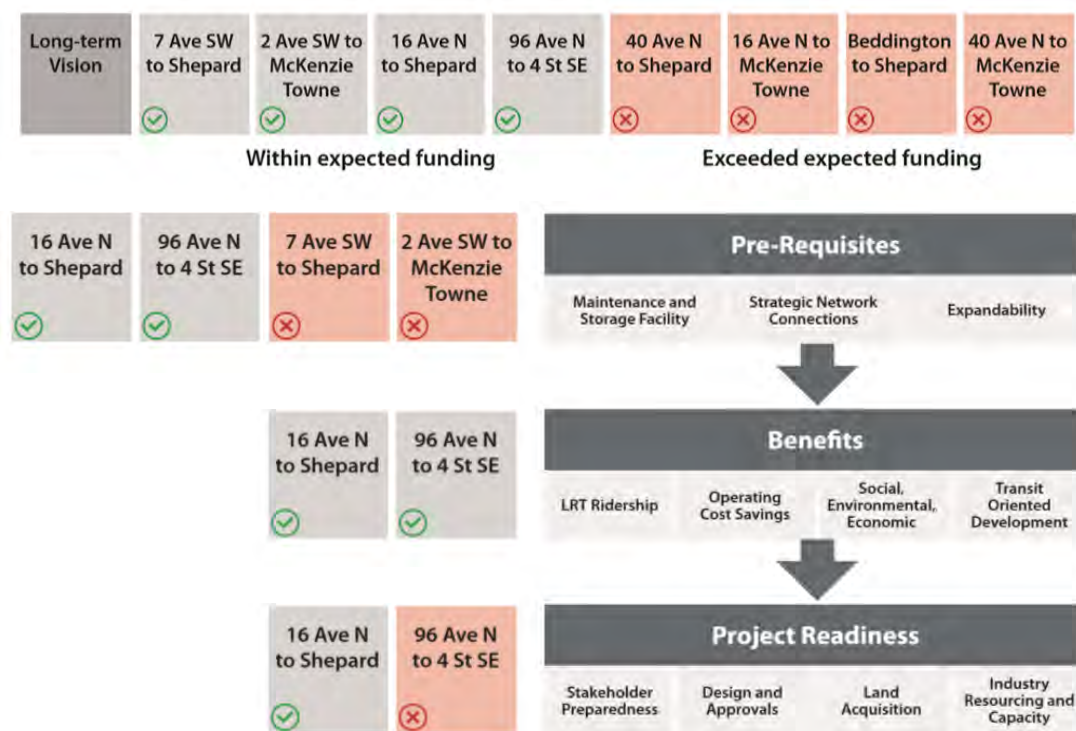
The Green Line project is included in the Council's approved transit plan – *RouteAhead: A Strategic Plan for Transit in Calgary* and is a key element in successfully meeting the long-term Municipal Development Plan (MDP) and Calgary Transportation Plan (CTP) goals. The Green Line will improve mobility choices, connect people and places and enhance the quality of life of the communities that it connects. It will deliver high quality transit service to Calgarians in the north central and southeast and is a key part in the future transit network in the city. Along with the new MAX bus rapid transit lines, Calgarians will have fast, frequent and reliable transit service that strategically connects communities, employment hubs, and key destinations across the city.

In 2015, the project received nearly \$5B in funding from a combination of the Federal, Provincial and City governments and recognising that, like the Red and Blue Lines, the Green Line would need to be delivered in stages, the project team considered a range of initial options for the first stage of the line (Stage 1). A detailed evaluation was completed to compare and contrast the numerous options recognising that all options needed to meet the following pre-requisites to be considered:

- Network Connections – To support opening day and projected ridership growth, the core project must connect to the Centre City and provide seamless connectivity with the existing Red and Blue lines. Network connectivity could be further enhanced by providing integrated connections to the MAX rapid transit routes.
- Maintenance and Storage Facility – Provision of a light rail vehicle facility to clean, repair and protect from the environment when parked.
- Expandability - The ability to implement the long-term vision in stages when further investments are made. This positions The City to deliver future affordable and achievable expansions.

Eight preliminary options were identified, four of which were considered above the \$5B funding available. Of the remaining four options, two provided considerably less benefit in terms of their network connections and expandability and were dropped from further consideration. The remaining two options – 16th Ave N-Shepard and 96 Ave N to 4 St SE – were both viewed as providing similar benefits however, the 16th Ave N-Shepard option was significantly more advanced in terms of project readiness, in part due to earlier planning work for the Southeast TransitWay (SETWAY) bus rapid transit (BRT) project, and was much less complex to deliver from a land assembly perspective and was therefore selected at the Stage 1 project. This evaluation and sifting process is illustrated in Figure 1.1.

Figure 1-1 Green Line Stage 1 Selection Process



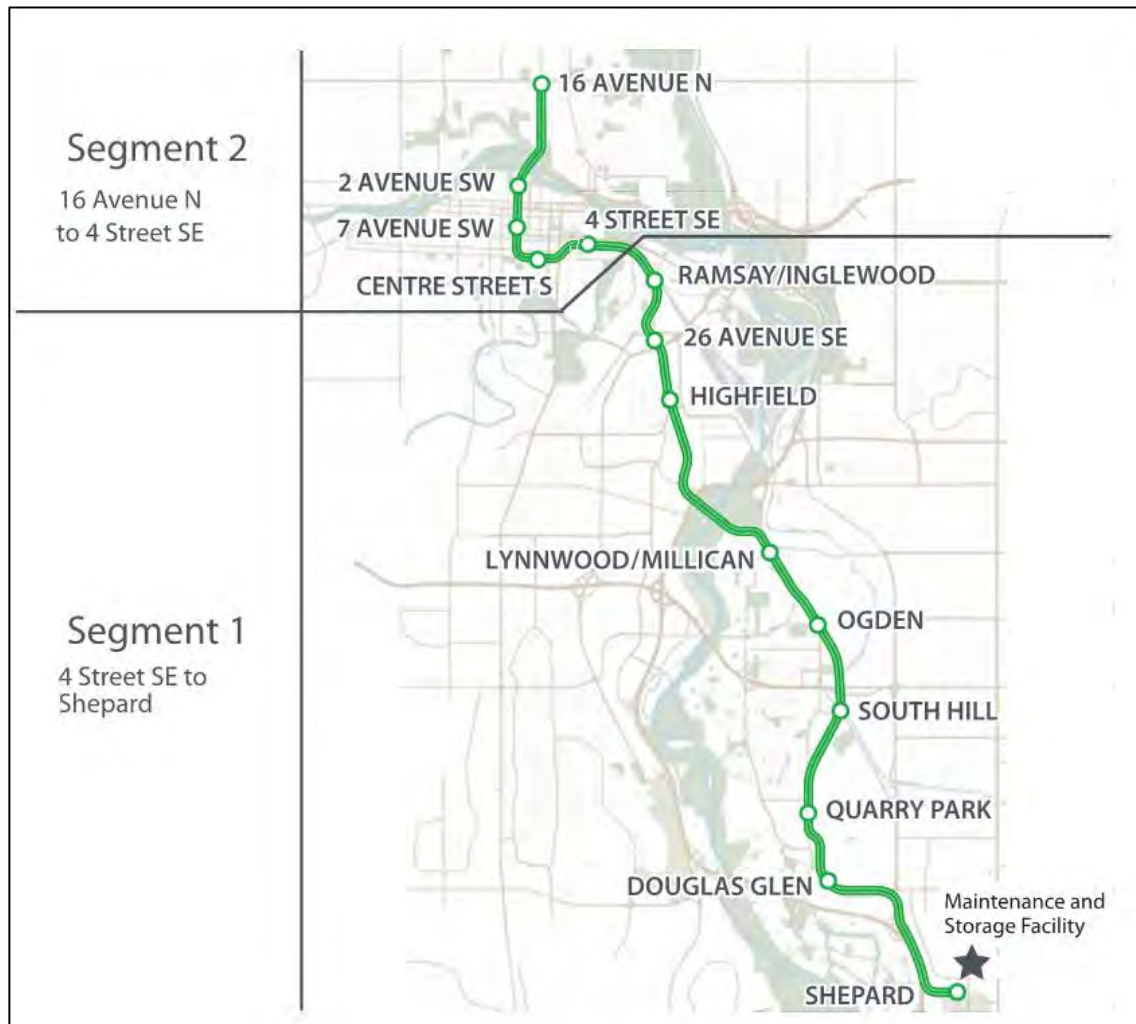
In June 2017, Council approved a Stage 1 alignment from 16 Avenue N to Shepard with a tunnel under the Bow River and through the downtown.

In summer 2019, Administration advised Council about the need to re-evaluate the scope of Stage 1 due to concerns related to the project cost estimate, which exceeded the capital budget by 10%, construction risk resulting from deep underground stations, and to improve the design to improve the customer experience and achieve the overall vision of the project. In order to continue to progress project development, the Stage 1 project was split into two segments (and potential construction contracts) as shown in Figure 1.2. The Segment 1 portion continued with a Request for Qualifications for construction issued in 2019 and Administration proceeded with a re-evaluation of the alignment in Segment 2.

In addition to re-evaluating the Segment 2 alignment, City Council directed Administration to review the Green Line program to ensure the project continued to meet the original objectives set by Council and that the project would deliver the best possible outcomes for Calgarians within the approved budget threshold. As part of that review, the Green Line LRT project team has undertaken a Alignment Options Review of the existing project as well as a range of potential options.

Reviews such as this are best practice on any major infrastructure project and are typically undertaken prior to entering into the final contracting phase(s) to ensure that the current project continues to provide the same balance of costs and benefits as the original approved project and/or scope.

Figure 1-2 Green Line Segments



1.2 Purpose of this Document

This report was prepared by Steer Davies Gleave North America Inc. (Steer) and Stantec Inc. (Stantec) for the City of Calgary (The City) as part of the Green Line LRT program to summarize the work undertaken through the Alignment Options Review to evaluate which alignment option delivers the best possible outcome for Calgarians.

2 Evaluation Process

2.1 Multiple Account Evaluation (MAE) Framework

To support the Alignment Options Review, a Multiple Account Evaluation (MAE) framework was used to review and assess a range of potential options to ensure that the Green Line project delivers the best value for Calgarians with the available budget. This is an established process for deciding between several options, considering a range of potential factors or criteria which may impact the decision.

The MAE process provides a documented, evidence-based approach to decision-making that provides an audit trail for the public and elected officials as to how options were selected and, for the options that were rejected, why that was the case. While the specific criteria selected for use in an MAE framework will vary depending on the type of decision being made, it is important to select criteria that allow differentiation between the options. No matter what specific criteria are selected, an MAE framework should always be clearly linked back to the project vision, desired project outcomes, evaluation themes, and evaluation criteria.

The project vision defines the successful ‘outcome’ of a project and provides the ‘big-picture’ focus. It should be referred to as the project progresses to inform priorities and decision making. It can be used to ensure that the solutions identified and evaluated as part of the process address the underlying needs and issues.

The project outcomes provide further detail over and above the project vision and clarify how the options will be measured and compared against each other. They also help to inform the evaluation themes and detailed evaluation criteria to explain, justify, and prioritise trade-offs between options.

Each evaluation theme is supported by detailed evaluation criteria that are used to measure and assess the relative performance of the options. When developing and applying evaluation criteria, it is important to consider the results that can be achieved given the available time, resources and project scope.

The Green Line project vision and project outcomes were established following a broad-based public engagement process led by The City of Calgary, along with the development of an initial evaluation framework. That evaluation framework was revisited and adapted for use in this Alignment Options Review using input from the project team alongside input from stakeholders and feedback received during earlier rounds of public engagement. Evaluation themes were established to provide the core focus areas of the evaluation, with more detailed evaluation criteria then defined to allow for the assessment of the options considered using more detailed performance metrics.

The MAE framework and evaluation process:

- Considers a range of quantitative and qualitative impacts and benefits and identifies and informs the trade-offs between potentially conflicting objectives;
- Assesses the alternatives against the project vision and outcomes, examining the direct and broader public policy impacts;

- Uses readily available data and professional judgement to limit the amount of abortive or excessive work being undertaken on options that are not viable and allows resources to be focused on the options with the most potential; and
- Provides decision makers and the public with a transparent, user-friendly, evidence-based tool to help them examine, engage, evaluate and document alternatives.

2.2 Green Line Project Vision and Outcomes

The Green Line project vision and project outcomes were first established in 2015 following a broad-based public engagement process led by The City of Calgary, and which were reconfirmed by Calgary Council on January 13, 2020 as:

“A city-shaping transit service that improves mobility in communities in north and southeast Calgary, connecting people and places and enhancing the quality of life in the city.”

Further on January 13, 2020 Calgary Council approved the following *Outcomes for Calgarians* for the Green Line project:

A transit service that:

1. Improves mobility by providing a frequent, reliable, and affordable service.
2. Contributes to an efficient transportation network that promotes transportation choice and reduces congestion, travel times and greenhouse gases.
3. Enhance connectivity between people and places including connections to the broader transit network.
4. Create a positive transportation experience – safe, accessible, comfortable and convenient.
5. Contribute positively to urban realm, community development and revitalization.
6. Contribute to the vitality of businesses in the community.
7. Protect the environment by enhancing City’s environmental stewardship.

The project vision and project outcomes were used to develop the evaluation themes and detailed evaluation criteria as part of the options evaluation process for the Alignment Options Review.

2.3 Green Line Themes and Criteria

As noted above, the evaluation themes and criteria established during previous phases of the Green Line project were reviewed and incorporated where appropriate, while also being adapted where needed to ensure that they were appropriate for this Alignment Options Review. Refinements included ensuring the ability for the data to be compiled within the required timescales, as well as providing detailed evaluation criteria that would help differentiate between the options being considered.

Table 2-1 lists the evaluation themes and associated evaluation criteria used in the Alignment Options Review.

Table 2-1 Green Line Evaluation Themes and Criteria

Evaluation Theme	Threshold Assessment	Criteria
Mobility: A transit project that improves mobility	Ability to carry the projected demand	Design capacity and expandability
		Upgradeability
		System ridership and benefits
		Vehicular and Active modes
Connectivity: Connecting People to People and Places	Connectivity to people	People served by the Green Line
		Strategic transit network connections
Development: Urban and Regional Development	Connectivity to jobs	Downtown (north of 9th) jobs served by the Green Line
		Minimizing impact to existing developments
		Maximizing opportunities for future development
Environmental	Potential environmental impacts and risks of construction	Quantitative assessment of environmental risks and unmitigable impacts from construction and operations
Cost and Value	Funding Availability and Eligibility	Capital cost
		Operating and maintenance costs
		Eligibility for provincial and federal funding
		Value and lifespan of investment
Risk and Constructability	Project risk assessment	Identification of significant project/owner technical, delivery or financial risks

The criteria set out in the table above were used to evaluate the options considered using readily available data and professional judgement. This included use of The City's transportation model data, population and employment data sets, and data provided by Calgary Transit. Given the available timescales, not all options were modelled in full; where applicable, data was interpolated/extrapolated to undertake the evaluation.

2.3.1 Mobility Theme

Under the mobility theme, the following criteria were used to evaluate the options considered:

Design Capacity

- Maximum capacity (passengers per hour per direction) was calculated using maximum headways and vehicle capacity thresholds

Expandability

- Qualitative assessment on whether the system can be expanded / upgraded in the future

Ridership

- Modeling and estimates derived from modeled scenarios undertaken by the City's forecasting team
- Considers passenger boardings/alightings on both the north and southeast sections
- The impact on overall system ridership was also considered

- Note that full modelling of each of the scenarios was not completed due to the available timescales, however ridership was interpolated/extrapolated and based on available information

Impact on Vehicular Traffic

- Qualitative assessment of impacts to vehicular traffic, local access, and circulation (primarily focussed within the Centre City)

Impact on Active Modes

- Qualitative assessment of impacts to walking and cycling (primarily focussed within the City Centre)

2.3.2 Connectivity Theme

Under the connectivity theme, the following criteria were used to evaluate the options considered:

People Served by the Green Line in 2048

- Catchment analysis assessment undertaken in GIS using forecast population in 2048

Strategic Transit Network Connections

- Qualitative assessment noting where direct connections between the north and southeast sections of the line exist and/or connections to other LRT and MAX lines
- It is assumed that the existing bus network would be restructured to integrate with each option

2.3.3 Development Theme

Under the development theme, the following criteria were used to evaluate the options considered:

Jobs served by the Green Line in 2048

- Catchment analysis assessment undertaken in GIS using forecast employment in 2048

Minimizing Impacts / Maximizing Opportunities

- Qualitative assessment considering impacts to existing development access and identifying where particular options provided new or increased potential for future development

2.3.4 Environmental Theme

Under the environment theme, the following criteria were used to evaluate the options considered:

Environmental Impacts

- A qualitative assessment considering the potential risk to sensitive habitats (e.g. river and riparian ecosystems)
- A qualitative assessment considering the potential risk of geotechnical activity and tunnelling disturbing contaminated soils requiring remediation

2.3.5 Cost and Value Theme

Under the cost and value theme, the following criteria were used to evaluate the options considered:

Capital Cost

- Quantitative estimate of construction costs based on the preliminary plan and profile design concepts provided by the project team

Operating and Maintenance Cost

- Quantitative estimate of operational costs based on mode type (BRT vs LRT), station operating costs (underground vs at-grade) and any bus operating cost savings provided by the project team

Eligibility for Provincial and Federal Funding

- Initial consideration of funding eligibility (based on existing agreements and subject to change)
- Federal eligibility may depend on mode and timing of construction
- Provincial eligibility may depend on mode and how the river is crossed (at-grade or tunnel)

Value and Lifespan of Investment

- Considers how long the project meets the anticipated demand and the lifespan of the infrastructure
- Sunk cost for interim solutions and the potential to ultimately increase capacity / upgrade system and the order of magnitude cost

2.3.6 Risk and Constructability Theme

Under the risk and constructability theme, the following criteria were used to evaluate the options considered:

Risk Identification

- Identification of significant project/owner technical, delivery, schedule or financial risks

3 Options Reviewed

3.1 Overview

In parallel with the development of the MAE framework, the project team developed potential options to be considered within this review process. While there was a recognition that, if The City had funding for the full, 46 km Green Line project, that remained the priority, the development of options focussed on a set of possible alternatives within the available Stage 1 funding envelope (i.e. approximately \$5B). If additional funding were available or there was a need to deliver project for significantly less money, then a broader set of projects and options would need to be considered. And, while it was important that the scope of the options reviewed was not artificially constrained, it was also critical to limit the options to a representative set that could be evaluated within the timescales set by Council.

Within these constraints, a range of options were considered, including different LRT and BRT combinations, alternative routing, termini locations, and alternative options for the amount of tunnelling in the Centre City and for the crossing of the Bow River. A high-level summary of the options evaluated is set out below, followed by more detailed descriptions and figures.

Table 3-1 Green Line Option Descriptions

Option Number	Description
A1	2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard
A2	Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements
B1	North BRT and Southeast BRT
B2	North BRT and Southeast LRT terminating in Beltline
B3	North BRT and Southeast LRT connection to Red Line
B4	North LRT and Southeast BRT
C1	Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S - Two systems
C2	Southeast LRT terminates in Beltline; North LRT terminates in Centre City - Two systems

3.2 Detailed Option Descriptions

The options set out below were developed by the project team in conjunction with Calgary Transit and other project stakeholders. There are multiple variations on each of these that could have been considered, but this set of options was considered to be representative of the different options and trade-offs that needed to be considered as part of this process.

Option A1 – 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard

This option reflects the original Stage 1 Alignment approved by City Council in June 2017, running from 16 Avenue N to Shepard. A full twin-bore tunnel is used in the Centre City with underground stations from 16 Avenue N to 4 Street SE.

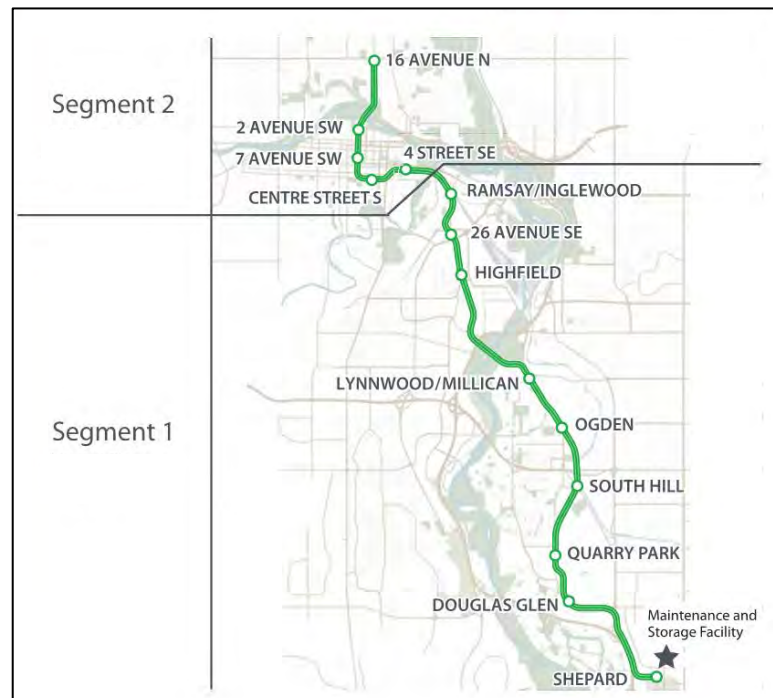


Figure 3-1 Option A1 – 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard

Option A2 - Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements

Option A2, the updated Stage 1 alignment follows a similar alignment to A1, connecting 16 Avenue N to Shepard. A2 differs from A1 in Segment 2 (Centre City) where it has surface running LRT on Centre Street N, a bridge to cross the Bow River, and a tunnel through downtown and Beltline. A2 includes two surface stations on Centre Street N, and four underground stations in the downtown and Beltline. Segment 1, Elbow River to Shepard, is the same as the alignment approved by City Council in June 2017. The North section of the alignment beyond 16 Avenue N includes a series of customer service and transit priority improvements to the existing BRT service.

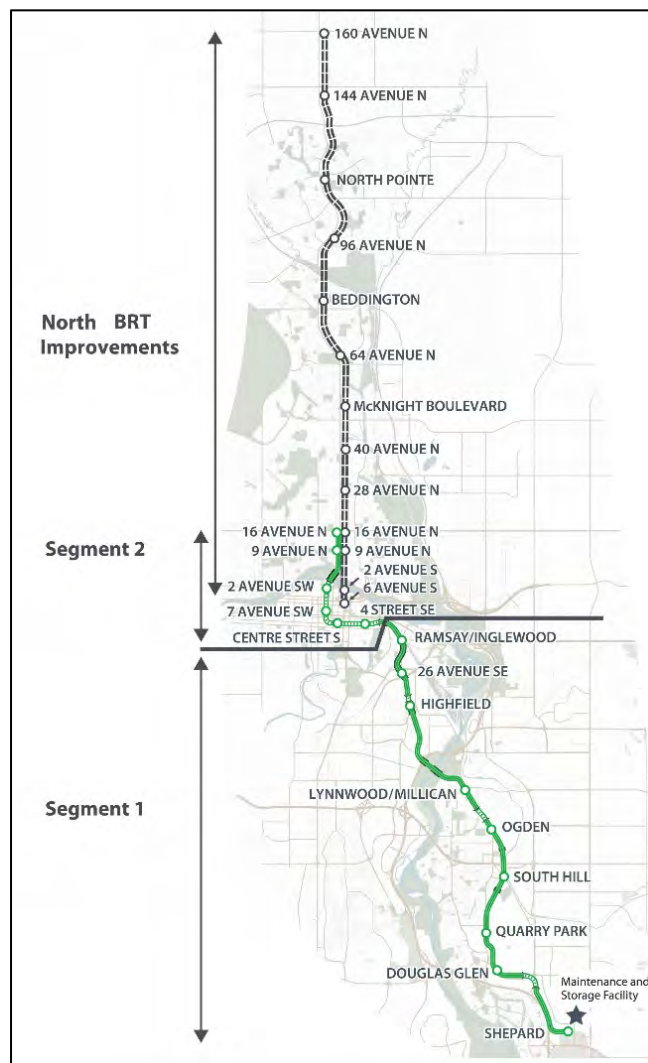


Figure 3-2 Option A2 – Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements

Option B1 - North BRT and Southeast BRT

The Southeast BRT alignment follows the June 2017 City Council approved LRT alignment between 4 Street SE station and Seton. The North BRT service connects the Centre City to Harvest Hills Blvd Corridor via Centre Street N. The Centre City connection is to be determined.

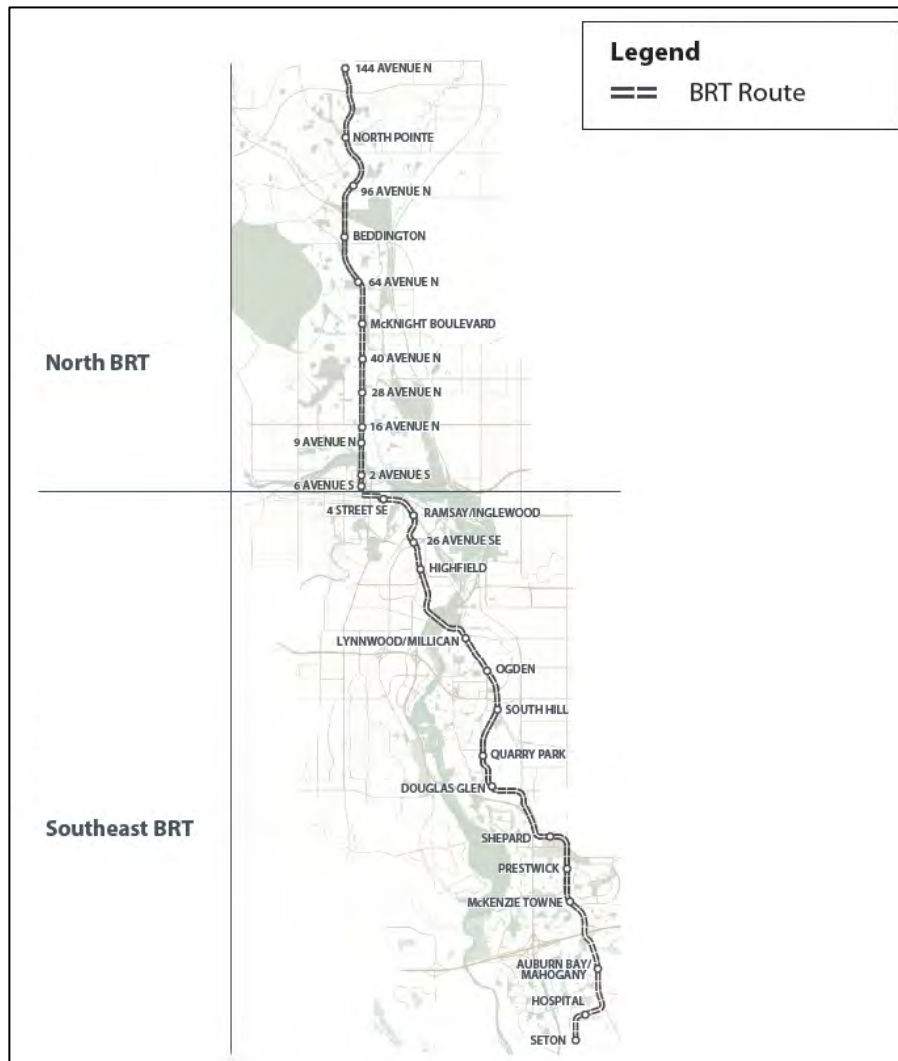


Figure 3-3 Option B1 - North BRT and Southeast BRT

Option B2 - North BRT and Southeast LRT terminates in Beltline

This option uses the LRT alignment approved by City Council in June 2017 between 4 Street SE station and McKenzie Towne, with an elevated alignment on 10 Avenue SW and terminus at 2 Street SW. There is one elevated station at 10 Avenue and 2 Street SW and a pedestrian bridge connection from 2 Street SW station over the CPR tracks to downtown. The North BRT service connects the Centre City to Harvest Hills Blvd Corridor via Centre Street N.. It does not allow for a future connection to a Green Line LRT alignment north of the Centre City.

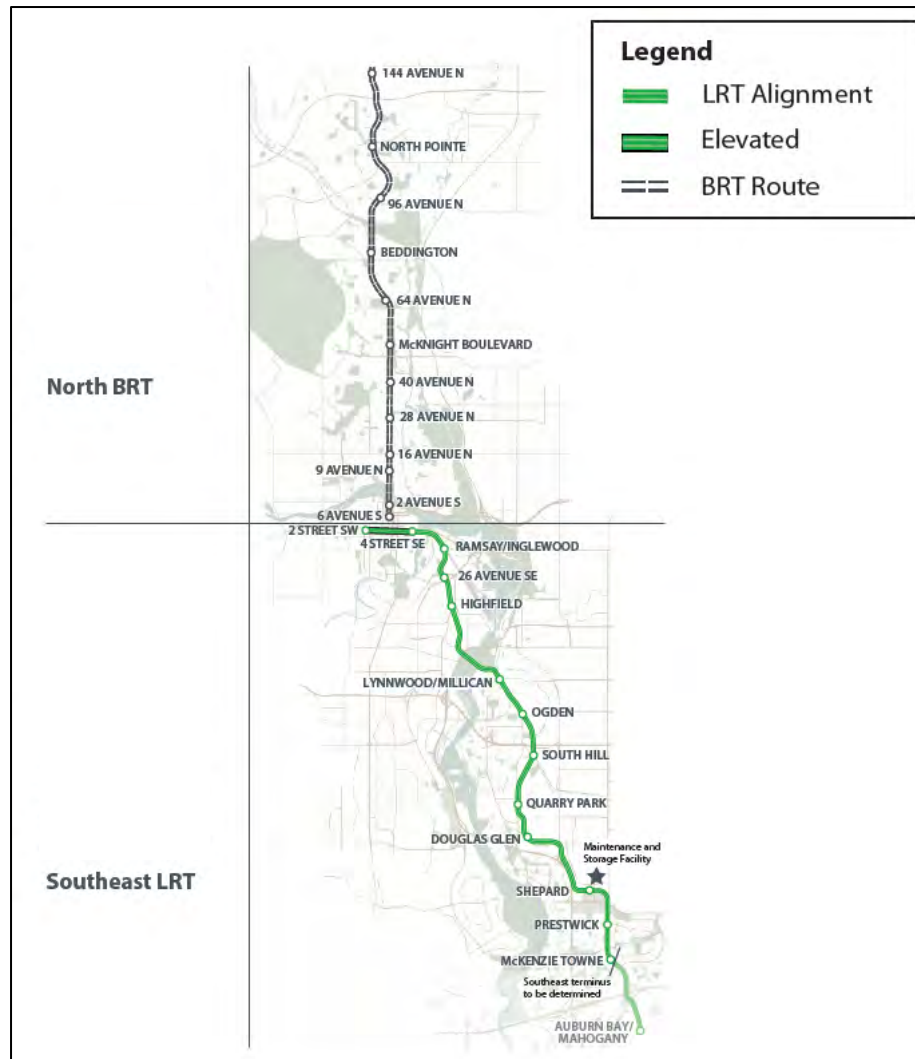


Figure 3-4 Option B2 - North BRT and Southeast LRT terminates in Beltline

Option B3 - North BRT and Southeast LRT connection to Red Line

This option uses a high-floor system on the alignment approved by City Council in June 2017 between Shepard and the Ramsay/ Inglewood station, then connects into the existing Red Line tunnel north of Stampede Park, runs north towards City Hall, departs the Red Line tunnel and turns west via a pre-built tunnel under City Hall, and then runs underground along 8 Ave S with a terminus at 2 Street SW. There would be underground stations at the Event Centre, City Hall, and 2 Street SW. The North BRT service connects the Centre City to Harvest Hills Blvd Corridor via Centre Street N.. It does not allow for a future connection to a Green Line LRT alignment north of the Centre City.

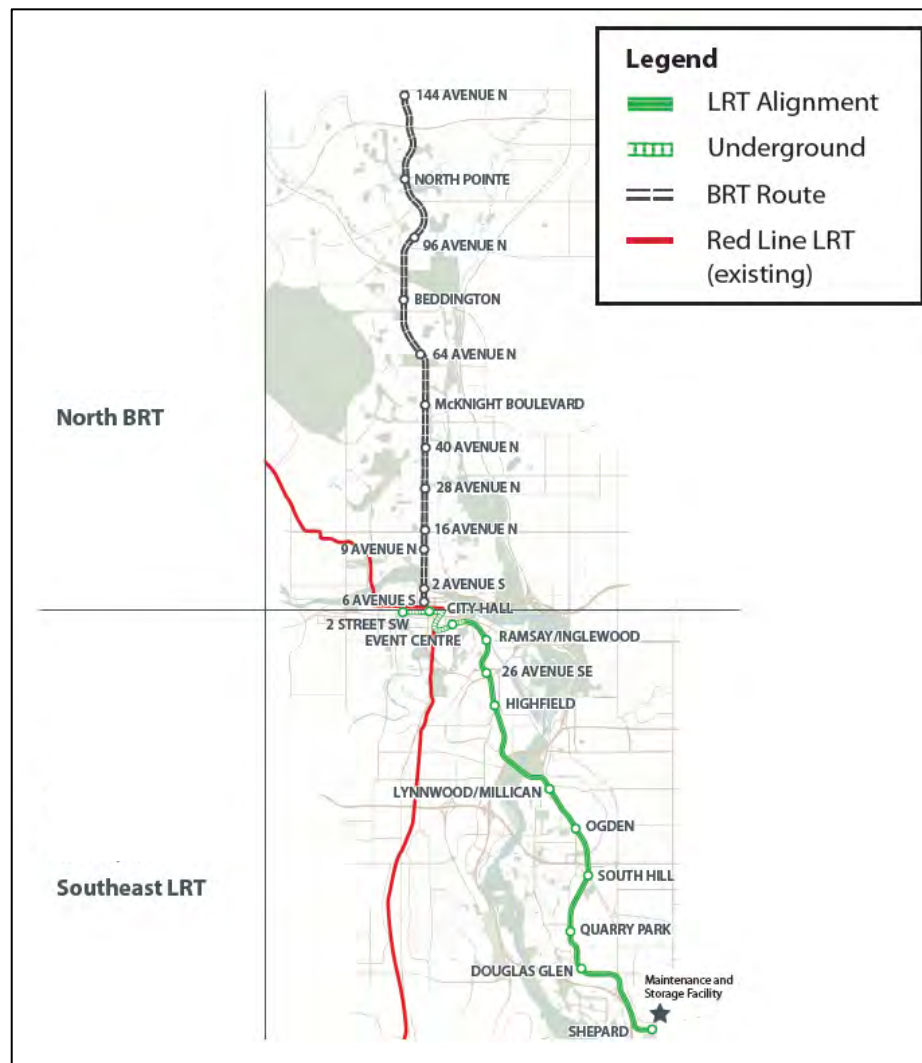


Figure 3-5 Option B3 - North BRT and Southeast LRT connection to Red Line

Option B4 - North LRT and Southeast BRT

In Option B4, the southeast BRT follows the approved LRT alignment between Downtown and Seton, with the terminus in the Centre City to be determined. The North LRT is a separate low-floor LRT system operating on a surface-running alignment on Centre Street N, crossing the Bow River on the existing Centre Street bridge. The south terminus station is at 6 Avenue S on Centre Street S, with the north terminus at 96 Avenue N.

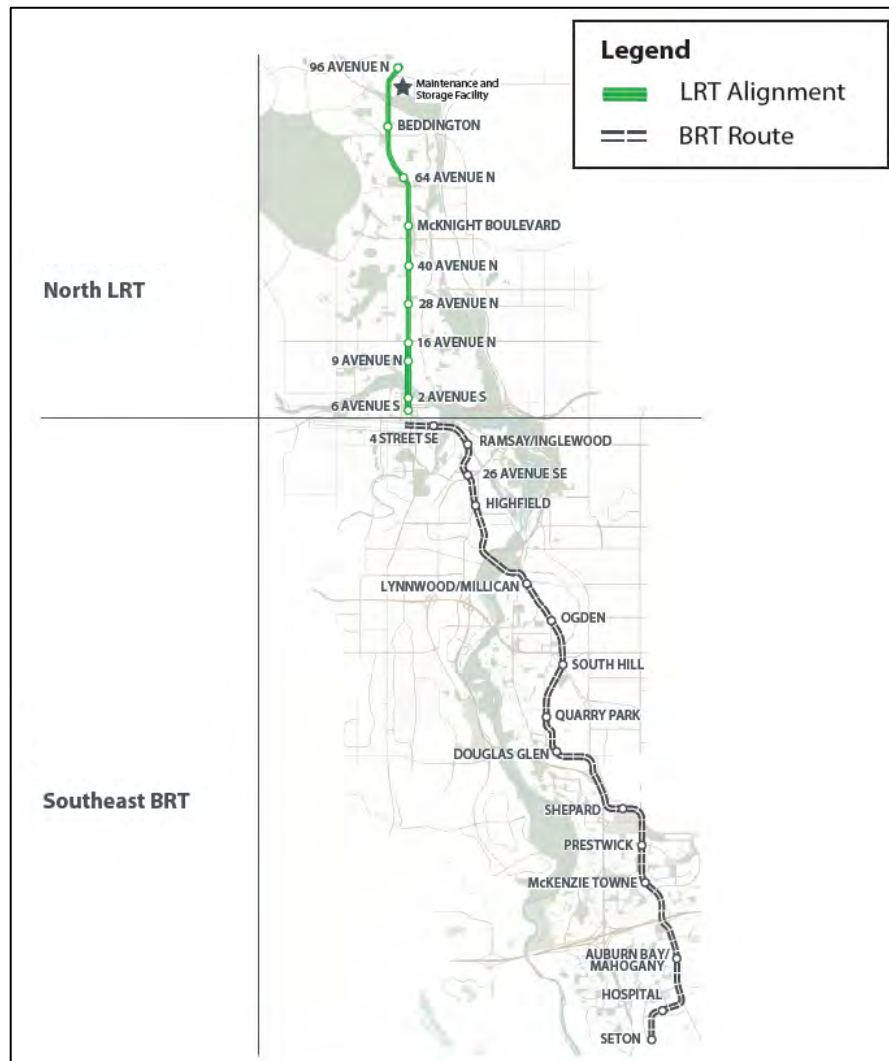


Figure 3-6 Option B4 – North LRT and Southeast BRT

Option C1 - Southeast LRT Connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S – Two Systems

This option includes two separate LRT systems. The Southeast LRT uses a high-floor system on the alignment approved by City Council in June 2017 between Shepard and the Ramsay/Inglewood station, then connects into the existing Red Line tunnel north of Stampede Park, runs north towards City Hall, departs the Red Line tunnel and turns west via a pre-built tunnel under City Hall, and then runs underground along 8 Ave S with a terminus at 2 Street SW. There would be underground stations at the Event Centre, City Hall, and 2 Street SW. A separate low-floor, surface-running North LRT operates on Centre Street N with a south terminus at 6 Street S and north terminus at approximately 64 Avenue N. The North LRT crosses the Bow River on the existing Centre Street bridge. This option would not allow for future connection between the North LRT and the Southeast LRT in the Centre City, and requires separate maintenance and storage facilities for each line.

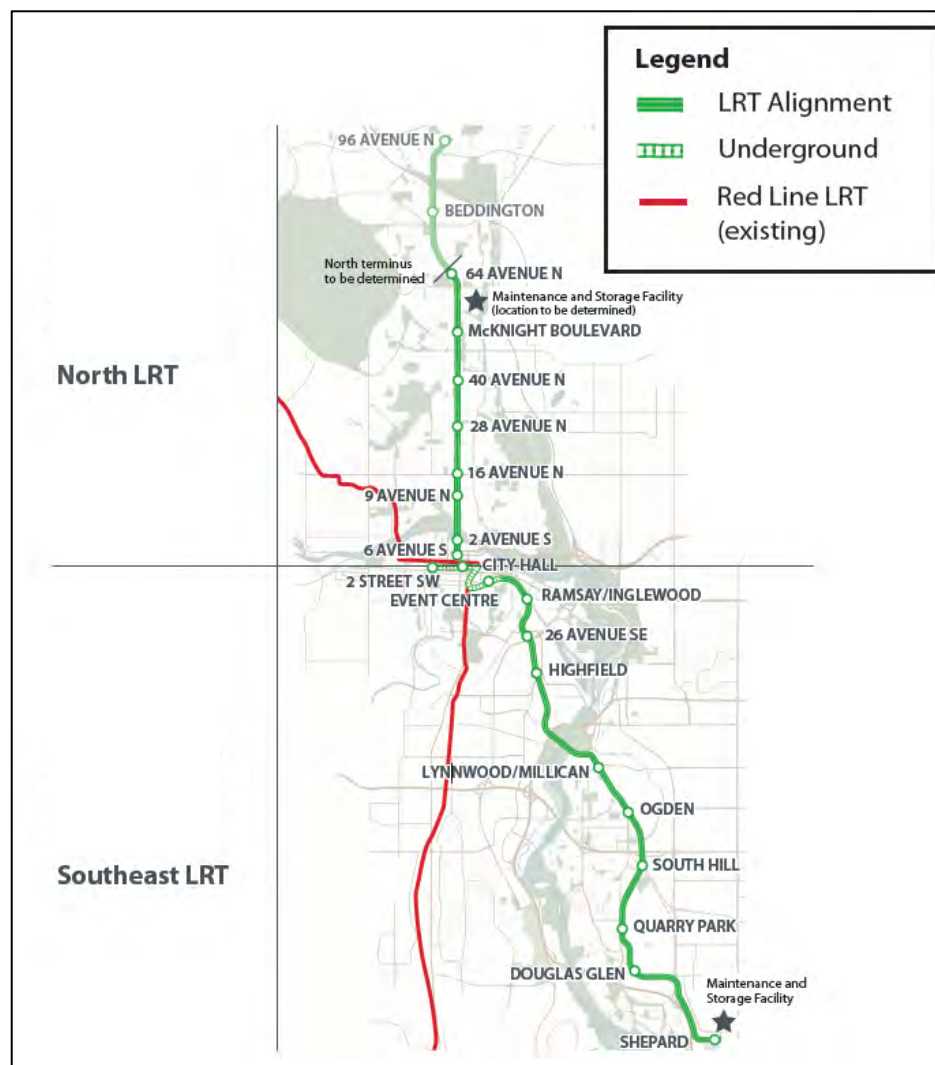


Figure 3-7 Option C1 - Southeast LRT Connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S – Two Systems

Option C2 - Southeast LRT terminates in Beltline; North LRT terminates in Centre City - Two Systems

This option includes two separate LRT systems. This option uses the LRT alignment approved by City Council in June 2017 alignment between 4 Street SE station and Shepard, with an elevated alignment on 10 Avenue SW and terminus at 2 Street SW. There is one elevated station at 10 Avenue and 2 Street SW and a pedestrian bridge connection from 2 Street SW station over the CPR tracks to downtown. A separate low-floor, surface-running North LRT operates on Centre Street N with a south terminus at 6 Street S and north terminus at approximately 64 Avenue N. The North LRT crosses the Bow River on the existing Centre Street bridge. This option would not allow for future connection between the North LRT and the Southeast LRT in the Centre City, and requires separate maintenance and storage facilities for each line.

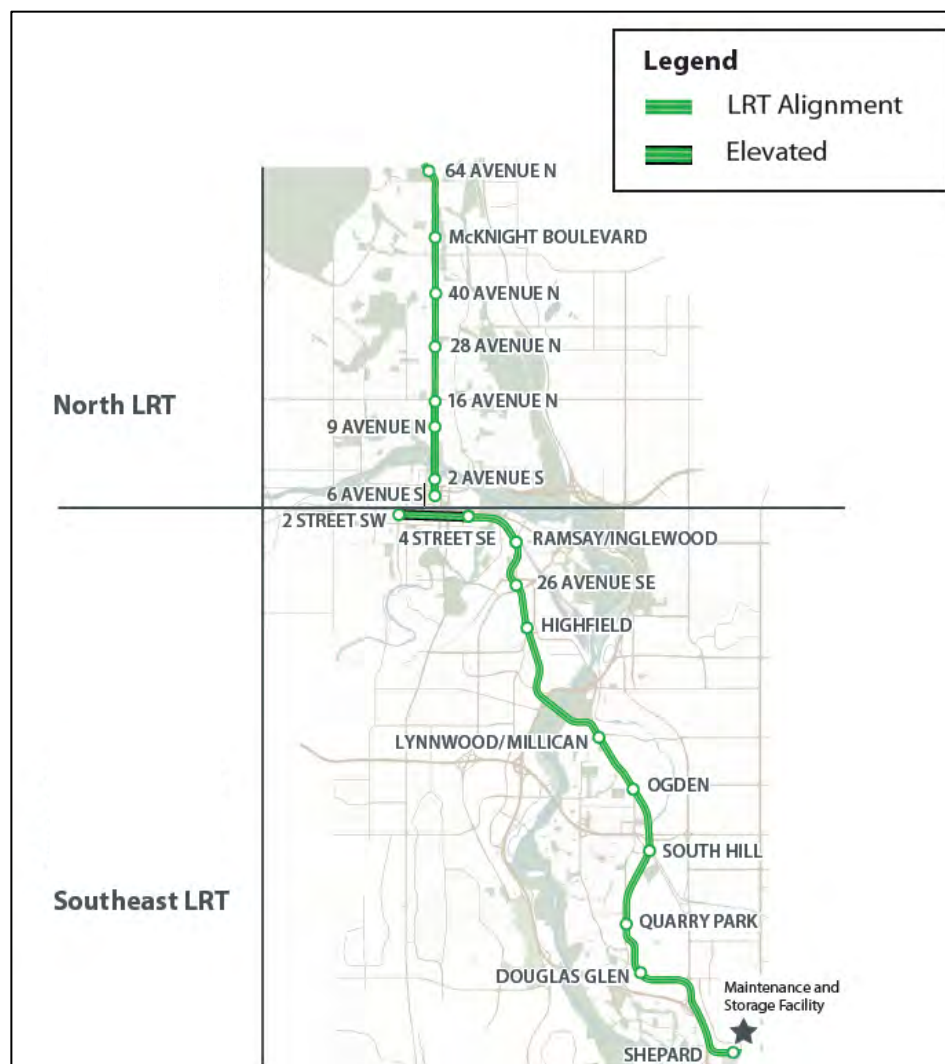


Figure 3-8 Option C2 - Southeast LRT terminates in Beltline; North LRT terminates in Centre City - Two Systems

3.3 Option Summary

The table below summarizes the extents of the options, the anticipated mode for each of the options as well as what / how the options are connected in the Downtown. This is the basis for the evaluation that has been undertaken.

Table 3-2 Table Summarizing Options for Evaluation

Option	Description	Mode	North Terminus	South Terminus	Mode	North Terminus	South Terminus
A1	2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	LRT	16 Avenue N	Shepard	-	-	
A2	Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	LRT	16 Avenue N	Shepard	BRT	160 Avenue N	Centre City
Option	Description	North of Centre City			South of Centre City		
		Mode	North Terminus	South Terminus	Mode	North Terminus	South Terminus
B1	North BRT and Southeast BRT	BRT	144 Avenue N	Centre City	BRT	Centre City	Seton
B2	North BRT and Southeast LRT terminating in Beltline	BRT	144 Avenue N	Centre City	LRT	10 Avenue S & 2 Street SW	McKenzie Towne
B3	North BRT and Southeast LRT connects to Red Line, terminates on 8 Avenue S	BRT	144 Avenue N	Centre City	LRT	8 Avenue S & 2 Street SW	Shepard
B4	North LRT and Southeast BRT	LRT	96 Avenue N	6 Avenue S & Centre Street S	BRT	Centre City	Seton
C1	Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two separate LRT systems)	LRT	64 Avenue N	6 Avenue S & Centre Street S	LRT	8 Avenue S & 2 Street SW	Shepard
C2	Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two separate LRT systems)	LRT	64 Avenue N	6 Avenue S & Centre Street S	LRT	10 Avenue S & 2 Street SW	Shepard

4 Evaluation Findings

For each of the different options, the criteria were evaluated either qualitatively or quantitatively as appropriate. The full evaluation tables are set out in the sections that follow.

It should be noted that no scoring is applied, nor has weighting been used to the criteria as they are not directly comparable. The data compiled in the sections below was based on information provided by the project team using available information and, where required, used appropriate professional skill and judgement to assess the relative impacts or performance of the option.

4.1 Themes and Criteria

The table presented previously in Section 2.3 of the report is reproduced here as a summary of the evaluation themes and associated evaluation criteria used to assess the options being considered.

Table 4-1 Green Line Evaluation Themes and Criteria

Evaluation Theme	Threshold Assessment	Criteria
Mobility: A transit project that improves mobility	Ability to carry the projected demand	Design capacity and expandability
		Upgradeability
		System ridership and benefits
		Vehicular and Active modes
Connectivity: Connecting People to People and Places	Connectivity to people	People served by the Green Line
		Strategic transit network connections
Development: Urban and Regional Development	Connectivity to jobs	Downtown (north of 9th) jobs served by the Green Line
		Minimizing impact to existing developments
		Maximizing opportunities for future development
Environmental	Potential environmental impacts and risks of construction	Quantitative assessment of environmental risks and unmitigable impacts from construction and operations
Cost and Value	Funding Availability and Eligibility	Capital cost
		Operating and maintenance costs
		Eligibility for provincial and federal funding
		Value and lifespan of investment
Risk and Constructability	Project risk assessment	Identification of significant project/owner technical, delivery or financial risks

4.2 Mobility Theme

Table 4-2 Mobility Theme Evaluation Assumptions

Assumptions		A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
North	Mode / terminus (current phase)	LRT - 16 Avenue N through running to southeast LRT	LRT - 16 Avenue N through running to southeast LRT BRT Improvements - 144 Avenue to Centre City	BRT - 144 Avenue to Centre City	BRT - 144 Avenue to Centre City	BRT - 144 Avenue to Centre City	LRT - 96 Avenue N to 6 Avenue & Centre Street S	LRT - 64 Avenue N to 6 Avenue & Centre Street S	LRT - 64 Avenue N to 6 Avenue & Centre Street S
	Service Pattern Peak Headway – Maximum (full build out)	3 minutes (requires full priority)	3 minutes (requires full priority)	1.5 minutes	1.5 minutes	1.5 minutes	4 minutes - assumes TSP operation	4 minutes - assumes TSP operation	4 minutes - assumes TSP operation
South	Mode / terminus (current phase)	LRT - through running to Shepard	LRT - through running to Shepard	BRT - Centre City to Seton	LRT - 10 Avenue & 2 Street SW to McKenzie Towne	LRT - 8 Avenue & 2 Street SW to Shepard	BRT - Centre City to Seton	LRT - 8 Avenue & 2 Street SW to Shepard (via Red Line)	LRT -10 Avenue & 2 Street SW to Shepard (no connection)
	Service Pattern Peak Headway – Maximum (full build out)	3 minutes - assumes full priority	3 minutes - assumes full priority	1.5 minutes	3 minutes - assumes full priority	3 minutes - assumes full priority	1.5 minutes	3 minutes - assumes full priority	3 minutes - assumes full priority
	LRT Planning Capacity (2 car train)	414	414		414	414	414	414	414
	BRT Planning Capacity (1 articulated bus)			90	90	90	90		

Table 4-3 Mobility Theme Evaluation

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Design Capacity Passengers per Hour per Direction	8,280	8,280	N = 3,600 SE = 3,600	N = 3,600 SE = 8,280	N = 3,600 SE = 8,145* *3-car high floor at 3 min headway	N = 6,210 SE = 3,600	N = 6,210 SE = 8,280	N = 6,210 SE = 8,210
Ability to meet demand (2048)	Yes	Yes	No	North – No Southeast – Yes	North – No Southeast – No (or would require Red Line investment)	North – Yes Southeast – No	North – No Southeast – No (or would require Red Line investment)	Yes
Total daily option ridership (2028)	60K - 65K	75K - 85K	50K - 70K	60K - 75K	70K - 85K	50K - 70K	70K - 85K	60K - 75K
Expandability	<ul style="list-style-type: none"> • Yes for Green Line N, typical at-grade extension. • Yes for Green Line SE LRT, typical at-grade extension. 	<ul style="list-style-type: none"> • Yes for Green Line N, typical at-grade extension • Yes for Green Line SE LRT, typical at-grade extension. 	<ul style="list-style-type: none"> • N/A once BRT reaches capacity; will need to convert alignment to LRT. 	<ul style="list-style-type: none"> • N/A once North BRT reaches capacity; will need to convert alignment to LRT. • Yes for Green Line SE LRT extension south, typical at-grade extension although likely some throwaway costs at terminus. • No for Green Line SE LRT extension to the Centre City, system is elevated and not able to connect to future Green Line North. 	<ul style="list-style-type: none"> • N/A once North BRT reaches capacity will need to convert alignment to LRT. • Yes for Red Line tunnel extension at cost premium. • Yes for Green Line SE LRT extension south, typical at-grade extension. 	<ul style="list-style-type: none"> • Yes for Green Line North LRT extension north (but not further into downtown as that is ultimate terminus). • N/A once South BRT reaches capacity will need to convert alignment to LRT 	<ul style="list-style-type: none"> • Yes for Green Line North LRT extension north (but not further into downtown as that is ultimate terminus). • Yes for Red Line tunnel extension to go west but at cost premium; • Yes for Green Line SE LRT extension south, typical at-grade extension. 	<ul style="list-style-type: none"> • Yes for Green Line North LRT extension north but not further into downtown. • Yes for Green Line SE LRT extension south, typical at-grade extension although likely some throwaway costs at terminus. • No for Green Line SE LRT extension to the Centre City, system is elevated and not able to connect to future Green Line North.

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Vehicular impacts (current phase)	Preserves surface options	Impact to Centre Street N	Impact to Centre Street N and downtown access	Impact to Centre Street N and downtown access	Impact to Centre Street N and downtown access	Impact to Centre Street N and downtown access	Impact to Centre Street N and downtown access	Impact to Centre Street N and downtown access
Active mode impacts	Preserves surface options	Disruption to Centre Street N east-west connectivity	Disruption to Centre Street N east-west connectivity	Disruption to Centre Street N east-west connectivity	Disruption to Centre Street N east-west connectivity	Disruption to Centre Street N east-west connectivity	Disruption to Centre Street N east-west connectivity	Disruption to Centre Street N east-west connectivity

The projected long-term demand can be accommodated by options A1, A2, C1, and C2, while options B2 and B3 accommodate the projected long-term demand south of the Centre City only and B4 only accommodates the long term demand in the north. Upgrading the North BRT LRT poses challenges for options B1, B2, and B3, while operational impacts during the upgrade of the South BRT in options B1 and B4 could be limited to the off-peak direction.

4.3 Connectivity Theme

Table 4-4 Connectivity Theme Evaluation

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Total population catchment* (2048)	N: 134,500 LRT: 99,500	N: 134,500 LRT: 99,500	N = 134,500 SE = 121,000	N = 134,500 SE = 89,000	N = 134,500 SE = 81,000	N = 83,500 SE = 121,000	N = 66,000 SE = 81,000	N = 66,000 SE = 89,000
Strategic Transit Network Connectivity	<ul style="list-style-type: none"> • Through connectivity on Green Line • Direct connection to Blue and Red Line • Connection to MAX Orange 	<ul style="list-style-type: none"> • Through connectivity on Green Line • Direct connection to Blue and Red Line • Connection to MAX Orange 	<ul style="list-style-type: none"> • Potential connectivity with a number of lines depending on bus scheduling 	<ul style="list-style-type: none"> • No direct Green Line or Centre City connection from Southeast 	<ul style="list-style-type: none"> • No direct Green Line connection • Direct connection to Red Line 	<ul style="list-style-type: none"> • No direct Green Line connection • Direct connection to Blue and Red Line • Connection to MAX Orange 	<ul style="list-style-type: none"> • No direct Green Line connection • Direct connection to Red Line 	<ul style="list-style-type: none"> • No direct Green Line connection • Direct connection to Blue and Red Line • Connection to MAX Orange • No direct Centre City connection from Southeast

* Total catchment is the 800m station catchment and is not the sum of north and southeast catchments due to overlapping station catchments

Options A1 and A2 provide a direct north-south connection through the Centre City and options A1, A2, B4 and C2 provide LRT connections to the Red and Blue line and option B3 and C1 provides a connection to the Red Line LRT. All options except option B1 fail to serve the full population to the north and south.

4.4 Development Theme

Table 4-5 Development Theme Evaluation

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Total employment catchment* (2048)	N: 207,500 LRT: 216,000	N: 207,500 LRT: 216,000	N = 207,500 SE = 230,000	N = 207,500 SE = 188,500	N = 207,500 SE = 208,500	N = 154,500 SE = 230,000	N = 148,000 SE = 208,500	N = 148,500 SE = 188,500
Minimizing impact to existing and future developments	Preserves surface options	Impact to Centre Street N	Impact to Centre Street N and downtown access Impact to development in downtown	Impact to Centre Street N and downtown access Impact to development in downtown	Impact to Centre Street N and downtown access Impact to development in downtown	Impact to Centre Street N and downtown access Impact to development in downtown	Impact to Centre Street N and downtown access Impact to development in downtown	Impact to Centre Street N and downtown access Impact to development in downtown

* Total catchment is the 800m station catchment and is not the sum of north and southeast catchments due to overlapping station catchments

Options B2 and C2 require a walk connection to sections of Centre City, while all other options provide direct connections to key employment destinations in the Centre City.

4.5 Environmental Theme

Table 4-6 Environment Theme Evaluation

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Potential Environmental Risk to habitat – river ecosystem	No new bridge over Bow River	New river crossing over Bow River/Princess Island	No new bridge over Bow River	No new bridge over Bow River	No new bridge over Bow River	No new bridge over Bow River	No new bridge over Bow River	No new bridge over Bow River
Potential Environmental Risk – tunnelling disturbs contaminated land	Significant tunnelling increases environmental risk	Reduced length of tunnelling – reduced environmental risk	No tunnelling	No tunnelling	Limited tunnelling – limited environmental risk	No tunnelling	Limited tunnelling – limited environmental risk	No tunnelling

Environmental risks are relatively equal across options, with option A1 posing the greatest risk of disrupting contaminated soils due to significant tunnelling and option A2 introducing risks from a new river crossing. Options B2, B3 B4, C1 and C2 are slightly less risky with reduced or no tunnelling and associated soil contamination impacts.

4.6 Cost and Value Theme

Table 4-7 Cost and Value Theme Evaluation

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Capital Cost	\$5.4B	\$4.9B	\$2.2B	\$4.4B	\$4.8B	\$3.8B	\$6.1B	\$5.6B
Operating Cost (annual) (2028)	North - \$6M South - \$28M	North - \$6M South - \$28M	North - \$56M South - \$48M	North - \$56M South - \$28M	North - \$56M South - \$28M	North - \$34M South - \$48M	North - \$34M South - \$28M	North - \$34M South - \$28M
Federal and Provincial funding eligibility	Potentially - additional funding may be required	Yes – although there may be an issue with timelines	May require renegotiation due to lack of LRT	May require renegotiation due to change in scope	May require renegotiation due to change in scope	May require renegotiation due to change in scope	Potentially - additional funding may be required	Potentially - additional funding may be required

Option B1 delivers full system, maximizing operational cost benefits at the lowest estimated capital cost, but provided capacity does not meet long term projected demand and would need to be upgraded to LRT in 10-20 years. The estimated capital costs for options A1, C1, and C2 exceed the existing funding envelope. Significant operating costs may be associated with providing bus service north and south of terminus locations (N+SE: options A1, A2, C1 and C2; SE only: options B2, B3 and B4).

4.7 Risk and Deliverability

Table 4-8 Risk and Deliverability Theme Evaluation

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Significant Stakeholder Risks/Concerns	Affordability of option and ownership of risks	Concerns with surface running and bridge over river	Deviation from LRT commitments	Impacts of not serving the downtown core and deviation from LRT commitments	Impacts of not serving the north of downtown and deviation from LRT commitments	Concerns with surface running and deviation from LRT commitments in the southeast	Concerns about surface running and a disconnected system and deviation from LRT commitments	Concerns about surface running, a disconnected system and not serving the downtown core from the southeast, and deviation from LRT commitments
Major (Unique) Technical Risks	Risks associated with tunnelling.	Bridge impacts and traffic impacts from street running LRT operations. Risks associated with tunneling.	Required bus volumes to service the demand would create operational challenges for the BRT service in the Centre City (e.g. layover and passenger facilities) Challenges of upgrading BRT to LRT in the north given the more constrained right of way and the longer-term demand forecasts	Challenges of upgrading BRT to LRT in the north given the more constrained right of way and the longer-term demand forecasts	Utilising the Red Line tunnel has major impacts on Red Line operations and capacity. Disruption during construction on 8 Avenue S. Challenges of upgrading BRT to LRT in the north given the more constrained right of way and the longer-term demand forecasts	Traffic impacts from street running LRT operations.	Utilising the Red Line tunnel has major impacts on Red Line operations and capacity. Disruption during construction on 8 Avenue S.	Traffic impacts from street running LRT operations.

Options A1 and A2 include geotechnical risks due to significant underground infrastructure, and option A2 includes new Bow River crossing. Option B1 poses challenges for vehicle movements and bus operations within the Centre City. Public perception of BRT as an inferior mode relative to LRT has the potential to impact ridership for options B1, B2, B3, and B4. Additional political and public perception risks are associated with changes to previously announced corridor technologies in option B4.

4.8 Evaluation Summary

The table below summarizes the key differentiating factors for each of the options that support the recommendations in the final section.

Table 4-9 Evaluation Summary Table

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Mobility: A transit project that improves mobility	Capacity can accommodate projected demand in the long term	Capacity can accommodate projected demand in the long term	Capacity meets anticipated demand in medium term only	Capacity meets anticipated demand in medium term for north and longer term in south	Capacity meets anticipated demand in medium term for north and long term in south (but would require Red Line upgrades)	Capacity meets anticipated demand in long term for north and medium term in south	Capacity can accommodate projected demand in the long term (but would require Red Line upgrades)	Capacity can accommodate projected demand in the long term
			Once North BRT reaches capacity it will need to be converted to LRT.	Once North BRT reaches capacity it will need to be converted to LRT and Southeast LRT cannot connect to future Green Line North.	Once North BRT reaches capacity it will need to be converted to LRT and Red Line tunnel could be extended at cost premium.	Once South BRT reaches capacity it will need to be converted to LRT.	Red Line tunnel could be extended at cost premium	Southeast LRT cannot connect to future Green Line North.
Connectivity: Connecting People to People and Places	Connectivity through Centre City and connects north and south	Connectivity through Centre City and connects north and south	Connectivity through Centre City and connects north and south	No direct north south connection	No direct north south Green Line connection but Red Line connection	No direct north south connection	No direct north south connection	No direct north south connection

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
	Population at northern and southern extents not served	Population at southern extent not served	Full north to south population served	Population at southern extent not served	Population at southern extent not served	Population at northern extent not served	Population at northern and southern extents potentially not served	Population at northern and southern extents potentially not served
	Beyond Stage 1 impacts due to tunnel portals, little to no impact on vehicular traffic in Centre City due to underground alignment	Potential Stage 1 impact on vehicular traffic through surface running sections	Significant impact on vehicular traffic due to significant bus numbers running downtown	Vehicular traffic impacts slightly worse than today with increased bus volumes	Vehicular traffic impacts similar to today although with increased bus volume	Impact to traffic in Centre City due to lane reduction on centre street N and centre street S	Impact to traffic in Centre City due to lane reduction on centre street N and centre street S	Impact to traffic in Centre City due to lane reduction on centre street N and centre street S
Development: Urban and Regional Development	Connects to key Centre City employment destinations directly	Connects to key Centre City employment destinations directly	Connects to key Centre City employment destinations directly	Requires a walk connection to sections of Centre City	Connects to key Centre City employment destinations directly	Connects to key Centre City employment destinations directly	Connects to key Centre City employment destinations directly	Requires a walk connection to sections of Centre City
Environmental	No significant environmental issues beyond tunnelling impacts	Beyond tunnelling impacts, new river crossing may have minor environmental impacts	No significant environmental issues	No significant environmental issues	No significant environmental issues	No significant environmental issues	No significant environmental issues	No significant environmental issues
Cost and Value	Capital cost is outside existing funding envelope	Capital cost is within existing funding envelope	Lowest capital cost project and is within existing funding envelope	Capital cost is within existing funding envelope	Capital cost is within existing funding envelope	Capital cost is within existing funding envelope	Capital cost is outside existing funding envelope	Capital cost is outside existing funding envelope

















































Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
	With north and south terminus locations there is still significant feeder bus operating costs	With north and south terminus locations there is still significant feeder bus operating costs	Full system maximizes operating cost benefits	North full extent maximizes bus operating cost benefits Southeast terminus still requires significant feeder bus operating costs	North full extent maximizes bus operating cost benefits Southeast terminus still requires significant feeder bus operating costs	North extent still requires significant operating costs Southeast full extent maximizes bus operating cost benefits	With north and south terminus locations there is still significant feeder bus operating costs	With north and south terminus locations there is still significant feeder bus operating costs
	Long term investment (meets long term demand)	Long term investment (meets long term demand)	Medium- term investment (does not meet long term demand)	Medium- term investment (does not meet long term demand)	Medium- term investment (does not meet long term demand)	Medium- term investment (does not meet long term demand)	Long term investment (meets long term demand)	Long term investment (meets long term demand)

Criteria	A1 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard	A2 Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements	B1 North BRT and Southeast BRT	B2 North BRT and Southeast LRT terminating in Beltline	B3 North BRT and Southeast LRT connection to Red Line	B4 North LRT and Southeast BRT	C1 Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two systems)	C2 Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two systems)
Risk and Constructability	Significant underground infrastructure and risk of geotechnical challenges	Significant underground infrastructure and risk of geotechnical challenges and new Bow River crossing Could be delivered in Phases to reduce cost and risk.	Volume of buses downtown will have potentially unresolvable impact on vehicular movements. Building BRT in the north leads to capacity limitations with significant challenges and costs and rider impact to upgrade to LRT Public perception of BRT as an inferior mode to LRT may limit ridership potential	Building BRT in the north leads to capacity limitations with significant challenges and costs and rider impact to upgrade to LRT Public perception of BRT as an inferior mode to LRT may limit ridership potential	BRT in the north has capacity limitations with significant costs and rider impact to upgrade Public perception of BRT as an inferior mode to LRT may limit ridership potential Connection to Red Line has potential impacts during construction and operation for Red Line passengers	Public / political perspective of 'flipping' projects Issues with property acquisition and related timescales	Connection to Red Line has potential impacts during construction and operation for Red Line passengers Extent and duration of construction impacts along 8 Avenue S Could be delivered in Phases to reduce cost and risk.	Issues with property acquisition and related timescales Could be delivered in Phases to reduce cost and risk.

5 Alignment Options Review Recommendations

The table below provides a summary of the evaluation outcomes from each option as set out in the previous section.

Table 5-1 MAE Outcomes

Criteria	A1	A2	B1	B2	B3	B4	C1	C2
Mobility								
Connectivity								
Development								
Environmental								
Cost + Value								
Risk + Constructability								

Considering the performance of each against the Project Vision, Outcomes for Calgarians, themes and criteria within the MAE, and, importantly, the capital cost and other constraints of this review, **Option A2 is the highest performing option – the Updated Stage 1 Alignment Green Line LRT: 16 Avenue N to Shepard**. The performance of the recommended option (Option A2) is detailed below, followed by summaries of each of the other options and relative performance comparisons to the recommended option A2.

5.1 Recommended Option - A2 - Updated Stage 1 Alignment - 16 Avenue N to Shepard with North BRT Improvements

This option has the capacity to accommodate the projected demand in the long term and can be easily, affordably and incrementally expanded to the north and south in the future. The inclusion of BRT improvements in the north increases the wider benefits of the project and supports the continued development of ridership in the north, with the ultimate potential to extend the LRT northwards from 16 Avenue N once funding becomes available.

It provides good connectivity through downtown, provides strategic transit connections, and connects employment centres north and south of the City. Given this updated version of the project has minimized the amount of tunnelled infrastructure and maximized at-grade running, there will be localised impacts to vehicular traffic that will require further planning and mitigation. In addition, moving more of the alignment to at-grade reduces the risk and capital costs of this option. While this option still has high capital costs, the proposed changes from Option A1 will reduce the total overall cost to within the funding envelope.

5.2 A1- 2017 Council Approved Stage 1 Alignment - 16 Avenue N to Shepard

Comparing this option against Option A2 under the Cost and Value theme, this option is more expensive due to the greater portion of the alignment being underground. There is less value associated with the A1, as it terminates at 16 Avenue N, in comparison with Option A2 which includes BRT improvements to the northern communities.

Both options provide good connectivity through downtown connecting with employment centres, however the additional cost of Option A2 for tunnelling does provide an improvement to traffic and mobility impacts on Centre Street. The tunneling does however pose more potential environmental impacts and technical challenges around risk and project delivery.

Overall, Option A2 outperforms Option A1 under three of the six themes and is equal with it in three of the six themes.

5.3 B1- North BRT and Southeast BRT

Option B1 is the most affordable option and would have the longest length, but compared to Option A2, it is not forecast to meet the projected demand beyond the medium-term time horizon. Upgrading Option B1 to LRT in the future to resolve this demand issue is also challenging and costly and does not provide the best value.

While from an environmental perspective, B1 performs better, there is significant risk that due to the number of buses required to meet the required demand, it would present significant operational challenges and risk compared to Option A2.

Given the very frequent BRT headways that would be required to meet the forecast demand, this would have significant and potentially unresolvable operational challenges. These challenges would include significant pressure on road space downtown, potentially to the detriment of private vehicle movements as well as the ability to maintain transit vehicle spacing, headways and reliability.

The final risk around this project is of public perception of BRT as a lesser mode to LRT – this may result in a decrease in private sector investment/development, lower ridership and lower mode shift.

Overall Option A2 outperforms Option B1 under three of the six themes and performs slightly less well in two of the six themes and performs equally well in one of the six themes.

5.4 B2 - North BRT and Southeast LRT terminating in Beltline

Compared to Option A2, this option lacks a direct connection between the north and south as it operates as two distinct systems and modes. The LRT terminus point in the Beltline means that passengers are required to walk considerable distances (800m +) to certain areas of the Centre City, reducing the ease of access to downtown employment and eliminating the connections to the strategic transit network when compared to Option A2 which runs through the Centre City.

For the north section of the system, in the medium term it is forecast that under Option B2, BRT in the north would not meet the projected demand and the system would be difficult to upgrade to LRT without significant disruption to passengers. This compares to Option A2 which provides a solution which can meet the long-term projected demands.

Option B2 has fewer environmental impacts than Option A2 and has fewer risk and constructability issues. Overall Option A2 outperforms Option B2 under four of the six themes and performs less well in two of the six themes.

5.5 B3 - North BRT and Southeast LRT connection to Red Line

Compared to Option A2, this option lacks a direct connection between the Green Line north and south as it operates as two distinct systems and modes. In comparison, Option B3 connects to the Red Line but leads to potential risk to of operational impacts on both the Red Line tunnel as well as Green Line Southeast LRT operations. This may limit the capacity of both lines under Option B3 compared to Option A2, as under B3 they would share infrastructure and introduce operating risk under Option B3.

For the north section of the system, in the medium term it is forecast that under Option B2, BRT in the north would not meet the projected demand and the system would be difficult to upgrade to LRT without significant disruption to passengers. This compares to Option A2 which provides a solution which can meet the long-term projected demands.

Overall Option A2 outperforms Option B3 under three of the six themes and performs equally well in three of the six themes.

5.6 B4 - North LRT and Southeast BRT

Compared to Option A2, this option lacks a direct connection between the Green Line north and southeast as it operates as two distinct systems and modes. Given project development to date has focussed on Option A1/A2, the LRT designs in the North (North LRT) are considerably further behind than Option A1/A2. In particular, property impacts and acquisition north of 16 Avenue N have not begun and adopting Option B4 would result in a considerable (2+ year) delay in project delivery.

The Centre City LRT terminus (on Centre Street S) is also two to three blocks east of the main centre of downtown which negatively impacts on ridership potential when compared to Option A2 which runs through the core of the downtown. The southern terminus location maximizes the bus operating cost savings, whereas the north terminus still requires significant bus resources to connect to communities north of the project end point.

A further consideration is the long-term viability of a BRT service in the southeast. Modelling completed to date suggests that while a BRT could support the medium-longer term projected demand, it would require upgrading to LRT once the system reaches capacity in approximately 10-20 years.

A further key and potentially significant risk for Option B4, would be the decision to 'flip' the modes for the north and south from LRT to BRT and the timescales that would be required to get the project to construction readiness.

Overall Option A2 significantly outperforms Option B4 under two of the six themes and performs slightly less well in one of the six themes and performs equally well in three of the six themes. The gap in performance in the Mobility and Risk themes (i.e. project readiness) are key in the decision of Option A2 as the preferred option over Option B4.

5.7 C1- Southeast LRT connects to Red Line, terminates on 8 Avenue S; North LRT terminates on Centre Street S (two separate LRT systems)

Similar to Option B3, option C1 lacks a direct connection between the Green Line north and south as it operates as two distinct systems and modes. In comparison, Option C1 connects to the Red Line but leads to potential risk to of operational impacts on both the Red Line tunnel as well as Green Line Southeast LRT operations. This may limit the capacity of both lines under Option C1 compared to Option A2, as under C1, similar to B3, they would share infrastructure and introduce operating risk under Option B3.

As with option B4, project development to date has focussed on Option A1/A2 and the LRT designs in the North (North LRT) are considerably further behind than Option A1/A2. In particular, property impacts and acquisition north of 16 Avenue N have not begun and adopting Option C1 would result in a considerable (2+ year) delay in project delivery.

The Centre City North LRT terminus (on Centre Street S) is also two to three blocks east of the main centre of downtown which negatively impacts on ridership potential when compared to A2 which runs through the core of the downtown.

With two LRT systems included in this option, initial cost estimates are above the existing capital funding available and, significantly higher than option A2. Overall Option A2 outperforms Option C1 under two of the six themes and performs equally well in four of the six themes.

5.8 C2 – Southeast LRT terminates in Beltline; North LRT terminates in Centre City (two separate LRT systems)

Compared to Option A2, Option C2 lacks a direct connection between the Green Line north and southeast as it operates as two distinct systems and modes. The LRT south terminus point in the Beltline means that passengers are required to walk considerable distances to certain areas of Downtown (800m +), reducing the ease of access to downtown employment and eliminating the connections to the strategic transit network when compared to Option A2 which runs through the Centre City.

As with Option B4, project development to date has focussed on Option A1/A2 and the LRT designs in the North (North LRT) are considerably further behind than Option A1/A2. In particular, property impacts and acquisition north of 16 Avenue N have not begun and adopting Option C2 would result in a considerable (2+ year) delay in project delivery.

The Centre City North LRT terminus (on Centre Street S) is also two to three blocks east of the main centre of downtown which negatively impacts on ridership potential when compared to Option A2 which runs through the core of the downtown.

With two LRT systems included in this option, initial cost estimates are above the existing capital funding available and, significantly higher than Option A2. However, if funding were to become further constrained, a phased version of Option C2 could be explored with the SE LRT proceeding within the existing funding (approximately \$3.5B) and the North LRT delivered later.

Overall Option A2 outperforms Option C2 under four of the six themes, performs slightly less well in one of the six themes and performs equally well in one of the six themes.

5.9 Conclusions

The evaluation indicates that that within the constraints of the review, **the updated Stage 1 alignment (Option A2) is the best performing option across a broad range of the criteria.** Option A2 is a variation on the original project, but that focuses on reducing the tunnelling risk and trades off the cost of tunnelling and underground options with the impacts of running at-grade. The inclusion of BRT improvements will provide additional benefits to new and existing north central BRT riders over Option A1. Option A2 also provides improved service to the communities in both the north and southeast and provides direct connectivity to the Centre City as well as to the Red and Blue LRT lines and the MAX Orange bus line. In addition, this option addresses the most technically complex and capital intensive aspects of the long-term vision and has the highest state of delivery readiness. It will also best facilitate future extensions and demonstrates the City's commitment to implementing the long-term vision for the Green Line LRT – a cornerstone of Council's approved transit plan – *RouteAhead: A Strategic Plan for Transit in Calgary*.



Calgary Green Line LRT Stage 1 Business Case

City of Calgary

May 2020

steer

Calgary Green Line LRT Stage 1 Business Case

This report was completed by Steer through a collaborative process with City of Calgary staff and retained consultants. The content included in this report is based on currently available evidence and information.

Disclaimer

Readers should note that this Business Case was completed between January 2020 to May 2020 and this report has been drafted based on available data collected prior to the spread of COVID 19 across the world.

This analytic models used in this report do not model the impact or likely outcomes of COVID 19 and there is currently insufficient data or information available to allow the models employed in this study to reasonably analyze the impact of the COVID 19 outbreak on this project or for the models to be used to comment on the expected changes in the forecasts described in this report. Efforts have been made to explore potential impacts of COVID 19, however the specific impacts have not been forecast. As of the date of distribution of this report, the COVID 19 outbreak has had a material impact on global economic and political affairs, and readers of this report should consider this report in the context of their own assessment of the outbreak and its impact on this project.

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Executive summary

I. Introduction

This document is The City of Calgary's Business Case for Stage 1 of the Green Line LRT Program – a Program that will ultimately run for 46 kilometres, from 160 Ave in the North to Seton in the South.

Building the Green Line is our next step towards completing Calgary's transit network as described in RouteAhead: A Strategic Plan for Transit in Calgary. Along with the new MAX bus rapid transit lines Calgarians will have fast, frequent and reliable transit service that strategically connects communities, employment hubs (including those outside downtown like Quarry Park) and key destinations across the city. Stage 1 of the Green Line LRT Program from 16 Avenue N to Shepard is a strategic investment that will build the core of the project while preparing for the future, allowing for incremental expansion of the LRT north and south and providing best value for tax dollars.

The purpose of this document is to:

- Articulate the case for developing and delivering Stage 1 of the Green Line LRT Program
- Define the benefits and rationale for Stage 1, as well as the financial and delivery requirements to successfully deliver it
- Support evidence-based decision making and ongoing planning and design of Stage 1 in advance of procurement and delivery

This executive summary provides an overview of the key findings of the Business Case document, including:

- The Case for Change – what key issues does the Green Line LRT aim to address?
- Stage 1 Scope – what is in scope for Stage 1?
- Business Case Summary – what are the key findings across the four evaluation dimensions of project performance cases?

Business Case Overview

The City of Calgary has updated the 2016 Business Case for the Green Line LRT using a revised approach to transportation investment analysis and benefits management.

This approach draws on robust analysis previously completed by The City and is informed by best practices applied in Canada and internationally that support analysts, planners, decision makers, and stakeholders to understand how a proposed investment performs against four crucial dimensions of performance:

- **Strategic Case** – does the investment support the broader policy and planning goals of The City?
- **Economic Case** – what level of socio-economic benefit is generated by the investment?
- **Financial Case** – what are the funding and financing requirements to successfully deliver the investment?
- **Deliverability and Operations Case** – what are the technical and governance requirements to procure, deliver, and operate the investment?

II. The Case for Change

Problem Statement: Calgary's transportation network does not meet the current mobility needs of The City and its people and is unable to support planned and forecast growth while maintaining a high quality of life, economic competitiveness, and environmental sustainability.

Today, The City of Calgary is an economic and cultural centre and is frequently ranked as one of the most livable cities in North America to live, work, and play in. Over the past decades the City has grown at a rapid pace which has led to increased prosperity but has also brought challenges of increased congestion and travel times and reduced journey time reliability. Combined, these issues will reduce quality of life, prosperity, and environmental quality as more people spend more time travelling on an increasingly congested, crowded, and unreliable network. Without strategic investment, this problem will grow over time and will become more acute due to two key issues:

The current transportation network cannot provide quality mobility options for all future travellers – in the near future demand in the north will exceed capacity resulting in longer travel times and over capacity buses on Centre Street. In southeast Calgary, population is anticipated to increase by almost 70,000 by 2028. In the southeast the population will close to double over the next 30 years. The resulting transportation demand will exceed what can be accommodated with the current 302 bus service, local bus network, and regional roads. There is a clear need for affordable and attractive transit that can provide faster and more reliable mobility.

Travel times and congestion will limit the potential to develop great places in which to live, work, and play – land use and development will be impeded if congestion and crowding issues are not addressed, which in turn will reduce Calgary's competitiveness compared to peer cities. The corridor running from southeast Calgary, through the downtown core, and to 16 Avenue N has been identified for redevelopment – with a focus on developing Transit Oriented Developments (TOD) at key sites on the corridor. However, the existing transit network does not provide fast and reliable service or connectivity between these sites or the four MAX BRT lines and Red and Blue LRT lines. These issues will suppress development potential and will reduce Calgary's competitiveness compared to peer cities.

Stage 1 of the Green Line LRT was developed to directly respond to these issues by enacting the following vision statement:

Green Line Stage 1 will support the vision of the full Green Line LRT Program and be a city-shaping transit service that improves mobility in north and southeast Calgary, connecting people and places and enhancing the quality of life in the city.

LRT has been proposed as a solution to this problem based on its ability to:

- Improve mobility choices by providing a high-quality transit service that is fast, frequent and reliable.
- Enhance connectivity between people and places including connections to communities, employment hubs and key destinations across the city.
- Provide flexible capacity for a growing City.

The Green Line is the next step for completing Calgary's rapid transit network providing seamless connectivity with the existing Red and Blue LRT lines and four MAX transit line adding 20km to the existing 59km LRT system.

Why Focus on Green Line LRT?

Other solutions were explored to address the problem, but these will not fully and adequately solve it:

Auto expansion is unlikely to be a long-term solution as new capacity has historically been taken up by increased auto demand, in addition further investment in the road network will not provide expanded choice for segments of the population and workforce that rely on transit or choose transit as their primary mode.

Creating an enhanced bus service beyond what it is today (for example, BRT lines 301 in the north, and 302 in the south) that will effectively / reliably service the needs of these growing communities may work in the short term, but will be less effective than an LRT solution over the long term. For example, Centre Street North has evolved into the busiest bus BRT corridor in the city (approximately 30,000 Calgarians transported per day), and regularly exceeds capacity during the morning and evening rush hours.

III.

Stage 1 Program Scope

Executive summary

Green Line Program Overview and Stage 1 Focus

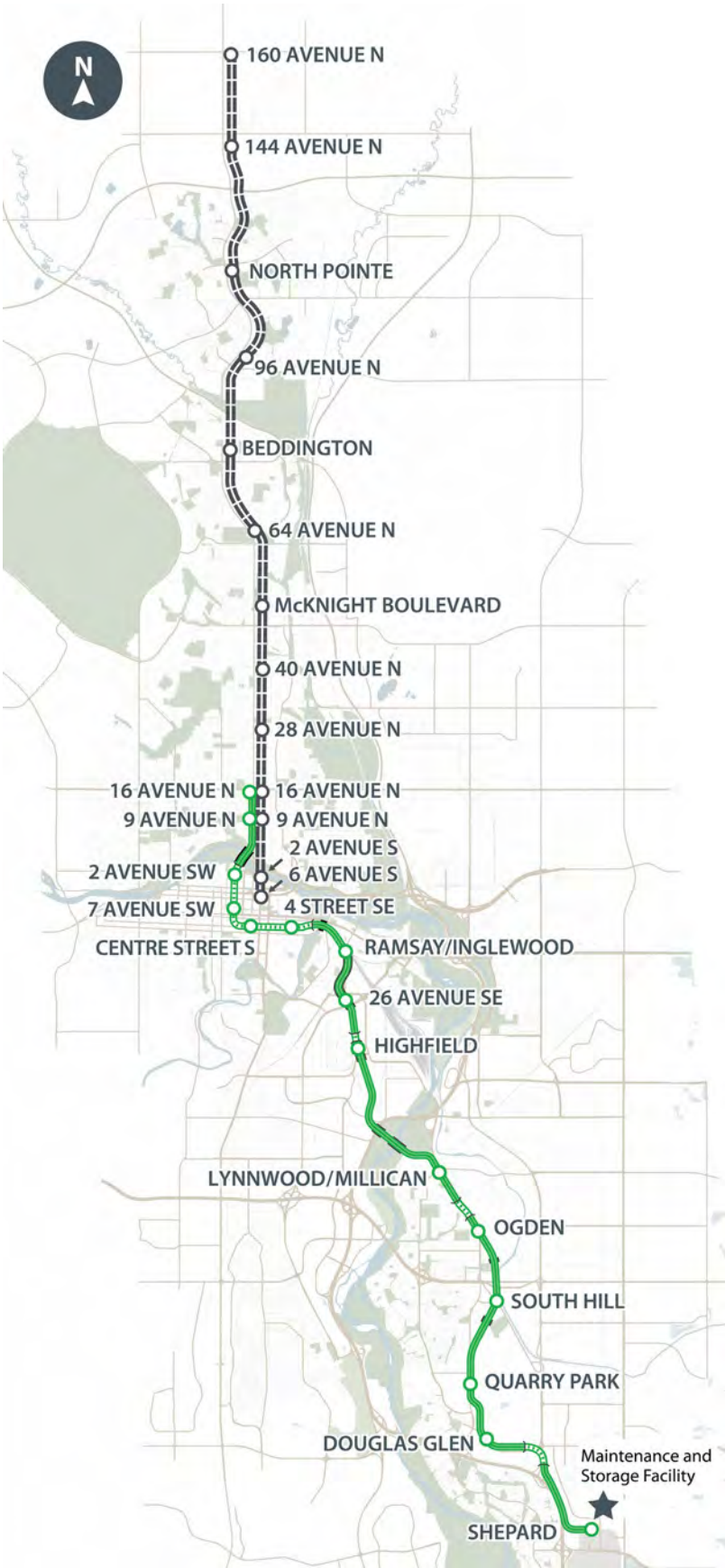
The long-term vision for the Green Line light rail transit (LRT) project is to serve and connect the growing populations in north central and southeast Calgary with a fast, frequent and reliable, high quality transit system. These communities are growing quickly and, over the next 30 years, the population in the north is expected to increase by over 50% from 170,000 to over 250,000 people and in the southeast, the population will increase from 135,000 to over 242,000 residents.

The level of resources and technical requirements required to fully realize this vision have led the City to deliver it in Stages.

This approach allows difficult and complex elements of the program to be delivered first and allows Calgarians to realize the benefits of a partial program in the short term. In the future, the remainder of the program can be delivered with minimal disruptions to transit users.

This is aligned with how Calgary has historically expanded its LRT network. Stage 1 provides a strong foundation of LRT service while completing the most technically complex and capital intensive aspects of the long-term vision. This foundational core project will best facilitate future extensions and demonstrates The City's commitment to implementing the long-term vision for the Green Line.

Figure E.1: Green Line LRT Stage 1 Scope



Developing Stage 1

In June 2017, Council approved a Stage 1 alignment from 16 Avenue N to Shephard with a tunnel under the Bow River and through the downtown. In summer 2019, the Green Line project team advised members of Council of the need to re-evaluate the Segment 2 alignment for reasons related to construction risk, user experience associated with deep underground stations and the Program's capital cost; reporting that the approved Stage 1 alignment could not be delivered within the approved funding.

However, in early 2019, concerns were raised related to the Program capital cost as well as the impacts on the customer experience resulting from the deep underground stations, and in June 2019 Administration reported that the approved Stage 1 alignment could not be delivered within the approved funding.

City Council directed Administration to review the Green Line program to ensure the Program recommendation meets the objectives set by Council and delivers the best possible outcomes for Calgarians within the approved budget threshold. This review resulted in a revised version of the approved Stage 1 alignment that continues to serve 16 Avenue N to Shepard. The revised Stage 1 alignment includes the LRT running on surface on Centre Street north of the Bow River to a new bridge over the river and shallower downtown tunnels and stations. Figure E.1 shows the updated Stage 1 Green Line project which is evaluated in the remainder of this Business Case.

Improvements to the north Bus Rapid Transit (BRT) line along Centre Street are being investigated as part of Stage 1 to support increased transit use while a design for the North Centre Street stage of the Green Line is finalized. The next step being recommended is to undertake a functional plan to further investigate BRT improvements to implement.

Stage 1 Scope

Table E.1 summarizes the overall scope for Stage 1 based on the four layers of project design and delivery for the overarching Green Line LRT Program. Layers 1 and 2 are the focus of Stage 1, while layers 3-4 will be enabled by Stage 1 delivery.

Table E.1 Stage 1 Scope

Layer	Description	Key Stage 1 Program Elements
Layer 1: Transit Infrastructure	Physical infrastructure required to operate the Green Line LRT	<ul style="list-style-type: none"> • 20 km of LRT track • 15 stations – including 11 transit hubs with 4 MAX BRT connections • 2½ km Centre City tunnel from Eau Claire to 4 Street SE • Additional tunnel (CN/Highfield) • Ten bridges • 1.8 km of elevated track • Park and ride facilities with a total of approximately 1900 stalls • One Maintenance and Storage Facility north of 126 Avenue SE (Shepard)
Layer 2: Connections to Stations	Supportive infrastructure that enables the Green Line LRT to integrate with communities and support multi-modal access	<ul style="list-style-type: none"> • Improvements to urban realm to support station access- including multi-use pathways along the alignment at critical choke points in the walking and cycling network • Pathways across bridges at both Bow River crossings, Deerfoot Trail, and Black foot Trail • New road and bus connections to station areas
Layer 3: TOD Supportive Infrastructure	Supportive infrastructure and design features that enable the Green Line to facilitate TOD	<ul style="list-style-type: none"> • Six station areas targeted for further TOD planning and design based on significant study of TOD opportunities along the corridor
Layer 4: City Shaping	Supportive infrastructure and design features that enable the Green Line to facilitate The City's broader plans for the corridor and adjacent areas	<ul style="list-style-type: none"> • Embedded principles and strategies for implementing City Shaping initiatives along the Green Line to create a series of well-planned, connected, accessible, affordable and vibrant communities

IV.

Business Case Summary

Executive summary

The Green Line LRT Stage 1 Program was analyzed using best practices applied in Canada and internationally for Business Case Analysis.

This approach uses a four dimension Business Case analysis to identify the benefits, costs, trade-offs and risks of Stage 1.

This assessment will be used to inform final planning, design, and delivery of Stage 1 and will be used as a platform for further planning of potential expansions.

Strategic Case Summary

Stage 1 of the Green Line LRT will generate significant benefit for Calgarians across four key policy areas.

Table E.2 – 10 Reasons Calgary Will Benefit from the Green Line LRT Stage 1

Transportation	Quality of Life	Prosperity	Sustainability
1. Meeting the needs of daily travel for work and play – Stage 1 will serve 55,000–65,000 transit users a day in 2028 with a fast, frequent, reliable and direct transit service	5. A more accessible city – in 2028, 68,000 people will live within walking distance and over 900 community, educational, social service, recreational, or commercial activity centres can be reached using the Green Line LRT.	8. Connecting people to jobs and businesses to business to catalyze economic development – in 2028, nearly 200,000 jobs are within walking distance of the Green Line LRT	10. Reducing emissions to mitigate climate change and provide cleaner air – by taking cars off the road, Stage 1 will save up to 30,000 tons of Greenhouse Gas emissions a year in support of municipal, provincial, and federal environmental goals.
2. Needed capacity for today and tomorrow – Stage 1 will provide capacity to meet demand and provide customers an exceptional customer service in 2028 with opportunities to expand capacity without significant expenditure into the future	6. A safer and healthier city – over its first 30 years, the Green Line will take cars off the road and lead to 2,300 fewer collisions and 1.6 million km more walked per year	9. Generating jobs and supporting economic development – 12,000 direct and 8,000 supporting jobs are forecast to be developed by Stage 1 alone	
3. Faster travel times for Calgarians – travelers who use the Green Line will save up to 20–25 minutes, while auto users will benefit from an up to 10% journey time reduction due to decongestion	7. Fostering TOD and shaping Calgary's growth – direct connection to 6 high priority Transit Oriented Development (TOD) areas including future potential for over 1 million square feet of new residential development and 160,000 square feet of new office and retail space		
4. Financial efficiency – Stage 1 will increase the financial efficiency of the Calgary Transit network and will generate enough revenue to cover 70%–84% of Green Line operating costs			

Economic Case Summary

A socio-economic benefit cost analysis of the Green Line was conducted, as defined in Table E.3, which answers the question 'what level of benefit is generated by investing in the Green Line LRT?'. This table defines the range of resources (costs) required to deliver Stage 1, the benefits it will generate to users (travellers), and the broader City.

The economic analysis identified the following conclusions:

- Stage 1 has the potential to generate \$1.84 billion (combined travel time, amenity, crowding, and reliability benefits) in benefit for transit riders over the next 30 years, which when combined with external benefits (such as GHG reductions and safer streets) leads to a combined \$2.26 billion in benefit to the City as a whole.
- There are key opportunities to improve the economic performance of the Green Line LRT through future stages of design, planning, and delivery including identifying opportunities to optimize bus and multimodal connections, improving travel times, and reduce costs through value engineering or phasing.
- In the long run, continued expansion of the Green Line LRT can generate an additional \$1.5 billion in benefits based on a preliminary high-level estimates – this allows the capital-intensive investment included in Stage 1 to generate benefits as the network is expanded in line with the long-term vision for the Green Line.
- The Benefit-Cost-Ratio is consistent with or exceeds other LRT projects in delivery in Canada.

Table E.3 – Economic Case Summary

	Economic Consideration	Value (\$Million 2020 PV)
Costs	Incremental capital costs	\$3,680
	Incremental operating and maintenance costs	\$350
	Total Cost	\$4,030
User Benefits	Travel time savings	\$1,750
	Auto operating cost savings	\$70
	Amenity	\$20
	Crowding	\$50
	Reliability	\$20
External Benefits	Collision cost savings	\$30
	Benefit/disbenefit of GHG emission changes	\$10
	Health Benefits	\$110
	WEBs	\$200
	Total Benefits	\$2,260
Net Present Value	NPV (Benefit – Cost)	-\$1,770
Cost-Effectiveness	Benefit : Cost Ratio	0.56

Financial Case Summary

The Financial Case for Stage 1 of the Green Line LRT reviews the anticipated construction, renewal, and operating and maintenance costs. This case also defines the funding strategy for the Program and identifies its potential revenues. Table E.4 provides an overview of the Financial Case Chapter.

Table E.4 – Financial Case Summary

Cost Category	Value (millions)
Indirect Costs	\$805 (nominal dollars)
Direct Costs	\$4,098 (nominal dollars)
Total Construction Costs	\$4,903 (nominal dollars)
Illustrative Annual Financial Impact	
2028 Incremental Operating and Maintenance Costs (LRT only)	\$26.9 (2018\$)
2028 Incremental Revenue (LRT Only)	\$6.5 (2018\$)
2028 Net Incremental Operating and Maintenance Cost (LRT Only)	\$20.4 (2018\$)
Funding Sources	
Government of Canada	<ul style="list-style-type: none"> • \$1.530 – Investing in Canada Infrastructure Plan (Public Transit and Green Infrastructure) • \$0.111 – Public Transit Infrastructure Fund (Phase I)
Province of Alberta	<ul style="list-style-type: none"> • \$1.530 – Ultimate Recipient Agreement • \$0.055 – Public Transit Infrastructure Fund (Phase I) • \$0.117 – GreenTRIP and prior grants
City of Calgary	<ul style="list-style-type: none"> • \$52 (per year for 30 years) – 2013 Tax Room (2015 to 2044) • \$23.7 (per year for 27 years) – 2017 Tax Room (2018 to 2044)

Deliverability and Operations Case Summary

The Deliverability and Operations Case provides an overview of the approach used to procure the Program and realize its intended benefits.

Socio-Economic and Environmental Considerations

The Program continues to consider how best to align City and contractor responsibilities for a range of key socio-economic and environmental considerations that will be managed for the life of the Program – these include the allocation of responsibility for regulatory issues, including managing environmental assessment certificate compliance and permitting. It also includes key considerations around the assignment of responsibility for managing external relations, including consultation with Indigenous communities and public engagement processes.

Response and mitigation measures include: cost management; procurement schedule management; resource and capacity augmentation; and improving/streamlining decision-making. To further reduce risk the Program Delivery Team is actively managing three key dependencies to ensure the Program continues to meet its planned schedule: completion of early works package; finalization of any required funding agreement amendments; and securing executive sponsorship and Council approvals.

Procurement Strategy and Approach

The procurement strategy is founded on a core set of principles that are intended to support the long-term success and viability of the Program for the City of Calgary. Assessments of market feasibility have been conducted at various stages of the Program to ensure that the procurement model is strategically aligned with key market considerations, feasibility and competition. These assessments have concluded that using an early contractor involvement model with two design-build-finance (DBF) contracts or the main project construction – one for Segment 1 for southern Shepard Phase and one for Segment 2 in the Centre City – with separate contracts for the Light Rail Vehicles and enabling works would present the best mix of value, competition and schedule certainty for the Program.

Risks

The Program continues to monitor and actively maintain a risk registry and a recent interdisciplinary review identified the following seven key risks: Affordability; Governance and decision making; Procurement and market (from multiple procurements); Contract interfaces; Segment 2 design and constructability; coordination with CN and CP railways; and impacts from COVID 19. The Program Delivery Team continues to develop and refine mitigation strategies for the key risks and continues to take a proactive approach to risk identification, management, and mitigation as the Program progresses.

Governance

An effective system of project governance will be integral to the success of the Program. The governance systems and structures will incorporate leading best practice in project governance while also meeting the unique needs of the Program. The governance model for the Program is under development at the time of writing to ensure effective alignment with the outcomes of the procurement process.

The delivery and management of the Program will be supported by a tailored Program Delivery Team model. The organizational chart for the Program Delivery Team is under refinement at the time of writing to ensure effective alignment with the outcomes of the procurement process.

Operations and Maintenance

Operations and maintenance components have been excluded from the procurement model at this stage, as The City is not pursuing a long-term P3 model for the Program with all operations and maintenance planned to be undertaken by Calgary Transit supported by The City's other departments and divisions.

Benefits Management

The City expects a range of benefits to be realized in both the construction and operational phases of the Program and, at the time of writing this Business Case, work is underway to more comprehensively map project benefits to develop a benefits management plan.

V.

Business Case Conclusions

The Business Case for Stage 1 of the Green Line LRT Program draws on over five years of planning, stakeholder engagement, and design to present an optimized investment for the City of Calgary. This investment will have a significant benefit on mobility and urban development for the City of Calgary by 2028 and beyond, including:

- **Improving mobility choices by providing fast, frequent and reliable transit services that strategically connect communities, employment hubs and key destinations** - this will save Calgarians time traveling to work and recreational activities.
- **Laying Foundations** – by delivering the most complex elements of the overall Green Line Program first, Stage 1 enables future extensions further north and further south.
- **Catalyzing development** – the Green Line LRT serves 10 station areas (of 15 stations) that are identified by Calgary's Municipal Development Plan as priorities for investment and development.
- **Integrated and cost-effective transit service** – the Green Line will connect people to where they want to go on a new LRT that can be delivered and operated in a cost effective manner.
- **Connecting the City** – the Green Line is the next step for completing Calgary's rapid transit network providing seamless connectivity with the existing Red and Blue LRT lines and four MAX transit lines.

Next Steps

Upon review of this Business Case and other supporting materials, the following next steps have been identified for Stage 1:

- Procure Light Rail Vehicles
- Advance the P3 delivery of Segment 1 from Shepard to Ramsay/Inglewood
- Continue the design and development of Segment 2 from 4 Street to 16 Avenue N and continue to plan BRT improvements for Centre Street in advance of future expansions
- Conduct further planning, design, and development of Centre Street N and southern expansions for the Green Line LRT Program

1

Introduction

1.1

Background

The City of Calgary is regarded as one of North America's best places to live, work, and do business. It is one of Canada's largest cultural and economic centres and has a well educated and entrepreneurial population working across multiple industries. As a result, the City has undergone significant population and employment growth over previous decades and is forecast to double its population by 2076.

The southeast and north of the City are anticipated to grow faster than any other area.

In particular, the southeast will close to double its population in the next 30 years, resulting in nearly 15,000 new trips in the busiest hour of the day and over 115,000 daily trips. Centre Street North has evolved into the busiest bus rapid transit (BRT) corridor in the city. The demand along this corridor regularly exceeds the capacity of the current BRT system during the morning and evening rush hours.

Without changes to the transit network, 90% of this new demand will use the road network and increase congestion and travel times while reducing reliability.

Investment in infrastructure is essential to maintain a high quality of life, a prosperous and competitive economic advantage, and a sustainable environment. This Business Case outlines a key infrastructure investment to meet this need: Stage 1 of the Green Line LRT Program. This investment will expand mobility choices to improve travel times and journey reliability by connecting southeast, downtown, and north Calgary to meet the needs of the City's present and future population.

1.2

Role of the Calgary Green Line Business Case

This Business Case has been developed as an update to the 2016 Business Case for the Green Line LRT program. Since 2016, the design and planning work for a first stage (Stage 1) of the Green Line from Shepard through to 16 Avenue North via Downtown has advanced significantly, with an aim to initiate procurement for Segment 1 of the Program in 2020. This Business Case has been developed to advance the Green Line project by:

- Leveraging previous planning studies and Business Cases to define the Green Line Project
- Communicating the central challenges and issues the City will face in coming decades and the role of transportation investment in general and the Green Line in specific, in preparing the City to double its population by 2076
- Defining the range of benefits the Green Line LRT Stage 1 will realize and set out processes to manage and realize them

This Business Case has been prepared applying international best practice to achieve these three aims in a transparent and accountable manner that enhances project delivery and decision making.

1.3

Document Structure

The remainder of this document includes the following chapters:

Chapter	Role in Business Case	Content Connects To
2 – Case for Change	Defines a ‘solution agnostic’ problem and defines why Stage 1 of the Green Line is an appropriate investment to address the problem and realize benefits for the City and region	<ul style="list-style-type: none"> Chapter 3 – provides goals and objectives to inform the design of options Chapters 4-7 – provide goals and benefits to inform option evaluation
3 – Green Line Concept	Defines the specific Green Line LRT Program options included in the Business Case evaluation (Chapters 4-7) and key design assumptions to inform next steps	<ul style="list-style-type: none"> Chapters 4-7 – scope, (changes to network) costs and model outputs to inform evaluation
4 – Strategic Case	Assesses the benefits of the Green Line LRT Program to Calgarians, the City, and the broader region	<ul style="list-style-type: none"> Chapter 5 – provides key strategic benefits to be monetized in Chapter 5 Chapter 8 – supports conclusions
5 – Economic Case	Monetizes strategic benefits and compares them to the resource costs to deliver the Calgary Green Line LRT to assess overall value to the City and region in economic terms	<ul style="list-style-type: none"> Chapter 8 – supports conclusions
6 – Financial Case	Provides a financial and funding assessment of the Green Line LRT	<ul style="list-style-type: none"> Chapter 8 – supports conclusions
7 – Deliverability and Operations Case	Defines the procurement approach and requirements (technical and regulatory) to successfully deliver the options and provides an overview of key risks	<ul style="list-style-type: none"> Chapter 8 – supports conclusions
8 – Conclusion	Summarizes the evaluation Chapters (4-7) and provides key insights and recommendations	<ul style="list-style-type: none"> Decision making and procurement planning

2

Case for Change

Chapter 2 – The Case for Change – outlines the central problems and opportunities that will be addressed by investing in the Program defined in this Business Case. This chapter draws upon municipal, provincial, and federal plans, policies, and goals to define the case for changing the transportation network to meet the needs of the City and its people. The remainder of this chapter includes the following sections:

- The Problem– an overview of the central issues that define the need for investment in the transportation network
- The Solution – an overview of why the Green Line LRT has been proposed as an essential transformation to the Calgary transportation network to address this problem

2.1

The Problem

Problem Statement: Calgary's transportation network does not meet the current mobility needs of the City and its people and is unable to support planned and forecast growth while maintaining a high quality of life, economic competitiveness, and environmental sustainability.

Today, The City of Calgary is an economic and cultural centre and is frequently ranked as one of the most liveable cities in North America to live, work, and play in. Over the past decades the City has grown at a rapid pace which has led to increased prosperity but has also brought challenges of increased travel times and reduced transportation reliability. Combined, these challenges will reduce quality of life, prosperity, and environmental as more people spend more time travelling on an increasingly congested, crowded, and unreliable network. Without investment, this problem will grow over time and will become more acute due to two key issues:

- **The current transportation network cannot provide quality mobility options for all future travellers-** today demand in the north exceeds capacity, while the rapidly growing southeast does not have complete rapid transit coverage. There is a clear need for affordable and attractive transit that can provide faster and more reliable mobility.
- **Travel times and congestion will limit the potential to develop great places in which to live, work, and play.** The corridor running from southeast Calgary, through the downtown core, and to 16 Avenue N has been identified for redevelopment – with a focus on developing Transit Oriented Developments (TOD) at key sites on the corridor. However, the existing transit network does not provide fast and reliable connectivity between these sites and will suppress their development potential.

What happens if this problem is not addressed?

Table 2.1 defines the central consequences to the City and broader region if this problem is not addressed.

Table 2.1: Consequences and Risks of Inaction if Problem Statement is Not Addressed

Consequences	Risks of Inaction
The transportation network will not manage the level of growth, and the quality of life and environment will decrease	As the region's population increases, existing transit and roadways will see a continued increase in congestion, lowering the overall efficacy (e.g. speed, reliability) of transportation networks and services.
	People will spend more time travelling, leading to a decline in socio-economic and environmental health and well-being.
The transportation network will hinder further development and economic growth	Increased travel times will make it harder for people and businesses to access economic activity centres across the north and southeast. This will have an impact on the attractiveness of Calgary as a place for businesses to work, invest, and innovate.
	Population and employment growth will be constrained which may hinder investment and development that can help foster the creation of 'complete' communities.
The transportation network will be more resource and pollution intensive	Increased population will lead to increasing demands for mobility, which in turn will mean more fuel and energy used every day if sustainable options are not provided
	If trips are made on vehicles with lower energy efficiency, the transportation system will produce more pollution that impacts both human and environmental health.

2.2

Problem Deep Dive: Understanding the Need for Investment

This sub section provides an in-depth review of the factors that shape the problem identified in the problem statement.

Issue 1 – The Current Transportation Network Cannot Provide Quality Mobility Options for All Future Travellers

Preparing for the Future – Calgary's Population Will Double by 2076.

The City is a large and dynamic City with a population of more than 1.3m people¹ and 720,000 jobs². It is a City with a young and highly educated population, a cluster of highly competitive businesses, and an exceptional quality of life. These advantages inform long-range population growth projections to 2076 that suggest Calgary's population will double, bringing 1.3m new residents to the City.

More specifically, the City expects significant growth in its northern and southeastern communities, with the population of its northern communities estimated to reach 340,000 by 2076 (up from 165,000 in 2014), and population in its southeastern communities estimated to reach 365,000 by 2076 (up from 120,000 in 2014). Importantly, the City's southeast quadrant is one of the fastest growing urban areas in the City and is forecast to nearly double over the next 30 years. Figure 2.1 and Figure 2.2 present the distribution of population across the City in 2015 and 2076.

These figures illustrate that:

- Communities such as Inglewood, Ramsay, and Quarry Park have achieved densities of 1,000-5,000 people per square kilometre, which is a similar level of density to the City's older communities adjacent to the core and in line with municipal plans and policies to develop denser more complete communities.
- Key development areas within the southeast of the City are planned for significantly higher densities, such as parts of Quarry Park and Riverbend that will increase to 2,000-10,000 people per square kilometre.
- Areas north of downtown Calgary are also high density and are anticipated to remain so into the future.

1. City of Calgary. (2019). 2019 Civic Census Results. Retrieved from: https://www.calgary.ca/CA/City-clerks/Documents/Election-and-information-services/Census2019/2019_CensusResultsBook.pdf

2. City of Calgary. (2020). January 2020 Labour Market Review.

This increase in population and population density presents the following potential challenges for the City:

- Existing southeastern transportation infrastructure was developed for lower densities (fewer people within an area means fewer trips exiting and entering an area) and lower populations (fewer people within an area also means lower overall volumes).
- Transportation in the north is already congested - every day the bus routes along Centre Street are crowded with the number of customers unable to board buses because they are full increasing each year.

Without investment, denser areas may lead to bottlenecks in the network where travellers exit their community and make use of major arterials or transit routes, while increased volumes may lead to congestion and increased travel times for all travellers.

Employment forecasts and Economic Development Plans Call for An Expanded Role for Southeast and North Calgary

Alongside population growth, the City forecasts an additional 100,000 new jobs in north and southeast Calgary over the next 25-30 years, which will position the southeast as an important employment destination in the City³. This growth, projected to 2076, estimates there will be:

- Over 100,000 jobs in the north (up from 40,000 in 2014); and
- Over 210,000 jobs in the southeast (up from 100,000 in 2014).

Additionally, by 2033, jobs are forecast to grow by over 50% to 145,000 and 60,000 in the southeast and north respectively. Figure 2.3 and Figure 2.4 present the distribution of jobs across the City in 2015 and 2076.

3. Employment growth may vary from forecasts due to changes in the broader economy at a municipal, provincial, and federal level.

Figure 2.1: Population per Square Kilometer
(2015)

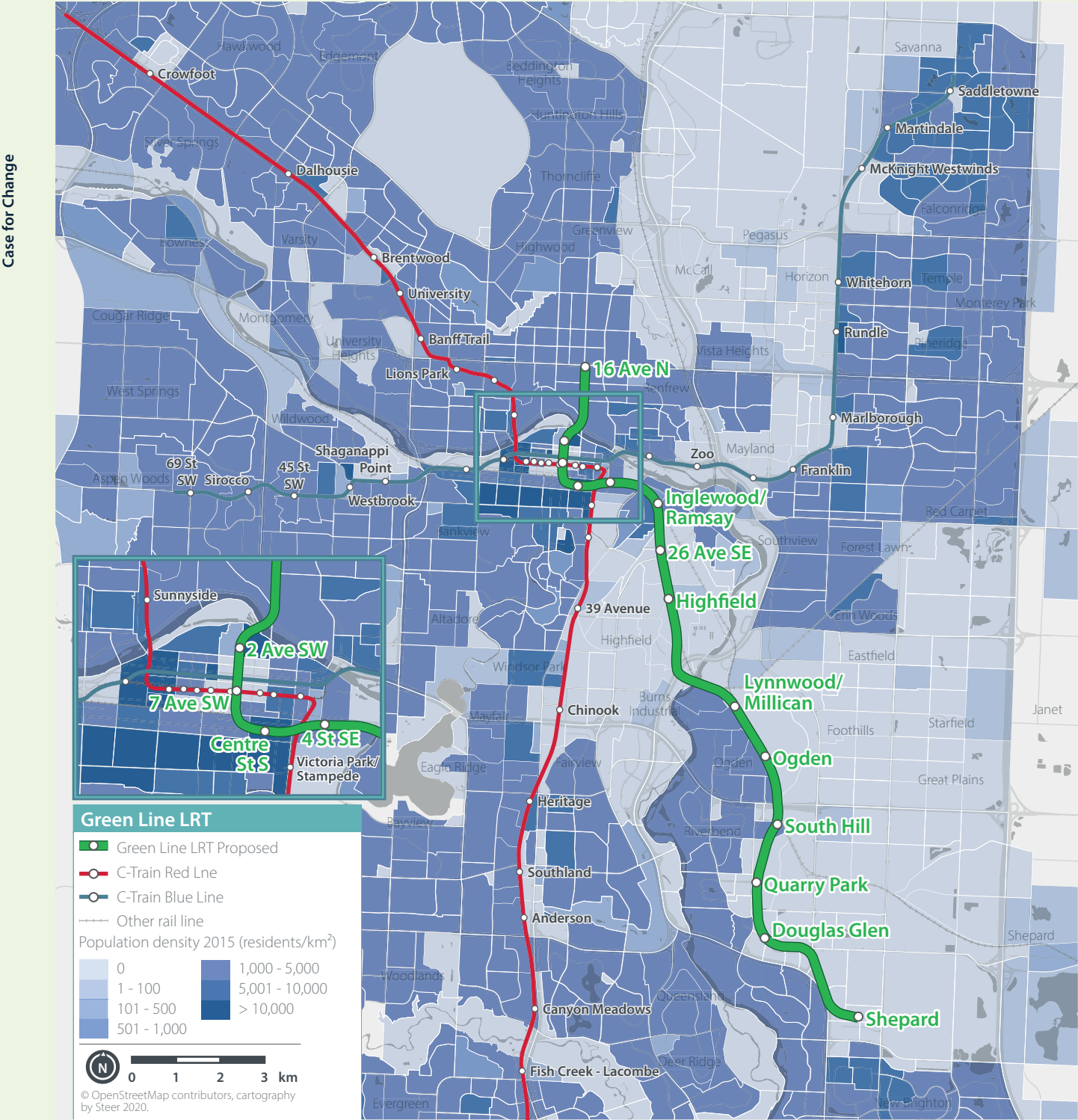


Figure 2.2: Population per Square Kilometer
(2076)

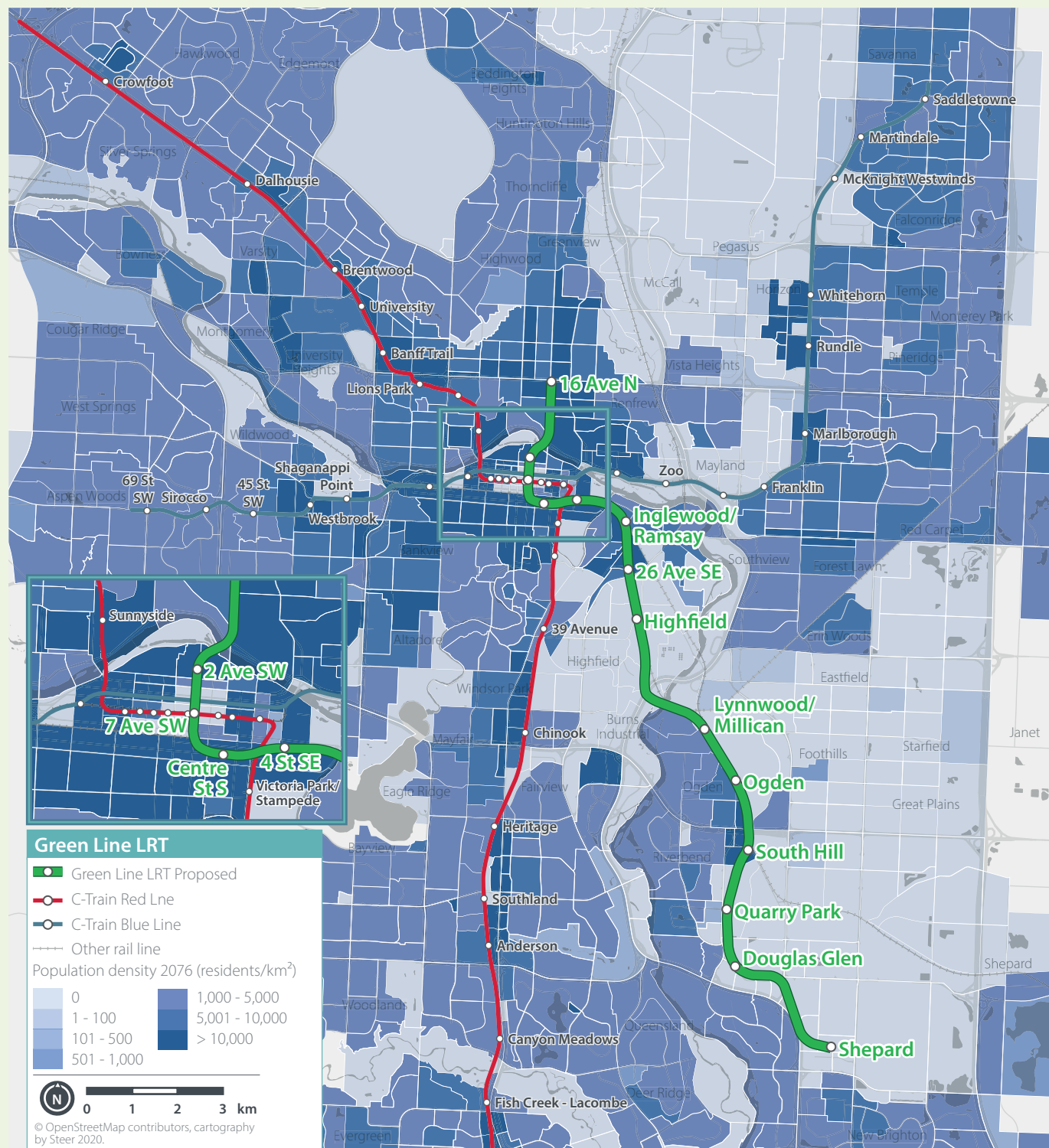


Figure 2.3: Employment per Square Kilometre (2015)

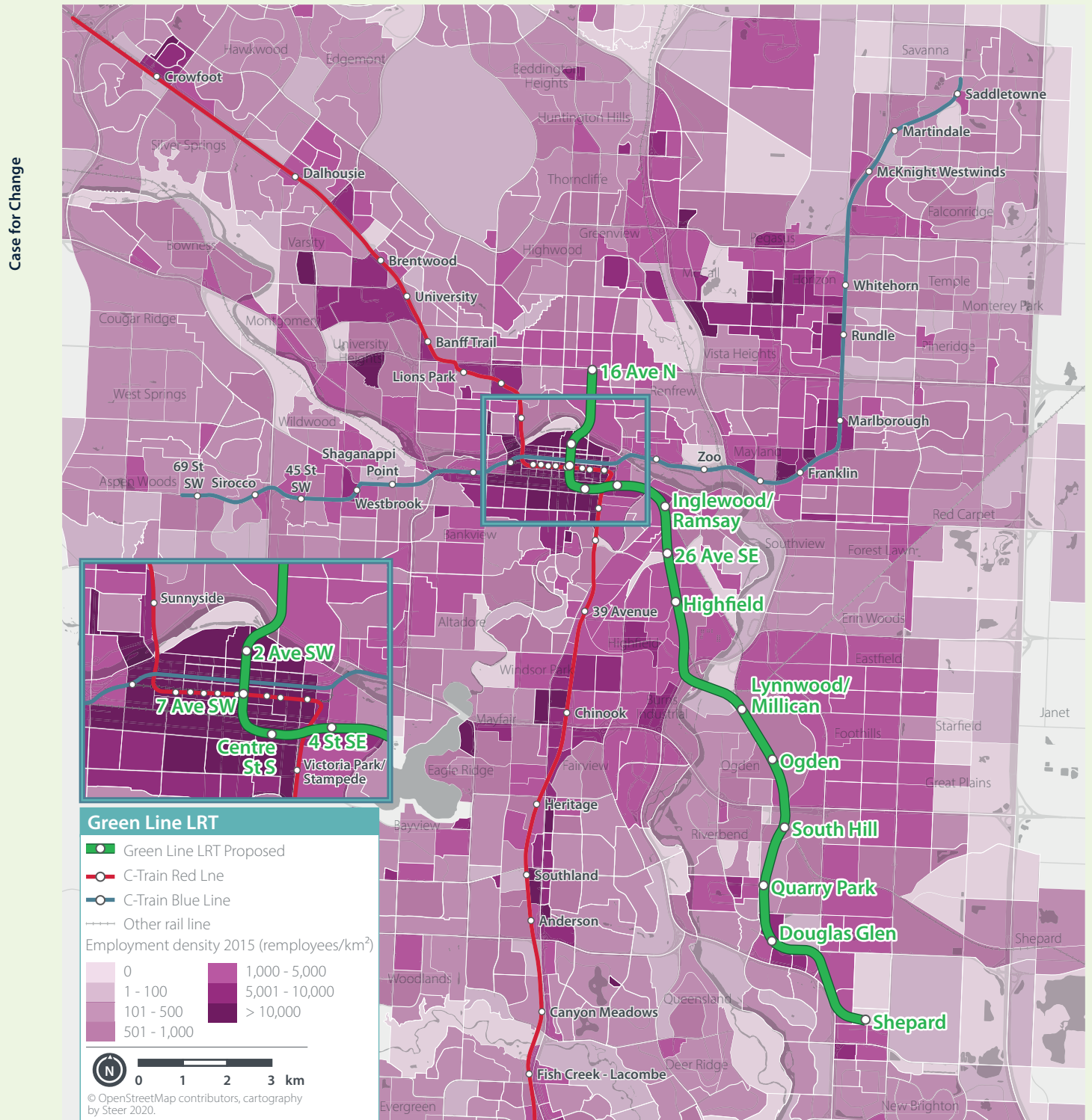
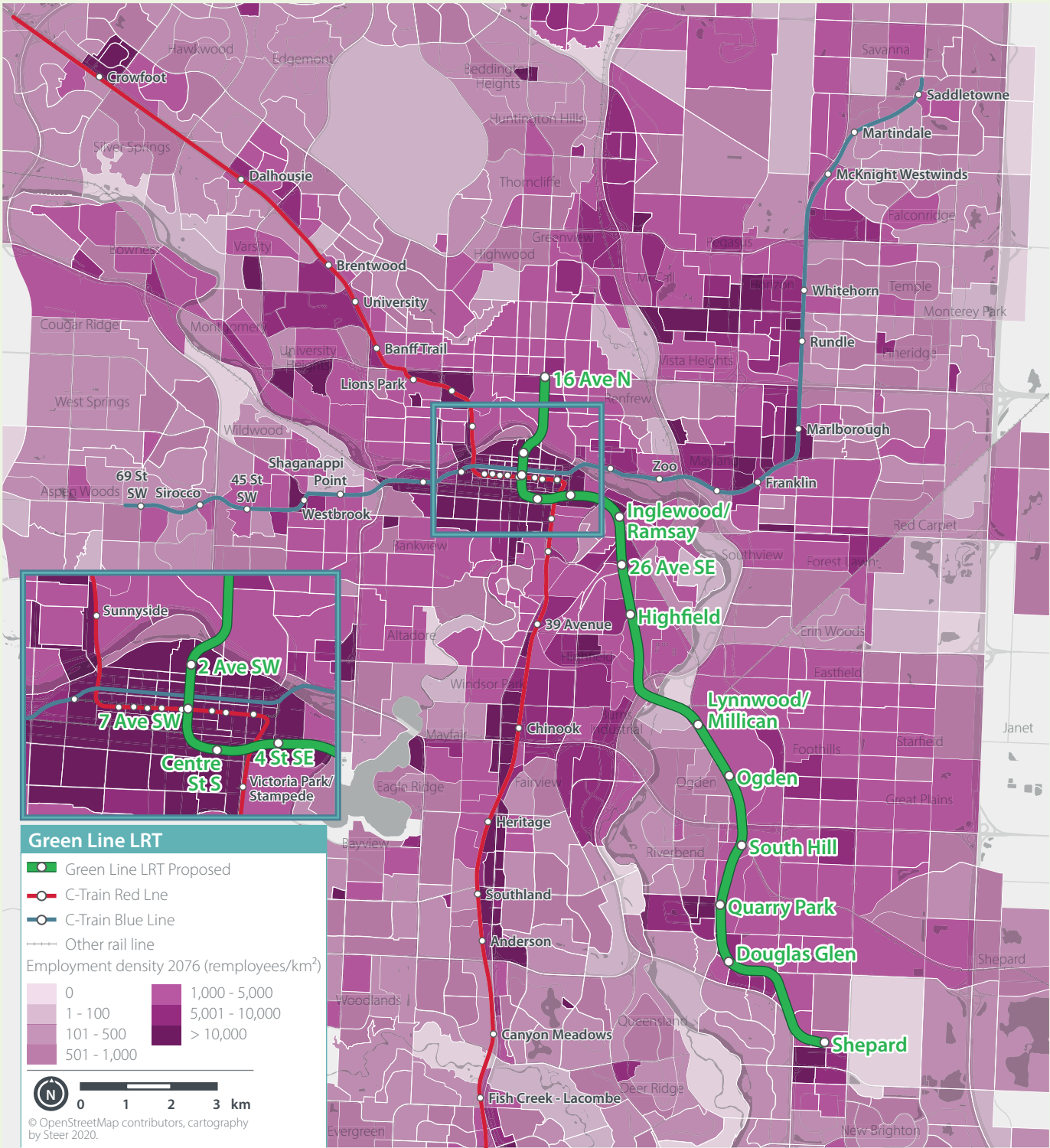


Figure 2.4: Employment per Square
Kilometre (2076)



Impact of Population and Employment Growth on Transportation Network

This significant growth in population and employment will have multiple impacts on the way people travel in the City:

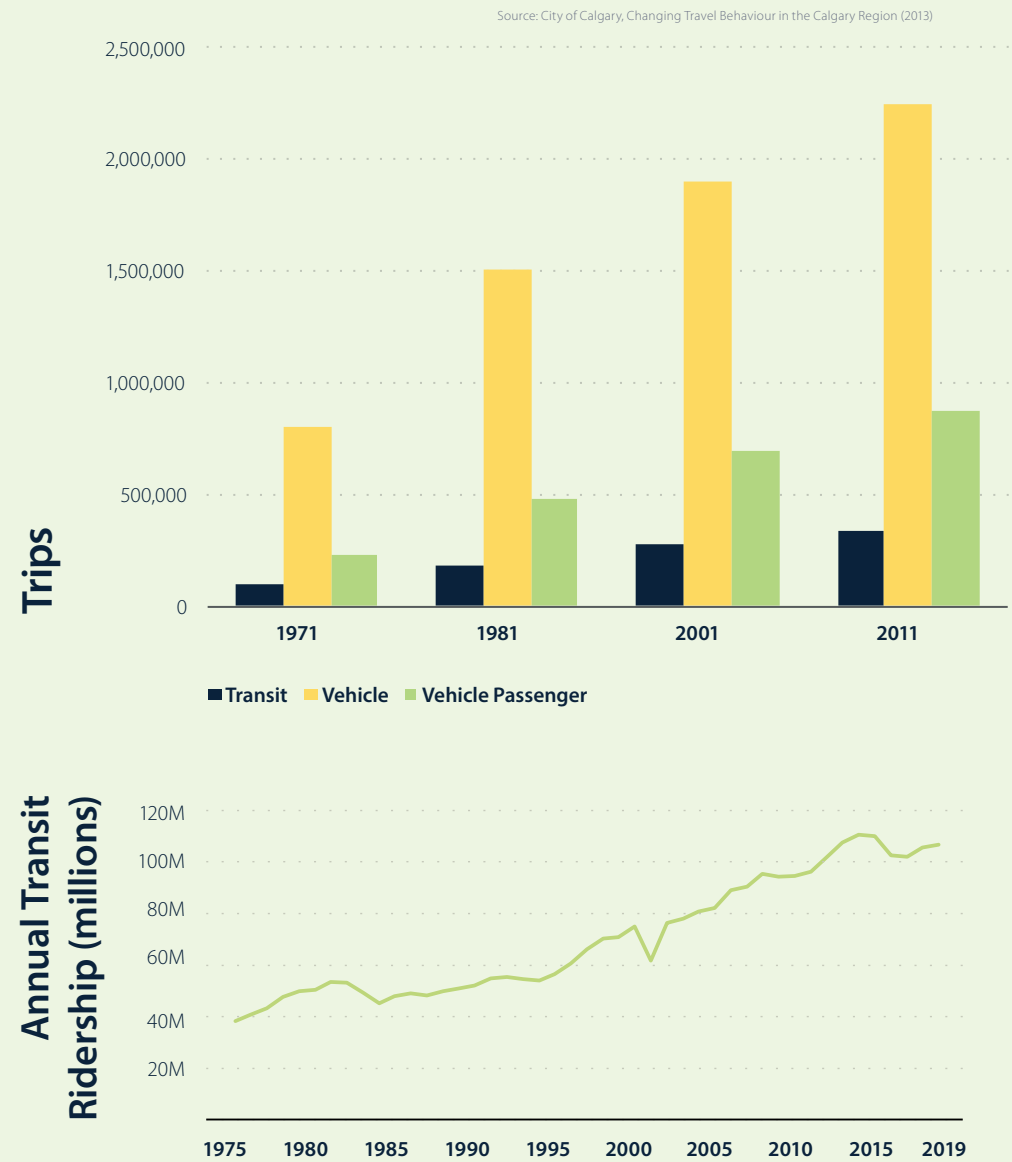
1. **Number of trips** – increased volume of trips as the population and employment grow.
2. **Destination of trips** – new origin destination pairs as will emerge the places where people live and work change based on urban development (example: Calgary is in the process of evolving from a Downtown focused City, where most transit users live in suburban communities and work Downtown, to one which is more polycentric, where there is a multitude of high-density hubs).
3. **Trip purpose and time of travel** – changed trip patterns as demographics and economic activity change how people live, work, and play.
4. **Modes used** – people will make use of different transportation modes based on the combined influence of 1-3.

Over the past five decades, factors 1-3 have led to increased demand on the City's transit network. For example, in terms of trips to work between 2001 and 2011, there was a 4.8 % increase in the number of people who took transit to work, from 13.9% to 18.7%⁴, which demonstrated increased demand for public transit use by commuters. Cordon counts conducted by The City show that the typical AM modal share for transit for trips to the Downtown Core is 40-50%, which further illustrates the strength of the transit market.

Figure 2.5 illustrates how citywide travel demand has increased over time by nearly 575,000 trips. Of these trips, approximately 90% were conducted by auto (523,600; vehicle or vehicle passenger), and the remaining 10% by transit (52,400).

4. City of Calgary. (2013). Changing Travel Behavior in the Calgary Region. Retrieved from: https://www.calgary.ca/Transportation/TP/Documents/forecasting/Changing%20Travel%20Behaviour%20in%20the%20Calgary%20Region_Vol2_v07_FOR_WEB.pdf?noredirect=1

Figure 2.5: Historic Calgary Travel Demands



The City's regional transportation model, which is informed by these trends, was used to forecast demand between the quadrants of the City and the Downtown Core to illustrate the level of demand the future network will need to accommodate (noted in Table 2.2).

Table 2.2: Future Market Demand (Busiest Hour of the Day - origins are rows, destinations are columns))

Case for Change

2028 Mode Split	Southeast	Southwest	Northwest	Northeast	Central Business District	Region	Total
Southeast	5%	10%	30%	8%	33%	0%	11%
Southwest	6%	10%	28%	24%	45%	0%	20%
Northwest	8%	17%	12%	10%	45%	0%	17%
Northeast	6%	31%	22%	9%	54%	1%	18%
Central Business District	11%	17%	25%	23%	20%	5%	19%
Region	0%	3%	6%	1%	18%	0%	2%
% Growth (2015-2018)	Southeast	Southwest	Northwest	Northeast	Central Business District	Region	Total
Southeast	93%	47%	54%	58%	27%	47%	65%
Southwest	42%	33%	40%	18%	10%	18%	27%
Northwest	15%	34%	24%	7%	-3%	68%	17%
Northeast	17%	15%	26%	22%	4%	80%	19%
Central Business District	39%	26%	30%	25%	14%	16%	21%
Region	36%	27%	64%	32%	2%	80%	56%

Table 2.2 notes the following key findings:

- By 2028, demand originating in southeast Calgary will have grown by 65% (the largest growth in the city)– this is a net increase of nearly 15,000 trips, of which 13,500 are made by car.
- This equates to nearly seven lanes of additional peak period demand per year, which highlights how the road network cannot handle increased demand without significant congestion and delays.
- To attain a similar mode share to the Downtown Core as other markets, the transit network would need to move 3,000 more people in the AM peak, which is equal to over 30 buses per hour, which is nearly one bus every two minutes to the Downtown Core, which presents significant operational challenges. The 302 Bus does not have sufficient operating capacity to meet this demand.
- Aside from the 302 Bus, some travellers in the southeast make use of the Red Line LRT, which is increasingly crowded and at capacity during the busiest hours of the day. This level of crowding impacts customer experience and limits ability to grow transit mode share in the Red Line corridor.
- As demand exceeds the existing transit network's capacity, travel times, user experience, and overall reliability will decrease, which will limit traveller choice to access the Downtown Core, other employment sites, and a range of recreational sites in the City.
- Transit demand from the north will remain high, emphasizing the need for additional transit capacity on core corridors - such as Centre Street.

4. Assuming each lane can carry 2000 vehicles per hour per direction

Impacts of Issue 1

This increase in demand has the following ramifications for the transportation network:

- Increased transit use has put a strain on the bus and LRT networks, with multiple services experiencing significant crowding during the busiest hours of the morning and evening periods
- Due to a circuitous road network, transit travel times in the southeast take up to 40 minutes longer than a private vehicle, while bus demand in the north leads to overloaded buses by 16 Avenue N.
- Unreliable transit results in long wait times, long travel times, and inconsistent service.
- Increased auto trips have led to worsening road congestion on arterial and local streets in particular in the southeast where increased auto ownership is paired with inadequate transit services that do not provide people with an alternative to driving.

Combined, these factors create a vicious cycle – poor travel times and reliability lead to reduced use of transit and increased congestion.

Issue 2 – Travel times and congestion will limit the potential to develop great places to live, work, and play.

Issue 1 discussed how increased growth in the City – and in particular in the southeast – will increase congestion on the roadways and exceed the ability of current bus-based transit options to deliver a positive user experience and reliable travel times. Issue 2 focuses on the impact of congestion on the viability of urban development – including municipal and economic developments – and the City's overall ability to provide quality places to live, work, and play in the southeast for the citizens of today and tomorrow.

The Role of Mobility in Reshaping Southeast and North Calgary

City plans and policies call for a change in urban form as the City's population and employment bases grow. Historically, the City's development has focused on:

- Centralized employment in the Downtown Core or Central Business District (CBD).
- Lower employment densities throughout the City with a focus on retail and manufacturing, with some service/knowledge-based industries beginning to locate outside of the CBD.
- Higher density residential developments near the CBD with single family home and lower density developments outside of the Core.

This approach to development poses key challenges for the long-term quality of life and prosperity of the City:

- With employment concentrated in the CBD and low-density development outside the Core, many commuters travel long distances, with increasing travel times as congestion worsens.
- Industrial lands alongside key transport corridors are ready for redevelopment but are not as accessible as employment sites in and within proximity of the CBD.
- Land use patterns in the southeast are auto-oriented, meaning travellers cannot complete many trips – including work and recreational trips – without an automobile.
- Some communities lack a range of employment and recreation opportunities and amenities, which means people travel great distances for a range of trip purposes.

In response to these challenges, the City of Calgary has made significant investments and long-range policy commitments to tackle this challenge through the use of public transportation infrastructure and encouraging development that supports transit use. The City's Municipal Development Plan (MDP) calls for a revised approach to new development and densification in built up areas that allows for fewer long-distance trips and more trips on transit.

One of the key goals discussed in the City's MDP is as follows:

Direct future growth of the City in a way that fosters a more compact efficient use of land, creates complete communities, allows for greater mobility choices and enhances vitality and character in local neighbourhoods⁵

5. City of Calgary. (2009). The City of Calgary Municipal Development Plan (Office Consolidation 2018)

The transformation to complete and efficient communities cannot be delivered without providing improved connectivity with high reliability, fast, and frequent rapid transit.

The City notes four key land use elements that shape the relationship between mobility, growth, and urban form:

- Density – The intensity of people living or working in the area
- Diversity – Mixing land uses
- Design – Creating a quality pedestrian environment
- Distance – Locating the right uses close to transit.

Redevelopments and developments in southeast Calgary have been planned with these principles, however, there is a missing link: rapid transit that provides fast travel times across the southeast, the north, and the broader city. Without rapid transit development, policy frameworks that prioritize dense and mixed use communities will have reduced impact due to high levels of congestion (reduced accessibility) and significantly higher parking requirements.

The Role of Mobility in Safeguarding Economic Activity

Mobility challenges in Calgary impact economic development prospects in a similar way to how they impact urban development prospects. The City plays a key role in the economy of Alberta and Calgary has gained global recognition as a highly liveable City with significant economic opportunity. The City is home to more than 720,000 employees and has one of the highest levels of productivity in Canada, at \$84,630 per capita (compared to a national average of \$52,266)⁶. Calgary is home to a large financial and professional services sector, a highly innovative economy and access to a wealth of natural resources. However, in order to ensure that Calgary realizes its full potential, new investment in infrastructure that will meet the needs of the City's workforce both today and in the future is required. High quality transit is a necessity for cities to grow, for cities to be attractive to a talented workforce, and for cities to be a competitive economic centre.

In particular, infrastructure investment is needed that enables access from high population areas to job rich employment centres, while also using investment in infrastructure to generate jobs. This need is being driven by population growth (and resulting employment growth) and changes in the way people desire to travel across the city.

6. Calgary Economic Development, based on 2019 data from Conference Board of Canada (2019) and Statistics Canada (March 2019)

The City's ten-year economic development plan⁷ has an explicit focus on mobility, which can be summarized as follows:

A public transit network that connects the City's major employment and residential areas is required in order to secure Calgary as the City of choice in Canada for the world's best entrepreneurs and maintain high levels of economic productivity.

Effective integration of public transit and providing enhanced transit connectivity will deliver socio-economic value for the City's residents and workers, by:

- Serving Calgarians by connecting major activity, employment and industrial centres within Downtown Calgary and across the wider urban area;
- Connecting economic centres with residential housing areas to provide better connections for people to access their workplaces;
- Encouraging businesses and their employees to travel across the City by transit rather than by car; and
- Unlocking new development sites to support Calgary in the growth of its key sectors.

Prolonged Congestion and Current Levels of Transit Service Will Limit Calgary's Potential

As the City's population and employment grows, road congestion will become an increasing issue for the City and its people. Worsening road congestion can be attributed to consistent growth in population alongside auto-dependent land uses with inadequate transit services that do not provide people with an alternative to driving. These issues will in turn impact the ability of the City to realize its growth targets and policy aims.

In order to achieve policy commitments for municipal and economic development, the City must work towards improving transit services and infrastructure so that land use and development goals can be effectively met. The development of 'complete' communities can help justify and support the development of new, and improvement of old, transit services. Essentially, by failing to provide adequate transportation services, the City will be limited in its ability to develop complete communities (communities where people can live, work, and play) that enable a type of lifestyle that does not depend on car use.

7. City of Calgary, Calgary in the New Economy, 2018

Impacts of Issue 2

The existing transportation network in southeast and north Calgary does not align with policy goals that call for transportation to support land use and economic development, nor does this network enable through connectivity to the downtown core and beyond to North Calgary:

- Travellers have limited mode choice and transit will struggle to compete with private automobiles based on speed and reliability.
- Buses travelling through the southeast are often delayed due to the high volume of vehicles commuting on this route. Transit service includes the BRT Route 302, currently operating every 10 minutes in peak hours and every 30 minutes during off-peak hours. The low frequency of this route often leads to long wait times and inconsistent service. This means for many trips, automobile is the only choice for travellers.
- Buses from the north are often caught in a bottle neck entering the downtown area on Centre Street, which reduces connectivity between homes and jobs on this dense corridor and limits its attractiveness as a place to invest and develop.
- Auto dependency will overwhelm existing road capacity and increase congestion across the Southeast of the City and into the Downtown Core.
- The attractiveness and feasibility of new complete community development will diminish without quality transit connections through southeast Calgary.

2.3

The Solution: Delivering a Cost-Effective LRT Corridor that Unlocks City-Wide Potential

Case for Change

This Business Case proposes the delivery of an LRT spanning southeast to north Calgary (referred to as 'the Green Line LRT Stage 1') to address the key issues identified in the problem statement: provide sufficient mobility options to prepare the City for the future and shape the transportation network to meet urban development plans.

As part of Stage 1, this LRT will be connected to an improved Bus Rapid Transit line on Centre Street, which can be replaced by further LRT expansions in future stages.

Chapter 3 provides an overview of the proposed Green Line LRT concept, while this section provides an overview of the rationale for focusing on LRT as the solution to this problem.

Proposed Solution: Develop the Green Line LRT

The Green Line LRT has been identified as Calgary's next LRT line and has a proposed scope running from a southern terminus at Seton in the southeast, through the Downtown Core, and north on Centre Street to an ultimate northern terminus at 160 Avenue N. This project has undergone significant study, development, engagement, and design and has been selected as a solution to the problem statement because it can:

- **Improve Mobility** – the Green Line will increase capacity to accommodate current and future travel demand in a way that is fiscally responsible and supporting of broader goals for quality of life, environmental protection, and economic productivity;
- **Enhance urban growth and development** – the Green Line can provide a missing link between major development centres and the Downtown Core with a high quality transportation choice that is aligned with urban growth plans that anticipate the delivery of new rapid transit; and
- **Connects People and Places** – the Green Line will improve the mobility and accessibility of all people, connecting them to/from places where they can live, work, and play in a way that is safe, healthy, and cost-effective.

Green Line LRT Vision

The Green Line Project Vision was established following a broad-based public engagement process led by the City of Calgary and was reconfirmed by Calgary Council on January 13, 2020 as:

“A City-shaping transit service that improves mobility in north and southeast Calgary, connecting people and places and enhancing the quality of life in the City.”

Defining the Role of the Green Line in Southeast, Downtown, and North Calgary

While the full Green Line LRT project will benefit Calgary as a whole, this Business Case for Stage 1 is focused on southeast, downtown, and north central Calgary.

Stage 1 provides a strong foundation of connected LRT service while completing the most technically complex and capital intensive aspects of the long-term vision. This foundational core project will best facilitate future extensions and demonstrates The City's commitment to implementing the long term vision for the Green Line.

This problem is an initial priority for investment because it has the highest anticipated population and employment in the City. This growth will lead to travel demand growth in two key markets:

- Demand from the growing communities in the southeast of Calgary to the Downtown Core
- Demand between new developments and economic growth centres across southeast, downtown, and north Calgary.

Today, these markets are served by two primary modes:

- **Highways and roadways** that experience worsening road congestion.
- **Rapid bus service** that is either well-used but over capacity (north Calgary), or inefficient and unreliable (southeast Calgary). Currently, the 301 North and 302 Southeast BRT lines service the north and southeast communities of Calgary.

Table 2.3 reviews three potential solution types for the issues explored within the problem statement. These include: auto network expansion, focused investment in the 302 and other bus corridors, and the development of a new LRT.

Why Focus on Green Line LRT?

As discussed in Table 2.3, at a high-level, LRT has a greater policy alignment and greater overall potential to address the problem statement:

- Auto expansion is unlikely to be a long-term solution as new capacity has historically been taken up by increased auto demand, in addition further investment in the road network will not provide expanded choice for segments of the population and workforce that rely on transit or choose transit as their primary mode.
- Creating an enhanced bus service beyond what it is today (for example, BRT lines 301 in the north, and 302 in the south) that will effectively / reliably service the needs of these growing communities may work in the short term, but will be less effective than an LRT solution over the long term. For example, Centre Street North has evolved into the busiest bus BRT corridor in the City (approximately 30,000 Calgarians transported per day), and regularly exceeds capacity during the morning and evening rush hours.

The core advantages of LRT over these modes are:

- **Flexible capacity for a growing region** – a new lane of highway could move 2,000 cars per hour per direction while an LRT can carry 4,000-6,000 passengers per hour per direction depending on vehicle type and frequency.
- **Cost efficiency compared to bus** – compared to bus and BRT alternatives, each Light Rail Vehicle (LRV) in an LRT network can carry significantly more customers. This means reduced cost per customer carried and a lower required frequency.
- **Integration with urban development** – the City has a successful track record of integrating LRT stations into urban development, while freeways to move increased demands by automobile would require significant expansion which would impact urban realm. Parking lots required at destinations would reduce the amount of land available for development.
- **Improved mobility choice with fast, frequent, and reliable transit** – a grade separated LRT can achieve average corridor speeds of over 40 km/hour during the peak period, which is significantly higher than automobiles and buses that share congested road space. This allows LRT to achieve and maintain high frequencies to meet demand reliably.
- **Network expansion and public acceptability** – the City has significant experience delivering LRT systems over time to meet changing City and traveller needs. LRT lines in Calgary have seen stable and consistent ridership growth as a mode of choice for a range of trip purposes.
- **Regional connections for a regionally integrated economy** – the Red and Blue Lines of the LRT network strengthen Calgary's role in the regional economy, with up to 10% of daily demand at terminal stations coming from neighbouring communities.
- **Providing the next step for completing Calgary's rapid transit network** – providing seamless connectivity with the existing Red and Blue LRT lines and four MAX transit line adding 20km to the existing 59km LRT system as shown in Figure 2.8.

Table 2.3: Comparing how different modes could address the problem statement

Issue	Road Expansion	Enhanced Bus Rapid Transit (BRT)	Light rail transit
Issue 1 – The Current Transportation Network Cannot Provide Quality Travel Options for All Future Travellers	Not a solution – roadways are already congested and the principle of induced demand and evidence from other Calgary projects suggests adding new lanes will not address congestion issues in the long term.	<p>Partial solution – early planning suggests BRT removes some personal vehicles from the road, but still contributes to traffic if not operating in a fully separated right of way.</p> <p>Enhanced bus service with improved efficiency measures (fewer stops, higher frequency) can accommodate some of the anticipated future demand, but not all without technically challenging and cost prohibitive operating concepts (example: a frequency of over 30 buses per hour).</p> <p>In order to ensure that Calgary realizes its full potential as a global City, it is crucial to invest in infrastructure that will not only meet the needs of Calgarians today, but will continue to service future generations.</p>	<p>More complete solution – removes more personal vehicles from the road and does not contribute to traffic congestion.</p> <p>LRT can provide high capacity transit with a more affordable and technically feasible operating concept than bus-based modes.</p>
Issue 2 – Congestion will limit the potential to develop great places to live, work, and play	<p>Not a solution – construction of new roadways causes severance and leads to significant 'access point congestion' and reduced land available for development due to the need to provide parking.</p> <p>In the short-term, congestion may decrease, but in the long term it is anticipated that road only solutions will lead to increased congestion that in turn will lead to increased travel times (reduced quality of life and economic competitiveness) and increased emissions.</p>	<p>Partial solution – bus services can provide connectivity between employment locations, however, they also require high frequencies and therefore higher emissions to meet anticipated demand. The road network in the southeast is restricted with geography constraints (Rivers, rail lines, and interchanges) thus it is the most difficult area of the City to provide on street bus service.</p> <p>The circuitous and limited road network in the southeast results in longer travel time, delay and schedule adherence problems</p>	<p>More complete solution – LRT can provide rapid connectivity and can be readily integrated with economic centres and can maximize the amount of space for development.</p> <p>LRT is fully electric, nearly all downstream emissions are offset. It is also the most effective / reliable service, which has the greatest potential to get people out of cars and traffic, saving money and time.</p> <p>LRT avoids the circuitous road network and travels 'almost as the crow flies' to Downtown and beyond from the southeast.</p>

Figure 2.6: Past success

1981 – Red Line Core

12.9 km
15 stations
1 maintenance and storage facility



1985 – Blue Line Core

9.8 km
7 stations
1 storage facility (Haysboro)



1987 – Red Line Extension

5.8 km
5 stations



2004 – Red Line Extension

3.0 km
2 stations



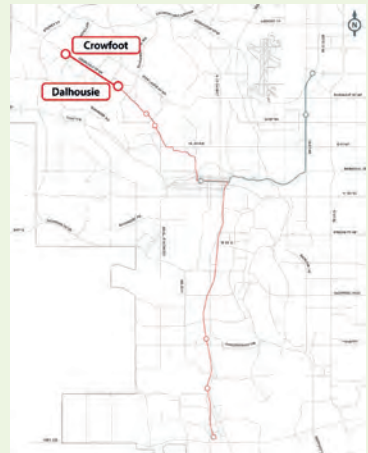
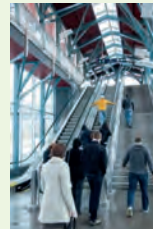
2007 – Blue Line Extension

2.8 km
1 stations
1 maintenance and storage facility



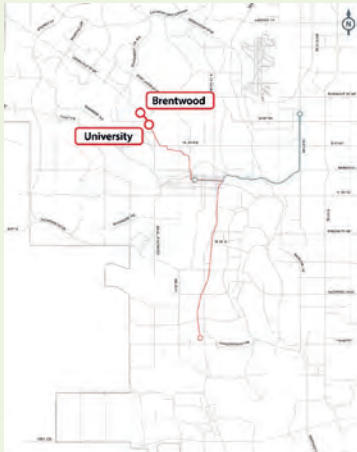
2008 – Red Line Extension

3.6 km
1 stations



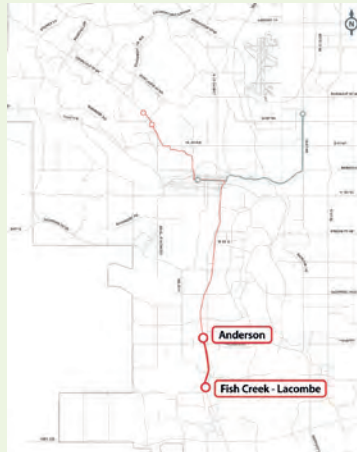
1990 – Red Line Extension

0.8 km
1 stations



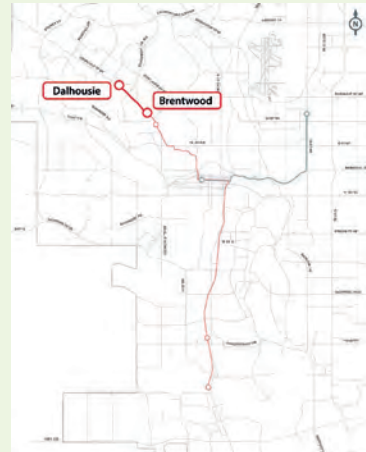
2001 – Red Line Extension

3.4 km
2 stations



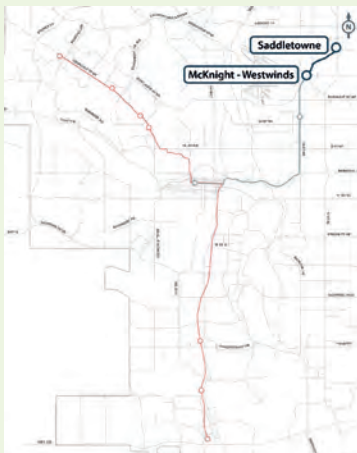
2003 – Red Line Extension

3.0 km
1 station



2012 – Blue Line Extension

2.9 km
2 stations



2012 – Blue Line Extension

8.2 km
7 stations



2014 – Red Line Extension

2.0 km
1 station

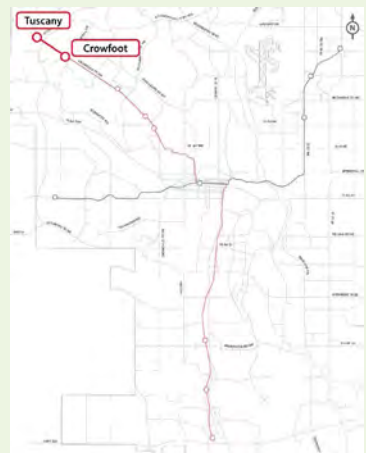


Figure 2.7: Intermodal Connections and the southeast Rapid Transit Corridor

The City's strategic transit plan RouteAhead, identified several projects for the expansion of the City's rapid transit network, including LRT, BRT, Rapid Transit, and Transitway projects. The Green Line concept was included in this plan as a North-South corridor that interfaces and intersects with multiple BRT and local bus routes and urban development priority areas. Stage 1 of Green Line will offer connections to all four of Calgary's recently implemented MAX BRT lines.



The Green Line – benefits and evaluation framework

The strategic benefits of solving the problem with the Green Line LRT span four outcome areas: connectivity; quality of life; economic prosperity; and environmental protection. These proposed benefits (shown in Table 2.4) are directly realized by acting on the problem statement and illustrate the case for changing the City's transportation network.

Table 2.4: The Benefits of the Green Line

Outcome and Benefits	Link to Problem Statement
Frequent, reliable and comfortable connections The Green Line will provide new capacity and a high quality of service that will serve part of Calgary's growing transportation demands <ol style="list-style-type: none"> 1. Provide new rapid transit connections that generate new ridership 2. Accommodates growth by providing capacity for transit ridership in the near term and long term 3. Improve the customer experience by providing frequent, reliable services with reduced travel times 4. An affordable mobility option that has cost efficiencies compared to the BRT 	The Green Line will result in a more resilient, efficient, and effective transportation network that can support forecast levels of demand with increased reliability and faster travel times.
High quality of life The Green Line will help to maintain and enhance the quality of life as Calgary grows <ol style="list-style-type: none"> 5. Improve travel across the region and reduce congestion by connecting passengers to places they want to go with fast and convenient transit service. It will lead to a safer transportation network that supports a healthy region 6. Lead to a safer transportation network (with fewer automobile collisions) that supports a healthy region 7. Support the development of mixed-use communities that offer a range of lifestyles to Calgarians 	The Green Line will connect travellers across to destinations across Calgary, while reducing the negative impacts of congestion and auto dependency: time spent travelling and reduced health and well-being.
Economic prosperity The Green Line will support Calgary's development and prosperity <ol style="list-style-type: none"> 8. Unlock economic development and activity along the LRT corridor 9. Generate jobs to support an active economy 	The Green Line will provide alternative commute options and connections to major jobs centres while stimulating the economy through new jobs.
Environmental protection The Green Line will lead to a more sustainable transportation network <ol style="list-style-type: none"> 10. Reduce the environmental impact of Calgary's transportation network 	The Green Line will reduce congestion resulting in cleaner air and reduced climate change impacts.

The remainder of this Business Case demonstrates how the Green Line achieves these benefits and what is required to successfully deliver the program.

A roadmap, shown in Table 2.5, has been developed to illustrate the Green Line program, what is required to deliver it, and the outcomes it can generate. This roadmap also outlines where evaluation information is included in the remainder of this Business Case.

Table 2.5: Business Case Road-map

	Inputs: Resources required to deliver the Green Line	Actions (means): The core changes to the transportation network	Outputs: Measurable changes to network performance	Outcomes (ends): The broader value of the Green Line
Core question	What level of investment is required?	What will the Program provide?	What are the direct effects of the investment on regional travel?	What is the wider benefit of the investment?
What is included?	<ul style="list-style-type: none"> Costs (capital and operational expenditure) Organizational capacity 	<ul style="list-style-type: none"> Infrastructure and service changes 	<ul style="list-style-type: none"> Change in travel times, frequencies, reliability 	<ul style="list-style-type: none"> Indicators for project support for quality of life, environmental sustainability and economic prosperity (Table 2.4)
Success Measures	<ul style="list-style-type: none"> Cost efficiency Jobs created Stakeholder participation 	<ul style="list-style-type: none"> On time delivery Design that meets environmental, safety, and accessibility requirements Minimize stakeholder impacts 	<ul style="list-style-type: none"> Meeting on-time performance, target travel times, and desired frequencies 	<ul style="list-style-type: none"> Ridership Revenue Change in automobile vehicle kilometres travelled Investment in urban development delivered before, during, and after LRT delivery
Role in Business Case				
Chapter 3 – Green Line Program Overview	<ul style="list-style-type: none"> Costs are defined 	<ul style="list-style-type: none"> Program scope Process to deliver program with guiding principles: safety, stakeholders, regulatory, environment, schedule, cost and risk 	<ul style="list-style-type: none"> Target runtimes and frequencies 	<ul style="list-style-type: none"> N/A
Chapter 4 – Strategic Case	<ul style="list-style-type: none"> Jobs created (Benefit 9) 	<ul style="list-style-type: none"> Overview of how program scope realizes benefits 	<ul style="list-style-type: none"> Overview of how target runtimes and frequencies realize benefits 	<ul style="list-style-type: none"> Benefits 1-8, 10
Chapter 5 – Economic Case	<ul style="list-style-type: none"> Resource costs in real terms 			<ul style="list-style-type: none"> Monetized user and external benefits from Strategic Case
Chapter 6 – Financial Case	<ul style="list-style-type: none"> Costs in nominal terms 	<ul style="list-style-type: none"> Key financial risks during delivery 	<ul style="list-style-type: none"> Key financial risks during operation 	<ul style="list-style-type: none"> Revenues and cost efficiencies (Benefit 4)
Chapter 7 – Deliverability and Operations Case	<ul style="list-style-type: none"> Project resource plan 	<ul style="list-style-type: none"> Project delivery plan and regulatory/ environmental reviews Procurement plan 	<ul style="list-style-type: none"> Operating plan 	<ul style="list-style-type: none"> Benefits management framework

3

Option Development

This chapter provides an overview of the Green Line Program that has been developed to address the problem statement described in Chapter 2. The technical program described in this chapter is a reference concept design for the proposed Green Line LRT, which is intended to:

- Define a scope including all functional capital and operating elements that can be used to estimate costs, benefits, risks, and impacts in Chapters 4-7
- Provide the basis for future detailed design and procurement work

The remainder of this chapter includes:

- Program Background and Definition
- Green Line LRT – A Layered Approach to Design
- Summary of the Design Process and Assumptions
- Program Interdependencies

3.1

Program Background and Definition

Option Development

History of Green Line Development

The long-term plan for the Green Line LRT project is to serve and connect the growing populations in north central and southeast Calgary with a fast, frequent and reliable, high quality transit system. These communities are growing quickly and, over the next 30 years, the population in the north central is expected to increase by over 50% from 170,000 to over 250,000 people and in the southeast, the population will double from 135,000 to almost 270,000 residents. The full project is shown in Figure 3.1 and will ultimately be 46km in length, serve Calgarians in more than 27 communities with 29 planned stations and eventually carry over 200,000 trips a day.

The Green Line project is included in the Council's 2013 approved transit plan – RouteAhead: A Strategic Plan for Transit in Calgary and is a key element in successfully meeting the long-term Municipal Development Plan and Calgary Transportation Plan goals. The Green Line will improve mobility choices, connect people and places and enhance the quality of life of the communities that it connects. It will deliver high quality transit service to Calgarians in the north central and southeast and is a key part in the future transit network in the City. Along with the new MAX bus rapid transit routes, Calgarians will have fast, frequent and reliable transit service that strategically connects communities, employment hubs, and key destinations across the City.

Figure 3.1: Vision for the Green Line LRT – 160
Ave N to Seton



Green Line Development Process

In 2015, the Green Line Program received nearly \$5B in funding from a combination of the Federal, Provincial and City governments and recognising that, like the Red and Blue Lines, the Green Line would need to be delivered in stages, the Program team considered a range of initial options for the first stage of the line (Stage 1). A detailed evaluation was completed to compare and contrast the numerous options recognising that all options needed to meet the following pre-requisites to be considered:

- **Network Connections** – To support opening day and projected ridership growth, the core project must connect to the Centre City and provide seamless connectivity with the existing Red and Blue lines. Network connectivity could be further enhanced by providing integrated connections to the MAX rapid transit routes.
- **Maintenance and Storage Facility** – Provision of a light rail vehicle facility to clean, repair and protect from the environment when parked.
- **Expandability** – The ability to implement the long-term vision in stages when further investments are made. This positions the City to deliver future affordable and achievable expansions.

Eight preliminary options were identified, four of which were considered above the \$5B funding available. Of the remaining four options, two provided considerably less benefit in terms of their network connections and expandability and were dropped from further consideration. The remaining two options – 16 Avenue N-Shepard and 96 Avenue N to 4 Street southeast – were both viewed as providing similar benefits however, the 16 Avenue N-Shepard option was significantly more advanced in terms of project readiness, in part due to earlier planning work for the SETWAY BRT project, and was much less complex to deliver from a land assembly perspective and was therefore selected as the Stage 1 project. This evaluation and sifting process is illustrated in Figure 3.2.

In June 2017, Council approved a Stage 1 alignment from 16 Avenue N to Shepard with a tunnel under the Bow River and through the Downtown. However, in early 2019, concerns were raised related to the Program capital cost as well as the impacts on the customer experience resulting from the deep underground stations, and in June 2019 Administration reported that the approved Stage 1 alignment could not be delivered within the approved funding.

City Council directed Administration to review the Green Line program to ensure the Program continued to meet the original objectives set by Council and that the Program would deliver the best possible outcomes for Calgarians within the approved budget threshold. As part of that review, the Green Line LRT project team has undertaken a Due Diligence Alignment Options Review of the existing project as well as a range of potential options.

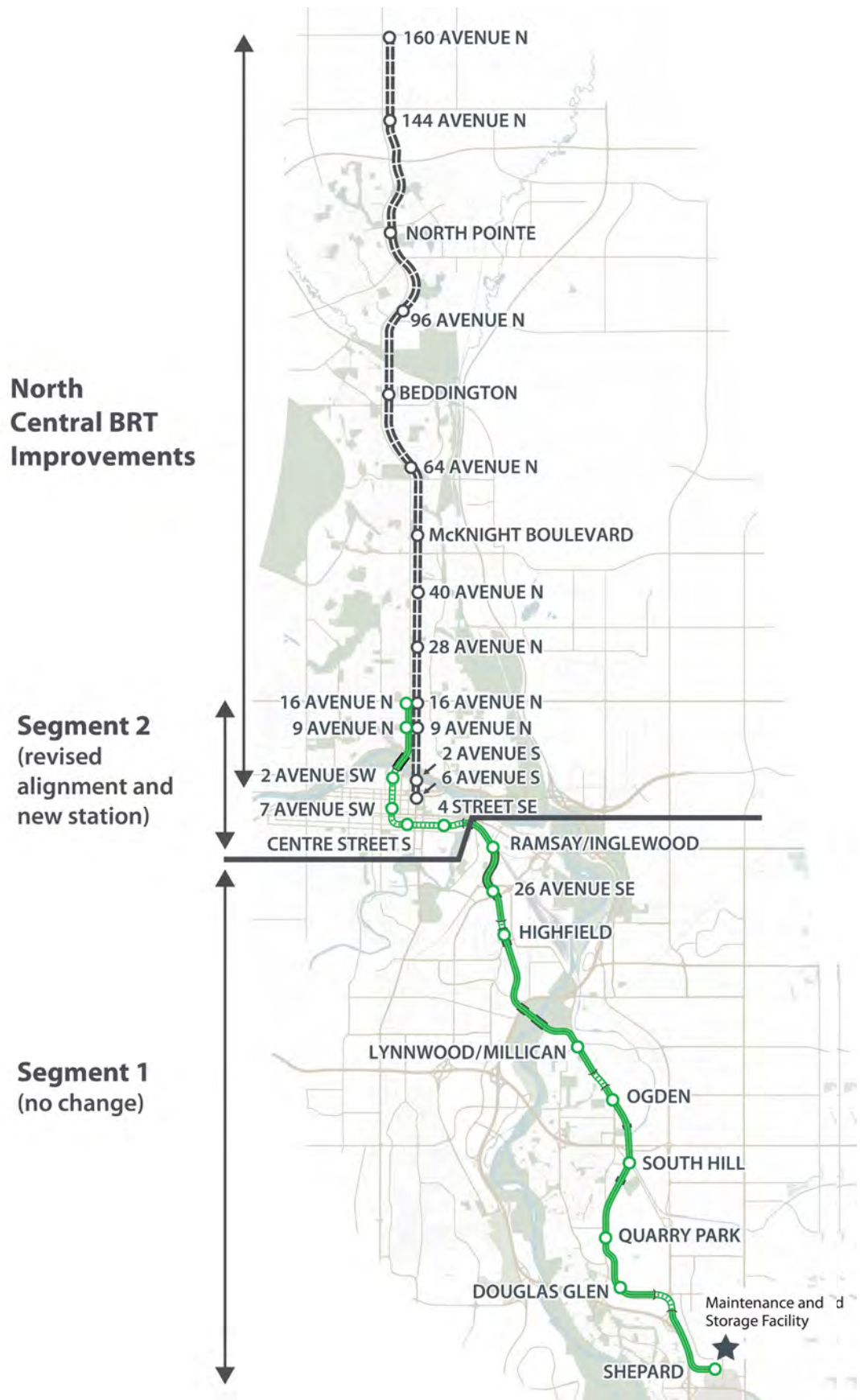
Following this assessment, a revised version of the approved Stage 1 alignment was presented to Council in early 2020 that continues to serve 16 Avenue N to Shepard but includes surface running on Centre Street north of the Bow River to a new bridge over the river and shallower Downtown tunnels and stations in an underground alignment on 11 Avenue S. Figure 3.3 shows the updated Stage 1 Green Line project which is evaluated in the remainder of this Business Case. Improvements to the Bus Rapid Transit (BRT) line along Centre Street will also be provided as part of Stage 1 to support increased transit use while a design for the North Centre Street stage of the Green Line is finalized. These BRT improvements are currently under development.

Figure 3.2: Stage 1 Selection Process

Option Development



Figure 3.3: Green Line
LRT – Stage 1 Alignment



3.2

Green Line LRT – A Layered Approach to Design

The purpose of the Green Line is more than just moving people between destinations – it is intentionally planning for future growth with the goal of providing more choices to the way people move, live, work and play. The Program has been designed to be both a transit system and a platform for development and City Shaping; a system that not only provides efficient service and connections to destinations throughout the City, but creates areas where people can live affordably with access to amenities, services and sustainable mobility options.

Through collaboration with all City departments, external partners, industry and all orders of government, a layered approach to the integration of core transit infrastructure, connections to stations, Transit Oriented Development (TOD) supportive infrastructure, and City Shaping connections to services and local and regional destinations has been agreed.

By adopting this layered approach, the outcomes of the Green Line project will not only meet the increasing demand for transit in Calgary, but also integrate the economic, social, environmental, and cultural needs of a growing City. Table 3.1 provides a summary of the layers, their key features and how they link back to the objectives of the RouteAhead transit network plan.

Current funding for the Green Line LRT will enable the implementation of Layer 1 (transit infrastructure) and essential components of Layer 2 (connections to transit stations). Future project developments and partnerships with key stakeholders are anticipated to deliver the remaining layers. Together, all four layers will support the creation and evolution of well-planned, connected, accessible, affordable, and vibrant communities that support the use of transit in the community.

**Table 3.1: Green Line LRT – A
Layered Approach to Design**

RouteAhead Objectives & Criteria	Layer	Green Line Design Features
<p>Project Characteristics</p> <ul style="list-style-type: none"> Serves High Ridership Corridor Contributes to Lifecycle Maintenance and Asset Management Improves Overall Mobility of the Transportation Network 	Layer 1: Transit Infrastructure	<ul style="list-style-type: none"> 20 km of LRT track 15 stations – including 11 transit hubs with 4 MAX BRT connections 2½ km Centre City tunnel from Eau Claire to 4 Street SE Additional tunnel (CN/Highfield) Ten bridges 1.8 km of elevated track Park and ride facilities with a total of approximately 1900 stalls One Maintenance and Storage Facility north of 126 Avenue SE (Shepard)
<p>Customer Experience</p> <ul style="list-style-type: none"> Increases Travel Time Advantage Overcomes Issues of Reliability and Delay Increases Passenger Capacity 		
<p>Land Use:</p> <ul style="list-style-type: none"> Supports Activity Centres and Corridors Primary Transit Network Connectivity and Alignment Population and Jobs Intensity 	Layer 2: Connections to Stations	<ul style="list-style-type: none"> Improvements to urban realm to support station access- including multi use pathways along the alignment at critical choke points in the walking and cycling network Pathways across bridges at both Bow River crossings, Deerfoot Trail, and Blackfoot Trail New road and bus connections to station areas
	Layer 3: TOD Supportive Infrastructure	<ul style="list-style-type: none"> Connects to six station areas targeted for further TOD planning and design and 10 activity centres and corridors identified in Calgary's Municipal Development Plan
	Layer 4: City Shaping	<ul style="list-style-type: none"> Establishes the principles and strategies for implementing City Shaping initiatives along the Green Line to create a series of well-planned, connected, accessible, affordable and vibrant communities

Figure 3.4
TOD Priority Sites

Station						
	16 Avenue Station	Inglewood / Ramsay Station	26 Avenue Station	Lynnwood Station	Ogden Station	South Hill Station
Development potential						
	High	High	High	Medium	High	Medium
Opportunities						
	Good street connectivity	Good street connectivity	Presence of underutilized land	Presence of underutilized land	Good street connectivity	Proximity to arterial/freeway network
	High land value	High land value	Presence of large parcels	Presence of large parcels	Proximity to major arterial/freeway network	Public land ownership Presence of development parcels
Possible development areas						
  	Residential	300,000 m ²	87,000 m ²	357,000 m ²	32,000 m ²	95,000 m ² 280,000 m ²
	Retail	31,400 m ²	8,800 m ²	20,000 m ²	0 m ²	5,600 m ² 14,000 m ²
	Office	12,000 m ²	2,100 m ²	8,400 m ²	0 m ²	3,900 m ² 52,500 m ²

Layer 1: Transit infrastructure

Layer 1 includes all of the physical infrastructure that is needed to operate and maintain the Green Line LRT, however, in contrast to existing LRT in Calgary, the Green Line will use modern low-floor light rail vehicle (LRV) technology that better integrates into the community through curb level, less obtrusive station and platform infrastructure. Key infrastructure elements are described in Table 3.1. Stage 1 of the Green Line is the most technically complex and capital intensive stage of the overall Green Line Program. This foundational core project is intended to facilitate future affordable and incremental expansions and demonstrates the commitment to implementing the long-term vision for the Green Line LRT. Stage 1 completes the 4 key Downtown stations that are critical to both ridership from the north and the south, while delivering key supporting facilities (such as the maintenance and storage facility) required to operate the line.

Layer 2: Connections to Stations

Layer 2 of the Green Line project focuses on infrastructure that will support connecting customers to stations. This includes integration of pedestrian, cycling, bus, and road connections to the Green Line ensuring that stations are safe and convenient to access. Essential components of Layer 2 that are included in the Program are the areas directly adjacent to stations where there is missing or unsafe infrastructure which would inhibit pedestrian as well as bus and car access to the station area. Other components of mobility networks such as bicycle pathways, walkways and road works will be addressed through other programs and initiatives.

Layer 3: TOD Supportive Infrastructure

The City of Calgary has made significant investments and long-range policy commitments to optimize the use of public transportation infrastructure by encouraging development that supports transit use. TOD focuses on future growth and development close to transit stations. The result is the provision of affordable and active lifestyles that support the use of transit in the community.

TOD plays a key role in developing complete communities that help achieve the City's vision for the future as outlined in the City of Calgary's Municipal Development Plan and the Calgary Transportation Plan. Six stations sites along Green Line have been selected as TOD priority sites based on an assessment of geospatial data, market analysis, long term development plans, and stakeholder input (community, developers, and subject matter experts). Figure 3.4 provides a summary of each TOD station including the forecast developable area broken down by residential, office and retail development space.

Layer 4: City Shaping

The City Shaping layer is about leveraging Calgary's investment in the Green Line to strengthen and support the social needs of communities along the alignment. It is indicative of the City's effort to create a series of well-planned, connected, accessible, affordable, and vibrant communities, starting from Green Line LRT construction and evolving into the future. City Shaping is about investing in people, places and programs that are near high quality transit service, making it easy and convenient for Calgarians to access them.

The implementation of the layers will help redirect the growth patterns of the City towards places and destinations connected by transit. In addition, the Green Line will offer the opportunity for the City to re-prioritize and potentially accelerate other initiatives to leverage the investment in transit infrastructure as a catalyst for community integration and connectivity. Led by the City's Community Services Department, work on Layer 4 will establish the principles and strategies for implementing City Shaping initiatives along the Green Line.

3.3

Summary of the Design Process and Assumptions

Overview

This section defines the process and assumptions used to develop the alignment and station designs. These assumptions were set out based on significant analysis and design conducted by the City from 2015-2019. This section includes:

- Business as Usual Definition
- Design Assumptions

Business as Usual Definition

Business as Usual (BAU) refers to the future state of Calgary's transportation network without the Green Line. The BAU is the comparator against which the incremental costs and benefits of building and operating the Green Line are measured to understand the overall value of and case for the Program. Generally, the BAU scenario has been defined to include only those investments and service enhancements that are presently funded and:

- Were planned or committed prior to or independently of the Green Line;
- Would be required to meet underlying demand growth, following the bus and transit network service design used by Calgary Transit;
- Would be required as provision for other committed or proposed projects; or
- Would be required if the Green Line was not built to maintain acceptable levels of comfort, safety, and reliability of the transit system.

Table 3.2 summarises the major assumptions and investments included in the 2048 BAU scenario.

Table 3.2: Assumptions and Investments Included in the BAU

Investments included in the BAU



Bus Network

- Approximately 200,000 to 230,000 new annual bus service hours to reflect growth in the population and employment

Transitway and BRT investments including:

- MAX Yellow
- MAX Purple
- MAX Teal
- MAX Orange

Road Network

- Southwest and West Ring Road
- NE and southeast Ring Road –widened to 6 lanes

Design Assumptions

A set of working assumptions was used to develop, model, and test a Reference Concept Design for the Business Case. These assumptions are based on:

- Nearly 40 years of Calgary Transit's LRT operating and capital delivery experience
- Historic Calgary Transit LRT project delivery and performance
- International best practice.

These assumptions are central to determining the overall feasibility of the Green Line as well as estimating its potential costs and benefits. This sub section summarises these assumptions and their influence on the Green Line RCD development process. Assumptions include:

- Customer Experience
- Modelling and Forecasting
- Operating Concept
- Operating Cost Estimate
- Capital Cost Estimate

Customer Experience

This Business Case assumes that the Green Line project will improve and optimize customer experience building on the framework developed through the RouteAhead planning process. The Green Line:

- **Creates a Transit Travel Time Advantage** – end-to-end journey times on the LRT will be nearly 50% faster than today's BRT service and services will operate approximately three times as frequently in the peak periods.
- **Increases Passenger Capacity** – a two-car LRT train can carry nearly five times more people than an articulated bus and, when combined with the increase in service frequency, the Green Line can carry nearly 15 times more people than the BRT.
- **Overcomes Issues of Reliability and Delay** – running in a dedicated right-of-way with very few at-grade intersection crossings, the Green Line will be able to provide customers with not only a fast service, but one that is able to deliver a consistent and reliable journey time.
- **Improves the Overall Transit Network** – Green Line infrastructure allows for a direct connection to Downtown by increasing the LRT network by over 30% to 80km of total service. The Green Line also allows for an optimized and cost-effective bus network as more buses can play a 'feeder' role rather than service longer distances.

The specifications that will be included in the final contracts for design and construction will ensure that the customer experience elements are implemented across the network in the areas of architecture; site and landscape architecture; universal accessibility; and sustainable, interior and industrial design which includes integrated art and harmonized wayfinding. Primarily qualitative, these influences can have an impact on ridership by improving customer experience.

A key element of the customer experience is the use of low floor LRT, which is characterized by its ability to operate in a variety of environments such as City streets or grade separated rights of way. Key characteristics are its flexibility, compatibility with adjacent vehicular traffic, and passenger capacity.

Passenger boarding takes place at dedicated stations with platform heights of 300 mm to 450 mm above the top of rail. This platform height, which is much lower than the current LRT platforms used in Calgary, will allow for easier integration of the stations into the surrounding land uses and sidewalk and path systems. Low floor vehicles are being considered rather than high-floor LRT because low-floor platforms allow for stations that are less expensive to build, are more open, and easier to integrate into buildings and/or sidewalk systems.

Modelling and Forecasting

The City of Calgary's Regional Transportation Forecasting Model (RTMv2) was used to support the optimization of the Green Line Stage 1 Program and creation of this Business Case document. The modelled outputs included ridership, economic, and financial forecasts (peak ridership, time-savings benefits, revenue). The model also provides a robust process for testing scenarios and sensitivities to inputs (for example, service frequencies, travel times, additional stations) to fully explore characteristics of the Program and to mitigate potential risks to performance.

Both 2028 and 2048 horizon years were forecast to inform the design and development of the Green Line. Two key parameters were used to inform operational planning: the level of demand at the busiest hour and the level of demand at the line's busiest point (peak point loading used to design for sufficient system capacity). These forecasts are outlined in Table 3.3. These forecasts reflect Stage 1 - ongoing design and planning work for 2048 are informed by additional forecasts for a full build Green Line LRT Program.

Table 3.3: Ridership Summary for Planning Purposes

Period	2028	2048
Busiest AM Hour	6,300-9,500	7,800 -11,800
Peak Point Loading	3,700-4,400	4,200-5,800

LRT Operating Concept

An operating concept was developed which included assumptions for:

- Travel speed and overall runtime for the line
- Frequency (number of services provided an hour)
- Train size

The Program is committed to providing a journey time of approximately 37 minutes end to end in both directions, however, for the purposes of this Business Case analysis, an assumed operating concept was developed using a more detailed OpenTrack⁹ model to estimate the station-to-station run times including dwell times at stations for customer boardings and alightings. The detailed results of the model for the AM Peak period that were used to inform the design and development of the Program are:

- Northbound 35:45 minutes
- Southbound: 34:27 minutes

The operating concept for the Green Line Business Case assumed five to eight minute frequencies in the peak, 10 minute frequencies in the early morning/mid-day/evening, and 15 minute frequencies in the late evening.

With a peak frequency of 5 minutes and an end-to-end runtime of nearly 37 minutes, the Green Line will require 18 two car trains in service (assuming a 5 minute layover/recovery at each terminus). Assuming these will be run as two-car trains, 36 will be needed to operate the system plus a further six trains as spares – for a total fleet requirement of 42 LRVs. If an 8-minute headway is used then 28 LRVs (including spares) will be required with 11 two-car trains in service in the peak.

In addition to the LRT operating concept, the City will also develop a modified bus operating plan for the southeast.

9. OpenTrack is an industry standard, light rail and railway simulation tool that was originally developed by the Swiss Federal Institute of Technology. The software allows designers to simulate operations and calculate headways, runtimes, fleet requirements, develop timetables and calculate power requirements.

A number of changes to the surrounding and supporting bus network have been assumed for the purposes of this Business Case. Note that these changes are not intended as a commitment or a detailed service plan (as that work will be undertaken in the years prior to Green Line operations), but rather, are a reasonable scenario as an input to the Business Case. The bus network changes assumed include:

- Removal of duplicate service with local service at minimum policy level maintained – particularly important given that the LRT alignment largely follows a new route which would have left some communities without service if all parallel services were removed; and
- Express services in-corridor would be eliminated.

These changes result in a reduction of bus service hours of approximately 40,000 hours annually (from the BAU) once the Green Line LRT begins operating.

The BAU assumes that there is a 200,000 to 230,000 net increase of bus service hours in southeast Calgary. This required increase is not directly caused by Green Line and represents the need to catch-up to service levels provided in other areas of Calgary and to keep up with ongoing population and employment growth. With the Green Line LRT Stage 1, there will only be a need for 160,000 to 190,000 hours in 2028 as some bus service is replaced by the Green Line.

Operating Cost Estimate

An estimated annual operating cost for the Program has been calculated based on the preceding operating concept. These costs are the incremental costs over and above the BAU and account for the costs of operating and maintaining the LRT system as well as the savings from changes to the surrounding and supporting bus network (in other words, they are the incremental transit network costs of the Green Line project).

Cost estimates for this concept are:

- \$30 to \$35 million per year for Green Line LRT Stage 1 operating costs (\$32.1 is used as the basis for evaluation)
- -\$5.2 million per year for bus optimization (operating cost saving)

Capital Cost Estimate

The Green Line cost estimate (shown in Table 3.4) was developed using bottom-up approach drawing on quantities derived from the designs multiplied by standard labour, equipment, and material rates. Contingency and escalation were then applied to these totals with the contingency estimated through a Quantitative Risk Assessment (QRA) in which costs and durations are ranged and subjected to Monte Carlo analysis and escalation estimated using City of Calgary corporate standard rates. Given the varying level of design certainty across the Program – generally with greater level of detail known in the southern portion of the Program – the cost is currently a mix of Class 3 and Class 5 estimates.

The Green Line Executive Steering Committee set the program risk tolerance at a P80-P90 level of confidence. This means that contingency is evaluated for the entire program and allocated to the party that retains the risk with the final risk allocation still to be established through contractual agreements. The timing of the Program spend was then estimated based on the Program schedule at the time of calculation.

Table 3.4: Green Line Capital Cost Estimate

Cost Category	Recommended Alignment
Program	\$805 M
Enabling Works	\$225 M
Land	
Segment 1	\$218 M
Segment 2	\$171 M
Infrastructure (Rail, utilities, structures, contingency)	
Segment 1	\$1,567 M
Segment 2	\$1,918 M

Program Interdependencies

As noted at the beginning of this chapter, the Green Line LRT is one of a number of investments planned for Calgary's transportation network with many of the supporting and parallel investments included in the BAU scenario. For the purposes of this Business Case assessment, there has not been any explicit sensitivity testing in regard to the performance of the Green Line relative to each of these specific investments.

However, as with any large transit investment, ridership on the system would increase if competing road network capacity increases were limited in parallel corridors.

4

Strategic Case

The Strategic Case describes how the Green Line LRT options address the problem statements and benefits defined in Chapter 2 – The Case for Change. The Strategic Case evaluation uses the benefits framework defined in Table 4.1 to assess the extent to which each option supports the City's broader policy goals and compares each option's relative performance to support investment decision making.

The remainder of this chapter includes:

- 4.1 Transportation Benefits
- 4.2 Quality of Life Benefits
- 4.3 Economic Prosperity Benefits
- 4.4 Environmental Sustainability Benefits
- 4.6 Strategic Case Conclusions



Table 4.1: Ten core strategic benefits of the Green Line

Theme	#	Benefit	Key performance Indicators
Transportation	1	Provide new rapid transit connections that attract and retain transit ridership	Total transit ridership
	2	Accommodates growth by providing capacity for transit ridership in the near term and long term	Level of crowding on Green Line
	3	Improve the customer experience by providing frequent, reliable services with reduced travel times	Improvements to reliability, travel time, and frequency
	4	An affordable mobility option that has cost efficiencies compared to the BRT	Operating cost recovery
Quality of Life	5	Improve travel across the region, and reduce congestion by connecting passengers to places they want to go with fast and convenient transit service	Population within access distance of the LRT Points of interest within access distance of the LRT
	6	Lead to a safer transportation network that supports a healthy region	Reduction in auto collisions and increased walking
	7	Support the development of mixed-use communities that offer a range of lifestyles to Calgarians	Transit-oriented development sites on corridor
Economic Prosperity	8	Reduce commuting times leading to increased productivity	Average change in commute times and jobs accessible by the Green Line LRT
	9	Generate jobs to support an active economy	Jobs created by delivering and operating the Green Line LRT
Environmental Sustainability	10	Reduce the environmental impact of Calgary's transportation network	Reduction in Greenhouse Gas emissions

4.1

Transportation benefits

The Green Line aims to deliver significant transportation benefits to Calgarians by expanding mobility choice and providing rapid and direct connections between employment and population centres in southeast, downtown, and north Calgary. The key transportation benefits realized by this project are:

- Benefit 1: Provide new rapid transit connections that generate new ridership
- Benefit 2: Accommodates growth by providing capacity for transit ridership in the near term and long term
- Benefit 3: Improve customer experience by providing frequent, reliable services with reduced travel times
- Benefit 4: An affordable mobility option that has cost efficiencies compared to the BRT or exceeding current operating cost recovery

Benefit 1: Provide new rapid transit connections that generate new ridership

The Green Line LRT has the potential to serve 55,000-65,000 trips each day, which will increase LRT network usage by 13.5% by 2028. With the Green Line, the LRT network will continue to be one of the busiest LRT systems in the world.

Benefit Overview

The Green Line is intended to provide new rapid transit connectivity between southeast Calgary and the Downtown Core through to 16th Ave in the north. The Green LRT has been planned to provide fast, frequent, and reliable transit for the rapidly growing southeast quadrant of the City. Ridership is reviewed from two perspectives: total boardings and change in LRT network ridership. This analysis assesses the extent to which Stage 1 realizes this benefit based on ridership forecasting with a low forecast and a high forecast, which reflects optimized user experience and connectivity.

Benefit Analysis

Table 4.2 outlines the anticipated boardings for the Green Line in 2028. This analysis suggests that the Green Line will move 55,000 to 65,000 passengers daily.

This ridership range is used in this Business Case to reflect the level of design in Segment 2, slight variance of LRT service levels, and the influence of the background bus network.

With further design, the station access locations will be defined, the North BRT run times will be confirmed and more detailed modelling will be undertaken to inform the detail of the system design and operations.

The 55,000-65,000 travellers are predominantly commuters moving from residential areas along the corridor to employment either in the Downtown Core or at employment sites along the corridor, but will also include a significant number of recreational trips

Figure 4.1 shows how this demand is distributed by station. Figure 4.2 illustrates forecast LRT (LRT Network) ridership in Calgary through to 2048 and Figure 4.3 compares the Calgary LRT system, with and without the Green Line, to other LRT systems in North America.

Table 4.2: Green Line LRT Daily Ridership in 2028

Demand Scenario	Daily Boardings
Low	55,000
High	65,000

Figure 4.1:
Transit Demand by Station – 2028
Green Line AM Crown Boardings

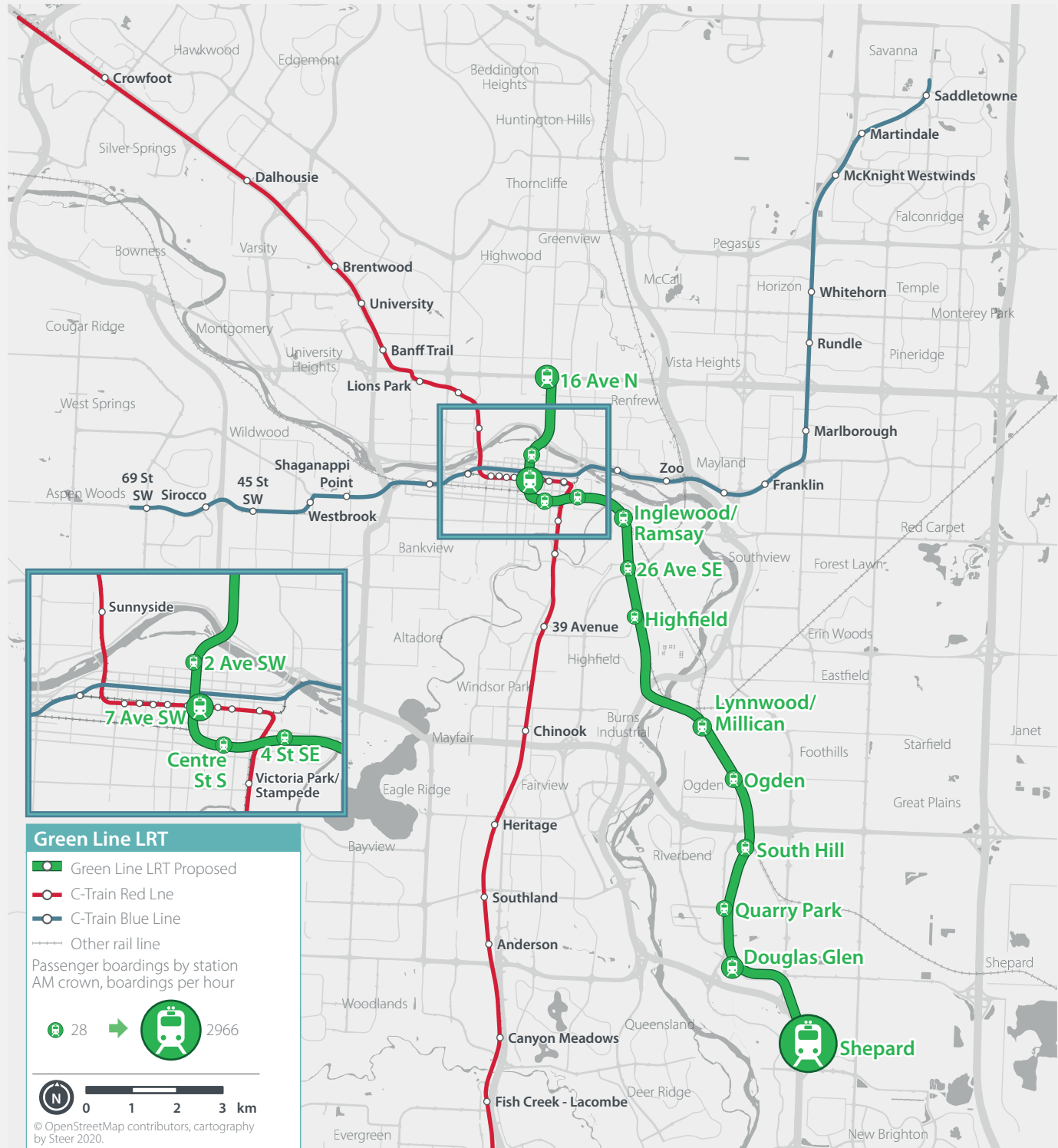


Figure 4.2: LRT Daily Ridership With and Without the Green Line

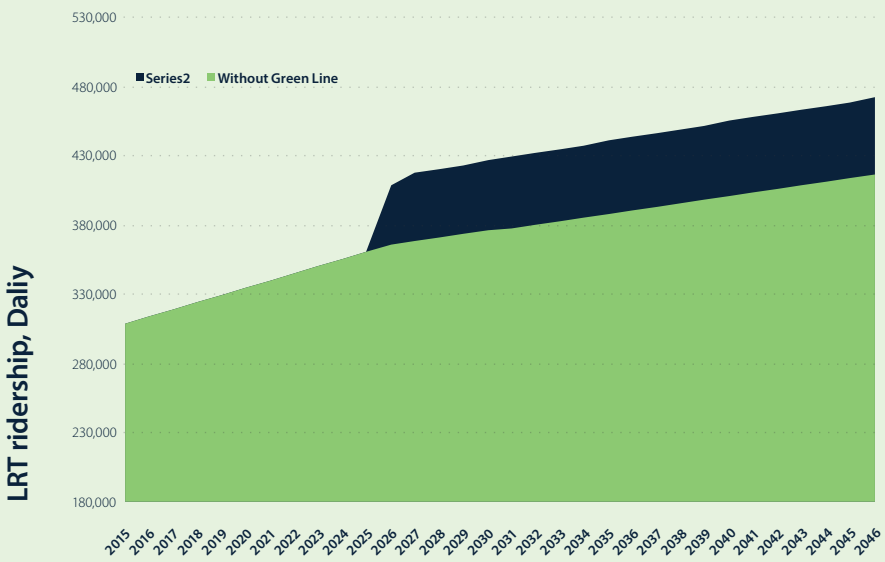
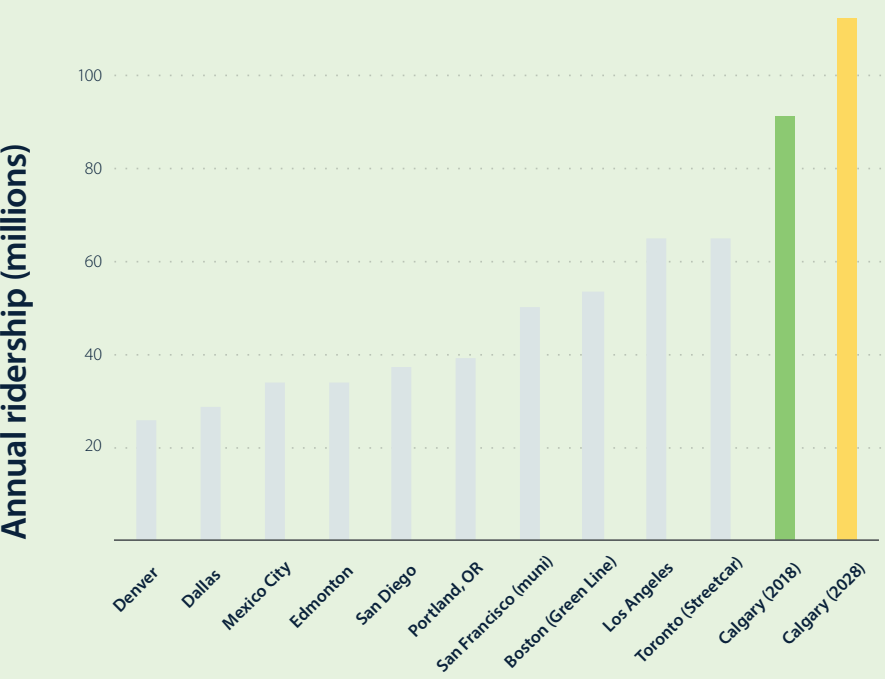


Figure 4.3: Comparison of LRT Network Annual Ridership in North America



Benefit Analysis Findings

The analysis presented in Table 4.2 and Figures 4.1-4.3 indicates that:

- The Green Line will provide an improved rapid transit service for 55,000-65,000 riders each day (Table 4.1).
- The Green Line will increase total LRT network boardings by 13.5% and will allow travellers to make use of the Blue Line, Red Line, and Green Line (alongside the BRT and bus network) to travel across the City.
- With the Green Line, the Calgary LRT network will remain the busiest LRT system in Canada and the USA and will exceed 120 million boardings per year by 2028 (Figure 4.3) – by 2028 the LRT system will carry over 110 million people a year. This is significantly more than other LRT systems and comparable to heavy rail systems, such as the Bay Area Rapid Transit (BART) system in San Francisco, which serves a region of over 7.75 million people.

How is the benefit realized?

This benefit is realized by:

- Delivering a positive customer experience and designing stations to maximize accessibility along the corridor, including connections with Bus, MAX BRT, and active modes.
- Providing seamless connectivity to the Red and Blue lines in the Centre City and further enhancing the rapid transit network by providing integrated connections to the four MAX rapid transit routes recently implemented.
- Connections are further enhanced with the provision for 11 transit hubs that will connect transit customers to local and City-wide destinations including direct connections to ten of the Municipal Development Plans activity centres.
- Ensuring ease of transfer between Red Line, Blue Line, Green Line through the design of an effective interchange at 7th Ave.
- Ensuring that travel times, frequency, and reliability are maximized along the corridor, including providing competitive travel times with the existing bus network and maintaining a 5-8 minute frequency in the peak period.

Benefit 2: Accommodates growth by providing capacity in the near term and long term

The Green Line LRT will provide customers with an LRT service that meets demand in 2028 and can be expanded to provide a high level of service over future decades without need for major capital expansion.

Benefit Overview

This benefit focuses on the LRT's ability to manage a key issue identified in Chapter 2: providing effective capacity for a growing City and managing potential crowding. Benefit 2 explores this issue by assessing the ability of the Green Line LRT options to provide capacity to meet demand in 2028 and into the long term by assessing demand at the busiest point on the line in the busiest hour of travel and comparing it to the level of capacity scoped in Chapter 2.

Benefit Analysis

Forecasts were completed that noted demand on the line at its busiest point during the day will be 3,700 (low demand) to 4,400 (high demand) -passengers per direction. These forecasts were then compared to the design scope for the Green Line, which has been designed to accommodate up to a three minute headway. Table 4.3 illustrates the level of crowding on the Green Line in 2028 based on two scenarios: a five minute headway and an eight minute headway. Maximum capacity (AW2) refers to four standing passengers per square metre of floor space, which provides a quality of service commensurate with peer jurisdictions.

In practice, 75% to 90% of AW2 is the maximum demand the LRT network can serve while maintaining seamless operations.

Table 4.3: Green Line Capacity and Demand – Northbound AM Peak Demand (5 Minute Frequency)

Frequency	AW2 Load	0.75 AW2	0.9 AW2	Peak Load/ 0.90 AW2 Capacity in 2028 (low demand)	Peak Load/ 0.90 AW2 Capacity in 2028 (high demand)
5 Minutes	6,624	4,968	5,962	62%	74%
8 Minutes	4,140	3,105	3,726	99%	118%

Benefit Analysis Findings

The preceding analysis indicates that the Green Line LRT can accommodate demand on opening day, with some flexibility to grow, with a five minute headway solution. A lower frequency solution could be utilized in the near term to optimize operating costs, while gradually scaling up frequency to meet demand. If demand is aligned with the 'high level demand forecasts' the peak point will be 4,400 passengers per hour per direction and a higher frequency solution will be required earlier in the Program's lifecycle. This flexibility allows the Green Line LRT to be scaled overtime to meet the needs of customers without delivering further expensive capital changes to stations, track, or systems.

In addition, the Green Line is expected to also draw demand from the 301 on Centre Street and the Red Line, both of which experience significant peak crowding. This additional capacity will improve the user experience of travellers on these lines and provide room for growth over time.

This highlights that the Green Line investment can be delivered to ensure customers in Calgary will have access to quality travel choices beyond 2028, without need for significant changes to infrastructure.

How is the benefit realized?

This benefit is realized by delivering a system that can accommodate 80m (2 x 40m) LRV train sets at a five to eight-minute headway in the peak period.

Benefit 3: Improve the customer experience by providing frequent, reliable services with reduced travel times

The Green Line LRT will reduce travel times for transit users by up to 20-25 minutes compared to existing bus service and by 5-10% minutes for drivers by taking cars off the road.

Benefit Overview

This benefit assesses how the Green Line LRT will improve travel experience for trips starting in southeast Calgary. Travel experience is broadly defined as a combination of factors related to journey amenity, travel time on the LRT, time spent travelling to an LRT station, time spent waiting for the LRT to arrive, and reliability. Combined, these factors are represented in transportation forecasting as 'Generalized Journey Time', which converts all elements of a passenger trip into units of minutes based on how travellers perceive each component of the trip.

This benefit uses changes in Generalized Journey Time (GJT) for transit passengers and auto travellers to illustrate how the Green Line LRT will improve travel times for a range of travellers in southeast Calgary. Travel time to the Downtown Core is used as an illustrative example as the majority of trips using the LRT will be to the Core.

Benefit Analysis

Figure 4.4 shows the change in average GJT by transit from geographic areas on the Green Line corridor to the Downtown Core, while Figure 4.5 shows the change in average GJT for auto travellers. Figure 4.6 illustrates how the Green Line will improve customer experience and journey time for a set of example trips.

**Figure 4.4: Change in Travel Time by to Downtown Calgary by Transit
after Green Line is Implemented (2028, AM Crown)**

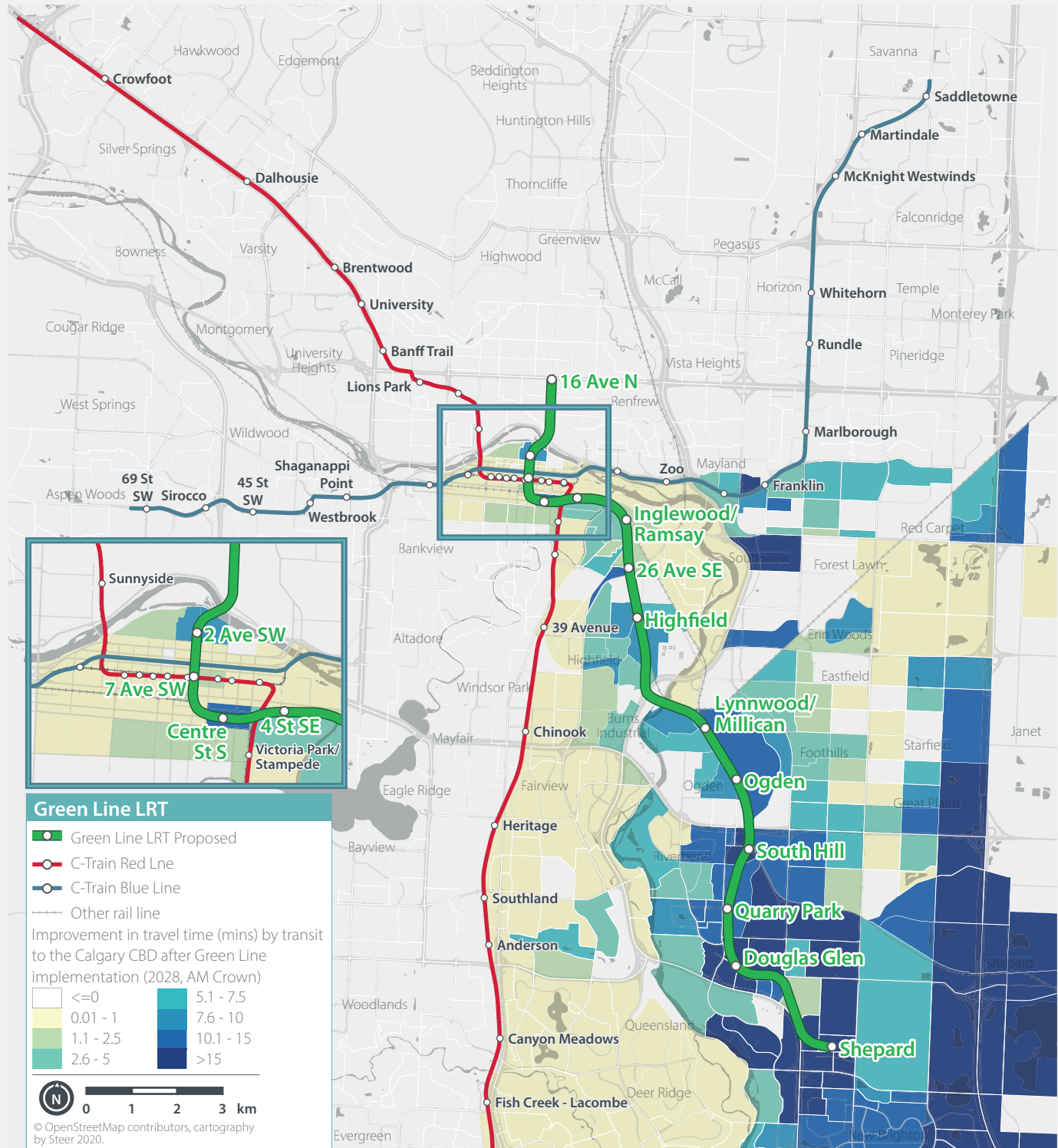
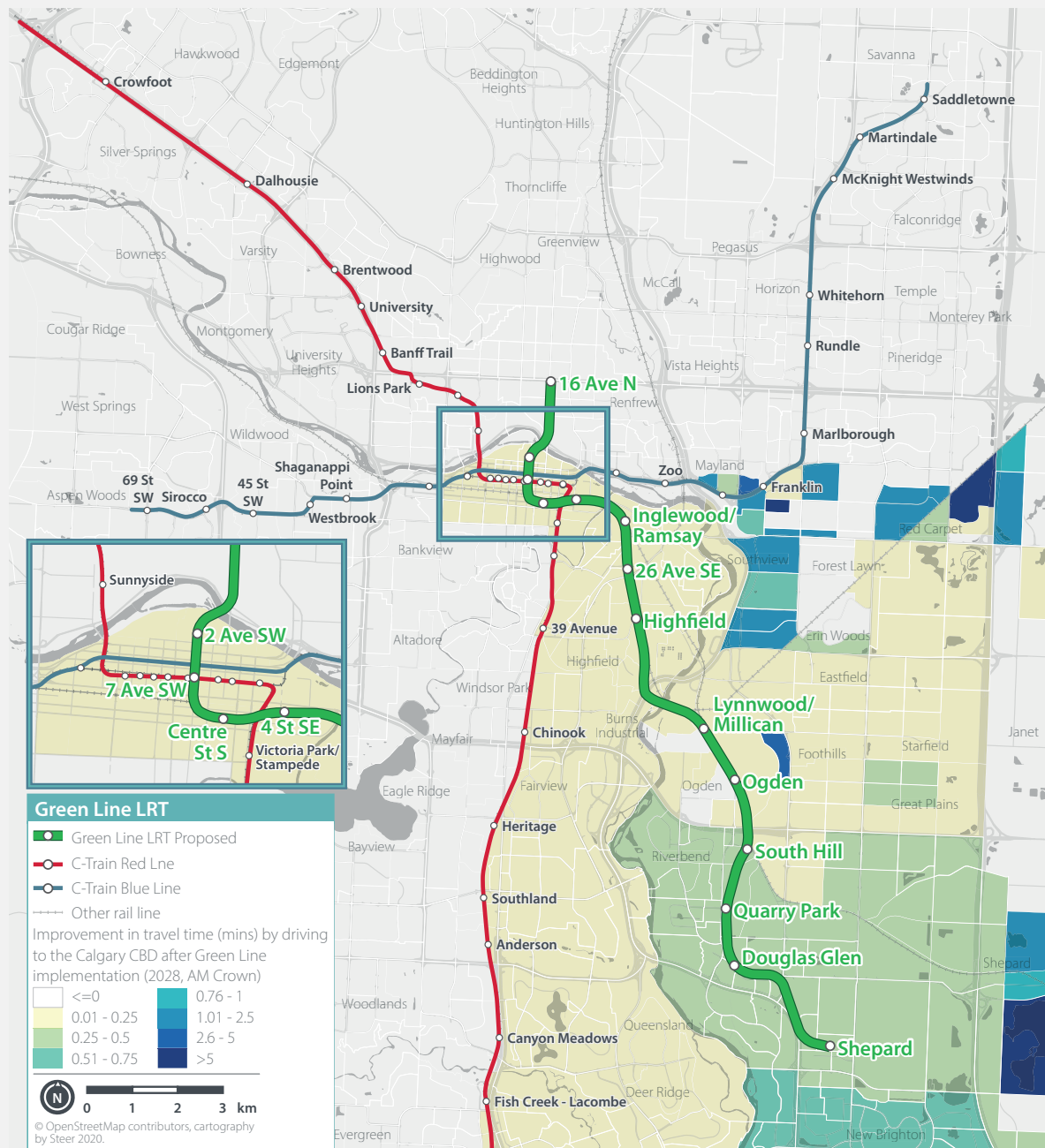


Figure 4.5: Change in Travel Time by to Downtown Calgary by Car
after Green Line is Implemented (2028, AM Crown)



Benefit Analysis Findings

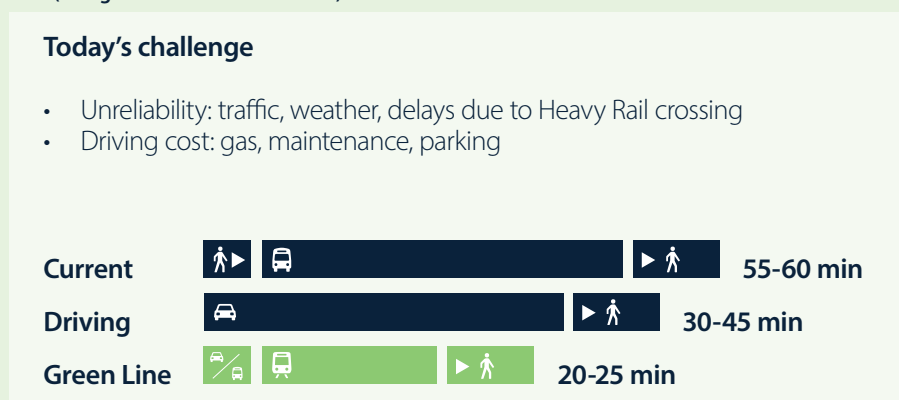
The analysis presented in Figures 4.4 and 4.5 Indicates that:

- On average, transit users on the corridor will save an average of 10 minutes per trip, with most customers saving over 4 minutes (inclusive of all destinations).
- Travellers to the Downtown Core could save up to 25 minutes.
- Drivers using Deerfoot Trail or other major roads could save up to 4 minutes (10% of a typical 40 minute commute) due to decongestion

How is the benefit realized?

This benefit is realized by ensuring that travel times, frequency, and reliability are maximized along the corridor, including providing competitive travel times with the existing bus network and maintaining a 5-8 minute frequency in the peak period. Figure 4.6 provides an example of how travel times can be improved by the Green Line LRT.

Figure 4.6: Example Journeys on Green Line (Douglas Glen to 7 Avenue SW)



Benefit 4: An affordable mobility option that has cost efficiencies compared to the BRT

By 2028, the Green Line has the potential to cover 70-84% of its operating expenditure with fare revenue, which allows for resources to be invested in other transit services and priorities in the City.

Benefit Overview

Today, Calgary Transit operates with a revenue to operating ratio of 0.4 to 0.45. One of the benefits of LRT is its ability to move more passengers with a lower operating cost per passenger trip. This benefit analysis section assesses the extent to which these cost efficiencies are realized by the Green Line in order to promote a more resilient network, allowing the operating subsidy to be spent more effectively in other parts of the City.

Benefit Analysis

Table 4.4 provides a summary of the net ridership, revenue, operating costs, and cost recovery for the Green Line in 2028 for low and high ridership forecasts. The Green Line scope also assumes some bus service operated in the Business as Usual (BAU) scenario will no longer be required after the Green Line is delivered. This mitigated expenditure is included to calculate a cost recovery including bus operating cost savings.

Note – this analysis assumes that up to 50% of all Green Line LRT trips make use of another Calgary Transit service. For these trips, revenue is shared between these additional services and the Green Line.

Table 4.4: Green Line LRT Fare Revenue and Operating Costs in 2028

Factors	Low Ridership	High Ridership
Ridership	16,000,000	19,200,000
Fare Revenue	\$18.75M	\$22.5M
Operating Costs	\$32.1M	\$32.1 M
Annual Bus Savings (mitigates bus expenditure)	\$5.2M	\$5.2M
Cost Recovery	58%	70%
Cost Recovery Including Mitigated Bus Costs	70%	84%

Benefit Analysis Findings

The analysis presented in Table 4.4 suggests that the Green Line LRT can recover 58% to 70% of its costs. If mitigated bus costs are considered, the revenue recovery ratio increases to 70% to 84%, significantly higher than the network average recovery today.

How is the benefit realized?

This benefit is realized by:

- Providing customer service, travel times, frequency, and reliability that attracts and retains transit ridership
- Ensuring fare collection (including potential changes to contactless technology) and enforcement systems are deployed to protect revenue corrections
- Periodically review operating costs and service delivery to maximize efficiency and mitigate unforeseen operating expenditure

4.2

Quality of life benefits

As the City's population continues to grow, so too will transportation demand. Without new transportation options, demand will outpace supply leading to an increase in transportation network congestion. As a result, quality of life risks being negatively impacted.

To ensure the City can provide and maintain its growing population with a high quality of life, it is imperative that the transportation network provides high quality connections, as well as safe, fast, convenient, frequent, and reliable service.

Calgary's Green Line will help to transform the City's transportation system by accommodating its current and projected population while maintaining a high quality of life. It will do so by realizing three benefits:

- Benefit 5: Improve travel across the City and region, and reduce congestion by connecting passengers to places they want to go with fast and convenient transit service
- Benefit 6: Lead to a safer transportation network that supports a healthy region
- Benefit 7: Support the development of mixed-use communities that offer a range of lifestyles to Calgarians

Benefit 5: Improve travel across the city and region, and reduce congestion by connecting passengers to places they want to go with fast and convenient transit service

Once delivered, over 250,000 Calgarians will live within a 15 minute bus trip of the Green Line, allowing them to access over 900 community, recreational, shopping, social service, or education destinations.

Benefit Overview

Without the Green Line, Calgary is not fully equipped to serve the needs of its current and future populations. Southeast Calgary is currently under served by rapid transit, while demand frequently exceeds capacity in the north. In particular, buses travelling on the southeast road network are often delayed due to the high volume of vehicles commuting on this route. Transit service includes the BRT Route 302, currently operating every 10 minutes in peak hours and every 25-30 minutes during off-peak hours. The Green Line will support improved quality of life on the corridor by offering travellers alternatives to the bus and road network, which are measured by:

- The number of people who live near the Green Line LRT
- The number of destinations that can be reached using the Green Line LRT

Benefit Analysis

Figure 4.7 provides an estimate of the number of people who could walk, cycle, or take the bus to a Green Line station based on typical access distances and Figure 4.8 shows the range of key destinations (such as schools, museums, parks, social services, health care, and shopping centres) that can be readily reached on the Green Line.

Combined, these figures demonstrate the range of uses and total number of people who can make use of the Green Line for their day-to-day travel including visiting friends and family, trips for educational purposes, and recreational travel.

Figure 4.7: Number of People
Living Within 15 Minutes of Access
Time the Green Line LRT

Strategic Case

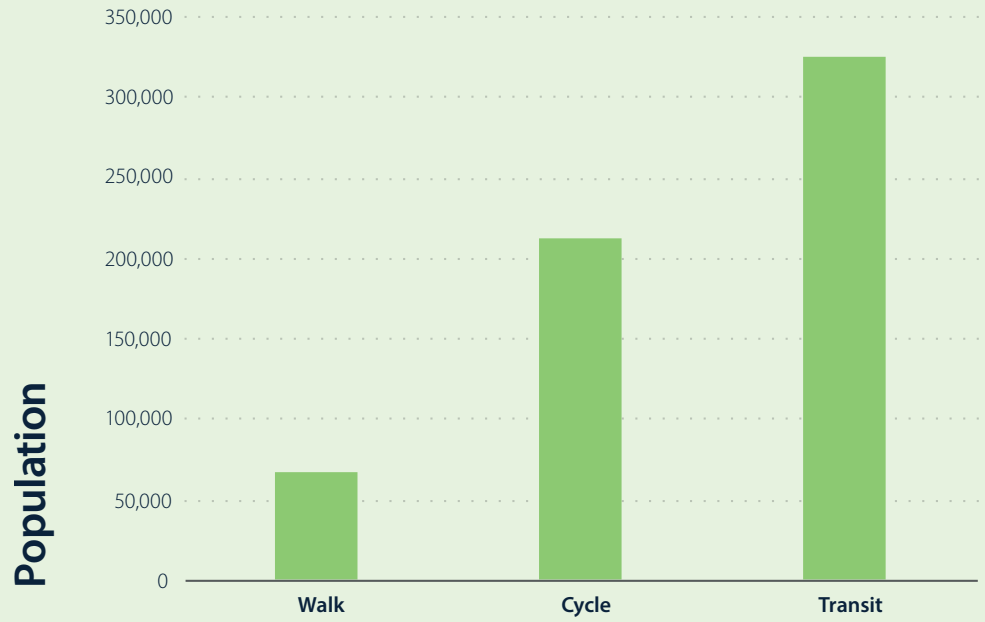
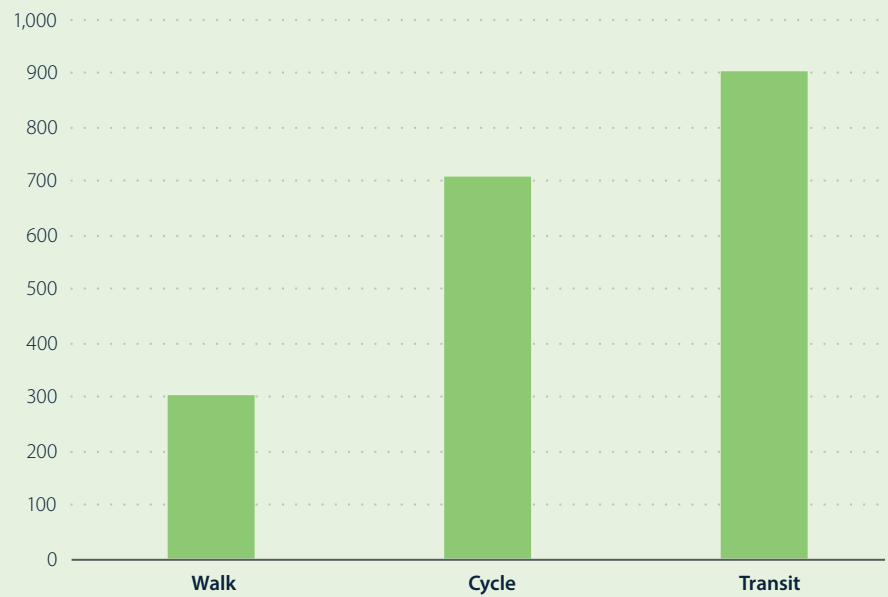


Figure 4.8: Key Destinations
Accessible by the Green Line LRT



Benefit Analysis Findings

Figures 4.7 to 4.8 suggest that:

- The Green Line will greatly augment transit connectivity in southeast Calgary with more than 250,000 people (as shown in Figure 4.7) living within a 15-minute bus ride of a Green Line station and 68,000 people living within walking distance of a station.
- Over 900 key destinations will be accessible within a 15 minute bus ride of a Green Line station (Figure 4.8).

In addition, investments in transit service like the Green Line will provide transit service for:

- Families that cannot afford to purchase another vehicle for their driving-age children to get to school or their part-time job.
- Parents who work \$15 an hour and cannot afford to pay \$10 an hour for parking.
- Seniors who live on a fixed income, whose health may not afford them the ability to drive.
- Up to 2,300 affordable housing units.

The Green Line LRT will also promote transit use for a range of educational uses in line with institutional and school board plans to promote use of Calgary Transit and reduce bus provision costs.

Combined, these benefits demonstrate how the Green Line will transform mobility for the City's population by 2028.

How is the benefit realized?

This benefit is realized by:

- Facilitating the provision of walking and cycling access to Green Line stations, including providing bicycle lockers or other storage facilities
- Providing frequent and accessible local bus transit connections to Green Line stations
- Integrating Green Line stations with residential and commercial urban forms

Benefit 6: Lead to a safer transportation network that supports a healthy region

The Green Line will lead to nearly 2,300 fewer auto collisions resulting in property damage, injury, or death over the next 30 years, while also increasing the distance walked by Calgarians by up to 1.6 million km a year, nearly 250x the length of Canada coast to coast.

Benefit Overview

The Green Line can help improve the health of City residents by providing a safer transportation network that sees a reduction in accidents by decreasing the number of automobile trips and by enabling more people to travel safely using active modes such as walking and cycling. Transit users on average have been found to walk approximately 300m per trip in major metropolitan areas. Increased walking has also been found to have a net health benefit compared to driving (see Economic Case), which in turn allows travellers to have healthier lives and can reduce expenditures on health care.

Benefit Analysis

Table 4.5 provides an overview of the collision reduction potential of the Green Line Project and Table 4.6 provides an estimate of the level of increased walking and cycling that results from mode shift to transit.

Table 4.5: Reduction in Auto Collisions

	Fatal Collision	Injury Collision	Property Damage Only	TOTAL
16th Ave to Shepard	-5	-350	-1,945	-2,300

Table 4.6: Increased Transit and Active Mode Use

	Health Benefit
Net New Transit Ridership (shift from Auto)	5,350,000
Estimated Annual Increase in Walking and Active Mode Use	1.6 million km

Benefit Analysis Findings

The analysis in tables 4.5 and 4.6 suggests that the Green Line can contribute significant benefits to the health and well-being of Calgarians, including:

- A reduction in collisions of nearly 2,300, which means reduced deaths, injuries, and property damage
- Up to 1.6 million more kms walked a year in the region, which supports improved health and wellbeing

How is the benefit realized?

These benefits are realized by:

- Ensuring the Green Line remains competitive with the automobile to encourage mode shift
- Delivering station infrastructure that is readily accessible and well integrated with the urban realm to facilitate walking and bike access

Benefit 7: Support the development of mixed-use communities that offer a range of lifestyles to Calgarians

The Green Line will be constructed within a variety of communities including some of Calgary's oldest and newest, established and developing. Planning for the right type of development for each area will help ensure communities are set up for future growth.

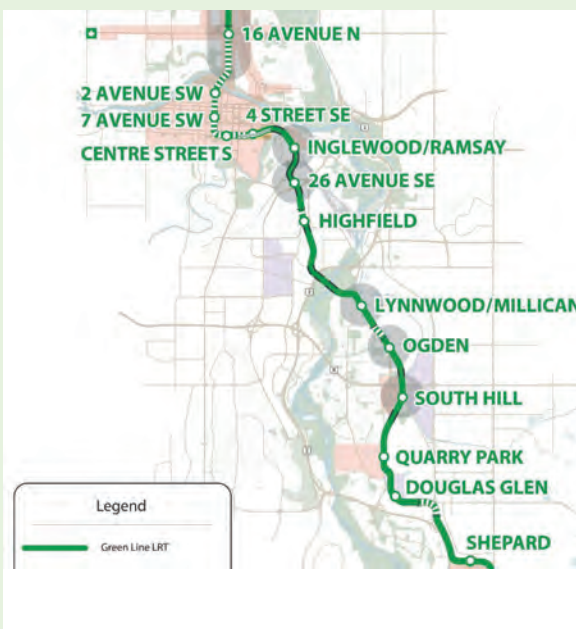
Benefit Overview

This benefit explores how the Green Line LRT can be delivered to provide high quality transit connections between communities and sites targeted for transit-oriented development (TOD) in southeast Calgary. LRT can be used as a catalyst for increased development: it could either increase the total volume of development or accelerate the delivery of new development along the corridor.

Benefit Analysis

Figure 4.9 provides an overview of the TOD sites that will be well served by the Green Line LRT.

Figure 4.9: Green Line and TOD Access



Benefit Analysis Findings

The proposed Green Line Scope will support the realization of the City's TOD strategy, including:

- Direct connect to four high-potential TOD sites (Ramsay/Inglewood, 26 Avenue, Ogden, 16th Ave) and two medium potential sites (Lynnwood/Millican and South Hill)
- Catalyzing over 1 million square feet of residential development, nearly 80,000 square feet of new retail, and an additional 80,000 square feet of office development
- Increased connectivity along the high potential 16th ave corridor between Centre Street and the Red Line.
- The north limit of the core project at 16 Avenue N has the highest population within walking distance of the station (outside of Downtown), has the highest job population on opening day of all northern stations (outside of Downtown) and is expected to see the second highest LRT boarding's (outside of the Downtown) on opening day. This station site is also one of the highest ranked transit-oriented development sites along the line and demonstrates the potential and value of connecting to north Calgary with the Green Line LRT.

How is the benefit realized?

This benefit is realized by:

- Developing partnerships to co-deliver Green Line infrastructure and new developments
- Designing Green Line stations and infrastructure to integrate with the urban form and support longer term regeneration and TOD (see Chapter 3 layers of the Green Line program)
- Area Redevelopment Plans (ARPs) and Station Area Plans (SAPs) are being developed for several communities, to provide rules and guidance for future development along the Green Line. An ARP provides rules and guidance for the type of development that makes sense in a given area – how to complement the local character, what level of density makes sense and how to transition from high to low density, or residential to commercial. It includes policies on land uses, building forms and densities, buildings heights, parks, transportation, contamination and housing.

4.3

Economic prosperity benefits

As outlined in the City's ten-year economic development plan¹¹, in order to secure Calgary as the City of choice in Canada for the world's best entrepreneurs and maintain high levels of economic productivity, a public transit network to connect the City's major employment and residential development areas is crucial.

With over 100,000 new jobs expected in the City's north and southeastern communities, the City must ensure that these communities and activity centres are well connected with a fast, frequent, and reliable transportation network. Doing so will also help to ensure that this expected growth is realized both by attracting investment and talent to the region and also, by ensuring people can access employment opportunities across the region.

The Green Line will support the City's ability to both accommodate employment growth and increase prosperity by:

- Benefit 8: Unlock economic development along the new LRT corridor
- Benefit 9: Generate employment and economic activity

11. City of Calgary, Calgary in the New Economy, 2018

Benefit 8: Reduce commuting times leading to increased productivity

The Green Line LRT will support economic productivity by providing access to nearly 360,000 (nearly 30% of all jobs) within a fifteen minute bus ride of a Green Line LRT station.

Benefit Overview

This benefit assesses the ability of the Green Line to connect travellers to jobs in support of a more productive economy. Today, travellers are dependent on the bus network to access the Downtown Core and other job centres on transit. One of the proposed benefits of the Green Line is providing customers with direct access to high employment areas either using just the LRT or using the LRT as part of a complete transit network.

Benefit Analysis

Figure 4.10 shows the number of homes that could connect to the Downtown Core, Calgary's largest employment centre, within 30 to 45 minutes of transit travel time. Figure 4.11 shows the number of jobs that can be accessed by walking, cycling, and transit from Green Line stations.

Figure 4.10: Population that can access the Downtown Core using the Green Line (2028)

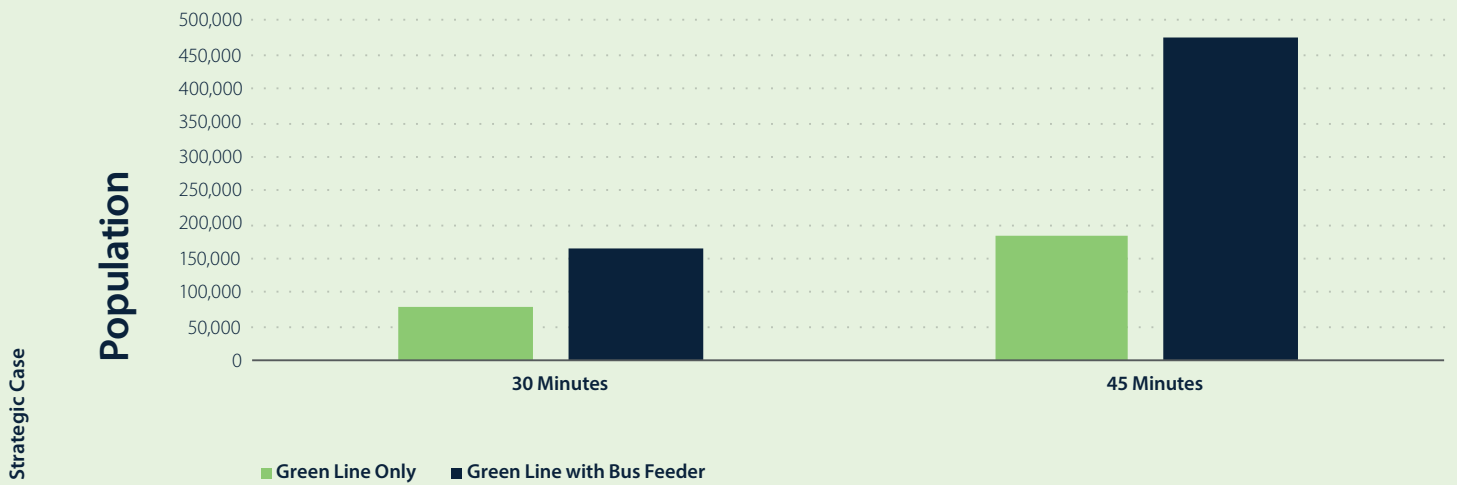
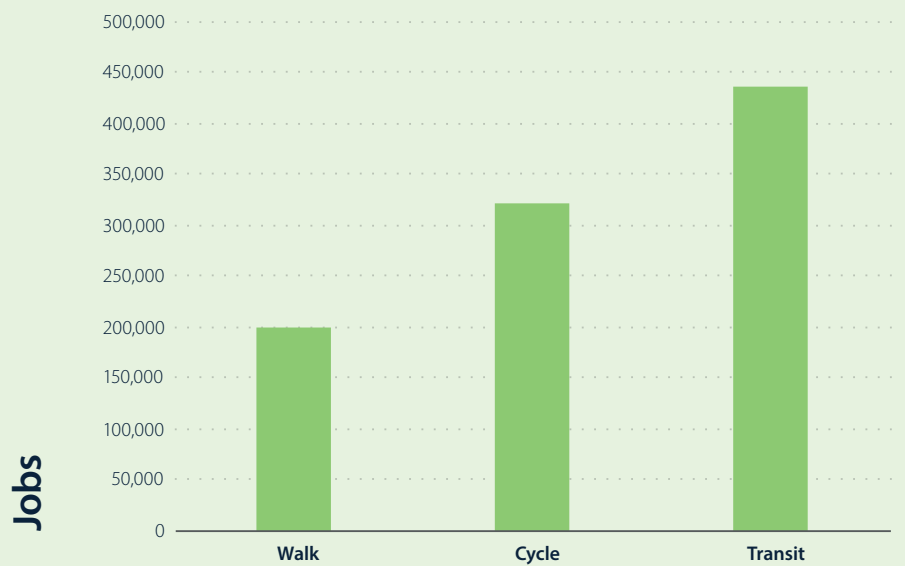


Figure 4.11: Jobs within 15 minutes of Walking, Cycling, and Bus Access from Green Line Stations



Benefit Analysis Findings

The analysis presented in Figures 4.10 and 4.11 notes that in 2028:

- Over 180,000 people can access the Downtown Core in 30 minutes when using the bus and LRT network, while nearly 80,000 homes can access the Downtown Core using LRT alone in 30 minutes.
- Over 350,000 jobs are accessible within a 15-minute bus ride of a Green Line station, and nearly 200,000 jobs are within walking distance of Green Line LRT stations which allows transit to be used for commuting and business purposes alike.

Combined, these data points highlight the Green Line's role in supporting movement of workers in support of a robust municipal and provincial economy.

How is the benefit realized?

This benefit is realized by:

- Delivering the stations outlined in the scope and ensuring service is delivered within the planned travel times and frequencies
- Providing direct walking links or local transit connections between Green Line stations and major employment centres
- Connecting directly to nine activity centres that are identified by Calgary's Municipal Development Plan as an activity centre or corridor – these areas are a priority for intensification and fast, frequent, reliable transit service.
- Co-delivering new development intended for commercial use alongside the Green Line to improve station and urban realm integration

Benefit 9: Generate jobs to support an active economy

The Green Line LRT is a significant investment in the future of Calgary that will not only shape the southeast quadrant of the City, but will also generate 12,000 direct jobs and 8,000 supporting jobs during construction and operations.

Benefit Overview

This benefit reflects the level of employment and economic activity generated during the construction and operation of the Green Line LRT. This benefit is used to understand how investing in the Green Line can create new jobs, support the development of new industries, and support the economic prosperity of the Calgary community.

Benefit Analysis

The City conducted input-output modelling to determine the level of employment generated to deliver the Green Line LRT program. This modelling estimates the number of jobs major infrastructure projects can generate based on historic changes in employment from comparable projects.

Benefit Analysis Findings

The input output modelling for Stage 1 of the Green Line LRT suggests that:

- 12,000 jobs will be generated based on direct investment in the Program (jobs related to the construction and operation of the line)
- 8,000 indirect jobs will be generated – these jobs are created due to the investment and will be created in parallel and supporting industries

These jobs are anticipated to be generated in a range of disciplines including construction, engineering, architecture, and professional services and support the diversification of the Calgary economy, which is a key goal of the Calgary Economic Development Strategy.

How is this benefit realized?

This benefit is realized through the delivery and operation of the Green Line based on the assumed capital and operating profiles used in this Business Case. Exact employment levels generated will vary based on construction approach and operating model used for the line.

4.4

Environmental Protection Benefits

Strategic Case

As a major source of Greenhouse Gas (GHG) emissions, the City's transportation network is one of the largest climate change contributors. Additionally, the transportation system is resource intensive – every day the transport system requires significant resources – such as fuel, materials, and electricity to maintain operations.

The Green Line realizes a key sustainability benefit – moving more people while reducing the City's transport-related environmental footprint through a reduction in GHG emissions, energy spent, and resources extracted.

Benefit 10: Reduce the environmental impact of Calgary's transportation network

The Green Line LRT can promote a more sustainable environment by reducing transportation related Greenhouse Gas emissions by nearly 30,000 tons per year.

Benefit Overview

This benefit assesses how the Green Line can reduce the transportation network's impact on air quality and climate change. It is assessed by estimating the number of vehicles that will be taken off the road as more customers choose public transit after the Green Line is delivered. This in turn will reduce Greenhouse Gases (GHG), which contribute to climate change.

Benefit Analysis

Table 4.7 outlines the reduction in GHGs forecast for the Green Line LRT.

Benefit Analysis Findings

Table 4.8 notes that the Green Line LRT will support Council's broader environmental policy goals by removing nearly 900 kilotons of GHGs over the first thirty years of operations.

How is the benefit realized?

This benefit is realized by:

- Continuing to use renewable energy to power LRT infrastructure – including wind power
- Delivering the required travel times, frequencies, and reliabilities on the Green Line and connecting bus service to reduce automobile use

Table 4.7: Greenhouse Gas Reductions

Description	Tonnes
GHG Removed in 2028	30,000 tons
GHG Removed Over Lifecycle	900 kilotons

4.5

Strategic Case Conclusions

Strategic Case

This Strategic Case reviewed the Green Line's potential to benefit Calgarians, transit users, and the broader City and region across four policy themes: transportation, quality of life, economic prosperity, and environmental sustainability.

This analysis outlined wide ranging benefits can be realized by delivering the Green Line by 2028, including those summarized in Table 4.8.

Table 4.8: Strategic Case Conclusions

Theme	#	Benefit	Metric	16th Ave to Shepard
Transportation	1	Provide new rapid transit connections that attract and retain transit ridership	Daily Ridership	55,000-65,000 riders per day
	2	Accommodates growth by providing capacity for transit ridership in the near term and long term	Year Demand Exceeds Loading Standard	Stage 1 will provide capacity to meet demand and provide customers an exceptional customer service in 2028 with opportunities to expand capacity without significant expenditure into the future
	3	Improve the customer experience by providing frequent, reliable services with reduced travel times	Average Time Saved	LRT users save an average of 10 minutes, with drivers saving up to 10% of their trip
	4	An affordable mobility option that has cost efficiencies compared to the BRT	Revenue/Operating Cost Ratio	70% to 84% operating cost recovery
Quality of life	5	Improve travel across the region, and reduce congestion by connecting passengers to places they want to go with fast and convenient transit service	Population within 30 minutes of travel time	68,000 people will live within walking distance and over 900 community, educational, social service, recreational, or commercial activity centres can be reached using the Green Line LRT
	6	Lead to a safer transportation network that supports a healthy region	Reduced automobile collisions and increase in active travel	2,300 fewer collisions and 1.6 million km more walked per year
	7	Support the development of mixed-use communities that offer a range of lifestyles to Calgarians	TOD Sites Served by Green Line LRT	Direct connection to 6 TOD sites with over 1 million square feet of new residential development and 160,000 square feet of new office and retail space
Economic prosperity	8	Unlock economic development and activity along the LRT corridor	Jobs within 30 minutes of travel time by LRT	Over 350,000 jobs can be reached within a 30 minute trip on the Green Line
	9	Generate jobs to support an active economy	Jobs created	12,000 direct and 8,000 supporting jobs
Environmental Sustainability	10	Reduce the environmental impact of Calgary's transportation network	Reduction and GHG Emissions	30,000 tons per year of GHG emission reductions

5

Economic Case

The Economic Case enables decision makers, project planners, and wider stakeholders to understand the socio-economic performance of the Green Line LRT. Socio-economic performance assesses the value of resources required to deliver the Program (costs) and the monetized value of the benefits the Program can realize. Many of these benefits are reflected in Chapter 4 – Strategic Case.

The Economic Case chapter of the Business Case provides robust estimates of the costs and benefits that will be generated by implementing the Calgary Green Line LRT Stage 1 alignment and demonstrates the value that can be generated for travellers, the

City, and the broader region. A comparator analysis outlining the incremental benefits of the entire Green Line LRT Program has also be included in this analysis. The assumptions used in the economic evaluation are defined in Table 5.1.

The remainder of this section includes:

- 5.1 Economic Costs
- 5.2 Economic Benefits
- 5.3 Economic Analysis
- 5.4 Economic Case Conclusions

Table 5.1: Economic Evaluation Assumptions

Factor	Definition	Assumption
Social Discount Rate	Over time, the value of a cost or benefit will decrease – as a result, a social discount rate is applied. The social discount rate reflects society's time preference for money – this means that costs and benefits incurred today are more impactful than if they were incurred in a future year.	4.00%/year
Evaluation Period	The duration of the analysis included in the economic case.	30 years after operations commence
		Operations from 2028-2057
Value of Time (2019 \$/hour)	The value of an hour of perceived travel time saved by investment in the transportation network	\$23.10 (no value of time growth is assumed in this analysis)

5.1

Economic Costs

The estimated costs required for Calgary Green Line Stage 1 are presented in this section. The costs are broken down into two categories:

- **Capital and Renewal Costs** - these comprise one-time fixed costs incurred to build the required infrastructure (stations, track, signal, electric systems maintenance depots, and fleet) to deliver the service as well as costs incurred to renew or replace major elements of the system once they have reached the end of their lifecycle.
- **Operating and Maintenance Costs** - these comprise on-going costs required to operate the service and provide daily maintenance including labour costs, fuel/energy costs, vehicle maintenance costs, facilities (stops, stations, and depots) maintenance costs, and administration costs. Operating costs also include a reduction in bus operating costs compared to the BAU scenario. Approximately 200,000 to 230,000 additional hours of bus service are required in southeast Calgary without the Green Line – with the Green Line only 160,000 to 190,000 are required. This saving is reflected in the economic analysis.

All costs included in the Economic Case are 'resource costs' that reflect the value to society of the resources used to deliver the Green Line LRT. Costs have been assessed based on an assumed expenditure profile for capital, renewal, and operating costs that has been informed by peer LRT projects and historic expenditure on the Blue Line and Red Line. The Green Line LRT will be delivered as a Public Private Partnership (P3) project, which means the realized cost profile may vary in magnitude and timing from the assumptions included in this Business Case.

5.2

Economic Benefits

The socio-economic benefits of transit investment are divided into two categories: user impacts (direct benefits to travellers) and external impacts (reductions to the transportation network's negative impacts to society). Benefits are realized via the logic model in Figure 5.1, which illustrates how:

- Resource investment (economic costs) act as inputs to deliver the Green Line LRT
- The Green Line LRT is composed of a set of actions or 'program scope layers' (see chapter 3) that directly change the performance of the City's transportation system by improving travel time (project outputs) – some elements of the program are directly delivered in Stage 1, while others will be enabled through broader municipal plans and policies
- Changes in travel time benefit existing transit users, enable more travellers to make use of transit, who in turn save money on auto operating costs and are healthier due to increased walking
- Customers who switch to transit decrease the amount of vehicle kilometres travelled (VKT) by automobiles, which in turn reduces the emissions and collisions

These benefits are further defined in Table 5.2.

Figure 5.1 : Economic Case Logic Framework

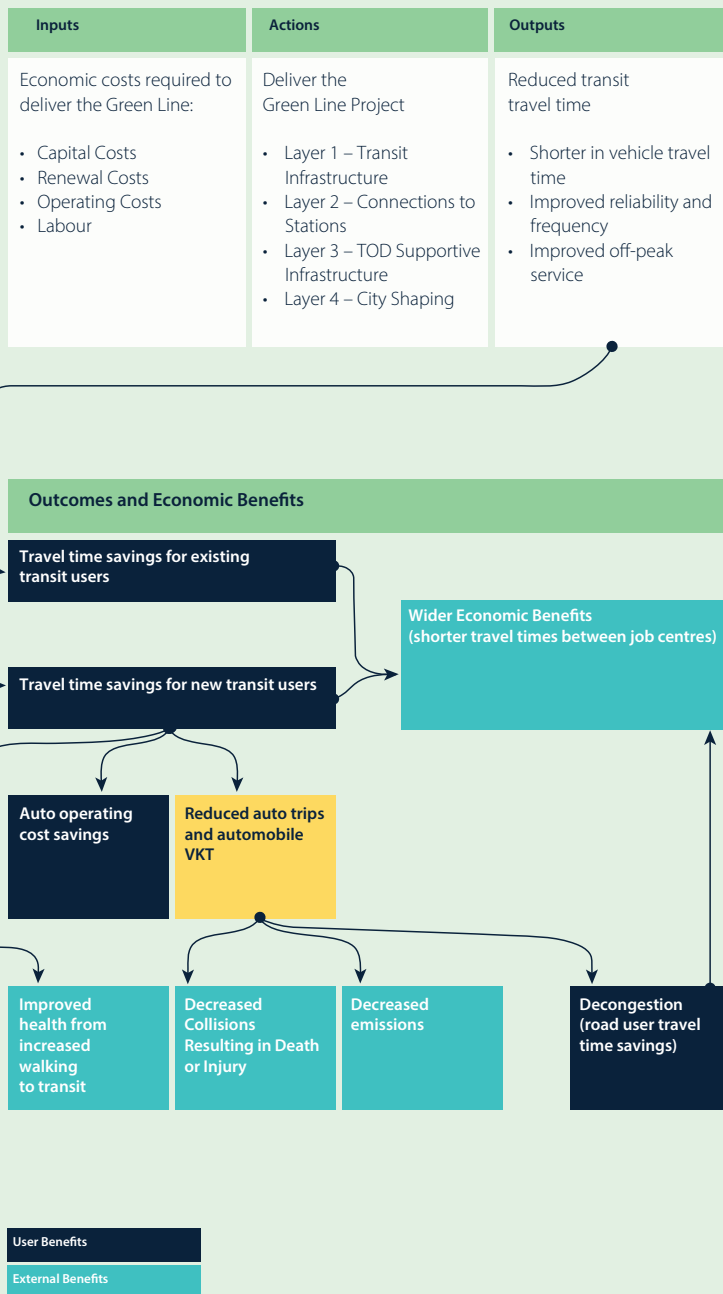


Table 5.2: Cost-Benefits Analysis Summary

Category	Benefit	Description	Estimation Approach
User Benefits	Transit Travel Time Savings	Time savings for new and existing users, including reduced vehicle travel time and improved travel experience (increased frequency, amenity, reliability)	Estimated from change in travel time from RTM alongside estimates of improved reliability and decreased crowding on transit
	Automobile operating cost savings	Travellers who switch to transit will no longer pay for automobile operating costs.	\$0.12 per reduction in auto vkt
	Decongestion	Auto travellers will benefit from peak period decongestion due to a reduction of cars on the road network.	Estimated from change in travel time for auto users from RTM
External Benefits	Safety Benefits	As travellers switch from automobile to transit there will be fewer cars using the road network and fewer collisions resulting in death or injury.	\$0.05 per reduction in auto vehicle kilometre travelled
	Greenhouse Gas Reductions	As travellers switch from automobile to transit, there will be reduced auto vkt and therefore reduced Greenhouse Gas (GHG) emissions.	Auto CO2 equiv: 2030: 201 g/km; 2045: 164 g/km Average cost of CO2: 2030: \$64.4/tonne; 2045: \$69.3/tonne
	Health Benefits	As travellers switch to transit they will realize health benefits due to increased walking.	Assumed 300 m walked per new transit trip and \$3,85/km walked
	Wider Economic Benefits	Benefits associated with increasing productivity by increasing agglomeration economies.	Benchmarked against peer LRT projects
		Agglomeration refers to the propensity for economic activity to increase as proximity between employment centres (measured in travel time) increases.	

Benefits Estimation

Travel time savings and change in automobile Vehicle Kilometres Travelled (VKT) are estimated using the Regional Transportation Model (RTMv2) based on forecast years 2028 and 2048. The RTMv2 models a “Business as Usual” scenario and the option scenarios that includes the Calgary Green Line and bus integration changes. Key metrics and incremental differences are then extracted from the AM Crown scenario and annualized and monetized for economic evaluation.

Annual estimates are then interpolated and extrapolated from the two forecast years resulting in the annual profile of the evaluation period.

The model estimates that in 2028 the Green Line will reduce vehicle kilometres travelled by automobiles by up to 37 million, while on average travellers will save 10 minutes on the Green Line.

5.3

Economic Case Analysis

Overview

Table 5.3 summarises all the cost and benefits as discussed in this chapter. All values in the table are discounted to present value (2020\$) from an assumed 30-year profile in order to assess and compare benefits and costs.

The key economic metrics in this table are:

- **Benefit Cost Ratio (BCR)** – a comparison of total benefits to the resource costs required to deliver the Program
- **Net Present Value (NPV)** – benefits minus costs, which illustrates the net impact to the region in economic terms

Table 5.3: Cost-Benefits Analysis Summary

	Economic Value	Value (\$Million 2020 PV)
Costs	Incremental capital costs	\$3,580
	Incremental renewal costs	\$100
	Incremental operating and maintenance costs	\$350
	Total Cost	\$4,030
User Benefits	Travel time savings	\$1,750
	Auto operating cost savings	\$70
	Amenity	\$20
	Crowding	\$50
	Reliability	\$20
External Benefits	Collision cost savings	\$30
	GHG Reductions	\$10
	Health Benefits	\$110
	WEBs	\$200
Total Benefits	Total Benefits	\$2,260
Net Present Value	NPV (Benefit – Cost)	-\$1,770
Cost-Effectiveness	Benefit : Cost Ratio	0.56

Analysis Summary

The analysis outlined in Table 5.3 notes the following:

- The Program's benefits are largely derived from benefits to existing transit users (75% of total benefits), who currently use one or more buses to complete their trip. With the Green Line, their travel time decreases, and reliability increases, resulting in up to \$1.7 billion in economic benefits.
- The external benefits realized through reduced automobile use are equal to 23% of total benefits, suggesting that the Green Line LRT's most significant economic impact is for existing transit users – however, the Program still generates nearly \$500 million of benefit to the broader City and region.
- Capital costs are the most significant cost category and make up nearly 90% of total costs.
- The Benefit Cost Ratio for project is 0.56.
- This means for every dollar invested there is \$0.56 return based on benefits that can be directly monetized in socio-economic analysis.

Comparator analysis was conducted on the potential benefits of a complete Green Line project (see Chapter 3), which would extend north on Centre Street

and further south beyond Shepard. Preliminary analysis suggests that:

- Expansions can generate an additional \$1.5 billion in lifecycle value compared to Stage 1 if the extension is finished by 2038 – this is a preliminary analysis and the magnitude of benefits may evolve as the Program scope is refined.
- These benefits are primarily realized by extending the line along Centre Street.

Stage 1 includes the most complex and costly element of the program: the tunnel through the Downtown Core and connection to 16 Avenue North of Downtown. Once complete, this section of the line will form the core of the line and can act as a key enabler of future expansion to realize the incremental benefits of the broader Green Line.

Benchmarking and Future Optimization

Figure 5.2 provides a comparison of Benefit Cost Ratios for a range of recent Canadian LRT projects, including Ottawa Confederation Line which is now operational.

The benchmarking exercise notes the Stage 1 alignment has a comparable Benefit Cost Ratio to other LRT projects in development (example: Toronto Eglinton Crosstown) and outperforms other peer projects from an economic analysis perspective.

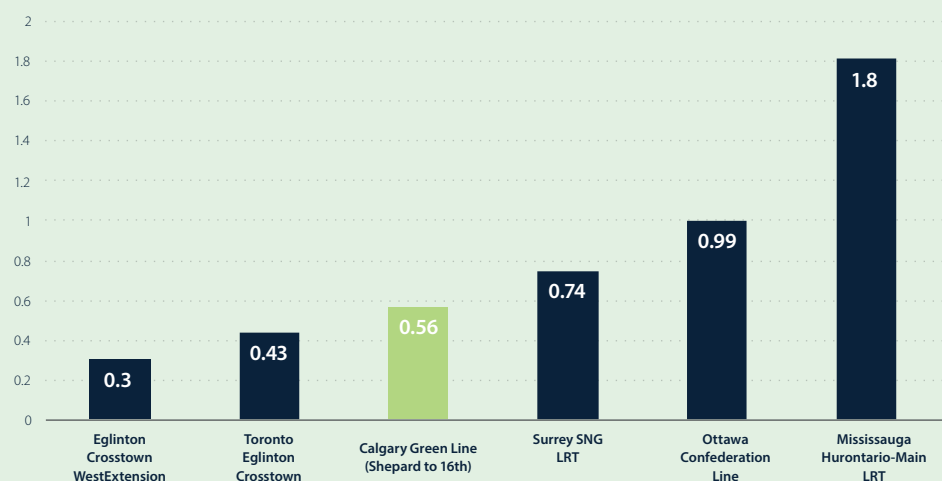
Note – projects considered in this benchmarking analysis include a range of assumptions for value of time, discount rate, evaluation period (30 vs 60 years) and types of benefits included. For example, if a 60-year lifecycle was applied to the Green Line (consistent with peer practice), the Benefit Cost Ratio is estimated to increase to 0.73.

While each Business Case used different assumptions, this analysis can still be used to identify areas for consideration as the Green Line is progressed to future stages of development and delivery.

Potential areas for further optimization include:

- **Optimize user benefits by meeting proposed runtimes and exploring opportunities to improve user experience**– these benefits could be optimized by ensuring station designs facilitate ease of access – in particular underground stations with longer access times. In addition, future changes to the bus network can support faster, more frequent, and more reliable connections to Green Line Stations, which in turn can increase the amount of benefit realized by transit users.
- **Identify opportunities to value engineer or reduce costs** – existing cost estimates carry significant uplift for risk and contingency, which adversely impact the Benefit Cost Ratio. As the Program progresses, there is an opportunity to re-evaluate costs and update the Economic Case as the true costs of the Program are known and risks are managed.

Figure 5.2: LRT BCR in Canadian Cities



5.4

Economic Case Conclusions

The Economic Case for the Green Line LRT notes the following key conclusions:

- While benefits are lower than costs, the Program has the potential to generate \$1.84 billion in benefit for transit riders over the next 30 years, which when combined with external benefits (such as GHG reductions and safer streets) leads to a combined \$2.26 billion in benefit to the City as a whole.
- There are key opportunities to improve the economic performance of the line through future stages of design, planning, and delivery including identifying opportunities to optimize bus and multimodal connections, improve travel times, and reduce costs through value engineering or phasing.
- In the long run, continued expansion of the Green Line LRT can generate an additional \$1.5 billion in benefits based on current estimates.

6

Financial Case

The purpose of this Financial Case is to provide an overview of the Green Line LRT Program's finances and how the Program will be funded. This overview includes a breakdown of the Program's cost and funding alongside a description of how potential program risks will be mitigated and managed.

The costs to deliver the Program will be refined as it progresses through planning, procurement and delivery; therefore, this section focuses on the current estimates of the capital, renewal and operating costs of the Program.

All analysis contained in the Financial Case is incremental to the Business as Usual scenario as described in Chapter 3. This means that all cost and revenue impacts only consider those directly related to the Green Line LRT Stage 1 above and beyond existing forecast spending.

The remainder of the Financial Case includes:

- Capital Costs
- Operating and Maintenance Costs
- Financing Costs
- Revenue Impacts
- Funding Sources
- Conclusions

6.1

Capital Costs

Green Line LRT Stage 1 Construction Costs

Capital costs for the Program include all direct and indirect capital expenditures associated with the construction of the Green Line Stage 1 LRT project as a new standalone network and the third LRT line in the City of Calgary rapid transit system. Total capital costs for the Program are anticipated to be approximately \$4.903 billion (nominal dollars), excluding financing costs during construction.

Capital costs are subdivided into two categories:

- **Direct Capital Investment** – direct capital costs such as Design-Build-Finance Costs (including engineering), light rail vehicles, land, commissioning, owner supplied materials, enabling works construction, utility relocations, plus all escalation and contingency related to these costs.
- **Indirect Capital Investment** – indirect capital costs such as staffing, owner engineering, permits, advisor fees, plus all escalation and contingency related to these costs.

Escalation and contingency are applied to the Direct and Indirect Capital Investment categories. The total construction cost of the Program is shown in Table 6.1.

The estimated capital costs presented are based on a contingency approach developed to reflect risk tolerance and other assumptions the City has for the Program.

Major Rehabilitation and Renewal Costs

Major rehabilitation and renewal costs refer to all expenditures associated with future lifecycle improvements of the Green Line Stage 1 assets. A rehabilitation and renewal assessment will be made of program assets and could mean one or more major maintenance events or even replacement within the Program's lifecycle. This includes all expenditures associated with capital improvements that will increase the useful life of the infrastructure.

A VFM assessment completed in 2018 had a renewal cost estimate of \$296.2 million (2016 \$) - this estimate will be reviewed as the design of Stage 1 progresses. Renewal costs will be expended over a 30-year operations period. Future major rehabilitation and renewal costs do not have an identified funding source, which is standard practice for infrastructure

Table 6.1: Green Line Stage 1 Construction Costs (\$ millions)

Cost Category	Value (million \$)
Indirect	\$805
Direct Costs	\$4,098
Total Construction Costs	\$4,903

6.2

Operating and Maintenance Costs

Operating and maintenance costs refer to all expenditures associated with the continued operation of the Program. This includes all additional administration and staff support for operation of the expanded infrastructure, as well as parts and materials, contract and services and other costs required to deliver routine operations and maintenance over time.

Program incremental operations and maintenance costs for LRT are currently estimated at \$32.1 million (2018\$) starting in 2028.

Green Line Stage 1 operations and maintenance costs do not currently have an identified funding source from the City of Calgary. An ongoing funding source will need to be approved in advance of the revenue service date.

Operating costs will be reviewed by Calgary Transit during the current One Calgary budget cycle (2019 to 2022). Refinements and updates will be finalized in a future business plan and budget cycle (2027 to 2031) to align with a currently anticipated revenue service date.

Bus Operating Cost Savings

With the Green Line there is a need for a net increase of bus service hours in southeast Calgary of between 160,000 to 190,000 (the requirement would be 200,000 to 230,000 without Green Line). This required increase is not directly caused by Green and represents the need to catch-up to service levels provided in other areas of Calgary and to keep up with ongoing population and employment growth. With the Green Line LRT Stage 1, fewer new bus services hours will be required, which will amount to savings of \$5.2 million per year (2018\$) and result from the bus network requiring 40,000 fewer hours of service.

Table 6.2 Operations & Maintenance Costs to Deliver Green Line Stage 1 (2018\$ millions)

Annual Operating & Maintenance Costs	Value
Green Line LRT Stage 1 Incremental LRT Operating Costs	\$32.1 M
Trunk Bus Service Operating Cost Savings	-\$5.2 M
Total Annual Operating Cost Impact	\$26.9 M

6.3

Financing Costs

Financing costs for the Stage 1 Project include all interest costs and any financing fees associated with:

- The City of Calgary executing the Stage 1 debt program to i) meet its payment obligations for any owners' costs and third party contractors generally relating to enabling works, Light Rail Vehicle supply, and Segment 1 and Segment 2 Design-Build-Finance contracts and ii) service any long-term City debt financing with an anticipated 2044 maturity that will be fully repaid when the City of Calgary's long-term capital contribution for the Program ends; and
- The design and construction period for the Segment 1 and Segment 2 contracts that the City of Calgary will reimburse to the Program companies and contractors.

The City of Calgary has approved up to \$0.64 billion of financing cost funding (or \$23.7 million funded annually for 27-years (2018-2044) for the Stage 1 Program. The City's \$1.56 billion capital funding and \$0.64 billion financing funding streams can be optimized over time to best meet Project expenditures in a given period.

6.4

Revenue Impacts

The revenue assessment considers total and incremental revenues generated by the Program. The Green Line is anticipated to generate incremental revenues of \$6.5 million (2018\$) per year as of 2028. These revenues will change as demand changes over the first 30 years of operations.

Current forecasts estimate that the Program will generate \$270 million in incremental revenue over this time period.

6.5

Funding Sources

The Green Line Stage 1 LRT Program funding strategy has been designed to cover capital costs and financing costs for the Program. The total capital funding for this program is provided over a 30 year time period. The federal portion is scheduled to be received throughout the construction period, the provincial portion is weighted towards the latter years of the construction period and the municipal portion will be provided equally over a 30 year period commencing in 2028. Approximately \$900 million of City funding for capital costs will be received from property tax dollars following the construction period. As a result of the mismatch in Program expenditures and funding, the Program will require debt financing and incur interest to ensure the \$4.903 billion capital cost of the Stage 1 Program can be delivered prior to the receipt of all capital funding contributions.

The debt financing program during the design and construction phase of the Program will optimize the use of City financial resources and contemplates the issuance of a series of short-term and long-term debt instruments to ensure financing costs are minimized. A maximum of \$639.9 million of City funding is available to cover all financing costs associated with the Program.

Funding has been secured from multiple sources, including a range of federal and provincial government grant programs. These government grant programs provide the Program with a reliable and stable source of

funding for its capital investments. These programs are also accompanied by an oversight model that provides transparency around the allocation and use of funds for the Program.

In addition to the funding provided through federal and provincial funding programs, the City of Calgary has also allocated \$2.2B (approximately 40% of Project funding) through municipal taxation. Table 6.3 provides a detailed breakdown of the capital funding received for the Program.

The funding received from the federal and provincial government will be governed under the Grant Agreement: Public Transit and Green Infrastructure Project (often referred to as the Ultimate Recipient Agreement or "URA") between the Government of Alberta and the City of Calgary. This agreement establishes governance structures and systems of oversight that will help to ensure that funding is allocated in alignment with the priorities identified by the Investing in Canada Infrastructure Program ("ICIP"). There are also strict audit requirements set out in this agreement to ensure that the funding has been administered appropriately.

Government of Canada Funding

The Government of Canada has provided funding for the Program through two streams: the Public Transit Infrastructure Fund (Phase I) and the ICIP. This funding can be used to fund up to 40% of total project expense assuming they are eligible costs.

Ineligible costs for Government of Canada ICIP funding are generally limited to costs incurred prior to the original ICIP project approval in principal (i.e. April 19, 2018), land acquisition costs, specified owners' costs and City of Calgary financing costs. Federal ineligible costs will be funded by The City and/or Government of Alberta (if an eligible expenditure).

Government of Alberta Funding

The Government of Alberta has provided funding through a variety of programs, including GreenTRIP and prior grants, Public Transit Infrastructure Fund (Phase I), and the URA.

The Province will fund up to 40% of eligible expenditures of the Program with a detailed description of the Alberta Contribution profile set out in the URA. The Province's Public Transit and Green Infrastructure Act's Alberta Regulation 189/2019, lays out the annual contributions from the Province as noted in Table 6.4.

Ineligible costs for Alberta funding are generally limited to costs incurred prior to the original ICIP project approval in principal (i.e. April 19, 2018), specified owners' costs and financing costs. Provincial ineligible costs are generally to be funded by The City of Calgary.

Table 6.3: Stage 1 Capital Funding Summary

Funding Partner	Funding Amount (billions)	Funding Source (billions, unless otherwise stated)
Government of Canada	\$1.641	\$1.530 – Investing in Canada Infrastructure Plan (Public Transit and Green Infrastructure) \$0.111 – Public Transit Infrastructure Fund (Phase I)
Province of Alberta	\$1.702	\$1.530 – Ultimate Recipient Agreement \$0.055 – Public Transit Infrastructure Fund (Phase I) \$0.117 – GreenTRIP and prior grants
City of Calgary	\$2.200	\$52 million (per year for 30 years) – 2013 Tax Room (2015 to 2044) \$23.7 million (per year for 27 years) – 2017 Tax Room (2018 to 2044)
Total Capital Funding (including financing funding)	\$5.543	

City of Calgary Funding

The City of Calgary has approved \$2.20 billion or approximately 40% of the Program's Stage 1 funding through two streams of long-term capital funding for the Program:

- 2013 Tax Room of \$1.56 billion (or \$52 million per year for 30 years) (2015 to 2044); and
- 2017 Tax Room of \$0.64 billion (or \$23.7 million per year for 27 years) (2018 to 2044).

The 2017 Tax Room was initially approved to fund Project financing costs up to \$639.9 million through the construction period and operations period ending in 2044. The City's two funding streams can be combined to optimize funding either Program capital costs or financing costs during any given year.

For the initial grant funding agreements for the Program, the City is required to fund 33.3% of GreenTRIP eligible expenditures and 25% of PTIF eligible expenditures to support enabling works activities. City funding will also be used for all remaining Stage 1 Project expenditures and any federal and provincial ineligible costs, including all debt financing costs for the Stage 1 project.

Green Line Connection to Funding Partner Goals

The Program's envisioned benefits are aligned to the Province of Alberta and Government of Canada's goals and priorities as shown in Table 6.5.

Table 6.4: Schedule of Government of Alberta Contributions

Date	Stage 1 Capital Funding (millions)
2018-19	-
2019-20	-
2020-21	-
2021-22	25
2022-23	50
2023-24	291
2024-25	291
2025-26	291
2026-27	291
2027-28	291
TOTAL	1,530

**Table 6.5: Project Alignment
With Funding Partner Goals**

Financial Case

Project benefit theme	Provincial priorities	Federal priorities
Meeting needs of a growing City	Transportation business plan (2016-19) – “reliable, multi-model transportation network...that supports Alberta’s potential, fosters innovation and supports Alberta’s growing population”	Federal Budget 2016 – “Investing in infrastructure creates good, well-paying jobs that can help the middle class grow and prosper today. And by making it easier to move people and products, well-planned infrastructure can deliver sustained economic growth for years to come.” Federal Budget 2019 – “More efficient transportation corridors mean that businesses can get their goods to customers more quickly.”
Support a growing economy	Transportation Business Plan (2018-21) – “Smart investments in the transportation system help to create jobs, and contribute to economic resiliency and stability.”	Federal Budget 2019 – “Investing in infrastructure creates good, well-paying middle class jobs today, and sets the stage for long-term economic growth that benefits everyone.” Community Employment Benefits Program 2018: “The Government of Canada has committed to providing sustained economic growth: building stronger, more inclusive communities, and creating meaningful jobs for more Canadians”
Connecting Calgarians with more destinations	Infrastructure Business Plan (2016-19) – “Infrastructure investments can help stimulate the economy by creating jobs while ensuring Albertans have access to necessary health, learning and government facilities.” Transportation Business Plan (2018-21) – “Alberta’s public transportation system will provide seamless, integrated connections between transportation modes and communities, including regional, urban, rural and Indigenous communities.”	Federal Budget 2016 – “Canadians need immediate investments in their communities’ public transit systems, so that they can get to work on time, and back home at the end of a long day.” Federal Budget 2019 – “Not only do Canadians require the right kind of homes to be built, things like the accessibility of schools and daycare, and the proximity to public transit are also factors municipal planners must take into consideration when designing sustainable communities that work well.”
Providing opportunities for future development	Ministry Business Plan (2019-23) – “Enhance access and mobility for transportation users, and support routes connecting major and high-load corridors and hubs.”	
Increasing environmental efficiency	Culture and Tourism Business Plan (2016-19) – “The quality of life of any society is often measured by the social and economic well-being of its citizens. Inclusive communities that foster active participation are better equipped to tackle social issues related to a growing population.” Transportation Business Plan (2018-21) – “Transportation is also developing and supporting policies and programs that focus on reducing greenhouse gas emissions across the transportation sector and protecting transportation infrastructure from future climate change impacts.” Ministry Business Plan (2019-23) – “Alberta’s transportation system supports economic growth while balancing the need to reduce negative environmental impacts, including identifying barriers and opportunities to reduce passenger and freight-related emissions.”	Federal Budget 2016 – “A clean environment and a strong economy go hand-in-hand. The government is committed to leaving future generations of Canadians a sustainable and prosperous country” Infrastructure Canada- Climate Lens (2019)- “The Climate Lens is intended to incent behavioral change and consideration of climate impacts into the planning of infrastructure projects with a view to implementing Canada’s mid-century goals of a clean growth low carbon economy”

6.6

Financial Case Summary

The capital, operating, and renewal costs for the Green Line LRT Stage 1 are shown in Table 6.6, alongside revenue impacts. This Table represents the current estimate of financial impact for Stage 1.

Table 6.6: Financial Case Summary

Cost Category	Value (million \$)
Indirect Costs (\$805 (Nominal dollars)
Direct Costs	\$4,098 (Nominal dollars)
Total Construction Costs	\$4,903 (Nominal dollars)
Illustrative Annual Financial Impacts *	
2028 Incremental Operating and Maintenance Costs (LRT Only)	\$26.9 (2018\$)
2028 Incremental Revenue (LRT Only)	\$6.5 (2018\$)
2028 Net Incremental Operating and Maintenance Cost (LRT Only)	\$20.4 (2018\$)

7

Deliverability and Operations Case

The Deliverability and Operations Case provides an overview of the approach used to procure the Program and realize its intended benefits. Since the 2016 Business Case, The City conducted further analysis to determine if the Program can still be expected to deliver on the intended scope within the committed funding (\$5.543 billion). This analysis found that The City will be unable to deliver the full scope of underground tunnelling and stations originally planned for the Downtown portion of the Program, given the high costs of geotechnical work and drilling.

The City is now conducting design and development tasks, including stakeholder engagement for the Downtown portion of the Program prior to advancing it to procurement. Rather than delay the procurement process to accommodate the expected one year of planning, The Stage 1 contracting strategy was approved in July 2019. Under this strategy, The City opted to split the DBF contract into two segments. It was determined that the market had insufficient capacity and risk appetite to pursue one large Design-Build-Finance contract.

As such, the City will be putting Segment 1 for the Shepard Phase out to market while concurrently working to finalize the scope and routing of Segment 2. The delivery and management of the Program will be supported by a strong system of governance and the implementation of rigorous project controls. These systems are still under development at the time of writing to ensure that they align with contracting and commercial arrangements. Project Charters have been developed for the Program which outline scope, governance, and program milestones, among others.

This chapter provides an overview of these elements of project delivery, including:

- Socio-Economic and Environmental Delivery Considerations
- Risks
- Procurement Strategy and Approach
- Governance
- Operations and Maintenance
- Benefits Management

7.1

Socio-Economic and Environmental Considerations

Environmental Management

The Program will have a number of key socio-economic and environmental considerations that will be managed through the contracting process. This includes the allocation of responsibility for regulatory issues, including managing environmental assessment, certificate compliance and permitting. It also includes key considerations around the assignment of responsibility for managing external relations, including consultation with Indigenous communities and public engagement processes.

The Program continues to manage numerous environmental disciplines and will do so for the life of the Program. These include: tracking both the federal and provincial assessment processes, obtaining required federal, provincial and municipal environmental permits, licenses and approvals, comprehensive construction environmental management to achieve compliance, production of GHG Mitigation Assessments, Climate Lens and Resilience Reports, management of contaminated sites, application of sustainability processes, maintaining a Risk Registry and conducting work required within specific environmental disciplines. Both federal and provincial reporting will continue alongside internal senior Project Management Team reporting.

Indigenous Relations

To maintain continuity throughout the life of the Green Line project, consultation and engagement activities with First nations will continue, as necessary, in order to satisfy both Federal and Provincial requirements. The City will maintain the lead role in identifying the requirements and responsibilities to consult during the Program, and these will also be identified during the contracting process. In addition, the City continues to explore ways to maintain ongoing relationships with First Nations.

Community Relations

With a mandate to help stakeholders prepare for and manage the impacts of construction, the desired outcome of all communication and community relations activities is to ensure transparency, timely access to project and construction-related information, and responsiveness to citizen needs and concerns in order to successfully construct the Green Line LRT with public support and to achieve the project vision. Clear roles and responsibilities will be assigned to ensure that both contractor and City staff are focused on achieving this outcome.

7.2

Risk Management

Risk management protects taxpayer dollars and supports proactive management and decision-making for capital projects. Understanding risk and developing measures to either accept or mitigate risk involves the development and continuous improvement of 3 primary risk management components:

- A Risk Management Plan: a clear plan for identifying, assessing, and managing risks as well as communicating status and potential implications.
- A Risk Register: a comprehensive register of risks and thorough analysis of their impacts, and a repository for response strategies.
- Ongoing Risk Management: identifying and responding to risk through a proactive and empowered risk-aware culture.

Based upon the risk assessment completed to date, the Green Line LRT Stage 1 Program risk exposure is at the high end of the typical range of other major LRT projects at this stage. The program holds risk in all of the typical categories of an LRT megaproject, but higher risk than is typical has been identified in the following risk areas:

- Scope additions and uncertainty
- Governance and decision making
- Procurement and market conditions
- Contract interfaces (i.e. due to the use of multiple Design-Build-Finance contracts plus a separate LRV procurement)
- Canadian National/Canadian Pacific coordination
- Scope and technical risks associated with Segment 2 (from north of Inglewood Station to 16 Avenue North)
- Current impacts of COVID 19

The Green Line LRT Program Team is acutely aware of the need to continue to prioritize effort on proactively mitigating these risks. There are significant actions the Green Line Program Team has and is taking to respond to these risks, including:

- Finalizing planning details
- Streamlined, risk informed decision making
- Meeting established procurement timelines
- Clearly projecting support for the Green Line Program
- Finalizing Segment 2
- Resourcing
- Cost savings measures

Monitoring and updating risks and risk response strategies will continue as the Program progresses. With team effort directed toward managing and controlling risk on the Green Line LRT, the risk profile should continue to reduce over time. The risk assessment will be refined and updated to accurately reflect the evolution in affordability, schedule, and program risks as key milestones are reached.

7.3

Procurement Strategy and Approach

The procurement strategy is based on a foundational set of principles that are intended to drive towards positive commercial outcomes for the Program. These principles have been used to develop an approach to procurement that is best suited to Project circumstances and requirements. They will also be applied throughout the contracting process to ensure the commercial success of the Program.

Procurement Principles

The procurement strategy is founded on a core set of principles that are intended to support the long-term success and viability of the Program for the City of Calgary (See Table 7.1). The City will not be pursuing a long-term P3 model and operations and maintenance (O+M) components will not be included in the proposed procurement model.

Industry capacity to deliver

Assessments of market feasibility have been conducted at various stages of the Program to ensure that the procurement model is strategically aligned with key market considerations. Early assessments of market feasibility identified that the Program would face competition with other major rapid transit projects across Canada, including Surrey-Langley Skytrain Extension, Edmonton Valley Line Stage 2 and Broadway Subway projects.

The overlapping procurement timelines for these projects suggest that the Program may face high levels of competition when attracting leading firms to submit a bid due to market saturation.

Preliminary procurement models for the Program took into consideration the market assessment findings and the initial model – a single Design-Build-Finance (DBF) contract, with a separate contract for LRV, and multiple smaller contracts for enabling works – was proposed as an attractive option for the market. Although the levels of competition have not lessened since initial market feasibility assessments were conducted, changing factors in the City of Calgary and the evolution of the LRT market have added further complexity to the assessment of market feasibility. These factors have been critically influential in the development of the current procurement model with two separate DBF contracts for the two segments of the line.

Table 7.1: Procurement Strategy Principles

Schedule – Cost of Delay	Schedule delays pose a significant financial risk to the Program. The procurement process will seek to minimize the risk of schedule delays and increase opportunities for earlier involvement of prospective contractors in the design process.
Cost Certainty	Any uncertainties in cost pose a significant risk to the Program. The design of the procurement process will seek to create cost certainty and minimize potential financial risks wherever possible.
Risk Management	Appropriate risk allocation is a central pillar of the procurement process. Consistent efforts will be made throughout the procurement process to pro-actively identify risks and optimize risk allocation.
Market Attractiveness	The attractiveness of the Program is essential to creating a competitive bid process. Efforts will be made throughout the procurement process to involve contractors early in planning and design to help increase the market attractiveness of the Program.
Contractor Opportunity for Innovation	Innovation has the potential to minimize cost and mitigate risk for both the contractor and Project owner. The procurement process will incentivize contractor innovation, particularly as it relates to Project design.
Impact on Lifecycle Cost	Contractor expertise is a valuable asset in designing a Project with minimized lifecycle costs. The procurement process will create opportunities for that expertise to be integrated earlier in the process to allow contractors to work collaboratively with City representatives through the design process.

Procurement Approach

The Program is striving for early contractor involvement in project design. Following the issuance of a Request for Proposals (RFP) with an accompanying Project Agreement (PA), pre-qualified bidders will be invited to participate in an iterative design review process and provide input to a revised PA. Following the design review process and amendments to the PA, proponents will be asked to submit a technical and financial proposal for the review of the selection committee. Bid evaluation will consider a number of key factors and is likely to include certain values-based evaluation factors.

The core procurement principles described above have been applied to design a procurement model that will maximize positive commercial outcomes for The City. The procurement model proposed for the Program has evolved over time as the Program scope continues to be refined and market circumstances have changed. City Council initially approved the following procurement model on March 19, 2018:

Since that time, the DBF has been separated into two DBF contracts that are split geographically – DBF for the Shepard Phase (Segment 1) and a DBF for the Centre City Phase (Segment 2)

- **Design-Build-Finance (DBF)**
Contract (a type of P3) for (1) the tunnel, (2) all underground, at grade and elevated stations, track and systems, and (3) the maintenance and storage facility (MSF).
- **Design-Build (DB)** Contract for the Light Rail Vehicles (“LRVs”).
- **Design-Bid-Build (DBB)** Contracts for enabling infrastructure work such as utility relocation.

7.4

Governance

An effective system of project governance will be integral to the success of the Program. The governance systems and structures will incorporate leading best practice in project governance while also meeting the unique needs of the Program. The governance model for the Program is under development at the time of writing to ensure effective alignment with the outcomes of the procurement process.

The Program is currently managed by the City of Calgary, with support from external advisors assisting in strategic and technical aspects. A Technical Risk Committee (TRC) was also set up in August 2019 to conduct technical due diligence on the Program's deliverability and management.

The delivery and management of the Program will be supported by a tailored Program Delivery Team model. The organizational chart for the Program Delivery Team is under refinement at the time of writing to ensure effective alignment with the outcomes of the procurement process.

A Project Management Plan (PMP) is under development at the time of developing this Business Case. A project readiness plan outlining key milestones has been developed and is being updated.

7.5

Operations and Maintenance

Operations and maintenance components have been excluded from the procurement model at this stage, as the City is not pursuing a long-term P3 model for the Program. Long-term operational planning is underway at the time of writing.

Upon completion of constructing and commissioning the Program, Calgary Transit, the City's public transit operator, is expected to take over operation and maintenance responsibilities of the system. This will include:

- **LRV and BRT operation** – operating light rail vehicles on the southeast portion of the alignment, and bus rapid transit along the north alignment;
- **LRV and bus vehicle maintenance** – regular and ongoing maintenance including safety checks, mechanical maintenance, and system maintenance;
- **Track, right of way, and other system infrastructure maintenance** – overseeing and providing necessary seasonal, and periodic recurring maintenance and upgrades to track and any access or right of ways for the LRV and BRT system;
- **Station upkeep** – including lighting, landscaping, snow removal, and ongoing maintenance of bus and light rail station shelters

- **Maintenance facility upkeep** – ensuring appropriate building envelop maintenance and upgrades housing light rail and bus vehicles during maintenance and storage period; and
- **Signalling and traffic management for the light rail alignment** – managing and determining signalling priorities for at-grade light rail alignments and interface with roadway vehicle traffic management.

Roadways for the BRT component of the Program will be maintained by the City of Calgary's Roads department. Roadway maintenance includes snow removal, tree clearing and foliage removal, general upkeep (paving, re-paving, re-surfacing) traffic management and safety management (such as vehicle speed designation and safety signage).

7.6

Benefits Management

At the time of developing this Business Case, work is underway to more comprehensively map project benefits to develop a benefits management plan. The City expects a range of benefits to be realized in both the construction and operational phases of the Program. At a high level, the City is contemplating the examples of performance measures in Table 7.2 to help track and demonstrate realization of benefits.

It is expected that appropriate performance metrics will be selected, methodologies for measuring be refined, and that a benefits realization plan will be developed as the Program progresses its planning.

Table 7.2: Benefits Management Performance Indicators

Construction Phase Performance	Operations Phase Performance
Job creation and GDP contribution to provincial and national economies Indicators: direct-hires by contractors and approximated using the Stats Can I/O model for capital expenditures incurred GHG reduction through sustainable construction methods Indicator: modelled GHG reduction estimation based on construction method compared to traditional construction methods Public art and cultural vibrancy Indicators: public art installation at stations	<ul style="list-style-type: none"> Increased ridership Indicator: comparing public transit ridership under similar growth assumptions Travel time savings per ride and network-wide Indicators: travel time per rider for standard trips, and aggregated travel time savings GHG emission reduction through ridership conversion Indicator: riders converted from personal vehicle to public transit Increased transit-oriented development Indicators: number of development permits applied, or change in density and multi-use developments within walking distance of stations

8

Conclusion

This chapter provides a summary of the Business Case for Stage 1 of the Green Line LRT Program. It includes the following sections:

- Stage 1 Green Line LRT Business Case Summary
- Next Steps

8.1

Stage 1 Green Line LRT Business Case Summary

Conclusion

The Business Case for Stage 1 of the Green Line LRT Program draws on over five years of planning, stakeholder engagement, and design to present an optimized investment for the City of Calgary. This project was developed to achieve the following vision:

“A city shaping transit service that improves mobility in north and southeast Calgary, connecting people and places, and enhancing the quality of life in the city.”

This investment will have a significant benefit to mobility and urban development in Calgary by 2028 and beyond, including:

- **Improving mobility choices by providing a high-quality transit service that is fast, frequent and reliable**— travelers will spend less time travelling for work, school, and recreation
- **Laying Foundations** – by delivering the most complex elements of the overall Green Line Program first, Stage 1 enables future expansions further north and further south
- **Catalyzing development** – the Green Line LRT serves 10 station areas (of 15 stations) that are identified by Calgary's Municipal Development Plan as an activity centre or corridor – these areas are a priority for intensification and fast, frequent, reliable transit service.
- **Integrated and cost-effective transit service** – the Green Line will connect people to where they want to go using a new LRT that can be delivered and operated in a cost effective manner.
- **Connecting the City** – the Green Line is the next step for completing Calgary's rapid transit network providing seamless connectivity with the existing Red and Blue LRT lines and four MAX transit lines.

Table 8.2 summarizes Green Line LRT Stage 1's performance.

Case	Performance
Strategic Case	<ul style="list-style-type: none"> • Transportation Benefits – up to 65,000 riders served each day with up to 25 minutes of journey time saved per trip. The Green Line will provide capacity for 2028 and beyond and collect revenue that covers 70-84% of its operating costs. • Quality of Life Benefits – 68,000 people will live within walking distance of a Green Line LRT station, while 900 key destinations can be walked to from the Green Line. The Green Line will lead to 2,300 fewer automobile collisions in its first 30 years of service and support increased health from increased walking. It will catalyze development of complete communities by directly connection to 6 high priority Transit Oriented Development areas. • Economic Prosperity Benefits – an estimates 20,000 jobs will be created to deliver and operate the Green Line. Nearly 200,000 jobs will be within walking distance of Green Line stations. • Environmental Sustainability Benefits – by taking cars off the road, Stage 1 will save up to 30,000 tons of Greenhouse Gas emissions a year in support of municipal, provincial, and federal environmental goals.
Economic Case	<ul style="list-style-type: none"> • \$2.260 billion in economic benefit over its first 30 years of operations • Benefit Cost Ratio of 0.56, which is comparable or higher than other Canadian LRTs that have been delivered or are planned for delivery
Financial Case	<ul style="list-style-type: none"> • \$4,903 billion in capital costs funded by The City of Calgary (\$2.2 billion), the Province of Alberta(\$1.702 billion), and the Government of Canada (\$1.641 billion)
Deliverability and Operations Case	<ul style="list-style-type: none"> • Delivered in two segments using separate P3 procurement processes • Operated by Calgary Transit • Utilized a robust risk management process throughout all stages of project planning, design, and delivery

8.2

Next Steps

Conclusion

Upon review of this business case and other supporting materials, the following next steps have been identified for Stage 1:

- Procure Light Rail Vehicles
- Advance the P3 delivery of Segment 1 from Shepard to Ramsay/Inglewood
- Continue the design and development of Segment 2 from 4 Street to 16 Avenue N and continue to plan BRT improvements for Centre Street in advance of future expansions
- Conduct further planning, design, and development of Centre Street N and southern expansions for the Green Line LRT Program
-

Glossary

Term	Acronym	Definition
Business As Usual	BAU	Business as Usual refers to the future state of Calgary's transportation network without the Green Line. The BAU is the comparator against which the incremental costs and benefits of building and operating the Green Line are measured to understand the overall value of and case for the Program. Generally, the BAU scenario has been defined to include only those investments and service enhancements that are presently funded
Benefit Cost Ratio	BCR	An economic indicator that reflects the relationship between benefits and costs of an investment. A BCR greater than 1 indicates the projects benefits exceed costs.
Business Case	-	The primary purpose of business cases is to facilitate good decision making for capital project funding. This Business Case has been prepared applying international best practice to achieve the project objectives in a transparent and accountable manner that enhances project delivery and decision making.
Bus Rapid Transit	BRT	Bus services that leverage a range of infrastructure and service improvements to provide high speed and high capacity travel options. Infrastructure improvements can include: separate right of way, queue jump lanes, signal priority, and off bus ticketing.

Calgary Transportation Plan	CTP	A long-range plan that provides policy direction for how the City of Calgary will deliver transportation options to Calgarians for the next 60 years.
Calgarian	-	Resident of City of Calgary.
Capital and Renewal Costs	-	These comprise one-time fixed costs incurred to build the required infrastructure (stations, track, signal, electric systems maintenance depots, and fleet) to deliver the service as well as costs incurred to renew or replace major elements of the system, such as the Light Rail Vehicle (LRV) fleet once they have reached the end of their lifecycle.
Central Business District	CBD	Typically categorized by higher density residential developments and centralized employment. Calgary's CBD (Downtown Commercial Core, is City of Calgary's official name for it) is defined as the area from 9 Street SW to 31 Street SE (behind Municipal Building) and from 9 Avenue SW to the 4 Avenue SW. It is about 1.3 km by .6 km in size and excludes Eau Claire, Chinatown or East Village. Also referred to as 'Downtown Core' in this report.
COVID 19	-	Coronavirus disease (COVID 19) is an infectious disease caused by a newly discovered coronavirus that spread across the globe in the first half of 2020.
Criteria Air Contaminants	CAC	Pollutants that contribute to smog, acid rain, and human health impacts.
Deliverability and Operations Case	-	Provides an overview of the approach used to procure the Program and realize its intended benefits.
Design Build	DB	A method of project delivery where the design and construction are tendered/let to a single entity.

Design Bid Build	DBB	A traditional method of construction where separate contracts are tendered/let for the design and construction phases.
Design Build Finance	DBF	A type of Public Private Partnership (P3) contract for (1) the tunnel, (2) all underground, at grade and elevated stations, track and systems, and (3) the maintenance and storage facility ("MSF") in this particular context.
Direct Capital Investment	-	Direct capital costs such as Design-Build-Finance Costs (including engineering), light rail vehicles supply, land, commissioning, owner supplied materials, enabling works construction, utility relocations, plus all escalation and contingency related to these costs.
Economic Case	-	Enables decision makers, project planners, and wider stakeholders to understand socio-economic performance of the Green Line LRT. Socio-economic performance assesses the value of resources required to deliver the Program (costs) and the monetized value of the benefits the Program can realize.
Expandability	-	The ability to implement the long-term vision in stages when further investments are made. This positions the City of Calgary to deliver future affordable and achievable expansions.
Financial Case	-	Provides an overview of the Green Line LRT program's finances and how it will be funded. This overview includes a breakdown of the Program's cost and funding alongside and a description of how potential program risks will be mitigated and managed.
Generalized Journey Time	GJT	Converts all elements of a passenger trip into units of minutes based on how travellers perceive each component of the trip.

Grant Agreement: Public Transit and Green Infrastructure Project/ Ultimate Recipient Agreement	URA	Agreement between the Government of Alberta and the City of Calgary. This agreement establishes governance structures and systems of oversight that will help to ensure that funding is allocated in alignment with the priorities identified by the Investing in Canada Infrastructure Program ("ICIP"). There are also strict audit requirements set out in this agreement to ensure that the funding has been administered appropriately.
Greenhouse Gases	GHG	Emissions that contribute to climate change.
Green Line	-	The LRT system planned to run in its entirety from Seton in the Southeast to 160 Avenue in the North. The system will provide seamless connectivity to the Red and Blue lines in the Centre City and further enhance the rapid transit network by providing integrated connections to the four MAX rapid transit routes recently implemented.
Indirect Capital Investment	-	Indirect capital costs such as staffing, owner engineering, permits, advisor fees, plus all escalation and contingency related to these costs.
Investing in Canada Infrastructure Program	ICIP	Through the federal government's Investing in Canada Infrastructure Program (ICIP) designed to create long-term economic growth, build inclusive, sustainable and resilient communities and support a low-carbon economy, Alberta is receiving \$3.65 billion over the next 10 years (2018-28). These projects will be cost-shared with the Alberta government, municipalities and other partners.

Light Rail Transit	LRT	Transit infrastructure and services consisting of light rail vehicles running in an exclusive right-of-way, fully separated from traffic, typically with transit signal priority measures in place and longer spacing between stops than conventional transit routes (typically 500 metres to 1 kilometre) to maintain higher average speeds and ensure reliability of the service.
Light Rail Vehicle	LRV	Part of an LRT network which can carry significantly more customers than BRT/bus alternatives. This means reduced cost per customer carried and a lower required headway. Typically operate in trains of one to five cars and use an overhead source for their electrical power.
Municipal Development Plan	MDP	City of Calgary's vision for how Calgary grows and develops over the next 30 to 60 years. Calgary is expected to grow by another 1.3 million people over that time, so it is important to plan for the city's future.
Mode share	-	The percentage of person-trips made by one mode of travel relative to the total number of trips made by all modes.
Net Present Value	NPV	The total economic value of a project. Determined by subtracting project costs from its total benefits. A positive Net Present Value indicates that the project's benefits exceed its costs.
Operations and maintenance	O&M	Administration and staff support for operation of the expanded infrastructure, as well as parts and materials, contract and services and other costs required to deliver routine operations and maintenance over time.
Operations and maintenance costs	-	Refers to all expenditures associated with the continued operations and maintenance of the Program.

Public Private Partnership	P3/PPP	Arrangement whereby design and delivery responsibility and risk will be shared with a private partner.
Quantitative Risk Assessment	QRA	Method where costs and durations are ranged and subjected to Monte Carlo analysis and escalation estimated using City of Calgary corporate standard rates.
Rapid transit	-	Rapid transit / mass rapid transit, also known as heavy rail, metro, LRT, subway, tube, U-Bahn or underground, is a type of high-capacity public transport generally found in urban areas.
Regional Transportation Model	RTM	City of Calgary transportation forecasting model used in this business case to models a BAU scenario for 2028 and 2048 and the option scenarios that include the Calgary Green Line and bus integration changes.
Reference Concept Design	RCD	Illustrates how an investment be delivered. This reference concept design is used to estimate costs, ridership, and benefits resulting from the Green Line based on working assumptions and design work.
Strategic Case	-	Evaluation uses a defined framework to assess the extent to which each scheme option supports the City's broader policy goals and compares each option's relative performance to support investment decision making.
Transitway	-	Another term for a segregated Bus Rapid Transit (BRT) system.
Transit Oriented Development	TOD	Developments that are planned and designed to integrate with transit in order to encourage increased ridership and compact mixed-use developments.

Vehicle Kilometres Travelled	VKT	A measure of roadway use, commonly used in estimating congestion, that reflects the distance that an individual drives, or, more typically, the cumulative distance driven by all vehicles in an urban region during a specified period of time. Vehicle kilometres travelled can reflect the link between land use and transportation. Land uses that are further away from each other result in longer trip lengths, more traffic on roadways and more vehicle kilometres travelled, for example.
Wider Economic Benefits	WEBs	Benefits from investing in transportation that lead to a more productive region. Typically these benefits include agglomeration (enabling increased innovation, collaboration, and productivity) and labour supply benefits (increased job access for employee and a larger labour pool for employers).



Green Line LRT

Property Economic Impact Assessment

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The report's analysis was undertaken at a specific point in time Dec/Jan and does not take into account the current economic conditions or the impacts of COVID-19.

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Note to Readers

The analysis for this report was done through December-February of 2020 based on information collected that is recent to December 2019. Through February-March of 2020, while this report was being refined and presented, the COVID-19 pandemic affected business expectations and the economy, among other things.

This analysis should be considered in conjunction with the rapidly evolving body of information and analyses related to COVID-19. There is some reference to COVID-19 in this report and efforts have been made to ensure the text is relevant. The quantitative analysis was conducted before the effects of COVID-19 are known and has not been adjusted. Exclusive of this assignment is further reporting from Hatch on the impacts of global events and other effects to the City of Calgary due to the pandemic.

Also, this report was developed prior to the identification of the 9th Avenue Station and the 2nd Avenue Station being moved underground. Therefore, this report does not take into account the impacts of the 9th Avenue Station, nor the impacts of the 2nd Avenue Station being underground.

1.0 Executive Summary

What are the potential impacts to Calgary City Centre¹ property values (and tax revenues) after construction of the Green Line Light Rail Transit (LRT)? What are the impacts during construction?

Overall impacts are positive. There are different impacts depending on the specific property.

This report is focused on impacts to City assessed property value, and the resultant property tax revenue base for the municipality and the province. In addition to the City and the Province, the report notes that impacts will likely be felt by property and business owners as well.

In the long run, the City, Province and property owners are expected to benefit from property value increases that would be more than what they otherwise would have been without the Green Line. Inherent with any transit infrastructure project, there may be “winners and losers”. Within this reality, the report considers a range of scenarios to understand the balance of potential negative and positive impacts.

Estimated Ranges of Potential Impacts

Two methods were used to determine impacts. One method (‘Scenario 1’) looked at historical Calgary property values related to Calgary Red Line corridor impacts and generated a low, or conservative outcome for the Green Line: 0.7% property value increase year over year. A second method (‘Scenario 2’) looked at relevant non-Calgary case studies and resulted in a higher, more optimistic outcome: 2.4% year over year. Both the low and high potential outcomes are relative to what property values would have otherwise been without the Green Line LRT. See Table 1 for an overview of the selected case studies for comparison.

To augment these estimates, the team also conducted interviews with Calgary-local real estate investors, brokers and valuation appraisers to provide a qualitative ‘real-world’ lens to the set challenges already existing and anticipated for the Green Line LRT project. See *Appendix C – Interview with the Calgary Property Industry*.

¹ The area of study is focused on the central segment of the future Green Line alignment in and around the City Centre. Starting from Crescent Heights at 16 Avenue N and the Centre Street North corridor, down south towards the Downtown, over the Bow River and past the area around Eau Claire and Chinatown, to finally the Beltline area along 11 Avenue SE just before the Stampede Grounds.

Table 1 – Comparison of other light rail case studies, their reported property value impacts, the timeframe of which those impacts are reported, and the spatial extent of the impacts

<i>Case Study</i>	<i>Comparability & Relevance to Green Line</i>	<i>Timeframe of Reported Property Value Uplifts</i>	<i>Impact Area (Distance to Station)</i>	<i>Avg. Annualized Rate of Uplift</i>
Green Line LRT (Calgary, Canada)	Same urban market; serves suburbs to downtown Calgary like Green Line; some differences in urban form served.	1998-2016 (extrapolated for 2020-2038) Property value uplifts are anticipated to be realized in the long term and may be similarly captured over an 18-year period like the Red Line corridor impacts from 1998-2016.	800m	0.7% 'Scenario 1'
Average of Select Case Studies ² :	Case studies selected with relatively good relevance to Calgary	Varies All timeframes were more than 10 years	Varies	2.4% 'Scenario 2'
1) Red Line LRT (Calgary, Canada)	Similar economic environment, neighbourhoods and city-shaping forces	1998-2016 An 18-year period of improvements and extensions to a mature transit line that is already in service.	800m	1.0%
2) Confederation Line LRT (Ottawa, Canada)	Involves both surface and underground stations, requiring a portal tunnel in street right-of-way	2008-2021 An 11-year period since the project is announced, through construction and including projections for after construction.	800-m	2.0%
3) Canada Line SkyTrain (Vancouver, Canada)	Involves an elevated transit guideway over rivers and other public spaces	30 years projection Involving a mature transit line that is already in service and undergoing extensions.	300-m	3.3%
4) Downtown Streetcar (Portland, US)	Strong support from City Planning to enable transit oriented development policies and enable further growth	1997-2008 An 11-year period from since the project is approved, through construction and after construction of the transit system, and including subsequent improvements and extensions to its network. Takes into account any additional value created from induced development.	300-m	3.5%

Quick Findings at a Glance

At baseline, today, the total assessed property value of all residential and commercial properties located within an 800-metre radius (or about a 10-minutes walking distance) to a future Green Line station in the City Centre area is over \$16.9 billion.³ This \$16.9 billion property tax base, at 2020 values, yields approximately \$330 million in annual property tax revenue for the City and the Province (this is both municipal and provincial tax revenue). Commercial properties make up the lion share of the total value. The total assessed value of all commercial properties is \$12.3 billion, or more than 70% of the total \$16.9 billion.

The conservative potential uplift of 0.7%. would correspond to the property tax base growing as a result of the LRT being constructed; growing from \$16.9 billion to \$18.9 billion in 2038, and corresponding *additional* annual tax revenues of \$43 million in 2038.⁴ The high potential uplift of 2.4% would correspond to the property tax base

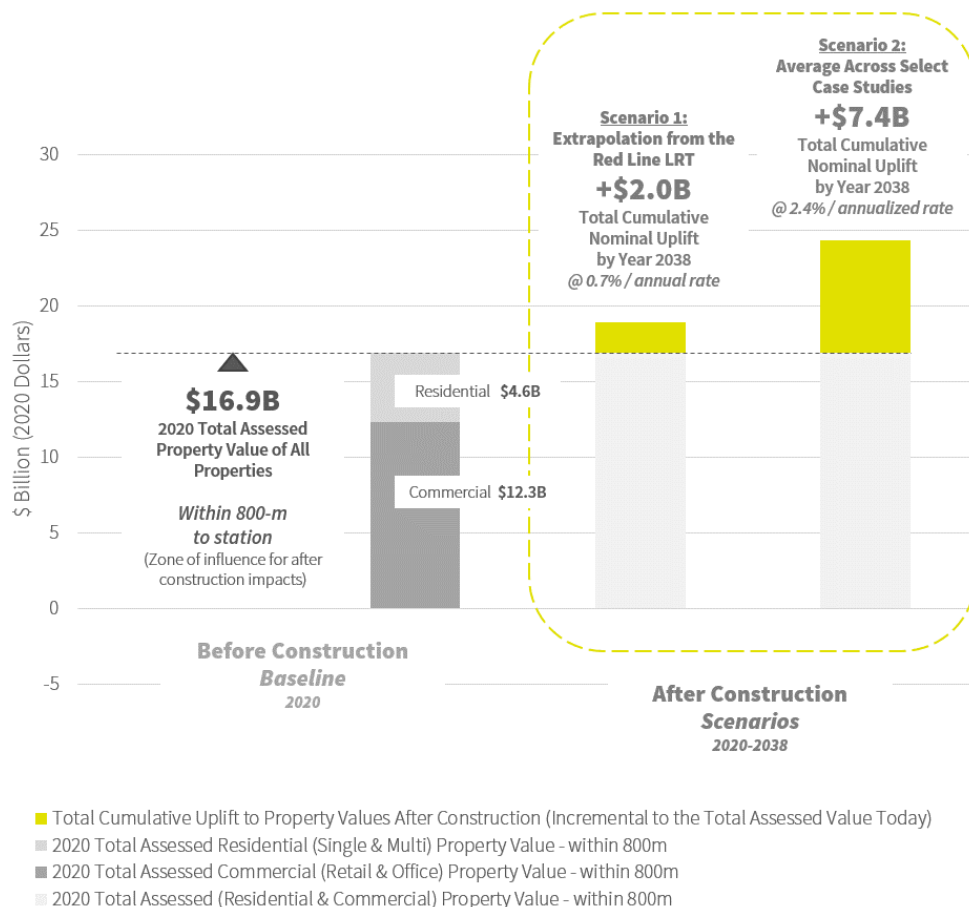
² Additional case studies are provided; however Calgary Red Line, Ottawa Confederation Line, Vancouver Canada Line, and Portland Streetcar were identified as relevant for the purposes of identifying uplift. Additional case studies are Buffalo NY, New Jersey and Toronto Streetcar.

³ Based on assessed property value provided by the City of Calgary in January 2020.

⁴ Per the current 2020 property tax rates for the City of Calgary and the Province of Alberta.

growing from \$16.9 billion to \$24.3 billion in 2038, and corresponding *additional* annual tax revenues of \$144 million. The low and the high uplift estimates set out a reasonable range of outcomes for property value impacts to be expected from implementation of the Green Line LRT.

Figure 1 – Summary of Potential Property Value Impacts, After Construction of the Green Line: Potential impact on property values within proximity to future Green Line LRT station in the City Centre area



To estimate potential impacts, this study assumes uplifts from Green Line would start occurring in 2020. In reality, the timing of uplifts is sensitive to wide market perception that the benefits of the Green Line project will in fact occur. Due to uncertainties related to funding and other government decisions associated with the project, it is possible that the uplift will not be realized until significant, visible progress (i.e. corridor construction) is present. The estimates made in this study would still be relevant with little deviation even if visible progress was not achieved until the years immediately after 2020.

Short term construction impacts could affect both property owners and businesses. Furthermore, commercial properties are likely to be impacted the most. Disruptions from construction could result in business loss to the area and increased commercial vacancies in already challenged real estate markets.⁵ Studies have shown that

⁵ Currently a 22% vacancy rate across all office markets in Calgary by Q4 2019 (Avison Young). Retail vacancy is about 6% as of 2019 (Colliers Calgary Retail Report Winter 2018/2019). According to CMHC in its 2020 Rental Market Report for Calgary CMA, demand in the residential rental market remains strong, due to improving labour market conditions, and would likely not be affected in the same way as the commercial market.

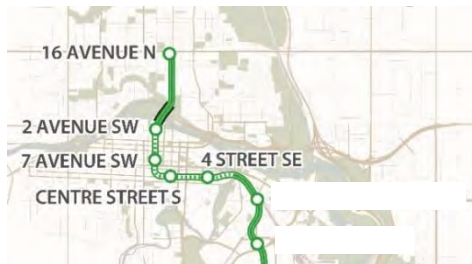
construction impacts are felt by properties and businesses within 400-metres to station construction areas.⁶ Practically, construction impacts will be experienced by properties and businesses on a case by case basis depending on the nature of the construction nearby, and the extent that the local transportation network is affected. In some cases where access is impacted, areas may be affected, but in other areas there may be very local impacts and businesses within the 400-metre radius will not actually be affected to any degree of significance.

There are stakeholder concerns around potential negative impacts due to station construction, and the strain this will have on already challenged leasing activity for commercial space—specifically in and around the Downtown area. Concerns voiced by stakeholders include increased traffic congestion and inconvenienced access to parkades; as well as unsafe and unattractive pedestrian environments due to components of transit infrastructure such as the portals and the station platforms and access areas. Significant mitigation can be achieved during construction with thoughtful phasing, construction, and other programming. Design and project planning would be expected to occur in subsequent phases of project advancement, where an implementation strategy will be developed including a stakeholder engagement and communication plan, and a procurement process.

A non-prescriptive, performance-based procurement process presents opportunities for innovation in design and efficiencies in delivery by the private sector. This recommendation was echoed by the interview group where references to the Westbrook transit oriented development project along the West LRT line were made. Though the project was recognized as possibly the “only true transit oriented development project” in Calgary to date, the project is an example of an unsuccessful approach of leveraging private sector innovation. When the City first went to market with the Westbrook proposal, there were many prescriptions placed on the development scheme (i.e. construction timing, use and siting clauses). This became a major deterrent to the market, and before the project could take-off, the Calgary market began to experience its downturn. In some circumstances, a higher degree of specification is warranted for specific solutions (i.e. an iconic bridge, or a specific neighbourhood intervention).

Summary of Findings by Station Location

Figure 2 –Map of the 5 Future Green Line Stations in the City Centre Area

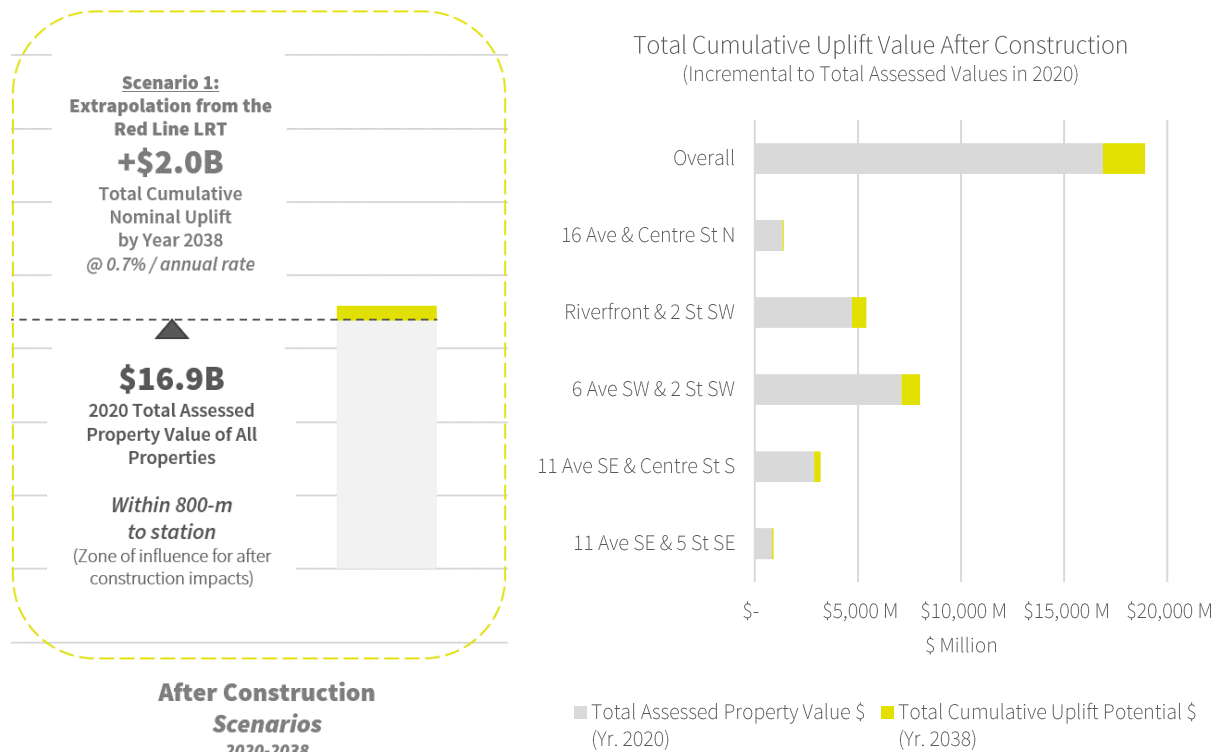


Anticipated in the near to medium term following the completion of the LRT, properties (in its current use) around the future stations at Riverfront & 2 Street SW and 6 Avenue SW & 2 Street SW are estimated to gain the greatest amount of uplift. This is because there is already a large base of high-value commercial properties in those areas today. (For reference, the combined assessed property value of these two station areas today is \$11.8 billion.) Worth noting, uplift potential for commercial properties may be dampened given the current oversupply of office space and whether there may be enough demand in the future to absorb current vacancies and attract new investments. See Figure 2.

Anecdotally, interviewees for this study noted that construction disruptions would decrease the desirability for prospective tenants to sign or renew a lease, and that the probability of a lease renewal would decrease from about 75% to 50%. See Appendix C, Section vi.

⁶ This 2017 Journal of Transport & Land Use Vol. 10 No. 1 “Open for business? Effects of LA Metro Rail construction on adjacent businesses”

Figure 3 – Property Value Impacts by Nearest Station for After Construction Scenario 1 (of 0.7% annualized rate of uplift)



In the longer term, properties that undergo intensification and/or change into higher-value uses will create the greatest amount of new value. This is in addition to the uplift in base value of the land lot at its current density and use today. The properties that are most likely to be redeveloped in this way will be properties that have little to no convenient rapid transit access prior to the Green Line; are of low built density and/or a lower value use than what the market would demand of it afterwards (e.g. parking properties). This redevelopment is likely if supported by municipal plans and policies. Properties around the future stations at 11 Avenue SE & 5 Street SE, Riverfront & 2 Street SW and 16 Avenue & Centre Street N fit this profile for additional development growth. These are the Beltline, Eau Claire/Chinatown, and Centre Street North corridor respectively.

Development viability for properties can be supported by concurrent land use and urban development planning initiatives, such as the anticipated new event centre and other development plans in the Beltline Area. Placemaking and urban design will help maximize future potential growth to property values by ensuring the new LRT is highly accessible to and from other amenities and last-mile destinations in the vicinity. Such efforts support the area's attractiveness and demand for space, helping to internalize the new transit benefits into premiums on price and rents. For more information, see *Appendix B – Economic Improvement Through Placemaking*.

Methodology Notes

It is difficult to isolate for property value changes due to the impacts of transit specifically, versus impacts due to an overall economic uplift in the same area. Often, transit investments happen in concert with other urban development effort, and the benefits are not realized many years later. The approach used in many of the case studies, including this report, examined changes in property value before and after major transit events. This was done to try to isolate for impacts due to transit versus other externalities, i.e. the opening of a station (to reflect the changes in transit access). Impacts to property values are also isolated by looking at areas that are within walking

distance to a station, versus areas that are not. If enough historical data is available, further empirical analysis can be used to validate whether transit access was the major driver behind property value changes, or whether it was due to other factors.

Further empirical analysis was possible for the Red Line case study and is what informs the extrapolated 0.7% in potential value uplifts year over year for the Green Line. It was confirmed that Calgary Red Line corridor impacts on property values were strongly influenced by how close the property was to a station compared to other characteristics including built density, building age and even neighbourhood. This is generally consistent with the findings in other literature and the case studies.

It was found that Calgary Red Line corridor impacts contributed to long-term, cumulative property value uplifts ranging up to 93% more than the median value, depending on the property's proximity to the station and its land use. At the same time, there were also negative impacts ranging down to -47%. See Table 2 below on how values have changed depending on the property's proximity to a Red Line LRT station and its land use.

Table 2 – Historical cumulative property value uplifts related to Calgary Red Line corridor impacts (1998-2016)

Proximity to Station (Travel Distance ¹ , metres)	< 50		100		400		500		600		700		> 800	
Land Use:	Property Value Uplift %													
Single-Residential	-6%	4%	4%	4%	4%	2%	2%	<1%	<1%	-2%	-2%	-3%	-3%	-5%
Multi-Residential	39%	20%	20%	16%	16%	8%	8%	6%	6%	5%	5%	4%	3%	2%
Office	69%	34%	34%	27%	27%	10%	10%	7%	7%	4%	4%	1%	1%	-2%
Retail	93%	11%	11%	-3%	-4%	-33%	-33%	-37%	-38%	-41%	-41%	-45%	-45%	-47%

Notes:

- Distances to a station were determined in terms of actual travel (driving) distance and its straight-line distance utilizing a custom computer script in conjunction with Google Maps API.

While the data set presents a range of potential impacts specific to Calgary, property value uplifts appear to peak within a 500-metre distance to an LRT station. Beyond that distance, some land uses (i.e. office and multi-residential) maintain value uplift potential better than others. Other land uses (i.e. retail) are more sensitive to station proximity than others and may see their values underperform relative to the median value for their market if not located within a certain distance (for the Calgary Red Line this appears to be within 100-metres) relative to transit access.

Figure 4 – The Calgary Red Line LRT seen along the middle of Crowchild Train (Source: Lorraine Hjalte / Calgary Herald)

It should be recognized that the Red Line is quite different from the Green Line in some respects, and those differences may influence property value impacts. The majority of the Red Line is in the middle of Crowchild Trail, a



very wide road, or along an existing rail corridor. In comparison, the Green Line will be the second rapid transit line in Calgary (after the West LRT/Blue Line Extension) to be located through and within urban communities—bringing transit closer and more accessible to people. Therefore, in comparison to the Red Line, there is likely to be greater property value uplift potential due to the Green Line's ability to better physically connect and integrate with its surroundings.

A final note on the potential 0.7% uplift is that it is an *upper bound estimate* of Scenario 1 (generated using historical Calgary property values related to

Calgary Red Line corridor impacts). There is also a *lower bound estimate* of a 0.2% uplift year over year under the same method, when the potential uplift percentages for retail and office properties are taken as a blended average as one broad commercial category. (This would align with how property tax base is assessed in Calgary as either residential or non-residential categories.) In doing so, the uplift potential for office properties is dampened by the uplift potential for retail properties, which was found to be much more negatively impacting due to retail's uplift potential being highly dependent on its proximity to a transit station.

For example, within 800-metres to a station, retail properties may experience uplifts ranging from -47% to 93%, with impacts becoming negative once the property is beyond 100-metres to a station. On the other hand, office properties were found to experience positive uplifts generally throughout the 800-metres distance to a station, with less potential for negative impacts at an overall uplift range from -2% to 69%.

The 0.7% uplift estimate is likely a better reflection to how property values would be impacted as it would account for the nuanced variations to potential uplifts for office and retail properties respectively.

Given the above, a 0.7% uplift estimate should still be considered low and conservative. It can be reasonably assumed to be realized gradually in the long term over an 18-year period like the timeframe for the Red Line corridor impacts. Notably, the potential 0.7% uplift does not yet consider the anticipated role of city-shaping around the Green Line stations for the next generation of growth. When this happens, additional value will be created from new development on top of the base uplift in value of properties in its current condition. Additional value will be created from either the rezoning and/or intensification of the property into higher value and higher density development.

To better understand the range of potential impacts when other city-shaping factors and future development is considered, insights can be drawn from the case studies. The selected cases are relevant to the Green Line in terms of the technology of the transit system; design with nearby land uses and public spaces; the economic and market conditions prior to transit improvements; the timing of the improvements and reported impacts; and/or the spatial extent of the impacts (i.e. radius distance from a station). The potential 2.4% uplift generated from this approach is an average across the case studies and could be a better reflection of how property values may be uplifted in combination with other city-shaping forces including induced development growth seen in other cities.

Case Study Highlights

The case studies presented not only support expectations of property value impact, they also provide lessons learned in light rail implementation, including both of what has worked and what has not worked. The following highlighted case studies provide relevant lessons learned for the Green Line (and is an extension to the case study overview provided in Table 1):

- **Red Line LRT (Calgary, Canada):** As described above, this case is relevant and comparable to the Green Line because it is an example that is influenced by very similar economic, market and local conditions – the Red Line is in the City of Calgary. It is believed that the Green Line is likely to produce greater potential uplift because unlike the Red Line LRT, the Green Line is better positioned to physically connect and integrate with its surroundings. Lastly, the Red Line corridor impacts reflect changes to an already established transit corridor that underwent multiple extensions and thus construction periods. (The Red Line was first opened in 1981 and underwent multiple extensions from 2001- 2014. The analysis on Red Line corridor impacts examined data from 1998-2016.)
- **Confederation Line LRT (Ottawa, Canada):** The LRT design for this case involves both surface and undergrounds stations that require a portal tunnel within the street right-of-way. From 2008-2017, residential and commercial properties within an 800-metres radius distance to a station increased at 2.0% year over year. This occurred before the LRT project was announced, and through the design and construction stages. (The project was approved in 2012, construction began in 2013, and the system was first opened in 2019.) It is projected that values will increase further at a rate of 5 to 9% year over year from 2019-2021.
- **Canada Line Skytrain (Vancouver, Canada):** The design of this transit system involves an elevated guideway that crosses over rivers and other public areas as the line connects downtown Vancouver with the International Airport. Despite the elevated design in some locations, the study forecasted that residential and commercial land values within 300-metres to a station would increase at 3.0 to 3.5% year over year, excluding inflation, over a 30-year period. The line was first opened in 2009 and has experienced improvements to new stations as a result of integrated development.
- **Downtown Streetcar (Portland, US):** This is a case study where the municipality supported transit-oriented development through planning and policies, including financial incentives. From 1997-2008, residential and commercial properties within 300-metres to a station increased in value at 3.3% and 3.6% year over year, respectively. the streetcar system first opened in 2001 and underwent improvements through 2005-2007.

Below are other notable case studies that offer qualitative insights and other useful lessons related to how the Green Line may impact property values:

- **Metrorail (Buffalo, US):** The often-cited Buffalo Metro Rail LRT is an example of an underperforming LRT line that did not create the anticipated development needed to revitalize Buffalo's city centre and reverse the shrinking population. While light rail transit in Buffalo was perceived as a necessity for urban revitalisation and had sufficient political backing, the lack of a strong regional economy limited the potential of Metro Rail as a catalyst to revitalize downtown and neighbourhoods. When the economy recovered decades later, ridership has finally picked up.
- **Hudson-Bergen LRT (New Jersey, US):** The Hudson-Bergen LRT (HBLR) is an example where economic development has been spurred along the system's route, and new real estate markets can be established. The HBLR stations may have helped bring development into areas where office space developers otherwise would not have been attracted. Developers have also shifted away from stations from another transit line (the Port Authority Trans-Hudson, or PATH, train system) and are investing in properties along the light rail alignment.

For more information on the above and other case studies that have been reviewed for this report, see *Appendix D – Case Studies*.

Context Discussion: Early 2020 Global Events

Impacts from LRT construction are temporary, while property values due to transit proximity are long term. The benefits from transit will depend to some degree on the economic outlook for Calgary. In the frequently cited case of Buffalo, New York, its Metro Rail LRT project was not able to help reverse its region's economic conditions and so the potential upside from increased transit access was not able to be realized until over a decade later.

Calgary has not yet recovered from the downturn in the oil sector that began in 2014. The Conference Board of Canada's recent outlook for Calgary was positive, albeit moderate. For 2020 and beyond, the Board had predicted 2% annual GDP growth per year going forward.⁷ CMHC's 2020 Rental Market Report for Calgary CMA expected labour market conditions in Calgary to continue to improve, which would help sustain rental demand in the residential markets. Rebound in the Calgary economy was visible in 2019: over 34,000 jobs were added within the first ten months of 2019, a 4.1% increase to the same period last year. Over 80% of those jobs were full-time positions, and employment levels among the age cohort of 15 to 24 increased 8.2%. Apartment vacancy rates remain at 4% at the end of 2019, with rents growing steadily in addition to new supply.⁸

Globally, more recent events of COVID-19 combined with oil production decisions in Saudi Arabia and Russia have combined to drive oil prices to historic lows, creating significant headwinds for the Calgary economy. Analysts around the world have adjusted economic outlooks globally to be very gloomy in the immediate term, with a high degree of uncertainty about when a "new normal" will return. It is too early and inappropriate to assess the immediate economic challenges and how they apply to the Green Line LRT corridor. It is also worth noting that city-shaping infrastructure projects like the Green Line LRT should not be planned in response to events that unfold in weeks and months. They are projects with impacts that span decades.

Therefore, despite significant immediate challenges, it is important to consider the longer-term trends globally that work in Calgary's favour: Canada has an enviable standard of living and is one of the more tolerant and pro-immigration societies in the world. Calgary is recognized for its high standard of living including proximity to the Rocky Mountains, and a highly educated workforce. Canada is perceived as a safe place for investment.

Given Canada's small population relative to much larger countries globally that will continue to export immigrants seeking the safety, security, and attractiveness of Canada, Calgary might be expected to be well-positioned to realize population growth aspirations despite immediate economic challenges.⁹

Given the foregoing, population and economic growth might be expected over the long term. Potential uplifts to property value due to improved transit accessibility, the benefits of urban agglomeration and subsequent future development growth around the LRT stations can be expected. Like any significant transit project, specific and targeted economic and planning strategies combined with improving economic conditions, should ideally be combined with transit planning and delivery to realize the full potential upside of the Green Line LRT.



Key Takeaways Going Forward:



⁷ The Conference Board of Canada later revised its GDP growth figure for Calgary to negative 0.4% for 2019.

⁸ Canada Mortgage and Housing Corporation (CMHC) 2020 Rental Market Report for Calgary CMA.

⁹ For better access to jobs and overall mobility, many low wage workers and/or new immigrants tend to live near city centres. (Blumenberg and Hess, 2003; Hess, 2005) Although once the density of jobs decentralize (away from city centres), then the same group people were found to relocate to the suburbs.

1. **The Green Line LRT will provide improved rapid transit access and travel capacity into downtown Calgary where high-value employment is located¹⁰.** The downtown area, and the City of Calgary will benefit from the enhanced access and capacity of the new Green Line LRT. Light Rail given its permanence, can be expected to confidently signal to companies and investors that supporting the recovery and growth of Calgary's economy means increasing regional accessibility to, from and within the downtown commercial district.
- 
 2. **LRT can if planned, designed, and implemented well, contribute to inducing development and desirable community amenities. Development can be expected to occur in areas where the new LRT provides a sufficiently attractive change in access to people, property and businesses.** The Beltline and Centre Street North areas are considered noteworthy candidates for future growth. These areas represent an offering of urban neighbourhoods with good transit and walking, and fast transit access to Centre City amenities, leisure and work opportunities with the Green Line LRT. Benefits from induced growth will be additional to the growth in value of existing properties nearby to the future Green Line stations, making the case studies-generated, high property value increases more relevant and more comparable than the lower, Red Line analysis-generated property value increases.
- 
 3. **Achieving quality of design and integration of transit infrastructure with the public realm and adjacent development is necessary to maximize gains in property values.** The most effective way to design and integrate transit with its built environment is addressed at the neighbourhood level. Such as, how the LRT stations are designed and accessed; how the area around the station is well connected to other paths and amenities; and how the station and its area can become a hub for adjacent and nearby buildings that helps generate and guide foot traffic. To date the planning and design of the Green Line has been directed to, and set the stage for, success in integrated urban design. At this time, the specifics of these 'placemaking' impacts can only be reported on at a high-level while detailed design and implementation planning has not yet commenced.

¹⁰ Urban growth and employment in Calgary are disproportionately downtown-focused compared to other major Canadian cities. Statistics Canada data shows that downtown Calgary used to be comparable with Ottawa and Winnipeg with approximately half of the employment is in the downtown area. From 1996 to 2016, Calgary experienced the largest suburbanization effect of any large Canadian city. An additional higher-order transit line could help refocus access (transit commuting rather than car commuting) and growth back to the downtown area and help maintain the core as a vibrant hub to access workers and ultimately achieve agglomeration and productivity benefits. Canadian city comparison from Statistics Canada. Source: Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00008-eng.htm>

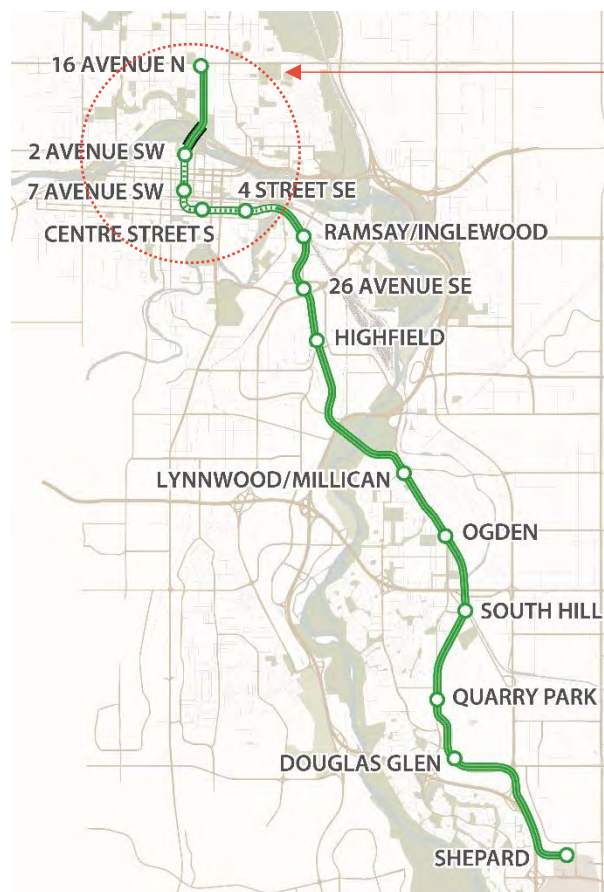
2.0 Introduction

The primary goal of public transportation investments is to improve urban mobility. It is well understood that transit projects can yield important economic benefits. Thus, along with mobility goals, economic development objectives frequently have influenced transit investment decisions, particularly new fixed-guideway systems.¹¹

Geography

The City of Calgary is undertaking a major investment in its transit infrastructure: The Green Line LRT. This report considers the alignment between 16 Avenue N and the Elbow River at 11 Avenue SE. It includes a surface portion along Centre Street N, a bridge over the Bow River and a tunnel through the downtown. See Figure 5.

Figure 5 – Proposed Alignment for the Green Line LRT



Study Area, includes 5 new stations

Long-Term, Sustainable Impacts of Transit

Calgary's Market and Economy Today

Property values are influenced by several factors, including population growth, economic conditions, quality of life and nearby amenities.¹² In Calgary, property values are strongly related to an economy driven by its oil industry. Today, Calgary is experiencing a slow down in its economy, and is still recovering from the downturn in the oil sector that began in 2014.

According to the conference Board of Canada, the outlook for Calgary remains positive, albeit moderate. For 2020 and beyond, the Board predicts an upward of 2% annual GDP growth per year going forward.¹³ Calgary's population is growing slower than the national average at an annual rate of 1.7% versus the 2.4% average. Recent City of Calgary economic forecasts

¹¹ Cervero, R., Aschauer, D., and the Transit Cooperative Research Program. Economic Impact Analysis of Transit Investment: A Guide for Practitioners. 1998. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_35.pdf

¹² Cervero, R and Duncan, M. Transit's Value-Added: Effects of Light and Commuter Rail Services on Commercial Land Values. Berkeley, CA. 2001.

¹³ The Conference Board of Canada later revised its GDP growth figure for Calgary to negative 0.4% for 2019.

predict that this rate will remain over the next 5 years, stabilizing at around 1.4%.¹⁴

Figure 6 – Map of Calgary’s Red, Blue and Green Line LRT



Labour market conditions in Calgary continue to improve, helping to sustain rental demand in the residential markets, according to CMHC’s 2020 Rental Market Report for Calgary CMA. Over 34,000 jobs were added within the first ten months of 2019, a 4.1% increase to the same period last year. Over 80% of those jobs were full-time positions, and employment levels among the age cohort of 15 to 24 increased 8.2%. Apartment vacancy rates remain at 4% at the end of 2019, while rents grew steadily in addition to new supply.¹⁵

The slowdown of the oil economy through early 2020 is compounded by the COVID-19 pandemic and will likely lead to greater slowdown than previously predicted. The analysis for this report was done through December-February of 2020 based on information collected that is recent to December 2019. It does not take into account the immediate economic conditions or the impacts of the pandemic. The Canadian economy, including Alberta, the oil and gas sector, and Calgary will evolve into a new normal as more information becomes available to the public

over the next weeks and months on the economic impact of COVID-19.

Generating New Markets

Calgary’s concentration of historically high income jobs performed by relatively highly educated workers within its downtown core may be one of its greatest advantages. Its established LRT system attract relatively high ridership levels for a city of its size. The Green Line LRT will connect Calgary’s north and south neighbourhoods to its downtown core. These are neighbourhoods that have yet to be connected to rapid transit, serving areas of the city that are not yet well served by rapid transit.

Connecting Talent, Homes and Jobs

Through this new north-south connection, talent and jobs will be better connected and additional economic activity will be stimulated in the central business district. In the process of doing this, The City will be able to promote more TOD investment along rapid transit lines and help its city region grow in a sustainable way for future generations.

The demand for proximity to stations starts with workers, specifically younger generations (i.e. millennials) who want to be near transit because they often do not have (access to) a car. Research shows that millennials prefer to hold off or avoid buying cars and therefore prefer access to city centres and jobs via good transit.¹⁶ Property owners

¹⁴ City of Calgary. *Calgary and Region Economic Outlook (2019-2024)*. Accessed January 15, 2020.

¹⁵ Canada Mortgage and Housing Corporation (CMHC) *2020 Rental Market Report for Calgary CMA*.

¹⁶ In addition to this, Calgary no longer has access to Car Share memberships (i.e. Car2Go) and this is creating more demand for public transportation options, according to City staff.

want their properties to be occupied and in demand, and so position their real estate to meet the needs of these companies and millennials, driving up property value.¹⁷

Other types of rider profiles, such as retirees, may benefit from and choose the access and reduced dependence on car use that transit can afford. There are a variety of different customers across age, sex, and lifestyle demographics that benefit from transit.

Return on Transit Investment

To maximize return on transit investment, the different layers of a city need to be integrated. It is both a common principle and reflected in the selected case studies that new rail investment, by themselves, do not automatically translate into significant land-use changes.¹⁸ Transit is a long-term investment that ideally has high levels of integration with its immediate environment of buildings, parks, and other connections and destinations.

As Calgary adapts to a rapidly changing local and global economy, a long-term investment in its transit infrastructure will shape future development and provide residents and workers more options on where they can live and work. It will also confidently signal to companies and investors that supporting the recovery and growth of Calgary's economy means increasing regional accessibility to, from and within the downtown commercial district.

Context Discussion: Early 2020 Global Events

Impacts from LRT construction are temporary, while property values due to transit proximity are long term. The benefits from transit will depend to some degree on the economic outlook for Calgary. In the frequently cited case of Buffalo, New York, its Metro Rail LRT project was not able to help reverse its region's economic conditions and so the potential upside from increased transit access was not able to be realized until over a decade later.

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¹⁷ Marr, G. (2015). Financial Post. [Toronto property near public transit worth 30% more than other buildings, study finds](#). Accessed February 2020.

¹⁸ Bernick, Michael and Cervero, Robert. [Transit Villages in the 21st Century](#). Reviewed by Bianco, Martha J. April 1998.

¹⁹ The Conference Board of Canada later revised its GDP growth figure for Calgary to negative 0.4% for 2019.

²⁰ Canada Mortgage and Housing Corporation (CMHC) [2020 Rental Market Report for Calgary CMA](#).

immigration societies in the world. Calgary is recognized for its high standard of living including proximity to the Rocky Mountains, and a highly educated workforce. Canada is perceived as a safe place for investment.

Given Canada's small population relative to much larger countries globally that will continue to export immigrants seeking the safety, security, and attractiveness of Canada, Calgary can be expected to be well-positioned to realize population growth aspirations despite immediate economic challenges.

Given the foregoing, population and economic growth might be expected over the long term. Potential uplifts to property value due to improved transit accessibility, the benefits of urban agglomeration and subsequent future development growth around the LRT stations can be expected. Like any significant transit project, specific and targeted economic and planning strategies combined with improving economic conditions, should ideally help realize the full potential upside of the Green Line LRT.

3.0 Purpose of Study

The City of Calgary retained Hatch to study the impact on properties from the proposed Green Line LRT, during and after construction. Based on a literature review, local expert interviews, case studies and historical data; the team has projected potential property value impacts over the long-term following the anticipated completion of the project. The City wants to understand this impact primarily in terms of a net gain or loss to its property tax revenue base.

The following questions were additionally considered to better inform the proforma estimation on property value impacts:

- What is the differentiated impact between a surface versus an underground transit system, if any?
- What is the extent of the impact, and are specific areas impacted disproportionately?
- What is the effect on future development activity (i.e. will there be further induced development, or will plans be deferred to later stages)?

To begin the study, the team identified and later consulted with local Calgary real estate professionals on the types of impacts to properties (and their value). It was agreed these were the following impacts to properties and their valuation in Calgary: accessibility, transit design, visibility and station proximity.

Of highest concern to the industry is accessibility for building users, from the perspective of the property owner; and how the transit system is designed in relation to adjacent buildings and streetscapes.

4.0 Methodology and Assumptions

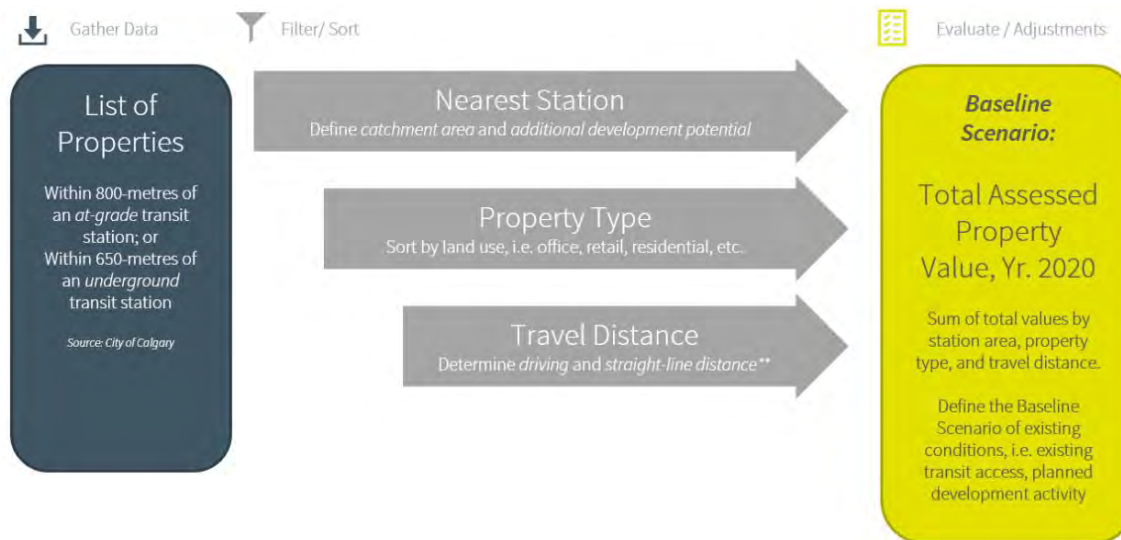
Two methods were used to determine impacts. One method ('Scenario 1') looked at historical Calgary property values related to Calgary Red Line corridor impacts and generated a low, or conservative outcome for the Green Line: 0.7% property value increase year over year. A second method ('Scenario 2') looked at relevant non-Calgary case studies and generated a higher, more optimistic outcome: 2.4% year over year. Both the low and high potential outcomes are relative to what property values would have otherwise been without the Green Line LRT.

It is difficult to isolate for property value changes due to the impacts of transit specifically, versus impacts due to an overall economic uplift in the same area. Often, transit investments happen in concert with urban development efforts, and the benefits are realized until many years later. The approach used in many of the case studies, including this report, examined changes in property value before and after major transit events. This was done to try to isolate for impacts due to transit versus other externalities, i.e. the opening of a station (to reflect the changes in transit access). Impacts to property values are also isolated by looking at areas that are within walking distance to a

station, versus areas that are not. If enough historical data is available, further empirical analysis can be used to validate whether transit access was the major driver behind property value changes, or whether it was due to other factors.

Further empirical analysis was possible for the Red Line case study and is what informs the extrapolated 0.7% in potential value uplifts year over year for the Green Line. It confirmed that Calgary Red Line corridor impacts on property values were strongly influenced by how close the property was to a station compared to other characteristics including built density, building age and even neighbourhood. This is generally consistent with the findings in other literature and the case studies. See *Appendix A – Detailed Methodology and Assumptions for ‘Scenario 1’ – Calgary Red Line Corridor Impacts*.

Figure 7 – Flowchart diagram of how the baseline is established



The followings steps were taken to estimate for impacts:

1. Establish a baseline for today, 2020, by gathering data on the history of taxation revenue in terms of assessed property value (an amount used to determine the tax revenue base) for properties that will be nearby the five future Green Line stations within a defined area. Property data was provided by the City of Calgary including information on total assessed property values for year 2020 and land use. The data was then sorted and culled by characteristics that are indicative of potential impacts to property values due to transit-related characteristics (i.e. catchment areas, nearest station, travel distance to station, and property type). The *sum of the total assessed property value* of all the properties becomes the *baseline* for this study.

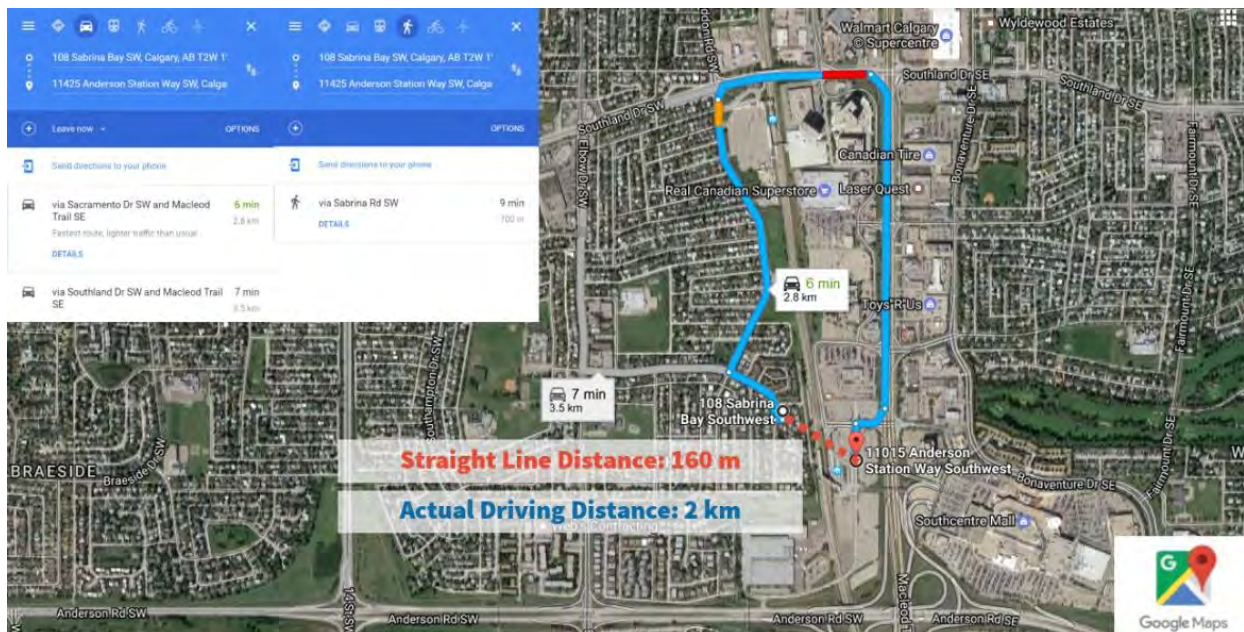
Figure 8 – Diagram of catchment area



The catchment area for surface stations and underground is defined differently. Surface stations are defined by an 800-metres travel distance; while underground stations are defined by a 650-metres distance. Underground stations have less catchment area than surface stations because of the additional travel distance required by underground stations (i.e. vertical circulation up and down). Although this also assumes that vehicle speeds and travel times are equal. This is because underground stations usually result in faster trip times, which means that the relative attractiveness of the service is greater and so there is a counterbalance to the reduced catchment because of increased access time and distance.

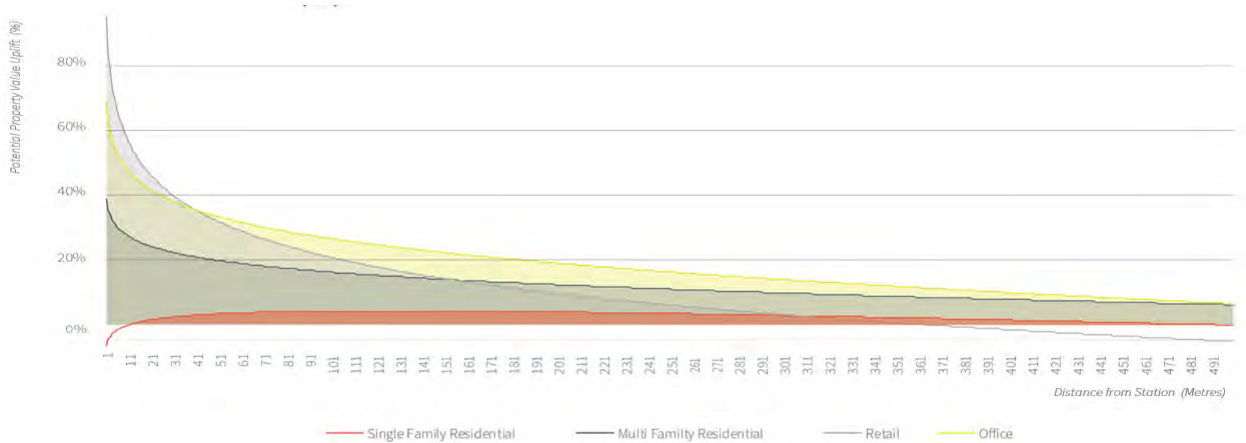
Since property values are driven by how accessible it is to transit, distances to a station were determined in terms of *actual travel distance* and its *straight-line distance* utilizing a custom computer script in conjunction with Google Maps API. To understand the difference between actual travel distance (i.e. driving and walking distance) and straight-line distance (i.e. the typical radius distance from a station that defines a station catchment area in plans and policies), see Figure 9 for an example.

Figure 9 – Determining a Property's Proximity and Access to its Nearest Station



- Generated a 0.7%, year over year, estimate in potential uplifts by looking at historical Calgary property values related to Calgary Red Line corridor impacts. 'Scenario 1'. The selected properties from step 1 are assigned a potential percentage change to its value according to the historical trends from the Red Line LRT. See Figure 10 for the range of potential percentage changes to property value depending on the property's land use and proximity to an LRT station. See Figure 11 for an example to how the trends for multifamily properties would be applied to the properties nearby the Green Line.

Figure 10 – Calgary Red Line corridor impacts on property value by land use and station proximity (cumulative percentage change from 1998-2006)



Proximity to Station (Travel Distance, metres)	< 50		100		400		500		600		700		> 800	
Land Use:	Property Value Uplift %													
Single-Residential	-6%	4%	4%	4%	4%	2%	2%	<1%	<1%	-2%	-2%	-3%	-3%	-5%
Multi-Residential	39%	20%	20%	16%	16%	8%	8%	6%	6%	5%	5%	4%	3%	2%
Office	69%	34%	34%	27%	27%	10%	10%	7%	7%	4%	4%	1%	1%	-2%
Retail	93%	11%	11%	-3%	-4%	-33%	-33%	-37%	-38%	-41%	-41%	-45%	-45%	-47%

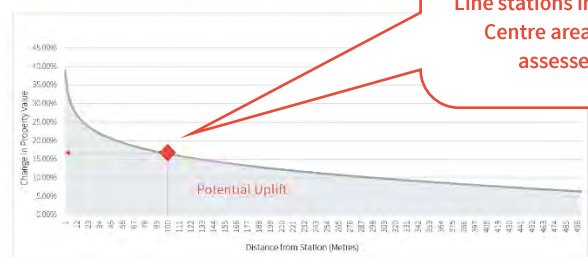
Figure 21 – Applying the Effects of the Calgary Red Line LRT to Estimate Impacts due to the Green Line

Example Subject Property

(Being assessed for potential impacts due to the Green Line LRT)

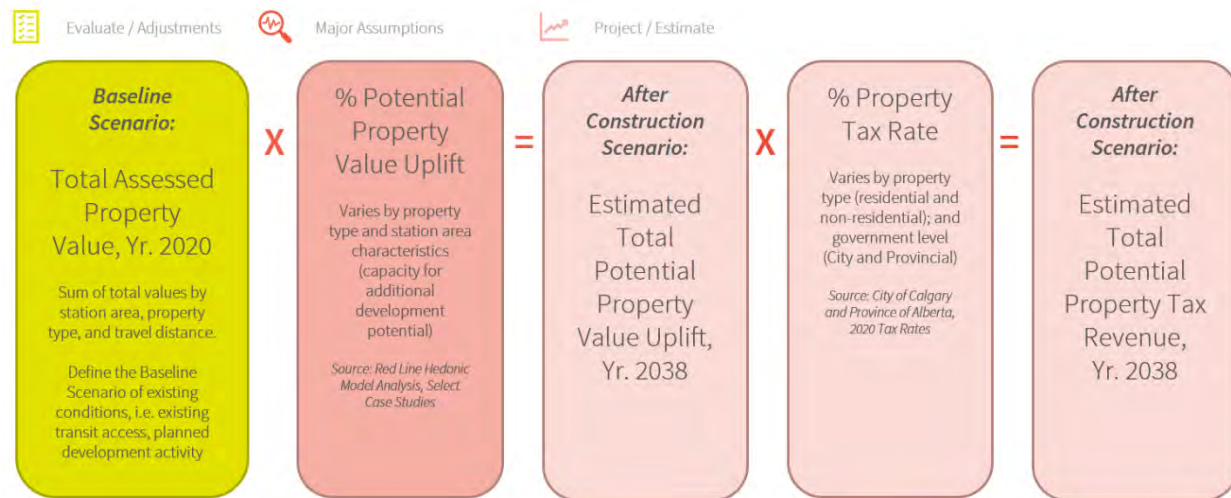
- Inputs:
 - Property Use = Multi-Residential
 - Actual Travel Distance = 100-metres
 - 2020 Assessed Property Value = \$1 million
- Outputs:
 - Potential Property Value Uplift % = 17%
 - Potential Property Value Uplift \$ = \$1 million x 17% = \$170,000
 - Potential Total Property Tax Rate for Residential Class Properties = 0.67%
 - Potential Property Tax Revenue Surplus = \$1,131

Multifamily Property Value Uplift



Each of the 15,000+ properties located nearby future Green Line stations in the City Centre area were assessed.

Figure 12 – Flowchart diagram of how impacts to property value and tax revenue estimated for Scenario 1



- Generated a 2.4%, year over year, estimate in potential uplifts as an average across select, comparable case studies. 'Scenario 2'. Case study findings are adjusted into annualized rates of uplift, and only if applicable to residential and commercial properties. The estimates from Scenario 2, alongside the estimates from Scenario 1 are used as the overall range to potential impacts for the Green Line study.

Figure 33 – How the estimates from Scenario 1 and 2 will be compared

Approach	Project	Key Indicators			
Projection Extrapolation of historical trends observed from the Red Line, also for an 18-year period following completion of Green Line	Green Line LRT Calgary, Canada	Total Cumulative Uplift %	Time Period Years	Impact Area Metres to a station	Annual Rate %
Historical Historical trends observed from the Red Line between 1998-2016 (an 18-year period)	Red Line LRT Calgary, Canada				
Historical Historical real estate price changes reported across case study literature	Canada Line SkyTrain Vancouver, Canada				
	Confederation Line LRT Ottawa Canada				
	Portland Streetcar Portland, US				

Estimated Ranges of Potential Impacts

To note, the potential 0.7% uplift is an *upper bound estimate* of Scenario 1 (generated using historical Calgary property values related to Calgary Red Line corridor impacts). There is also a *lower bound estimate* of a 0.2% uplift year over year under the same method, when the potential uplift percentages for retail and office properties are taken as a blended average as one broad commercial category. (This would align with how property tax base is assessed in Calgary as either residential or non-residential categories.) In doing so, the uplift potential for office

properties is dampened by the uplift potential for retail properties, which was found to be much more negatively impacting due to retail's uplift potential being highly dependent on its proximity to a transit station.

For example, within 800-metres to a station, retail properties may experience uplifts ranging from -47% to 93%, with impacts becoming negative once the property is beyond 100-metres to a station. On the other hand, office properties were found to experience positive uplifts generally throughout the 800-metres distance to a station, with less potential for negative impacts at an overall uplift range from -2% to 69%. For a more detailed explanation, see *Appendix A – Detailed Methodology and Assumptions for 'Scenario 1' – Calgary Red Line Corridor Impacts*.

The 0.7% uplift estimate is likely a better reflection to how property values would be impacted as it would account for the nuanced variations to potential uplifts for office and retail properties respectively. Finally, it can be reasonably assumed that the uplifts could be realized gradually in the long term over an 18-year period like the timeframe for the Red Line corridor impacts.

Green Line's Comparability with the Red Line – 'Scenario 1'

With this approach, estimates reflect potential outcomes within the context of Calgary's market and economic conditions. It is assumed that similar market drivers will be in effect when projecting forward for the Green Line.

It should be recognized that the Red Line is also quite different from the Green Line, and those differences do influence property values. The majority of the Red Line is located down the middle of Crowchild Trail, a very wide road, or along an existing rail track further down south. In comparison, the Green Line will be the second rapid transit line in Calgary, after the West LRT, to be located through and within urban communities—bringing transit closer and more accessible to people. Therefore, in comparison to the Red Line, there is likely to be greater property value uplift potential due to the Green Line's ability to physically connect and integrate better with its immediate physical surroundings.

Estimates generated from Calgary Red Line corridor impacts from 1998-2016 reflect *an established and expanding (Red Line) LRT system*. During this 18-year period, the Red Line system underwent multiple service enhancements and network extensions with additional new stations (and as such, multiple construction periods). The Red Line was initially approved in 1976 and opened in 1981.

Scenario 1's 0.7% uplift estimate should still be considered low and conservative, because it is based on how properties are currently built and used today. The potential 0.7% uplift does not yet consider the anticipated role of city-shaping around the Green Line stations for the next generation of growth. When this happens, additional value will be created from new development on top of the base uplift in value of properties in its current condition. Additional value will be created from either the rezoning and/or intensification of the property into higher value and higher density development.

Green Line's Comparability with the Case Studies – 'Scenario 2'

To better understand the range of potential impacts when other city-shaping factors and future development is considered, insight can be drawn from the case studies. The cases here were selected because they were seen as comparable and relevant to the Green Line. Specific ways in which they are similar is: technology of the transit system; general urban design of nearby land uses and public spaces; similar markets and economic conditions prior to transit improvements; the timing of the improvements and reported impacts; and/or the spatial extent of the impacts (i.e. radius distance from a station). They are all North American, and reasonably recent and have citeable research. They are all also in relatively mature urban markets. The potential average 2.4% uplift seen is an average across the relevant case studies and could be a better reflection of how property values may be uplifted in combination with other city-shaping forces.

When properties undergo zoning changes to allow higher value and higher density development *additional* value will be created from the step-change in permitted use (if there is a market to take advantage of the change in permitted uses). For example, in several Canadian urban property markets the highest and best use is high-density residential. Where sites are zoned employment, there can be a step-change increase in property value upon re-zoning to high density residential.

‘Scenario 1’ and ‘Scenario 2’ set good and fair low and high bounds to what property impacts could be reasonably seen in Calgary.

Interviews with Local Calgary Real Estate Professionals

To augment the research, the team conducted interviews with local Calgary real estate investors, brokers and valuation appraisers to provide additional perspective on the current and potential impacts of the planned Green Line LRT. Each interviewee was asked the following questions:

- What are the types of transit-related impacts to properties?
- Have property values been impacted since the Green Line’s announcement and funding commitments?
- Is there a price premium for properties that exist along an LRT corridor today?
- Is there more market demand for development along an LRT corridor versus a corridor without?
- Has development activity slowed down because of the Green Line LRT project?
- Can property values be negatively impacted by the design of the LRT system?
- Are businesses and tenants able to ‘weather the storm’ during station construction?

See *Appendix C – Interview with the Calgary Property Industry*.

5.0 Understanding the Impacts of LRT on Property Value

It is worth noting that transit's effects on land values and rent premiums can be difficult to isolate from other market forces. In North America alone, over 100 studies have sought to capture the relationship between rapid transit and land values, with mixed results.²¹ Hess and Almeida (2013) argue that the varying magnitude of previous mass transit research is “sometimes contradictory and unique to a given locale and does not provide a firm basis to judge future impacts.” Existing policy and decision-making as well as economic conditions often contribute to and impact the outcome of alignment options for urban mass transit, as well.²²

5.1 Types of Impacts

Transit Characteristics that affect Property Value

One common outcome remains true: proximity to mass transit service generally leads to an increase in property values in the long-term. Travel time and reliability benefits from transit are effectively internalized into property values. There is value from faster and more reliable access to key destinations. Other factors that also influence how transit will impact property value are the locational characteristics of the station area, the socio-economic characteristics of transit users, and how the transit system is designed to be integrated together with its

²¹ Higgins, C., & Kanaroglou, P. (2018). Rapid transit, transit-oriented development, and the contextual sensitivity of land value uplift in Toronto. *Urban Studies*, 55(10), 2197–2225.

²² International Tunneling Agency. (2004). *Underground or aboveground? Making the choice for urban mass transit systems*. Tunneling and Underground Space Technology, 19, pg. 3-28

community.²³ It will be the combined layering of all these factors to enable properties to capture its full uplift potential. This speaks to the importance and opportunity of good planning, urban design, market awareness and in some cases partnership, and overall execution of transit and city-building.

Variations in Impacts are Hyper-Local, and Design-Specific

It has been demonstrated in different ways across the various case studies that proximity to an LRT station increases property values. Tables 3 and 4 provide a high-level summary of the range in potential long-term impacts of mass transit systems on property values, which varies by the property's land use, proximity to a station or the right-of-way, and the type of transit.²⁴ There is a fundamental difference between a property being within walking proximity to a transit station, versus simply being close to the transit line (and actually have no easy-walking access to a station.)

Table 3: Different Types of Mass Transit's Impact onto Property Values by Proximity to Stations

Transit Type	Bus	BRT	LRT (surface)	LRT (grade separated)	Subway	Commuter Rail
Proximity to Station (Radius Distance, metres)	100	400	500	600	800	800
<i>Land Use:</i>	<i>Property Value Uplift %</i>					
Residential	1-2%	2-4%	10-25%	1-30%	20-50%	20-50%
Office	1-2%	2-4%	10-50%	15-50%	20-50%	20-50%
Retail	1-2%	1-2%	10-50%	10-50%	7-15%	7-15%
Industrial	0-1%	0-2%	1-2%	1-2%	5-5%	5-5%

Table 4: Different Types of Mass Transit's Impact onto Property Values by Proximity to Right-of-Way

Transit Type	Bus	BRT	LRT (surface)	LRT (grade separated)	Subway	Commuter Rail
Proximity to Right-of-Way (Radius Distance, metres)	100	400	500	600	800	800
<i>Land Use:</i>	<i>Property Value Uplift %</i>					
Residential	-	-	-10 to 0%	-15 to -5%	-	-15 to -5%
Office	-	-	-10 to 0%	-15 to 0%	-	0-10%
Retail	-	-	5-10%	5-10%	-	0-10%
Industrial	-	-	0-1%	0-1%	-	-

In a 2015 study by Avison Young, downtown Toronto commercial properties that were located within 500-metres to a subway station, sold for 30% more per square foot than comparable properties located further away.²⁵ In a 2009 study by The Brookings Institute, commercial property value assessments in Downtown Portland, US grew by 231%, from 1997 to 2008 (11 years)—outpacing the city average of 130%. This equals to about a 3.6% annual growth premium. Similarly, for multi-family homes, values increased by 205%, versus the city average of 118%, or an annual growth premium of 3.3%. The same study also looked at the Hudson-Bergen LRT (HBLRT) in New Jersey, US. Residential properties located within 400-metres of a station achieved an annual rate of price appreciation that was

²³ Dube, J. et al. Commuter rail accessibility and house values: The case of the Montreal South Shore, Canada, 1992–2009. *Journal of Transportation Research*. February 2013.

²⁴ Metrolinx. *Business Case: Sheppard-Finch LRT*. 2009.

²⁵ Avison Young. *Making the connection: Subway proximity offers multiple benefits for Downtown Toronto office buildings*. 2015.

17-20% higher than comparable, less transit-accessible residential properties. However, price appreciation was found to be negligible within the HBLRT station areas that were already well served by transit.²⁶

A multi-city and multi-study review conducted by PriceWaterhouse Coopers in 2001 found that residential properties near a station see a positive premium of 0-5% following the arrival of a transit system. The premium is highest for those properties located between ¼ to 1 mile (400 to 1,600-metres) from a station. For instance, it was found that residential properties located immediately along the rail corridor had a potential negative valuation of 5-10%—likely due to the externalities like increased noise and vibration when living next to the rail corridor and its infrastructure. Thus, some property owners benefit from a public transit project while others will not.²⁷

Transit accessibility plus good urban design is what creates value. This means accessibility that is gained by proximity to station entrances, stops, and transfer points; and not just simply along the transit route. For this reason, proximity to a rail line simultaneously generates negative and positive impacts.²⁸

Table 5 – Historical cumulative property value uplifts related to Calgary Red Line corridor impacts (1998-2016)

Transit Type	Red Line LRT (a combination of surface and underground stations)													
Proximity to Station (Travel Distance ¹ , metres)	< 50	100		400		500		600		700		> 800		
Land Use:	Property Value Uplift %													
Single-Residential	-6%	4%	4%	4%	4%	2%	2%	<1%	<1%	-2%	-2%	-3%	-3%	-5%
Multi-Residential	39%	20%	20%	16%	16%	8%	8%	6%	6%	5%	5%	4%	3%	2%
Office	69%	34%	34%	27%	27%	10%	10%	7%	7%	4%	4%	1%	1%	-2%
Retail	93%	11%	11%	-3%	-4%	-33%	-33%	-37%	-38%	-41%	-41%	-45%	-45%	-47%
Avg. of all Property Types	49%	17%	17%	11%	11%	-3%	-3%	-8%	-8%	-9%	-9%	-11%	-11%	-13%
Avg. of all Residential	17%	12%	12%	10%	10%	5%	5%	6%	6%	2%	2%	1%	0%	-2%
Avg. of all Commercial	81%	23%	23%	12%	12%	-12%	-12%	-15%	-16%	-19%	-19%	-22%	-22%	-25%

Notes:

- Distances to a station were determined in terms of actual travel (driving) distance and its straight-line distance utilizing a custom computer script in conjunction with Google Maps API.

Findings are generally consistent with what has been observed in the City of Calgary. Table 5 summarizes the long-term historical transit premiums that have occurred due to the Calgary Red Line. The premiums also varied by land use and proximity to stations. While the data set presents a range of potential impacts specific to Calgary, property value uplifts appear to peak within a 500-metre distance to an LRT station. Beyond that distance, some land uses (i.e. office and multi-residential) maintain value uplift potential better than others. Other land uses (i.e. retail) are more sensitive to station proximity than others and may see their values underperform relative to the median if not located within a certain distance (within 100-metres for Calgary) relative to transit access.

²⁶ Brookings Institution, HDR, Reconnecting America, RCLCO. Value Capture and Tax-Increment Financing Options for Streetcar Construction. 2009.

²⁷ Wayland, S. *The Impact of Light Rail Transit on Low-Income Households and Neighbourhoods*. 2011.

²⁸ Kilpatrick, J. et al. (2007). The Impact of Transit Corridors on Residential Property Values. *Journal of Real Estate Research*. February 2007.

Impacts are not Equally Distributed

Not all impacts are equally distributed. Some impacts are felt locally, some regionally, some impact the economy, and some impact the community. Robert Cervero, a leading consultant in transportation policy and planning, as part of the Transit Cooperative Research Program, assembled the 'Guidebook for Practitioners' with the primary objective of "identifying and describing a broad array of predictive and evaluative methods used to conduct economic impact analysis of public transportation investments".²⁹

Table 6: Categories of Transit-Related Economic Impacts

Generative Impacts	Redistributive Impacts	Financial Transfer Impacts
User Benefit (i.e. travel time savings, safety benefits, changes in operating costs)	Land development (i.e. clustered development around transit stations)	Employment and income growth related to system construction, operations or maintenance
Employment and income growth unrelated to system construction, operation, or maintenance	Employment and income growth due to land development	Joint-development income to local agencies
Agglomeration / urbanization benefits (i.e. higher productivity, lower infrastructure costs)	Increased economic activity within the corridor	Property tax impacts
External benefits (i.e. air quality)		
Accessibility benefits (i.e. access to employment)		
Reduced development cost due to reduced parking		

The research categorizes the transit impacts in the following way:

- 1. Generative Impacts** produce net economic growth and benefits in a region such as travel time savings, increased regional employment and income, improved environmental quality, and increased job accessibility.
- 2. Redistributive Impacts** account for locational shifts in economic activity within a region such that land development, employment, and therefore income occur in a transit corridor or around a transit stop, rather than being dispersed throughout a region.
- 3. Transfer Impacts** involve the conveyance or transfer of funds from one entity to another such as the employment stimulated by the construction and operation of a transit system financed through public funds, joint development income, and property tax income from development redistributed to a transit corridor.

²⁹ Cervero, R., Aschauer, D., and the Transit Cooperative Research Program. *Economic Impact Analysis of Transit Investment: A Guide for Practitioners*. 1998. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_35.pdf

For the City of Calgary's focus on real estate impacts and property tax implications, of interest would be Redistributive and Transfer Impacts. These two impact categories "tend to be less data intensive, less sophisticated, and more qualitative than the Generative Impacts. Although each method is described separately, they are typically used in combination to enhance the overall economic analysis." The Hatch team has taken a combined approach for this study, using both historical data that is specific to the Calgary market as well as a qualitative examination through literature review and interviews with the local real estate industry members.

Impacts on Future Development

New LRT stations were found to create market demand for certain real estate products that would have otherwise not been viable. Underutilized land around stations are converted and redeveloped into higher-and-better uses, often with compact, pedestrian-friendly, mixed-use developments that would have not otherwise been supported by a local road network.

The Vancouver Canada Line within the City of Surrey is a light rail line that attracted investment in the city centre, generating higher-value jobs and diversifying the city's labour force over the next 30 years. There will also be more rapid development of real estate in the vicinity of the transit stations, which result in higher property taxes.³⁰

In a 2005 study for the City of Ottawa regarding the Confederation Line LRT, development opportunities within a 400-metres radius around stations were examined. Without an LRT, the area would receive 5.3% of the city's annual 1 million square metres of new development. But with the presence of LRT, this share would increase by 20% to around 6.4%.³¹

Areas around the MAX LRT stations (in Portland, US) have also seen an increase in density. The rate of development within Blue Line station areas were 69% higher than elsewhere within a one-mile (1,600-metres) corridor extending along the light rail alignment. Low to mid-value properties within the station areas redeveloped at twice the redevelopment rate reported for low value properties outside of station areas.³²

When properties are zoned for higher value and higher density development due to increased transit capacity, *additional* value will be created from the higher-valued land.

Although plans for the Green Line LRT are approved and project funding for Stage 1 is committed by all three levels of Government, market confidence in the project will be unsteady until the transit is in-service. Other projects have a good level of confidence that they will be delivered because there is a high degree of consensus about the project being delivered and how it will be delivered. The Green Line, due to its planning iterations, may suffer from a lack of public and market confidence and therefore business and development decisions will wait until substantial construction is underway.

5.2 Timing of Impacts

Timing of Impacts (Benefits and Losses) vary by the End User

Although there will generally be a positive uplift to property values in the long term, how values are impacted in the short- and medium-term during station construction is less predictable. Whether property values are anticipated to

³⁰ Avison Young. Unlocking Generational Aspirations: A Commercial Real Estate Perspective on Public Transit & Transportation Infrastructure Investment in Metro Vancouver. June 2015

³¹ 2005. City of Ottawa. Strategic Assessment: North-South Light Rail Value Uplift and Capture Value-Uplift Study for the Confederation Line LRT.

³² <https://trimet.org/pdfs/publications/Livable-Portland.pdf>

change in a positive or negative way, will depend on from who's perspective we take between the landowner and the business tenants.

For a business tenant, there may be temporary negative impacts due to station construction and result in business revenue loss. Negative impacts to tenants during construction would include increased noise, vibration and dust; decreased accessibility, visibility and an overall lack of pedestrian-friendliness, which would decrease footfall and consumer spending. During this time, landowners may have a more difficult time ensuring their property is occupied and will need to invest more in efforts in attracting and retaining tenants.

Timing of Impacts vary by Market Confidence in the Design and Delivery of LRT

Property values during construction are more likely to reflect the market's confidence in the design and actual delivery of the new LRT project. Adverse effects due to construction disturbance can be mitigated by focusing on the overall delivery and implementation of the new Green Line (for example, speed of delivery, minimizing disturbance, and instituting mitigative programming such as communications and marketing for impacted businesses, etc.).

Property values in high growth metros are typically impacted immediately upon announcement of major transit projects. As the project undergoes planning and design, and market signals to the project's progress becomes more clear, property value uplifts have been observed to continue to increase as the project reduces in uncertainty and risk. Pre-construction stage is a volatile period for property values due to market speculation and project uncertainty. The rate of property value uplift appears to peak when the transit project is approved and funded, and then stabilize into a more gradual rate of uplift after completion of the transit project.

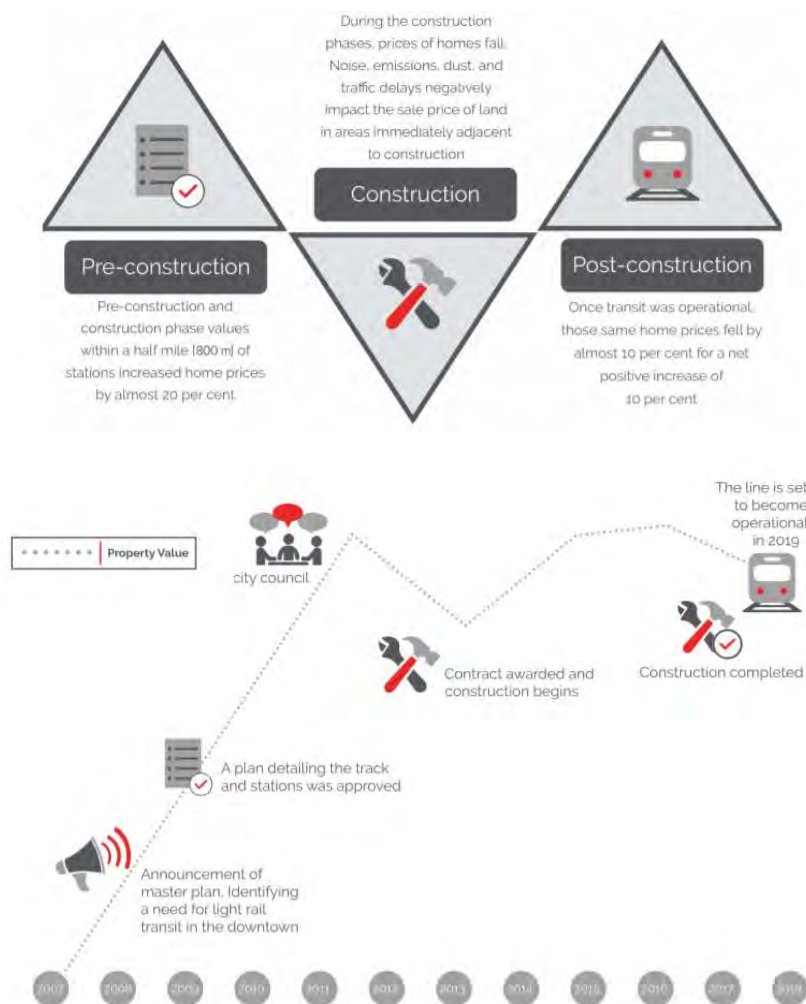
Take for example, Figure 14, illustrating the effect on property value as described above. The figure is based on historical observations of the new Ottawa Confederation Line, recently delivered in 2019.³³

The Confederation Line in Ottawa is a new LRT line that was scheduled for a late 2018 opening date but opened after January 2019. In the long term, real estate prices increased around 39% since the announcement of the LRT project, compared to the city's overall gain of 37% (2008 to 2017)—a premium of 2%. During the short to medium term, there were both gains and losses. Once the project was announced and the public gained confidence that the project would in fact be delivered, there was a spike in prices. But the prolonged construction period dampened confidence, causing annoyances with nuisances like noise and dust, and prices either dropped or stagnated. Research anticipates that by the end of 2021, 2 years after the line opened, values should increase around 10% more than other areas of Ottawa without access to the LRT.³⁴

³³ Real Estate Intelligence Network. *Calgary Transportation Effect Report*. 2018.
http://cdn3.reincanada.com/workshops/2019_Workshops/March_2019_Calgary_SOS/Calgary_Transportation_Effect_Report_FINAL.pdf

³⁴ Real Estate Intelligence Network. *Calgary Transportation Effect Report*. 2018.

Figure 44: Impacts to Property Values across Stages of a Transit Project: a) Pre-Construction, b) Construction, and c) Post-Construction (Based on the Ottawa Confederation Line)



Key Dates that will affect the Timing of Impacts for the Green Line

The following is a summary of key dates for the Green Line LRT project:³⁵

- June 2017 – project approved by Calgary City Council
- May 2018 – funding commitment from Federal Government
- 2020, Today – preconstruction, design and planning
- 2022 – construction start
- 2026 – project completion
- 2031 – ridership matures typically after 4 years
- 2038 – end of projection period for potential 0.7% uplift estimates generated in ‘Scenario 1’ based on historical Calgary Red Line corridor impacts. It is assumed that similar market drivers will be in effect when

³⁵ Project schedule is per the City of Calgary’s ‘Green Line Timeline’ on the City website.

projecting forward for the Green Line. Thus, it is assumed that the uplift would be realized gradually in the long term over an 18-year period like the timeframe for the Red Line corridor impacts.

6.0 Overview of the City Centre Alignment, System Design and Focus Areas

6.1 City Centre Alignment

The alignment is proposed to run surface along Centre Street N, from 16 Avenue N to south of 7 Avenue N, with a terminus station just south of 16 Avenue N. South of 7 Avenue N, the alignment traverses McHugh Bluffs and crosses the Bow River on a dedicated bridge. On the south side of the bridge is proposed a surface station north of 2 Avenue SW, followed by a portal on 2 Street SW, just north of 3 Avenue SW. The alignment continues underground, under 2 Street SW, with an underground 7 Avenue SW station, situated north of 7 Avenue SW, and curves to 11 Avenue S traveling under the CP tracks. The alignment continues underground on 11 Avenue S, with one underground station around Centre St S, and a second one east of Olympic Way SE (4 ST SE station) and along to Ramsay, serving newly developing communities.

6.2 System Design

The Green Line will need a combination of surface, elevated and below-ground transit solutions for its route alignment through the City Centre. There are concerns regarding how the LRT will impact the quality of its surrounding community, and how this could trickle down into how nearby properties are valued. Some of the concerns relate to decreased accessibility, visibility and attractiveness of buildings and spaces that may be impacted by nearby transit infrastructure (i.e. the elevated bridge over the Bow River and Prince's Island Park; or the portal within a moderate to high traffic street right-of-way to allow the LRT vehicle to go underground.) Different approaches to the design and delivery of the LRT will be required to ensure integration (between transit infrastructure and its community) is optimized and any adverse affects mitigated. The next section on these 'Focus Areas' will look at whether there is likely to be any negative impacts.

6.3 Focus Areas

The following section examines the potential short-, medium- and long-term impacts that could potentially occur as a result of the proposed alignment at specific *Focus Areas* including;

1. the Centre Street N Corridor
2. the bridge over the Bow River and Prince's Island Park; and
3. the station and portal on 2 Avenue SW, within the Eau Claire Market and China Town communities;

These are areas that have been identified as needing careful attention to how the design of the transit infrastructure is physically integrated with its surroundings. The objective is to identify and assess how any potential adverse effects on property value can be mitigated during and after construction.

Figure 55: Proposed Green Line LRT Alignment



Centre Street N Corridor

The Centre Street N corridor will be an area with high potential for significant property value gains with the presence of Green Line. It is currently a major arterial road that provides the communities to the north access to the downtown area. It feeds the downtown area with high volumes of daily vehicular traffic. It is also a largely under-developed stretch of very well-located real estate (in terms of proximity and accessibility to Calgary's concentration of high-value jobs downtown).

The Centre Street N corridor has future development potential and the opportunity to transform its placemaking identity. The corridor runs through the Crescent Heights neighbourhood, which is part of a recently completed North Hill Communities Local Areas Growth Plan. In principle, a surface LRT along Centre Street N could spur additional residential and commercial development, provide high visibility to retail storefronts, encourage increased public transit, cycling and walking trips, increase shopping visits and customer spending, enhance the vibrancy of the neighbourhood and provide reliable, quick access to the downtown core. This will be when people can seamlessly get on and off the LRT, safely and delightfully cross through sidewalks and other public spaces, and into nearby buildings or other destinations. In short, placemaking will be about people's experience of the public realm.

There are obvious, physical constraints in achieving this effect before encroaching on private property. For space-constrained areas, the focus should be on pedestrian safety and ease of navigation. Where the opportunity exists, the public realm can also be maximized through privately-operated public spaces, or POPs, where a private developer could potentially provide publicly accessible open spaces. (For the developer's contribution, land use policies may provide incentives like density bonuses, or other mechanisms.)

Summary of concern(s) and comments:

- LRT construction is likely to cause major disruption to pedestrian flow and vehicle movement—negatively impacting business activity. This will be a short to medium term impact that may be offset by the benefits of consumer spending in the longer term.
- The location of LRT infrastructure, such as its tracks within a major street right-of-way will permanently obstruct vehicle movements and the provision of on-street parking due to the reduction in lanes. This is a long-term impact that can be mitigated through an off-corridor parking strategy including the addition of parking lots and enhancements to pedestrian movement along the corridor.
- The division between the east and west sides of the Crescent Heights community may be exacerbated due to the surface running LRT corridor, which may create a greater barrier. This can be addressed through urban design that integrates the LRT infrastructure with the public realm (i.e. street-embedded tracks, limited to no barriers, well-designed pedestrian crossings, and improved streetscape.); and ensures mobility for all types of modes are well-connected.

CASE STUDY**Mode of Travel and Consumer Spending Survey****Bloor Street, Toronto**

In 2016, the City of Toronto initiated a pilot project along a 2.4-kilometre stretch of Bloor Street, a busy downtown commercial street and principal east-west thoroughway. One traffic lane and on-street parking were removed to provide dedicated bicycle lane rights-of-way.

Fast forward three years later, businesses have reported an increase in the number of customers per day. It was found that those arriving on foot or bicycle spend more overall than those arriving by car, through many frequent visits over the course of a year. The percentage of customers arriving by bicycle also tripled.

Source: [Economic Impact Study of Bike Lanes in Toronto's Bloor Annex and Korea Town Neighbourhoods, Toronto Centre for Active Transportation, September 2019](#)

Bridge over the Bow River

The proposed bridge will serve as an elevated guideway for the Green Line LRT across the Bow River.

Summary of concern(s) and comments:

- Longer-term impacts to the public realm around the Bow River. Concerns are in terms of visual, noise and vibrational impacts of having the LRT operate nearby private residences and the fear of compromising the tranquility and natural environment of the Prince's Island Park.
- Adverse impacts during construction are less of a concern.
- In the long-term, the Bow River Bridge is not anticipated to have negative impacts on property values.

Figure 66: Modern bridge viaduct provides LRT service through the Hague Netherlands



The Bow River Bridge for Green Line is not expected to adversely impact the waterfront properties. In an earlier (2016) economic analysis by Hatch for Calgary's City Centre³⁶, it was found that elevated transit infrastructure only depreciated the property value of older building stock. Newly built buildings are generally unaffected since they are constructed to a higher level of building design that mitigates the external impacts of an elevated rail system, like noise. LRT technology has improved, particularly since Calgary built its initial Red and Blue lines, and newer vehicles models can operate much more quietly than older models.

There is an opportunity for the design of the bridge to enhance the urban environment rather than detract from

it. In some cases, bridges over water can be iconic or at least complimentary and additive to their urban landscapes. The bridge for the Green Line corridor could be made attractive and become an enhancing asset to the park space in the area. An iconic bridge over the Bow River may warrant a higher degree of specification during the procurement process to achieve a more specific solution where the City takes greater ownership of design. This approach might contrast with a more non-prescriptive, performance based P3 procurement approach used for other elements of the line.

Station and Portal on 2 Avenue SW within Eau Claire and China Town Area

The Green Line scheme will significantly transform the Eau Claire Market and China Town area with a new surface LRT station. There will be a surface station at Eau Claire Market with further plans to improve the public realm around the station area, providing a visually attractive destination for nearby residents and office workers.

Summary of concern(s) and comments:

- Like the Bow River focus area, concerns are on the public realm quality along the promenade here (towards the Prince's Island Park.) LRT construction may be disruptive to the businesses located in this dense commercial area, and tenant attraction and retention for property owners may be a challenge during this short to medium term timeframe.

³⁶ In a Hatch study of property value impacts due to the Calgary Red Line written prior to this report, a hedonic model was used to understand the correlation between property value gains (or loss) and a property's proximity to a transit station.

- There were also stakeholder concerns around compromised access to parkades. All parkades along 2 Street SW will be impacted by construction, with some disruption to access and perhaps some intermittent closures. However, access will mostly be maintained so potential loss of parking revenue can be mitigated.
- Similar to the concerns for the Centre Street N corridor, a reduction in overall road capacity to accommodate for the LRT infrastructure applies here as well. This is a long-term impact that can be mitigated through good urban design that ensures mobility for all types of modes are well-connected.

Figure 77: (Left) Streetcar Portal along Queens Quay in Toronto; (Right) The multi-modal streetscape and public realm design along Queens Quay



With increased transit capacity in denser urban areas, parking demand generally decreases as users shift from car to other transit modes. Figure 17 shows the Toronto streetcar entering a portal in the centre of the right-of-way, before travelling to an underground station. The characteristics of this neighbourhood resemble that of the proposed portal site in Calgary; the area is densely developed and includes both residential and commercial buildings. The portal has a minimal footprint and associated infrastructure; utilizes newer, quieter light rail cars; and boasts an enhanced urban environment that encourages active travel patterns.

CASE STUDY

Waterfront LRT Streetcar Portal**Queens Quay, Toronto**

The Waterfront LRT portal in Toronto, Canada has not adversely impacted the community in which it is located. The portal likely could have been designed with a better outcome on aesthetics, and one of the dominant buildings in the area does little for the attractiveness of the street. Nevertheless, cycling and pedestrian footfall along the Waterfront has increased since the completion of the grade-separation scheme, leases are held by high quality tenants and property values here have increased significantly in the hot Toronto market despite the proximity to the portal. The Queens Quay West Waterfront LRT portal in Toronto is part of Toronto's central waterfront. It is worth noting that while there has been significant investment and focus in the general waterfront area this immediate area was already largely built-up with older generations of residential and commercial high rise development.

7.0 Findings: Impacts to Property Value and the Tax Base

A major takeaway is that the new Green Line LRT will contribute to long-term incremental uplifts to property values. These impacts though, will not be evenly distributed and will vary depending on property type, land use and proximity to station. Furthermore, the estimated impacts herein should be considered conservative because it does not yet take into consideration further induced growth.

The new Green Line LRT will help create market demand around stations areas where underutilized land will be converted into higher-and-better uses that would not have been supported otherwise with a typical road network.

As such, there will be additional value that is created from new, higher-density development that is mixed-use and designed with the public realm in mind.

7.1 Before Construction

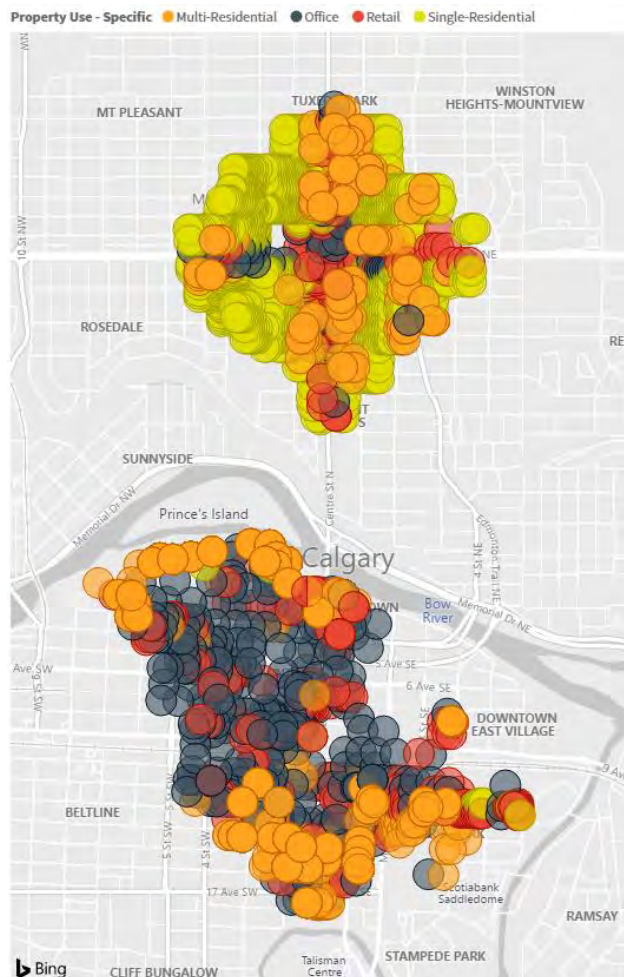
Over 15,000 properties were identified to be within reach³⁷ of potential impacts due to the Green Line LRT and were assessed for property value uplift potential. See Figure 18.

At baseline, today, the total assessed property value of all residential and commercial properties located within reach of potential impacts from a future surface Green Line station in the City Centre area is over \$16.9 billion.³⁸ This \$16.9 billion property tax base, at 2020 values, yields approximately \$330 million in annual property tax revenue for the City and the Province (this is both municipal and provincial tax revenue).

Though most of the properties are designated as residential (multi and single)—over 90%, commercial properties make up the lion share of the total value. The total assessed value of all commercial properties is \$12.3 billion, or more than 70% of the total \$16.9 billion.

Most of the properties are located closest to the 11 Avenue SE & Centre Street S station providing a total assessed value of \$2.9 billion. On the other hand, the station area at 6 Avenue SW and 2 Street SW has the lowest number of unique properties but provides a total assessed value of \$7.1 billion. See Figures 20 and 21.

Figure 88 – Map of All Properties within the defined impact zone to a future Green Line LRT Station in the City Centre (for after construction impacts)



³⁷ Within reach is defined as 800-metres driving distance to a surface station, or 450-metres to an underground station. Underground stations have less catchment area than surface stations because of the additional travel distance required by underground stations (i.e. vertical circulation up and down). Although this also assumes that vehicle speeds and travel times are equal. This is because underground stations usually result in faster trip times, which means that the relative attractiveness of the service is greater and so there is a counterbalance to the reduced catchment because of increased access time and distance.

³⁸ Based on assessed property value provided by the City of Calgary in January 2020.

Figure 9 – Number of Properties that may be impacted by the future Green Line stations in the City Centre area

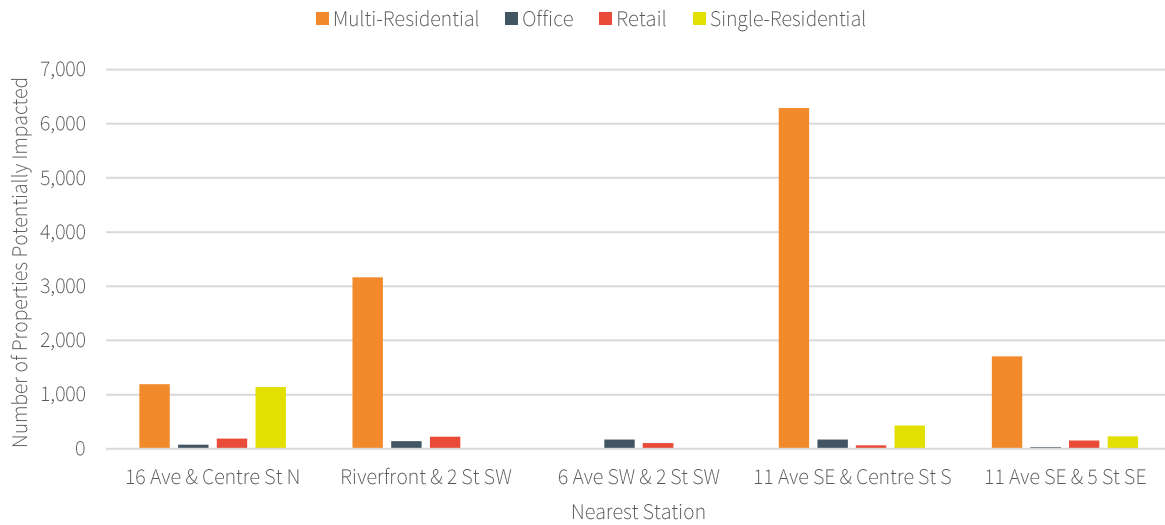
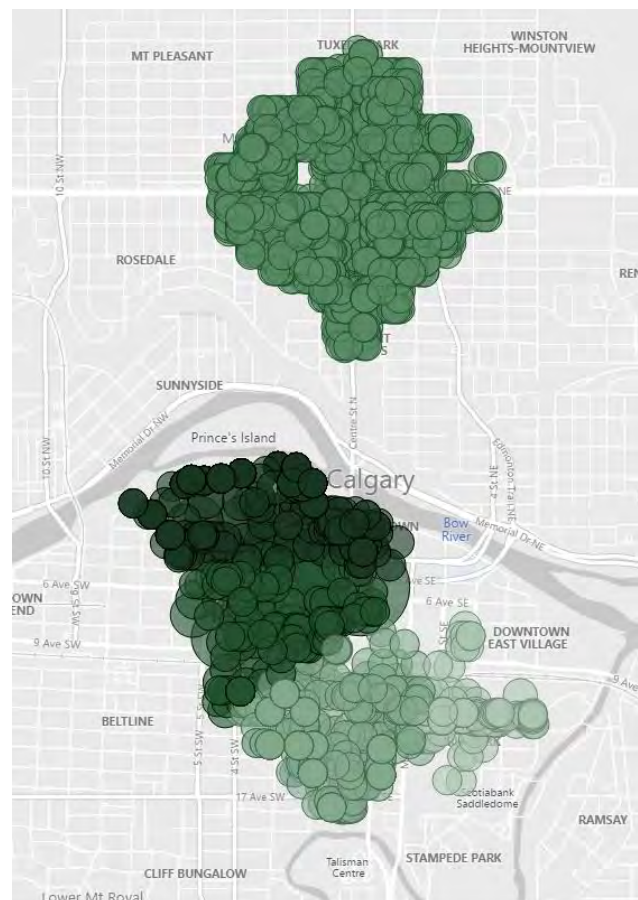
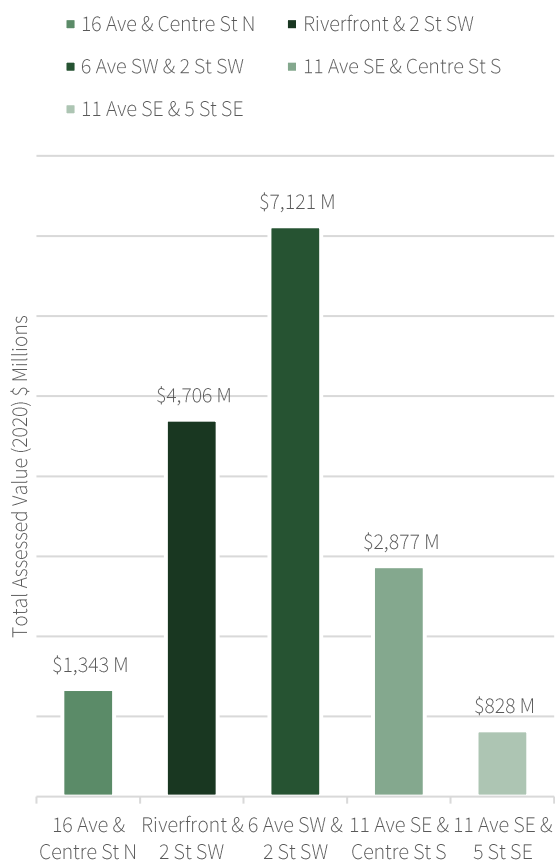


Figure 100 – Total Assessed Property Value Today (Baseline in Year 2020) by the Nearest future Green Line station areas



7.2 During Construction

Businesses on corridors slated for transit construction face two headwinds, one temporary and one long-lasting. The first is the effect of construction on revenue through lost access, loss of parking (temporarily for staging or long-term), water and electricity service interruptions, and experiential nuisances like dust and noise. The second is the rise in property values, if the business is renting its space. Rising land values are benefits to owners, but rent increases in expectation of rising land values force businesses to adapt or exit, and not all sectors or business structures are equally able to survive such churn.³⁹

During construction of the new Green Line LRT, there may be impacts in the form of *business loss* attributed to the loss of tenants due to disruptive construction. If the current double-digit vacancy rates⁴⁰ for commercial office properties continue, negative impacts will be compounded—for the landowner's assessed property value, and consequently the City's and Province's property tax revenue base. With that said, impacts due to construction are temporary, and could be offset by the longer-term growth in property values.

How Properties are Assessed in Calgary

Property assessment is the service of assessing properties within the corporate limits of the city of Calgary as a mechanism to fairly and equitably allocate property taxes. This directive is provided by the Government of Alberta's Municipal Government Act, its regulations and associated civic bylaws. This legislation largely directs the property assessment activities which, while broad and complex, can be summarized as the preparation, communication and defense of property assessments.

Property assessments are derived using similar techniques to individual appraisals such as the analysis of market data, but are applied on a mass basis to large groups of properties. Large infrastructure projects, economic issues and natural disasters can all affect real estate values. To understand and analyze the impact of those events, assessors would undertake an analysis of sales or rental activity both before and after the event.

For recent LRT extension projects, assessors reviewed sales activity and rental activity which occurred during construction and after construction to determine both if there was an effect on properties adjacent to the project but also if there was an effect on properties in the surrounding area.

For the Green Line, a similar exercise will be conducted where sales and rental activity will be monitored during construction and after the project is complete to discover the impact on real estate values. This impact will then be incorporated into the property assessments which are derived on an annual basis.

Impact on Businesses due to Station Construction

In a 2011 technical report for the US Department of Transportation (USDOT) on 'Potential Impacts on Business Revenues during Construction of the Central Corridor Light Rail Project,' it was estimated that there may be at most an average 2.5% in small business revenue loss due to station construction for the Central Corridor LRT project in

³⁹ 2017 Journal of Transport & Land Use Vol. 10 No. 1 "Open for business? Effects of LA Metro Rail construction on adjacent businesses"

⁴⁰ Currently at 22% overall across all office markets in Calgary by Q4 2019. Peak vacancy was last recorded in Q2 2018 at 24%.

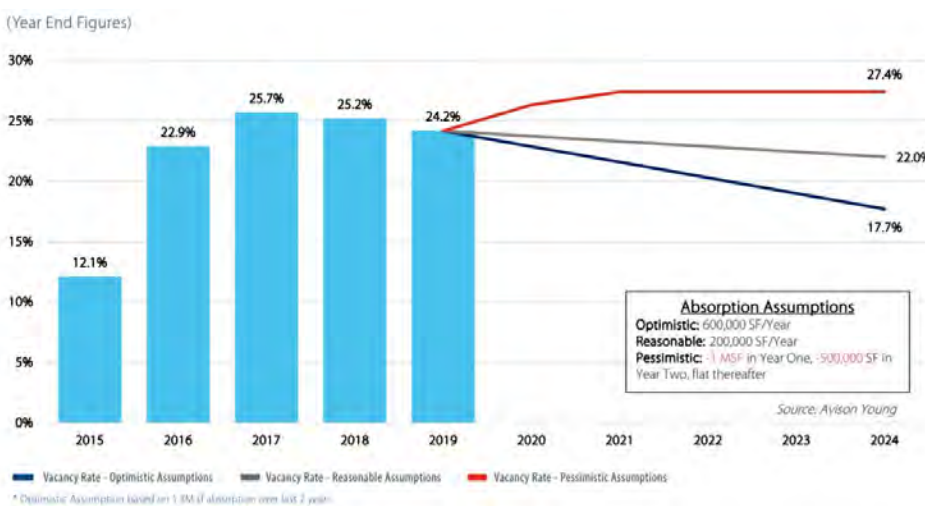
Minneapolis, USA.⁴¹ In another study by the same author for the LA Metro Rail project, it was found that within 400-metres to station cut-and-cover construction areas, business failure rates increased by 46%.⁴² However, the author further caveats that while the empirical model shows considerable effects near station construction areas, there is a real possibility that the effect is not from construction, but from inherent location characteristics. The same observation was made for business revenue loss. Though business revenue loss was found to be the greatest within proximity to station construction areas, it was not found to be statistically significant, meaning revenue loss may not be the reason why businesses are failing. Business impacts are highly localized and learning from the case of Calgary's 17 Avenue S.E. BRT project, business impacts are understood to be higher than the 2.5% losses seen in Minneapolis, according to City of Calgary staff.

Potential negative impacts to tenants during station construction could include increased noise, vibration and dust; decreased accessibility, visibility and overall pedestrian-friendliness; which could decrease footfall and consumer spending. This may then translate into increased business or tenant turnover, and thus increased vacancy and compressed net operating income for the property owner.

Station and light rail project construction can generate negative impacts to local businesses, but business sustainability is a result of many factors, many beyond light rail construction. Short term impacts can be managed through business impact mitigation programming, which the City can take a leading role in, and must be considered in light of longer-term benefits that may be likely. Experience from rapid transit projects worldwide, including the case studies here, indicates that business impact mitigation programming should be a part of implementation planning.

Impact on Property Value due to Increased Vacancy

Figure 111 – Downtown Calgary Projected Vacancy (2020-2024) by Avison Young



Calgary is still recovering from a downturn in the oil sector that began in 2014. Between 2015 and 2019, the overall value of downtown office properties fell by more than \$14 billion, according to the City of Calgary's assessment

⁴¹ Radin, Sari; Ray, Rosalie. Technical Report on the Potential Impacts on Business Revenues during Construction of the Central Corridor Light Rail Project. US Department of Transportation (USDOT). 2011.

⁴² 2017 Journal of Transport & Land Use Vol. 10 No. 1 "Open for business? Effects of LA Metro Rail construction on adjacent businesses"

department. In the previous year alone, from 2018 to 2019, office property values fell by -32%, according to the City, (while residential across all types fell by only -1%, retail remained flat, and industrial fell by -4%).⁴³ Historically, Calgary office net rents have experienced a downward trend at an average annual rate of about -6% over the last 10-years (1999-2019), or -8% over the last 5-years (2014-2019).⁴⁴ By the end of 2019, Calgary's office space market was experiencing historically high vacancy at 22%.⁴⁵ Office leasing activity in Calgary will remain challenged until economic growth returns to the market.

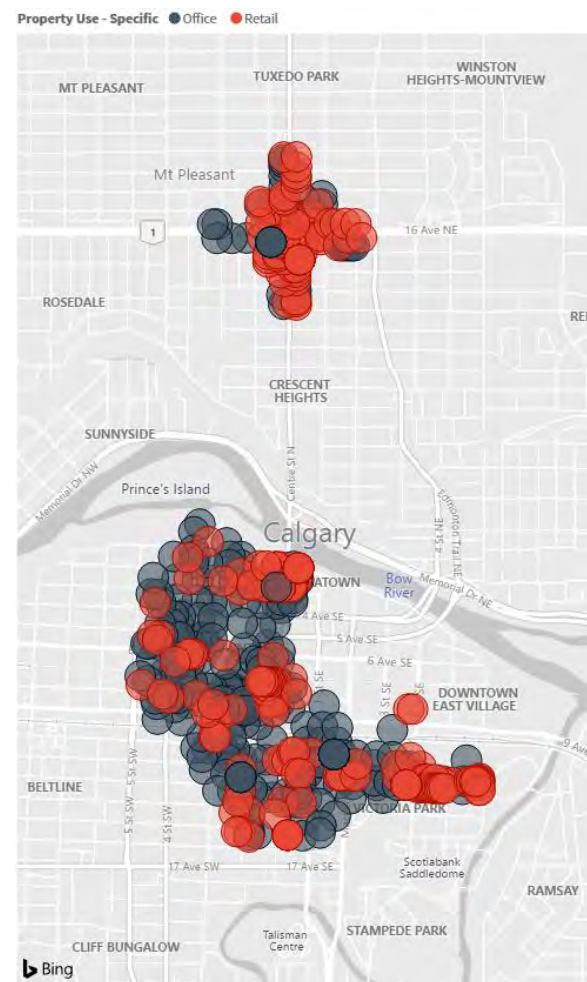
In a Q4 2019 study by Avison Young, downtown office vacancy rates in Calgary (24% by the end of 2019) are forecasted to decrease to 22% or even down to 18% by 2024 in the study's base and optimistic scenario; or increase to 27% in its pessimistic scenario.⁴⁶ See Figure 21. These forecasted vacancy rates range between 2 to 6% more or less than current levels over a 4-year period. A similar range in changes to vacancy levels during construction of the Green Line is assumed for the purposes of estimating at a high level the potential loss to commercial property values. See Table 7.

In a 2017 study where the effects of LA Metro Rail construction on adjacent businesses was examined, it was found that businesses were negatively impacted (in terms of revenue loss) if it was located within approximately 400-metres to cut-and-cover station construction, or within 60-metres to tunnel boring construction areas.⁴⁷ At this time, it is not yet confirmed as to which construction method will be used for the Green Line. To be conservative for the purpose of estimating for potential impact on property values during station construction, the study assumes cut-and-cover construction methods will be used (so, a 400-metres radius impact zone from each station).

Over 10,000 existing commercial properties (retail and office) are located within a 400-metre distance to a future LRT station and its future construction zone and possibility exists for negative impact. See Figure 22.

Negative impacts to property as a result of construction are dependent on the nature of construction and the local context. If the road network is significantly limited and access constrained, properties not immediately adjacent to the dust and noise of construction may still experience

Figure 122 – Map of all Commercial Properties (retail and office) within the defined impact zone to station construction areas in the City Centre (for during construction impacts)



⁴³ Giovannetti, J. Globe and Mail. [Calgary office-space values plummet 32 per cent in 2018 as home prices hold steady](#). January 2019.

⁴⁴ [Avison Young Mid-Year 2013/14 Canada & US Report & Co-Star Mid-Year 2018 Report](#)

⁴⁵ [Avison Young Q4 2019 Calgary Office Market Report](#).

⁴⁶ Ibid.

⁴⁷ 2017 Journal of Transport & Land Use Vol. 10 No. 1 "Open for business? Effects of LA Metro Rail construction on adjacent businesses"

negative impacts. Properties immediately adjacent to active worksites will obviously be impacted. It is possible, in certain locations, that tunneling work underground adjacent to structures may technically have impacts but, customers and tenants will not notice much disturbance and so effects may be limited or even zero.

It is important to remember that if the construction project can be delivered within a predictable timeline and the timeline is manageable, on the other end of the potential negative impacts are the improved access of a significant light rail project and its associated benefits.

Demand in the residential rental market remains strong, due to improving labour market conditions, and would likely not be affected in the same way as the commercial market.⁴⁸ (Residential property prices across all types have experienced a more moderate growth at an average annual rate of about 1% over the last 10-years (1999-2019), or -1% over the last 5-years (2014-2019).) As such, while impacts to retail and commercial property are certainly possible and will occur in some locations, it is not believed that Green Line construction would lead to any potential negative impacts to residential properties in the form of increased vacancy and therefore meaningful value.

Stakeholder Concerns During Station Construction

There are stakeholder concerns around potential negative impacts due to station construction, and the strain this will have on already challenged leasing activity for commercial space—particularly in and around the Downtown area. Concerns voiced by stakeholders include increased traffic congestion and unsafe and unattractive pedestrian environments due to transit infrastructure elements like portals and station platforms. Significant mitigation can be achieved during construction with thoughtful phasing, construction, and other programming. Design and project planning expected to occur in subsequent phases of project advancement are where real solutions and the communication of those solutions with concerned stakeholders, can occur. Global experience, including some of the experience of the case studies, shows that there is a wide variety of challenges and design solutions that have been employed to fit light rail into urban environments in a way that minimizes disruption or even enhances public realm. These design solutions can be advanced as part of future design and implementation, including stakeholder engagement, communication plans, and procurement.

A non-prescriptive, performance-based procurement process presents opportunities for innovation in design and efficiencies in delivery by the private sector. This recommendation was echoed by the interview group where references to the Westbrook transit-oriented development (TOD) project along the West LRT line were made. Though the project was recognized as possibly the “only true TOD project” in Calgary to date, the project is an example of an unsuccessful approach of leveraging private sector innovation. When the City first went to market with the Westbrook TOD proposal following its acquisition in 2012, there were many prescriptions placed on the development scheme (i.e. construction timing, use and siting clauses). This became a major deterrent to the market, and before the project could take-off, the Calgary market began to experience its downturn.

In some circumstances, a higher degree of specification is warranted for specific solutions (i.e. an iconic bridge, or a specific neighbourhood intervention). In other cases, fine-tuning the procurement can yield better results. Specific neighbourhood challenges need to be dealt with on a case-by-case basis in the design and procurement development of the Green Line.

7.3 After Construction

Two methods were used to determine impacts. One method (“Scenario 1”) looked at historical Calgary property values related to Calgary Red Line corridor impacts and generated a low, or conservative outcome for the Green

⁴⁸ Rental Market Report for Calgary CMA by CMHC, released in January 2020.

Line: 0.7% property value increase year over year. A second method ('Scenario 2') looked at relevant non-Calgary case studies and resulted in a higher, more optimistic outcome: 2.4% year over year. Both the low and high potential outcomes are relative to what property values would have otherwise been without the Green Line LRT. See Table 1 for an overview of the selected case studies for comparison.

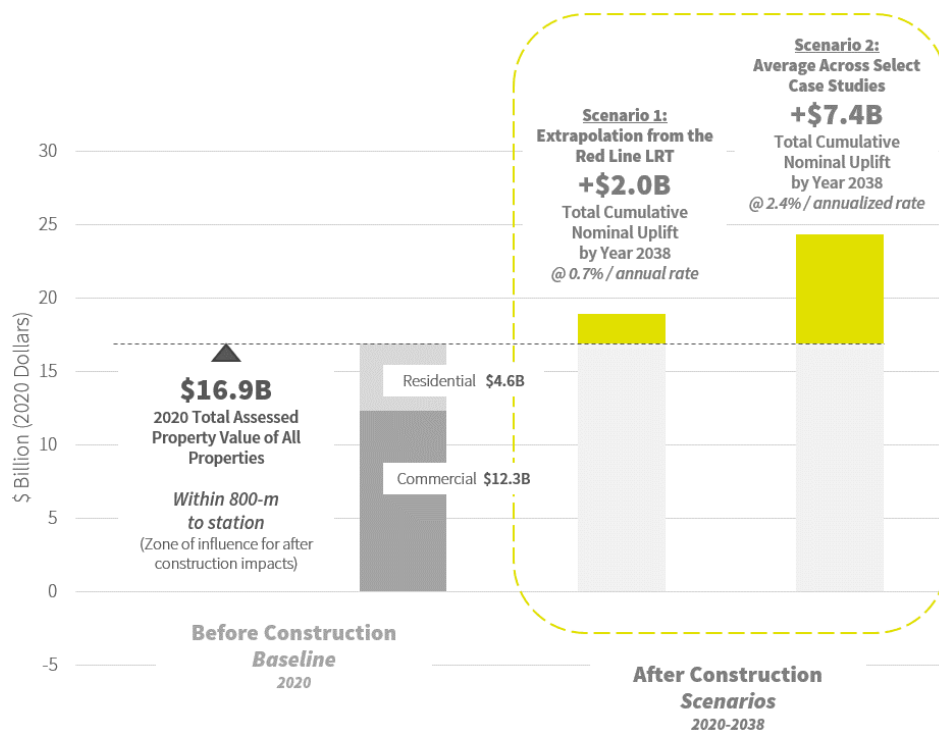
The conservative potential uplift of 0.7% would correspond to the property tax base growing as a result of the LRT being constructed; growing from \$16.9 billion to \$18.9 billion in 2038, and corresponding *additional* annual tax revenues of \$43 million in 2038.⁴⁹ The high potential uplift of 2.4% would correspond to the property tax base growing from \$16.9 billion to \$24.3 billion in 2038, and corresponding *additional* annual tax revenues of \$420 million. The low and the high uplift estimates set out a reasonable range of outcomes for property value impacts to be expected from implementation of the Green Line LRT.

To estimate potential impacts, this study assumes uplifts from Green Line would start occurring in 2020. The timing of uplifts is sensitive to solid perception from the market the benefits of the Green Line project will in fact occur; in other words, uplifts will occur on the basis that the project is widely believed to be well on its way to completion. Due to uncertainties related to funding and other government decisions related to the Green Line, it is likely that the uplift may be delayed, and may not be realized by the market until significant, visible progress (i.e. major contracts let, corridor construction) is realized. While this may mean uplift would realistically be in years subsequent to 2020, the estimates made in this study would still be relevant with relatively little deviation.

We found that historically in Calgary (due to the Red Line LRT), property value was strongly *influenced* by how close the property was to a transit station compared to all the other characteristics. Generally, the closer a property was to a transit station, the bigger the change in value. In addition, in *how* property value is influenced (whether positively or negatively) also strongly depended on the use of the land, like residential, retail or office. For example, all properties irrespective of its land use saw its value *change* the most within the immediate 20-metres of a station. However, while multi-family residential, retail and office properties saw an *increase* in value over time; single-family residences saw a *decrease* in value. These trends were then applied to properties proximate to the new Green Line LRT to see how those property values may be impacted.

⁴⁹ Per the current 2020 property tax rates for the City of Calgary and the Province of Alberta.

Figure 133 – Summary of Potential Property Value Impacts, After Construction of the Green Line: Potential impact on property values within proximity to future Green Line LRT station in the City Centre area



- Total Cumulative Uplift to Property Values After Construction (Incremental to the Total Assessed Value Today)
- 2020 Total Assessed Residential (Single & Multi) Property Value - within 800m
- 2020 Total Assessed Commercial (Retail & Office) Property Value - within 800m
- 2020 Total Assessed (Residential & Commercial) Property Value - within 800m

Table 8: Summary of Uplift Potential for 'Scenario 1' – Extrapolation of Red Line Corridor Impacts

Nearest Station	Before Construction			After Construction	
	Baseline conditions in 2020			Projection up to 2038 (an 18-year period)	
	Count of Properties* 2020 Rounded 00's	Total Assessed Property Value 2020 \$ million	Total Property Tax Revenue 2020 \$ million	Potential Value Uplift 2038 \$ million	Additional Tax Revenue 2038 \$ million
16 Ave & Centre St N	2,600	\$1,343	\$26	\$35	\$1.21
Riverfront & 2 St SW	3,500	\$4,706	\$91	\$627	\$15.10
6 Ave SW & 2 St SW	300	\$7,121	\$138	\$902	\$18.80
11 Ave SE & Centre St S	7,000	\$2,877	\$56	\$203	\$6.47
11 Ave SE & 5 St SE	2,100	\$828	\$16	\$56	\$1.67
Overall	15,500	(a) \$16,875	\$327	(b) \$1,824	\$43.20
Total Cumulative Uplift % (b) ÷ (a) = (c)				12%	
Annualized Rate of Uplift % (c) ÷ 18-years				0.7%	

The empirical analysis for the Red Line case study informed the extrapolated 0.7% in potential value uplifts year over year for the Green Line. It helped confirm that Calgary Red Line corridor impacts on property values were strongly influenced by how close the property was to a station compared to other characteristics including built density,

building age and even neighbourhood. This is generally consistent with the findings in other literature and the case studies.

It was found that Calgary Red Line corridor impacts contributed to long-term, cumulative property value uplifts ranging up to 93% more than the median value, depending on the property's proximity to the station and its land use. At the same time, there were also negative impacts ranging down to -47%.

While the data set presents a range of potential impacts specific to Calgary, property value uplifts appear to peak within a 500-metre distance to an LRT station. Beyond that distance, some land uses (i.e. office and multi-residential) maintain value uplift potential better than others. Other land uses (i.e. retail) are more sensitive to station proximity than others and may see their values underperform relative to the median value for their market if not located within a certain distance (for the Calgary Red Line this appears to be within 100-metres) relative to transit access.

A final note on the potential 0.7% uplift is that it is an *upper bound estimate* of Scenario 1 (generated using historical Calgary property values related to Calgary Red Line corridor impacts). There is also a *lower bound estimate* of a 0.2% uplift year over year under the same method, when the potential uplift percentages for retail and office properties are taken as a blended average as one broad commercial category and the retail. (This would align with how property tax base is assessed in Calgary as either residential or non-residential categories.) In doing so, the uplift potential for office properties is dampened by the uplift potential for retail properties, which was found to be much more negatively impacting due to retail's uplift potential being highly dependent on its proximity to a transit station.

For example, within 800-metres to a station, retail properties may experience uplifts ranging from -47% to 93%, with impacts becoming negative once the lot is beyond 100-metres to a station. On the other hand, office properties were found to experience positive uplifts generally throughout the 800-metres distance to a station, with less potential for negative impacts at an overall uplift range from -2% to 69%.

The 0.7% uplift estimate is likely a better reflection of how property values would be impacted as it would account for the nuanced variations to potential uplifts for office and retail properties respectively.

Given the above, a 0.7% uplift estimate should still be considered low and conservative. It can be reasonably assumed to be realized gradually in the long term over an 18-year period like the timeframe for the Red Line corridor impacts. Notably, the potential 0.7% uplift does not yet consider the anticipated role of city-shaping around the Green Line stations for the next generation of growth. When this happens, additional value will be created from new development on top of the base uplift in value of properties in its current condition. Additional value will be created from either the rezoning and/or intensification of the property into higher value and higher density development.

Likely Distribution of Uplift Potential and Induced Development by Station Areas

Anticipated in the near to medium term following the completion of the LRT, properties (in their current use) around the future stations at Riverfront & 2 Street SW and 6 Avenue SW & 2 Street SW are estimated to gain the greatest amount of uplift. This is because there is already a large base of high-value commercial properties in those areas today. (For reference, the combined assessed property value of these two station areas today is \$11.8 billion.) Worth noting, uplift potential for commercial properties may be dampened given the current oversupply of office space and whether there may be enough demand in the future to absorb current vacancies and attract new investments.

Figure 144 – Property Value Impacts by Nearest Station for After Construction Scenario 1 (of 0.7% annualized rate of uplift)

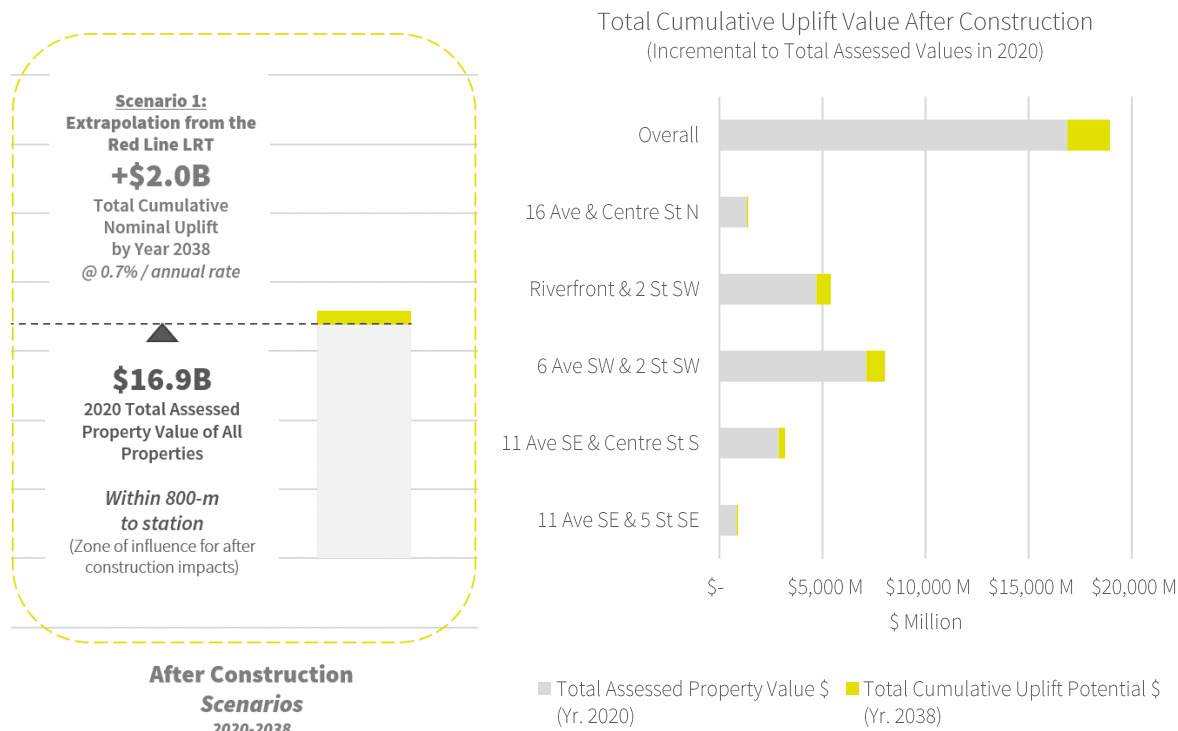
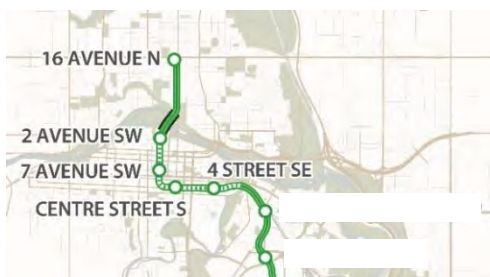


Figure 25 – Key Map of the 5 Future Green Line Stations in the City Centre Area



fit this profile for additional development growth. These are the Beltline, Eau Claire/Chinatown, and Centre Street North corridor respectively.

The high-growth potential in the Beltline Area is further supported by concurrent land use and urban development planning initiatives, such as the anticipated new event centre and other high-density development plans, which is aligned with the strategy of supplying attractive amenities and destinations for the nascent downtown fringe.

In the longer term, properties that undergo intensification and/or change into higher-value uses will create the greatest amount of new value. This is in addition to the uplift in base value of the property at its current density and use today. The properties that are most likely to be redeveloped in this way will be properties that have little to no convenient rapid transit access prior to the Green Line; are of low built density and/or a lower value use than what the market would demand of it afterwards (e.g. parking properties). This redevelopment is likely, if supported by municipal plans and policies. Properties around the future stations at 11 Avenue SE & 5 Street SE, Riverfront & 2 Street SW, and 16 Avenue & Centre Street N

Table 9: Overview of Existing Property Characteristics and Capacity for Future Development Growth

<i>Nearest Station</i>	<i>Area</i>	<i>Predominant Land Use</i>	<i>Transit Access</i>	<i>Land Value</i>	<i>Development Potential¹</i>
16 Ave & Centre St N	Crescent Heights	Residential / Commercial	BRT	Low	Medium / High
Riverfront & 2 St SW	Eau Claire / Chinatown	Mixed-Use	BRT	High	High
6 Ave SW & 2 St SW	Downtown	Mixed-Use	BRT, LRT	High	Low / Difficult
11 Ave SE & Centre St S	Beltline	Residential	BRT, LRT	Medium	Medium
11 Ave SE & 5 St SE	Beltline	Commercial	BRT, LRT	Low	Medium / High

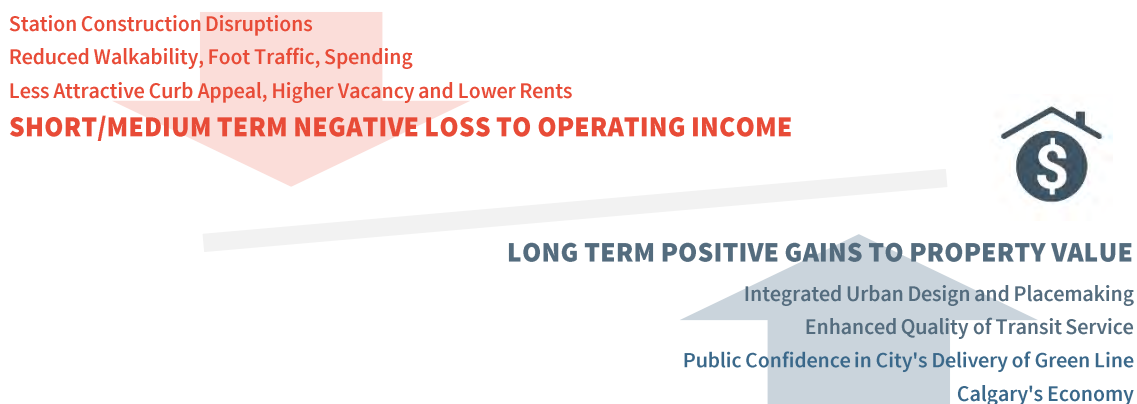
Notes:

1. The value *created* from this development potential is in addition to the potential *uplift* in value the property at its current density and land use.

The Green Line LRT will help the City of Calgary position itself well for future growth in the next generation and during its next market ‘boom’. Today, even in a slowed economy, its transit network is highly utilized and is evidence of the need for more capacity in the next growth phase of Calgary. With the implementation of the Green Line LRT, Calgary’s downtown core will be strengthened and help retain a productive and vibrant concentration of high-value jobs and talent. (A level of concentration that has been declining faster than any other top-ten Canadian city region by population over 1996-2016.) The Green Line LRT will be able to support the necessary residential and mix of uses in the Eau Claire Market and Beltline area, in particular.

Overall, the Green Line LRT project will be a positive long-term, city-building investment for Calgary. In the long run, the City, Province and property owners are expected to benefit from property value increases that would be more than what they otherwise would have been without the Green Line. Inherent with any transit infrastructure project, there may be “winners and losers”. Within this reality, the report considers a range of scenarios to understand the balance of potential negative and positive impacts.

Figure 156 – Balancing the potential negative and positive impacts to property value between short/medium and long-term goals



7.4 Comparison with Case Studies

How does the Green Line compare with other major North American metros, and their experience with transit-related impacts to property values? In the following section, the Green Line project is compared against four other comparable light rail transit projects with similar urban conditions across Canada and US, including:

- Calgary's Red Line LRT;
- Vancouver's Canada Line Skytrain;
- Ottawa's Confederation Line LRT; and
- Portland's Streetcar.

Across these select cases, property values experienced a premium to their annual growth rate from 1% to 3.5%, due to the properties' proximity to transit. This is in comparison to the range of 0.2% to 0.7% estimated for the Green Line above (in Scenarios 1 and 2). There are two possible reasons to why the premiums are observed to be much higher than the estimates made here in this study for the Green Line. First, some of the case studies consider a smaller impact area, which generally sees higher uplifts due to the properties being much closer to a station. Second, the case studies take into account changes into higher-value land uses and consequently additional value that is created through new development. See Table 10.

Table 70 – Comparison of other light rail case studies, their reported property value impacts, the timeframe of which those impacts are reported, and the spatial extent of the impacts

<i>Case Study</i>	<i>Comparability & Relevance to Green Line</i>	<i>Timeframe of Reported Property Value Uplifts</i>	<i>Impact Area (Distance to Station)</i>	<i>Avg. Annualized Rate of Uplift</i>
Green Line LRT (Calgary, Canada)	Same urban market; serves suburbs to downtown Calgary like Green Line; some differences in urban form served.	1998-2016 (extrapolated for 2020-2038) Property value uplifts are anticipated to be realized in the long term and may be similarly captured over an 18-year period like the Red Line corridor impacts from 1998-2016.	800m	0.7% 'Scenario 1'
Average of Select Case Studies ⁵⁰ : See Appendix D – Case Studies for more information.	Case studies selected with relatively good relevance to Calgary	Varies All timeframes were more than 10 years	Varies	2.4% 'Scenario 2'
1) Red Line LRT (Calgary, Canada)	Similar economic environment, neighbourhoods and city-shaping forces	1998-2016 An 18-year period of improvements and extensions to a mature transit line that is already in service. <i>Key dates:</i> 1976: project approved 1981: first opening date 2001 to 2014: improvements and extensions 2016: end of study period for hedonic analysis	800m	1.0% See Table 2 for summary of aggregate uplift ranges.
2) Confederation Line LRT (Ottawa, Canada)	Involves both surface and underground stations, requiring a portal tunnel in street right-of-way	2008-2021 An 11-year period since the project is announced, through construction and including projections for after construction. <i>Key dates:</i> 2012: project approved 2013: construction start 2019: opening date 2021: end of forecast	800-m	2.0%
3) Canada Line SkyTrain (Vancouver, Canada)	Involves an elevated transit guideway over rivers and other public spaces	30 years projection Involving a mature transit line that is already in service and undergoing extensions. <i>Key dates:</i> 2009: first opened	300-m	3.3%
4) Downtown Streetcar (Portland, US)	Strong support from City Planning to enable transit-oriented development (TOD) policies and enable further growth	1997-2008 An 11-year period from since the project is approved, through construction and after construction of the transit system, and including subsequent improvements and extensions to its network. Takes into account any additional value created from induced development. <i>Key dates:</i> 1990: planning 2001: opening date 2005 to 2007: improvements and extensions	300-m	3.5%

Since the parameters of assessment vary across each case study, an attempt was made to compare against a common indicator. The indicator chosen is an *annualized* rate of uplift to adjust for the various timeframes of reported uplifts. As well, uplifts were focused on totals for the overall property types of residential (all types) and commercial only. Across these select case studies, residential and commercial properties experienced property value increase at an average, annualized uplift rate of 2.4%. A parameter that differs across the case studies is the reported *physical area of impact around the transit station*, which varies from 300 to 800-metres. See Table 11.

Table 81: Overview Comparison of Property Value and Tax Impacts across Scenarios

After Construction		Without	With Green Line		
Scenario	Annualized Rate	2020 Total Assessed Value	Nominal Uplift Value	2038 Total Assessed Value	Additional Total Tax Revenue in 2028
	(b) ÷ 18 yrs.	(a)	(c) = (a) x (b)	(a) + (c)	(a) + (c)
	%	\$ billion	\$ billion	\$ billion	\$ billion
Baseline: Before Construction Based on 2020 assessed property values of residential and commercial land properties within 800-m to a future Green Line surface station; or within 650-m to an underground station.	0.1%	\$16.9	\$-	\$16.9	\$-
Scenario 1: Extrapolation based on trends from the Red Line	0.7%	\$16.9	\$2.0	\$18.9	\$0.043
Scenario 2: Average of select case studies—captures new value created from induced development	2.4%	\$16.9	\$7.4	\$24.3	\$0.144

8.0 Conclusion

LRTs support improved mobility and contributes to city-building in the long-run. How property value will be impacted will vary greatly by other external factors, such as a City's overall economic condition, its planning efforts, and the specific area's level of access to transit before the new LRT project. To ensure property values swing in a positive direction, transit investments need to be thoughtfully coordinated with its surrounding built environment of public spaces, amenities and other nearby buildings. It is expected that the Green Line LRT will contribute to long-term incremental growth in property value.

⁵⁰ Additional case studies are provided; however Calgary Red Line, Ottawa Confederation Line, Vancouver Canada Line, and Portland Streetcar were identified as relevant for the purposes of identifying uplift. Additional case studies are Buffalo NY, New Jersey and Toronto Streetcar. See Appendix D – Case Studies for more information.

Key Takeaways Going Forward:



- 1. The Green Line LRT will provide improved rapid transit access and travel capacity into downtown Calgary where high-value employment is located.**



- 2. LRT can if planned, designed, and implemented well, contribute to inducing development and desirable community amenities. Development can be expected to occur in areas where the new LRT provides a sufficiently attractive change in access to people, property and businesses.**



- 3. Achieving quality of design and integration of transit infrastructure with the public realm and adjacent development is necessary to maximize gains in property values.**

Recap of Findings at a Glance:

Two methods were used to determine impacts. One method ('Scenario 1') looked at historical Calgary property values related to Calgary Red Line corridor impacts and generated a low, or conservative outcome for the Green Line: 0.7% property value increase year over year. A second method ('Scenario 2') looked at relevant non-Calgary case studies and resulted in a higher, more optimistic outcome: 2.4% year over year. Both the low and high potential outcomes are relative to what property values would have otherwise been without the Green Line LRT.

At baseline, today, the total assessed property value of all residential and commercial properties located within an 800-metre radius (or about a 10-minutes walking distance) to a future Green Line station in the City Centre area is over \$16.9 billion.⁵¹ This \$16.9 billion property tax base, at 2020 values, yields approximately \$330 million in annual property tax revenue for the City and the Province (this is both municipal and provincial tax revenue). Commercial properties make up the lion share of the total value. The total assessed value of all commercial properties is \$12.3 billion, or more than 70% of the total \$16.9 billion.

The conservative potential uplift of 0.7% would correspond to the property tax base growing as a result of the LRT being constructed; growing from \$16.9 billion to \$18.9 billion in 2038, and corresponding *additional* annual tax revenues of \$43 million in 2038.⁵² The high potential uplift of 2.4% would correspond to the property tax base growing from \$16.9 billion to \$24.3 billion in 2038, and corresponding *additional* annual tax revenues of \$144 million. The low and the high uplift estimates set out a reasonable range of outcomes for property value impacts to be expected from implementation of the Green Line LRT.

This study assumes uplifts from Green Line would start occurring in 2020. Due to uncertainties related to funding and other government decisions, it is possible and likely that the market may not recognize that the Green Line is to be a likely reality until after 2020. It is likely that the uplift will not be realized by the market until significant, visible progress (i.e. corridor construction) has been realized. This would not meaningfully change any of the findings or conclusions presented in this report.

Short term construction impacts could affect both property owners and businesses. Furthermore, commercial properties are likely to be impacted the most. Disruptions from construction could result in business loss to the

⁵¹ Based on assessed property value provided by the City of Calgary in January 2020.

⁵² Per the current 2020 property tax rates for the City of Calgary and the Province of Alberta.

area and increased commercial vacancies in already challenged real estate markets.⁵³ Studies have shown that construction impacts can be felt by properties and businesses within 400-metres to station construction areas.⁵⁴ Practically, the properties not immediately adjacent to construction will not be affected significantly unless access is constrained due to impacts to the local transportation network. Properties immediately adjacent to construction areas can be affected and as mentioned elsewhere in the report there are mitigation strategies that can be employed.

The potential 0.7% uplift generated from ‘Scenario 1’ (an extrapolation of historical Red Line corridor impacts) does not yet consider the anticipated role of city-shaping around the Green Line stations for the next generation of growth. When this happens, additional value will be created from new development on top of the base uplift in value of properties in its current condition. Additional value will be created from either the rezoning and/or intensification of the property into higher value and higher density development. The potential 2.4% uplift generated from ‘Scenario 2’ (an average across the select case studies) could be a better reflection of how property values may be uplifted in combination with other city-shaping forces including induced development growth seen in other cities.

Green Line: A Long-Term Investment alongside other City-Shaping Initiatives and Private Investment

In the longer term, properties that undergo intensification and/or change into higher-value uses will create the greatest amount of new value. This is in addition to the uplift in base value of the property at its current density and use today. The properties that are most likely to be redeveloped in this way will be properties that have little to no convenient rapid transit access prior to the Green Line; are of low built density and/or a lower value use than what the market would demand of it afterwards (e.g. parking properties). This redevelopment is likely if supported by municipal plans and policies. Properties around the future stations at 11 Avenue SE & 5 Street SE, Riverfront & 2 Street SW and 16 Avenue & Centre Street N fit this profile for additional development growth. These are the Beltline, Eau Claire/Chinatown, and Centre Street North corridor respectively.

Development viability for properties can be supported by concurrent land use and urban development planning initiatives, such as the anticipated new event centre and other development plans in the Beltline Area. Placemaking and urban design will help maximize future potential growth to property values by ensuring the new LRT is highly accessible to and from other amenities and last-mile destinations in the vicinity. Such efforts support the area’s attractiveness and demand for space, helping to internalize the new transit benefits into premiums on price and rents.

A non-prescriptive, performance-based procurement process presents opportunities for innovation in design and efficiencies in delivery by the private sector. This recommendation was echoed by the interview group where references to the Westbrook transit-oriented development (TOD) project along the West LRT line were made. Though the project was recognized as possibly the “only true TOD project” in Calgary to date, the project is an example of an unsuccessful approach of leveraging private sector innovation. When the City first went to market with the Westbrook TOD proposal following its acquisition in 2012, there were many prescriptions placed on the development scheme (i.e. construction timing, use and siting clauses). This became a major deterrent to the market, and before the project could take-off, the Calgary market began to experience its downturn. In some

⁵³ Currently a 22% vacancy rate across all office markets in Calgary by Q4 2019 (Avison Young). Retail vacancy is about 6% as of 2019 (Colliers Calgary Retail Report Winter 2018/2019). According to CMHC in its 2020 Rental Market Report for Calgary CMA, demand in the residential rental market remains strong, due to improving labour market conditions, and would likely not be affected in the same way as the commercial market. Anecdotally, interviewees for this study noted that construction disruptions would decrease the desirability for prospective tenants to sign or renew a lease, and that the probability of a lease renewal would decrease from about 75% to 50%. See Appendix C, Section vi.

⁵⁴ This 2017 Journal of Transport & Land Use Vol. 10 No. 1 “Open for business? Effects of LA Metro Rail construction on adjacent businesses”

circumstances, a higher degree of specification is warranted for specific solutions (i.e. an iconic bridge across the Bow River, or a specific neighbourhood intervention).

Recap of Context Discussion: Early 2020 Global Events

Globally, more recent events of COVID-19 combined with oil production decisions in Saudi Arabia and Russia have combined to drive oil prices to historic lows, creating economic headwinds. City-shaping infrastructure projects like the Green Line LRT cannot be planned in response to events unfolding in weeks and months. Light rail projects serving cities are the type of intervention that spans decades.

Calgary's long-term planning indicates substantial population growth, from a metro region of just over 1 million people to metro region of over 2 million. The Green Line is part of supporting that substantial population and associated economic growth that will be necessary.

Ideally large infrastructure projects are constructed when disruption can be lower and there is some excess capacity in the local economy. It is usually very hard to time large projects given the time required to plan, execute procurement, and construct.

In the long run, the City, Province and property owners are expected to benefit from property value increases that would be more than what they otherwise would have been without the Green Line. Inherent with any transit infrastructure project, there may be "winners and losers". Within this reality, the report considers a range of scenarios to understand the balance of potential negative and positive impacts. It will be the combination of transit and city-shaping drivers, and the underlying health of the economy that will together determine the City of Calgary's outlook for property value uplifts due to the new Green Line LRT project.

9.0 About Hatch

Our organization is passionately committed to the pursuit of a better world through positive change.

Hatch embraces your visions as our own and partners with clients and others to develop better ideas that are smarter, more efficient, and innovative. Hatch is a global network of 9,000 professionals working on the world's toughest challenges. Hatch experience spans over 150 countries around the world in the metals, energy, infrastructure, digital, and investments market sectors.

Hatch is employee-owned and independent—free to bring best thinking to problems and opportunities. Hatch is proud of its exceptional, diverse teams combining vast engineering and business knowledge, working in partnership with clients to develop market strategies, manage and optimize production, develop new game-changing technologies, and design and deliver complex capital projects.

Hatch works closely with the communities where Hatch works to ensure that our solutions optimize environmental protection, economic prosperity, social justice, and cultural vibrancy. Hatch wants businesses, ecosystems, and communities to thrive, both now and into the future.

Hatch people are passionate about our corporate purpose and values. Hatch people believe in long-term relationships with partners and are committed to clients' lasting success.

Hatch people are “entrepreneurs with a technical soul.”

About the Urban Solutions Practice at Hatch

Hatch has developed an Urban Solutions group built to support cities and the private sectors as they face pressing problems resulting from densification, extreme events, growing social inequity, disruptive technologies, limited finance and leadership, and increasing competition for talent and investment. Hatch Urban Solutions are a global network of city-building experts, with a mission to inspire positive change in global cities with robust quantitative evidence, deep technical expertise, and ambitious strategic vision.

Hatch Urban Solutions helps public and private sector clients tackle the challenges of urban change and respond to some big questions around urban growth:

- How can infrastructure generate diverse and inclusive growth?
- How can a cities' markets, often property markets, be impacted by major change?
- How can a city be made to be competitive for investment?
- How can quality of life be improved for growing urban populations?

With collective deep technical capabilities in financial, economic, and urban planning; strategic visioning and spatial planning; and rigorous quantitative analysis, Hatch Urban Solutions provide integrated solutions for clients, from concept to completion.

About the Authors of this Report

Leadership Team

Michael Sutherland, Project Direction

Michael Sutherland is a Director at Hatch responsible for the Urban Solutions practice in Canada and as a member of the Hatch Urban Solutions global leadership team also contributes to projects in South Africa and USA. Michael works with public and private sector clients particularly at the front end where infrastructure strategy, planning, economics, and early delivery thinking come together.

Michael has worked at Metrolinx and the Province of Ontario Ministry of Infrastructure. At Metrolinx Michael led the development of the business case and approvals process now used across Metrolinx; he led the planning and early funding approvals for the enormous GO Expansion program now underway, and he launched Metrolinx's Transit-Oriented Development program by negotiating the CIBC Square project next to Union Station. He had a hand in most large capital transit projects at Metrolinx now underway.

Michael is a recognized expert in cities, transportation, infrastructure finance and economics, government, and making large projects happen. He also has an engineering degree from Queen's, a Master's from the London School of Economics and a law degree from the University of Toronto.

Patrick Gulliver, Senior Advisor – Transit Economic Impact Assessment

Patrick Gulliver is a highly experienced economist and practice leader with 30 years of track record in city and regional economic strategy, economic analysis of transport and infrastructure investment, and regeneration. Patrick has developed a range of specialisms including: economic masterplanning and strategy, planning for economic growth around new rail investment, transit oriented development, labour market & skills strategy, strategic corridors, regional and sub-regional growth strategy, sector studies, business and enterprise support, innovation and the knowledge economy.

Patrick is known for the Economics of Place, having led the UK's first economic masterplan for Sheffield, and has recently completed an international economic strategy for the city of Cardiff, an economic masterplan for Limerick in Ireland, a Regional Growth Strategy for the East Midlands around HS2 and a growth study relating to new services and station improvements at Newcastle Central Station (with WSP), a growth strategy for Sheffield City Region around new HS2 investment, and economic forecasts for the Northern Gateway Development Zone predicated on new HS2 services at Crewe. Much of his work involves assessing the economic potential of areas and devising economic and physical strategies to unlock growth. Often Patrick's work is about developing new distinctive city districts for business, learning, culture, the evening economy and retail. Patrick also led on the London 2012 Olympic Employment Impact Assessment.

Patrick has a strong and current international track record in developing economic growth and diversification strategies. This work includes projects in New York, Philadelphia, Suez, Northern Iraq, Kazakhstan, Moscow, Jeddah, Riyadh, Abu Dhabi, Qatar, and several cities across southern China.

Jayne Patterson, Senior Advisor – Property Impact Assessment

Jayne Patterson is a Professional Appraiser with extensive experience in the review and approval of appraisals for complex valuation assignments of full and partial property acquisition for amicable acquisition and Expropriation. She possesses comprehensive knowledge of land valuation theory, highest and best use analysis and economic impacts to property resulting from infrastructure improvement projects, and expertise in appraisal methodology

and industry best practices for valuations specific to corridor acquisition scenarios including specialty use value, injurious affection and business loss.

Jayne has a very solid understanding of expropriation law specific to due diligence of expropriating authorities and compensation requirements under the Expropriations Act including: easements, partial acquisitions, temporary interests, leases and permissions to enter. She is also experienced in the valuation of various land uses such as commercial, industrial, publicly owned, residential, condominium, retail, farm, conservation, historically designated, hazard lands, development lands, assemblages, specialty use and over improved property. Jayne managed the appraisal approval process for property acquisition on VivaNext Bus Rapid Transit and Hwys 7 & 407 ETR infrastructure projects. Recent experience includes the management of negotiations of access agreements for publicly owned land on the VivaNext project.

Jayne developed and implemented a quality assurance monitoring process for Bank of Montreal, and managed the appraisal review team. As the Senior Manager of Collateral for TD Bank, she responsible for all collateral assessment procedures and adherence to regulations set by the Office of the Superintendent of Financial Institutions. She also served on the Standards sub-committee for the Appraisal Institute of Canada.

Support Team

Betty Vuong, Project Manager / Senior Consultant

Betty Vuong is a project manager and senior consultant at Hatch helping municipalities, transit agencies and private developers realize projects involving infrastructure. Betty spends a lot of time focusing on TOD. Betty helps clients navigate the technical and regulatory challenges; strategize financial and investment partnerships; adopt emerging technologies; and assess triple-bottom-line impacts for people, businesses and environment. As part of the Toronto Union Station revitalization project, Canada's largest civic-infrastructure project, Betty has helped conceptualize and design the entire station's privately-leased commercial-retail areas to accommodate over 100 tenants and 130 million annual passengers by 2021 (a project value of over \$37 Million). Betty has an architecture degree from Ryerson University, and a Master's from Harvard University for real estate and the built environment.

Jamie Kennedy, Consultant

Jamie is a Consultant with Hatch Urban Solutions and has been involved in a wide variety of development and land-use planning projects in Canada and the UK. Jamie's work has included masterplanning and transport strategy for major redevelopment of a national heritage and transit-oriented area in Bristol, England. He has been actively involved in cost benefit analysis and optimization of real estate development adjacent to, and integrated with, transit stations and railways. Jamie works with local and regional transit agencies to facilitate realization of maximized development potential, improved integration with transit facilities and enhanced public realm.

Laura Berazadi, Senior Consultant

Laura Berazadi is a senior consultant with Hatch's Urban Solutions practice and works with public and private sector clients to optimize and develop assets – with a focus on transit, infrastructure and building complete communities. With more than 15 years' experience in urban design, Laura has concentrated her practice on placemaking, social enterprise and innovation. Laura is currently advising real estate developers on transit-oriented development and transit station integration. Laura has authored provincial policy and is a leader in integration of public art in P3s; she created the procurement model used by Metrolinx and successfully implemented this process on a \$6-billion capital infrastructure project, the Eglinton Crosstown LRT, in Toronto. Laura has created design specifications for capital construction projects and has applied this model to various procurement types.

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APPENDIX A. Detailed Methodology and Assumptions for ‘Scenario 1’ – Calgary Red Line Corridor Impacts

The method used to determine impacts in ‘Scenario 1’ looked at historical Calgary property values related to Calgary Red Line corridor impacts and generated a low, or conservative outcome for the Green Line: 0.7% property value increase year over year. The note below describes in more detail the analysis undertaken for Scenario 1.

1. Gather and Sort Data on Historical Assessed Property Values

A list of all the properties within an 800-metres radius to each of the planned Green Line LRT stations was provided by the City of Calgary. (All data is anonymous and cannot be traced to any one individual. No personal, demographic or economic data is tied to the property data provided by the City.) The following meta data were available for each property:

- a. Roll Number (ID used by the city. 9-digit numbers reflect assessed properties, while 6-digit numbers reflect assessed businesses—all businesses have been culled from the list)
- b. Condo Project Number
- c. Full Civic Address
- d. Tax Status
- e. Property Type (land only, or land and improvements)
- f. Property Use (commercial—retail or office, single-residential, multi-residential⁵⁵, institutional, transportation, industrial, linear—formerly designed industrial, recreational, municipal school or environment reserves)
- g. 2020 Assessed Property Value
- h. Building Total Area
- i. Land Parcel Area
- j. Geographic Location (longitude and latitude)

The City of Calgary’s property tax rates are applied to three categories of property uses: a) residential, b) non-residential, and c) farmland. To understand the effects on the City’s property tax base as the central question of this study, only commercial (retail and office) and residential uses will be assessed. All other uses are excluded from this study. 2020 tax rates for both the municipality and province is used for estimates in this study.

Figure 167 – City of Calgary 2020 Property Tax Rates

The City of Calgary’s property tax rates are applied to three categories of property uses: a) residential, b) non-residential, and c) farmland. Rates with an asterisk (*) are before the 1.5% municipal tax rebate approved by Council in November 2019.

Assessment class	Municipal tax rate	Provincial tax rate	Total tax rate
Residential	0.0047795*	0.0027428	0.0075223*
Non-residential	0.0158278*	0.0035795	0.0194073*
Farm land	0.0206458*	0.0027428	0.0233886*

⁵⁵ It was found that some properties were categorized as single-residential, though upon further desktop-review, are actually multi-family residential property types. For these properties, a condo project number is also assigned, which validates the check. As such, any property that was initially categorized as single-residential and also has an assigned condo project number, the property is reclassified as multi-family residential for the purposes of this study. This has an effect on overall uplift estimates because uplift potential varies by property type (in addition to proximity to station). For example, within 100-metres to a Red Line LRT station between 1998 to 2016, a multi-family property on average saw value increases by 16 to 20%; while a single-residential property values increased by only 4%.

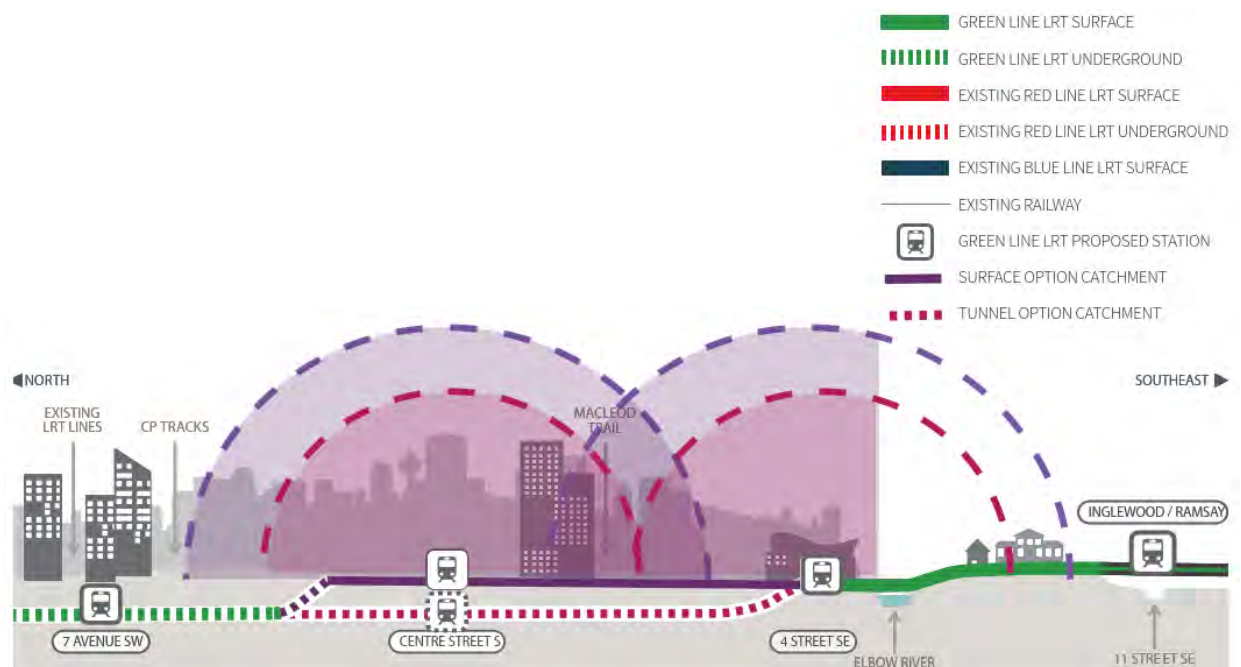
To estimate for potential value uplift utilizing the Red Line Hedonic Analysis, a property's use and distance to its nearest station are required. Each property's distance to a station was determined in terms of *actual travel distance* and its *straight line distance* utilizing a custom computer script in conjunction with Google Maps API. It is important to understand the difference between actual travel distance (i.e. driving and walking distance) and straight line distance (i.e. the typical radius distance from a station that defines a station catchment area in plans and policies).

For example, a property that appears to be within a 160-metres radius, or straight line distance, to its nearest transit station may appear to be well within reach of TOD benefits. In contrast, the actual travel distance is 2-kilometres. Therefore, this example property may have high proximity to transit, but its access is actually much lower. The Red Line Hedonic Analysis has found that property uplifts are estimated most accurately when both proximity and access measures are considered together.

A property's straight line distance to its nearest station may be representative of 'air borne' impacts such as noise and vibration. While, actual travel distance reflect 'access' benefits such as increased connectivity and ease of access.

Once, a property's distance to its nearest station was determined, two different station catchment areas were defined to distinguish between a surface and underground Green Line LRT Station based on distance. A surface station is defined by an 800-metres distance, while an underground station is defined by a 650-metres distance. The difference in catchment area between the two types of station designs reflect the difference in actual travel time for a transit rider. For example, a transit rider at an underground station can expect to spend more time underground, due to the additional vertical circulation required, before actually reaching its final distance or boarding/alighting a transit vehicle. The difference of 150-metres (800-metres less 650-metres) is representative of approximately 1 ¼ minutes in additional travel time assumed for the underground station. The possibility of underground retail-commercial concourses is not considered in this study. See Figure 28.

Figure 17 – Difference in Catchment Areas between a Surface and Underground Station Design



2. Evaluate Trends to Property Value due to TOD Benefits

At this stage, the initial list of properties has been sorted by existing land use and distance to its nearest station, and culled for potentially-impacted properties depending on whether they fall within the defined catchment area by station design type. (Properties with a tax-exempt status were also culled from the assessment.) With this, an appropriate *potential property value uplift percentage* is then determined utilizing the observed historical trends in TOD uplift due to the Red Line LRT.

In summary, a property's potential uplift in value is determined by matching the property's use and distance to a station to the corresponding observed historical uplift percentage as determined by the Red Line hedonic analysis. See Figure 29.

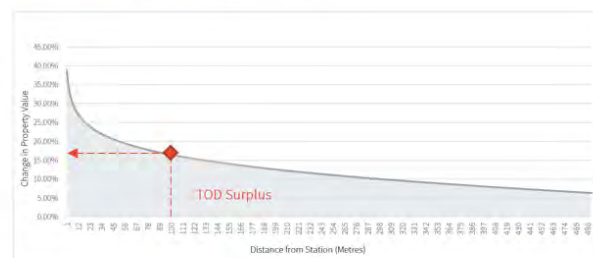
Figure 18 – Applying the Effects of the Calgary Red Line LRT to Estimate Impacts due to the Green Line

Example Subject Property

(Being assessed for potential impacts due to the Green Line LRT)

- Inputs:
 - Property Use = Multi-Residential
 - Actual Travel Distance = 100-metres
 - 2020 Assessed Property Value = \$1 million
- Outputs:
 - Potential Property Value Uplift % = 17%
 - Potential Property Value Uplift \$ = \$1 million x 17% = \$170,000
 - Potential Total Property Tax Rate for Residential Class Properties = 0.67%
 - Potential Property Tax Revenue Surplus = \$1,131

Multifamily Property Value Uplift



Source: Red Line Hedonic Analysis

3. Extrapolate Trends for Potential Property Value Uplifts due to the new Green Line LRT

Finally, the identified corresponding uplift percentage is then a) applied to the property's current 2020 assessed value to estimate for its potential, and then b) used to estimate for potential property tax revenue surplus. The overall impact to properties due to the new Green Line LRT is indicated by the sum of all potential property value uplifts and tax revenue surplus, respectively.

These indicators are representative of *after construction* effects and are compared against current baseline conditions *before construction* in terms of 2020 assessed property values (and 2019 property tax rates).

i. Adjustments and Limitations of the Analysis

The limitations of our analysis are reflective of limitations that generally apply to all land valuation exercises for large-scale infrastructure projects. Estimating the long-term value of land involves factors beyond applying proximity benefits. These additional factors may include: the availability of funding, investor confidence in the ability to deliver the infrastructure, present and future highest-and-best-use of land, market supply and demand, macro economic conditions, and the quality of the investment itself.

While some impacts are easy to quantify, others are simply not. This is acknowledged as a limitation of the study but opens up a broader conversation about 'how' the Green Line can be built; through a process that encourages stakeholder engagement, transparency, community involvement and accountability.

The following are adjustments made to apply the Red Line Hedonic Analysis for the Green Line Property Impact Assessment and address limitations of the analysis.

1. **Calgary's 'Boom-and-Bust' Economy:** Total potential uplift of property values due to a new LRT project like the Green Line is fundamentally contingent on Calgary's economic environment which is uniquely characterized by market 'booms-and-busts'. To date, the City is experiencing a gradual decline in its economy where its property values have yet to return back to historical peaks. To address this major externality, the property value uplift trends utilized in this study are based on historical, local data and are taken across a long-range period (of 18-years) to capture the effects of multiple booms-and-busts specific to Calgary's market. By doing so, the assumed potential property value uplift percentages include rate of inflation and other market drivers that will continue to apply to property values in Calgary when looking forward from 2017-2020 and after the construction of the new Green Line. As such, estimated property value uplifts are not discounted.
2. **Comparable Transit Improvements:** It should be noted that the time period of which the Red Line property value impacts were studied is from 1998 to 2016, an 18-year period. The Red Line was first opened in the 1970s and its network was not as extensive as it is today. Therefore, the property impacts estimated in this study (due to the Green Line) are reflective of value uplifts due to an *existing, mature (Red Line) LRT system*. Having said that, during the studied 18-year period, the Red Line system has undergone multiple service enhancements and network extensions with additional stations. See Figure 30. Potential value uplifts estimated due to the *new Green Line LRT system* are still comparable and arguably more conservative for the following two reasons:
 - a) The new Green Line LRT will provide a significant step-change in transit access and service to some high-growth potential neighbourhoods such as the Beltline area, and still significant benefit to neighbourhoods where there is already some existing transit service due to the improved connectivity between homes and high-value jobs concentrated in the downtown area. In turn job connectivity is improved in areas with better transit access.
 - b) The new Green Line LRT will be designed for better mobility (i.e. low-floor fleets) and better integration with the surrounding public realm and built environment.

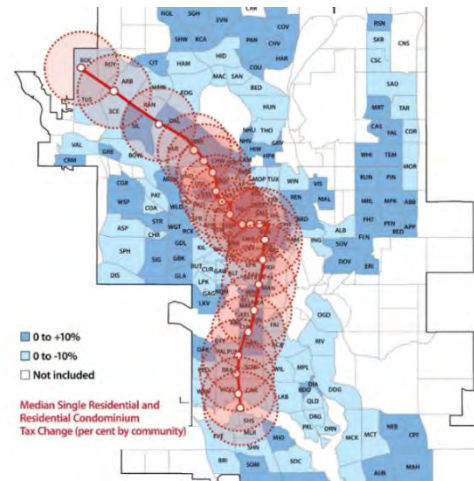
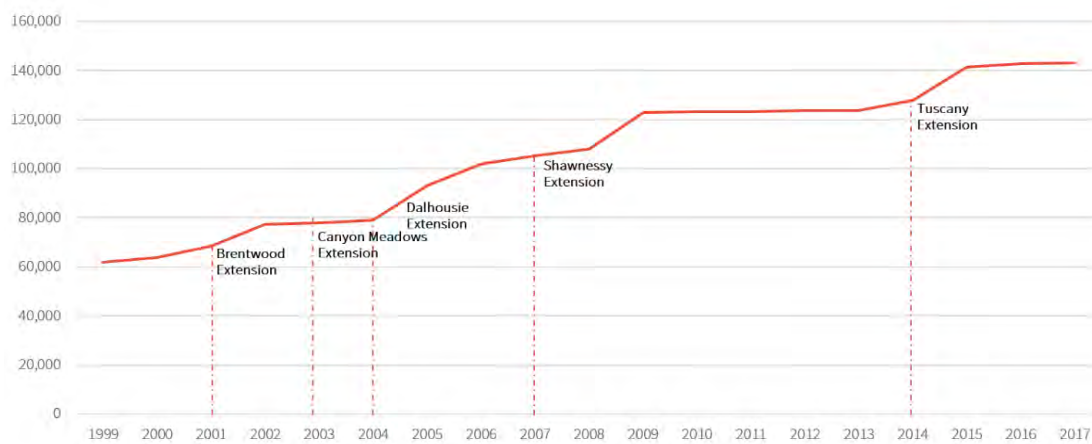


Figure 190 – Increase in TOD Properties as the Red Line LRT undergoes Network Extension from 1998 to 2016



- 3. Focus on Commercial and Residential Land Uses:** This study focuses only on properties that are designated as commercial or residential uses and excludes all others.⁵⁶ This was done for two reasons. First, the focus is applied to address the central question of “what is the impact to property values and its resultant *property tax revenue base*?” In Calgary, property tax rates are applied to three categories of land uses, only: a) residential, b) non-residential, and c) farmland. This study addresses the non-residential category through an assessment of commercial properties, which includes retail and office. (For planning purposes, the non-residential category is typically captured and referred to as Industrial Commercial Investment (ICI) land uses. Industrial uses have been excluded in this study. There are few industrially-designated properties in the data set being assessed and its inclusion would represent an outlier. Furthermore, industrial land uses do not typically benefit much from increase transit access, and are often times converted into higher-and-better-uses in response to the market and due to the additional transit benefits.) Second, the property data set provided by the City for this study does not differentiate between commercial-retail uses and commercial-office uses. As such, when applying the Red Line hedonic analysis which does differentiate between retail and office uses, the uses are combined into a blended uplift percentage to represent the commercial land use category, overall. See Figure 31.

Figure 201 – Blended Uplift Potential for Commercial Properties Overall

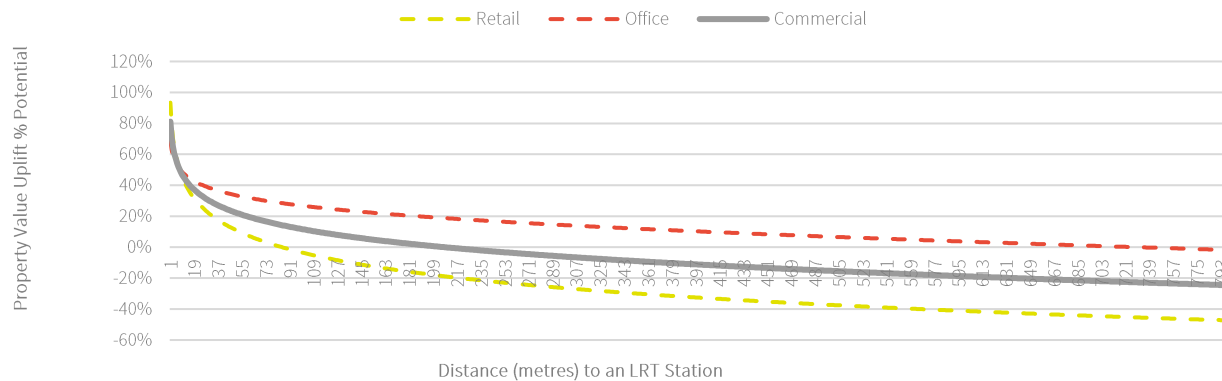
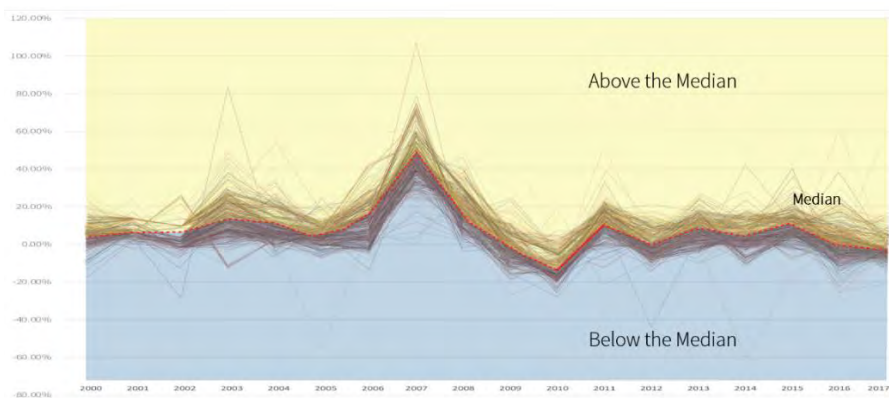


Figure 212 – Annual Property Value Percentage Change Relative to the Median (Red Line Hedonic Analysis)



⁵⁶ All other uses include municipal, school and environmental reserve lands; transportation; industrial and institutional uses.

- 4. Understanding Negative Impacts:** The blending of property value uplift percentages for retail and office uses helps to address another limitation of the analysis, which is the observed negative impact (negative property value uplift) to retail properties specifically. For retail properties that are located beyond a 100-metres reach to a station, impacts to property values are increasingly negative. This trend can be explained by the effects of increased market demand for higher-value land uses closer to the transit station. The significant increase to retail property values that are located closest to a transit station reflects both an uplift in value to existing retail properties, but also the *creation* of additional property value through induced development. This is evidenced by the increased number of properties nearby the Red Line LRT following each subsequent network extension.

As well, a negative impact may not necessarily indicate a loss in value for that specific retail property. The trend for property value uplift percentage was determined relative to the *median value* of all properties by land use. (The data was structured this way so that a regression analysis, as part of the Red Line hedonic study, can be undertaken to control for expensive, outlier properties and multiple market cycles.) As such, a negative percentage change may be reflective of a property's value relative to the substantial increase in property value (either through uplift or new value created) for the properties closest to a transit station.

To estimate for potential property impacts due to the Green Line for this study, if a property is matched with a corresponding negative uplift percentage, the change will be capped at 0%. (This will specifically apply to both retail and single-residential uses. All other uses studied exhibit a positive uplift potential.) Even with a 0% cap on any negative uplifts observed, this would still be considered *conservative* because it eliminates estimates for any property appreciation due to inflation that may have otherwise still been possible for those properties.

Lastly, negative uplifts are capped at 0% because although the property value is based on current use (which deteriorates proportionate to its distance from the LRT), these properties will have market appeal when considered for a different use or as part of parcel amalgamation for a higher and better use.

Using the hedonic approach for this study, a negative impact may not necessarily indicate a loss in property value. Instead, it reflects a property's value relative to the median value of all properties of that specific land use, which may include increased densification and value creation for properties located closer to transit.

At the same time, we do recognize that the Red Line is also quite different from the Green Line, and those differences do have an effect on property values. The majority of the Red Line is located down the middle of Crowchild Trail, a very wide road, or along an existing rail track further down south. In comparison, the Green Line will be the second rapid transit line in Calgary, after the West LRT, to be located through and within urban communities—bring transit closer and more accessible to people. Therefore, in comparison to the Red Line, there is likely to be greater property value uplift potential due to the Green Line's ability to physically connect and integrate better with its immediate physical surroundings.

APPENDIX B. Economic Improvement Through Placemaking

Supported by literature review and case studies; design decisions at the street-level are noted to be the most positively impactful to commercial and residential properties. How well-integrated the built-environment and its urban design is with the transit system will be a major determinant to whether the new Green Line LRT project will have a positive or negative affect on nearby properties in the long-term.

Often, the design of the transit station is not well coordinated with nearby development projects to maximize and capture the benefits of transit oriented development. There are many challenges as to why transit oriented developments are difficult to realize for municipalities, designers, developers and transit authorities. One of the main challenges is a misalignment and lack of transparency in the planning of station areas (driven by municipalities); timing and coordination of city-shaping projects (driven by the market and other economic forces) ; station buildings and infrastructure (driven by transit authorities); and the surrounding real estate (driven by developers who are beholden to market demands and other economic externalities.)

Most of these challenges can be resolved, but solutions to better align planning work and capital improvements with market forces will require collaboration between the various stakeholders that have a vested interest in creating a vibrant and productive transit-oriented community. Success will be determined by design decisions related to the interface between people and the built environment at the neighbourhood-level. Important questions include:

- How do people travel between stations and buildings?
- What is their 'last mile' journey experience as they go to their final destination?
- Are there attractions and convenience amenities along the way?
- How easy is it to locate and navigate to an actual station entrance, to purchase a fare ticket, etc.?
- Is the connection between stations, streets and buildings convenient, safe and delightful?

These have been the same questions The City's Green Line City Shaping team has been asking when providing project inputs into the Technical Performance Requirements (TPR)/Reference Concept Drawings (RCD). Some of these decisions can be addressed through station designs now. However, some will need to evolve as development around stations gets built out (i.e. attractions and convenience amenities would likely be provided by the private sector, and would be beyond the Green Line transit project scope).

Long-term benefits are a key point when discussing transit projects that require a longer timeframe to realize the ultimate upside. Often times, due to the longer timeframe, transit projects go through the ups and downs of multiple market cycles.

LRT cannot reverse the economic decline of an area. An oft-cited case of this phenomenon is the Buffalo Light Rail Rapid Transit in New York: the transit system did not create the anticipated development needed to revitalize Buffalo's city centre and reverse its population drain.⁵⁷

Furthermore, it was found that property value uplifts occurred only up to a certain distance from the station, and were greatest if the area was significantly underserved by transit. For example, the case study on Hudson-Bergen LRT in New Jersey, USA found that property value appreciation was found to be only within a 400-metres radius, and negligible around stations that were already well-served by transit.⁵⁸ Current land use policy in Calgary

⁵⁷ D.B. Hess and T.M. Almeida, Impact of Proximity to Light Rail Rapid Transit on Station-area Property Values in Buffalo, New York. Urban Studies, 44(2007): 1041-1068.

⁵⁸ Brookings Institution, HDR, Reconnecting America, RCLCO. Value Capture and Tax-Increment Financing Options for Streetcar Construction. 2009.

recommends a focus for transit oriented development within the area of 200 to 300-metres to a station. The intent is to provide a large area for potential impacts to be realized, while controlling the spread and quality of investment with the City's public realm dollars.

New LRT stations were also found to create market demand for certain real estate products that would have otherwise not been viable, like new commercial office space. Underutilized land around stations are converted and redeveloped into higher-and-better uses, often with compact, pedestrian-friendly, mixed-use developments that would have not otherwise been supported by a local road network.

i. Role of Place Making and Urban Design

The following section highlights the importance of placemaking and the impact it has on the ultimate success of the proposed alignment through the study area. By transforming passive spaces into destinations and by enhancing the urban environment within and around stations, there is an opportunity to increase the perceived value of these spaces. Empirical evidence suggests that transit ridership will increase if the distance between transit stations and buildings are short and the route is more pedestrian-friendly.⁵⁹

The actual supply of transportation infrastructure and transit-oriented land use development is dependent on a host of factors, such as public expenditures on transit, permissive zoning, and development incentives. But given their fundamental mutual dependence in the urban system, we argue that a rapid transit station area's accessibility and built environment characteristics combine to result in a spatial basket or bundle of transit oriented development goods around transit stations.⁶⁰

Creating the right pedestrian experience anchored by access to mass transportation requires an understanding of what is driving the lifestyle needs of modern residents and workers: convenience. Today's thriving transit-oriented developments are defined by amenity-rich spaces that support a shift toward work-life integration where features to support work-from-home arrangements, and office spaces that incorporate lifestyle services enabling workers to grab a coffee, get in a workout, or meet up with friends.

Over the past decade, placemaking has seen recognition as an effective economic development strategy and opportunity to develop and market a community's brand. From redeveloped areas around mixed-use centres to master planned cities, well-designed, authentic, and accessible places can differentiate one community from another. By capitalizing on local assets, economic developers have created quality places where residents want to live, work, and play. The creation of vibrant communities has resulted in social and workforce benefits that translate into economic gains.

Placemaking is based on two core principles. First: with the right tools and guidance, community members can initiate and implement changes on their own. Second: Placemaking draws on the unique assets inherent in each community. It recognizes residents' deep knowledge about the place where they live, producing a sense of collective pride and ownership. Using these strengths to work toward common goals involves everyone in the process and results in high quality projects that succeed both commercially and socially. A placemaking approach to

⁵⁹ Cervero, R., Aschauer, D., and the Transit Cooperative Research Program. Economic Impact Analysis of Transit Investment: A Guide for Practitioners. 1998.

⁶⁰ Higgins, C., & Kanaroglou, P. (2018). Rapid transit, transit-oriented development, and the contextual sensitivity of land value uplift in Toronto. *Urban Studies*, 55(10), 2197–2225.

development is emerging as a cost-effective way to revive prosperity in communities. It marks a fresh alternative to the way economic growth and urban growth have been approached over recent decades.

Urban design intersects the disciplines of planning and architecture, with considerations for occupancies and uses within the public realm. Good urban design is more than just stitching together a cityscape. Urban designers should configure networks that anticipate change; a framework of transport, built form and other features, which will create natural locations for things. Urban design structures the activities of day-to-day life. Excellent urban design elements, when combined with a transit network through the application of integrated design, help uplift property values and mixed-use development potential.

All placemaking activities have the potential to improve local quality of life and attractiveness for additional new development or redevelopment. But considerable study of high-quality places around the world demonstrates that projects and activities with a physical form that is appropriate for its context (human scale design supportive of active transportation, and representing land uses that serve a compatible function in the place they are proposed) have the potential to enhance economic and community development of a particular area. The distinction is critical because communities affected by years of disinvestment desire the property tax uplift derived from new development. However, new development without supportive, human-scale features, or in the wrong location, may compound the issues. Unless new development with good form is carefully sited and well-designed, it will underperform in its ability to attract additional development and positive economic activity.

ii. Trends and Changes

As new transit lines prove to be a magnet for real estate developers and investors, the industry is paying more attention to the idea of placemaking. In many ways, it is an evolution of the industry's recent focus on mixed-use properties and creating communities, fusing residential, commercial, retail and service properties.⁶¹ What makes placemaking different is that it is more than a collection of different types of property; it is about creating a unique experience and culture. New transit spending is creating opportunities to establish engaging environments along new and future lines. Large, dense, transit-oriented developments are examples of placemaking in action and are attractive to investors.

Economic development strategies aimed at attracting highly skilled workers through investment in urban amenities and placemaking are gaining momentum.⁶² Much of the foundational research has been tested in very large cities, both in the United States and internationally. This research suggests that quality of place factors⁶³ associated with better human capital outcomes in prior literature focusing on larger cities were also significant predictors of better human capital outcomes in midsized cities.

There is a trend toward the 18-hour city, sometimes known as the “long day/seven day” city, which has been described as a less intense version of so-called 24-hour cities like London, Paris, Berlin, Tokyo, New York and Toronto. While this concept isn't new, it is relatively new to Canada. The prototypical 18-hour city is a major centre with an international character that has managed to retain a vibrant urban core. These cities also tend to have robust and integrated residential, commercial, retail, services, entertainment and cultural amenities that allow

⁶¹ PwC and the Urban Land Institute. [Emerging Trends in Real Estate: Canada and the United States 2020](#), 2020.

⁶² Janey Kelly, Matt Ruther, Sarah Ehresman, Bridget Nickerson. [Placemaking as an Economic Development Strategy for Small and Midsized Cities](#), 2016.

⁶³ RATIO. [Public Spaces Designed for All Demographics Anchor Local Economies](#), 2016.

people to enjoy themselves well into the night. Currently, Vancouver and Montreal fit this idea of the 18-hour city—though Calgary is also making a solid claim to this status.⁶⁴

Key to an efficient lifestyle is the linkage between multiple transit options. Trains often serve as the anchor, but increasingly those embracing transit oriented development are looking at other complementary modes, including shuttle services and bike-share programs, that improve connections at transit hubs, support sustainable transportation, and contribute to a seamless living experience. These additional transportation options also foster viable development farther away from train stations, linking buildings that fall outside of a transit oriented development's standard 500-metres radius to the downtown district, without requiring use of a car.

In defining the desirable elements of mass transportation, it is critical to place special attention on the quality and experience of the transportation itself. While the transit oriented development talk tends to be mostly about trains, it is important to focus on the many municipalities whose main form of public transit is bus or light rail. The efficiency of the trip overall, the comfort and quality of the interior design, both of the vehicle and the station, and most importantly, the necessity for technology to enable the user to conduct business during the commute, are all factors that must be addressed as the growth in transit oriented development trend continues.⁶⁵

iii. Enhancement and Mitigation Strategies

City shaping initiatives must occur at the corporate level, across business units and other disciplines. Though the Green Line project invests in the underlying station facilities and infrastructure within the station areas, placemaking requires extensive municipal investment. The City of Calgary is currently developing these processes, though they are complex and may involve fiscal mechanism on private investments.

Municipalities that embrace the core tenets of placemaking and prioritize the pedestrian experience are best positioned to create and sustain successful transit-oriented development and realize the property value benefits that typically accompany transit investment. To do this, municipalities must put the needs and wants of people first and satisfy their desires for rich and varied experiences that allow them to move easily between all aspects of their lives. Equally important is the creation of pedestrian-oriented services that link people to mass transit and support a walkable environment. To achieve these goals, municipalities must recognize the need for, and implement zoning that encourages, residential and commercial development that fosters work-life integration.

As municipalities look to facilitate redevelopment, it is vital that they embrace the creative design process offered through the pathway of the designation of redevelopment zones. As developers seek to deliver the most suitable product, which today is defined by flexible, collaborative, and creative spaces, local administrations must respect the fluidity that the design process entails which frequently is left unmet by outdated zoning. The implementation of an effective transit-oriented development incorporates elements and considerations that cater to a variety of end-users. The success of these redevelopments can only be achieved through an integrated public-private partnership, whereby both the developer and the municipality are able to succeed in their equitable end goal of creating a thriving, stabilized asset that generates not only much-needed tax revenues for the community but also supports a dynamic population invested in the success of the location.

⁶⁴ PwC. Rethinking Real Estate and Affordability. 2018.

⁶⁵ Mixed-use transit-oriented developments are becoming increasingly more desirable in urban spaces. Apart from increased accessibility to jobs and activities, benefits of these neighborhoods include significant cost-of-living reductions. Transit-rich neighborhoods that are designed to be more walkable, and have higher retail and amenity density, reduces the number of households that rely on privately-owned vehicles. Across the seven study regions, one in four households did not own a vehicle. On average, a household in a transit-rich area spends \$2,500 to \$4,000 (USD) less on transportation per year. <http://www.njtod.org/the-real-estate-mantra/>

The execution of an effective place-based approach has inherent challenges. A successful approach ideally comprises of the following aspects:

- Strong communications and engagement programs
- A variety of good transport links, with multi-modal options
- Public and private sector working together
- Strategies to ensure that all communities benefit from the economic success

Determining what a place-based strategy should focus on starts with identifying what the location provides in terms of key assets, services and growth opportunities that shape day-to-day-life and economic opportunities.

Proposed mitigation strategies to attenuate for negative impacts:

- Physical connections/accessibility
- Anchors/destinations
- Visibility/wayfinding/branding
- Digital integration/lifestyle/convenience

The best practices are, to a significant extent, specific to the communities in which one is working. During the planning process, local administrations should be open to collaborative consultation, listening to residents and businesses to understand needs and high level objectives, using communities as sources of information about those places and how they function and what they want, and bringing back the best data and the most creative ideas for solving the needs that have been identified. It is important to understand that communities function well as editors but are less successful as creators.

The biggest challenge to implementing placemaking strategies is the financing, as a placemaking project requires the inclusion of elements that do not produce as much revenue as it could have in a different scenario. That may mean having more open space that does not produce revenue or bringing in an emerging small business tenant to attract other desirable tenants. Private and public sectors working together to find the right solution is key. There's a misperception that placemaking is an enhancement to otherwise conventional design work, and with the idea of enhancement usually comes the perception that one must spend more money. Placemaking is a mind-set that can be brought to every project, from small to large scale.

The biggest misconception being disproved by market economics today is this notion that if you simply put retail in the base of the building, you are placemaking. That has been proven to be unsuccessful. Successful placemaking means offering people a place to exchange ideas as well as goods and services. A place must balance transaction and reflection to best serve the needs and expectations of current generations. When good urban design is implemented, the development community benefits because the value of their real estate goes up, and the community benefits because they can have a space in which they feel like they are welcome.

APPENDIX C. Interview with Local Calgary Real Estate Professionals

The team has conducted interviews with Calgary-local real estate investors, brokers and valuation appraisers to understand their ‘real-world’ lens on the set challenges already existing and anticipated for the Green Line LRT project.

i. What are the types of transit-related impacts to properties?

- ▶ All respondents generally agree on what actually impact properties and their valuation (i.e. proximity to station, ease of access, etc.) Of highest concern is “Ease of Access” followed by “Transit System Design.” Both are closely related and are not mutually exclusive.

“Ease of Access” needs to be defined specifically within the context of Calgary as ease of access for:

- pedestrians between transit station/services to nearby properties;
- cyclist when passing through the station area
- drivers when passing through the station area, or to access specific buildings functions such as back-of-house servicing or parkades

Surface stations and portals to underground stations are generally perceived to be a negative impact (i.e. will become an infrastructural barrier and impediment) of the downtown commercial area because of their access concern. This is of specific concern at Riverfront Avenue SW and 2 Avenue SW.

The Green Line design team needs to be sensitive to how the system is designed to interact with the public realm and streetscape, and the travel experience by each user type (i.e. whether you’re a pedestrian, cyclist or driver). A pedestrian is likely to value design considerations such as a weather protected connection. The vitality of the ground floor plan and the +15 connections are unanimously emphasized as a major consideration and concern for Calgary, and especially because of the significant amount of public-private spaces unique to Calgary.

An additional mechanism that should be noted, but is largely an uncontrollable mechanism, is the Calgary real estate market. As such, leasing remains a significant challenge and hurdle currently and anticipated for the coming years.

There is unanimous concern that if the transit system and its station is *not* “well designed” it is assumed that commercial (office) properties located *away* from the new LRT corridor would be *more* attractive to prospective tenants (i.e. properties one-block away at 8 Avenue SW or 9 Avenue SW. If poorly designed, transit can be a barrier which limits access and constrains property values. For example, the streetscape along 7 Avenue SW with existing LRT is considered derelict with unsavoury sights. There remains low-confidence and uncertainty around the project design (and its mitigation/placemaking measures).

ii. Have property values been impacted since the Green Line’s announcement and funding commitment?

- ▶ All respondents generally noted *no observed change in market prices due to the activities of the new LRT project to date.*

To note, the project was initially announced as an underground LRT corridor back in 2016, which is was generally perceived by the public as a positive impact to property values. A surface transit system design was perceived as a negative impact. Only two specific properties (Ramsay at 10 Avenue SE and 11 Avenue SE; and Douglas Glen) were

noted by the interviewees as having seen any positive change to property values, although it is not clear if this is attributable to the perceived benefits of transit oriented development, and the incremental change is not significant (less than 1%). Furthermore, market conditions in Calgary have worsened over the last 5 years—making it difficult to assess and isolate for the benefits of the new LRT project

The speculated understanding of why the Ramsay property saw some sort of increased change in its market value is premised on the property already having an existing easement for the Green Line which was in place before the project's announcement. A possible conclusion to why there has been no significant shift in market values due to the new LRT project is due to the lack of public/market confidence and/or awareness of the design and implementation of the project. There is no clear messaging to the market on a “definitive” alignment, location of stations, and the overall design of the system

It was agreed though, that the Green Line project is not perceived as a “top-of-mind” risk factor when evaluating the risk profile and valuation of properties

iii. Is there a price premium for properties that exist along an LRT corridor today?

- ▶ There is no notable price premium, and/or higher-density intensification of transit oriented development sites that are along, or nearby existing LRT, and if there were, this is likely attributable to other factors, such as proximity to universities and other destinations/anchors.

For example: the new, Manulife building at 707 5 Street SW is located adjacent to an LRT corridor and is currently significantly vacant, with only one tenant across two floors. While a comparable property, 8 Avenue Place, which is located one block north and less close to the LRT corridor, is almost 100% leased with notable lease renewals.

It was noted that there are some office properties outside the downtown area that have higher rents than some downtown properties along the existing Red/Blue Line LRT. Another note made was that the Red and Blue Line serve different markets. The market sounding group have observed the greatest property value uplifts in areas where there was limited access to transit before the introduction of additional transit access and capacity. As such, there is likely little impact to the downtown core with already existing LRT access. Nevertheless, all were in agreement that if the LRT system is designed “right”, there can be anticipated positive impacts, i.e. integrated planning and design between transit and an institutional anchor like a university. Generally, whenever (transit) access is limited, that is where a new LRT project can create the most value. The three Green Line station areas that currently have limited LRT access are Centre Street North, Beltline and Eau Claire area.

iv. Is there more market demand for development along an LRT corridor versus a corridor without?

- ▶ There does not appear to be a differentiated preference for developing along an LRT or non-LRT corridor due to the Calgary market. Development decisions are influenced by how the transit infrastructure is designed, and if it is delivered poorly and below the public's expectations. Developers may choose to delay their development plans until certainty in the project is improved. Or, proceed with a building design that misses out on the opportunity for valuable connections and functional integrations with the transit station.

There is a surplus of developable land, where the value proposition for development is similar. Though fundamentally, the market demand for higher-density development is just lacking. Generally, the benefit of transit oriented development is seen as a checklist item when prospective tenants evaluate lease options, which doesn't necessarily imply the property needs to be immediately adjacent to a transit station. For the properties located

along an LRT corridor, it was noted that recent or new development have been/would be designed in such a way so that its common areas and amenities (i.e. Market entrances, lobbies, parkade entrances) will be oriented away from the LRT corridor.

The Westbrook transit oriented development project, along the West LRT Line, is highlighted as possibly the “only true transit oriented development project” in Calgary to date, where the property and its building are integrated with an underground station on the Blue Line. However, this project is a case example of an unsuccessful approach and outcome to realizing transit oriented development and its potential uplift in values. When the City first went to market with the Westbrook proposal, there were many prescriptions placed on the development scheme (i.e. construction timing, use and siting clauses). This was a major deterrent to the market, and before the project could take-off, the Calgary market began to experience its downturn.

Overall, the West LRT Line has seen a lot of new/induced development due to transit oriented development benefits. The line is located in an affluent, predominantly single-detached residential neighbourhood. The respondents also noted that there are 3 to 4 other transit oriented development sites that the City is trying to develop but are unable to overcome the hurdle of the fundamentally lacking market demand. The private sector is experiencing the same hurdle and have seen development on hold over the last 5 years. Residential opportunity was identified nearby the Saddledome site

v. Has development activity slowed down because of the Green Line LRT project?

- ▶ According to the Globe and Mail crane count tracker, Calgary was 6th on the list. This is evidence that there are still projects proceeding regardless of a new LRT project. However, it does not reflect the Calgary real estate market’s negative absorption, oversupply and historically high vacancy rates for multi-family and office developments, which are the types of projects being developed.
- ▶ Generally, it was agreed that the Green Line is not a detriment to development activity. However, without confidence and certainty in the design and implementation of the Green Line project, it will remain a risk item for real estate investors and developers, and thus development that would have otherwise been planned along the LRT would likely be deferred.

The majority of developments are 4 to 6 storey multi-residential housing. However, housing inventory in Calgary has been high since 2012, forcing some condominium projects to be converted to rental mid-way through. Currently, very little office being developed given the historically high office vacancy today. However, it was noted that the long term view of the Calgary office market is still fundamentally strong. Retail and industrial development are focused in greenfield sites.

Confidence and certainty in the Green Line project as noted by the market sounding group were driven by these localised impacts:

- The risk of 7 Avenue SW becoming unsafe for pedestrians and cyclists, decreasing general foot traffic, visibility potential, attractiveness of an area, and business activity.
- The risk of further isolating the ‘island effect’ of Eau Claire Market by worsening 2 Street SW, which is the primary access the area. The main concern here is the possible impediment to parkades and other vehicular logistics
- The perception that a surface station together with the portal and its associated barriers as a result of the infrastructure design, is not appropriate for an area with high-density development (i.e. 20 FAR, floor area ratio)

- The perception that an elevated LRT bridge will take away from the desirability of the parks and riverwalk in the Eau Claire and China Town area
- Placemaking design with a focus on enhancing the public realm together with transit, is viewed as the top mitigating measure to the above concerns.

If the right measures and design were implemented and the Calgary market recovers, then transit oriented development sites around the Eau Claire Market may be developed in 4 to 5 years out.

vi. Can property values be negatively impacted by the design of the LRT system?

- ▶ Impacts to property values need to be understood within the context of risk. From an investor's perspective, *assessed* property values would be negatively impacted by a *poorly designed portal* in the form of potential revenue lost, either because of increased vacancy from tenant turnover and/or inaccessible paid-parking stalls. If the perceived risk of the Green Line project is high, appraised property values will be even less.
- ▶ All respondents generally agree that potential negative impacts to property values would be due to impediments to a user's "Ease of Access" around/through the station area, and that this is driven primarily by the "Transit System Design."

Construction disruptions to businesses and leases will reflect in property values in the following cycle, typically quarterly or semi-annually given that typical lease terms are 5 years long. Currently, real estate valuations are already underwritten with the assumptions of 12 to 24 months periods for lease-up on Class AAA offices located in the downtown Calgary. It was noted that a significant portion of the property tax base is composed of high-value commercial properties. This is because the tax rate for commercial properties is much higher and was noted to cost property owners almost 48% of their total rental revenue is for tax payment.

It is perceived that tunnel portals and surface stations will negatively impact the ease of access to properties and that it will vary by the user type:

- Pedestrians and cyclists accessing the collective station area, public realm and private properties; safely and comfortably
- Drivers passing through the collective station area and accessing specific properties and their amenities, i.e. parkades and loading.

The rationale provided by the market sounding group include:

- After construction: Increased congestion along the alignment, due to the restriction to traffic capacity with the implementation of a surface station and/or portal. The infrastructure will become a barrier to the public realm rather than enhancing assets.
- During construction: The construction impacts of a surface station and portal will be significantly disruptive and this will impact the commercial leasing desirability along the entire alignment. (This is in comparison to tunnel boring construction method for underground stations—although this is usually a misconception: that tunnel boring construction methods do not require cut-and-cover). This is of specific concern at Riverfront Avenue SW and 2 Avenue SW.

Construction impacts and its localized effect on properties, their value and tenants will vary by the streetscape:

- The pedestrian streetscape will need to be considered along the entire alignment regardless of the market area, and especially in and around public amenities like the Prince's Island Park by the Bow River (the area is noted to be a popular destination for office workers, runners, pedestrians, and cyclists).
- There is a retail streetscape in the Beltline area and along the Centre St N segment that needs to be considered
- The vehicular street access to parkades in office buildings will need to be considered.
- It is easier to circumvent the congestion concern outside the downtown core.

It was noted that disruptions due to construction would decrease the desirability for prospective tenants to sign or renew a lease, given it is a tenant's market and there are many other alternatives, and the probability of a lease renewal would decrease from about 75% to 50%—which has an impact on appraised property values. Access will no doubt be compromised and cause problems for the property market over the 2 to 3 years of LRT construction.

The case example of utility upgrades along 17 Avenue SW was provided, where cut-and-cover construction led to full street closures for over 3 years. This, together with Calgary's sensitive economy, resulted in many business closures. The interviewees all recommended consideration for relief programs to offset business disruption due to LRT construction.

vii. Are businesses and tenants able to 'weather the storm' during station construction?

► It is currently a buyer's or tenant's market where the over supply of options allows the prospect to find other similar or better options easily, and this trend is anticipated to continue. This is regardless of an office, retail or residential asset or product. In summary, the market sounding group ended with the following over-arching thoughts:

- Be highly sensitive/conscious to localized impacts, it's all about the look and feel
- City of Calgary engagement with stakeholders could be improved
- Regarding the transit system design, we cannot cut corners—need to pursue the long term

APPENDIX D. Case Studies

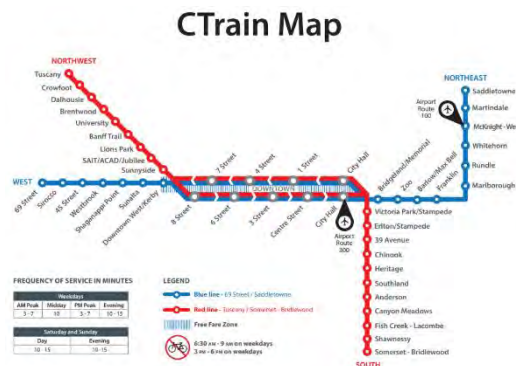
A literature review of various North American LRT projects and their relation to transit oriented developments have been conducted to understand each case study's successes and lessons learned that are applicable to the Green Line LRT project.

Most of the literatures reviewed estimate the long-term impacts and benefits of transit projects using a variety of crucial factors, including the characteristics of the stations and their location, the type of clientele, and the quality of the service.⁶⁶

Below in Table 12 is a summary of other illustrative examples of property value uplifts across other markets and studies in comparison to the Green Line estimates.

Table 92 – Other benchmark property value impacts due to light rail transit across other major metros

Authors	City	Impact to Property Values	
Hatch (2017)	Calgary	↑	Price of 12% within 800-metres to a station, over 18-years; highest gains within 500-metres 0 to 39% for residential properties 0 to 93% for commercial properties
Deweese (1976)	Toronto	↑	Price of \$2,370
Bajic (1983)	Toronto	↑	Price of \$2,237
Voith (1991)	Philadelphia	↑	Price of \$6707 in New Jersey
		↑	Price of \$3437 in Pennsylvania
Gatzlaff and Smith (1993)	Miami	→	No significant effect
Landis et al. (1994)	San Francisco	↓	Price of \$2.29 and \$1.96 per meter (linear distance decrease)
	San Jose	→	No significant effect
	San Diego	→	No significant effect
	Sacramento	→	No significant effect
McDonald and Osuji (1995)	Chicago	↑	Price of 17% within 1/2 mile (800-metres)
Benjamin and Sirmans (1996)	Washington DC	↓	Price of 2.5% for each 1/10 of a mile (160-metres)
Lewis-Workman and Brod (1997)	San Francisco	↓	Price of \$15.78 by feet (linear distance decrease)
	New York	↓	Price of \$23 by feet (linear distance decrease)
	Portland	↓	Price of \$0.76 by feet (linear distance decrease)
Chen et al. (1997)	Portland	↓	Price of \$32.20 per metre (linear distance decrease)
So et al. (1997)	Hong Kong	↑	Price of 3.2% if less than 10-minute walking distance
Haider and Miller (2000)	Toronto	↑	Price of \$4,000 if within a 1km distance from the station
Baum-Snow and Kahn (2000)	USA	↑	Price of \$4,972 for a diminution of 2km
Cervero and Duncan (2002)	Santa Clara	↑	(Commercial) price of \$4.00/sq foot if within a 1/4 mile (400-metres)
Knaap et al. (2001)	Washington DC	↑	(Land) price of 36% if within a 1/2 mile (800-metres)
		↑	(Land) price of 9% if within 1 mile (1,600-metres)
Weinstein and Clower (2003)	Dallas	↑	Price of 39% if within a 1/2 mile (160-metres)
		↑	(Office) price of 53% within a 1/4 mile (400-metres)
McMillen and McDonald (2003)	Chicago	↑	Mean price of \$6,000 within 1/8 of mile (200-metres)
Garrett (2004)	St. Louis	↑	Price of \$139.92 for each meter from 1.46-km
Celik and Yankaya (2006)	Turkey	↓	Price of \$4.76 per meter (linear decrease distance)
Hess and Almeida (2007)	Buffalo	↑	Price of \$1,300 - 3,000

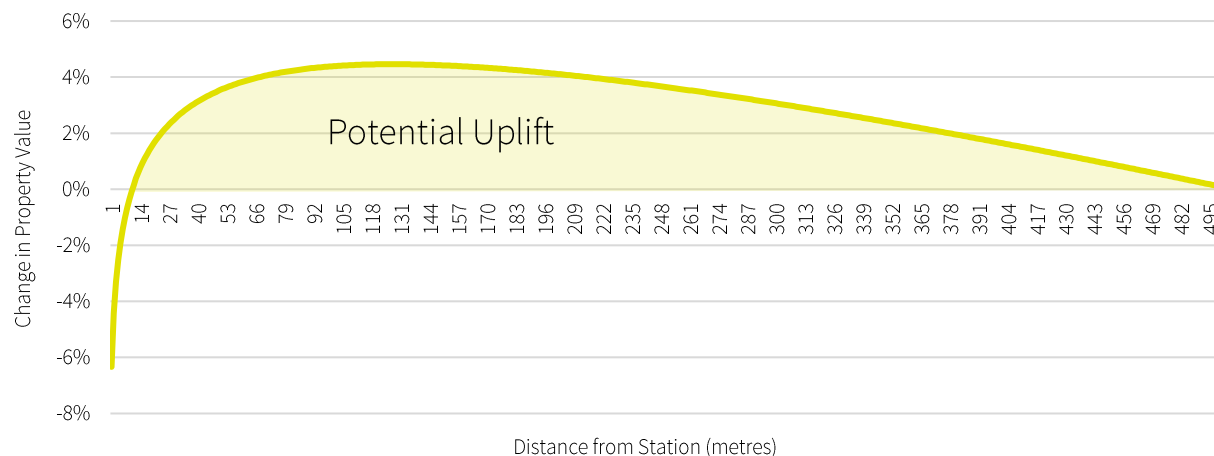
i. Calgary, Canada: 7th Avenue Red Line LRT

The Calgary CTrain Red line links northern and southern suburban communities with the downtown core. Since 1978 Calgary has been building LRT including 9 expansions between 1987 – 2015 accounting for 59km and 45 Stations.⁶⁷ It is a mixed surface elevated and tunneled system but both alignments run along 7 Avenue SW through the central business district surface. Notably, the entire LRT system is free to ride downtown. The LRT currently crosses the Bow River on a series of elevated bridges.

In a Hatch study of property value impacts due to the Calgary Red Line written prior to this report (in 2016), a hedonic model was used to understand the correlation between property value gains (or loss) and a property's proximity to a transit station. The study analyzed assessed property values between 1998 to 2016 (an 18-year period) from all properties located within an 800-metre radius from all Red Line C-train Stations. It confirmed the strong correlation between property value uplifts and proximity to transit access, though it varied by real estate use and in a logarithmic pattern, decreasing to no effect after a certain distance.

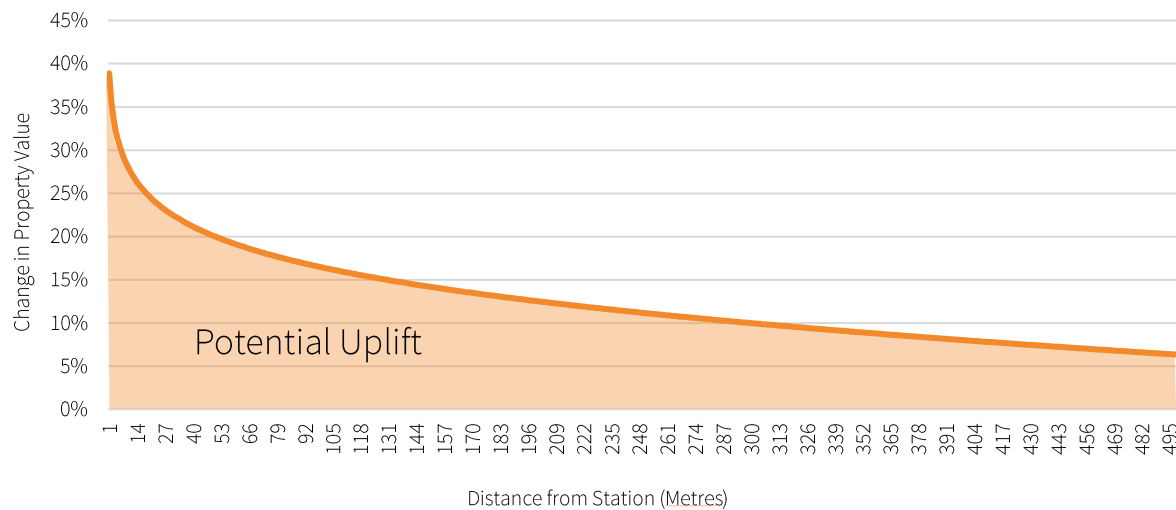
Single-detached residences saw property value uplifts up to just over 4%. Uplifts experienced a peak at around 150-metres, while there appeared to be negative impacts to property values when the residences were within 10-metres of a station.

Figure 223 – Single-Detached Property Value Uplift due to the Calgary Red Line (1998-2016)

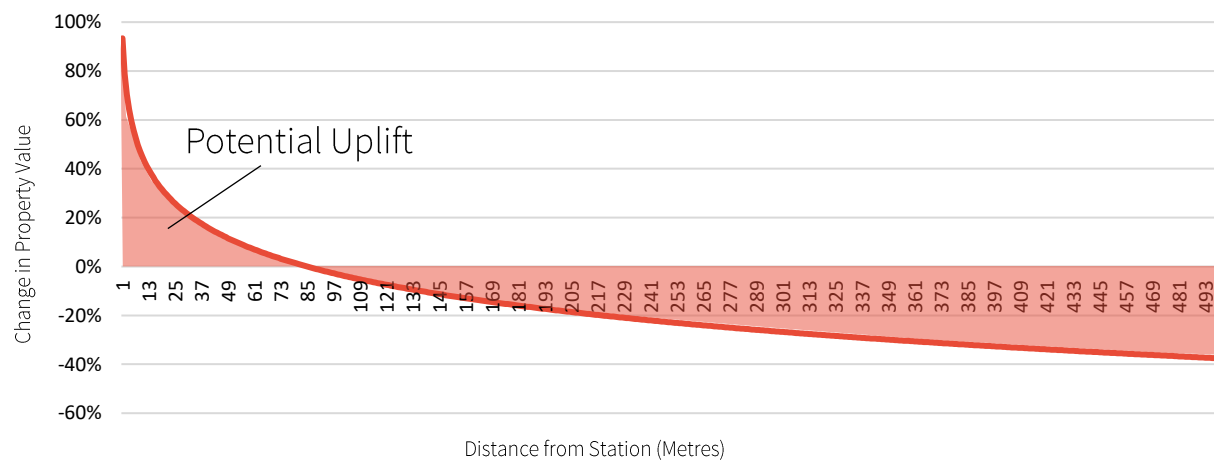


Multi-family residences saw property value uplifts up to just under 40%. Uplifts were highest within the immediate proximity to a station (at around 100-metres) with declining premiums of lower than 5% beyond 500-metres of the station.

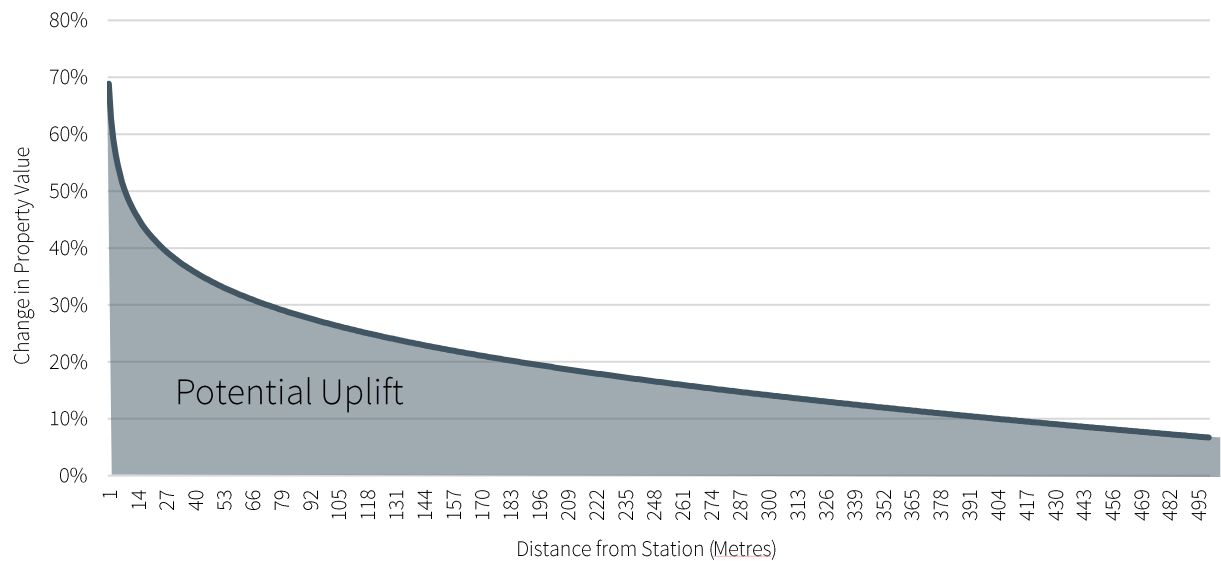
⁶⁷ <https://www.calgary.ca/PDA/pd/Documents/municipal-development-plan/lrt-history-calgary.pdf>

Figure 234 – Multi-Family Property Value Uplift due to the Calgary Red Line (1998-2016)

Retail properties saw their values uplifted over 90%, though immediately declined to *below-median* levels beyond approximately 100-metres to a station.

Figure 245 – Retail Property Value Uplift due to the Calgary Red Line (1998-2016)

Office properties saw their values uplifted to just under 70%. Uplifts were highest within the immediate proximity to a station (at around 100-metres) with declining premiums of lower than 5% beyond 500-metres.

Figure 256 – Office Property Value Uplift due to the Calgary Red Line (1998-2016)

The higher-density land uses of multifamily, retail and office that are located within the immediate proximity to a transit station experienced the most significant property value uplift partly due to substantial, induced intensification.

ii. Vancouver, Canada: Canada Line SkyTrain

The Canada Line is an extension to the Vancouver SkyTrain rail system and connects downtown Vancouver with the suburb of Richmond and Vancouver International Airport. Owned and operated by Translink, the Canada Line runs at a length of 19.2 km with 16 stations. The project had an estimated capital cost of \$2 billion.

In a study that estimated the property impacts of the Canada Line extension, impacts were minimal beyond a 300-metres radius from station areas. The study's base case assumed an increase in commercial and residential land values of 1.5% per year excluding inflation. After construction, commercial land values were forecasted to increase at 3.5% per year and residential land values at 3.0% per year, excluding inflation. The projected increase in land values was \$75 million. To undertake the assessment, the study assumed no change in the current zoning. Although, should zoning changes occur to allow higher value and higher density development, "significantly higher" land values would occur as a result.

After the fact, it has also been noted that commercial real estate located adjacent or close to transit nodes have lower vacancy and commands higher rents within Metro Vancouver.⁶⁸

An economic benefits report conducted on behalf of the City of Surrey suggests light rail lines in Surrey would attract investment in the city centre, generate higher-value jobs and diversify the city's labour force over 30 years. The report also noted that light rail is more feasible than the elevated SkyTrain system because it has more frequent stops, attracts more retail investment at grade level and makes better use of the estimated 41 million square feet of redevelopment capacity around the proposed stations.⁶⁹

A 1988 study conducted on the original Vancouver SkyTrain using the hedonic pricing model found that there was a price premium of over \$14.70 per square foot for each foot closer to the station. The spatial extent of this effect was measured to be 2,400 feet (about 730-metres). While this study is over 30 years old, given the increasing demand for housing in Vancouver and the strong growth of the region's economy, these impacts are anticipated to be more exacerbated as demand for station proximate land increases.

Furthermore, it was estimated that the implementation of the Canada Line would result in more rapid development of real estate in the vicinity of the transit stations, which in turn would result in higher property taxes. The property tax revenue increase through 2050 was estimated between \$14 to 28 million.

Figure 267 – Canada Line SkyTrain in Vancouver, Canada nearby Marine Drive Station (TransLink)



⁶⁸ M. Reuter. *Empirical Proof that Transit Protects or Enhances Your Property Values.* Real Estate Intelligence Network. July 2014.

⁶⁹ Avison Young. *Unlocking Generational Aspirations: A Commercial Real Estate Perspective on Public Transit & Transportation Infrastructure Investment in Metro Vancouver.* June 2015

iii. **Ottawa, Canada:** Confederation Line LRT

The \$2.1 billion project was built under a public-private partnership between the City of Ottawa and the Rideau Transit Group Partnership, and was opened in 2019.⁷⁰

The 12.5 km electric light rail system replaced existing diesel powered buses, providing rapid transit between Blair Station in the east and Tunney's Pasture in the west. The 12.5 km route includes 13 stations and a 2.5 km tunnel through Downtown Ottawa that will alleviate congestion through the core.

In 2005, the City completed a study entitled “Strategic Assessment: North-South Light Rail Value Uplift and Capture (Value-Uplift Study).” This study examined development opportunities within a 400-metres radius around the (then) 15 stations proposed for the North-South LRT project. It estimated that the impact area would receive 5.3% of the city’s annual 1 million square metres of new development, and that this share would increase by 20%, to around 6.4% with the presence of LRT.

The estimated value of all properties in the impact area was \$4.8 billion, with \$1.7 billion in development to likely occur in the Base Case (no LRT). This is compared to an additional \$766 million in development to likely occur with an LRT over a 15-year period. The study also noted that the city could potentially capture between \$80 million and \$125 million of this development through a combination of property tax surcharges, development charges, and direct participation in the projects as a partner, where appropriate and feasible.

Figure 38 – Overview map of the Confederation Line LRT

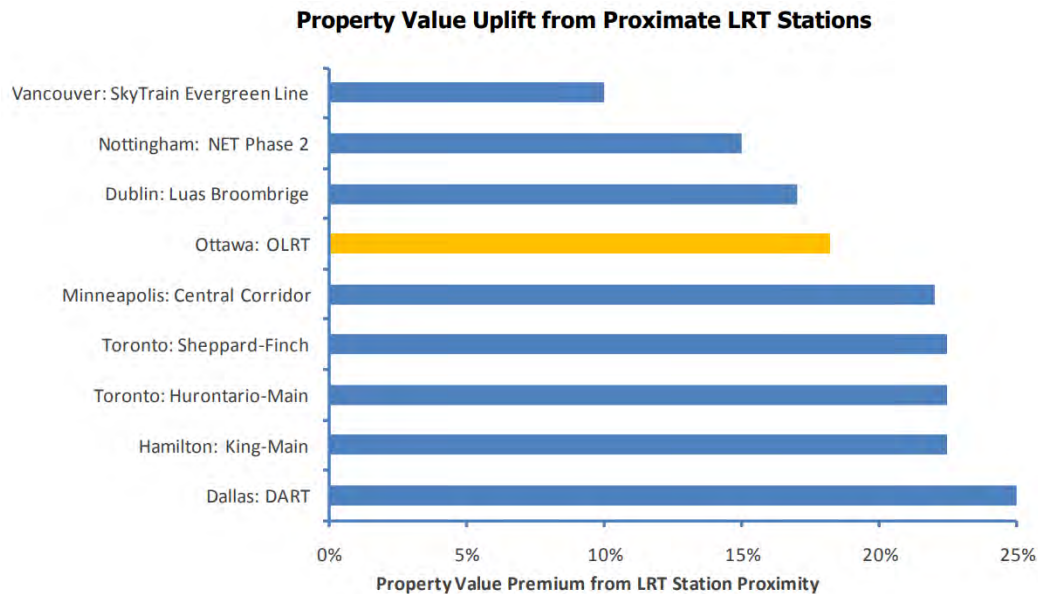


After the fact, property prices were evaluated within an 800-metres of stations and the results were similar to what the initial research had projected. From 2008 to 2017, Real estate prices increased roughly 39% since the announcement of the LRT, compared to an overall increase of 37% across the entire City. This suggests a 2% premium for real estate that is closer to transit. There was a spike in prices when the LRT was announced and funding was confirmed. During the construction phases, prices dropped and/or stagnated largely due to delays in

⁷⁰ Transport Canada. Transportation in Canada: Overview Report 2013.

construction, noise, inconvenience, air pollution and general nuisance impacts dissuaded people from living in the area. Since the opening of the line, there has been a further decrease in property values however, as the line matures and operations become more consistent, research and experience suggests that property values will increase approximately 10% over other areas of Ottawa without LRT access.⁷¹

Figure 39 – Summary graph of reported property value uplift from study



In Ottawa, the presence of an existing bus rapid transit (BRT) system may have somewhat reduced the impact on the uplift resulting from the LRT. The area that is likely to see the highest uplift is “the commercial laden downtown core due to the high potential uplift rates seen on commercial properties.”⁷² Areas with little commercial space are considered to experience a substantial land value uplift, albeit relatively moderate compared to that of the downtown core.

⁷¹ http://cdn3.reincanada.com/workshops/2019_Workshops/March_2019_Calgary_SOS/Calgary_Transportation_Effect_Report_FINAL.pdf

⁷² [Ottawa Light Rail Transit Economic Impact Study](#). 2011

iv. Toronto Canada: St. Clair Streetcar

The dedicated streetcar right-of-way along St. Clair Avenue kickstarted a new era in Toronto's streetcar and LRT development. After operating in mixed-traffic for decades, the grade separation project was completed in 2010. The streetcar serves an established and growing residential and commercial area, terminating at an intensifying commercial node while connecting to the City's underground subway system. Since the project's completion, there has been significant inducement of mixed-use development which has further spurred local economic activity.

In downtown Toronto overall, a 2015 study by Avison Young compared commercial property sales within the downtown core from 2012 to 2015 between: *commercial buildings less than 500-metres from a station* and *commercial buildings outside that range*. The study found that the commercial properties that were closer to the subway station sold for an average \$475 per square foot, or 30% more than properties beyond 500-metres.⁷³

Figure 270 – St. Clair Streetcar Dedicated Right-of-Way



Since the implementation and completion of construction, there have been a number of local impacts measured that are attributed to the grade-separated transit investment. Traffic volumes have been observed as having decreased by as much as 23% in some locations.⁷⁴ Despite the alignment running down the centre of St. Clair Avenue and there being significant impacts to the road network during construction, 93% of all on-street parking spaces were retained since the completion of the project. Additional parking spaces were also added off the right-of-way to provide additional parking solutions for commercial and retail business activity along the corridor.⁷⁵

While many of the changes that have occurred along St. Clair Avenue are attributed to and in response to market conditions, the dedicated surface streetcar route has supported this growth by providing incoming residents and businesses reliable alternatives to automobile use.

In a 2011 study that compared traffic and ridership levels along the route, suggested that the final outcome of the St. Clair project should be hailed as a success, rather than the disaster some critics claim. The average daily ridership on the line had increased from 28,500 in 2005 (before construction started) to 32,400 in 2011. The average morning rush hour round trip was eight minutes shorter in 2011 than 2005. On Saturday mornings, the average round trip had been shortened by fourteen minutes. Thanks in part to the increase in ridership, the TTC had actually increased frequencies along the line by anywhere from 7% to 45%. On average, the St. Clair streetcar is scheduled to operate

⁷³ Avison Young. *Making the connection: Subway proximity offers multiple benefits for Downtown Toronto office buildings*. 2015.

⁷⁴ Ryerson City Building Institute. *Toronto's Great Streets: Redesigning Streets for a Growing City and Better Neighbourhoods*. July 2018.

⁷⁵ *ibid*

at frequencies of 2 minutes, 55 seconds. For most of the route, vehicular congestion had also decreased, by as much as 40% in certain areas at certain times of the day, and accidents were down.

To try and ameliorate the impact that the St. Clair streetcar project placed on local businesses while construction was taking place, the TTC adopted a special timed-transfer arrangement on St. Clair, allowing passengers to stop over, shop, and re-board transit vehicles without paying an additional fare. Additionally, The TTC could have done much to mute this controversy through a more conciliatory approach in its public consultation.

Relevant to the City of Calgary are the characteristics of the line itself. The majority runs surface along St. Clair Avenue. However, where the streetcar meets the subway station at St. Clair Avenue and Bathurst Street, a portal has been constructed to allow the streetcar to go below ground and connect riders to the subway system. The result is two portals allowing for east and westbound transit vehicles to navigate below ground. The portals are similar to the portal envisioned at 2 Street SW and 3 Avenue SW.

Figure 281 – Google Street View of St. Clair Streetcar portal connecting to underground interchange with subway

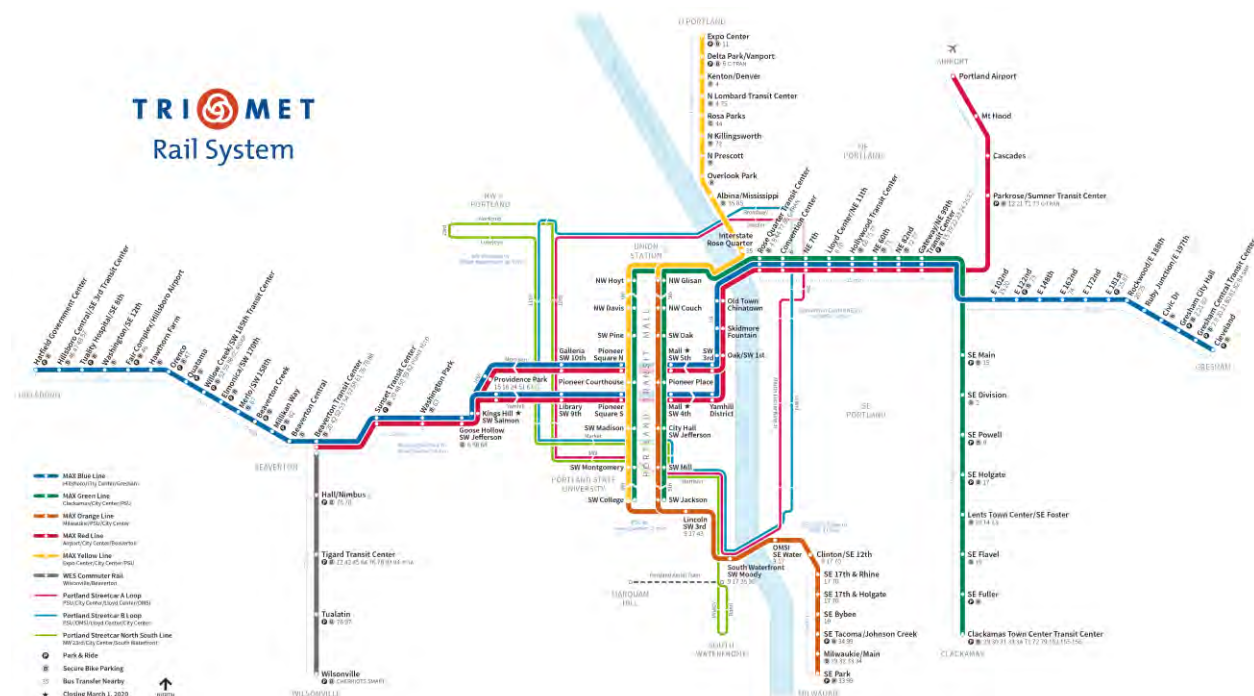


v. Portland, US: MAX LRT

Portland's MAX (Metropolitan Area Express) Light Rail connects Portland City Center with Beaverton, Clackamas, Gresham, Hillsboro, Milwaukie, North/Northeast Portland and Portland International Airport.⁷⁶ It is operated by TriMet (the Tri-County Metropolitan Transportation District of Oregon), and runs on 60 miles of track and serves 97 stations. As of 2019, the system has an annual ridership of almost 39 million.⁷⁷ The system is composed of five lines:

- ♦ Blue Line (Hillsboro/City Center/Gresham) – Completed 1986
- ♦ Red Line (Airport/City Center/Beaverton) – Completed 2001
- ♦ Yellow Line (Expo Center/City Center/PSU) – Completed 2004
- ♦ Green Line (Clackamas/City Center/PSU) – Completed 2009
- ♦ Orange Line (Milwaukie/City Center) – Completed 2015

Figure 292 – TriMet Rail System



The MAX Light Rail system is generally considered a great transit, mobility, and transit oriented development success. Prior to development, it was speculated that the light rail might have greater redevelopment impacts, dollar-for-dollar, than heavy rail because LRT "operates at the surface and offers visibility, penetrates the community and is not separated... like heavy rail, which is down in a hole or up in the air, and is part of the urban experience—an amenity, a signature for the area."⁷⁸ This has proven to be true in the case of Portland's MAX system.

⁷⁶ <https://trimet.org/max/>

⁷⁷ <https://trimet.org/about/pdf/trimetridership.pdf>

⁷⁸ https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rrd_07.pdf

Figure 303 – Portland MAX LRT (TriMET)

According to TriMet as of 2016, over \$13.2 billion in development has occurred within walking distances of MAX system stations since the decision to build in 1980.⁷⁹ Studies conducted to date have focused on the residential property value impacts of the MAX light rail, and have focused primarily on the Blue Line (both the east and the west sides). Research generally has found that light rail transit has a positive impact on residential property values. One study found that property values in Portland increased by \$75 for every 100 feet (about 30-metres) closer a home is to a light-rail station when it is within a half-mile to mile (about 800 to 1,600-metres) radius of the station.⁸⁰ Another study found that home prices increased as a result of being closer to a station, but the effect was only significant within 1,500 feet (just less than 500-metres) of the station. This study found that home values increased \$32 per meter the closer homes are to an LRT station.⁸¹ Another study indicated that, while properties within a half mile of Portland's MAX stations command a premium, those within half mile of the line, but not near a station, decreased in value.⁸²

A study of Portland's MAX Blue Line found that median house values increased at increasing rates the closer it was to an LRT station. This study found that a home located very near an LRT station will gain about 5 percent of its value if within 400 feet (122- metres) away, only 2 percent over the next 200 feet, and just 1 percent over another 200 feet (61-metres) away from a station. The largest price difference (\$2,300) occurs between the station and 200 feet away. In other words, the closer the home is to an LRT station the higher its value.⁸³ While these studies are the most comprehensive, recent, and conclusive research available about Portland's property values in relation to the MAX Light Rail system, it should be noted that they are primarily from the 1990s and early 2000s.

While not part of the MAX system, in Downtown Portland, positive commercial property value increases have been observed along the Portland Streetcar line, a separate light rail line. Between 1997 and 2008, multifamily home values increased by 205% compared to 118% for the city as a whole, equivalent to differential annual rate of

⁷⁹ <https://trimet.org/publications/pdf/factsheets/regionaltransportation.pdf>

⁸⁰ Lewis-Workman, Steven and Brod, Daniel. "Measuring the Neighborhood Benefits of Rail Transit Accessibility." Transportation Research Record, No. 1576, 1997, pp. 147-153.

⁸¹ Chen, Hong; Rufolo, Anthony; and Dueker, Kenneth. "Measuring the Impact of Light Rail Systems on Single Family Home Values: A Hedonic Approach with GIS Applications." Transportation Research Record, No. 1617, 1998, pp. 38-43.

⁸² Kilpatrick, J. et al. (2007). *The Impact of Transit Corridors on Residential Property Values*. Journal of Real Estate Research. February 2007.

⁸³ Dueker, Kenneth J. and Martha J. Bianco. (1999). Light Rail Transit Impacts in Portland: The First Ten Years. Presented at Transportation Research Board, 78th Annual Meeting.

appreciation of 3.3%. Commercial property assessments grew by 231%, outpacing the rest of the city where commercial property value grew by 130%. This is equivalent to an annual differential growth premium of 3.6%.⁸⁴

While the studies of commercial property increases are more limited, one study of the Portland Streetcar (a separate system from the MAX system), which opened in 2001, found that “first five years revealed a 62% increase over other city commercial properties. This could point to the value increase of all non-residential properties in and around the streetcar line. During the next six years, the value change was even with the rest of the city, signaling that retailers and commercial office have possibly realized their value during the announcement of the alignment and stayed flat after the initial bump.”⁸⁵

Areas around MAX stations have also seen an increase in density. A study of Blue Line light rail station areas found that development occurring after light rail investment has an average development density or Floor Area Ratio (FAR) of 0.65, which is greater than the average FAR for development outside of station areas. This means that for every 1,000 square feet of land area developed, station area tax properties realized an additional 650 square feet of building area. The rate of development within Blue Line station areas was 69 percent higher than elsewhere within a one-mile corridor extending along the light rail alignment. Additionally, low and moderate value properties within Blue Line station areas redeveloped at twice the redevelopment rate reported for low value properties outside of station areas.⁸⁶

TriMet also utilized innovative methods when planning and constructing the Green and Yellow Lines. During the Green Line construction, several methods were undertaken to minimize disruption to small businesses in the Portland Mall area. TriMet provided one-on-one support for businesses and property owners, created and maintained a project website that tracked construction progress and weekly construction updates sent via email to downtown businesses, and worked with contractors to ensure that customers had access to businesses during construction⁸⁷. During construction of the Yellow Line, TriMet partners created an advertising and marketing campaign to draw in business to the Interstate Avenue area, where many small businesses are located. Eight months after the Yellow Line opened, over 50 new businesses had opened on Interstate Avenue, unhampered by construction disruptions or deterrence.⁸⁸

The impact of public policy and strategic planning has also had a positive impact on land and property values. Using data from Washington County, served by Portland’s Westside Blue Line, research found that announcements on the planned siting of light-rail stations and the use of zoning tools (e.g., overlays and interim restrictions) to promote transit oriented development induced land-value increases even before the system began operating.⁸⁹ (Although induced land-value increases before actual development becomes an increased cost to developers.)

Portland’s zoning and transit oriented development policies have also contributed to the success of light rail development. The city has an overlay zone called the Light Rail Transit Zone. This designation increases permitted densities, restricts auto-oriented uses, and encourages pedestrian-oriented development in LRT station areas, including small retail shops, restaurants, outdoor cafes, benches, and kiosks.⁹⁰ Additionally, the 2040 Growth

⁸⁴ Brookings Institution, HDR, Reconnecting America, RCLCO. Value Capture and Tax-Increment Financing Options for Streetcar Construction. 2009.

⁸⁵ <http://www.reconnectingamerica.org/assets/Uploads/brookingsvalueaddedtif2009.pdf>

⁸⁶ <https://trimet.org/pdfs/publications/Livable-Portland.pdf>

⁸⁷ <https://trimet.org/publications/pdf/factsheets/max-greenline.pdf>

⁸⁸ <https://trimet.org/publications/pdf/factsheets/max-yellowline.pdf>

⁸⁹ G. Knaap, C. Ding, and L. Hopkins, “Do Plans Matter? The Effects of Light Rail Plans on Land Values in Station Areas,” *Journal of Planning Education and Research*, Vol. 21 (2001): 32–39.

⁹⁰ <http://www3.drcog.org/documents/archive/LRT%20and%20TOD.pdf>

Management Strategy, adopted by the Metro Council in 1995, features a tight Urban Growth Boundary for the Portland metropolitan area, focusing growth in transit centers and corridors, and requires local governments to limit parking, and adopt zoning and comprehensive plan changes to be consistent with the plan. Two-thirds of jobs and 40% of households are designated to be in centers and corridors served by buses and LRT.⁹¹

The Portland region also uses financial incentives to achieve greater density, a mix of land uses, better design, and lower parking ratios in transit oriented development areas. More than a \$3 billion investment in new development has occurred within walking distance of the stations along Portland's light rail lines.⁹² While the vast majority of those transit oriented development projects received no form of public subsidy, the Oregon legislature enabled 10-year property tax abatement for transit oriented development in 1995.⁹³ The Yellow Line was "intended to stimulate reinvestment in the commercial corridor and residential areas surrounding the MAX stations," and it was largely successful in this, with several new schools, small businesses, and residential developments have since opened on Interstate Avenue, part of the Yellow line corridor.⁹⁴

⁹¹ <http://www3.drcog.org/documents/archive/LRT%20and%20TOD.pdf>

⁹² TriMet, Facts 2002.

⁹³ <http://www3.drcog.org/documents/archive/LRT%20and%20TOD.pdf>

⁹⁴ <https://trimet.org/publications/pdf/factsheets/max-yellowline.pdf>

vi. Buffalo, US: Metro Rail

The Buffalo Metro Rail is a 10.3-kilometre long light rail line that runs through downtown Buffalo connecting the University of Buffalo to the core. While the proximity to stations generally increases property values, the effect in Buffalo is weak, especially compared with other areas that demonstrated much stronger growth in property values.

The often-cited Buffalo Metro Rail LRT is an example of an underperforming LRT line that did not create the anticipated development needed to revitalize Buffalo's city centre and reverse the shrinking population.

Subsequent analysis also suggests that transit accessibility in cities like Buffalo does not play a large role in property values. A hedonic model was used to study the mechanisms behind impacts to property values in Buffalo. The study suggests that property characteristics and the local neighbourhood characteristics were more strongly related to property value uplifts, such as the size of a land parcel, or the number of bathrooms.⁹⁵

Figure 314 – Buffalo Metro Rail LRT



The Metro Rail's underperformance was predicted by leading transit researchers. While light rail transit in Buffalo was perceived as a necessity for urban revitalisation and had sufficient political backing, the lack of a strong regional economy limited the potential of Metro Rail as a catalyst to revitalize downtown and neighbourhoods.

Within a half-mile (800-metres) radius of rail stations, land is valued \$2.31 higher (using straight-line distance), or \$0.99 higher (using actual walking distance) for every foot closer to a light rail station. Consequently, an average home anywhere in the study area along the light rail line would generally be worth between \$990 and \$2,310 more than the average home if it were within 1,000 feet (300-metres) of a station.⁹⁶

Perhaps more interesting is that decades after the completion of the line, ridership has only recently begun to increase and the LRT has been given the green light for a significant expansion. There may be an argument that transit investment over a longer timeframe and having gone through multiple economic cycles will increase ridership and help strengthen property values—justifying the continued transit investment.

⁹⁵ Hess, D. and Almeida, T. 2007. Impact of Proximity to Light Rail Rapid Transit on Station-area Property Values in Buffalo, New York. *Urban Studies*, Vol. 44, 1041-1868

⁹⁶ Ibid.

i. New Jersey, US: Hudson-Bergen LRT

Figure 325: Hudson-Bergen Light Rail System Map



The Hudson-Bergen Light Rail (HBLR) is a light rail system that connects the cities of Bayonne, Jersey City, Hoboken, Weehawken, Union City, and North Bergen in Hudson County, New Jersey (NJ). The system has connections with the Port Authority Trans-Hudson (PATH) train system, ferries, and New Jersey Transit (NJ Transit) commuter rail. The system is owned by New Jersey Transit and operated by 21st Century Rail Corporation, and was the first public transit project in the United States to use the Design, Build, Operate and Maintain (DBOM) construction methodology.⁹⁷

The system consists of three lines: Tonnelle Avenue to Hoboken, West Side Avenue to Tonnelle Avenue, and 8th Street to Hoboken. The system began operating the first segment in 2000, and the system was fully completed in 2011. It has 24 stations along a track length of 17 miles.

There are currently two planned extensions to the HBLR: an extension north to Bergen County, and an extension west to expand the West Side Avenue branch. The extension to Bergen County, called the Northern Branch Corridor Project, has been approved by NJ Transit to Englewood from the current terminus in Tonnelle Avenue. This 10-mile extension would include the construction of seven additional stations.

The West Side Avenue extension is approximately 3,700 feet in length and will include one new station west of Highway 440 to support Jersey City's planned development on the Hackensack waterfront. The project is currently in the Preliminary Engineering phase.⁹⁸

As with the case of Portland's light rail system, the studies that have

Figure 336: HBLR and residential Development in Newport, Jersey City (NYT)



⁹⁷ https://www.njtransit.com/tm/tm_servlet.srv?hdnPageAction=Project001To

⁹⁸ <https://hblr440.com/>

been undertaken focus on the residential property value impacts. One study showed that residential properties near West Side Avenue (Jersey City), 9th Street (Hoboken), and 22nd Street (Bayonne) Stations appreciated the most. Properties around these stations achieved an annual rate of price appreciation that was 17-20% higher than comparable, less transit-accessible properties. This appreciation was limited to a 0.25 mile (approximately 400 metres) radius around stations, and there was no appreciation beyond that radius. However, property value appreciation was found to be negligible around stations that were already well-served by transit.⁹⁹

The HBLR has also helped increase economic development along the system's route, particularly in Jersey City, Hoboken, and Weehawken. A report by Booz Allen Hamilton on the HBLR and economic development says that "while it would be unreasonable to directly attribute the many economic successes on the waterfront to the development of the light rail line, clearly there is a symbiotic relationship between the two that has existed over the past 15 years as the system has been planned, constructed, and implemented."¹⁰⁰ The study found that developers have "shift[ed] away from the PATH stations hubs. They are investing in properties along the light rail alignment, they are showing more attention to the residential market, and they are "selling" the amenities and connectivity that the light rail line provides." This includes development at and around Exchange Place and Newport in Jersey City in the early 2000s, and more recently in Jersey City in the Liberty Harbor North and Bergen Layfette neighborhoods.

Figure 347 – Development at Port Imperial (Source: Avora at Port Imperial)



Additionally, this same study also found that land use patterns have changed as the light rail facilitated residential infill development and greater development density, as light rail stations are spaced closer together than PATH stations are. PATH stations saw "localized, concentrated, heavily office-based development occurring within a 0.25-

⁹⁹ Brookings Institution, HDR, Reconnecting America, RCLCO. Value Capture and Tax-Increment Financing Options for Streetcar Construction. 2009.

¹⁰⁰ <http://www.reconnectingamerica.org/assets/Uploads/bestpractice097.pdf>

mile (400-metres) radius.” In contrast, the HBLR stations “brought development into locations that office space developers would not be interested in.”¹⁰¹

Transit oriented development has also accelerated around some HBLR stations. A 2008 study found that over 10,000 new residential units were either built or under construction as of 2008 around just five HBLR stations (Hoboken 9th Street, Essex Street-Jersey Avenue, 34th Street Bayonne, Port Imperial, and Bergenline Avenue).¹⁰² Over 4,000 of these units were in the vicinity of the Essex Street-Jersey Avenue Station, and over 3,000 were near Port Imperial Station. The report summarized that around HBLR stations “large quantities of underutilized land around rail stations are being reclaimed for productive use and being replaced by compact, pedestrian-friendly, mixed-use developments with convenient access to public transportation at a scale beyond that which the local road network could borne.”

¹⁰³

¹⁰¹ <http://www.reconnectingamerica.org/assets/Uploads/bestpractice097.pdf>

¹⁰² <http://www.reconnectingamerica.org/assets/Uploads/200804HBLR.pdf>

¹⁰³ *ibid.*

Risk Update

Introduction

In July 2019, after considering report TT2019-0811 - Green Line Q2 2019 Update, Council directed the Technical and Risk Committee (TRC) to undertake an independent peer review of risk identification, quantification, and mitigation as part of a set of efforts to close project gaps and 'help place the City on a successful path to plan, procure, and deliver the Green Line project'.

This corporate direction is further supported in the *2019 Year-end City Manager's Risk Report: Update on Risk and Tolerance*, which highlights three key transformative themes: understanding entrenched organizational risk aversion to projects and refocusing efforts to understand "levels" of risk taking; developing comprehensive risk assessments with focused risk reporting; and demonstrating an openness to risk by promoting transparent discussions and continuous improvement.

The July Council direction, in conjunction with developments in the Green Line Program scope, led the Green Line Program Team to engage SMA Consulting, a specialized risk management firm. SMA is assisting with corporate due diligence of risk management activities and leading the management of risk on the Green Line Program. This work is in alignment with the stage gating process delineated in the readiness plan outlined in report GC2020-0246 titled, "Green Line - Project Readiness Report" presented to the Green Line Committee on 2020 February 21. In report GC2020-0246, the TRC and the General Manager, Green Line indicated their view that executing the actions outlined in the readiness plan in a timely manner and by a team having all the required competencies would place The City on a successful path to plan, procure and deliver the Green Line Program.

Earlier this year, SMA commenced a review and update of the Green Line Program's current risk practices and associated risk management tools in alignment with these themes. Several major milestones have been achieved and work continues to progress.

Due Diligence on Risk Management Activities

The Green Line Program Team, in alignment with The City's Corporate Integrated Risk Management Framework (IRM) and Council's direction, has implemented and continues to improve comprehensive risk management on the Program. SMA began a full due diligence review and update in January 2020.

The Green Line's prior risk management practices reflected standard approaches and were highly detailed, however, the activity was isolated, lacked megaproject scalability, and lacked sufficient resources. As the Green Line Program developed (including decisions to convert the project into a Program and splitting up the alignment into two segments: Segment 1 and Segment 2), increased project complexity required a more robust risk management approach. The updated approach integrates with The City's IRM framework, makes it easier to collect updates on risk response strategies, provides appropriate reporting to different levels of



management, and better informs the affordability assessment. The current phase will also require more structured risk and contingency tracking, which is underway. Key activities include:

Risk Management Plan: A strong risk management plan details the purpose and goals of risk management for the Program and the approach to identifying, quantifying, prioritizing, and responding to risks. It also establishes how risks will be escalated and reported and aligns the team to a risk-aware culture. SMA worked with the Green Line Program Team to update the Green Line Risk Management Plan, which was approved by the Executive Steering Committee (ESC) in April 2020.

Risk Register Update: The risk register is the foundation of all risk management activities, and contains all potential events that may have a material negative impact on the Program or projects, as well as estimates of that negative impact and strategies for response. It is continually updated. The risk register is a vital input to the program affordability analysis, as risk is an important part of contingency determination. SMA undertook an in-depth reorganization and update of the risk register to introduce hierarchical structure, aligning with best practices on megaprojects and SMA's direct experience with ongoing LRT projects in Alberta and Canada. A full risk assessment exercise was held to update the register (see Risk Assessment section below). The register is currently well-positioned to support critical Green Line Program functions, including ongoing proactive risk management.

Ongoing Proactive Risk Management: Risk management is where the value of the risk assessment is realized and drives responses to each risk which help the Program strategically control, accept, transfer, or eliminate risk. This process is tightly linked to contingency management, as contingency is re-evaluated throughout the life of the Program as risks are either realized or mitigated. Regular evaluation of the Program risks allows the team to proactively manage the budget and avoid potential cost overruns. In direct collaboration with the Green Line team, efforts continue to strengthen and refine the Program's risk management strategies.

The updated approach includes methods for escalating severe risks to the appropriate level of governance, including stimulating a risk-aware culture through individual responsibilities for risks and responses, contract development that reduces risk, and informing affordability assessments. SMA also continues to highlight key areas of concern and provide a risk-based perspective on project issues to aid the team in their decision-making.

COVID-19 Risk Response: The new reality of the COVID-19 pandemic introduces significant uncertainty into markets, working conditions, liability management, and construction methods, and has brought forward several specific risks to monitor and mitigate. The Green Line Program Team has developed a specialized COVID-19 risk dashboard and is tracking key risks and responses as the pandemic continues to evolve.

The risk management approach being undertaken by the Program is designed to provide relevant and timely information to ensure appropriate issue and risk escalation, and reduce uncertainty and risk exposure over time as scope certainty increases. This will strengthen the Green Line Program's ability to strategically handle risk, stabilize a risk-aware culture, and actively support affordability and program success.

Risk Assessment

A risk assessment consists of a full review and update of all risks, quantification, and responses. At this time, the objective of the risk assessment is twofold: first, to drive efforts to understand and reduce risk, and second, to inform the affordability assessment of the Program. To this end, multi-disciplinary review sessions were held with key Program stakeholders, culminating in a Green Line risk workshop on March 25, 2020 that engaged more than 30 Program Team participants. Following the workshop, SMA aggregated the information and undertook a multi-impact structured risk assessment using Monte Carlo simulation to derive results. Key risks include:

- **Scope Additions and uncertainty:** The risk is that the affordability of the Program could be jeopardized. Cost increases could be driven by the compounding impact of many other risks, but especially, the potential addition of scope. The Program will need to make binding decisions under conditions of significant uncertainty, such as committing to large contracts and progressing with site preparations, before the full Program design is finalized. Current risk response strategies include finalization of planning activities, Value Engineering, and budget management strategies.
- **Governance and decision making:** Upcoming multiple parallel procurements drive the need for agile decision-making, particularly with regard to scope/planning details. If this need is not met, this can lead to ongoing uncertainty regarding the affordability of the Program as a whole, and reputational impacts to The City in relation to the design and construction market. Current risk response strategies include proposed revision of the governance structure and increased resourcing.
- **Procurement and market:** This risk area focuses on the potential that procurement delays could lead to market uncertainties that impact Program success. Several interdependent procurements are planned over the next year and additional delays could result in significant escalation costs, reduce competition, and damage The City's reputation. Current risk response strategies include reaching out to the market, reviewing contingency plans, and prioritizing procurement preparation.
- **Contract interfaces:** There are significant risks associated with the complex technical, contractual, and physical overlaps and the need for integration among contracts. As The City will be entering into multiple contracts, once projects are awarded, The City will be responsible to manage the interfaces and meet the requirements for the individual contracts, or ensure that they are being met by the contractors. Current risk response strategies include pursuit of interface management and alignment of contracts.

- **Segment 2 Design and Constructability:** Segment 2 involves intensive construction in Calgary's downtown area, with major river crossings and a significant tunnel portion. Some key technical information is not yet available for the proposed alignment modifications, meaning uncertainty is very high. Given that Council's approval of the alignment is pending most preparatory and mitigation works have not yet commenced. Current risk response strategies include seeking Council's confirmation of the alignment and continuation with technical risk response.
- **Canadian National (CN) / Canadian Pacific Railway (CPR) coordination:** Both Segment 1 and Segment 2 involve many kilometers of construction that are within/directly adjacent to Canadian Pacific Railway (CPR) or Canadian National (CN) Right of Way (ROW). The challenges and restrictions of design and construction near active rail are well known. Current risk responses include contract review and ongoing engagement with CN/CP.
- **COVID-19 impacts:** The COVID-19 situation is very fluid and the market is not familiar with pricing construction during pandemic conditions. These unfamiliar conditions could lead to increased pricing and contract ambiguities. It is important that the project avoid unintentionally taking on liability and preserve optimal risk sharing and transfer to the private sector while maintaining safety for all. Other potential impacts could include Program Team productivity issues due to the need to work remotely and slower political processes. Both of these could jeopardize meeting procurement timelines. Current strategies include leveraging remote work tools, identifying emerging best practices, and ongoing monitoring of COVID-19 impacts.

The program holds risk in all typical categories of an LRT megaproject, but has a number of high-risk elements such as downtown tunneling, proximity to rail, and contract interfaces. Interim results show risk exposure for the Green Line is at the high end of the typical range of other major LRT projects at this stage, with the need for a strong risk response by the Program Team to continue to ensure project affordability, market buy-in, construction claim prevention, and successful delivery within the current timelines. Critical responses that the Green Line Program Team has taken and will continue to implement include:

- *Finalizing planning details:* Halting additions and changes to Program scope and planning accounted for in the budget, as these have cascading impacts on contracts as well as increasing risk of schedule delay.
- *Streamlined, risk-informed decision-making:* Providing clear delegations of authority and accountability so that timely decisions can be made at the appropriate level of leadership.
- *Meeting established procurement timelines:* Making every effort to avoid delay in procurement as the separation of Segments 1 and 2, LRVs, utility relocations, and

Enabling Works means many contracts are co-dependent and delays have cascading effects.

- *Clearly projecting support for the Green Line Program:* Ensuring The City of Calgary demonstrates to the market that it is fully behind the Green Line Program and the risks are known, clear, and appropriately allocated in order to ensure attractive bids and the best value for money for taxpayer dollars.
- *Finalize Segment 2:* Completing alignment and engineering of this segment in order to progress critical geotechnical, environmental, and utility investigations.
- *Resourcing:* Expediting bringing on remaining required in-house and external resources to meet the Program organization's needs.
- *Cost savings measures:* Implementing cost savings measures that have been identified and completing the development of scope ladders for procurement to ensure budget targets are met.

Next Steps

Going forward, the risk management strategy will be focused on ensuring that the Program Team continues to align with The City's IRM framework, facilitating open discussion of risk and the ongoing maturation of a risk-aware culture, with focused reporting to aid risk-informed decision-making. The short-term goal over the next few months is intensive risk management to reduce overall risk exposure, with continual updating of quantification to gauge ongoing residual risk levels.





The team will also leverage risk management strategies to inform contract development and claims preparedness. Major updates will be timed for critical points where multiple risks can change in value, such as alignment approval, release of tender packages, reception of bids, completion of negotiations, and completion of key construction activities. With team effort directed toward managing and controlling risk on the Green Line Program, the risk profile should continue to reduce over time.



Top Areas of Risk

The following risk areas represent **current** and **important** threats to project success that have been identified in the interim risk assessment. Each area includes related risks that have been measured for likelihood, impact, and severity. Risks with a red severity reflect an importance level of 3 out of 4 (worst risks) and require escalation and monthly monitoring by Program leadership in order to drive responses. Risks with a black severity reflect the highest risks with an importance level of 4 out of 4, requiring review by the Executive Steering Committee (ESC) in addition to weekly monitoring by Program leadership. Impacts increase exponentially between severity levels. Monitoring and escalation processes are captured in the Risk Management Plan.

Extreme	Critical threat to Project success and City business processes	To be escalated to the Executive Steering Committee (ESC) and possibly Council. Devoted resources to resolution. Warrants additional funding for mitigations, potential budget and schedule adjustments; engage Legal as required.
High	Potential threat to Project success and/or City business processes	General Manager regularly updated. ESC informed if risk is trending towards Black severity. Warrants spending risk contingency to mitigate, including hiring additional resources. Gather specific documentation for claim preparedness. Probability monitored closely to determine if warrants escalation to Black status.
Moderate	Important risks and are tracked and controlled proactively	Green Line leadership team informed. Standing set of mitigation actions are undertaken by the program teams. Risks are tracked monthly for changes and documented in the risk register. Program leadership team engaged as required.
Low	Minimal risks, tracked and monitored periodically	Undertake standard risk mitigations through project management. Quarterly check-in of risk status by Risk Management Lead.

Risk Area	Risk Area Description	Key Current Risk Responses	Severity
Scope additions and uncertainty	The risk is that the affordability of the Program could be jeopardized. First, the compounding impact of many other risks, but especially the potential addition of scope, could drive cost increases. Second, the Program will need to make binding decisions under conditions of significant uncertainty, such as committing to large contracts and progressing with site preparations, before the full Program design is finalized.	<ul style="list-style-type: none"> Finalization of planning activities Design optimization Budget management strategies 	■

Risk Area	Risk Area Description	Key Current Risk Responses	Severity
Governance and Decision Making	Upcoming multiple parallel procurements drive the need for agile decision-making, particularly with regard to scope/planning details. If this need is not met, this can lead to ongoing uncertainty regarding the affordability of the Program as a whole, and reputational impacts to The City in relation to the design and construction market.	<ul style="list-style-type: none"> • TRC review of project governance adequacy and resourcing Revision of governance structure (report included on today's Committee agenda) • Increased internal and external expert resources 	
Procurement and Market	This risk area focuses on the potential that procurement delays could lead to market uncertainties that impact Program success. Several interdependent procurements are planned over the next year. Additional delays could result in significant escalation costs, reduce competition, and damage The City's reputation.	<ul style="list-style-type: none"> • Engagement with potential bidders • Reviewing contingency plans • Prioritizing procurement preparation • Seeking Council approval for finalized alignment 	
Contract Interfaces	There are significant risks associated with the complex technical, contractual, and physical overlaps and the need for integration among contracts. As The City will be entering into multiple contracts, once projects are awarded, The City will be responsible to manage the interfaces and meet the requirements for the individual contracts, or ensure that they are being met by the contractors.	<ul style="list-style-type: none"> • Best practice interface management • Alignment of contracts • Dedicated resourcing 	
Segment 2 Design and Constructability	Segment 2 involves intensive construction in Calgary's downtown area, with major river crossings and a significant tunnel portion. Some key technical information is not yet available for the proposed alignment modifications, meaning uncertainty is very high. Given that Council's approval of the alignment is pending, most preparatory and mitigation works have not yet commenced.	<ul style="list-style-type: none"> • Confirmation of Segment 2 alignment • Continuation with technical risk responses 	

Risk Area	Risk Area Description	Key Current Risk Responses	Severity
CN/CP Coordination	Both Segment 1 and Segment 2 involve many kilometers of construction that are within/directly adjacent to Canadian Pacific Railway (CPR) or Canadian National (CN) Right of Way (ROW). The challenges and restrictions of design and construction near active rail are well known.	<ul style="list-style-type: none"> • Review of contract language regarding work near rail • Ongoing engagement with CN and CPR 	
COVID-19 Impacts.	The COVID-19 situation is very fluid and the market is not familiar with pricing construction during pandemic conditions. These unfamiliar conditions could lead to increased pricing and contract ambiguities. It is important that the project avoids unintentionally taking on liability and preserves optimal risk sharing and transfer to the private sector while maintaining safety for all. Other impacts include potential Program Team productivity issues due to the need to work remotely and a potential slowing of political processes. Both of these could jeopardize meeting procurement timelines.	<ul style="list-style-type: none"> • Leverage remote work tools • Identify emerging best practices • Ongoing monitoring of COVID-19 impacts 	



Public Submission

City Clerk's Office

Please use this form to send your comments relating to matters, or other Council and Committee matters, to the City Clerk's Office. In accordance with sections 43 through 45 of Procedure Bylaw 35M2017, as amended. The information provided may be included in written record for Council and Council Committee meetings which are publicly available through www.calgary.ca/ph. Comments that are disrespectful or do not contain required information may not be included.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

Personal information provided in submissions relating to Matters before Council or Council Committees is collected under the authority of Bylaw 35M2017 and Section 33(c) of the Freedom of Information and Protection of Privacy (FOIP) Act of Alberta, and/or the Municipal Government Act (MGA) Section 636, for the purpose of receiving public participation in municipal decision-making. Your name, contact information and comments will be made publicly available in the Council Agenda. If you have questions regarding the collection and use of your personal information, please contact City Clerk's Legislative Coordinator at 403-268-5861, or City Clerk's Office, 700 Macleod Trail S.E., P.O. Box 2100, Postal Station 'M' 8007, Calgary, Alberta, T2P 2M5.

✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Paul

* Last name Lagasse

Email paul.lagasse@gmail.com

Phone 4039680375

* Subject Route alignment in the Beltline.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Has any thought been given to the possibility of making two 45 degree turns rather than one 90 degree turn transitioning the route from 11th Ave SW to 2nd St SW? If the tunnel made a 45 degree turn on 11th Ave midway between Centre St and 1st St SW and a second 45 degree again midway between 1st St SW and 2nd St SW. This would eliminate the need for a 90 degree turn and would intersect 1st St SW mid block between 10th and 11th Avenues (at the alley). Not only would this eliminate a sharp turn but would allow for a shallower tunnel as it would not have to go underneath the new tower built mid-block on 11th Ave SW between 1st St SW and 2nd St SW.

ISC:

1/1

Unrestricted

Apr 28, 2020

2:48:10 PM



Public Submission

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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Colin

* Last name LO

Email colinlo8@yahoo.com

Phone 4039782888

* Subject Against GREEN LINE & stop at 9th Ave SE the best case scenario

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Due to pandemic, Our world economy have changed so as Canada's economy especially Calgary downtown & area. Our population have decreased especially more downtown office space empty near 33% early yr 2021. We do not have enough ridership for green line and as well as growth of our economy in downward spiral. We should be more cost conscious BY NOT SPENDING ANYMORE OUT OF CONTROL. This green line should stop at segment 1 along 9th Ave., SE and overhead route across Bow River not acceptable especially a stop at Waterfront by 2nd street SW. City should not spend to build green line especially our economy is in bad shape. This infrastructure will not be utilize even 25% of ridership across downtown. BOTTOM LINE: STOP THIS PROJECT will be white elephant.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Lucia

* Last name Juliao

Email orangepineapplephoto@gmail.com

Phone

* Subject Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please do NOT put the LRT line on a bridge over Prince's Island Park. This is extremely short-sighted and over the long term will cost as much as (or more) than doing the initial underground plan. This is an eyesore, it's bad for the habitat, it's bad for anyone who lives nearby, it's just a terrible plan all-around. If you're not going to do it correctly, don't do it at all.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Curtis

* Last name Aloisio

Email curtis@murettohomes.com

Phone 403-589-6191

* Subject Attn: Green Line Committee

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am opposed to the greenline expansion, and emphatically opposed to proposed updates.

-The city needs to be fiscally responsible now more than ever with the implications of the COVID-19 pandemic and the international oil economy unknown. I believe spending any (further) money on this expansion at this time would be irresponsible.

-IF the project does move forward it is my opinion that it needs to stick with the original plan of underground through downtown and anything else would be extremely shortsighted.

-Conservation of Prince's Island Park should be the number #1 topic when speaking about routes to enter downtown, and if the tunnel can not be built, then alternate routes away from this area should be discovered and explored.

-In my opinion fundamental problems and impacts to one of Calgary's most used areas of downtown need to be addressed before starting any part of this project, starting the greenline without a clear approved plan for the entire project would be irresponsible.

ISC:

1/1

Unrestricted

Apr 30, 2020

7:34:37 AM

From: Surplus, Barbara <Barbara.Surplus@brookfield.com>
Sent: Sunday, May 03, 2020 1:13 PM
To: Public Submissions; City Clerk; Green Line Feedback
Subject: [EXT] RE: Documents for Submission RE: Green Line LRT Project Public Consultation Process
Attachments: Green Line Submission_April 30 2020_final v1.1.pdf

Good morning,

Further to Jim Gray's April 30, 2020 Submission, it has come to our attention that the document contained a minor typo.

Accordingly, I am attaching a corrected version and would ask that this version be considered final and the earlier version be disregarded.

Many thanks and best regards,

Barbara

Barbara Surplus
Executive Assistant
Private Equity

Brookfield Asset Management
225 6th Ave SW, Suite 1210, Calgary, Alberta, T2P 1N2
T +1.403.770.7207
Barbara.Surplus@brookfield.com
www.brookfield.com

Brookfield

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From: Gray, Jim
Sent: Thursday, April 30, 2020 12:16 PM
To: 'publicsubmissions@calgary.ca' ; 'cityclerk@calgary.ca'
Subject: Documents for Submission RE: Green Line LRT Project Public Consultation Process

Gentlemen:

Please see attached our group's Submission to the City of Calgary's Green Line Public Consultation process.

Since we were unable to submit this document electronically through the City of Calgary's website due to an apparent failure of that particular page, we would be most grateful if you would reply with a confirmation that you have received our Submission.

Thank you for the opportunity to share our views.

Sincerely,

James K. Gray
(403 616 5359)

April 30, 2020

Submission to the City of Calgary

[Engage.calgary.ca/greenline](https://engage.calgary.ca/greenline)

And delivered by email: publicsubmissions@calgary.ca and cityclerk@calgary.ca

It's time to de-risk the Green Line.

The crisis facing Calgary is unlike anything we have faced before. Council needs to update its assumptions and make other critical choices to de-risk the Green Line in order to head off a potential financial disaster.

The people of Calgary are responding to the catastrophic impacts of crashing oil prices, a global recession and COVID-19. There will be bankruptcies of small business, companies across the energy sector and thousands of households. The City will emerge from this crisis far more fragile than before. The historic practice of raising taxes to pay for budget shortfalls will no longer be an option, meaning there is no room for error on major projects.

Council owes it to current and future generations to face these new realities and build a Green Line for the future, not the past. Over the long run Calgary will emerge as a better and stronger city. But only if we adapt to new realities and avoid irreversible mistakes in the meantime.

The Green Line was originally conceived in 2013. The economic crash and COVID-19 have changed everything.

- Mayor Nenshi said that as a result of the energy crash, global recession and COVID-19 "Calgary will be hit harder than any other city in Canada."ⁱ
- Calgary was booming when the Green Line was proposed. The price of WTI was \$97/barrel. Today it is \$17, and WCS has recently traded at negative prices for the first time in history.
- Downtown office vacancies were 3.7%. They are now 27.2% and climbing, and Calgary's unemployment is the highest in Canada.
- The City's financial position has deteriorated significantly. It is facing a six-month revenue decline of \$350-400 million.ⁱⁱ The Government of Alberta also faces dire financial realities.
- The Green Line as proposed is based on pre-crash, pre-COVID assumptions and is too risky and complex for these uncertain times. According to the City it is "the longest and most complex LRT line ever built in Calgary".ⁱⁱⁱ
- To put this into perspective, the Green Line will be four times the cost of the new Calgary Cancer Centre (\$1.4 B), ten times the cost of the event centre (\$550 M) and seventeen times the cost of the proposed Foothills Fieldhouse (286 M). And the cost of ongoing operating support for the Green Line is many times larger than these other projects.

- Much of the spending on the Green Line (as currently proposed) will leave the province: To out-of-province engineering, management and construction services. The ground-load rail cars have to be purchased from outside suppliers.
- The City's latest cost-per-kilometre estimate has more than doubled from where it was three years ago. Its 2017 estimate for the longer 46-kilometre route was \$4.65 billion, or \$101 million per kilometre. The updated \$4.9 B estimate for 21 kilometres is an average of \$233 M per kilometre.^{iv} Some estimates suggest the total will reach \$7 B or \$333 M per kilometre. Any way you look it, overspending on this project will lead to higher taxes and funding cuts for other important community priorities.

There is a viable lower cost option – the Sensible Alternative.

Given these facts, we are calling on Council to take immediate steps to de-risk the Green Line by updating its underlying assumptions and taking a “measure twice, cut once” approach. We respectfully ask that the City consider a sensible alternative that includes:

- Reducing the length of Stage One, having it run from downtown (7th Avenue) to Shepard.
- Saving \$1.3 B by abandoning the problematic 7th Avenue to 16th Avenue North portion. Instead, the City should consider expanding the presently successful BRT system for Centre Street to service north central communities as a better alternative to LRT.
- Avoiding all “cut and cover” underground segments, using instead low risk surface-level or elevated lines from the Elbow River to downtown (7th Avenue). The cost per kilometre of surface and elevated lines is a fraction of that of cut and cover. This will save another \$1.4 B.
- Using platform-loaded cars consistent with the existing fleet to allow maximum flexibility for redeployments of staff, cars, parts, maintenance and storage to match ridership demand. Utilizing the existing fleet overcapacity will reduce costs by at least \$500 M (\$500 M new extra fleet plus incremental maintenance facility costs).
- Requiring a “risk reserve” to protect Calgarians against capital and operating overruns.
- Breaking the new Stage One into three to five construction sites (or spreads) costing less than \$500 M each.
- Making these attractive to local construction companies, producing more local jobs sooner and shortening the construction schedule.

At the same time, Council should revisit its assumptions, and have these independently verified. It can then make decisions about future stages based on answers to these questions:

- What impacts will the economic crisis and pandemic have on downtown employment and office vacancy levels?
- Will more Calgarians work from home or in decentralized business settings?
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- In particular, how many people are expected to travel in and out of downtown five years from now? How does this match up with existing transportation capacity?

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- How does a newly designed Green Line fit with the City's broader economic recovery plan?

With updated assumptions and business plans, Council will be in a much better position to make prudent decisions about the future of transit. To do otherwise will be to run the risk of making the Green Line into a colossally expensive White Elephant.

Council deserves credit for doing things differently in the face of new information and new circumstances. The 2019 decision to move away from tunnels under the Bow River was a prudent step.

Now it's time for Council to face new realities, gather the facts and rethink its planning for the Green Line to ensure our City stays resilient in an uncertain future.

We appreciate the dedication and commitment of our City's leaders as they work to address unprecedented challenges, while developing a positive plan for our City's future.

To reiterate, Calgary will emerge as a better and stronger city over the long run. But this can only happen if we adapt to new realities and avoid irreversible mistakes in the meantime.

Thank you for the opportunity to make this submission. We look forward to further constructive dialogue on this critical project.

Respectfully submitted on behalf of an Ad Hoc committee of Calgary citizens,

James K. Gray

Emily Farquhar (Struck)

Barry Lester

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Patti Grier

Ken Stephenson

ⁱ <https://globalnews.ca/video/6860509/nenshi-says-calgary-will-be-hardest-hit-city-from-pandemic>, April 23, 2020

ⁱⁱ <https://www.theglobeandmail.com/canada/british-columbia/article-western-canadian-cities-face-dire-financial-effects-from-coronavirus/>, April 15, 2020

ⁱⁱⁱ City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

^{iv} City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

de Grood, Anna

From: Ryan K. <rko.lbc@gmail.com>
Sent: Saturday, May 02, 2020 11:08 PM
To: Public Submissions
Subject: Re: [EXT] Green Line - Objection to above-ground crossing of the Bow

Yes, I consent to including this email as part of a public submission. Thank you for the link to the online form.
Ryan

On Fri, May 1, 2020 at 10:41 AM Public Submissions <PublicSubmissions@calgary.ca> wrote:

Good Morning Ryan,

Thank you for your email regarding the Green Line.

Did you wish to have this email included as a public submission on the 2020 June 01 Green Line Committee Meeting agenda?

The email would be added to the agenda as is, with your email address included.

As a FYI for any future submission you make wish to make, we do have an online form which can be found [here](#) or by going to www.calgary.ca/ph and clicking on 'Public Submission Form' found in the COVID-19 Impact box.

Warm regards,

Jordan Palaschuk
Legislative Advisor,

Governance & Protocol Services, City Clerk's Office

City Manager's Office | The City of Calgary | Mail code: #8007
T 403.268.5861 | **D** 403.268.1123 | **F** 403.268.2362 | **E** jordan.palaschuk@calgary.ca
P.O. Box 2100, Station M, Calgary, AB Canada T2P 2M5

ISC: Protected

From: Barbaatar, Davaa
Sent: Friday, May 01, 2020 7:51 AM
To: Public Submissions <PublicSubmissions@calgary.ca>
Subject: FW: [EXT] Green Line - Objection to above-ground crossing of the Bow

From: Ryan K. [<mailto:rko.lbc@gmail.com>]
Sent: Thursday, April 30, 2020 11:27 PM
To: Office of the Mayor <TheMayor@calgary.ca>; City Clerk <CityClerk@calgary.ca>; Sutherland, Ward <Ward.Sutherland@calgary.ca>; Magliocca, Joe <Joe.Magliocca@calgary.ca>; Gondek, Jyoti <Jyoti.Gondek@calgary.ca>; Chu, Sean <Sean.Chu@calgary.ca>; Chahal, George <george.chahal@calgary.ca>; Davison, Jeffrey R. <Jeff.Davison@calgary.ca>; Farrell, Druh <Druh.Farrell@calgary.ca>; Woolley, Evan V. <Evan.Woolley@calgary.ca>; Carra, Gian-Carlo S. <Gian-Carlo.Carra@calgary.ca>; EAWard10 - Lesley Stasiuk <EAWARD10@calgary.ca>; Farkas, Jeromy A. <Jeromy.Farkas@calgary.ca>; Keating, Shane

<Shane.Keating@calgary.ca>; Colley-Urquhart, Diane <Diane.Colley-Urquhart@calgary.ca>; Demong, Peter
<Peter.Demong@calgary.ca>

Subject: [EXT] Green Line - Objection to above-ground crossing of the Bow

Hi - I am strongly against the bridge crossing the Bow River for the Green Line. Below I have the following valid considerations. I look forward to hearing back from you.

What's the rush to cross the Bow if it's only going to 16th Ave? Why not use those funds to further extend the South leg or start developing the North leg. It seems irresponsible to be spending money on infrastructure that doesn't add much value and only building the line to 16th Ave isn't going to add a lot of value. If the City wants to do it right, I would suggest that the City build less of the south leg and use that money to build the underground route under the Bow. This would be a true demonstration of doing the right thing as opposed to trying to score political points by trying to say they addressed the needs of more Calgarians when they really just didn't do the right thing.

If the expectation is that Calgarians will drive to the 16th Ave parking lot and transit into downtown, I find that hard to grasp. If a Calgarian is already at 16th Ave, it's a significant inconvenience and waste of time to then transfer to a C-Train. Furthermore, nobody wants to pay for a C-Train ticket from 16th Ave into downtown.

The underground option under the Bow for the Green Line was originally chosen because it's the best option and made the most sense. If that still is true, why are we sacrificing quality for a band-aid, insignificant alternative to only get to 16th Ave?

Why do we even need to cross the Bow if it's only going to 16th Ave? Clearly the funding isn't available to complete the entire Green Line now so why not wait until additional funding is available and do it right the first time by building under the Bow and not having any future regrets. I don't understand the rush to cross the Bow when the benefit to only 16th Ave clearly doesn't add a lot of value.

Safety of an above ground transit system is clearly an issue. Center Street accidents among vehicles and pedestrians could sky rocket. The flow for both vehicles and pedestrians are going to be significantly distributed no matter how the above ground option is finalized. This will likely deter people gathering to and commuting to downtown. Furthermore, I understand the station in Eau Claire will not have gates/fences which will be a safety risk to the highly congested Eau Claire area.

Every world class city has an UNDERGROUND transit system. Let's be world class.

Working for the city means more about getting it right than getting more done. Get it done right. That means going under the Bow like originally planned.

Residents in Eau Claire are expected to sell their homes to the City to make room for the Eau Claire station. Despite what the law says, that just isn't morally right. I personally know people who live in those town homes that currently located where the Eau Claire station is expected to reside.

I went to the open house and the representatives assured me that the trains will be quiet. The bottom line is that while they may be relatively quiet, they are still noisy, heavy pieces of machinery. Horns to warn people to stay off the tracks (since it's above ground) will be disruptive. Trains going back and forth on a regular basis will be disruptive. This is not what the residents of Eau Claire signed up for. Crime should increase and property values should decrease for all these reasons. You should ask yourself why the underground option was originally accepted. It's because all these issues were much less significant.



Public Submission

City Clerk's Office

Please use this form to send your comments relating to matters, or other Council and Committee matters, to the City Clerk's Office. In accordance with sections 43 through 45 of Procedure Bylaw 35M2017, as amended. The information provided may be included in written record for Council and Council Committee meetings which are publicly available through www.calgary.ca/ph. Comments that are disrespectful or do not contain required information may not be included.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

Personal information provided in submissions relating to Matters before Council or Council Committees is collected under the authority of Bylaw 35M2017 and Section 33(c) of the Freedom of Information and Protection of Privacy (FOIP) Act of Alberta, and/or the Municipal Government Act (MGA) Section 636, for the purpose of receiving public participation in municipal decision-making. Your name, contact information and comments will be made publicly available in the Council Agenda. If you have questions regarding the collection and use of your personal information, please contact City Clerk's Legislative Coordinator at 403-268-5861, or City Clerk's Office, 700 Macleod Trail S.E., P.O Box 2100, Postal Station 'M' 8007, Calgary, Alberta, T2P 2M5.

✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ryan

* Last name K

Email

Phone

* Subject Green Line - Objection to above-ground crossing of the Bow

Hi - I am strongly against the bridge crossing the Bow River for the Green Line. Below I have the following valid considerations. I look forward to hearing back from you.

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* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

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ISC:

1/2

Unrestricted

May 2, 2020

11:13:48 PM



Public Submission

City Clerk's Office

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City Clerk's Office

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

Prince's Island Park is a treasure of our city's downtown core, and whereas I agree that expanding our public infrastructure via a vis the Green Line is important, we cannot put a price for the ecological and cultural value of the area above our beloved Prince's Island Park. Our Green Line wouldn't be very green if it bulldozed over sensitive park lands. Once again, if our City can afford to invest in a Sports Stadium during a global pandemic, then we should be able to spring for a tunnel or not build the Green Line at



Public Submission

City Clerk's Office

this point in time.

From: [EAWard10 - Lesley Stasiuk](#)
To: [Public Submissions](#)
Subject: FW: [EXT] Green Line Submission_April 30 2020 FINAL.pdf
Date: Monday, May 04, 2020 11:21:01 AM
Attachments: [Green Line Submission_April 30 2020 FINAL.pdf](#)

From: sharie miller <blowout1@icloud.com>
Sent: Monday, May 4, 2020 11:15 AM
To: Office of the Mayor <TheMayor@calgary.ca>; Richard Pootmans <richard.pootmans@calgary.ca>; Keating, Shane <Shane.Keating@calgary.ca>; EAWard10 - Lesley Stasiuk <EAWARD10@calgary.ca>; Demong, Peter <Peter.Demong@calgary.ca>; Ward11 - Lindsay Seewalt <WARD11@calgary.ca>
Subject: [EXT] Green Line Submission_April 30 2020 FINAL.pdf

To Whom It May concern,

I am in agreement with the contents of the submission and would hope it will be seriously considered for the survival of our city .

Sincerely
Sharie Miller

Sent from my iPhone

April 30, 2020

Submission to the City of Calgary

Engage.calgary.ca/greenline

And delivered by email: publicsubmissions@calgary.ca and cityclerk@calgary.ca

It's time to de-risk the Green Line.

The crisis facing Calgary is unlike anything we have faced before. Council needs to update its assumptions and make other critical choices to de-risk the Green Line in order to head off a potential financial disaster.

The people of Calgary are responding to the catastrophic impacts of crashing oil prices, a global recession and COVID-19. There will be bankruptcies of small business, companies across the energy sector and thousands of households. The City will emerge from this crisis far more fragile than before. The historic practice of raising taxes to pay for budget shortfalls will no longer be an option, meaning there is no room for error on major projects.

Council owes it to current and future generations to face these new realities and build a Green Line for the future, not the past. Over the long run Calgary will emerge as a better and stronger city. But only if we adapt to new realities and avoid irreversible mistakes in the meantime.

The Green Line was originally conceived in 2013. The economic crash and COVID-19 have changed everything.

- Mayor Nenshi said that as a result of the energy crash, global recession and COVID-19 "Calgary will be hit harder than any other city in Canada."ⁱ
- Calgary was booming when the Green Line was proposed. The price of WTI was \$97/barrel. Today it is \$17, and WCS has recently traded at negative prices for the first time in history.
- Downtown office vacancies were 3.7%. They are now 27.2% and climbing, and Calgary's unemployment is the highest in Canada.
- The City's financial position has deteriorated significantly. It is facing a six-month revenue decline of \$350-400 million.ⁱⁱ The Government of Alberta also faces dire financial realities.
- The Green Line as proposed is based on pre-crash, pre-COVID assumptions and is too risky and complex for these uncertain times. According to the City it is "the longest and most complex LRT line ever built in Calgary".ⁱⁱⁱ
- To put this into perspective, the Green Line will be four times the cost of the new Calgary Cancer Centre (\$1.4 B), ten times the cost of the event centre (\$550 M) and seventeen times the cost of the proposed Foothills Fieldhouse (286 M). And the cost of ongoing operating support for the Green Line is many times larger than these other projects.

- Much of the spending on the Green Line (as currently proposed) will leave the province: To out-of-province engineering, management and construction services. The ground-load rail cars have to be purchased from outside suppliers.
- The City's latest cost-per-kilometre estimate has more than doubled from where it was three years ago. Its 2017 estimate for the longer 46-kilometre route was \$4.65 billion, or \$101 million per kilometre. The updated \$4.9 B estimate for 21 kilometres is an average of \$233 M per kilometre.^{iv} Some estimates suggest the total will reach \$7 B or \$333 M per kilometre. Any way you look it, overspending on this project will lead to higher taxes and funding cuts for other important community priorities.

There is a viable lower cost option – the Sensible Alternative.

Given these facts, we are calling on Council to take immediate steps to de-risk the Green Line by updating its underlying assumptions and taking a “measure twice, cut once” approach. We respectfully ask that the City consider a sensible alternative that includes:

- Reducing the length of Stage One, having it run from downtown (7th Avenue) to Shepard.
- Saving \$1.3 B by abandoning the problematic 7th Avenue to 16th Avenue North portion. Instead, the City should consider expanding the presently successful BRT system for Centre Street to service north central communities as a better alternative to LRT.
- Avoiding all “cut and cover” underground segments, using instead low risk surface-level or elevated lines from the Elbow River to City Hall Station. The cost per kilometre of surface and elevated lines is a fraction of that of cut and cover. This will save another \$1.4 B.
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^{iv} City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

From: [EAWard10 - Lesley Stasiuk](#)
To: [Public Submissions](#)
Subject: FW: [EXT] Calgary Green Line
Date: Monday, May 04, 2020 11:55:48 AM
Attachments: [Green Line Submission April 30 2020 FINAL-4.pdf](#)

From: Doug Leitch <leitchdoug@shaw.ca>
Sent: Monday, May 4, 2020 11:47 AM
To: Office of the Mayor <TheMayor@calgary.ca>; Sutherland, Ward <Ward.Sutherland@calgary.ca>; Magliocca, Joe <Joe.Magliocca@calgary.ca>; Gondek, Jyoti <Jyoti.Gondek@calgary.ca>; Chu, Sean <Sean.Chu@calgary.ca>; Chahal, George <george.chahal@calgary.ca>; Davison, Jeffrey R. <Jeff.Davison@calgary.ca>; Farrell, Druh <Druh.Farrell@calgary.ca>; Woolley, Evan V. <Evan.Woolley@calgary.ca>; Carra, Gian-Carlo S. <Gian-Carlo.Carra@calgary.ca>; EAWard10 - Lesley Stasiuk <EAWARD10@calgary.ca>; Farkas, Jeromy A. <Jeromy.Farkas@calgary.ca>; Keating, Shane <Shane.Keating@calgary.ca>; Colley-Urquhart, Diane <Diane.Colley-Urquhart@calgary.ca>; Demong, Peter <Peter.Demong@calgary.ca>
Subject: [EXT] Calgary Green Line

Dear Sir/Madam;

Please find the attached letter which truly represents my concerns, thoughts and advice on the ill conceived Green Line Project which is totally unrealistic in the tenuous times which appear to be the norm in Calgary's future.

yours truly, Douglas Leitch, 69 year resident and concerned and broke taxpayer

April 30, 2020

Submission to the City of Calgary

Engage.calgary.ca/greenline

And delivered by email: publicsubmissions@calgary.ca and cityclerk@calgary.ca

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James K. Gray

Emily Farquhar (Struck)

Barry Lester

Brian Felesky

Patti Grier

Ken Stephenson

ⁱ <https://globalnews.ca/video/6860509/nenshi-says-calgary-will-be-hardest-hit-city-from-pandemic>, April 23, 2020

ⁱⁱ <https://www.theglobeandmail.com/canada/british-columbia/article-western-canadian-cities-face-dire-financial-effects-from-coronavirus/>, April 15, 2020

ⁱⁱⁱ City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

^{iv} City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

From: [EAWard10 - Lesley Stasiuk](#)
To: [Public Submissions](#)
Subject: FW: Green Line - pay attention to this please
Date: Monday, May 04, 2020 2:28:03 PM
Attachments: [Green Line Submission April 30 2020 FINAL\[2\] copy.pdf](#)

From: Melissa Best <mbest@quickestate.com>
Sent: Monday, May 4, 2020 1:03 PM
To: Farkas, Jeromy A. <Jeromy.Farkas@calgary.ca>
Cc: Sutherland, Ward <Ward.Sutherland@calgary.ca>; Office of the Mayor <TheMayor@calgary.ca>; Magliocca, Joe <Joe.Magliocca@calgary.ca>; Gondek, Jyoti <Jyoti.Gondek@calgary.ca>; Chu, Sean <Sean.Chu@calgary.ca>; Chahal, George <george.chahal@calgary.ca>; Davison, Jeffrey R. <Jeff.Davison@calgary.ca>; Farrell, Druh <Druh.Farrell@calgary.ca>; Woolley, Evan V. <Evan.Woolley@calgary.ca>; Carra, Gian-Carlo S. <Gian-Carlo.Carra@calgary.ca>; EAWard10 - Lesley Stasiuk <EAWARD10@calgary.ca>; Keating, Shane <Shane.Keating@calgary.ca>; Colley-Urquhart, Diane <Diane.Colley-Urquhart@calgary.ca>; Demong, Peter <Peter.Demong@calgary.ca>
Subject: [EXT] Green Line - pay attention to this please

I fully support the attached proposal from some of Calgary's most successful business people, who have been long-term committed supporters of making Calgary the best it can be.

It's time City Hall started looking at these mega projects from a business perspective instead of trying to score political points and cater to the developers and outsiders. Otherwise, you'll be contributing to our financial ruin.

I'm a native Calgarian and well connected with tons of people in the city. I don't a single person who agrees with the way this green elephant is being rolled out.

Thanks for listening.

Melissa Best MBA, CFA, TEP
CEO & Founder QuickEstate™

Leave your family with fond memories instead of a big mess

Direct: (403) 619-3123
www.quickestate.ca

April 30, 2020

Submission to the City of Calgary

Engage.calgary.ca/greenline

And delivered by email: publicsubmissions@calgary.ca and cityclerk@calgary.ca

It's time to de-risk the Green Line.

The crisis facing Calgary is unlike anything we have faced before. Council needs to update its assumptions and make other critical choices to de-risk the Green Line in order to head off a potential financial disaster.

The people of Calgary are responding to the catastrophic impacts of crashing oil prices, a global recession and COVID-19. There will be bankruptcies of small business, companies across the energy sector and thousands of households. The City will emerge from this crisis far more fragile than before. The historic practice of raising taxes to pay for budget shortfalls will no longer be an option, meaning there is no room for error on major projects.

Council owes it to current and future generations to face these new realities and build a Green Line for the future, not the past. Over the long run Calgary will emerge as a better and stronger city. But only if we adapt to new realities and avoid irreversible mistakes in the meantime.

The Green Line was originally conceived in 2013. The economic crash and COVID-19 have changed everything.

- Mayor Nenshi said that as a result of the energy crash, global recession and COVID-19 "Calgary will be hit harder than any other city in Canada."ⁱ
- Calgary was booming when the Green Line was proposed. The price of WTI was \$97/barrel. Today it is \$17, and WCS has recently traded at negative prices for the first time in history.
- Downtown office vacancies were 3.7%. They are now 27.2% and climbing, and Calgary's unemployment is the highest in Canada.
- The City's financial position has deteriorated significantly. It is facing a six-month revenue decline of \$350-400 million.ⁱⁱ The Government of Alberta also faces dire financial realities.
- The Green Line as proposed is based on pre-crash, pre-COVID assumptions and is too risky and complex for these uncertain times. According to the City it is "the longest and most complex LRT line ever built in Calgary".ⁱⁱⁱ
- To put this into perspective, the Green Line will be four times the cost of the new Calgary Cancer Centre (\$1.4 B), ten times the cost of the event centre (\$550 M) and seventeen times the cost of the proposed Foothills Fieldhouse (286 M). And the cost of ongoing operating support for the Green Line is many times larger than these other projects.

- Much of the spending on the Green Line (as currently proposed) will leave the province: To out-of-province engineering, management and construction services. The ground-load rail cars have to be purchased from outside suppliers.
- The City's latest cost-per-kilometre estimate has more than doubled from where it was three years ago. Its 2017 estimate for the longer 46-kilometre route was \$4.65 billion, or \$101 million per kilometre. The updated \$4.9 B estimate for 21 kilometres is an average of \$233 M per kilometre.^{iv} Some estimates suggest the total will reach \$7 B or \$333 M per kilometre. Any way you look it, overspending on this project will lead to higher taxes and funding cuts for other important community priorities.

There is a viable lower cost option – the Sensible Alternative.

Given these facts, we are calling on Council to take immediate steps to de-risk the Green Line by updating its underlying assumptions and taking a “measure twice, cut once” approach. We respectfully ask that the City consider a sensible alternative that includes:

- Reducing the length of Stage One, having it run from downtown (7th Avenue) to Shepard.
- Saving \$1.3 B by abandoning the problematic 7th Avenue to 16th Avenue North portion. Instead, the City should consider expanding the presently successful BRT system for Centre Street to service north central communities as a better alternative to LRT.
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- Breaking the new Stage One into three to five construction sites (or spreads) costing less than \$500 M each.
- Making these attractive to local construction companies, producing more local jobs sooner and shortening the construction schedule.

At the same time, Council should revisit its assumptions, and have these independently verified. It can then make decisions about future stages based on answers to these questions:

- What impacts will the economic crisis and pandemic have on downtown employment and office vacancy levels?
- Will more Calgarians work from home or in decentralized business settings?
- What impact will these have on public transit demand and ridership?
- In particular, how many people are expected to travel in and out of downtown five years from now? How does this match up with existing transportation capacity?

- Can a \$500 M expenditure on new train cars (which can't be used on existing lines) and associated maintenance facilities be justified in light of revised downtown traffic assumptions and financial constraints?
- What are the revised projections for Calgary's tax base in the medium-term?
- What is the best and most responsible use of our limited capital and operating dollars in light of these revised estimates?
- How does a newly designed Green Line fit with the City's broader economic recovery plan?

With updated assumptions and business plans, Council will be in a much better position to make prudent decisions about the future of transit. To do otherwise will be to run the risk of making the Green Line into a colossally expensive White Elephant.

Council deserves credit for doing things differently in the face of new information and new circumstances. The 2019 decision to move away from tunnels under the Bow River was a prudent step.

Now it's time for Council to face new realities, gather the facts and rethink its planning for the Green Line to ensure our City stays resilient in an uncertain future.

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Thank you for the opportunity to make this submission. We look forward to further constructive dialogue on this critical project.

Respectfully submitted on behalf of an Ad Hoc committee of Calgary citizens,

James K. Gray

Emily Farquhar (Struck)

Barry Lester

Brian Felesky

Patti Grier

Ken Stephenson

ⁱ <https://globalnews.ca/video/6860509/nenshi-says-calgary-will-be-hardest-hit-city-from-pandemic>, April 23, 2020

ⁱⁱ <https://www.theglobeandmail.com/canada/british-columbia/article-western-canadian-cities-face-dire-financial-effects-from-coronavirus/>, April 15, 2020

ⁱⁱⁱ City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

^{iv} City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

From: [Lisa Burgis Der](#)
To: [Public Submissions](#); [City Clerk](#)
Subject: [EXT] oppose green line
Date: Monday, May 04, 2020 5:44:40 PM
Attachments: [Green Line Submission April 30 2020 FINAL.pdf](#)

As a resident of eau clair, a user of the YMCA and out requently on the pathways I DO NOT WANT A GREELINE not now or ever. Its intrusive to the tranquil park life in eau clair and we simply can't afford it.

I want the bridge you closed (to do studies) re-opened asap.

I support the attached letter!

Thank you,
Lisa Burgis Der

M: 403 472 2410
E: der.lisa@icloud.com

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Murray

* Last name Castle

Email mscktm@yahoo.ca

Phone 403.993.1773

* Subject Green Line Submission

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please see the Attachment 'Green Line Submission_April 30 2020.pdf'

April 30, 2020

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Thank you for the opportunity to make this submission. We look forward to further constructive dialogue on this critical project.

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Emily Farquhar (Struck)

Barry Lester

Brian Felesky

Patti Grier

Ken Stephenson

ⁱ <https://globalnews.ca/video/6860509/nenshi-says-calgary-will-be-hardest-hit-city-from-pandemic>, April 23, 2020

ⁱⁱ <https://www.theglobeandmail.com/canada/british-columbia/article-western-canadian-cities-face-dire-financial-effects-from-coronavirus/>, April 15, 2020

ⁱⁱⁱ City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kathy

* Last name Tarnowetski

Email kathyt@shaw.ca

Phone 4036201667

* Subject Green Line - put project on pause due to economic state of our city.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello - Please set aside the Green line project completely for awhile. Calgary cannot afford to take on such a huge project during this economic crisis that we are living. The City will have enough difficult decisions in the next year or 2 on funding without having the Calgary portion of the Green Line cost included. Ridership on Calgary Transit will take quite awhile to return to higher numbers, enabling you to pause the Green Line discussions for at least a year. As a laid off homeowner/tax payer who does not qualify for any of the various "programs" I cannot afford to have increases at all 3 levels of government so that the Green Line can continue. Please don't sink yyc. Thank you. (originally sent to Ward 01 office). Regards Kathy Tarnowetski, Valley Ridge NW Calgary.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Eric

* Last name Gumapas

Email

Phone

* Subject LRT LINE CROSSING THE BOW RIVER

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Princess Island Park must be kept as it is. DO NOT run the LRT over the island.
We are ok with spending more tax money with tunnel under the river.
Option for above the river crossing at Edmonton Trail.

From: Glen <jghammer@telus.net>
Sent: Sunday, May 10, 2020 2:50 PM
To: Office of the Mayor; Sutherland, Ward; Magliocca, Joe; Gondek, Jyoti; Chu, Sean; Chahal, George; Davison, Jeffrey R.; Farrell, Druh; Woolley, Evan V.; EAWard10 - Lesley Stasiuk; Farkas, Jeromy A.; Keating, Shane; Colley-Urquhart, Diane; Carra, Gian-Carlo S.; Demong, Peter; Public Submissions; City Clerk
Cc: nj.connors01@gmail.com
Subject: [EXT] The Green Line

To the Mayor and the Councillors of the City of Calgary,

I support public transit and I use it often. But I must echo the concerns that have been submitted to the city by the "Ad Hoc committee of Calgary citizens".

There are just too many daunting issues facing the city and the citizens of Calgary. We must de-risk the Green Line. Yes, I know that the Feds and the province have promised significant grants but that was before spending billions to try to alleviate the effects of Covid-19.

Calgary is in serious trouble. You are in a position to keep the situation from getting worse. I implore you to think long and hard about your decision. Please give serious consideration the points made by the Ad Hoc committee.

Yours truly,

Glen Hammerlindl
1714 10A Street SW
Calgary T2T 3J8

From: [Barbaatar, Davaa](#)
To: [Public Submissions](#)
Subject: FW: [EXT] Public debate on the Green Line Extension
Date: Monday, May 11, 2020 8:03:41 AM
Attachments: [LRT Blue Line Extension Nov 15 2017.doc](#)

From: michaelwalsh@shaw.ca [mailto:michaelwalsh@shaw.ca]
Sent: Sunday, May 10, 2020 9:34 PM
To: Office of the Mayor <TheMayor@calgary.ca>; Woolley, Evan V. <Evan.Woolley@calgary.ca>; Ward11 - Lindsay Seewalt <WARD11@calgary.ca>
Cc: City Clerk <CityClerk@calgary.ca>
Subject: [EXT] Public debate on the Green Line Extension

Mayor Nenshi, Councillor Wooley, and Councillor Farkas:

I am aware of a recent letter sent to you by an Ad Hoc committee of Calgary citizens signed by James K. Gray et al dated April 30 2020 , entitled "It's time to de-risk the Green Line."

I agree with the concept expressed in the "Sensible Alternative" portion of the "de-risk the Green Line" document.

Furthermore, I refer you to the Letter I sent to each of you dated November 15, 2017 (a copy is attached) in which I suggested something similar. I also suggested at that time that the existing Northeast Blue Line LRT Line be extended from the Saddletowne C-Train Station to connect to the Calgary International Airport via the Airport Tunnel right-of-way.

I think this is the time to hit the RESET Button. We can get a lot of good things done. We just need to do a major RESET!

Thank you for your time and your consideration.

Mike Walsh

Mike Walsh
1914 - 30 Avenue S.W.
Calgary, Alberta.T2T 1P9
403-245-0437

November 15, 2017

Mayor Nenshi
Office of the Mayor, The City of Calgary
P.O. Box 2100, Station M
Calgary, AB, T2P 2M5

Councillor Wooley
P.O Box 2100, Station M#8001B,
Calgary, AB, T2P 2M5, Canada

Councillor Farkas
P.O Box 2100, Station M#8001A,
Calgary, AB, T2P 2M5, Canada

LRT Blue Line Extension – Alternative Route

Mayor Nenshi

I was doing some “blue-sky” thinking about a way to possibly save the City of Calgary a large amount of money while pondering the LRT Green Line and the Blue Line Extension projects.

- 1) Redirect the funding the for Green Line solely to the South Leg and avoid any tunnel costs and building of the Green Line north of the Bow River.
- 2) Proceed with an extension of the LRT from the current terminal at the Saddletowne C-Train Station north to Airport Trail NE. Then turn west with the LRT extension and use the Airport Tunnel right-of-way to extend the line to the Airport.
- 3) At some future time, extend the Blue Line north to Skyview as per the existing Blue Line Extension Plan.

This avoids the large costs of building the LRT Tunnel under the Bow River, up Centre Street, etc. The money not spent here can get the Green Line built deep into the South West quadrant of Calgary.

The Blue Line Extension to the Airport allows and encourages Calgarians from all parts of the City to take the LRT to the Airport. Everyone wins....except for the Taxi Drivers!

Just about every major city in North America with an LRT or Subway system has a connection to the Airport. It is time for Calgary to have this option, too. And my general plan allows this to be done in an affordable fashion.

Thank you for your time and consideration,

Mike Walsh

**Please be advised that Letter #17 has been removed as
it did not pertain to Item 7.1 Green Line Update Stage 1,
GC2020-0583**



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Colin

* Last name Ritchie

Email

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please proceed with construction as soon as possible. A well functioning city requires accessible and affordable transit. This project will move Calgary further in that direction. My only concern is that any revised route lay the foundation for further extension of the Green Line north along Centre Street, and as soon as possible. This is a long term project, so short term economic concerns should not impact the project whatsoever.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Asad

* Last name Chaudhary

Email

Phone

* Subject Support for Green Line Stage 1

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing in support of proceeding with Green Line Stage 1, from 16 Ave N all the way to Shepard, with the 2-segment phasing recommended by administration. The design details are getting there and the project looks promising + deliverable within budget. This is a necessary investment to enable the Calgary of the future; a Calgary that can build a new NHL arena and new suburbs for growth can also afford to keep building rapid transit. It's not just about downtown commuters; students using MAX or other LRT lines to connect to post-secondary institutions, shoppers, seniors etc., can all use Green Line to connect to farmers markets (Crossroads), Rec Centres (Quarry Park), and multiple commercial/office areas like South Pointe and Quarry Park. It's a modest investment from the City to leverage federal and provincial funding that has already been secured - and the project as designed will benefit people driving (by reducing vehicles on the road), biking (by adding critical safe bike infrastructure, including a gentler climb to Crescent Heights from downtown), riding buses (by adding BRT infrastructure and improving LRT connections). It's a win-win-win.

ISC:

1/1

Unrestricted

May 12, 2020

9:09:27 PM

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Alexander

* Last name Wong

Email lucxaw@gmail.com

Phone

* Subject Green Line public submssion

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

In the event that funding is delayed or cannot be delivered by other levels of government, does the City have a contingency plan for construction and staging?



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Teresa

* Last name Goldstein

Email teresa_carte@yahoo.ca

Phone 4036163765

* Subject Support for Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please accept the following as my support for the greenline LRT project. This project is much more than just a train. It has always been about city building, about providing various modes of transportation, about increasing affordability and choice in our city, and about having an incredible city that can be enjoyed by all. The greenline will be a catalyst for billions of dollars of reinvestment into our city. Following other large infrastructure projects around the world, most notable as Portland, a \$3 billion initial investment resulted in triple and quadruple the revenue return along the line. It would be shortsighted for our city not to reinvest in itself.

Thank you,

Teresa

From: [Ward9 - Jordan Stein](#)
To: karmajazz10@outlook.com
Cc: [Public Submissions](#)
Subject: Greenline Public Submission
Date: Monday, May 11, 2020 7:01:33 PM
Attachments: [image001.png](#)

Jeri,

Thanks so much for your feedback.

I've forwarded your comments to the Greenline Committee public submissions.

I appreciate your concerns around at-grade options/centre street traffic and the insufficient length of the project connecting the Northern communities to the core.

The Greenline will be meeting on June 1st to discuss these, among other issues, as well as other feedback that has been brought forth by the public. I'd invite you to tune in on that day

<https://www.calgary.ca/CA/city-clerks/Pages/Council-and-Committee-webcasts.aspx?redirect=/general/pages/council-and-committee-webcasts.aspx>

Thanks again for your thoughtful insight and feedback.

Warmly,



Proudly serving the City of Calgary on Treaty 7 territory.

Follow Up Requested: No

=====

1. At grade tracks: Calgary has done this before and it has proven to be a mistake. "World class cities" all either bury or elevate their tracks. At grade tracks increase the risk of accidents with both pedestrians and cars and create horrible messes with traffic. Why would the City spend a great deal of money to create more dangerous transit? Ending the tracks at 16th Ave with an at grade intersection will seriously impede traffic on 16th Avenue and open the door for more train/car conflict.
2. Plans for Centre Street: At the moment Centre Street is the main commuter route for thousands of cars and public transit buses daily. (Traffic calming on 4th Street NW has hindered that route.) With 4 lanes (almost), restricted parking at peak hours, the brilliant lane reversal, and a major bus route, Centre Street manages commuter traffic admirably. The proposed plan to run the C train down the middle, removing two full lanes, destroys that. The need for buses will remain and where will all the cars go??? In a perfect world, we would not need cars, but we must acknowledge that we do need them. Destroying existing routes will not magically make all those cars vanish. Instead, it

will force them to other routes, including through residential neighbourhoods, increase commute times, community complaints and driver frustration. All of that decreases safety on the roads.

3. Inefficient transport: The vast majority of people using the public transit on Centre Street come from much further north than 16th Avenue. Ending the line there is of no benefit to them. Will they have to take a bus most of the way, and then transfer to a C train at 16th? Or will they stay on their buses and avoid the C train altogether? In either case, the very expensive new C Train does not benefit them at all. In fact, it will make the situation much, much worse for them by increasing the traffic volume as more cars are squeezed into greatly reduced capacity, slowing traffic for both cars and buses.

The population in north Calgary continues to grow rapidly with the ever ongoing addition of more subdivisions. It is not feasible to fail to recognize this growth and the need for improved transit to downtown Calgary. The north has been very underserved by recent changes to public transit. This new proposal not only cuts out the vast majority of line to the north from the original proposals, but goes even further but removing the one current road that functions adequately as a funnel for downtown commuter traffic and makes it nearly impassable. It also makes it more difficult and time consuming to use 16th Avenue North. If you can't improve transit to the north, then at the very least please don't make it much, much worse for us. If this proposal is the best that you can do in the current times, then please, please, please don't do it at all.

Contact Information

Name: Wylie-Smith, Jeri

Address: 72 Macewan Ridge CL NW

Community: Unknown

Phone number(s): Home: , Cell: (403) 801-7763, Business:

E-Mail: karmajazz10@outlook.com

Send Marketing materials?:Do Not Allow



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name JP

* Last name Gallant

Email jpgallant@shaw.ca

Phone 403-831-0463

* Subject Green Line - Crescent Heights

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hi,
I am a home owner in Crescent Heights (half block off Centre St and 10th Ave). Under no circumstance do I support this new alignment of the green line above ground on Center St nor do I support a C-train stop on 9th Ave. I live in Crescent Heights so I can walk to work and to downtown. I am not going to pay \$4 to ride the c-train one stop! How will the city be compensating us for increased crime rates, noise from the c-train and depreciated home values? How can we feel safe having our kids playing outside with the increased transients we will get in our community? What is the plan for re-directing Center St traffic? This line needs to be underground until north of 16th Ave period! Stop defaulting to the cheapest option and put some long term thinking behind that decision.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Michel

* Last name Mills

Email mitchmills@telus.net

Phone 403-500--8651

* Subject Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Downtown Calgary is a hollowed out, ghost town, with its office vacancy rate exceeding 25%.
The employment and public transit ridership associated with that empty office space has disappeared.
Life as we know it, has moved on, to the suburbs and periphery of Calgary.
The new, Stoney Trail ring road now provides transportation for the south east quadrant.
Lacking any obvious ridership, the proposed south east portion of the Green Line LRT was always a dead duck.
In contrast, the proposed northern, Centre Street portion of the Green Line LRT did have the readily available ridership to support its construction.
If you can build the Centre Street portion quickly, there may still be enough supportive ridership, before it too becomes redundant.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Vanessa

* Last name Urschel

Email Urschel.v@gmail.com

Phone 4038050540

* Subject Green Line Support - Letter

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please see my attached letter of support for the Green Line.

2020/05/10

Dear Honourable Mayor and Councillors,

As life-long Calgarian, a young-professional, an analyst and systems thinker, and a recent participant in the North Hill Communities Working Group, I implore you to not waiver in setting in motion the construction of the Green Line.

A large part of the future vision, growth, and vitality of all the communities along the Green Line's length is predicated on the role the Green Line will play in enhancing the carrying capacity and functionality of the social and economic resiliency and agility of these adjacent Green Line communities. The Green Line is every bit as much about land use decisions, and proximity to walk, cycle, or connect to a park and ride opportunities, as arriving at surrounding station hubs and community amenities to invest and participate in the local social and economic activities.

Calgary needs to regain a competitive edge by having a stronger and expanded rapid transit and active transportation infrastructure opportunities if we hope to compete with other North American municipalities that already or continue to build out strong fast and reliable public transit and active transit (wheeling and walking) infrastructure. The City exists within a quality of life marketplace that has every bit as much to do with the attraction and retention of talent and economic investment as other aspects of "open for business" this council has enacted. Part of that quality of life is preventing brain-runaway and health of our communities through improving the access and opportunity for all Calgarians to reliable mobility that connects us to our communities, our activities, work/school, and amenities regardless of age or socioeconomic demographics.

It has been my experience that having access to rapid transit has given me tangible and intangible advantages. I gained my independence and freedom using the expanded LRT system from Jr. high on, which allowed me to participate in extracurricular sporting, school, and social activities that have had far reaching personal impacts besides just mobility, but in my development as a person and the experiences that have been facilitated by access to reliable transit, such as university, local businesses and events, and employment opportunities that would have been more challenging to access if I had had to rely on incurring the travel costs of doing so by car. Riding the train allows me to brainstorm, read, make connections, and take mental moments for myself because I get to use that time as a passenger rather than an active vehicle operator. It allows me to be agile in my budget in managing the costs of transportation, and allows me to invest more locally with the money saved from reducing my vehicle related costs (parking, gas, maintenance, insurance premiums, ownership).

The Green Line will result in the positive and wide-reaching impacts to Calgarians in all manner of scales. Calgarians are counting on you to maintain vision, to be accountable to the broader public, and to ensure that Calgary continues to be a place that one chooses to live by building the Green Line.

Sincerely,

Vanessa Urschel
Ward 9 Resident
(Previously Ward 7, and Ward 1)

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Tristan

* Last name Rugg

Email tristan.rugg@gmail.com

Phone 4038183462

* Subject Letter Of Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please accept this letter of support in denationalized to the development of the city's green line to 16th Ave NW. My wife and son (18 months old) live on 12th Avenue NW. We strongly support the green line and plan to use the line once completed. We are in support of the 9th Ave NW station, as well as the 16th Ave NW station. Please continue to press forward with this worthwhile project.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name DONATO

* Last name PASQUINI

Email dpasquini@pasquini.ca

Phone

* Subject Greenline Stage 1 - Segment 2

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The updated alignment and design removes 2 lanes of traffic from Centre St. N. The City previously removed a lane on 10 St. N.W. and has introduced parking on Edmonton Tr. during off peak hours. Reducing vehicular capacity on these key north south arteries will push traffic to short cutting through the residential neighborhoods which is not good. It appears the City will also be maintaining bus routes on Centre St. so vehicle movement will be slowed down even more by buses stopping frequently at bus stops. I do not agree with removing 2 lanes of traffic on Centre St. The City's war on cars continues. In a post pandemic world what makes the City think people will abandon their cars and take transit? I believe people will feel safer driving than taking transit. I don't think transit will ever reach the level of usage required to sustain such an expensive project. I don't think building the Green line is a good use of taxpayer money at this time and should be postponed.

ISC:

1/1

Unrestricted

May 13, 2020

4:21:41 PM



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Brandon

* Last name Evans

Email brandon@brandonevans.ca

Phone

* Subject Green Line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I'm an Inglewood resident that lives within walking distance of the Ramsay/Inglewood station. I'm not currently a regular transit user, perhaps every few months, preferring to bike to most destinations. I work in Sunalta. Before the pandemic my wife would take transit to work in the core daily and weekly to destinations along Center St. I'm very much in support of increased transit investment, and particularly in support of the Green Line project.

For us, the improved access to destinations along Center St and to the SE will make it much easier to choose transit over other options. This makes it easier to avoid car travel, saving us money and reducing emissions. I think it's even more important for the people who don't have the option of making choices about transit because it's their only option. I'm absolutely willing to have my tax dollars spent on infrastructure that I might not use often but which has huge benefits for others.

I think now is a great time to make this investment and build for the future of Calgary, contrary to what some are saying. I don't see this as a risk, or as a bad decision because of the suspected outcomes of this pandemic. Now, and when it's over, people will need to move around the city. Building the Green Line means that people will be able to do this in a way that saves them money and alleviates road congestion. It will improve the quality of life in Calgary for many different kinds of people, and keep it as one of the best places to live in the world.

ISC:

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Unrestricted

May 13, 2020

8:09:00 PM



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kim

* Last name King

Email kjkkimking@gmail.com

Phone 4032003242

* Subject Green Line north - BIG MISTAKE! Hey

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As a Crescent Heights resident, I am absolutely appalled that the City is trying to push through the Green line from Eau Claire to 16th Avenue. There is zero benefit (and huge downside) in doing a project if it can't be done correctly ie) built underground to actually accommodate more people commuting in and out of downtown. To think that the city can remove two very busy lanes of traffic absolutely blows my mind. Most residents in this area actually walk to work which makes this portion of the LRT even more useless. We will be welcoming our first child in a few month and I'm dreading the decision of having to find daycare that doesn't make our new commute even more miserable. I live in this area because of its access to downtown, the neighborhood feel, and amazing access to the rest of the city. We are now contemplating moving because the construction phase is going to be a complete nightmare and then years down the road when the project is actually complete, people will be parking in front of our houses to take the train to travel the 15 blocks downtown. This is the worst project I've seen from City Council in quite some time and it affects my family's life greatly. Please don't waste any more time or money on this portion of the green that has lost all merit in what it's intended purpose was prior to having to cut costs. One way, many moons into our future, I hope we can construct this project in a way that makes sense (underground). Until then, please quit wasting everyone's time.

ISC:

1/1

Unrestricted

May 13, 2020

11:14:06 PM



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jozef

* Last name Cap

Email zefc92@gmail.com

Phone 4036127199

* Subject Greenline Phase 1

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The current recommendations aren't what I personally would have like to see for reaching North of the river. However, I understand why the changes away from the tunnel beneath the Bow River needed to be done. The Eau Claire Station underground and inclusion of a 9 Avenue Station are important pieces of the long-term use and goals of the Greenline. As a Highland Park resident, I wish more of the LRT line would have been able to built sooner instead of the BRT upgrades. Nevertheless, let's get this thing started as soon as we can.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Brian

* Last name Linley

Email blinley@telus.net

Phone 403 256 1740

* Subject Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Now is not the time to undertake this project, Calgarians cannot afford it. Public transit ridership is down 90%, the downtown office core is 40% vacant, working from home is becoming the new norm and covid 19 will be with us for years. All these issues result in continued low demand for public transit. This project s/be put on hold for at least 5 years and revisited only if ridership and public demand dictates. The tax burden this project will place on Calgarians, on top of increased Federal and Provincial taxes to deal with the covid 19 financial bailouts will cripple homeowners and businesses magnifying the economic downturn and will increase personal and business bankruptcies.

ISC:

1/1

Unrestricted

May 14, 2020

7:00:35 AM

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Neal

* Last name Alexander

Email nealalexander@gmail.com

Phone 14036066325

* Subject Neal Alexander

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

This plan is bad. You took an ambitious plan, realized that it would be alot of money, then made a bad plan to fit into a budget. How is a surface train going to be anything but a gigantic disappointment for this city and all of its citizens. It basically admits that we will never be anything but a second-rate city, never a Vancouver, Toronto or Montreal. The people who made this plan should be ashamed. Just admit it will take 10 Billion to do it right, and stop this madness. Do Not Build This.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Vikas

* Last name Bhagat

Email diavikasraj@gmail.com

Phone 4039034993

* Subject Please build the greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello,

Right now as a Calgary resident I feel the downtown portion will keep debating about pros and cons of Greenline and it seems like a few influential men are treated more than normal citizens. I am sure they would never travel in the trains as well.

My only hope is that don't make the middle class suffer because the rich have power to delay the project. We need those jobs and we need the transit. Many don't have cars or can not afford it.

Please build the Greenline.



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Matthew

* Last name Brister

Email mjbrister@icloud.com

Phone 587-899-6335

* Subject Green Line Porject.

Mayor and Counsellors,

The Green Line transit expansion project is a mega project by civic standards and is part of a vision for Calgary that WAS shared by a significant number of Calgarians, although that number is shrinking.

I urge you to re-visit the project as it is currently tabled and consider if that 10+ year old vision, modified significantly with a recommendation to proceed less than a year ago, is still an appropriate decision? I think its not, and I was a supporter who had been won over to supporting the project when you mitigated the gigantic cost uncertainty of a bore by moving it above ground, over the river.

Our local economy is inextricably linked to the regional economy and that has bounced from hardship to hardship with a seemingly endless string of setbacks. We may recover, and we certainly will in some form but three things are absolutely certain. Our Energy core has changed structurally and will not return to pre 2015 levels, ever. Alberta will still be advantaged, but not to the same degree and that will materially effect provincial revenue and taxes. The 'new economy' will not be as robust or as kind to Calgarians from an income or employment standards perspective. Finally, and I feel the only lasting effect of our current Covidcrisis situation, and the very meaningful one to consider in the context of the GreenLine expenditure, is that smaller engine will have to pull us up a very very steep mountain of debt.

* Comments - please refrain from providing personal information in this field (maximum 2500)

ISC:

1/2

Unrestricted

May 11, 2020

7:11:19 AM



Public Submission

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characters)

No matter which consortia of public purses are tapped to pay for the project, those same purses are smaller now having had to respond in '2013 flood' proportions provincially and nationally.

The arguments of what the City will NEED, and when we will need it, have continued to see saw back and forth through the life of this project. Undeniably, demand for, and the utility provided by increased transit capacity to the core has shrunk.

The ballooning commercial real estate vacancy rate over the last 3 years, and the possible changing post Covid workplace practices, are a valid cause to re-visit your basic assumptions in terms of Calgarians work day practices, and YOUR TAX BASE.

Finally, and most importantly, what we can AFFORD as taxpayers has shrunk dramatically and I hope you as Civic political leaders will acknowledge that, and do YOUR part to shrink the spend in line with that.

Take care and thank you for your service in these increasingly complicated times, we're still very lucky as Calgarians.

Matt Brister



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name colin

* Last name lo

Email colinlo38@gmail.com

Phone 403-978-2888

* Subject green line across downtown - underground route (STOP)

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Given our economy in crisis, it is important not to construct green line across downtown route especially office vacancy over 33% projection. The waterfront portal and new bridge across bow river will create a dead zone for chinatown merchant with years to come.
The green line above grade portion should stop at 9th AVE SE & Beltline area until further studies given pandemic crisis and overall Calgary economy in bad shape.



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* First name Michael

* Last name Mooney

Email michael.john.mooney@gmail.com

Phone 6139852727

* Subject Support for the Current Green Line Alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing in support of the current alignment for the Green Line and asking Council to support it. Building this project will have positive impacts on Calgary for the next 100 years. The idea that Covid means we should stop this project is short sighted. Public transit usage is only going up and has over the last 100 years. With climate change, the need to get cars off the road is greater than ever. Asking to build the train at grade through the downtown is insane. We already have one and everybody agrees it was a mistake to not bury it in the 80s. We are suffering from that decision (one made to cuts costs) and will for the next 50 years. The idea that a group of rich special interest want an at grade train through the downtown and not to cross the bow river show how out of touch they are. They don't use public transit and don't understand the importance it has for most Calgarians. If we don't build across the Bow now we never will. Our current LRT lines are filled with examples of cost cutting and we now live with these mistakes. Please don't make these mistakes all over again.

Thank you,

Michael

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* First name Samantha

* Last name Grabinsky

Email ms.samanthag@gmail.com

Phone 4034014220

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I live in central north Calgary in Renfrew, and I fully support the Green Line LRT development. This project will revitalize my neighbourhood and help me get around the city. Transportation is so important to the vitality of any city and real, functional transit options are long overdue for Calgary. We need infrastructure that's for everyone!

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* First name David

* Last name Isaman

Email daveisaman@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please continue with the development of the green line, in LRT format. We need to develop the city for the future and for all citizens, rather than fumble and pivot due to the loud voices of a few (wealthy) individuals. Vehicles are but one form of transportation

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* First name Laura

* Last name Shutiak

Email laurashutiak@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please count me as a Calgarian who believes we need the best public transit system NOW. That means the green line, built properly. Not taking shortcuts. Our world is changing - to a low carbon one - this means public transport. Also, the best cities in the world have exceptional public transit. We are falling behind, very quickly. I'm so sick of council bending to the billionaires - whether it's for a hockey rink (they should build their own facilities) or against something they never use (c-train)

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	AI
* Last name	Depatie
Email	adepatie@hotmail.com
Phone	4032014105
* Subject	LRT expansion
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	Please count my vote as affirmative for building the LRT expansion. Calgary needs more public transportation. Please proceed with the project



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* First name	Daniel
* Last name	Evans
Email	daniel.evans@delta-echo.ca
Phone	4036207720
* Subject	Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	Yes!

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* First name	Brad
* Last name	Pierce
Email	bpierce@blg.com
Phone	40308270610
* Subject	Green Line - Now is not the time.
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	In the post pandemic period where the future of public transit is uncertain now is not the time to proceed with this multi billion dollar project irrespective of the jobs and economic activity in the short term.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Russell

* Last name Koehler

Email russell.koehler@gmail.com

Phone

* Subject Moving ahead with the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello,

As a tax payer in Calgary, I fully support the construction of the Green Line. This is a much needed project that will be enjoyed and used for generations. A well-funded group of a very small minority should not be allowed to dictate a project that will benefit thousands of Calgarians.

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* First name Valerie

* Last name Rendell

Email valerierendell@gmail.com

Phone 5874368257

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please please please do not stop supporting this project... no city can claim to be modern, cosmopolitan or attractive without a robust train system...



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Christopher

* Last name Axford

Email topheraxford@gmail.com

Phone 5874295745

* Subject Green Line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I stand behind the city and its efforts in building the Green Line. There is an immense need for it, and city council should not listen to the efforts made by a small but well-connected group of people. The needs of the many in Calgary should not be outweighed by the wants of a small group. If this city truly wants to be world-class and to be somewhere worth living, the Green Line needs to be built, and now.

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* First name Blair

* Last name Hone

Email honeb@shaw.ca

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the current Green Line plan and wish to add my support to the project. I believe in Calgary's ability to bounce back, and this project is needed to support the future success of our city. Stimulus spending during an economic downturn will also provide much needed jobs, at a rate lower than if it's built during a boom.

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* First name Darcie

* Last name Stein

Email darciestein@hotmail.com

Phone 5878903093

* Subject I Support the Green Line!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I support the green line for...affordability, accessibility, sustainability, progress, and keeping our city fresh! "The wise man plants a tree under whose shade he will never sit"- proverb. Build cities for future generations!



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* First name	Cam
* Last name	Lamoureux
Email	cam_lamoureux@live.com
Phone	4036074788
* Subject	I support the green line!
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	I support the green line for... affordability, accessibility, sustainability, progress, and urban culture!



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* First name Grigoriy

* Last name Ichshenko

Email greg@ichshenko.com

Phone

* Subject I support the Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I support the Greenline for accessibility



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Susan

* Last name Howard

Email suzy701@hotmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
We need the Green Line!!



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name David

* Last name Toews

Email davejtoews@gmail.com

Phone

* Subject Build the damn train.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Stop letting the wealthy one percent dictate policy. Build the Green Line. Ignore the new astroturf anti transit campaign. Build the damn train.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Temitayo

* Last name Ajibade

Email twajibade@gmail.com

Phone 5874377525

* Subject YYC Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I live in North Calgary and it's not so easy commuting to the South Calgary. The proposed green line will not only make life easier for all Calgarians, it would surely enhance our quality of life and help cut down on carbon emissions enormously.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Darren

* Last name Mazzei

Email dmazzei1@gmail.com

Phone 3062030339

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Councillors,

The Green Line Project is one of the greatest city building projects undertaken in the 21st Century in Calgary. Much like the the Calgary Public Library, the Green Line will receive outstanding reviews from Calgarians and international media once it is complete. It will offload demand from Deerfoot and Centre Street car traffic, encourage active modes of transportation and connect many communities that are in desperate need of transportation alternatives. The Green Line will bring a much needed transit option into the heart of communities starved of transportation options. Home vales will increase within walking and biking distance of transit stations and property development will also be attracted to these hubs. When we moved walking distance to a train station we were able to switch from a 2 car family to 1. Our reduced costs (car depreciation, maintenance, fuel, insurance) easily covered the cost of monthly transit passes and the commute was more enjoyable on the train instead of on icy roads. I look forward to travelling on the Green Line to get to friends and families houses.

Regards,

Darren Mazzei

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Stephen

* Last name Smith

Email stephen.w.m.smith@gmail.com

Phone

* Subject Greenline Submission

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the Greenline because it allows for better transport between areas of the city that are forgotten with the CTrain (North Central and the SE) and have to rely on unreliable bus service to get to and from different areas of the city.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name mary

* Last name salvani

Email marysalvani@gmail.com

Phone 4036128997

* Subject greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

many communities along the green line lack affordable reliable forms of public transportation. Some like Inglewood and Ramsay don't have amenities in it (for example an major grocery store). The green line would help residents along the route get to their destination faster, and help them get the things they need in a timely manner. Please refrain from making any changes to the Greenline. The current plan is already good. It has undergone a lot of consultation already with members of the public and people who currently live along the route already.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name JoAnne

* Last name Humphry

Email joannehumphry4@gmail.com

Phone 5878903091

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the Green Line & I trust the Green Line committee to come up with the best solution for this amazing Project for our City!!



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Lisa

* Last name Fantin

Email lfantin@gmail.com

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please prioritize green line implementation. LRT servicing the airport and citizens of the north is way overdue.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jamie

* Last name Harling

Email jamie_harling5@hotmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I support the green line as currently planned



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Eric

* Last name Davidson

Email ericdavidson146@gmail.com

Phone

* Subject Bow River Crossing to Centre Street Transition Configuration

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Exploring a short cut and cover tunneled transition onto Centre Street from the Bow River crossing would create a smooth transition without the need for any crossing gates, bells, or traffic control devices. The area where the LRT tracks cross over the southbound lane and enter the centre of the street would become very cluttered with a ground level crossing, as there is already a set of traffic lights at Samis Rd NE / Centre Street, poles, fences, signs, and a bus stop. This configuration would preserve one of the most beautiful views of downtown. The Toronto Streetcar system has several instances of LRT tunnels like these that Calgary could mimic, and the sharp angle of the tunnel reminds me of the already existing CTrain tunnel at the intersection of Memorial Drive / 36 Street NE. Additionally, this would keep the traffic flow unobstructed, and buses can still enter the LRT guideway after the track enters ground level north of the portal. I created a very rudimentary image of what it could look like, and have attached it below. As the configuration is still under review, I hope this configuration is meaningfully considered.

ISC:

1/1

Unrestricted

May 20, 2020

4:51:57 AM

Mt Pleasant View Point



**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Chris

* Last name Weinhaupl

Email chrisweinhaupl@gmail.com

Phone 4039986920

* Subject Alternatives to LRT

Why can't alternative innovative transportation options be evaluated even at this late date especially when the original track length had to be reduced in half and the "best" option that was put forward in 2019 had to be evaluated to accommodate budget changes?

Is the new proposed 'bridge' model crossing the bow river the 'best' North route option or did the reduced budget changes for the decision to move away from the 'best' option?

Why is there no published cost budgeting to extend the Greenline in the future?

LRT is not the future of transportation given that transportation is seeing dawn of autonomous driving. The City of Chicago, in 2018, tendered a new rapid transit line and required the new system be 50% less than the cost of current transportation modes and 50% faster in travel times; the Chicago heard from a number of qualified respondents. Calgary's LRT option proposed has built in operation costs and low speeds which include future labour cost inflation, rolling stock cost inflation, why is the City of Calgary not demanding lower cost and faster transportation solutions? Even if that means asking the market to develop new solutions?

In general the City of Calgary can do better.

ISC:

1/2

Unrestricted

May 15, 2020

4:08:23 PM



Public Submission

City Clerk's Office

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The City of Calgary should make a request to the Boring Company, www.boringcompany.com and ask them to review the Calgary's Greenline initiative and ask for an unsolicited alternative response at a maximum; at a minimum a Team from Calgary should ask for input from the Boring Company regarding the vision of transportation revolution regarding EVs and Autonomous Vehicles. The Boring Company has been building a new 'people' mover tunnel in Las Vegas and has finished the tunnel ahead of schedule.

<https://www.boringcompany.com/projects>

<https://www.cnet.com/show/news/the-boring-company-elon-musk-las-vegas-tunnels/>

Calgary could be a World Leader in Transportation. Calgary has the opportunity not only to build the World's first autonomous tunnel transportation system based on EVs, but with our Citizen's exceptional engineering skills and exceptional geophysics, Calgary's would be creating a new industry in tunneling Transportation consulting and engineering etc.

The additional benefit to all Calgarians would be reduced transportation costs, 50% faster transit times, and a system capable of 'continuous improvements'.

Calgary has a brighter future if we open up ourselves to the opportunity for greatness.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name colin

* Last name lo

Email colinlo8@yahoo.com

Phone

* Subject Please STOP all underground construction along downtown including new bridge across BOW

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The entire segment of underground from 9ave to Waterfront plus new bridge should STOP in all area. The above ground from Sheppard to 9th Ave SE /Belt line is acceptable. Calgary downtown will be +33% empty space, and center street construction of green line will demolish Calgary Chinatown merchant business. It will separate Chinatown from the rest which is cultural shock to the community. PLEASE REVISIT THE PLANNING OF ANY UNDERGROUND ROUTE TO SAVE \$2-3B of near zero ridership.
Prince Island will be destroy.

ISC:

1/1

Unrestricted

May 15, 2020

3:54:14 PM



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* First name Jamie

* Last name Harling

Email jamie_harling5@hotmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I support the green line as currently planned



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Brandon

* Last name Dang

Email brandonmkdang@outlook.com

Phone

* Subject Support for the Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am a Calgarian living in the SE quadrant. I support the Greenline project and would like to see this project go through to fruition. I have heard the arguments against the Greenline, particularly the costs and whether or not the ridership will be worth it due to Calgary's major downturn which has now been exacerbated by COVID-19. However, I believe we need to build for the future. Calgary will not look the same 10, 20 or 30 years from now and that is the way we need to look. This is an investment into the future for a City that will eventually rebound oneway or another. Calgary is so spread out as a City. We need an effective and reliable way to connect the city.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Glen

* Last name Schmidt

Email

Phone

* Subject Waterfront Tower A Board Views of Residents

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Waterfront residents have actively participated in consultations yet remain unsatisfied with the current announced alignment as well as financial risk. On behalf of the Tower A Board I submit our concern that time be taken to better assess options as well as the need and financial risk of the project.

Now is not the right time – Delay the Green Line.

Summary

The City continues to rapidly pursue the Green line without proper consideration of the economic implications of COVID-19 and this impact on the need for the project. There are multiple reasons why the decision must be delayed:

- The City cannot afford a project of this magnitude, funding is at risk at this time
 - Estimated 2020 debt: Federal – \$250B, Provincial AB – \$20B
 - Significant risk of cost overruns
 - Falling oil prices and a Calgary economy under pressure
- Changes to commuter behaviour and increases in permanent working from home
 - 10.8% unemployment rate in April in Calgary (3.5% increase from April 2019)
- Online feedback is not sufficient to gather public opinion, the most recent changes have not had the opportunity for the public to participate in open house reviews. Those announced changes to the 2nd street alignment and simple assurances the needed environmental oversight for crossing Princess Island require both public disclosure and public comment and review.

Financial Magnitude

The Calgary economy has suffered the last few years from falling oil prices and has seen an abundant number of layoffs, and now is being pummelled with the recent COVID-19 crisis. The World Health Organization has declared a pandemic from COVID-19, and from the response from markets globally and here in Calgary, it's obvious we are facing bleak financial times. The Canadian Federal Government estimates a deficit of \$250 billion in 2020, and the Provincial Alberta Government is forecasting a deficit of \$20B. It is not the time to be rushing to undertake a project of this financial magnitude that is not urgently needed where future priorities may rank ahead.

We have attended the multiple open houses the City has held for the Green Line, and it's clear that we need to slow down the Green Line to properly reassess the investment in accordance with the needs of Calgary citizens' post-COVID-19. The proposed realignment brings high risk of cost overruns. At the open houses, it was made clear that there have not been any recent studies (the last one being in 2012) regarding alternative routes, nor, has there been published studies, on how to properly cross the Bow; this will result in high cost overruns that we cannot afford. We've listened to the strategy of contractor delegation of responsibility and feel Calgary has not learned from cities such as Ottawa where this has failed.

Lack of urgent need

There is not an urgent need for the green line. The unemployment rate in Calgary was 10.8% in April 2020, a 3.5% increase from April 2019.

There is material uncertainty of the need for the Green line post re-opening after COVID-19.

- There are significant risks of a second wave that can result in re-implementing restrictions
- Employees have successfully proved an ability to work from home and companies globally have announced plans to cut office space and permanently keep working from home
- A vaccine will not be available for approx. 18 months. As clearly said by multiple health professionals globally, and Prime Minister Trudeau, life will not return to normal until a vaccine is administered. There is not an urgent need for a train line while people continue to maintain stay at home practices until a vaccine is distributed

- There are material uncertainties of transit ridership after COVID-19

Conclusion

Given the material uncertainties of the ultimate implications of COVID-19, it is fiscally irresponsible to rush into a project of this financial magnitude. This is not what respects Calgarian's financial risk concerns. Without properly taking the time to consider all alternatives, complete new current studies and properly gather public opinion through in-person events, as this is one of the most complex and largest infrastructure projects the City will undertake, the results will be high cost overruns that we cannot afford with project design details unknown to the public.

We encourage you to voice a need to properly reassess the realignment and consider all alternatives. Let's not jump the gun on the current realignment plan, instead let us take the time to consider alternatives, needs for the Green line and appropriately gather public opinion informed with published studies, when it is safe to resume in-person events, so we can get the green line right and not put further strain on our struggling economy in addition to design elements which have not yet been demonstrated in public meetings to address access, sound, safety and security for the announced but not yet presented details on the second street alignment and Princess Island Bridge.

On behalf of our residents we ask for the time to get it right.

Waterfront Tower A Board of Directors

President Glen Schmidt; gschmidt@nucleus.com



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Stephani

* Last name Nygren

Email steph_nygren@outlook.com

Phone 4039984114

* Subject Dedication of Centre Street to Train, Pedestrians and Cyclists

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Having lived in Crescent Heights and as a current resident of Tuxedo Park, I have worked downtown, used the transit-line, the walking path through Prince's Island and bike lanes to commute to and from the Calgary core, spanning 18 years. These are my preferred modes of transportation through the city and surrounding neighbourhoods. Because of this, my family shares 1 vehicle and we never have issues finding parking right in front of our house. I would like to engage council in the discussion of closing Centre Street to vehicular traffic South of McKnight (or somewhere in the vicinity) to improve air quality and noise pollution in the inner Centre Street neighbourhoods. To foster a vibrant, pedestrian lifestyle and a more desirable street to live or work near, dine alongside, shop or explore. If we are going to increase density along Centre Street, it also makes sense to include Centre Street as part of our community development; a space to be explored and enjoyed, as opposed to serving solely as a device to transport people to and from work. A quick google search presents many Urban Design studies on streets as public spaces. Is there any planning being directed towards community development along Centre Street? Has the public been engaged in the possibility of closing Centre Street to vehicles?

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Marcia

* Last name Melanson

Email cia.melanson@gmail.com

Phone

* Subject The Greenline LRT Construction

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support building the green line LRT as soon as possible. This train line would make commuting from my neighbourhood to downtown so much easier, and would breathe life into the area with increased traffic through the area. It would make life much more accessible and make the city more vibrant. We need to embrace more pedestrian-friendly options, and in a city like Calgary, train lines are necessary. This will help lower our carbon footprint, improve traffic throughout the city, and make life easier for anyone who can't afford a car. It will also create much-needed jobs in the city, and improve our infrastructure so we can attract more businesses in the future. Please build the green line as soon as possible!

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Andrew

* Last name Crickmore

Email crickmoreandrew@gmail.com

Phone

* Subject Build the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I've been a resident in Calgary for over 5 years, and I lived in Edmonton & area before that. I saw firsthand the frustration of an inadequate transit access, particularly accessing areas outside the downtown core directly and rapidly. Edmonton has seen an explosion of accessibility, with their LRT system being a core piece of their strategy. Calgary deserves the same and the Green Line is a critical step to matching the same long-term, city-wide benefit that Edmonton experiences with their transit development.

Lastly...if we can afford an NHL Arena, we can absolutely afford the Green Line.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Will

* Last name Van Den Elzen

Email wvandenelzen@spectrumprocess.ca

Phone 4039938784

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Council's past practice of raising taxes to pay for budget shortfalls will no longer be an option in our changed world where many families and businesses are struggling to get by. This means you need to make sure the Green Line doesn't go over budget as Calgarians can't afford to pay more in this changed world.

Calgary was booming when the Green Line was proposed. It isn't anymore. You need to rethink this project and make sure you don't put all of your eggs (and our money) in one basket while building a Green Line that makes sense for the Calgary of today, not the Calgary of 2013.

Calgary's economy will recover but only if you don't make any big mistakes that we will feel for decades to come.

Please, I am asking you to stop and rethink the current plan for the Green Line and make sure you get it right. This will be your legacy.
Thank you.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ryan

* Last name Gour

Email ryan.gour@gmail.com

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please proceed with the line. I would like to see a station built under 16th just like 69th st sw on the blue line. Preferably it would remain under ground for the 9th st station and portal out of the hill to cross the river. The rest i.e the line seems to be well placed. I hope to see construction next year. Thank you for your work and considerations.

City Clerk's Office

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* Comments - please refrain from providing personal information in this field (maximum 2500 characters)



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Stefan

* Last name Dilger

Email stef.dilger@hotmail.com

Phone 4038304771

* Subject STOP THE GREEN LINE

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

We cannot afford this as a city - it is completely irresponsible to commit this capital to a nice to have project at this time in the economic cycle. Further, the bridge over the river is a terrible idea and will forever destroy the livability and enjoyment of the park. The green line project in its entirety is a good one to pursue, although now is not the time economically. We must wait until it can be done properly with no shortcuts like a bridge over the river.

From: [James G Boudreau](#)
To: [Public Submissions](#)
Subject: [EXT] Response to the Green Line LRT updated alignment (May 12, 2020)
Date: Thursday, May 21, 2020 10:56:25 AM

May 21, 2020

Subject: Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair, His Worship Mayor Naheed Nenshi, Councillor Druh Farrell, Ward 7, Other Members of Calgary City Council

800 MacLeod Trail South

P.O. Box 2100, Station

Calgary Alberta, T2P 2M5

Submitted by E-Mail to: Office of the City Clerk publicsubmissions@calgary.ca

RESPONSE TO THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

In 2017, Calgary City Council approved the Green Line LRT alignment with a deep tunnel under 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This alignment was largely accepted by Calgarians after 2 years of quality and satisfying public engagement.

This alignment brought the promise to:

- Preserve the Riverwalk pathway, Prince's Island Park and the wetlands, protect the birds, fishes and other wildlife
- Be the city-shaping initiative which would revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities
- Be the legacy LRT line serving the long-standing needs of Calgary's north-central and southeast suburban communities and be built within budget.

This is a promise that has not been forgotten and one which must not be broken.

Since then, it has become apparent that this Green Line LRT Alignment cannot be built within the \$4.9B allocation of funds because of the deep tunnel below the 2nd Street SW downtown segment and under the Prince's Island and Bow River crossing. It is also understood that recent cost estimates show this approach costing at least 10% more than the \$4.9B approved funding limit.

We appreciate City Council's wisdom to direct the Green Line Project Team to revisit the alignment and build approach and bring back a reasonable legacy alternative.

Calgarians are still holding the City to these promises. Earlier this year, the Green Line Project Team presented and hosted several public engagement sessions where they outlined alternative ideas. Many Calgarians participated in these sessions

to provide feedback and consequently, the Green Line Project Team revised and presented their updated Green Line LRT alignment on May 12th. While we are supportive of the SE segment to the Downtown, we find the alignment and the build approach north of the downtown core unacceptable. Specifically,

- An LRT bridge over Prince's Island Park and the Bow River breaks the promise to preserve the park and protect birds, fishes and other wildlife
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers
- Dedicating the 2 center lanes of the Centre Street bridge for bus-rapid-transit (BRT) will create traffic chaos (i.e. congestion on the bridge and left / right turns on the Avenue roadways), and impact pedestrian safety at street crossings (i.e. Chinatown's 2500 population is 40% seniors) in the Chinatown community
- Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative as it would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles, and more
- The Green Line LRT Project speaks in generalities of a better urban realm for Crescent Heights and Chinatown with no actual design and commitment to follow-through
- The proposed Green Line LRT alignment is a 'less than' approach where scope and quality

is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.

Our Approach to a legacy Green Line LRT is to keep many of the Green Line Project's promise as best as possible. We believe the Green Line LRT alignment and project should be modified whereby:

- The SE segment from Sheppard to Elbow River (Inglewood / Ramsay) is approved

for design / build and utilize this capacity to spur the economy, create jobs, and provide much needed LRT transit ridership to downtown as soon as possible

- The Elbow to the Beltline segment be approved only after the City provides full and

transparent understanding of the costs and benefits of the current 11th Avenue

underground alignment vs. the 2017 12th Ave / 10th Avenue South alignment;

- The Beltline to Eau Claire segment under 2nd Street SW be approved only 'with absolute public assurance' that there will never be a bridge over Prince's Island and the Bow River

- The Calgary North segment from 160 Avenue North to downtown be built as 'expanded and enhanced' Bus-Rapid-Transit (BRT) system including:

1. Additional BRT vehicle capacity and expanded running schedule to match the growing demands of communities north of the Bow River
2. Operating Green Line using 'low-cost, low-carbon emission' natural gas buses
3. Enhanced intersection signaling system for priority BRT crossing
4. Developing BRT-based Transit-Oriented Development (TOD) stations that encourages small business, Mainstreet community development
5. Rebuilding the 16th Avenue / Centre Street Intersection for smooth, efficient, and safe transit, vehicle and cyclists crossing
6. Incorporating 'Mainstreet' urban development with a relaxing 'public realm' in Crescent Heights and Chinatown including 40 kph traffic speed limitation, pedestrian safety, wide sidewalks, off-street parking, and restricted residential street access for these communities and Tuxedo Park
7. Establishing a revised North-Central BRT downtown route for a better Red, Blue and Green Line LRT inter-connection and engagement with a new Eau Claire market and the 'Tomorrow's Chinatown' local area plan.

All these modifications cannot be achieved within \$4.9B, but they represent the best way to maintain a legacy mass transit system, which can be achieved in phases within the economic and fiscal capacity of all levels of government. Given a post COVID-19 economic climate, the Green Line LRT must proceed if it does not become a financial burden to Calgary taxpayers and transit ridership.

Please ensure that Council deliberates these suggestions in detail and gives Administration time to bring forward the right answers. We cannot afford to and do not want less than an optimum solution within the long-term economic capacity to cover both the capital and operating costs. A vote to approve each segment individually would be most appropriate and

delaying a vote on the unknown or unanswered is necessary.

We appreciate the need to create jobs and add to the economy as the cost of construction and capital equipment is low, but we must build the right alignment and approach in the right way.

Respectfully,

James G Boudreau

WFGLO

1504 – 108 Waterfront Court SW

Calgary, AB T2P 1K7

(403) 971-7002

boudreaujg@gmail.com

From: [Daniela Mitache](#)
To: [Public Submissions](#)
Subject: [EXT] Green Line: a promise that has not been forgotten and one which should not be broken
Date: Wednesday, May 20, 2020 9:23:28 PM

Your Worship and Members of Calgary City Council,

In 2017, Calgary City Council approved the Green Line LRT alignment with a deep tunnel under 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This alignment was largely accepted by Calgarians after 2 years of quality and very satisfying public engagement. This alignment brought the promise to:

- preserve the Riverwalk pathway, Prince's Island Park and the wetlands,
- protect the birds, fishes and other wildlife,
- be the city-shaping initiative which would revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities,
- be the legacy LRT line serving the long-standing needs of Calgary's growing north-central and southeast suburban communities, and
- be built within budget.

This is a promise that has not been forgotten and one which should not be broken.

Since then, it has become apparent that this Green Line LRT Alignment cannot be built within the \$4.9B allocation of funds because of the deep tunnel risks in the 2nd Street SW downtown segment and under the Prince's Island and Bow River crossing. It is also understood that recent cost estimates show this approach costing at least 10% higher than the \$4.9B approved funding limit. We appreciate City Council's wisdom to direct the Green Line Project Team to revisit the alignment and build approach and bring back a reasonable legacy alternative. Calgarians are still holding The City to these promises.

Earlier this year, the Green Line Project Team presented and hosted several public engagement sessions where they outlined alternative ideas. Several Calgarians participated in these sessions to provide feedback and consequently, the Green Line Project Team revised and presented their updated Green Line LRT alignment on May 12th. While we are supportive of the SE segment to the Downtown, we find the alignment and the build approach north of the downtown core unacceptable. Specifically,

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- the LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
- dedicating the 2 center lanes of the Centre Street bridge for bus-rapid-transit (BRT) will create traffic havoc (i.e. congestion on the bridge and left / right turns on the Avenue roadways) and impact pedestrian safety at street crossings (i.e. Chinatown's 2500 population is 40% seniors) in the Chinatown community;
- placing the LRT line at-grade (i.e. street level) with two center roadway train lines

breaks the promise of a city-shaping initiative as it would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles, and more

- the Green Line LRT Project speaks in generalities of a better urban realm for Crescent Heights and Chinatown with no actual design and commitment to follow-through; and
- the proposed Green Line LRT alignment is a ‘less than’ approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.

To keep many of the Green Line Project’s promise as best as possible, we believe the Green Line LRT alignment and project should be modified whereby:

- The SE segment from Sheppard to Elbow River (Inglewood / Ramsay) is approved immediately for design / build and utilizes this capacity to spur the economy, create jobs, and provide much needed LRT transit ridership to downtown as soon as possible;
- The Elbow to the Beltline segment be approved only after The City provides full and transparent understanding of the costs and benefits of the current 11th Avenue underground alignment vs. the 2017 12th Ave / 10th Avenue South alignment;
- The Beltline to Eau Claire segment under 2nd Street SW be approved only ‘with absolute promise’ that there will never be a bridge over Prince’s Island and the Bow River, thus protecting the park, the river, the Riverwalk Pathway, and the River Run condominiums in Eau Claire;
- The Calgary North segment from 160 Ave North to downtown be built as ‘expanded and enhanced’ Bus-Rapid-Transit (BRT) system including
 - additional BRT vehicle capacity and expanded running schedule to match the growing demands of communities north of the Bow River;
 - operating Green Line using ‘low-cost, low-carbon emission’ natural gas buses;
 - enhanced intersection signaling system for priority BRT crossing;
 - developing BRT-based Transit-Oriented Development (TOD) stations that encourages small business, Mainstreet community development;
 - rebuilding the 16th Avenue / Centre Street intersection for smooth, efficient, and safe transit, vehicle and cyclists crossing;
 - incorporating ‘Mainstreet’ urban development with a relaxing ‘public realm’ in Crescent Heights and Chinatown including 40 kph traffic speed limitation,
 - pedestrian safety, wide sidewalks, off-street parking, and restricted residential street access for these communities and Tuxedo Park; and establishing a revised North-Central BRT downtown route for a better Red, Blue and Green Line LRT inter-connection and engagement with a new Eau Claire
 - market and the ‘Tomorrow’s Chinatown’ local area plan.

All of these modifications certainly cannot be achieved within \$4.9B, but they represent the best way to maintain a legacy mass transit system which can be achieved in phases within the economic and fiscal capacity of all levels of government. Given a post-COVID economic climate, the Green Line LRT must only proceed if it does not become a financial burden to Calgary taxpayers and transit ridership.

Please ensure that Council deliberates these suggestions in detail and gives Administration time to bring forward the right answers. We cannot afford to and do not want less than an optimum solution within the long term economic capacity to cover both the capital and operating costs. A vote to approve each segment individually would be most appropriate and delaying a vote on the unknown or unanswered is absolutely necessary.

We appreciate the need to create jobs and add to the economy as the cost of construction and capital equipment is low, but we must build the right alignment and approach in the right way.

Respectfully,
Daniela



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name

M.

* Last name

Bradfield

Email

dmd1@telus.net

Phone

* Subject

Please discuss using dedicated buses instead of trains for the Green Line to save billions of \$\$.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Why not talk about making the green line a dedicated bus route in order to avoid having to spend billions on all that train track infrastructure?
Buses use paved roads which already exist and don't need expensive specialized equipment and technicians to keep them running for the next 100 years.
Buses are much cheaper than LRT cars, carry the same number of people as LRT cars, and are much more flexible for where they can be used.
And the city would save Billions of dollars! Why not at least consider using buses??
Why are trains considered sacred to the movement of people??
An articulated bus can do whatever a train can do and do it much cheaper both in terms of capital costs and in yearly operating costs.
Why is council wedded to trains? Are some politicians or companies benefiting from the focus on expensive trains?

ISC:

1/1

Unrestricted

May 21, 2020

12:41:48 PM

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name HIU WA

* Last name LI

Email chrishiuwali@gmail.com

Phone 4036719889

* Subject Calgary Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
The needs to connect downtown to the north will no longer exist since the COVID-19 many company closed for business, and the ones that remain have changed to work from home. The empty rate of the office building will skyrocketing. And the government is already in huge deficit. Please don't let our children to pay for our debts.

April 30, 2020

Submission to the City of Calgary

[Engage.calgary.ca/greenline](https://engage.calgary.ca/greenline)

And delivered by email: publicsubmissions@calgary.ca and cityclerk@calgary.ca

It's time to de-risk the Green Line.

The crisis facing Calgary is unlike anything we have faced before. Council needs to update its assumptions and make other critical choices to de-risk the Green Line in order to head off a potential financial disaster.

The people of Calgary are responding to the catastrophic impacts of crashing oil prices, a global recession and COVID-19. There will be bankruptcies of small business, companies across the energy sector and thousands of households. The City will emerge from this crisis far more fragile than before. The historic practice of raising taxes to pay for budget shortfalls will no longer be an option, meaning there is no room for error on major projects.

Council owes it to current and future generations to face these new realities and build a Green Line for the future, not the past. Over the long run Calgary will emerge as a better and stronger city. But only if we adapt to new realities and avoid irreversible mistakes in the meantime.

The Green Line was originally conceived in 2013. The economic crash and COVID-19 have changed everything.

- Mayor Nenshi said that as a result of the energy crash, global recession and COVID-19 "Calgary will be hit harder than any other city in Canada."ⁱ
- Calgary was booming when the Green Line was proposed. The price of WTI was \$97/barrel. Today it is \$17, and WCS has recently traded at negative prices for the first time in history.
- Downtown office vacancies were 3.7%. They are now 27.2% and climbing, and Calgary's unemployment is the highest in Canada.
- The City's financial position has deteriorated significantly. It is facing a six-month revenue decline of \$350-400 million.ⁱⁱ The Government of Alberta also faces dire financial realities.
- The Green Line as proposed is based on pre-crash, pre-COVID assumptions and is too risky and complex for these uncertain times. According to the City it is "the longest and most complex LRT line ever built in Calgary".ⁱⁱⁱ
- To put this into perspective, the Green Line will be four times the cost of the new Calgary Cancer Centre (\$1.4 B), ten times the cost of the event centre (\$550 M) and seventeen times the cost of the proposed Foothills Fieldhouse (286 M). And the cost of ongoing operating support for the Green Line is many times larger than these other projects.

- Much of the spending on the Green Line (as currently proposed) will leave the province: To out-of-province engineering, management and construction services. The ground-load rail cars have to be purchased from outside suppliers.
- The City's latest cost-per-kilometre estimate has more than doubled from where it was three years ago. Its 2017 estimate for the longer 46-kilometre route was \$4.65 billion, or \$101 million per kilometre. The updated \$4.9 B estimate for 21 kilometres is an average of \$233 M per kilometre.^{iv} Some estimates suggest the total will reach \$7 B or \$333 M per kilometre. Any way you look it, overspending on this project will lead to higher taxes and funding cuts for other important community priorities.

There is a viable lower cost option – the Sensible Alternative.

Given these facts, we are calling on Council to take immediate steps to de-risk the Green Line by updating its underlying assumptions and taking a “measure twice, cut once” approach. We respectfully ask that the City consider a sensible alternative that includes:

- Reducing the length of Stage One, having it run from downtown (7th Avenue) to Shepard.
- Saving \$1.3 B by abandoning the problematic 7th Avenue to 16th Avenue North portion. Instead, the City should consider expanding the presently successful BRT system for Centre Street to service north central communities as a better alternative to LRT.
- Avoiding all “cut and cover” underground segments, using instead low risk surface-level or elevated lines from the Elbow River to downtown (7th Avenue). The cost per kilometre of surface and elevated lines is a fraction of that of cut and cover. This will save another \$1.4 B.
- Using platform-loaded cars consistent with the existing fleet to allow maximum flexibility for redeployments of staff, cars, parts, maintenance and storage to match ridership demand. Utilizing the existing fleet overcapacity will reduce costs by at least \$500 M (\$500 M new extra fleet plus incremental maintenance facility costs).
- Requiring a “risk reserve” to protect Calgarians against capital and operating overruns.
- Breaking the new Stage One into three to five construction sites (or spreads) costing less than \$500 M each.
- Making these attractive to local construction companies, producing more local jobs sooner and shortening the construction schedule.

At the same time, Council should revisit its assumptions, and have these independently verified. It can then make decisions about future stages based on answers to these questions:

- What impacts will the economic crisis and pandemic have on downtown employment and office vacancy levels?
- Will more Calgarians work from home or in decentralized business settings?
- What impact will these have on public transit demand and ridership?
- In particular, how many people are expected to travel in and out of downtown five years from now? How does this match up with existing transportation capacity?

- Can a \$500 M expenditure on new train cars (which can't be used on existing lines) and associated maintenance facilities be justified in light of revised downtown traffic assumptions and financial constraints?
- What are the revised projections for Calgary's tax base in the medium-term?
- What is the best and most responsible use of our limited capital and operating dollars in light of these revised estimates?
- How does a newly designed Green Line fit with the City's broader economic recovery plan?

With updated assumptions and business plans, Council will be in a much better position to make prudent decisions about the future of transit. To do otherwise will be to run the risk of making the Green Line into a colossally expensive White Elephant.

Council deserves credit for doing things differently in the face of new information and new circumstances. The 2019 decision to move away from tunnels under the Bow River was a prudent step.

Now it's time for Council to face new realities, gather the facts and rethink its planning for the Green Line to ensure our City stays resilient in an uncertain future.

We appreciate the dedication and commitment of our City's leaders as they work to address unprecedented challenges, while developing a positive plan for our City's future.

To reiterate, Calgary will emerge as a better and stronger city over the long run. But this can only happen if we adapt to new realities and avoid irreversible mistakes in the meantime.

Thank you for the opportunity to make this submission. We look forward to further constructive dialogue on this critical project.

Respectfully submitted on behalf of an Ad Hoc committee of Calgary citizens,

James K. Gray

Emily Farquhar (Struck)

Barry Lester

Brian Felesky

Patti Grier

Ken Stephenson

ⁱ <https://globalnews.ca/video/6860509/nenshi-says-calgary-will-be-hardest-hit-city-from-pandemic>, April 23, 2020

ⁱⁱ <https://www.theglobeandmail.com/canada/british-columbia/article-western-canadian-cities-face-dire-financial-effects-from-coronavirus/>, April 15, 2020

ⁱⁱⁱ City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

^{iv} City of Calgary, April 2020. Sourced online: <https://engage.calgary.ca/greenline>

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Geoff

* Last name Granville

Email gcgranville@shaw.ca

Phone 4039782220

* Subject Suggestion for a specific response by the City to some opinions

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I suggest the City prepares a specific rebuttal to the series of questions and items listed by Jim Grey and his colleagues with respect to the proposed project. His group's opinions and positions have some level of "respectability" in some quarters, and a specific response to his concerns (eg as summarized in the Herald) would probably be far more influential to most citizens and other interested parties vs addressing them within other documents, presentations and summaries.
good luck! regards, Geoff Granville



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Timothy

* Last name Smith

Email smith.tim@shaw.ca

Phone 4038039663

* Subject Support for the green line - let's move forward!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I grew up in Rosedale and lived there until 2006. I bought a house in tuxedo park where I lived until 2018. I still own the house as a rental. My fiancé and I are now Crescent Heights home owners.

I fully support moving forward on stage 1 of the green line as soon as possible.

I also would like to see the North portion of the line go forward soon. I understand the financial challenges the City is under right now and acknowledge that some prudent fiscal management is required. The portion of stage 2 through downtown must go ahead with stage 1. I fully support a below ground solution through downtown as has been decided some years ago. We should NOT revisit this decision as the reasons for keeping it below ground have not changed. Regarding the segment from Eau Claire and northward if there is a need to delay a portion of the project then this is the portion that should be delayed. I feel this way in spite of this section being the part that would benefit me the most. Regarding the revised alignment proposed for across the river and north I support the route especially the 9th ave station, the bridge routing and integration with eau claire area.

One feature that I think is important to integrate is how the new bridge will appear above the annual Field of Crosses memorial on Memorial Drive. I would like to see some element integrated to the project honouring our veterans because of the proximity to the Field of Crosses.

Thank-you!

Best Regards,

ISC:

1/2

Unrestricted

May 21, 2020

2:57:08 PM



Public Submission

City Clerk's Office

Tim Smith



Public Submission

City Clerk's Office

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* First name Annette

* Last name Fung

Email annettefung1@gmail.com

Phone 4036808318

* Subject Against the Greenline LRT Alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I live and work in Chinatown/Eau Claire area for many years. The natural resource of Prince's Island Park and the Bow River together creates peacefulness and calming effects to the residents and visitors. Placing a bridge with a train running through all day long will forever destroys this peaceful natural beauty we have in the City. It is not only the noise, but the movement of a train all day long will destroy the calmness to the environment for many to enjoy.

Having the Greenline LRT train above ground on Centre St north, leaving only one lane vehicle traffic will create congestion in and out of Chinatown. This will discourage visitors travelling to Chinatown and therefore hurting the businesses there forever. If this project is a must go in order to please the South riders, stop at the Downtown station at this time until a better solution and budget for the North leg is found. Given the current economic situation in Calgary, we cannot afford to spend our dollars relentlessly. Please do not approve the proposed Greenline LRT Alignment.

Thank you.
Annette Fung

ISC:

1/1

Unrestricted

May 21, 2020

3:04:27 PM



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Shawn

* Last name Brackett

Email shawn.brackett@gmail.com

Phone

* Subject Supporting the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing to strongly support the Green Line. I live in North Haven. The Green Line will materially improve life in north-central and southeast Calgary by making it easier for people to get around, reducing traffic and dependence on individual vehicles, and reducing emissions. I support the current direction of building Stage 1 between Shepard and 16th Ave N as long as the City follows through on its commitment to improve BRT along Centre St to a MAX-level of service and progress continues on securing funding for Stage 2. Just because north-central Calgary doesn't get LRT right away doesn't mean the project should be shelved. I also write to convey my concerns with those who are trying to stop the Green Line, in large part because many of those people supported using \$275 million in public money to support a new arena. Please don't sacrifice livability, accessibility, and environmental improvements on the altar of wealthy private corporations and over-stated economic benefits.



May 21, 2020

Mayor Nenshi and Councillors,

On behalf of Rail For Alberta, a newly formed society with the goal of connecting Albertans with sustainable rail transportation and public transit, we wish to extend our support for the Green Line LRT project. As a collection of planners, engineers, technologists, and data-driven citizens who want to see Alberta embrace a clean, sustainable, and mobile future, we are very pleased with the direction The City of Calgary has taken toward this outcome.

In its current proposed form, the Green Line LRT project is built on established evidence that shows it will encourage sustainable economic growth, reduce congestion and emissions, and improve the quality of life for generations of people. The project has seen substantial changes throughout its design, reflecting a process of thoughtful analysis and consideration, and we commend the team responsible. As a city-building project, the Green Line will be a much needed rapid transit connection between the south east and Northern Hills communities, and alongside recently completed BRT lines, the city is developing a cohesive rapid transit backbone that will rival (and perhaps inspire other) cities across North America.

The COVID-19 crisis has shown just how automobile capacity has been greatly overdeveloped at the expense of public space and quality mass transit; the importance of a people-orientated city should always be our priority. While there has been a decline in office work downtown, it does not negate the need for public transportation in the city, especially with the connections that the Green Line will provide all citizens to their communities. It's imperative to build a rail line that will serve the community for the next 100 years, and taking shortcuts that chip away at the integrity of that line would be a disservice to building a city that focuses on constructing communities, rather than physically distancing them.

Calgary has often been called an "entrepreneurial city". In the 1980s, we were pioneers when, with under 750,000 people, we constructed the C-train - unheard of for such a small population. We predicted what the city could be, what it would become, and we did what was best for the long-term success of the city and its citizens. We are pleased to see the Green Line project build on this legacy.

Calgary's LRT is as iconic to our city as the Rockies, Calgary Tower, and Stampede. Let's continue to be pioneers for a more sustainable and people-friendly future. We stand firmly in the belief that this project will improve the lives of all Calgarians, economically, socially, and environmentally.

Justin Simaluk
President
Rail For Alberta



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Craig

* Last name Schneider

Email crs2468@shaw.ca

Phone

* Subject Greeline Project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I will keep this short because I realize public input is just a "feel good" formality and this project will proceed. It is a shame that the bridge over Prince's Island will destroy Calgary's most precious green space. I'm also very concerned about the economic future of Calgary. All economies based on extraction of natural resources are under ever increasing attacks from special interest groups to national governments. Why do we even need to proceed with Calgary's most expensive infrastructure project ever at this time? Is there any hope the oil industry will recover and fill the empty downtown office buildings? We have failed to diversify our economy for decades, so what will replace the employment the oil industry has provided in the past? Calgary's LRT system essentially just services commuters traveling downtown for work. If the downtown never fully recovers from this 6yr and counting recession, who will be riding the Greenline? I guess the only thing that will stop this project is the lack of funding from the Provincial and Federal governments. Their finances have been decimated by the pandemic, so hopefully they will pull the funding and save Calgary property tax payers from more economic hardship. Good luck with the project. I will have likely moved to greener (economic) pastures well before this project is completed in whatever form (Revision 1,2,3,4,...).

ISC:

1/1

Unrestricted

May 21, 2020

3:32:43 PM

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Grant
* Last name	Kroeker
Email	gkroeker@gmail.com
Phone	403-512-2322
* Subject	Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	PLEASE PLEASE PLEASE! I beg you to stop the Green Line. Things are changing so fast, we need to do a reset!

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Lisa

* Last name Corbett

Email lmcorbett@shaw.ca

Phone 4037030444

* Subject Lisa Corbett

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

PLEASE put a stop to the green line project. The city can't afford it. We, the tax payer, can't afford it. You have no idea how transit will be affected long term by this virus. It is a poorly thought-out project and it is too expensive. Stop it now.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Matt

* Last name Patterson

Email mpattersonSOC@gmail.com

Phone

* Subject In support of updated stage 1 alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am an assistant professor in sociology at the University of Calgary, whose research focuses on cities and urban development. I write to express support for the updated alignment of the Green Line, stage 1. Accessible and reliable mass transit is essential for Calgary. However, mass transit lines are notoriously difficult to build because of the costs, engineering challenges, and competing interest groups. In my view the City of Calgary has done an excellent job overcoming these difficulties, while still delivering transit to areas of the city that have are currently underserved. I am particularly optimistic about the choice to run the line on the surface of Centre Street North. Centre Street North has a lot in common with King Street in my former home of Kitchener-Waterloo, where a similar surface-level LRT line opened in 2019. The Kitchener-Waterloo case demonstrates how a surface-level LRT can be integrated with the revitalization of an inner-city main street.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Mike

* Last name R

Email heyrisi@hotmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The economic conditions have changed dramatically since the Green Line was first proposed and more recent events like Covid make the Green Line far less appealing and far more risky than ever before. Where to even start? The changes in occupancy downtown first of all. Sadly a lot of those jobs are not coming back. And unless oil booms again, population growth forecasts for Calgary from five years ago are not relevant. This line will not have the ridership that is needed to warrant its construction anymore. Additionally, technological changes to transportation, and working from home are potential game changers that could make this project less necessary than ever. All things considered, Calgary does not have the money for the Green line, which is more and more becoming a vanity and reputation project than one that makes economic sense. Thanks.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name MEDHANE

* Last name TSEGA I

Email MEDHANE B@YAHOO.COM

Phone

* Subject GREEN LINE NORTH

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I HAVE BEEN WORKING ON CENTRE STREET FOR THE LAST 20YEARS. I AM REALLY EXCITED TO SEE THE DEVELOPMENT OF THE GREEN LINE CENTRE STREET NORTH.
SPECIALY THE ADDITIONAL STATION AT 9AVE WILL MAKE A SIGNIFICANT DIFFRENCE.
REVITALIZE CENTRE STREET, TOURIST ATTRACTION, EASY ACCESS TO THE BEAUTIFUL CRESCENT HEIGHT HIGH SCHOOL AND COMMUNITY.
EASY ACCESS TO SOCIAL CENTRE OF PRICE ICELAND PARK AND THE VIEW.
IT IS THE FUTURE!
THANK YOU
MEDHANE TSEGA I



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kim

* Last name Maas

Email kiim.maas@gmail.com

Phone

* Subject In support of the Green Line Project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

After attending the online open house tonight hosted by City of Calgary staff, I feel that I am better informed about my position on the Green Line project. Please support the recommendations from Administration. I believe the project team has done their due diligence to Calgarians to ensure the information provided to City Council and Calgarians is well-researched and ethically-sound. I trust our city planners and engineers along with the supporting engagement, communications and subject matter experts (biologists and traffic technicians) who have prepared these recommendations. Although I am nervous about the impacts to Prince's Island Park as an ecological jewel in the middle of our city, I trust that the plans to move forward with the bridge instead of the tunnel will provide economic savings, while keeping the environmental impacts and remediation top of mind. The long-term benefits to the communities served by the Green Line along with the jobs that come with construction will continue to propel and support economic diversification in Calgary and attract people to our city. The long-term environmental benefits to our city include encouraging people to walk, wheel and take transit over single occupancy vehicles and will help Calgary reduce our greenhouse gas emissions to help support our climate resiliency strategy goals. Lastly, efficient and accessible transit for people of all ages, abilities and incomes is an essential service for any major city. The Green Line will help move Calgarians and visitors to Calgary so they can get to schools, shops, work, recreation opportunities and more. This is the kind of investment I want City Council to consider for my daughter

ISC:

1/2

Unrestricted

May 21, 2020

8:41:05 PM



Public Submission

City Clerk's Office

who is now 2 years old and for future generations to come.
Thank you for your consideration and for taking the time to review my letter.
Please support Green Line as recommended by Administration.



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Samuel

* Last name Robinson

Email samuel.vj.robinson@gmail.com

Phone

* Subject Support for Green Line Project

To the members of the Green Line Committee,

I am writing to express my support for the Green Line extension of the cTrain:

As a resident of Calgary, I feel that this project is a good investment into Calgary's public infrastructure, and that it will serve the growing needs of the community over the coming decades. The population of our city has grown immensely over the past 15 years, and affordable public transit is needed in order to sustain the new communities at the edges of the city. This project will connect peripheral communities with the core, allowing flourishing business development and community growth, relieving traffic pressure from main roadways, and providing mobility to lower-income and disadvantaged community members. In this way, the Green Line development will benefit all people in Calgary, even people who choose not to use public transit!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Opponents of this development may question the price or utility of the project, decrying it as wasteful spending that is useful only to a small number of people. I would say that this project will benefit a wide swath of Calgarians, and that there is no better time than now for this project. Interest rates are at an all-time low, thousands of Albertans are looking for jobs, and this project provides a well-needed public investment into the civic infrastructure of Calgary, benefiting hundreds of thousands of people in the long-term. Furthermore, transit ridership has grown immensely in the last few decades, indicating that the need for transit, if anything, will be higher in the future than it is now. Now is

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May 21, 2020

9:42:39 PM



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the time for long-term investment in a truly public good, not short-sighted delays.

In summary, I would urge my fellow Calgarians, as well as the members of the Green Line committee, to support this project through to its completion in a timely manner.

Thank you for considering my concerns, and I thank the members of the committee for their efforts,

Samuel Robinson, Ph.D; resident of Ward 8



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Justine

* Last name Matsalla

Email jmatsalla@gmail.com

Phone

* Subject Green Line Centre Street

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

When I was buying a house 5 years ago, I knew I wanted to live close to where I had been renting in Crescent Heights at the time. I love the Central/North inner city area. I ended up buying in Mount Pleasant. A big part of that decision was the plan for the Green Line. I was excited to be able to walk to the future 28th Ave N station. Now I know my station will be part of stage 2, and that's fine, I can wait. But once I heard that the underground plan was recently scrapped, I actually got upset. I take the #2 bus almost everyday to and from work. Centre Street is a very important road for this bus and several others. I heard at an engagement that rapid transit can take the rail lanes, so that's good. But my bus can't. The #3 can't. I would bet the #3 is one of the most popular routes in the whole city. At least the most popular in the north. I am just going on gut feelings and experience living in the area, but I think that going from 3 lanes at rush hour down to 1 will create terrible bottlenecks, not just on Centre Street, but on every other available route nearby. 10th Street is already unusable with one lane. Edmonton Trail and 14th Street already have pretty bad traffic at peak times. Deerfoot and Crowchild are so out of the way, it's not even an option for most of us who are central. The train just doesn't go north enough for most current transit users. We will still need to take the bus, and that bus will need to go down Centre Street. I do not see the benefit of this plan. If anything, it will encourage me to drive, because I imagine that my 25 minute commute will drastically increase with this plan. We already have great transit down Centre Street. We don't need it to compete with a train now. A train as a underground addition, absolutely! That makes sense. What doesn't make sense is expecting people to switch from their current bus to the train, and back again. Or be

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May 21, 2020

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stuck in terrible traffic every day. Please do this right, or not at all. Please don't put the train at grade.

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* First name Michael

* Last name Fraser

Email michaelakfraser@gmail.com

Phone 5873379688

* Subject Green Line Approval

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The expansion of the C-Train is essential to ensuring a vibrant core for Calgary. It creates economic investment, it helps Calgary's core thrive and it pushes development in the downtown core. I understands that the cost of this project will include taxpayer funds (a normal amount for a transit project in a nationally competitive large cities) but it is essential to differentiating Calgary's low taxation and high value to potential investors.

**Please be advised that Letter #92 has been removed as
it did not pertain to Item 7.1 Green Line Update Stage 1,
GC2020-0583**

**Please be advised that Letter #93 has been removed as
it did not pertain to Item 7.1 Green Line Update Stage 1,
GC2020-0583**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Faye

* Last name Crooks

Email fcrooks@shaw.ca

Phone 4038135791

* Subject Support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As a native Calgarian I absolutely support the building of the Green Line. I have seen first hand how the initial build of the LRT enhanced our City and how the subsequent expansion of the system has furthered this. I am appalled that an elite group of (formerly) respected businessmen have organized a campaign to oppose this expansion for reasons that are not entirely clear to me. My suspicion is that that their agenda is being pushed by the Provincial UCP government in order to get the Province off the hook for their part of the Green Line without the Province looking bad. Every urban study I have ever read confirms the need for robust public transit. I urge City Council to have vision, be bold, and advance the Green Line. We cannot wait any longer to add more public transit to our City.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Nicole

* Last name Wyatt

Email wyatt@rabidcoyotes.com

Phone 403 891 8539

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Building the Green Line, including the section from downtown to 16th Ave N, should be the top priority for the City. I don't have strong opinions on alignment issues, but I do know that access to rapid transit is a key economic driver for any large city, as well as being an important social justice issue. Rapid transit, especially trains, play an important role in providing access to economic and social opportunities for the poor and disabled. Finally, reduced car use is environmentally key. Please move forward with the Green Line, and please continue to expand our transit system. During an economic downturn public transit is even more important.



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* First name	Valerie
* Last name	Rendell
Email	valerierendell@gmail.com
Phone	5874368257
* Subject	Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	Please let the Green Line happen! It helps underprivileged people immensely... imagine being careless and still have to get to work, school, libraries and hospitals... This is an easy way to get Calgary the status of a major city that it deserves (but has not yet achieved or earned).

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* First name	Daniel
* Last name	Aarons
Email	danielbaarons@gmail.com
Phone	5874369666
* Subject	The Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	The Green Line project has had years of planning, public engagement, approved provincial/ federal funding. Represent the majority of Calgarians who approve and need the Green Line



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name John

* Last name Reid

Email johnadamreid@gmail.com

Phone 4035408854

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I believe the Green Line project should not go forward as planned. A projected 4.9 billion dollars, following up on a West LRT budget that missed by 40%. According to the Journal of Transportation Planning and Technology, average cost overrun for North American urban rail projects is 35.8%. So the true cost is likely to be 6.8 billion, for a project that serves less than half of what was originally planned and is not even in the most underserved part of the city.

In brief, my major concerns are:

- destroying the many businesses on Centre St 7Ave to 16 Ave by removing parking and increasing crime
- permanently altering beautiful Prince's Island Park with a ugly, noisy train flyover immediately above a jewel of our city
- lack of ridership due to technology changes, significant and sustained downturn in Calgary's economy
- increased crime through neighbourhoods and the associated costs
- loss of a major vehicle thoroughfare to downtown Calgary

City Council is elected to represent citizens, not to push through pet projects. Building the Green Line as planned does not represent the needs of Calgarians today, or in the next 8 - 10 years. This project should not go ahead.

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May 22, 2020

9:52:06 AM



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Anna

* Last name Greenwood-Lee

Email rector@stlaurence.ca

Phone 14038527849

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing in my role as Chair of the Calgary Alliance for the Common Good, which has over 35 000 Calgarians as members. We believe the Green Line will make an important contribution to transit in our city. Calgary needs a robust transit system in order to keep Calgary moving and to serve the needs of present and future Calgarians. We also believe this project is in line with Calgary's climate resilience strategy and will be an important source of job creation for our city. Post-Covid people will return to transit and the Green Line will be an important part of that.

Finally, speaking personally, as someone who has taken the bus up Centre Street I know that better and faster transit to that part of the city is necessary in order to better serve that part of our city.

From: Alvarez, Anakarina (Calgary) <Anakarina.Alvarez@Worley.com>
Sent: Thursday, May 21, 2020 4:37 PM
To: Public Submissions
Subject: [EXT] Concern with Green line

Follow Up Flag: Follow up
Flag Status: Flagged

To whom it may concern.

My name is Anakarina Alvarez and I am the owner of 727-222 Riverfront Ave SE, Calgary, AB T2G 5R1. I am also part of the oil and gas industry and engineer registered in Alberta.

I wanted to send this mail to voice my concerns. I am normally in favor of infrastructure projects as those help on the development of a city.

Currently, the Oil & Gas industry has been affected considerable. Not only for the Covid -19 as it did not fully recovered from the down of the market since 2016.

The City of Calgary is looking into a very large infrastructure project when:

- The resources are depleted
- The community is suffering of unemployment
- Most of large corporation are leaving down town to lower the renting costs.
- Several large companies had left the city (Devon, PenGrowth, Shell, etc.)

Additionally, due to the Covid-19, several industry are focusing in "work-from-home" approach, as this is for them a long term solution to lower renting/ operational costs. This will also lower the commute and the need to go to down town. I believe the city of Calgary have other projects that could be more attractive to the public at this point. The green line budgetary cost are in the realm of 5 Billions CAD that will leave the city with a larger debt.

Last but not least, the Prince Island Park is one of the most beautiful and attractive place to enjoy this city. Every time I have the opportunity I would go for a run in this area, it does not matter if it is winter or summer, it always has a charm. Please don't damage one of the most beautiful parks we have in Calgary.

Best regards,

Anakarina Alvarez

Sr. Electrical Engineer, Worley

N1A.154 | 505 Quarry Park Blvd SE | Calgary, AB T2C 5N1 | Canada

T: +1 403 6923463 | GMT - 07.00

Email: anakarina.alvarez@worleyparsons.com

www.worley.com



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name colin

* Last name lo

Email colinlo8@yahoo.com

Phone 403-978-2888

* Subject Green line - STOP all underground around downtown

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

(1) Last few months, we have experienced layoffs in massive numbers of millions around the world that have affected industries from airline, transportation, hotel, entertainment, etc.
(2) Our local economy is based on Oil & Energy sector never in history have encountered negative oil price and forward looking to rebound not anytime soon especially more oil companies have left Alberta/Canada.(period)
(3) Sadly, our downtown office vacancy will be more than 35% empty as early Jan 2021, and to spend 2-3 \$billion to build underground route around downtown in today's tough economy not a wise decision. (We will be in DEBT forever/City will be bankrupt!)
(4) We MUST rethink the entire downtown underground alignment from 9th Ave to 2nd street including Waterfront portal, and to build new bridge across Bow River & stop @16th Ave totally lack of understanding our local economy in extremely poor shape & population & ridership not in existence to support this huge amount of spending tax \$
(5) Green line team have spent only 2-3 months in planning & consultation to Calgarian & to justify few billions for the sake of construction infrastructure to boost local economy when international company outside Canada will get award of this project just not making any sense...
(6) PLEASE RE-THINK AS MANY WORKERS HAVE NO JOBS & MORE SMALL BUSINESS WILL GO BANKRUPT GIVEN THIS PANDEMIC HAVE AFFECTED THE WHOLE WORLD ECONOMY
Important:-
(A)Please consider to STOP all UNDERGROUND route in this segment from Beltline

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Unrestricted

May 22, 2020

11:12:31 AM



Public Submission

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and going North along 2nd street alignment including NO new bridge construction across Bow River.

(B) This proposal of new bridge will demolish our Eau Claire peaceful environment, damage Prince Island wetland area and planning of 1-lane N/S (along center street North bridge) will destroy Chinatown merchant business forever due to traffic flow so limiting across center street using lane-reversal in peak traffic already!

PS: (It will be another 20 years for any extension North of 16th Ave to Sandstone area & making this proposal of new bridge costly to maintain & extremely low ridership if any @all). Thank you for listening!



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Alysha

* Last name Franson

Email alyshafranson@hotmail.com

Phone 4038018769

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the green line and I think you should too. When we think of great cities in Canada and what they have we think of their transit system and their lively active downtown core. These things go hand in hand. People who live in Vancouver and Toronto can get by without needing a car, but here in Calgary it's next to impossible. Please make our city more accessible, and comparable for this cities future. It will create jobs and will lead us towards a more environmentally friendly city as well. We need to be a leader in Alberta and catch up with our fellow cities in Canada. Thank you for reading.

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* First name	Breezy
* Last name	Manning
Email	breezymanning@gmail.com
Phone	
* Subject	Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	We must move forward with this project. Having reliable transportation to communities is very important. The LRT is great way to use transit. Buses are often jam packed and the schedules can be thrown off easily. We the people want the Green Line to go through. It is important infrastructure for this city.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Nesta

* Last name Hoffart

Email nestajill@yahoo.ca

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I wanted to express my support for the Green Line. We moved to Calgary with the full intention of going car-free; something we'd talked about for years but didn't live in a big enough centre to really have efficient public transit. Part of that decision was because of Car2Go being here. With them leaving, it has been tricky. So many sections of our city are not conveniently linked and there are a ton of holes in the transit map. The Green Line fills a big part of that hole, not to mention making commuting by transit a lot simpler than driving downtown and paying outrageous amounts for parking.



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Micheal

* Last name Jones

Email micheal@mcjones.ca

Phone

* Subject Update to Green Line with Revised Routing

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hi,

I wish to submit a comment stating my support for the proposed Green Line plan. The information sessions put on by the City via Teams and such were incredibly helpful and helped clarify questions I did have. The Green Line vision is just as true today as it was in 2016 - we need to move forward with the Green Line. It works towards meeting our climate objectives, and is a desperately needed start to improving our rapid transit system.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Carolyn

* Last name Tooth

Email canucksinperth@gmail.com

Phone +15872269139

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello
I would like to express my desire to see the Green Line go forward. This is one of the most important pieces of infrastructure in Calgary's history. Many, many people rely on transit for their day to day lives including my children. This project is about Calgary's future. Let's make it a equitable, resilient and environmental future. All great cities have great transit as a foundation. Let's keep making Calgary better and a city that will work for all Calgarians for the next 100 years. I support the Green Line.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Justin

* Last name Simaluk

Email jsimaluk@hotmail.com

Phone

* Subject Green Line Submission

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please find attached a formal submission to the clerk for the Green Line agenda item, submitted on behalf of Rail For Alberta.



May 21, 2020

Mayor Nenshi and Councillors,

On behalf of Rail For Alberta, a newly formed society with the goal of connecting Albertans with sustainable rail transportation and public transit, we wish to extend our support for the Green Line LRT project. As a collection of planners, engineers, technologists, and data-driven citizens who want to see Alberta embrace a clean, sustainable, and mobile future, we are very pleased with the direction The City of Calgary has taken toward this outcome.

In its current proposed form, the Green Line LRT project is built on established evidence that shows it will encourage sustainable economic growth, reduce congestion and emissions, and improve the quality of life for generations of people. The project has seen substantial changes throughout its design, reflecting a process of thoughtful analysis and consideration, and we commend the team responsible. As a city-building project, the Green Line will be a much needed rapid transit connection between the south east and Northern Hills communities, and alongside recently completed BRT lines, the city is developing a cohesive rapid transit backbone that will rival (and perhaps inspire other) cities across North America.

The COVID-19 crisis has shown just how automobile capacity has been greatly overdeveloped at the expense of public space and quality mass transit; the importance of a people-orientated city should always be our priority. While there has been a decline in office work downtown, it does not negate the need for public transportation in the city, especially with the connections that the Green Line will provide all citizens to their communities. It's imperative to build a rail line that will serve the community for the next 100 years, and taking shortcuts that chip away at the integrity of that line would be a disservice to building a city that focuses on constructing communities, rather than physically distancing them.

Calgary has often been called an "entrepreneurial city". In the 1980s, we were pioneers when, with under 750,000 people, we constructed the C-train - unheard of for such a small population. We predicted what the city could be, what it would become, and we did what was best for the long-term success of the city and its citizens. We are pleased to see the Green Line project build on this legacy.

Calgary's LRT is as iconic to our city as the Rockies, Calgary Tower, and Stampede. Let's continue to be pioneers for a more sustainable and people-friendly future. We stand firmly in the belief that this project will improve the lives of all Calgarians, economically, socially, and environmentally.

Justin Simaluk
President
Rail For Alberta

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Cinara
* Last name	Santana
Email	nara.santana0302@gmail.com
Phone	4038319805
* Subject	Green line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	The project is needed. Calgary should plan for the future and not the past. Going ahead with the project is the right thing to do. It will employ people now and we will have a more efficient transit System when it is done. Better transit= less cars=less emissions=win!



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jonas

* Last name Cornelsen

Email jcornelsen1@gmail.com

Phone

* Subject Support for Green Line Re-Alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am a resident of Ward 7, close to where the LRT portion of Phase 1 of the Green Line will terminate. After reviewing the updated alignment proposal, I am fully supportive and ask that this project go ahead as planned. I am concerned that a small group of wealthy businessmen (who are presumably not transit users) is trying to de-rail this project. The Green Line is essential for maintaining a connected and climate-conscious city, and I ask that you listen to the thousands of transit users who need this project, not the wealthy few who would prefer to protect their own interests. Thank you and best regards.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Amanda

* Last name Williams

Email amanda.x.williams@outlook.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am strongly in support of getting the greenline started as soon as possible. I oppose the interference of wealthy interest groups so are seeking last minute changes. The SE quadrant of the city desperately needs transit that is not using the all ready full roads. The Greenline will remove vehicles from the roads, reduce pollution and allow low income citizens better access. The ability to take a train to the South Health Campus is critical, at the moment you have to hope and pray that you don't get stuck waiting on a freight train at a couple of crossing from north to south. A dedicated LRT will reduce Calgarians commute time and improve their quality of life. The North Center of Calgary is dense with people and giving them an accessible LTR will help with congestion. At this time we have a historic number of Calgarians out of work, starting the construction on the Greenline will help get some of them back to work. Businesses along the route will also benefit from the exposure to new clients that may not normally have seen them from their cars.

ISC:

1/1

Unrestricted

May 22, 2020

2:43:06 PM



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Steve

* Last name Finley

Email finleysteve@gmail.com

Phone

* Subject Green Line Consultation

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I look forward to adding this line to the city landscape. As we become a major city, the wisdom of these additions will become more evident with growth. Any effort to cancel it is in my mind short sighted and something we would regret not doing in the future.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jenny

* Last name Lunan

Email libraryjenny@gmail.com

Phone 4033899606

* Subject Greenline must go ahead!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing to add my voice to the many Calgarians who are in support of the greenline, I think it needs to go ahead, with the plan that is already in place, I live in the NW and will be directly affected by it. Honestly, can't get built soon enough

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Colin

* Last name Gainer

Email colingainer@gmail.com

Phone

* Subject Greenline LRT Project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
The Greenline is a critical piece of the city's long term transportation infrastructure and necessary to position Calgary on the route towards better-integrated land use and transportation for current and future Calgarians. We do not need to rethink it, we need to start building it.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Linda

* Last name Shantz-Keresztes

Email lindajshantz@gmail.com

Phone

* Subject Support for Green Line Re-alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I live in Ward 14 and I am fully supportive of the project as it has been proposed. There has been too much stalling on this project and will provide a viable, equitable access for many citizens. We have had the benefit of a south C-Train and know others on the proposed Green Line routes who have waited too long for this project.

**Public Submission**

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* First name Brendan

* Last name Bakay

Email bbakay@gmail.com

Phone

* Subject Green Line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing today in support of the Green Line. This is a vital service for the most needy in our City. It will create jobs, benefit the environment, and increase accessibility. While fiscal management is important, I believe that revenues are the issue not spending. The Province needs to step up and identify ways for the City to be able to raise appropriate revenue so that the City of Calgary can continue proving we're the best city on the planet.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name

Sara

* Last name

Jaremko

Email

sljaremko@gmail.com

Phone

* Subject

Green Line - submission re Stage 2

Regarding the stage 2 portion of the Greenline as proposed, I am strenuously opposed to the proposed bridge over Prince's Island. I also don't think running the train through a redeveloped Eau Claire Market is a recipe for success: it is more likely to turn a delightful spot whose potential is underappreciated into an unpleasant industrial site ripe to be overrun by vagrants and drug users.

It is absurd to think that supporting jobs in a time of crisis or supporting public transit demands the acceptance of the particulars of this one proposal.

The Prince's Island wetlands are a beautiful, precious natural spot. I realise this is a busy city, and I would not be shocked if the wetlands' future included some modifications, but they must remain a park and greenspace.

Of broader importance, the proposed bridge would irreparably damage the value of the more popular west side of Prince's Island. The sight and sound of the bridge will be obtrusive to every part of the island and area. I live near the Sunnyside train station: the sound of trains passing by is a constant (I'm omitting the station sounds) - I can tune it through walls but could not in a greenspace. Nor could the wildlife or general tranquility that the island supports. Incidentally, the train also brings plenty of varied transit users and drug dealers, and it is not unusual to hear fighting, screaming, and ambulances or police attending the station at all hours.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

ISC:

1/2

Unrestricted

May 22, 2020

3:50:42 PM



Public Submission

City Clerk's Office

The ecosystem services of Prince's Island are immeasurable, to me personally and to the City itself. Ecosystem services can be defined as "the many and varied benefits to humans gifted by the natural environment and from healthy ecosystems" (Wikipedia), and they should be considered prominently in your planning process when this publicly significant greenspace is concerned. Prince's Island and area is my heart in Calgary. It is the place I can go and relax and feed my spirits. I cannot imagine living in a city without access to such greenspace. I daresay it is likewise the heart - and peace of mind - of Calgary as well. It is a tourist destination and a major draw for corporate workers on lunch breaks in good weather, and a significant number of people recreating on evening and weekends.

Incidentally, how can such a bridge be built when the expensive construction of the Peace Bridge supposedly required that no berms be placed in the water?

A train bridge over any part of the island would be a terrible and irreparable mistake.



**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Newton

* Last name Lau

Email newton_lau@hotmail.com

Phone 4038041628

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Build the green line
We live in an area where it is needed and we have no c train access.
It would raise property value
Lessen traffic
Better for the environment



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Cole
* Last name	Christensen
Email	christensencole.d@gmail.com
Phone	403-589-3529
* Subject	Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	Please prioritize the needs of the majority of Calgarians and build the Green Line. If you can subsidize a private arena, you can build this. It's not hard. Thanks!



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Peter

* Last name Hemminger

Email peterhemminger@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I'm writing to express my support for the Green Line, and to oppose the suggestion by some interest groups that now is a time to rethink the project from the ground up. The Green Line has been studied, considered, and consulted upon. Experts, community members, and others have weighed in. The long-term benefits are clear, and the COVID crisis does not change the fundamental fact that improved transit will be necessary for Calgary's future. This is a necessary, well-considered project, one that will benefit countless Calgarians and better position us for economic recovery.

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Robyn
* Last name	Gamber
Email	robyn.gamber@gmail.com
Phone	
* Subject	Support for a Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	This City needs to have public transit in order to function as the world class city we ought to be, and the Green line is part of that. The people who oppose the green line or other transit oriented developments, are not the people who use it and who actually need it.

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* First name Allan

* Last name Cramer

Email allan.cramer@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello. I would like to voice my concern that there is a wealthy, entitled, small group of Calgarians that is using there influence to try to slow down and destroy the green line. I think their end game is to tie it it up in discussion as long as they can. They don't want it. They want the cities capital budget to be spent on projects that will make them more wealthy. That is my opinion. However I would request that council and city decision makers give each of them only the sway in government that a transit user on the c train would have just because they have wealth and can buy advertisements does not mean they should get more of a say in this project than anyone else.

I support public transportation and I support the ones that need it to get by in our society where the wealthy continue to get more even in times when others need our support.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Marnie

* Last name Shaw

Email MarnieJuel@gmail.com

Phone 4034834440

* Subject Yes, I support the Green Line LRT.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Yes, I support the Green Line LRT.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Holly

* Last name DeSimone

Email hollydes@live.ca

Phone 4037011406

* Subject Green Line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing to let you know I support the green line. As a user of public transit. It is important in any city. I always wished we had more accessible transit in our city.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Chris

* Last name Madge

Email chris@chrismadge.com

Phone

* Subject GreenLine

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I would like to make some comments around the Green Line. As a SE resident who lives along the proposed route. I believe that the Green Line and rapid transit are an important part of a healthy diverse Calgary. There are a small group of affluent Calgarians who unfortunately have an opposing view and have put together a marketing campaign to try and stop the green line as designed. I believe that an accessible Public Transit system is essential to ensure the participation of all Calgarians. Please do not give in or be dissuaded by the wealthy minority. Please keep the GreenLine plan as it is. The Socioeconomic benefits will far out live the cost now and will be used by generations to come.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Mike

* Last name McAra

Email mcarayyc@gmail.com

Phone

* Subject Why YYC needs the Greenline now

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Dear Council,

Every great city has great mass transit. With Calgary's goal to strive towards greatness, it only makes sense to pursue this as a #1 priority, all financial risks notwithstanding.

It's time to be bold, time to build. The economic merits are sound, the societal benefits undeniable. Don't let down future generations by not actioning a once in a career project that truly will leave a legacy for all of us in YYC, now and into the future.

Don't let our collective children down, and move this project forward without delay.

Sincerely,
M.M. Born and raised Calgarian of 33 proud years.

ISC:

1/1

Unrestricted

May 22, 2020

6:15:03 PM



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Hugo

* Last name Labrande

Email

Phone 4038601210

* Subject Support for the green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I wholeheartedly support the green line project. A lot of work has been done on it and although I am disappointed about not having a tunnel from downtown to 16th ave, a bridge is fine. This is critically needed infrastructure, especially in a time where Calgary needs jobs; investing in public infrastructure is the right way out of the slump, as it makes the city more attractive, makes transit more convenient, and provides jobs when they're sorely needed. I appreciate the city's transparency in the project, and the citizens have had lots of opportunities to voice concerns. I am worried about people trying to flex their power and media exposure to stop the green line; they should be treated as ordinary citizens/business owners (and as such, they are too late). Thanks you for making the green line happen!



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Allison

* Last name Goerzen

Email allison.goerzen@gmail.com

Phone

* Subject Support for Green Line Re-alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello!

I'm just writing to add my support for the green line as currently proposed. It's really important to me that our city have as many possibilities for climate conscious transportation options. I transit or bike about 8 months of the year and have been really looking forward to another train line. I also attend a church in ward 9 close to the proposed 9 ave station and would love to be able to take the train to church! I know the pandemic has come up as one reason to change the plans but my hope is that this project would be an investment for many decades to come - which probably will have more days without a pandemic than with one. Plus people use transit when it's convenient, and the more options the better in my humble opinion. Thanks for all that you do. I hope plans can keep moving forward for the green line!

Cheers,

Allison

ISC:

1/1

Unrestricted

May 22, 2020

6:37:29 PM



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Marc

* Last name Coyte

Email coyte.marc@gmail.com

Phone 4032836880

* Subject Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the Green-line because it contributed to a cleaner environment.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name John

* Last name Cruz

Email

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I think the green line project is a big mistake. It's too much money. You can do the same thing with buses. It's nice to have but we don't need it. Taxes are too high as it is. The majority of jobs will be temporary and then there gone. I also think that C trains and C trains stations have become unsafe. Gathering places for druggies and crime. Recently the city closed several for that very reason. I want to help the poor people that can't afford cars but every year it seems I'm making less and less money. The city wants more money, the province wants more and the federal tax keeps going up. Pretty soon I will have to sell my house because I can't afford to live in it. If this keeps happening I feel I will become a burden to society. More dependent on welfare programs like shelters and food banks. In closing I would like to summarize by saying we need to think about the people that are just barely hanging on, trying to hang on to their house and car. My property taxes have more than doubled in the last 10 yrs. every year it goes up hundreds of dollars. Last yr it was up over \$400 and this yr I think it will be over \$500. This is my biggest monthly expense by far. Please think about those of us who are struggling to get by, struggling to keep up and struggling to survive.

ISC:

1/1

Unrestricted

May 22, 2020

7:05:33 PM



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ron

* Last name Cohen

Email cohenr@shaw.ca

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The completion of the green line is integral to the growth of our city. These citizens have been under served for years and it's now their turn. Please approve and ignore those who don't even live in the area



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Juliet

* Last name Burgess

Email juliet.burgess@gmail.com

Phone 4036674770

* Subject Green Line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The construction of the Green Line in Calgary is very important to me. I am a life-long Calgarian and transit user - I have never owned a car and as a 32 year old prairie girl, that is a feat. I rely solely on Public Transportation and have been a big advocate for most of the improvements and additions that have occurred over the last several years. The Green Line is no exception - and while it will cost a lot, it will produce many jobs and provide lifetimes of access to Calgarians that would not have had it otherwise - folks like me. Now is the time to build it and build it right. The future needs to be accessible, no matter what economy lies ahead. It would be foolish to leave this project half done, done incorrectly or not done at all without any knowledge of how the world will be. Nothing is certain but transit has ALWAYS been and essential service. Especially to myself, and as a social worker, especially to my low income and vulnerable clients. I support the building of the Green Line LRT in Calgary!



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Chelsea

* Last name Polk

Email chelsea.polk@gmail.com

Phone 4034520819

* Subject I approve the Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I don't have anything eloquent to say. I'm just a public transit user in a city with service that desperately needs improving, and expanded LRT is too important. Don't let those rich jerks who never rode a bus in their lives control this. Thanks.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Philip

* Last name Turnbull

Email pp.turnbull@gmail.com

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello,

I just wanted to write and send in my support for the Green Line. I live in Mount Pleasant and look forward to development along centre street/16 Ave NW and being able to take transit to downtown.

Please consider making the 16 Ave NW/centre street crossing above or below grade as that intersection is difficult as it is.

Thanks.
Philip Turnbull
28 Ave NW



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Laura
* Last name	Sturtevant
Email	sturtevant.laura@gmail.com
Phone	4039909030
* Subject	Green line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	I'm writing in support of moving forward with the Green line. SE Calgary is in need of transit and the city needs to put people back to work.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Thea

* Last name Wingert

Email theawingert@gmail.com

Phone

* Subject Go for Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello esteemed City Councillors, please register this message as my formal support of your Phase 1 and 2 Green Line plans. I live on 28th ave NW and am very much looking forward to the day that I can walk to a train station. I ask that you consider putting the train above grade at the 16th ave nw intersection since it is already quite a snarl. Please don't bow to the entitled rich old white men who think that money is all it takes to run this city. Murray Edwards' wet dream of a publicly (seriously?!)-funded arena can wait until he creates all those jobs he promised. This project on the other hand, will create jobs and provide endless benefit to Calgarians. Make your decisions based on what the voters want and not what UCP donors want. Sincerely, a North-Central, tax-paying, diligent-municipal-voting citizen.

ISC:

1/1

Unrestricted

May 22, 2020

7:57:50 PM

From: Josie Ho <josie.yl.ho@gmail.com>
Sent: Friday, May 22, 2020 7:27 AM
To: Public Submissions; Office of the Mayor; Sutherland, Ward; Magliocca, Joe; Gondek, Jyoti; Chu, Sean; Chahal, George; Davison, Jeffrey R.; Farrell, Druh; Woolley, Evan V.; Carra, Gian-Carlo S.; EAWard10 - Lesley Stasiuk; Farkas, Jeromy A.; Keating, Shane; Colley-Urquhart, Diane; Demong, Peter
Cc: City Clerk
Subject: [EXT] MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: e-mail sent

Your Worship and Members of Calgary City Council,

I participated in the Community Response Meeting to the Waterfront residents on April 27. An updated Green Line LRT alignment was presented on May 12, 2020. I also tuned into the Town Hall May 21. **I support the SE segment to the Downtown (Segment 1), but the alignment and the build approach north of the downtown core (Segment 2) is unacceptable.**

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

- **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- **Protect the wetlands and the birds, fish and other wildlife that call it home;**
- **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
- **Create a legacy LRT line to serve the long-standing needs of Calgary's growing communities; and**
- **Embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core.**

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. **I support the SE segment to the Downtown (Segment 1), but the alignment and the build approach north of the downtown core (Segment 2) is unacceptable.**

Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:
 - Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
 - Enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and residents of those communities.
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
- Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.
- The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
- An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at the June 15th meeting.

Sincerely,

Josie Ho

Ward 7 resident

701 3 Avenue SW

--

Josie Ho

c: 403-389-9339

e: josie.yl.ho@gmail.com

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Lena

* Last name Cordell

Email lena.cordell@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I wish to express my concern about the noise caused by the Green Line. Our current C-Train system is very loud. With the Green Line going through some very densely populated areas (Crescent Heights, Downtown, etc.) I hope you give consideration to the noise pollution. Please ensure the design aims to limit the noise.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Todd

* Last name Macfie

Email todd.macfie@gmail.com

Phone 5872266583

* Subject Green line transit

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

We need this green line. We need to keep building a city that works for the future. We need to continuously improve public transit AND provide jobs right now. Please build the green line. Ignore the people against — it's not for them, the future they imply through their actions is bleak and unjust!

I support the green line.

Thank you



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ken

* Last name Banh

Email banhken@gmail.com

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hi there I am living in downtown by Eau Claire market, I don't like the idea how the city build the bridge cross over the river and in front the waterfront residents. On the other hand, we want to preserve the wetland too and save the fishes and birds where is their home.

Our government is broke and doesn't have enough budget to do this project now because of the Covid 19 pandemic. Right now downtown is very quiet, not too many people working in downtown. Actually we don't really need the train which is not necessary. If the city council ignores our voices just do whatever you like, you will pay a big big price for a regret.

City council use tax payers money to build this green line for no use and make our next next generation to pay this back.

Please listen people voice stop the project save the money to recover our economy

ISC:

1/1

Unrestricted

May 22, 2020

8:38:36 PM

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Patti
* Last name	Nolan
Email	pattinolan2@gmail.com
Phone	4037004090
* Subject	2nd Street NW connector concerns
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	I am concerned that with the train on Centre St north of 16th Ave will cause increased traffic on the 2nd street connector with motorists trying to avoid Centre. This is a busy pedestrian road with school zones that are already ignored. All residential homes here. How would you ensure that the traffic flow does not increase on this connector?

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Walter

* Last name Hossli

Email walter.hossli@gmail.com

Phone 4036296180

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello,
This is to articulate my support for building the Green Line as soon as possible. This project has been well-planned, widely consulted on and is a perfect fit for our city, a city that has to up its game on connectivity and on building greener transportation.

Finally, it is a "shovel-ready" project that will provide a much needed shot in the arm for our battered economy after the Covid emergency is over.

Walter Hossli



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Natalie

* Last name Matsui

Email matsui.ringham@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line will be a fundamental lifeline for many Calgarians now and in the future. I support the Green Line and am excited for what it will bring to our city. Please continue to support the Green Line.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Chris

* Last name Turner

Email heyturner@gmail.com

Phone 4033992321

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I would like to express my full and enthusiastic support to Council for moving forward with the funding and construction of the Green Line. There is no single piece of infrastructure currently under consideration more important to the future of the city - for sustainable transport, for reducing congestion and CO2 emissions, for signaling that Calgary intends to emerge from the pandemic ready for the 21st century. Transit pays for itself many times over in pure economic terms as well as social and cultural ones. As a writer and researcher on climate change solutions for nearly 20 years now, i can assure you the one common thread in the world's sustainable cities is their consistent support of public transit, in hard times as well as good. Please move forward with the Green Line. Future generations of Calgarians will thank you as much as the current ones.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kelsey

* Last name Hipkin

Email kmhipkin@gmail.com

Phone

* Subject Giving the Green Line the Green Light

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

How often do we hear people touting Calgary's youth and diversity? How often do Calgarians stand up for what they believe in, stand up in support of each other. Having transportation opportunities outside of cars or trucks fosters closer knit communities, more viable options for different economic classes and adds appeal for tourists and newcomers while letting them explore more of the city. Go Green Line.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Julie

* Last name Denhamer

Email

Phone

* Subject Green line opposition

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Our city does not need the green line. Further to impact an iconic Calgary park to facilitate build the line is sacrilegious. The ridership on the existing transit is underutilized- there is simply not the demand. Lastly, without raising taxes how do you plan to pay for this infrastructure?

Please do not build this line.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jason

* Last name Reid

Email jreid5@gmail.com

Phone

* Subject Strongly support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I strongly support this project. The changes are well thought through. This is key to building the city, increasing density, reducing sprawl rate, meeting the city's vision

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jon

* Last name Lê

Email jon_le@icloud.com

Phone 4039758998

* Subject Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Cars and trucks receive enough resources, and they have for decades. It's time for the City to focus on providing those resources to the people rather than the corporations. Making the city more livable is better for everyone, so stop focusing on the special interests of companies who have no roots in the community and whose sole interest is in extracting our money. The Green Line connects Calgarians with each other. It means jobs, community, and health. The more space we take back from cars, the more Calgary will prosper.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Sandra

* Last name Else

Email sandra.else@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the Green Line expansion for public transit in Calgary. Please consider the needs of the population as a whole, not the wishes of a small but vocal and wealthy minority. North Calgary residents have been waiting for over two decades for this expansion. My children and future generations deserve safe, reliable and sustainable public transportation options in our growing city. City council, and the former public transportation department have been dragging their feet in this decision for far too long, which has come at a cost to taxpayers, residents and homeowners in many areas of the city, but especially the North central area. Please approve and go ahead with the expansion immediately, without Short-sighted alterations to the design.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name ART

* Last name Dyck

Email dycka@shaw.ca

Phone 4032744403

* Subject 'Support for Green Line Re-alignment,'

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As a senior individual in the Beddington area, I strongly support the Green Line. I may not be alive by the time it is finished but the construction should get started very soon to provide easy transportation to the city centre. This line would also cut down on the need to add to the pollution by having to drive a car downtown and then try to find a place to park. Thank you.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jonathan

* Last name Hooper

Email hooper.jonathan@icloud.com

Phone

* Subject Green line - full support from my family

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
The new alignment looks great and as residents of Beltline we think this is so important to our neighbourhood and city and hope it can get approval and begin as soon as possible. Thank you for your vision to lead our city towards one with great neighbourhoods and greater diversity in transportation options. This will improve the lives of so many.



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Leon

* Last name Janzen

Email leonjanzen@gmail.com

Phone

* Subject I can't wait for the Green Line!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I love the Green Line alignment, and can't wait to see the project get started. I have family that lives along Segment 1, that will benefit greatly by that service. I attend a church along Segment 2, which will be easier to get to by transit. And my wife is an engineer, one of many companies that will likely benefit by the construction process. Despite the cost, this project will benefit Calgary's economic stability in the short term, and all Calgarians transportation needs in the long term. Don't let it get shut down now!



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Francis

* Last name Ziegler

Email fgzieg@telusplanet.net

Phone 4032763932

* Subject Green Line live presentation Wed. May 20, 2020

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I watched the above Green Line presentation and feel that this project will not be useful to Calgary in the future. This pandemic has changed the travelling dynamics in the city. Large corporations such as Shopify and FaceBook will allow their employees to continue working from home after the pandemic is over, they will no longer use their office space. The same will happen in Calgary, The job density will no longer be in downtown Calgary.

The Green Line LRT will likely not be used to its designed capacity and only result in an unnecessary tax burden on the citizens and business of Calgary. The use of BRT is a better option, it is not permanent and is more flexible to accommodate changing times and changing ridership patterns.

If the Green Line runs up Centre Street it will destroy the community and business in Crescent Heights.

The citizens of Calgary voted against holding the Olympics, City Council should vote to discontinue the Green Line.

ISC:

1/1

Unrestricted

May 23, 2020

11:24:21 AM



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Tasha

* Last name Roa-Yaremkowycz

Email tasharoa@gmail.com

Phone 4038070467

* Subject Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As a life long Calgarian who has lived both in the suburbs & inner city. I implore you to do the right thing & go forward with the Green Line. A robust & livable city includes transportation for all. I honestly can't believe how much money we've wasted as a city to not go ahead with this. I don't remember there being so much push back from the blue line. Be a leader & stop wasting time & money & get the shovels in the ground. The longer we wait the more expensive this will get. Green line is essential to continue to make our city the vibrant, sustainable city it can be known for.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Lloyd

* Last name Ash

Email l.ash@shaw.ca

Phone 4035470398

* Subject Green Line Should Be Ctrain Compatible

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The plan is flawed. It costs too much. Why? A low-floor new technology, with start up costs was chosen. Equipment & shops and procurement cannot be shared with the Ctrain SYSTEM. The route DT and stations , tunnel under CPR and 9A bridge cannot be shared. Start up costs & training increased. Risk increased. SYSTEM fragmented. Use DELAY in affordability & later DT demands to redesign a better project please. You will save \$ billions & have a SYSTEM. TRB recommended this approach yet admin ignored in early planning.

2020-05-23

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

- **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- **Protect the wetlands and the birds, fish and other wildlife that call it home;**
- **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
- **Create a legacy LRT line to serve the long-standing needs of Calgary's growing communities; and**
- **Embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core.**

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are **unacceptable**.

Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:

- Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
 - Enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and residents of those communities.
-
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
 - Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.
 - The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
 - An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: _____ Haoming Li 

Address: _____ 1106-804 3rd Ave. SW. Calgary AB T2P 0G9

2020-05-23

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His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
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Sincerely,

Name: Nu Huang *Nu Huang*
Address: 1106-804 3rd Ave. SW Calgary AB T2P 0G9

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Peter

* Last name Bird

Email calgarysam@yahoo.ca

Phone 403-999-7781

* Subject Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Let's go! Please move forward with the Greenline as planned. We need to invest in the most modern systems available to make our city livable and the best it can be for the next 5 plus decades. Low level floors, street-friendly platforms are the best option for Calgary. Now is not the time to look backwards or to go with the status quo, locking us into outdated train cars or worse, no new LRT. A marginally smaller investment now will pay off in the longer term, that's what we need governments to look towards. As if that was not enough, the city could use meaningful economic stimulus now. Thanks.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Farkhod

* Last name Fayzullaev

Email farkhod@fayzullaev.com

Phone

* Subject Support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
As a Calgarian, I fully support building the Green LRT line



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* First name Mike

* Last name Morrison

Email michaellindseymorrison@gmail.com

Phone 4034705489

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I would like to confirm my support of the green line in its current form. City Council's job is to build a city that works for everyone, not just those who have money and time to complain. Public transit also plays an important part of tourism and having a system that allows people to explore Calgary easily like with the green line would be hugely beneficial.



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* First name helen

* Last name moffat

Email Hmoffat@shaw.ca

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the building of the Green Line LRT



Public Submission

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* First name Paul

* Last name Theriault

Email drpaultheriault.nd@gmail.com

Phone 4036696584

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I am in full support of the 16th ave terminus, however we get it built.
Please do get this project started quickly. We can probably save greatly by building during a recession

**Public Submission**

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* First name Christopher

* Last name Ford

Email ford@ualberta.net

Phone +14039901491

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Let's get it built already! Edmonton is eating our lunch and our mom packed Gushers. The future of Calgary is one-car or no-car families, not three trucks parked outside our detached house in Walden.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Greg

* Last name Bennett

Email greg@recrd.ca

Phone 4039939426

* Subject I support the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line is an important investment in a Calgary that works for all of its citizens.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Frances

* Last name Vettergreen

Email vettergreenfm@yahoo.ca

Phone

* Subject Green Line support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please go forward with the Green Line and do not allow a group of wealthy self-interested businesspeople derail a project which has been years in development. Our city needs reliable public transit and we need to reduce our reliance on cars. Please consider the needs of the many, and of the future, and vote to proceed with the project.



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* First name Samantha

* Last name Stephens

Email Stephens.SamL@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Calgary is an amazing city that unfortunately has an incredibly high cost of living and is nowhere near as eco-friendly as we should/could be. Adding the Green Line to our transit system is necessary both for encouraging use of public transit through convenient access and routes as well as supporting members of our community who don't/can't afford to drive/park here. This group of people also happens to include many of the same essential workers we're currently claiming to want to support right now.

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Douglas

* Last name Creamer

Email aofi@shaw.ca

Phone 4035892398

* Subject Calgary Green line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

This is something that generations of Calgarians will rely on daily, and because of this economic down turn, now is the time to do it.
We need to do it right, without taking any shortcuts, and make sure we train and employ as many local people as possible.
Remember, the goal of government is not to make a cash positive investments! It's to provide society with the economical, safe, and environmentally friendly, means to live and thrive.
The green line is an investment in our people, do it, and do it right.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name

Barb

* Last name

Davies

Email

barbliving@gmail.com

Phone

* Subject

Support for Green line LRT expansion

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As a born and raised Calgarian, I recognize how important investment in public transit is for the benefit of all Calgarians. I am passionate about making our communities a better place for all. Expanding Calgary's transit system ensures we all have a means to access essential services, commute to work and enjoy the many recreational opportunities within the city. This is not only good for Calgarians it's good for the planet. The Green Line LRT expansion will serve to make transportation more accessible and affordable for everyone, including those living on low incomes. I've recently learned this will connect over 2,300 existing affordable housing units within walking distance of the planned Stage 1 station areas. Calgarians need this investment.

ISC:

1/1

Unrestricted

May 23, 2020

4:20:09 PM

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Heidi and Willi

* Last name Friesen

Email hwfriesen@shaw.ca

Phone 4032782297

* Subject The proposed 'de-risk' Green line changes.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Recently, I was emailed a rethink letter on the proposed Green Line which sounded like an economically fiscal way to build the green line. But I now realize that these proposed changes were very creatively pushed by the group who has relentlessly pushed the city to subsidize the new arena and their comments fail to mention the arena's financial risk to our city. The arena's capital expense may not come out of operations but the same is true for the Green Line. Also, more of the population of the City of Calgary will be served for many more years by the current proposed Green Line than the arena will ever serve. It will increase our ability to reduce car traffic, add 10+ years of construction jobs, improve our mobility and connect more neighbourhoods to each other.

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* First name Simon

* Last name Irving

Email simon.irving7@gmail.com

Phone

* Subject Support for Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As a born and raised Calgarian, I wish to express my support for the Green Line whole heartedly. We are in a difficult time and the choices we make about our City will have ripple effects for years to come. A choice to support and build public transit is a choice to support all Calgarians and improve the lives of millions. Affordable, accessible and efficient public transit is fundamental to building a vibrant City.

We are all watching and trusting that City Council will make a decision that is in the best interest of Calgarians, and not elite, special interest groups. Your legacy as a council and as City builders relies on who you listen to. Choose wisely.

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* First name Gillian

* Last name Hynes

Email Gillian.Hynes@icloud.com

Phone

* Subject Support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support Calgary's planned Green Line as it opens up accessible and connected transportation from Calgary's S.E. to the N.

The Green Line has been in planning and discussion phases for decades. It is time to move from discussion and planning into action. This line will benefit many Calgarians, offer alternate means of transportation, increases the environmentally friendly aspect of Calgary and offers more accessible ways to travel.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Daniel

* Last name Major

Email dan.robort.major@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello,

I simply ask you to do the right thing for the future of the people of Calgary. Please approve the extensively planned Green Line and help improve access, reduce road-way use, and invest in a strategy that will make this city a more liveable place for all.

Thank you, and take care



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* First name Maggie

* Last name Nelson

Email maggi.nelson@gmail.com

Phone +14036099751

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The green line is needed in this city and now is the time to build it. I'm writing to express mine and my partners support of this project. Thank you.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Leslie

* Last name Kramer

Email lesliekra@gmail.com

Phone 403-276-2772

* Subject Green Line Plan

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the Green Line with certain conditions that must be met to protect the community of Crescent Heights. I think getting people out of their cars and onto trains that will take them into and out of city centre is important. But I fear the current plan will only encourage more vehicles to short cut through our community. I was alarmed to see a plan to put street lights at the intersection of 8 Ave NW and Centre Street. Why would you encourage more vehicles to come down 8 Ave when this is supposed to be a "green" development. You are simply making it easier for people to get off Centre Street after the lanes are cut from 4 to 2. Green means green. Or does it when it comes to the city. Right now 8th Ave NW is a little freeway with cars cutting through to get to Crescent Rd NW or down 1st to beat the traffic onto 12 Ave. We do NOT need any more traffic. It is making our street unlivable and it is dangerous for people with young children. Either you are trying to reduce traffic into the core or you are not. Don't make it easier. I sat in my sun porch one afternoon and counted 38 cars in 15 minutes and they were all speeding to get to their destinations. Enough. If the line is to proceed 7th, 8th, 9th and 11th avenues must be gated. Traffic and pedestrians can use 10th and 12th Avenues where lights already exist. We are already struggling with the noise and traffic racing to get onto and off of Crescent Road NW. Why do you want to do more damage to our community?? We want a livable, healthy and green community free of noise and vehicle pollution and all the social disorder that comes with the free for all the city has created. Please stop trying to destroy us for your convenience.

ISC:

1/1

Unrestricted

May 23, 2020

7:31:17 PM



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* First name Karen

* Last name Anderson

Email andersonkaren@mac.com

Phone 4034532537

* Subject Green Line Project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please see attached comments. I support the Green Line. Thank you.

Green Line Stage 1

Today at 5:43 PM

Hi,

I just wanted to send an email of support. Thanks so much for putting the May 20th public engagement online as I wasn't able to watch live. As a resident of Crescent Heights east of Centre St., I was hoping for below ground North of the river, but I'm pleased by the design changes you made to Centre and over the river. Making it walkable and business friendly is so important for our community. I'm happy for the addition of the 9th Ave station too. I really hope you take some inspiration from the new public library, Studio Bell area and the Peace bridge. I think making it beautiful is so so important. I think I saw a wood underside to a part of the bridge in one of the renderings, which would (wood) be awesome. It reminded me of the library arch. Anyway, I think doing it now is important to help our city recover economically. I the connection of the bridge to 2nd St too and that it will provide another pedestrian/bike route into the city. One question if you could answer at a future session, is will there still be pedestrian/bike access over Centre St bridge? Anyway, like the online videos, I support the Green Line. Thank You.

Regards,

Karen Anderson



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Hugo
* Last name	Olaciregui
Email	hugo.olaciregui@gmail.com
Phone	4036299769
* Subject	Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	I support the green line for job growth, accessibility, and another step towards turning Calgary into a world class city



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* First name Leanne

* Last name Hooper

Email hooper.leanne@gmail.com

Phone 5878906773

* Subject Support of the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Dear Council,

I am writing to express my support of moving forward with the current alignment of the Green Line. This is a hugely important project for residents both current and future as it will provide accessibility, affordability, and assist our city in reaching its climate goals.

With many thanks,

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Valerie

* Last name Rendell

Email valerierendell@gmail.com

Phone 5874368257

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please build Green Kine. Now, not later.



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* First name Tanis

* Last name Clemenson

Email tlveenst@hotmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Why would council consider such a large scale project that will further put our City in debt? How can it be feasible without a stop at the airport? This is the only reason it would make sense. If Nenshi proceeds with his green line it will be the nail in his coffin.

We don't have the money and I don't want to put another \$7k a year in property taxes.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jay

* Last name Nelson

Email teleplucker@gmail.com

Phone

* Subject Green line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I am writing in support of the Green Line. Many of my favorite cities - Vancouver, Toronto, Montreal, Seattle, NYC, SAN Francisco, Washington, DC - have excellent access to transit. It's important to attract and retain business and to enhance tourism. I am in favor of proceeding with the Green Line as planned.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Sara

* Last name Hastings-Simon

Email shastings47@gmail.com

Phone

* Subject support for green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

This is a critical first step to achieving transportation and community improvements for North Central Calgary. The Green Line has been planned for years, with input from countless residents, businesses, and elected representatives alike, we can't allow a small minority with privileged access to derail a decade of waiting and years of public consultation. I strongly support council moving forward with this critical infrastructure.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Donald

* Last name Burke

Email donaldburke@gmail.com

Phone

* Subject Public Feedback for Greenline LRT

Greetings:

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

In keeping with the pragmatic approach of the first two CTrain lines to maximize public access (including track length and population proximity) and minimize costs/community disruption, I have the following suggestions for your consideration on the first phase of the project:

- focus on building the Downtown to south leg and extending it as far as possible to the south (at least to Mackenzie Town)
- shift the river crossing and Centre Street portion to the the next phase (in the meantime, augment existing bus service or BRT Line on Centre Street using the Centre Street bridge for the river crossing)
- consider extending the northeast leg from SaddleTown west to the airport (along airport trail) and ending at a commuter station in Harvest Hills (which can serve the needs of north communities until phase 2)
- explore more cost effective routes in the downtown area: elevated; link into existing tunnel and use 7 ave stations)

Thank you for your consideration on this matter
Donald Burke

ISC:

1/1

Unrestricted

May 23, 2020

9:07:45 PM



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Barry

* Last name Lester

Email barrylester@shaw.ca

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line is an important link in Calgary's transit and transportation network. It needs to be built; but the current plan has many flaws.

When Green Line was originally conceived it was intended to bring citizens of the northern-most parts of Calgary, and citizens of the south-east communities, into the centre of Calgary, and to improve the level of transit service to the outlying communities.

The current plan before the Green Line Committee and before Council does not do this.

The current plan provides two stub lines, one to the north and one to the south-east, neither of which provides any kind of adequate service. Instead, a very large proportion of the available budget is proposed to be spent on a very expensive combination of tunnels and high level bridge through the Beltline, downtown, and over the Bow River. Further, a short at-grade portion up the middle of Centre Street is rife with problems for adjacent communities and businesses.

The Green Line needs to be separated into two lines with no interconnection downtown. This would allow each line to be designed independently without compromises. A ridership study carried out in late 2019 by the City indicated that the impact on ridership resulting from not connecting the two lines was only 10% which is far less than the degree of accuracy of such studies, which leads to the conclusion that eliminating the expensive downtown tunnels results in no loss in functionality for the lines.

North Calgary currently has a highly effective BRT on Centre Street which could be made even more efficient with a small number of enhancements, which could easily be

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May 23, 2020

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accommodated within the Green Line budget.

South-east Calgary would be well-served by the current Green Line plan from the Elbow River to Shepard, and would be even better served if the line were extended to Seton to encompass service to the South Hospital as well. This extension could also be accommodated within the savings which would accrue from eliminating the highly expensive underground segments from the current plan. These segments could be replaced by a simple elevated connection to downtown at a fraction of the cost.

Contract 1 of the Green Line is overdue and should proceed immediately.

But Contract 2 should be revised by eliminating the tunnels and investigating the most advantageous route for an elevated section into downtown. Because the Green Line will be mostly suburban in nature, platform loaded cars should be reconsidered.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Amanda

* Last name Chan

Email

Phone 403-479-6977

* Subject Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I support the Green Line light rail because i don't drive which will be very important in helping me and other's get around the city. In addition, this line will be beneficial for the environment and will help the city develop and improve the local economy by helping attract younger talent and jobs.



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* First name Sebastien

* Last name Tetreault-Bergeron

Email sb.tetreault@gmail.com

Phone 4039733210

* Subject Support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello Council. This is a brief note to voice my support for the approval of the Green Line LRT. It is time to approve this project and start building. Calgary needs this project; it really is a city building initiative. As a personal example, I am looking to purchase my first home and promise of the north-central leg of the Green Line is one of the main reasons for why i am considering those neighbourhoods. This is because of the potential for transit-oriented development in proximity to stations, the opportunity to quickly get to Stampede, downtown, Inglewood, and crossroads market, and the positive influence on my property value. Please let's get this built.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Chad

* Last name Croteau

Email towandcrow@gmail.com

Phone 4032642019

* Subject Green line - do NOT support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Calgary is broke. We can not afford the green line, it only creates new debt, which creates new taxes. Which kills more jobs. Which leads to more debt, taxes and job losses in a vicious circle.

A third of downtown offices were vacant pre pandemic, post pandemic that may be 3/4 of offices downtown left empty given new norms of working from home, And how will anyone ride a c train and maintain social distancing. They can't. Until we have a vaccine we've been told we can't go out in public in close quarters.

And even if the day comes that we aren't afraid of standing close to one another again we have a bigger problem. Our own federal government and US democrat politicians are actively kneecapping Calgary's primary industry, anti pipeline activism has been effective, who will fill the offices downtown and need to ride the green line exactly?

Try being responsible and working from facts instead of fantasy, the green line is not needed, and stop cherry picking from selected supporters comments. Put this to a referendum. You have no support,



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Matthew

* Last name McArthur

Email mmcarth1@gmail.com

Phone

* Subject 01 June 2020 Green Line Committee

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Vote YES for Transit! Please approve the Green Line Project!
See attachment. Thanks!

23 May 2020

*Public Submission for: **Green Line Committee 1 June 2020 - Green Line Stage 1***

My name is Matthew McArthur (Ward 9). I am a born and raised Calgarian and a student at the U of Calgary, and I fully support the expansion of the City's transit network and the Green Line project.

Calgary Transit is my primary mode of transportation year-round and I rely on both buses and the C-Train to commute. I understand the importance of an efficient and reliable transit system and the positive impacts that transit investment has on both people and communities. Calgary Transit's whole purpose for existence is to connect Calgarians and the Green Line is a vital element in creating those connections.

I used to drive roughly 60,000km a year and realized the financial burden that comes with auto-dependency. After moving closer to transit I was able to save thousands of dollars a year in expenses by selling my car. Investing in and expanding Transit allows individuals and families the opportunity to save thousands a year. With COVID upon us, more people are seeing how expensive or useless owning a car is, or in some cases multiple, and Transit can give people an alternative. The socio-economic benefits of this type of investment will be felt not just today, but for generations. That is why COVID is no excuse to vote against this project because COVID is short term when compared to the long term benefits of transit investment.

As someone who has been following this project from initial discussions, I am quite pleased with the level of public engagement and research that has gone into this project. The level of work that has gone into this report and the number of considerations that have been looked at is a testament to the City's commitment to building the best possible Green Line.

After looking through the current proposal for the Green Line Stage 1 alignment, I can support Segment 1, from 126 Avenue SE to the Elbow River. However, I have a few concerns regarding the Lynwood/Millican Station:

- How will the City address accessibility issues to the Lynwood/Millican Station? This station is to be located at the base of a ridge with a steep incline that will limit access for people with mobility issues.
- The City currently has no long-term Transit-Oriented Development Plan for this station due to the contamination of the surrounding sites, however, does the city have a long-term vision for this station that follows the RouteAhead vision for TOD.

I also support approving Segment 2 of the Green Line Stage 1 project, from the Elbow River to 16 Ave N. I have a few comments about this segment:

- I fully support placing the C-Train underground for the portion shown in the report. At grade is out of the question and this is the best option for the long-term vision of the City. I also support the suggested route and station placements for Stage 1 as they are

- logically considered and based on both research and community engagement.
- I do not fully support crossing the Bow River above ground. However, I fully understand that this bridge is what is making the project economically feasible and therefore I would just like to comment: this bridge will be a visual legacy of this project, therefore its design is of the utmost importance; how it meets the ground and how it shapes the spaces surrounding it will be seen for decades.
 - Lastly, the at-grade route on Centre Street; I am thoroughly impressed by the design and proposed traffic pattern of the route. I believe this is will become a beautiful transitway that will help shape and grow the surrounding communities. Simply put, its a beautifully crafted and well considered design, and an amazing solution for this section of the route.

In conclusion, I will today, and always support investment in transit. The Green Line Team has shown amazing work and commitment to this project and have shown Calgarians their passion for building everlasting connections for Calgarians. As previously mentioned, Calgary Transit exists to connect Calgarians, and after years of constant public engagement and open dialogue with the people of Calgary I have full confidence in this proposal and ask that Committee pass this onto Council to be approved.

Vote YES for transit, and approve the Green Line Stage 1.

Thanks,

Matthew McArthur



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kevin

* Last name Schlauch

Email kev@ualberta.net

Phone

* Subject I support the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the current plan for the Green Line. We are going to need affordable and environmentally sustainable transportation more than ever.



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* First name Cailey

* Last name Severson

Email

Phone 5877771333

* Subject Green line support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please don't cancel the green line. I grew up in Thorncliffe and later Panorama Hills and the 301 was the most important bus route to me. But a train would have made my life much easier! It's a great investment for our city.



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* First name Siobhan

* Last name Hutchinson

Email siob.hutchinson@gmail.com

Phone 5878885639

* Subject Green Line LRT in Calgary

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I know that there are many who are better spoken and more eloquent than anything I can say here - I just want to express my unequivocal support for the LRT Green line. I believe that this investment will reap rewards for Calgary for many many many years to come and will help the majority of the city, mainly those who care about the environment (and commit to public transport rather than single car), those who want efficient and easy access around town as well as those who cannot afford to pay for their own car to get around. Even though the virus has hit our city so hard - I think this is a great chance for us to dedicate ourselves to a new future with accessibility for all and a cool city that is recognized worldwide - and the green line will help.

Thank you for your hard work!

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* First name Jessica

* Last name McCarrel

Email kaffee@kaffeeklatsch.ca

Phone 4039194479

* Subject I support the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
The Green Line has been planned for years, with input from countless residents, businesses, and elected representatives alike. It's time to realize our return on years of investment from Calgarians. Let's move forward.

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* First name Brian

* Last name Mills

Email brmills@shaw.ca

Phone 4032460956

* Subject Support for Green Line Project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am a now retired oil and gas professional and have been a Calgary resident for more than 40 years. I currently live very close to the Erlton L.R.T. station and have come to be a frequent L.R.T. rider so realize the value of the system for commuting, shopping, university access, going to medical appointments, the public Library and various entertainment events or other cultural venues in the City.. A robust public transit system is vital for a medium to large sized city. Looking at the need to provide a rapid transit system that expands on the currently available network and clouding the long-term needs with Covid-19 related concerns or observations would be extremely short sighted. The Green Line options and plans appear to be well thought out and robustly studied so please don't be knocked of course by a small group of (well financed) nay-sayers! Residents in the North and South areas of the City deserve to be able to access a rapid transit alternative.

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* First name Dan

* Last name Furst

Email dfurst@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support an increase in public transit by means of the Green Line. More connections are necessary for a more sustainable and affordable and mobile city, notwithstanding the current pandemic

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* First name Edan

* Last name Nelson

Email edanmsnelson@gmail.com

Phone

* Subject 01 June 2020 Green Line Committee

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the Green Line Stage 1 proposal that is being brought forward at this Committee and ask my Councillor, Jeremy Farkas, to approve this proposal as it stands.

Cheers,

Edan Nelson



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name A.J.

* Last name Kandy

Email ajkandy@gmail.com

Phone

* Subject Please go for the Green Line! And expanded, improved transit.

I'm a transplant, formerly from Montreal, who moved to Calgary for work. I have never lived anywhere that did not have a well-established public transit system.

Moving here was a bit of a shock - it felt like many American cities I have visited, that have dead downtowns after 5pm, and where cars are mandatory to do pretty much anything, because buses don't run as frequently, nor does the C-Train directly connect to shops, offices, or places of interest. MTL's Metro spurred development and density and the 'Underground City', and new light rail there will connect to the airport.

As someone who cannot drive, I appreciated the ubiquity, frequency and convenience of MTL transit - I went out more, more often, and spent money supporting local businesses. I was able to see friends more easily, and stay connected and active.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Last year, I moved from Varsity to the Beltline to be able to do more within walking distance. My time is spent between home, work (Victoria Park) and Inglewood for community theatre. What is frustrating is that and even though these areas are physically close, there's no fast or reliable way to get from the Beltline to Inglewood - you have to go up to downtown to catch the 302, which is slow and infrequent. While I wish there were many more stops through the Beltline (the length of 17th ave), having something at 12th Ave & Centre will be game changing.

In any case, the city needs the Green Line. It needs that north-south armature to

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May 24, 2020

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Public Submission

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develop in a transit-centric way, where new communities are dense and walkable, a 21st century city, not a 1950s car-centric, single-use-zoning sprawl suburb. And the Green Line will then help to reactivate downtown. (If we can make streets that are pedestrian-friendly, like, imagine everything being like Stephen Ave).

The Green Line has the potential to spur great place-making and city-structuring and after many years of debate, research, and blue-ribbon commissions, now is the time to act.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Dorothy

* Last name Bishop

Email bishop@agt.net

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please come together to resolve differences quickly, so that Calgary's Green Line can be built without further delay. The sooner it gets built, the lower the price will be, if recent experience is any indicator. Calgary as "world-class city" can only happen with world-class public transit. Asking us all to depend on automobiles is impractical, expensive, and destructive of our beautiful landscape, as trees and habitat are destroyed and green spaces paved over. This reliance on automobiles also keeps low-income citizens from accessing parts of the city outside their immediate neighborhoods and precludes or complicates commuting to work.

ISC:

1/1

Unrestricted

May 24, 2020

10:41:25 AM

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Dan

* Last name Doll

Email dandoll@hotmail.com

Phone

* Subject Greenline project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I strongly support the Greenline project that uses low floor trains and prioritizes thoughtful community enhancement in it's implementation. The Greenline provides an opportunity to evolve LRT from trains rushing along barren corridors to a key feature of better neighborhoods. This project has been studied extensively and I have had opportunities for engagement and input going back many years. I believe that the project team will finalize the current Greenline plan to optimize value and positive impact for Calgarians.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Eric

* Last name Liphuysen

Email Liphuysen@Telus.net

Phone 4034646869

* Subject Please just build it - it's time to green light the Green Line!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Let's get going on building this!
While I do not wholly agree with HOW this project has been handled (I think the North leg should have been the priority) let's get going on building this now. I still think the North leg (toehold) Stage 1 Seg 2 should be prioritized but since that is not going to happen overall construction should commence for the betterment of the city.
On will be the entire North leg I would like to see the construction of DEDICATED BRT infrastructure first that can be converted to LRT infrastructure over time.

Thanks
Eric

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Joshua

* Last name Dalledonne

Email jdalledonne@gmail.com

Phone 5872285239

* Subject Support of Green Line Project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line and improvements to Calgary's public transportation are essential to the future prosperity of our city & I'm disappointed that a wealthy lobby group can do so much in such a to spread disinformation on the benefits of this project. The green line is necessary in helping to ensure the ability of all calgarians to move about the city - not just those with enough cash to drive - and reducing our carbon footprint. This project has been vetted and studied extensively and to see that work potentially derailed by lobby groups focused solely on their own benefit is a disheartening reality that I trust city council will oppose.

The green line is more important now than ever before. Pls support the realization of this project.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jack

* Last name Barrows

Email jc_barrows@yahoo.ca

Phone +14033702567

* Subject Green line support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please be advised I support the current version of the green line and do not support pausing the construction or changing the line to a BRT. Build it!



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Maureen

* Last name Calgary

Email mmcalder@shaw.ca

Phone

* Subject Green Line Comment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

While i live just off Center Street and 28th Ave.N, it is very obvious to my family that the Green Line should first be built fully to the south from the downtown to Seton. We in the north have efficient, timely public transit; adequate now vehicle access; and great pedestrian/bicycle walkways to the downtown core. Our world post-COVID will be more technology focused with more work from home and with less interest in high-density downtown district public travel. As the single taxpayer for all three levels of government, we citizens will need to be even more conscientious about how our governments spend and borrow. As we know our Calgary businesses are already reeling! A small middle section of this Green Line is a poor piecemeal investment if it does not meet the needs of the south Calgary population who are most poorly served by public transportation or to link the South Campus Hospital and our downtown. Interrupted bus connections and two temporary terminal endpoints are not an efficient proposal. Having a 16th Ave.N surface grade endpoint is going to create a cluster traffic jam and it will disable a key route for us from the north to reach downtown. With attention to budget, let's put Albertans to work and construct the entire South leg of this Green Line Now. Then in future years when it is affordable and truly required, we can build the north portion of the Green Line.

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Unrestricted

May 24, 2020

3:13:43 PM



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Don

* Last name Ray

Email ray@ucalgary.ca

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I support the expansion of the Green Line.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Don

* Last name Mulligan

Email lidods@telus.net

Phone

* Subject Green Line Updated Stage 1 comments

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Thanks for the opportunity to provide feedback.

May 24, 2020

This submission is in support of the entire Green Line project, and supports most of the updated Stage 1 changes

Overall Green Line Project

LRT lines are the backbone of successful cities. Council decisions such as the Green Line are extremely important since LRT benefits all people for many generations. LRT systems provide everyday service and help adapt to unexpected changes like floods and recessions, as well as boom times and global opportunities like the Olympics.

LRT is a major catalyst for successful neighbourhoods. LRT station areas spawn complete communities where most needs can be met within a ten minute walk. Cities without city wide, fast, frequent, safe and reliable transit service fail socially, environmentally and economically.

The COVID 19 virus is not a reason to second guess Green Line investment. There will be many disruptions like the virus over the coming decades, many of which we cannot predict. Cities will quickly adapt to challenges like the virus and ridership will return.

Funding

Many have made the case that Green Line is expensive to build and operate. This is true and cities almost everywhere cannot fund these 'backbone' projects, be they freeways or LRT, by themselves.

Federal and Provincial contributions for LRT reinforce the magnitude and importance of these city defining investments. The success of our cities ensures success for our province, our country and our world. Funds for these backbone projects inevitably must & will come from all levels of government.

Updated Stage 1 Changes

Integration of the 2 Avenue SW station into the Eau Claire redevelopment is a definite improvement. Transit stations that integrate into mixed use development, instead of skirting the edge of the development (like U of C or Chinook), are better for the transit customer and better for business. Ugly portals in the street are minimized, surface traffic of all types (walking, cycling, buses, autos) flows better and a more attractive streetscape can be achieved.

Multi-use pathway crossing of the Bow River in conjunction with the new low level LRT bridge is a MUST. Generally speaking, scope creep on such an expensive project should be avoided at all cost. However, the Bow River multi-use pathway is one of the most outstanding features in all of Calgary. A riverbank level multi-use pathway crossing of the Bow River in this area is critical to maintain and enhance Calgary's iconic pathway system.

The 9A Street NW multi-use crossing under the Red Line LRT bridge, the Peace Bridge and the St Patrick's Island bridge are all exemplary examples of river bank level pedestrian bridges (no long ramps or stairs) that are filled with people of all ages, skill sets and modes on weekdays & weekends, all year long. The density of people living and working nearby, and the resulting demand for critical pathway links in downtown, Centre City and along Centre Street, warrants this critical investment.

The nearby Centre Street bridge lower deck is too narrow and constrained, and the Centre Street upper deck sidewalk is too elevated and too narrow. The new multi-use crossing should be at least 6 m wide with cyclists and skaters separated from walkers & joggers.

Cut & cover instead of deep tunnels downtown is a huge improvement, not just cost wise but functionally as well. Calgary already has a successful +15 walkway system, plus street level commerce that stretches the viability of businesses at both levels. To add a third level of activity, seven to eight stories deep, dilutes the viability of area businesses even more.

The cost to build, and ongoing maintenance of long escalators and elevators and the safety issues of deep stations and long underground walkways, make the deep tunnel option a bad choice. The major risk of deep tunneling in variable geotechnical conditions and possible settlement of large buildings downtown, point to cut & cover as a safer and more cost effective choice.

New 9 Avenue N Station. The addition of this station is a poor change. The new station responds to Crescent Heights immediate concerns, but adds yet another station to Green Line north. For riders already travelling long distances to and from the north, the extra time stopped at this new station results in an even longer trip. If travel time is not competitive with Deerfoot Tr. travel times, LRT ridership will be lower and congestion on Deerfoot Tr. higher.

9 Avenue North is a short walk to downtown and the Green Line station at 16 Avenue North can be reached via beautiful tree lined streets east and west of Centre Street or along the revitalized Centre Street streetscape. Remove the station, simplify the design and save money.

From: Byron Henry <byronhenry@msn.com>
Sent: Thursday, May 21, 2020 12:08 PM
To: Public Submissions
Subject: [EXT] Green Line Bridge over Prince's Island Park

To whom it may concern.

I am an investor and owner of two units in the Waterfront Condominium complex in Eau Claire.

I am greatly opposed to the Bridge over Prince's Island Park, and strongly feel that the City is making the wrong decision if it chooses to move forward with this Bridge plan.

The initial plan was to build the line underground from Eau Claire to 16 Ave. This plan seems to have been scraped by the City for cost reasons. I am very surprised at the City's short term thinking. They have placed more emphasis on cost (and a route that would destroy Prince's Island park and the viability of the Eau Claire Community), rather than listen to the concerns of the people who live there and are most directly impacted by their intransigent decision.

After years of consultation the best route was decided to be underground from Eau Claire to 16 Ave. That is clearly still the best route. Might it make more sense to wait until the funds are available in order to build the underground section? While the funds are not yet in place, might it make more sense to expand the BRT Line from Downtown to Calgary North temporarily to address the need?

Once the bridge is built, the Eau Claire Community will be adversely affected forever. There will not be a second chance to get it right. This will be the only opportunity. Please reconsider.

Thank you.

Byron Henry

From: gammachi@gmail.com
Sent: Thursday, May 21, 2020 12:19 PM
To: Public Submissions
Subject: [EXT] green line LRT - no bridge please!

Hello,

I'm writing to express my concerns about the proposed bridge across Prince's Island Park and the Bow River for the Green Line Stage 1. Building the bridge will be too expensive for any perceived benefits. It will not outweigh the **enormous cost both financially and environmentally**.

The money should better spent on extending the LRT to the international airport. This is what will truly serve the needs of Calgarians and will definitely generate far more revenue in the years to come. Calgarians will thank you for that for years and years, and this will be a legacy you could leave behind - not the bridge that will take away the only green oasis that we have in the centre of our city.

We must preserve the little bit of oasis left in the downtown core which is a draw for citizens and visitors alike. This is what makes the Calgary downtown unique, NOT another noisy bridge for trains!

Also, the plan to have the LRT station on 2nd St SW is not viable. The environmental impact to the vast number of residents in buildings with such close proximity to the proposed station will be detrimental to their health and well being, not to mention the impact on property values. Some of the units of the existing buildings will have their balconies right on top of the station platforms! And the trains should not run this close in front of people's homes!

Regards,
Grace C

From: Kiumars <kiousolutions@gmail.com>
Sent: Thursday, May 21, 2020 1:14 PM
To: Public Submissions
Subject: [EXT] Green Line - There are ways to do it right

Dear Councillors,

My name is Kiu-mars Hosravan, I'm a professional engineer and I know there're always ways to do a project right. And over the years the City of Calgary has proven that by many improvements in the City the right way, but unfortunately The Green line project proposal is not proposed the right way because of its cost and the destruction of the natural beauty of Eau Claire areas.

Mayor Nenshi recently estimated a six-month \$400-500 million revenue decline caused by the current economic collapse. The city is on track to lose hundreds of millions this year alone.

Green Line project costs \$4.9 billion to build; the line will add at least \$40 million each and every year to the City's operating costs.

Eau Claire surroundings are favorite spot of many Calgarians, including myself, because of its natural beautify and peaceful nature! Please don't destroy this natural treasure in hear of the City by adding more bridges, vehicles, noises and force the birds and fish to run away!

There are less expensive options available, such as increasing the number of buses or at least add these bridges beside the existing bridges so it's less destruction to the nature!

This pandemic has changed the World and Calgary too. The economic challenges we are facing will be with us for years to come and our city will be permanently transformed. Let's be smart and don't risk the futures generations assets with what we had planned/proposed before this pandemic.

Please listen to other voices and protect the future of our great city and its natural beauty while building the Green Line.

Thanks for listening to me and many other Calgarian you represent.

Regards,

Kiu-mars Hosravan P.Eng.

403-999-9495

May 25 2020
Members of City Council

Green Line on Centre Street

This will be the biggest spending decision that this Council will make during its tenure as it amounts to the largest of such undertaking in the history of our City

At the outset I wish to be clear that I fully support the necessity and growth of our Rapid Transit system.

I also support the immediate approval of the SE Green line proposal for the growth of the system and would suggest that it should be extended now to Seton based on the density, demand, and current lack of connectivity from other parts of the city.

It is to the Centre St. proposal that I wish to direct some comments

I come to this issue with a direct concern as the company in which I share an interest in (Certus Developments Inc.) has developed a number of commercial projects on Centre Street and serves a large number of tenants in four locations.

The decision that Council is considering will be made against the backdrop of a fractured city where COVID-19, a depressed energy industry, rising unemployment, empty office buildings downtown, rising deficits at all levels of government, and an uncertain future presents challenges to all Calgarians and will continue do so for a very long time.

I respectfully contend that the northerly extension of the Green Line on Centre Street does NOT make sense and is NOT economically feasible for the following reasons:

- At the outset it is difficult to truly assess the proposal as the major difficulty faced by those who are affected the most is a lack of detailed information from our Civic Administration. It has been a moving target as plans change on a weekly basis. Commercial tenants and residents alike share anxiety and tensions created by the Centre Street alignment that is palpable. They want answers relating to road closures, pedestrian safety, construction guidelines, ridership studies, proposed parking - during and after construction, traffic flows, environmental impacts, and assistance for the lost revenues that will be incurred by the businesses during construction.

Public meetings organized by the City's administrators have been frustrating, highlighted by many unanswered questions or a response that they will investigate the queries after the project is approved by City Council

- The suggested cost of crossing the Bow River and carrying the line north along Centre Street will be \$1.3 billion (I view this number with much skepticism and predict it will be much higher.) and the point at which it will cross the river is another of the great unknowns. The environmental impact on Prince's Island Park and the wetlands is of massive concern.
- The line will stop at 16th Avenue North with the faint hope that it will be extended sometime in the future. Who will the line then serve? Underserved communities to the North will receive little advantage and will likely continue to drive or stay on the bus. They will seek alternative routes through Edmonton Trail and roads to the west while placing transportation pressures on many upstream communities such as Tuxedo. It is wishful thinking to suggest that bus riders would disembark from a bus to transfer to the Green Line at 16th Avenue when they could have stayed on the bus to arrive at their ultimate destination quicker.
- The construction time will be a minimum of five years resulting in utter chaos on Centre Street as traffic is diverted, parking removed, businesses threatened and communities disrupted. Remember 17th Avenue? That only went on for two years and created hardship and immeasurable stress for those affected.

Other negative impacts include the following:

- A loss of necessary parking in the areas surrounding the Green Line which will overflow into adjacent communities.
- A severe loss of income to the many businesses on Centre Street with no support from the City to compensate for their losses.
- A physical separation of the communities on either side of the line thereby limiting accessibility across the transit line which, in turn, will create many dangerous situations for the residents.

And why is our City Administration pushing this plan when, at best, the Green Line will stop at 16th Avenue North and offer little transportation relief for the neglected communities further north? Where will the ridership come from when the line is completed? The current bus system is working very well, and if necessary could be expanded to decrease high volume buses.

The conclusion is that in exchange for \$1.3 billion of taxpayers' money to build the north section of the Green Line, Calgarians will receive a white elephant of limited utilization.

The answer for Center Street lies in the sound recommendations of Councilor Gondek. She urges Council to reject the fallacy of a Green Line on Centre Street, and,

in its place, urges Council to approve an enhanced bus line (BRT) on Centre Street to serve the transportation needs of the communities to the north. This initiative is supported by the Ad Hoc Committee of Concerned Citizens as well as other groups as well as residents and owners in Eau Claire, the riverfront, the beltline, and Chinatown.

May I respectfully recommend to members of City Council that they avoid the high risk and illogical Green Line on Centre Street, move the line to Seton and the South Health Campus and save the taxpayers of this City \$1.3 billion. These are difficult times that require thoughtful and wise decision-making.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Robert

* Last name Zalischuk

Email robzal@shaw.ca

Phone

* Subject Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support moving forward with construction of the Green Line. Calgary needed construction started 15 years ago. If we go all the way back to the early 1980's, mistakes have been made with what is now known as the Green Line. The scenario we've been forced into with Prince's Island Park is one example. In the last 20 years, Calgary has done a poor job of planning, anticipating and protecting paths for LRT in the central part of Calgary. Another mistake is the current plan between the Bow River and 16th Avenue North. I would reiterate that this section must be underground and I would suggest working with pension funds as one way of making it happen. Do not build this section until it can be put underground. Do it right the first time. I believe in Calgary's future. I believe in the future of Calgary's downtown. I believe in the positive impact of the Green Line. It's an important and large addition to Calgary's rapid transit network. 40 years in the making, the time to start building is now. Council must also be relentless in pursuing funding for Stage 2, 16th Avenue North to 96th Avenue. Start building, keep building. Set a goal of completion between Shepard and 96th Avenue North by December 2030.

ISC:

1/1

Unrestricted

May 24, 2020

3:44:39 PM

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Neil

* Last name McKendrick

Email neiljmckendrick@gmail.com

Phone 403 771-2800

* Subject Green Line Committee Meeting - June 1

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please have my attached letter registered as my submission to the June 1, 2020 Green Line Committee meeting. Thank you

May 19, 2020

Mayor Naheed Nenshi
And Calgary City Council

Subject: Green Line Concerns

Dear Mayor Nenshi and Councillors:

As a former manager of transit planning, with over 30 years experience planning transit services, including LRT, in Calgary, I am writing this letter to express my concerns with the current plans being considered for the Green Line. My concerns are:

- The proposal to build only 10 percent of a north line to 16 Av. N and 70 percent of the southeast line to 126 Av. SE will not extend LRT service far enough to provide benefits for existing transit users or the ability to attract new customers. These short line segments will not offer travel time savings and convenience compared with the current bus services in SE and North Calgary.
- The need for a direct LRT link between SE and North Calgary is not obvious (current and projected trips). The tunnel being investigated to connect the SE line with the north line will consume a considerable portion of the funds available for this project with considerable risk of both cost overruns and negative reaction by citizens. Funds to construct these tunnels could be better spent on other capital projects, including completion of the full SE LRT line.

Southeast Concerns

In order to attract sufficient ridership to reward the significant investment in LRT the SE portion of the Green Line will need to offer a more attractive service both in terms of travel time and customer convenience. An interim terminal station at 126 Av SE will not provide that.

Stopping construction at 126 Av SE will place the line's interim terminal station on the northern fringe of most of the population to be served by this line. The travel time benefit compared to existing bus services and the inconvenience of making an additional transfer after a lengthy bus ride are not likely to attract sufficient new customers to justify building LRT. Current ridership on Route 302 and the SE express bus routes that the Green Line is intended to replace is not very high. In fact these are some of the poorest performing bus routes in the city. Travel time and traffic delays on these routes is a common complaint of SE transit customers and, particularly by residents who do not use the service. Green Line needs to address these issues.

Shepard station, the interim terminal, is not intended, in the long term, to be a major station. It is somewhat isolated behind a shopping centre with only local road connections. In order to function as a terminal there will need to be extensive investment in roadways and passenger facilities that will not be required when the line is extended.

The true benefit of this line will only be realized by extending the line to Seton where the next six stations will be located in close proximity to the majority of SE residents. The planned stations already function as access points (walking, local bus and park and

ride) to the existing Route 302 BRT service. Extending to Seton will also provide a vital connection to the new hospital and adjacent businesses for all Calgarians. The SE line beyond Shepard appears to be extremely straight forward and relatively inexpensive to construct.

Northern Section of Green Line

LRT is being proposed for North Calgary due to the very high ridership on existing bus routes and to serve future communities. Combined, these northern buses carry upwards of 35,000 customers per day, one of the most successful and efficient bus corridors in North America. However, terminating the LRT line at 16 Av. N will provide no benefit to current transit customers and will have a limited ability to attract new ridership from the area immediately adjacent to the planned north stations. Therefore, this first section of the line will only replace Route 301 BRt. The other current, extremely popular north bus routes will need to be continued. Most current bus routes offer more attractive service and existing customers will demand that they be retained.

South of Beddington Tr, transit service in North Calgary, is provided in 3 corridors - 4 St NW, Centre St N and Edmonton Trail. For the new communities north of Beddington Trail, Route 301 (BRT) and several express bus routes operate very efficiently and effectively along Harvest Hills Bv and Centre St N. The bus-only crossing at Beddington Trail ensures that buses can operate along Centre St N with minimal delay. The Centre St N, 4 St NW and Edmonton Tr bus services offer connections to both downtown and local destinations along the way and are accessible with only a short walk. Once they enter the downtown, all bus routes coming from North Calgary travel the length of downtown providing service along the eleven blocks west of Centre St. A central north LRT line will not offer these benefits for most existing customers.

LRT, operating at grade, with multiple roadway crossings, and parallel traffic along Centre St N and, ultimately Harvest Hills Bv, will not offer the kind of travel speed that Calgarians experience on the existing lines. Current LRT lines operate in a protected right of way, with limited stops that enable the trains to achieve higher speeds and much greater reliability than buses. Even in downtown the Red and Blue lines operate on a transit only street. The only advantage that the proposed at-grade Centre St N concept will offer is higher capacity vehicles.

NW LRT Experience

In 1987, I was part of the team that planned and designed the NW LRT line and revised bus routings. The first leg of NW LRT was opened only as far as University Station due to limited funds and the need to have the line operational for the 1988 Olympic Winter Games. To provide an attractive service this first leg should have been built to Brentwood. The University Station did not sufficiently reduce travel time nor did it provide a suitable transfer station for the large number of bus routes and high passenger volumes coming from NW communities. The reaction from NW transit riders and residents was extremely negative. As a result there were significant protests, an internal investigation by an independent auditor, and considerable loss of confidence on the part of Calgarians. As a result, the downtown oriented NW bus services were retained and ran parallel to NW LRT, at considerable extra cost for the next 16 years until the NW line was extended to Dalhousie.

Conclusion

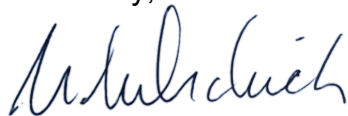
As many have said, this project is the most expensive and complex in Calgary's history. I hope that when you consider the best use of limited tax dollars provided by Calgarians, Albertans and Canadians that you reject the idea of the current plan to connect two relatively short LRT segments with costly tunnels. A transit connection between North and Southeast Calgary is not justified given the risk and cost involved. Finally, neither of these two LRT segments will be as attractive as the bus services they are intended to replace.

If a partial Green Line (both SE and North) provides little benefit for either corridor at a very significant cost, the chance of attracting further investment for an extension of either line will be very difficult. With little or no improvement in travel time and convenience, current transit customers are unlikely to embrace these new short lines and will demand the retention of existing services. In other words, the risk is that you end up with a \$4.9 billion white elephant.

It is my recommendation that the greatest benefit and return on investment will be provided by constructing the entire Southeast LRT line – Downtown to Seton. It is also recommended that the proposal for extensive tunneling in the downtown be reviewed in light of either at-grade or an elevated options. Any savings in capital funds could be spent improving transit service in other quadrants, such as BRT in North Calgary, and extension of the NE and South lines which can all be done for less than \$1 billion.

I recognize that this is a monumental decision for Calgary's future. I trust that you will consider all ramifications of this plan.

Sincerely,



Neil McKendrick
Former Manager of Transit Planning, Calgary Transit

**Public Submission**

City Clerk's Office

Please use this form to send your comments relating to matters, or other Council and Committee matters, to the City Clerk's Office. In accordance with sections 43 through 45 of Procedure Bylaw 35M2017, as amended. The information provided may be included in written record for Council and Council Committee meetings which are publicly available through www.calgary.ca/ph. Comments that are disrespectful or do not contain required information may not be included.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

Personal information provided in submissions relating to Matters before Council or Council Committees is collected under the authority of Bylaw 35M2017 and Section 33(c) of the Freedom of Information and Protection of Privacy (FOIP) Act of Alberta, and/or the Municipal Government Act (MGA) Section 636, for the purpose of receiving public participation in municipal decision-making. Your name, contact information and comments will be made publicly available in the Council Agenda. If you have questions regarding the collection and use of your personal information, please contact City Clerk's Legislative Coordinator at 403-268-5861, or City Clerk's Office, 700 Macleod Trail S.E., P.O. Box 2100, Postal Station 'M' 8007, Calgary, Alberta, T2P 2M5.

✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Scott

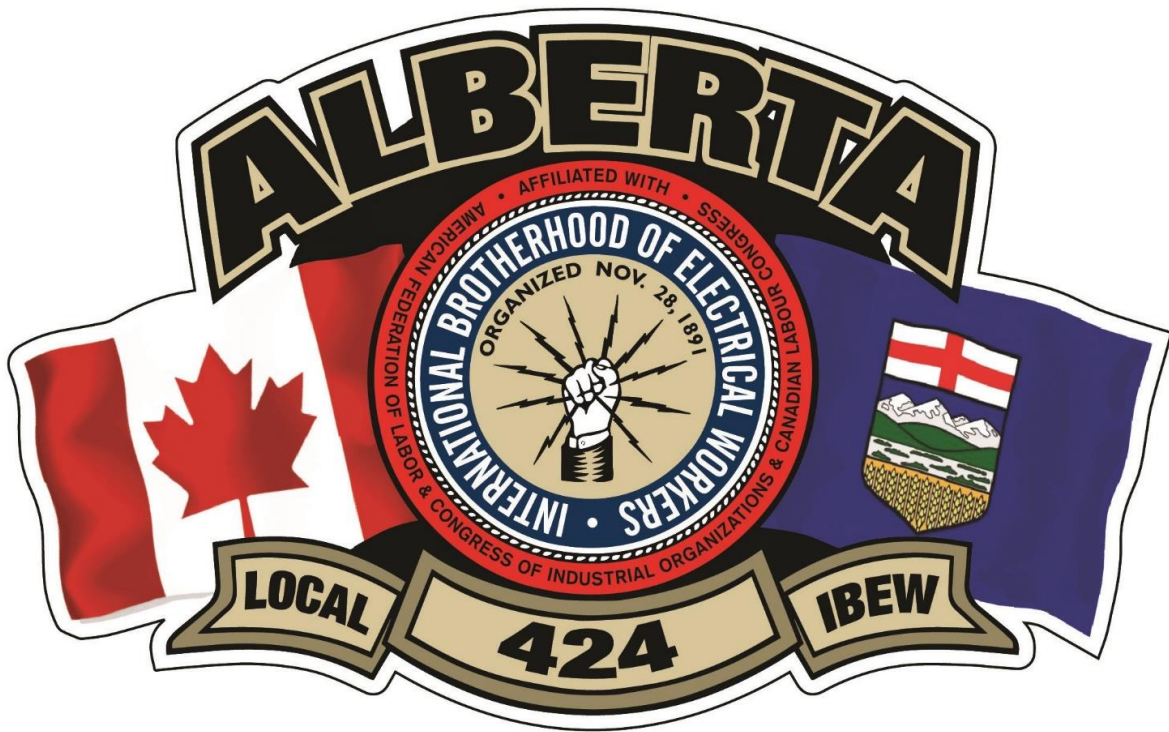
* Last name Crichton

Email SCrichton@ibew424.net

Phone 5879867710

* Subject IBEW Submission for Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please see the attached documents



Recommendations for the Greenline LRT

This submission is on behalf of the International Brotherhood of Electrical Workers Local Union 424 (IBEW LU 424). It is intended to prove that Community Benefit Agreements (CBAs) are a useful construction management tool for cost savings, on-time, on-budget, quality construction.

Community benefit agreements (CBAs) are pre-hire contracts between project-owner representatives and local construction unions. CBAs account for an ever increasing amount of both public and private construction projects. CBAs become an issue when there are differing views how best to manage public works construction. Proponents of CBAs argue that these contracts facilitate both efficient construction and the attainment of related public policy objectives such as local hire or the training of local youth and/ or other targeted groups in construction skills. Critics of CBAs contend that these contracts increase the cost of public construction primarily through a hypothesized reduction in the number of bidders on public works. The assertion is that CBAs discourage some contractors from bidding on these projects. This, in turn, reduces competition which in turn raises construction costs.

The Greenline LRT is an opportunity to build a project under a CBA that will include provisions such as local hiring, indigenous training programs (Tradewinds to Success), pre-apprenticeship programs for Canadian Forces Veterans (Helmets to Hardhats), and High School Programs for our youth (The Education Partnership Program (TEPF)). Each of these programs is supported by the Building Trades of Alberta (BTA) and its signatory contractors. Other jurisdictions within Canada have used CBAs on the Metrolinx in Toronto and for the 2010 Vancouver Olympic games. The IBEW is one of the many unions in the BTA that supports these programs and recommends the city of Calgary follow the Metrolinx model for greater community involvement and apprenticeship outcomes.

For your benefit I have attached documents to this email related to the Metrolinx construction project in Toronto, Ontario. I hope this information I have provided will be of benefit to you as make your decisions on how the project will be built over the next several months.

Thank you for taking the time to look over this submission. Should you have any questions please I remain available at the following:

Scott Crichton
(587) 986-7710
SCrichton@ibew424.net

Tradewinds to Success

Tradewinds to Success (TWTS) is an indigenous pre-apprenticeship program that is 12 weeks in length and taught through a partnership between the BTA and the TWTS. Indigenous youth are taught their particular craft in a BTA union training centre and then placed with the union contractor afterward to begin their apprenticeship. Since 2005, more than 2,300 Trade Winds clients have participated in pre-apprenticeship training in the Boilermaker, Carpenter, Electrician, Insulator, Ironworker, Plumber, and Steamfitter and Welder Trades.

Helmets to Hardhats

In partnership with the Canada Building Trades Unions (CBTU) government and industry, Helmets to Hardhats (H2H) streamlines pathways to apprenticeship, advanced training and career placement opportunities in the construction industry with unionized contractors who support the men and women who have served our country. So far there have been 982 Veterans placed in the program for 2020.

The Educational Partnership Foundation

The Educational Partnership Foundation (TEPF) is a partnership between the BTA and the TEPF. In the program high school students go to a union training centre to learn their specific craft. After graduation the students can be placed with a contractor to begin an apprenticeship. Since 2016 over 100 students have taken part in the program and have started apprenticeships with contractors in the Calgary area.

Build Together Women of the Building Trades

Build Together, Women of the Building Trades is a national CBTU program that promotes, supports and mentor's women in the skilled construction trades. In Alberta, women only make up 4% of the construction trade workforce. The Build Together program encourages and empowers women to actively pursue apprenticeships in the skilled trades with the goal of increasing their marketshare of the workforce.

Tradewinds to Success

<https://tradewindstosuccess.ca/>

Helmets to Hardhats

<http://www.helmetstohardhats.ca/en/home.htm>

The Education Partnership Foundation

<https://tepf.ca/>

Build Together Women of the Building Trades

<https://buildtogether.ca/our-focus/women/>



TO: ALL AFFILIATE BUSINESS MANAGERS

Dear Sir and Brother:

This is an update on the work of the Toronto Community Benefits Network, a labour-community initiative designed to create construction career opportunities on the Eglinton Crosstown project for young people from diverse and marginalized communities.

TCBN was created two years ago by the Labour Council as part of a comprehensive response to the crisis of youth violence that was highlighted by the Danzig Crescent shootings in Scarborough. It was clear that young people in marginalized communities needed to have a sense of hope, and the possibility of a decent job, if they were to become responsible adults in our society. One model for achieving that goal was contained in the Project Labour Agreement for the massive expansion of Los Angeles Transit system, which I had learned about from Robbie Hunter, the Manager of the LA Building Trades when I was in LA in 2011.

Since its inception, the TCBN has undertaken extensive consultation to determine how to achieve a real partnership between labour and different communities whose youth need good jobs. We brought in experts from Los Angeles, Vancouver and Glasgow to a weekend conference at UA 46 Training Centre. We met numerous times with Metrolinx and Infrastructure Ontario officials, Cabinet Ministers, community organizations, City and provincial department leaders. The effort resulted in a Framework Agreement being signed in April of this year, which I have enclosed.

At all times in this process, the invitation has been extended to COBT and Hammerheads program to be fully involved. A representative group of leaders from various training centres have provided ongoing advice and guidance for the work. You can see the importance given to apprenticeship in the RFP language which is also enclosed.

This is a very exciting venture, which Premier Wynne has highlighted in a number of speeches in recent weeks. The Government of Ontario is committed to having its investment in transit paying off in opportunities for young people in priority neighbourhoods, and supporting apprenticeship as a truly viable way to give these youth a decent future.

I trust that your union will help ensure the success of this project as it unfolds. Please feel free to call me if you have any questions.

Solidarity,

A handwritten signature in black ink that reads "J Cartwright". The signature is written in a cursive, flowing style.

John Cartwright
President

Enclosures
cope343



METROLINX

An agency of the Government of Ontario
Une agence du gouvernement de l'Ontario

President and Chief Executive Officer

Bruce McCuaig
(416) 202-5908
CEO@metrolinx.com

April 23, 2014

Steve Shallhorn
Community Benefits Network
c/o Labour Education Centre
15 Gervais Drive, Suite 100
Toronto ON
M3C 1Y8

Dear Mr. Shallhorn,

RE: Community Benefits Agreements

Metrolinx is pleased to support the concept of building Community Benefit Agreements (CBAs) into our major infrastructure projects.

We have been working with you and the Toronto Community Benefits Network (TCBN) to finalize a framework for the Eglinton Crosstown project.

I am pleased to see that Metrolinx, in collaboration with Infrastructure Ontario and the Ministry of Training, Colleges and Universities have finalized the framework to be included in the Crosstown RFP and Project Agreement.

I would ask that you sign a copy of the framework and return to myself so that we can jointly post the signed document on our respective websites.

The work done to date on this project demonstrates that working together we can make progress developing and implementing strategies for employment, training and apprenticeship opportunities as well as opportunities for the provision of goods and services from local suppliers and social enterprises.

Sincerely,

Bruce McCuaig
President & Chief Executive Officer

- c. Jack Collins, Executive Vice-President, Rapid Transit Implementation, Metrolinx
Judy Pfeifer, Vice President, Strategic Communications, Metrolinx



METROLINX

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METROLINX COMMUNITY BENEFITS FRAMEWORK

Introduction

Metrolinx

Metrolinx, an agency of the Government of Ontario, was created in 2006 to improve the coordination and integration of all modes of transportation in the Greater Toronto and Hamilton Area (GTHA). Metrolinx is planning and building a transportation system that allows residents to travel across the region more quickly and efficiently, while enhancing the region's prosperity, sustainability and quality of life. Currently, \$16B of transit projects are underway across the GTHA, including; bus rapid transit in York Region and Mississauga, York-Spadina subway extension, light-rail in Toronto, an expanded and improved GO Transit system.

Metrolinx recognizes that its major infrastructure investments should also provide benefits for the communities in which it works, including employment, training, apprenticeship, local supplier and social procurement opportunities where possible. Metrolinx has therefore committed to include a community benefits program for the Toronto Transit Projects (defined as the LRT projects planned for Finch, Sheppard and Eglinton Avenues), beginning with the Eglinton Crosstown LRT line (the "Crosstown", or the "Project"). The Crosstown will run across Eglinton Avenue between Mount Dennis (Weston Road) and Kennedy Station. This 19-kilometre corridor will include a 10-kilometre underground portion, between Keele Street and Laird Drive.

The Crosstown will be delivered through an Alternative Financing and Procurement mechanism. A Request for Proposals has been issued and two qualified consortia are expected to bid on the project. Delivery of the community benefits program will ultimately be included as part of the final contract between Metrolinx, its procurement agent Infrastructure Ontario (IO) and the winning bidder ("ProjectCo") (jointly, the "Parties").

Principles

Metrolinx's approach to community benefits programs will be:

- a. **Inclusive**, offering a range of employment, training, and apprenticeship opportunities for historically disadvantaged communities and equity seeking groups, as well as encouraging the provision of goods and services from local suppliers and social enterprises.
- b. **Accessible**, ensuring that information about employment, training, apprenticeship, and procurement opportunities are made readily available to residents, businesses and social enterprises.
- c. **Transparent**, making the community benefits plan in the final agreement with ProjectCo public, and publishing quarterly reports on progress.
- d. **Collaborative**, by working together with community, labour, business, government, and other stakeholders to share information, resources and learnings, and maximize the impact of the program



Toronto Transit Projects: Roles and Responsibilities

The information below describes the general roles and responsibilities of the primary partners involved in the community benefits program. This has been developed for the Crosstown, and the partners, roles and responsibilities may vary for the other Toronto Transit projects.

Metrolinx

As the owner of the Project, Metrolinx is responsible for:

- a. ensuring that the community benefits commitments made by ProjectCo in the agreement between the Parties maximize employment, training and apprenticeship opportunities as well as opportunities for the provision of goods and services from local suppliers and social enterprises
- b. monitoring and enforcing the agreement with ProjectCo., including provisions respecting the community benefits program.
- c. hiring a dedicated liaison who will work with the various business units at Metrolinx, ProjectCo, community partners and stakeholders to support the implementation of the community benefits program
- d. providing timely information about professional, administrative and technical employment opportunities at Metrolinx to workforce development and community partners and stakeholders for dissemination to local communities and other target employment groups

ProjectCo

As the implementer of the Project, ProjectCo is responsible for:

- a. submitting a plan six months after financial close of the RFP which outlines its commitments to apprenticeships, employment and local procurement for review and approval by Metrolinx. Once approved, this plan will form part of the project agreement.
- b. implementing the plan as approved unless any changes are made by mutual agreement with the other parties to the agreement (i.e. Metrolinx and IO)
- c. including a community liaison person or team as part of its plan
- d. reporting on its activities on a regular basis.

MTCU

As a key government partner, the Ministry of Training, Colleges and Universities (MTCU) will play an important role in helping coordinate workforce training and apprenticeship opportunities, distributing employment opportunities through its networks and agencies (including Employment Ontario and others), and ensuring prospective employees are ready for the opportunities to come. Specifically, MCTU will:

- a. fund and conduct a Labour Market Partnership (LMP) project to identify skills gaps, required neighbourhood outreach and other areas that will work to facilitate the employment pipeline for the Eglinton Crosstown line.
- b. Through its work force development service providers network (Employment Ontario) and partnerships, help create a streamlined mechanism through which prospective employees and ProjectCo can access employment services during the project.

- c. Link Employment Ontario training service providers with identified community training needs to prepare residents, when required for Metrolinx job opportunities

Community Partners

Metrolinx is committed to working with community groups and agencies along the Crosstown project, and welcomes input from a wide variety of stakeholders.

The Toronto Community Benefits Network (TCBN) has come forward as a key partner in this initiative. The TCBN was created by labour and community groups in January 2013 to bring the Community Benefit Agreements (CBA) concept to the building of Toronto's Light Rail Transit system, and advocates using legally binding CBAs in all major public infrastructure projects.

The Network envisions Toronto as an inclusive, thriving city in which all residents have equitable opportunities to contribute to building healthy communities and a prospering economy.

The Network believes that a priority for a thriving and inclusive city is the continued expansion of transit infrastructure and neighbourhood improvement to meet the needs of all residents. Accessible transit is critical for the social, environmental and economic wellbeing of our city today and into the future.

The expansion of transit that is envisioned for Toronto will result in opportunities for good jobs. It is crucial that all Torontonians have access to economic opportunities stemming from infrastructure investments. As such, the TCBN believes that the diversity of the workers on the LRT project should reflect the diversity of residents of Toronto.

As members of Toronto's communities the TCBN commits to working in partnership with Metrolinx and all other partners on a Community Benefits program that can advance our vision for an inclusive, accountable thriving City.

- a. Working together with MTCU, in assisting with outreach to and recruitment of prospective apprentices and employees where appropriate and able, providing training and/or mentorship for prospective apprentices and/or employees
- b. Developing and retaining a registry of social enterprises in the City of Toronto that can be shared with ProjectCo to encourage procurement of goods and services from social enterprises
- c. Working with Metrolinx, ProjectCo and MTCU as applicable to support events and initiatives designed to disseminate information about employment, training apprenticeship and social opportunities for the Eglinton Crosstown line.
- d. Acting as a resource for community information and feedback to Metrolinx on an ongoing basis.
- e. Participating in an ongoing working group as described below

Communications and Coordination

Metrolinx shall host regular meetings of a Community Benefits Working Group with the designated ProjectCo liaison, representatives from MTCU and from the TCBN (and other community partners as appropriate) to ensure smooth coordination of the activities identified as part of the community benefits program. This group will serve as a forum for dialogue for any issues that may arise and will work collaboratively to support and promote the community

- 4 -

benefits program. This group may also be invited to participate in discussions about other areas relevant to the Crosstown project, including but not limited to development on Metrolinx-owned property such as mobility hubs.

This group will also participate in the creation of the monitoring and evaluation framework for the community benefits program, review progress reports supplied by ProjectCo, suggest refinements and improvements to the program on an ongoing basis, and provide input into the quarterly reports published by Metrolinx which will summarize the relevant activities of all of the partners involved.



Bruce McCuaig
President & Chief Executive Officer
Metrolinx

April 23, 2014

Date



Steve Shallhorn
Community Benefits Network

April 28 2014

Date

THE EGLINTON CROSSTOWN LIGHT RAIL TRANSIT PROJECT



Declaration re. Apprentices on the Eglinton Crosstown LRT Project

Metrolinx recognizes the desirability of providing benefits for the communities in which its major light rail transit (LRT) infrastructure investment is occurring, including employment, training, apprenticeship, local supplier and social procurement opportunities, where possible, as affirmed by the Metrolinx Board of Directors on September 10, 2013 and set out in the Metrolinx Community Benefits Framework entered into between the Toronto Community Benefits Network (TCBN) and Metrolinx in April 2014.

The guiding principles that Metrolinx aspires to as set out in the Framework document include:

- **Inclusive:** offering a range of employment, training and apprenticeship opportunities for historically disadvantaged communities and equity seeking groups, as well as encouraging the provision of goods and services from local suppliers and social enterprises;
- **Accessible:** ensuring that information about employment, training, apprenticeship, and procurement opportunities are made readily available to residents, businesses and social enterprises;
- **Transparent:** making the community benefits plan in the final agreement with Crosslinx Transit Solutions ("Project Co" or "CTS") public and publishing quarterly reports on progress; and
- **Collaborative:** by working together with community, labour, business, government and other stakeholders to share information, resources and learnings to maximize the impact of the program.

As part of the Project, CTS is required to prepare an apprenticeship plan (the "Apprenticeship Plan") under the Project Agreement for the Project in which it proposes a strategy for achieving the apprenticeship goals that also takes into account the fact that CTS is a consortium comprised of four corporate entities with existing complex labour obligations that must be respected and is also subject to applicable laws that must be complied with.

The CTS Apprenticeship Plan defines an apprentice as "someone who is registered with the Ontario Ministry of Advanced Education and Skills Development (MAESD) and the Ontario College of Trades, and has signed a Contract of Apprenticeship with a union or employer".

The CTS Apprenticeship Plan outlines an approach that could:

- maximize the number of apprenticeships for the trades that are required to construct and maintain the Eglinton Crosstown; to create good paying, skilled jobs that provide strong future employment potential; and, to meet the labour needs of CTS and its subcontractors and the needs of future construction projects;
- contribute to a coordinated, streamlined process for entering the construction trades by promoting the use of existing trade union training programs and the newly created "Construction Pathway" for careers in the trades for youth at-risk, historically disadvantaged and equity seeking groups;
- facilitate communication and coordination, and build relationships among the Toronto Community Benefits Network, trade unions, employers, Ministry of Advanced Education and Skills Development, the City of Toronto Employment and Social Services, the United Way Toronto & York Region and other social and employment service providers; and
- track and report annually on Apprenticeship Plan results, including the number of apprentices that are employed on the Project, including those who start their apprenticeships on the Project.

The Apprenticeship Plan is an approach by which CTS fulfills its obligations under the Project Agreement regarding apprenticeship opportunities by itself directly providing such opportunities and/or by requiring its subcontractors to do so.

Metrolinx, Infrastructure Ontario, Crosslinx Transit Solutions, the Toronto Community Benefits Network, the Ministry of Advanced Education and Skills Development and the United Way Toronto & York Region aspire to achieving a goal of employing apprentices or journeypersons from historically disadvantaged communities and equity seeking groups to perform 10% of all trade or craft working hours, on a trade by trade basis, required to construct the Project.

The parties believe that this goal is a worthwhile outcome to work towards and that achieving this goal depends on the cooperation, collaboration and active involvement of government, business, labour and community partners. Most importantly, the parties recognize that achieving the goal is dependent on trade unions, pre-apprenticeship programs and other organizations that prepare apprentices, ensuring that there is a readily available supply of qualified apprentices and journeypersons from historically disadvantaged communities and equity seeking groups.

Progress will be tracked quarterly and reported annually. Reflecting the shared accountability for achieving the 10% hiring target, the parties agree to form a working group chaired jointly by MAESD, the TCBN and Metrolinx/CTS, and include other stakeholders as appropriate.

The working group will establish a Terms of Reference, including roles and responsibilities of members, and develop a monitoring and evaluation plan for the hiring targets identified in this declaration. The group will meet within two months of signing the declaration and agree to specific definitions of target populations, and establish the tracking, monitoring and reporting mechanisms for the target hiring of apprentices and journeypersons. The working group will commit to collectively resolving issues that may arise related to the supply and hiring of candidates from the target populations, and other issues that may arise related to the principles and aspirations identified in this declaration.

This declaration document does not vary, amend, supplement, restate or otherwise modify the Project Agreement for the Project.

This declaration document is applicable only to the Project and shall not be applied to other projects and not be construed as a precedent.

Signatories to this Declaration:

November 8, 2016



Bruce McCuaig
President & CEO
Metrolinx



Ehren Cory
Divisional President, Project Delivery
Infrastructure Ontario



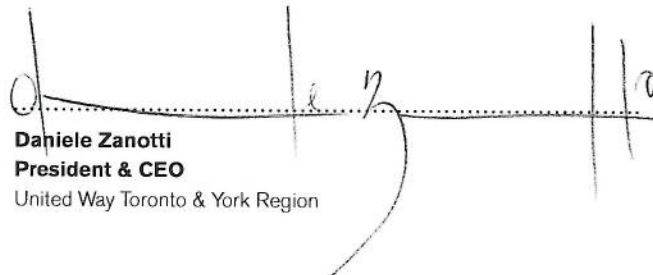
John Bisanti
CEO
Crosslinx Transit Solutions



Sheldon Levy
Deputy Minister of Advanced Education and Skills Development
Ministry of Advanced Education and Skills Development



Rosemarie Powell
Executive Director
Toronto Community Benefits Network



Daniele Zanotti
President & CEO
United Way Toronto & York Region



Woodbine Casino Expansion Community Benefits Proposal

Community Benefits Agreements are a proven approach to development that creates an effective, transparent, fair and inclusive process that supports good jobs, job training and community benefits.

A decade ago, Rexdale's Community Organizing for Responsible Development (CORD) mobilized for local needs in a proposed major redevelopment at Woodbine. Although the project did not materialize, the experience set the stage for a community benefits movement. In 2014 the Toronto Community Benefits Network, a coalition of over 80 labour and community groups, negotiated the first CBA in Toronto. The agreement with Metrolinx provides needed careers in construction trades and professional occupations for the Eglinton Crosstown Transit Project.

In August 2017, Ontario Lottery and Gaming (OLG) announced that it had selected Ontario Gaming GTA LP (a partnership between Great Canadian Gaming - 49%, Brookfield Business Partners - 49% and Clairvest Group - 2%) as the service provider for the existing slots and future casino at the Woodbine Racetrack in Rexdale. This project includes the development of a casino, restaurants/retail, a hotel, convention space and a theatre. This development project is an estimated value of \$1 Billion.

CORD has now joined TCBN to seek to secure a legally binding commitment with Ontario Gaming GTA LP for the construction and operation of the Woodbine Casino through a comprehensive Community Benefits Agreement. A proposal has been sent to the Ontario Gaming GTA LP partnership, which includes:

Local Hiring Targets

TCBN is looking to secure local hiring targets as part of this community benefits agreement. These targets include:

Construction - The Partnership shall commit to employing apprentices or journeypersons from historically disadvantaged communities and equity seeking groups to perform at minimum 10% of all trade or craft working hours, on a trade by trade basis.

Operations - The Partnership shall commit to ensuring that no fewer than 60% of full time equivalent employment for each part of the Project during the operations period, are held by local residents and/or persons from historically disadvantaged communities and equity seeking groups who may be recruited or hired under a program run by TCBN and/or its partners.

Hiring priority - shall be given to local area residents of the Etobicoke North area and then expanded to City of Toronto Neighbourhood Improvement Areas.

Full Time Targets

At least 40% of the total employees employed by Ontario Gaming GTA LP during the first two (2) years of operation of the Project shall work Full Time and at least 60% of the total employees employed by Ontario Gaming GTA LP shall work Full Time during all other years of operation of the Project.

Living Wage Provisions

The Living Wage for the first year of operations is defined is to be \$16 per hour if health insurance benefits are provided, or \$18.52 per hour if health insurance benefits are not provided.

Workforce Development and Training Funding

- **Construction:** Ontario Gaming GTA LP to contribute funds for high quality training, including apprenticeship, to ensure job readiness.
- **Operations:** Ontario Gaming GTA LP agrees to support the Hospitality Workers Training Centre for high quality training for operational positions, to ensure job readiness.

Annual Revenue Contributions – Community Benefits

Annual revenue contributions will be made to support ongoing community programs highlighted below:

- **Arts and Cultural Space** - Free community access to suitable live event/venue facilities. This includes hosting an annual festival that highlights and showcases local community art and culture
- **Post-Secondary Scholarships** – For local area residents pursuing college, university and/or apprenticeship education
- **Local Community Endowment Fund** – TCBN will establish a Community Endowment Fund to support local initiatives and projects to be approved by the Community Benefits Steering Committee
- **Mental Health Strategy** - TCBN and its partners will develop a local mental health strategy to identify community and culturally appropriate mental health services in Etobicoke North and provide educational support for community members to access family support options and addictions counselling
- **Child Care accommodations** - Free child care accommodation for employees hired (including during any related training) through TCBN's community benefits program.
- **Local Food Strategy** – The Partnership agrees to work with TCBN and partners to create a local food strategy that is sustainable and which creates opportunities to address food insecurity in the community.
- **Green Building Standards** - The Partnership agrees to integrate climate change considerations into infrastructure planning to ensure environmental sustainability for this development, and to provide the necessary training for employees to perform their jobs in accordance with the development's green focus.

Local Procurement Targets

A Supply Chain Diversity Policy will create opportunities for local businesses and social enterprises to benefit from the proposed development and secure agreements that support both construction and operational requirements.

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Lorna

* Last name Dodd

Email lornajdodd@gmail.com

Phone 4035547992

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I will be retiring at the end of June. I am giving my car away and will be using only walking and transit to get around this great city. Please continue to make the green line a priority. It is absolutely necessary for the future of this city.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Tyler

* Last name Wright

Email sankler16@yahoo.com

Phone 4034644460

* Subject Green line

Hello and Good Day,

I am concerned on the construction upcoming for the Greenline LRT. I worked as an electrician on the South Health Campus and being one of the few non union contractors on site meant we had less say as workers, but more concerning, the company was less accountable and ended up costing the province almost twice as much as was quoted. That's why I think the Greenline should be built under a Community Benefit Agreement much like the Metrolinx was in Toronto, Ontario. This will ensure the best protection for us the workers and the province's tax payers in general.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

On top of having a CBA, I want to see more opportunities for people from any walk of life to come into my trade. As such, contractors that take part in programs such as Helmets to Hardhats (H2H), Tradewinds to Success (TWTS), Build Together women of the Building Trades, and The Education Partnership Foundation (TEPF) should be given preference.

And finally I don't want to see the same contractors from years before get special preference to bid on spite of the previous comment, so I think tendering documents should be listed on <https://coolnetalberta.com/> so all contractors are given the same opportunity to bid on the project.

I appreciate you taking the time to go over my concerns. Alberta infrastructure projects

ISC:

1/2

Unrestricted

May 24, 2020

6:05:35 PM



Public Submission

City Clerk's Office

are going to be essential to getting us out of this catastrophe, and I want to see that they are built by Albertans, for Albertans and without going over budget

Thanks

Concerned Electrician



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Lane

* Last name Dell

Email

Phone 14036136035

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I do not support the green line. They are planning to go right under my building at 240 11th Ave SW. the historic Lewis Lofts. This has damaged property value and nothing has been shown or proven that this won't have an affect on our building, on the noise or the structural makeup of the area. This is besides the grossly over budget the Green Line has already been proposed. Another huge issue is how the new proposal goes directly through Prince's Island Park becoming an eyesore in one is Calgary's more iconic area, and downtown Calgary's best park and riverside destination. I'm fully against building the line at this time.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Joan

* Last name Lawrence

Email joan@calgaryclimatehub.ca

Phone 403-276-9946

* Subject Calgary Climate Hub Supports the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Calgary Climate Hub supports proceeding with construction of Stage 1 of the Green Line as proposed in the Stage 1 Alignment. Please see our attached submission. Thank you.



CLIMATE HUB SUBMISSION ON THE GREEN LINE

Green Line Committee meeting May 25, 2020

We support proceeding with construction of Stage 1 of the Green Line as proposed in the Stage 1 Alignment.

We congratulate the Green Line Project Team for listening to Calgarians and taking steps to mitigate the financial and construction risks, and their work on improving the customer experience.

Investment in the Green Line follows the principles of Green Stimulus. Council needs to ensure investment in Calgary's recovery aligns with the actions adopted in the City's *Climate Resilience Strategy*. These principles focus on environmental sustainability, climate mitigation, and a just transition to a carbon neutral economy. Green stimulus is the best way to meet the Administration's recommended criteria for investment.

- **The Green Line will contribute to the goals of the *Climate Resilience Strategy***
Transit is a key component of Program 5: Low or zero-emissions transportation modes, specifically by making transit a more viable choice in areas of the city which are currently under served, and by encouraging transit-oriented development along the route. Additionally, the Green Line has direct benefits for GHG emission reduction, with estimates that the line will reduce greenhouse gases by 30,000 tonnes, the equivalent of 6,000 vehicles being taken off the road on opening day.
- **The Green Line will be an important part of Calgary's economic recovery**
The City estimates the total investment of \$4.903 Billion will create an estimated 12,000 direct and 8,000 indirect jobs. This is significant and comes at a critical time when it is important to bolster Calgary's economy. Breaking the project into two segments as proposed will keep more of the project's budget within the community.

Enhance the benefits of the Green Line by continuing to invest in active transportation to provide affordable and healthy transportation options for all Calgarians by expanding protected bike lanes networks in all communities, enhancing pedestrian/bike/transit interconnection, and investing in designated bus lanes and in new buses to increase hours and quality of service. This aligns with the *RouteAhead Strategy*.

The Calgary Climate Hub's submission is a first contribution to inform the conversation about the implementation of the Green Line. We will continue to provide additional recommendations to Council as the project proceeds with detailed design and construction. We will be pleased to meet with Councillors and Administration to share our expertise.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Orrie

* Last name Bliss

Email orrie@shaw.ca

Phone +14036168438

* Subject Greenline

The Greenline LRT should be built under a Community Benefit Agreement much like the Metrolinx was in Toronto, Ontario.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

-Contractors that take part in programs such as Helmets to Hardhats (H2H), Tradewinds to Success (TWTS), Build Together women of the Building Trades, and The Education Partnership Foundation (TEPF) should be given preference.

-The Tendering documents should be listed on <https://coolnetalberta.com/> so all contractors are given the same opportunity to bid on the project.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jon

* Last name L

Email bcn.yyc@gmail.com

Phone

* Subject Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello, I support the Green Line LRT, and I hope the Mayor and Council do as well. This project will improve many Calgarians' lives as it will provide an equitable and efficient way for people to move around our city to support the local economy, participate in the workforce, run errands to grocery stores, and enjoy social interactions with friends. We rarely talk about the benefits of public transit because it is just there, but these investments save the city, and Calgarians, a lot of money, they attract new and diversified corporations, and they are a beacon to energetic young populations that we are a city that is changing and looking to the future. Please support Green Line on June 1.

ISC:

1/1

Unrestricted

May 24, 2020

6:54:39 PM



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Brian

* Last name Nichols

Email shilong.nichols@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I'm writing to support the continued construction of Stage 1 of the Green Line to advance public transit in Calgary. The more connected public transportation, the more it becomes a central means of getting around. Traffic congestion is eased and air quality is immediately improved. It benefits the public health and the economic well being of residents who have a more reliable means of traveling in the absence of private transportation. It is the type of project that will help Calgary recover from the deepening economic downturn. This is the time for public investment in projects to benefit the future. This is the time to think about long term prosperity and this is precisely the kind of project to create more long term prosperity. Good government works to provide for the long term benefit of the people; the green line is precisely the kind of project good governments under take. NIMBY protests or special interests should not be allowed to derail the collective future and prosperity of Calgary.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Cassandra

* Last name Cummings

Email cassc246@yahoo.ca

Phone

* Subject Green line support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

While I have not read all of the details recently, I would like to say I am in support of the Green line. Calgary is in need of additional transit options, that reaches more areas of the city efficiently.

While I would prefer underground options over at grade options, and may have other concerns about particulars, including of heritage buildings and assets, I feel it is paramount to express support overall for this project.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kendra

* Last name Horosko

Email khorosko@hotmail.com

Phone 403-466-0397

* Subject Bring on the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line LRT is vital to Calgary's economic and social recovery. It will connect people to different workplaces, reduce social isolation, and enable people to participate in their communities.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name JONATHAN

* Last name VAN HEYST

Email jdvan.93@gmail.com

Phone 4034788854

* Subject Green Line LRT

Dear Mayor and Councillors,

I am writing to express my support for the revised Green Line LRT alignment, to be presented to Council Committee on June 1, 2020. As a resident and citizen of Calgary, I support the community, societal, economic, and environmental benefits of improved public transit in this city. I believe that the Green Line is a large and important step towards improving mobility of all Calgarians while reducing our dependence on single-occupant vehicles.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I have been following this project and attending public engagement events since 2016, when I studied the project as part of my university final year project course. I had the opportunity to attend a public open house presenting the updated Stage 1 alignment in February, as well as the online presentation in May. I have been impressed by the project team's efforts to make changes to better align with the project vision while staying within the budget. In particular, the update to a shallower tunnel in the downtown and a surface-running alignment on Centre Street will increase the accessibility and desirability of the Green Line for more Calgarians and visitors.

Please consider the voices of the thousands of ordinary citizens of this great city who support and rely on public transit every day. We support this project and its role in shaping a more equitable, prosperous, and sustainable city.

ISC:

1/2

Unrestricted

May 24, 2020

8:09:52 PM



Public Submission

City Clerk's Office

Sincerely,
Jon van Heyst



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Eric

* Last name Vondran

Email e.vondran@gmail.com

Phone

* Subject I support the Green Line.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Calgary needs to take a the long view for prosperity and I believe a robust public transit system is a strong part of that.

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* First name Andrea

* Last name Locke

Email andrea.j.locke@hotmail.com

Phone 4038304484

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I'm a huge supporter of public transit. I took the bus and train to school and work for a long time. However, this green line does not make sense. With COVID, less people are comfortable taking transit. We can not afford it. We need to focus on supporting small businesses and reducing taxes as many will come from this pandemic provincially and federally. Thank you!

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* First name Janet

* Last name Gourlay-Vallance

Email

Phone

* Subject Support for Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I consider the Green Line essential infrastructure that will improve the lives of millions of Calgarians across generations, revitalizing our city over the long term and providing investment and jobs. The Green Line will provide a transportation link for thousands of Calgarians and will pull thousands of cars from our roads. This will improve the health and ambiance of our city while giving us a step-up toward carbon-neutrality. I feel we need to stay the course and not be distracted by the minority interests. This project is for the common good of all Calgarians.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Richard

* Last name Santin

Email rsantin0@telus.net

Phone 4034638601

* Subject Green line contract

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Due to the present circumstances facing Alberta the awarding of the Greenline has become a crucial strategy for Albertas well being for not only Calgary, but for all of Canada. The city of Calgary is faced with dire short falls in revenue. The only way to assure that Calgary can maintain its relevance is by putting Calgarians, then Albertans, and then Canadians to work. We need a new deal like Roosevelt proclaimed during the Great Deppresion". By putting Calgarians to work we maintain our relevance and provide Training for future employees needed to ensure the needed knowledge for future projects. Please consider that the needed knowledge is already at hand and that the labour is waiting for you to make the appropriate decision. We of the "Calgary Strong" are just waiting for you to lay down the gauntlet.

Sincerely,
Richard Santin



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Daorcey

* Last name Le Bray

Email dlebray@gmail.com

Phone 4038080577

* Subject Complete support for Green Line

Dear Green Line Committee:

Thank you for your continued oversight and governance of the Green Line. This is likely the most important project in Calgary's history and I hope that you can unanimously support the latest version of the Stage 1 Alignment and plan.

A wise politician once told me that public transit is the most valuable investment a government can make for (and in) the public it serves. The Green Line is not just needed for Calgary now, but for the long term as a piece of critical infrastructure. The Green Line is a mobility tool in so many senses of the word. It provides social mobility to help people escape cycles of poverty by providing efficient ways to get to school and work. It provides economic mobility as it draws people from around the world to a city that works for them--a modern city with modern transportation. And, of course, it provides transportation mobility by helping all Calgarians getting to where they need to and want to go as efficiently as possible.

The Green Line is a tool for economic development and a symbol of our optimistic and opportunity-filled future. It illustrates the welcoming, modern, and vital city we aspire to be. It is a statement of optimism that Calgary needs.

I hope you can vote in favour of this latest update on the Green Line. I know you can continue to show the leadership our city needs by championing this incredible and

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

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May 24, 2020

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Public Submission

City Clerk's Office

important project.

Thank you.

Daorcey Le Bray



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Natalie

* Last name Sit

Email natalie.sit@gmail.com

Phone

* Subject Please support the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am a born and raised Calgarian. Transit in Calgary has always been an important part of my life in this city. I can still remember using Fish Creek Station when it first opened, and I celebrated every southern extension of the Red Line. When I first become involved in politics to help make our city better, it was actions to improve public transit that most inspired me.

The promise of the Green Line is, therefore, close to my heart. I hope that the committee can unanimously support the latest alignment update. I am particularly happy with the underground alignment through the Beltline which is now my home and the community in which I am raising my young daughter.

While public transit has been important to me over these past decades, I realize that my advocacy is now most important for her. I will certainly take my family on the Green Line on the first day it opens, but it will be my daughter and her generation that will use it every day as a critical part of their modern city. It will be an intrinsic part of their lives, and it will be a part of the modern Calgary that draws the world as a place to live, work, and play.

Thank you for your service to the citizens of Calgary, and thank you for your continued support of this important project. Our support for the Green Line is support for future generations of Calgarians.

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Unrestricted

May 24, 2020

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Public Submission

City Clerk's Office

Sincerely,

Natalie Sit



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Sean

* Last name Sabraw

Email sabraw.s@hotmail.ca

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I urge council to support moving forward with the green line into north Calgary. This is an important part of getting Calgarians around in the most climate friendly way and will serve many of those who need it the most.

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Becky

* Last name M

Email

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The implementation of the green line is critical to our growth as a city. Calgary currently lacks a robust transit system, resulting in reduced use of transit services. The green line will help bridge the current gap, improving the mobility and modernity of our city.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Brent

* Last name Clark

Email brentclark@yahoo.ca

Phone

* Subject Support Green Line Stage 1

Dear Council,

Thank you for the opportunity to express my support for proceeding with the Green Line Stage 1. There is no question this is a huge undertaking and, as with any such large-scale project, there will be questions and concerns. While there have been some substantial changes, it appears the project team and members of Council have put substantial effort into understanding the risks and opportunities of the project. As such, I believe that the proposal recognizes our current reality and, at the same time, preserves the project intent in terms of linking Calgarians across the City with an efficient, reliable and accessible transportation option that not only enables travel to and from work, but also facilitates a more connected City by allowing easy use of transit for all types of daily journeys. In doing so, I believe the Green Line will greatly improve mobility and help set the stage for a stronger economy and more resilient City, not to mention directly benefiting business and future development along the corridor.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I do ask Council to pay close attention to the impact of the proposed Bow River Crossing. This will substantially affect the Eau Claire riverfront and Prince's Island Park, an extremely popular public space for Calgarians. It has to be done right and to the highest standard to minimize any adverse outcomes. It also has to preserve high quality east-west connectivity along the Bow River Pathway. This is key active mode transportation and recreation corridor and opportunities to continue the separation of bicycle and pedestrian pathways, as at West Eau Claire and Riverwalk, should be secured in

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May 24, 2020

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Public Submission

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conjunction with this project. I also ask you to please ensure the proposed pathway along the bridge remains in the project scope as this will greatly enhance active travel connections.

Thank you.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Chandra

* Last name Thomas

Email

Phone (403)276-8547

* Subject Letter of support for at grade route on Centre St N and 9 Ave N station

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am fully in support of the Green Line running at grade on Centre St N. I am a resident of Crescent Heights and look forward to being able to walk a couple of block to access the Green Line. For me, the at grade configuration has always been my preferred route. I have been a frequent user of Calgary Transit for more than 40 years and look forward to a transit system that is focussed on connecting residents of Calgary to all parts of the city rather than just downtown.

The Green Line was moved from the Nose Creek route to Centre St N with a vision that the Green Line would connect and revitalize the communities along the route. It is to be so much more than a means to shuttle people to and from downtown. The uncertainty of the route and the timing has led to significant decline along Centre St N and the Green Line needs to move forward now, as further delays will exacerbate this situation.

An at grade route along Centre St N and a 9th Avenue station will be a welcome improvement. The current state of Centre St N is that it serves to move tens of thousands of fast moving vehicles past our community to and from downtown while diminishing the quality of life for residents. The vehicular traffic bisects the community making it difficult to cross Centre St. The large volume of traffic is dangerous, loud and belches exhaust into our community. An at grade train with a slowing of the speed limit to 30 or 40 km per hour will result in a more comfortable and enjoyable experience on and crossing Centre St N. The lower speeds will allow for individuals travelling through Crescent Heights to see and stop in the community, contributing to the vibrancy and revitalization of the neighbourhood. Few vehicles park on Centre St N currently so the

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Public Submission

City Clerk's Office

loss of parking with this route configuration should not have significant impact and a future where most people come to the community by the Green Line is an exciting one to imagine.

There are two conditions that I think are very important to address. The density of development around the 9th Ave N station needs to be clear. The character of this part of Crescent Heights needs to be maintained. Building heights should be a maximum of 6 stories on Centre St N near the 9 Ave N station. Additionally, it is important that the train and vehicular traffic be slowed and the maximum speed be 30-40 km per hour.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Tiffany

* Last name Whitnack

Email twhitnack@shaw.ca

Phone

* Subject Calgary Chinatown Community Association - Green Line Comments

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

In summary:

- The minimal risk, minimal impact, employment-providing south portion of the Green Line is strongly supported by the Chinatown Community Association.
- The underground 2nd Street segment from 7th Ave SW to 2nd Ave SW, with covered trench station at the Eau Claire Market site, if done right, is acceptable as a downtown terminus.
- The bridge over Prince's Island Park, the Wetlands, and Riverwalk is viewed as an expensive approach, at this time, to providing rapid transit a short distance to 16 Ave N on Centre St. N and is not supported by the community.



Calgary Chinatown Community Association

卡加利華埠街坊會

May 24, 2020

Green Line Technical Committee Chair and Members of Calgary City Council
800 MacLeod Trail South
P.O. Box 2100, Station
Calgary, AB T2P 2M5

Attn.: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Neheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee Member
Other Members of Calgary City Council

Re.: Green Line LRT Updated Alignment Feedback

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment will have major effects, both good and bad, on the Chinatown community. We rely heavily on the traffic from Centre Street to bring residents, employers, employees and visitors into and out of the heart of our community. The recommended Green Line alignment in Calgary's downtown is on 2nd Street SW, along the west edge of the Chinatown community and within clear sight-line view to the entrance of the iconic Chinese Cultural Centre, a major community hub. Chinatown's north border is the Bow River, where the Green Line's proposed bridge will have an irreversible impact.

The Calgary Chinatown Community Association is vitally interested in supporting development that enhances quality of life in the inner city for residents, workers, tourists, and fellow Calgarians who seek enjoyment near the Bow River. We understand that the new LRT line can bring a greater number of visitors to our shops and restaurants and provides an ease of mobility for our residents. We also realize, that with the reduction in occupancy of downtown offices, revitalization of the city centre may depend more than ever on the riverbank communities which draw people to live, to work, to experience the outdoors, to enjoy leisure, and to improve their quality of life.

Throughout the development of the Green Line LTR planning and engagement process we have remained engaged and sought to find a balance for the varying needs within our community as well as the needs for the city as a whole. There are a number of concerns that the Chinatown residents recited with regards to the Green Line realignment to a bridge and above ground station at 2nd Avenue. There are concerns for pedestrian safety, especially for our Seniors, that a street level track pose. The community is also very sensitive to the additional exposure to crime that may be presented with the new alignment. Worries have also been raised for mental health related issues associated with train noise for nearby residential buildings and adjacent recreational parks and pathway areas.



Calgary Chinatown Community Association

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At the May 12, 2020 Green Line Update Presentation, we were shown new designs, including the movement of the Portal to the north and the station incorporated under the future Harvard redevelopment of the Eau Claire Market site, allowing 2nd street to continue to have 2-way traffic. With these changes several community concerns have been addressed and we are grateful for that.

However, we have always remained steadfast in our belief that the newly proposed bridge over the Bow River was not something that we could support. A broad spectrum of Chinatown community stakeholders, consulted by the Green Line Team in December 2019, were unanimous in their opposition to an LRT bridge over the Bow River. The Community Association recently confirmed the view of Chinatown community stakeholders, when Board members (residents) indicated that they continue to oppose a bridge over the Bow River, and that an underground alignment in the downtown is preferred to preserve our natural resources and landscape for future generations. Our longstanding foremost concern, the connection to Centre St. N being a bridge rather than an under-river tunnel (approved in the extensive 2017 engagement) seems little recognized.

The forever impact of the bridge on the city centre can be avoided if the river crossing is delayed until a tunnel under the river and a proper underground segment of the line on Centre Street North can be funded.

In summary:

- The minimal risk, minimal impact, employment-providing south portion of the Green Line is strongly supported by the Chinatown Community Association.
- The underground 2nd Street segment from 7th Ave SW to 2nd Ave SW, with covered trench station at the Eau Claire Market site, if done right, is acceptable as a downtown terminus.
- The bridge over Prince's Island Park, the Wetlands, and Riverwalk is viewed as an expensive approach, at this time, to providing rapid transit a short distance to 16 Ave N on Centre St. N and is not supported by the community.

Respectfully Submitted,

Calgary Chinatown Community Association



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jeff

* Last name Binks

Email jeff@lrtonthegreen.ca

Phone

* Subject Green Line Committee Submission

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please find attached the LRT on the Green Foundation's submission for the June 1 Green Line Committee Meeting

May 23, 2020

Calgary City Council
The City of Calgary
Office of the Councillors (8001)
P.O. Box 2100, Station M
Calgary, AB, Canada T2P 2M5

Re: Green Line LRT Stage 1 Recommendations

Dear Councillors,

Since the spring of 2014, the LRT on the Green Foundation has involved itself in every aspect of the Green Line LRT project. Our volunteers have blitzed bus stops to hear from transit users, spoken to Calgarians across our city, organized stakeholder conferences, attended community functions as well as City of Calgary engagement events and participated at both Green Line and T&T committees. While initially disappointed that the original 2017 alignment plan could not move forward, the Foundation believes that the revised Green Line Stage 1 plan offers the best balance between Calgarians' desires for Green Line and the need to build within the existing funding envelope. We urge Council to approve the plan.

In the spring of 2017 Calgarians were presented with a plan to build LRT from 16th Ave N to Shepard station. In comparison to the original Stage 1 it's important to note that the updated plan not only accomplishes the exact same goal, it accomplishes more. This is not just a plan for stage 1, this is Stage 1 Plus. A new station at 9th Ave has now been added, a new multi-use pathway crossing over the Bow River has now been added, public realm improvements to Centre Street have now been added, integration of the 2nd St SW station with Eau Claire market has now been added, improvements to the BRT corridor north of 16th Ave N have now been added and the accessibility and experience for transit users has now been improved with stations located just beneath the surface, not seven stories underground. Yes it may look a bit different, but the updated Stage 1 should be viewed as a story of positive additions, not negative subtractions.



LRT on the Green

While the current crisis has led some to view Calgary's economic future through a negative lens, a look back to the flood of 2013 demonstrates that Calgary is resilient when challenged by adversity. The LRT on the Green Foundation believes that over the long term of Green Line Stage 1's construction timeframe our city's economy will bounce back. This is supported by the Royal Bank of Canada's May 2020 provincial economic forecast that shows Alberta returning to GDP growth of +4.6% by 2021.

In the short term there is not a shadow of doubt that Calgary needs the economic benefits a \$4.9 billion investment and 20,000 jobs will bring to our city. With funding for Stage 1 already secured, these jobs are entirely within the power of Council to create through an approval of Stage 1 and represent an incredible return on investment given the City of Calgary's yearly contribution to Green Line construction is just under 2% of its annual budget.

With that eye to the future, the LRT on the Green Foundation is asking Council to take additional steps beyond approving Stage 1 to help address a gap in policy that has existed since 2017. For three years Calgarians living and working in communities outside of the Stage 1 boundaries have been waiting to learn the next direction Green Line will take once Stage 1 construction begins. To expedite this process, the Foundation is encouraging Council to use the 2015 Green Line Staging Report (TT2015-0881) as a template for next steps and asks that Council amend the Administration recommendations to include the following:

- That Council direct Administration to target a Green Line extension north to 96th Ave N and south to McKenzie Towne as the aspirational Stage 2 plan.
- That Administration report back to Council no later than Q4 - 2020 with an updated cost estimate for the aspirational Stage 2 plan that takes into account the lessons learned from Stage 1 including, but not limited to, the level of public realm improvements required for public acceptance of a surface running train along Centre Street.
- That Administration create a package of early works projects for the aspirational Stage 2 plan including, but not limited to, land acquisition as well as identifying opportunities for the creation of transitway segments and grade separation along the Centre Street/Harvest Hills Boulevard corridor and report back to Council with an estimated cost and a list of possible funding sources no later than Q4 - 2020.

LRT on the Green



By adopting these directives Council will:

- ✓ Expedite the resolution of a review that has been under way for 3 years.
- ✓ Send a clear message to Calgarians that there is a commitment to Green Line beyond the current Stage 1 plan.
- ✓ Help structure important decisions for both communities and developers concerning additional density.
- ✓ Set an aspirational Stage 2 plan built around dramatically increasing ridership and lowering operating costs as per the TT2015-0881 report.
- ✓ Position Green Line Stage 2 early works to be eligible for any post-Covid stimulus funding that may become available.
- ✓ Bring further improvements to the north central corridor that will help offset the loss of traffic lanes on Centre Street for the 25% of vehicles that currently cross the Centre Street Bridge daily after beginning their journeys north of Beddington Trail.

Making the decision to move forward with construction of Green Line Stage 1 and the creation of 20,000 much-needed jobs is a win for the Calgary of today. Adopting our proposal for the creation of an aspirational Stage 2 plan and identifying early works projects sets the stage for the Calgary of tomorrow. Council should be applauded for spending the last several years making sure a thorough discussion on Green Line occurred but now is the time for action. Now is the time to begin construction of this massive stimulus project, deliver jobs and make a giant leap forward towards improving how Calgarians access the places they live, work and play. As the City of Calgary's motto says; 'Onward'.

Best Regards,



Jeff Binks
President
LRT on the Green Foundation



LRT on the Green



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kyle

* Last name Mitchell

Email kyle.d.mitchell@gmail.com

Phone 2505073080

* Subject As a parent, resident of Crescent Heights, and citizen, I support the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the Green Line.
As a parent, it's important to me that my kids have access to transportation options as they grow up. I am so excited about the possibility of being able to get to the Beltline, Inglewood, even visit my grandparents in Seton easily on transit with my kids, and later for them to be able to get themselves places independently as they grow up. I certainly hope that the Green Line becomes a reality before they grow up and move out.
As a resident of Crescent Heights, I see this project as our only opportunity to improve Centre Street. Right now it's a traffic sewer. It's loud, it's scary, it's polluted, the sidewalks are cracked, and the businesses are suffering from a lack of pedestrian activity. This is our one chance to make it a beautiful, vibrant street. We can't wait any longer.
As a citizen, I value social equity and sustainability, and that means prioritizing healthy, low-cost, transportation options such as walking, biking, and transit.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Karla

* Last name Danan

Email kmvdanan@gmail.com

Phone

* Subject Building the Green Line is an issue of anti-racism

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Public transit is disproportionately relied upon by those who are any mix of racialized, low-income, and/or newcomer, who must contend with long wait times and unreliable service. They have no other choice but to wait for infrequent service to get to work and home safely. As made even more evident with the COVID-19 pandemic, many of these workers are commuting to and from essential workplaces to provide care and maintenance for the general population. Moving forward on the Green Line is vital to improving the livelihoods of Calgary's most vulnerable. To further delay this critical project is for City Council to turn its back on the racialized, low-income, and newcomer populations of Calgary.

As someone who does not drive and cannot afford a car, Calgary is bordering on unlivable with the current state of its public transit. I am also a young, educated, racialized person who was born and raised in Calgary, only to choose to leave because of the city's disappointing transit system. To delay the Green Line would deepen Calgary's brain drain problem. There has been ample research and investment to build a Green Line that will start to address Calgary Transit's shortcomings. It is critical to move this work forward now and prevent any further delay of the Green Line.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Vincent

* Last name Terstappen

Email vinceters@outlook.com

Phone

* Subject Support for Green Line updated Stage 1 alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Thank you for the opportunity to provide feedback on the updated Green Line Stage 1 alignment. I am writing to express my support for the updated alignment and for the Green Line project.

First and foremost, I would like to thank the project team, the City of Calgary, Mayor, and Council for their hard work on the Green Line and this realignment. Your expertise, attention to detail, level of engagement, thoughtful consideration of feedback, and comprehensive planning are evident. For me, this has instilled a great deal of trust in the project team and the City to deliver this project.

I was born and raised in Calgary, completed my undergraduate studies at the University of Calgary, and recently moved back to the city after several years away. The changes that I noticed after this time away were inspiring! The East Village, bike lanes, rapid transit bus lines, and new communities - it has been fun to rediscover and reconnect with the city while starting a family here. To me, the Green Line fits into this evolution and is another wonderful step for Calgary as a vibrant, connected, growing city. The updated Green Line alignment seems very thoughtful, the engagement has been thorough, and proceeding with the Green Line feels to me like the right thing to do.

This project excites me as a Calgarian with a young family who is eager to see how this project will connect the city. Changes to Calgary's transportation system - notably bike lanes and bike paths throughout the southwest as well as the Red Line, bus lines,

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Unrestricted

May 24, 2020

10:37:14 PM



Public Submission

City Clerk's Office

and BRT - have enabled my family to choose multiple ways to get to work and other activities while owning and maintaining just one car. This connectedness has greatly enhanced my quality of life, my health, and my connection to the city. To me, the Green Line extends this opportunity to so many more Calgarians! This is one of the main reasons that I support the Green Line.

I would also like to thank the Green Line team for the opportunity to learn about the new alignment via the online Microsoft Teams session last week. It was very informative, highlighted the team's knowledge and thoughtfulness, and it was greatly appreciated to have the opportunity to join an engagement session virtually.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jennifer

* Last name Black

Email jennifer.n.black@gmail.com

Phone 4039924038

* Subject I support the Green Line alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As someone who cares deeply about the power of public transportation to better individuals, communities, and cities, I chose the community of Crescent Heights for one reason: a dot on map that hailed the arrival of a Green Line station at 9th Avenue. I'm so excited to see this project now moving forward. Now that I have two kids in tow, public transit is an important part of how we get around, and it's important to me that my kids have access to transportation options as they grow up. I am so excited about the possibility of them to be able to get themselves places independently as they get older. I think the Green Line is an investment in Calgary's future. Please approve the Green Line alignment and invest in Calgary's future. Thank you to the Green Line team for their incredible work on this project.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name John

* Last name Thomson

Email john@thomsonfamily.ca

Phone 403-245-4547

* Subject Green Line Submission

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please refer to the attached letter addressed to the entire City of Calgary Council.

John Thomson, CA, CPA
825 Hillcrest Avenue SW
Calgary, Alberta T2T 0Y8

May 24, 2020

***Letter to the Mayor and all Councillors of the City of Calgary
Respecting the Upcoming Deliberations on the Proposed Green Line Transit
Project***

On April 30, 2020, an Ad Hoc Committee of concerned citizens formally made a submission to the City of Calgary concerning the Green Line transit project. The essence of their submission is:

“Council needs to update its assumptions and make other critical choices to de-risk the Green Line in order to head off a potential financial disaster. “

I fully support all of the statements made in the submission. The Sensitive Alternative Submission proposes a number of specific steps that Council can endorse to remove some of the financial risk with this enormous project. Furthermore, the Ad Hoc Committee requests that Council review its assumptions for the entire project – this makes infinite sense given the economic challenges that Calgary and Alberta face in the current environment.

In my opinion, these economic challenges will persist and our Calgary community will look very different in the coming years than what was forecasted only a few short years ago. Calgary has historically experienced a number of boom-bust cycles but has emerged with both economic and population growth – I have witnessed several such cycles during the 42 years I have called Calgary home. The current economic malaise started in late 2014 with the dramatic fall in energy prices and has since been exacerbated by federal & provincial government policies hostile to the energy industry and most recently by the collapse of energy prices, the COVID-19 epidemic, and the global recession of early 2020. Since 2015, Calgary’s population has grown by 55,000 to 1,285,000 (page 95 of the 2019 Annual report) which in the historical context that I have witnessed is hardly robust. The Ad Hoc Committee’s analysis of the risks in the current environment are clear and the presumption of an ever-expanding population growth in Calgary needs to be reassessed.

Transit is a heavily subsidized public service in Calgary. In the fiscal year just ended December 31, 2019, Transit generated \$181 million of revenues (page 84 of the 2019 Annual Report) while incurring \$477 million of costs (excluding amortization – page 14 of the 2019 Annual Report) – a 62% deficit. And this was only on the operating side with significant capital expenditures incurred to maintain and expand the system. Such costs

are not identifiable from the 2019 Annual Report but clearly must have been significant given the expansion of the MAX Bus Rapid Transit lines and the continued pursuit of the Green Line Project in addition to the normal on-going renewal capital expenditures.

In my opinion, Transit has a bias much like a funnel – the mouth (being the ever-expanding developer fueled communities on the periphery) feeding into the neck (being Downtown). From a historical perspective, the overall long-term design of the Transit system is admirable – LRT, MAX Bus Rapid Transit, and regular bus service – as it criss crosses the entire city and feeds the Downtown as the hub of the entire system. The AD Hoc Committee's submission pointedly referred to many realities of today's environment of Spring 2020 and in particular the 25%+ vacancy of Downtown commercial office space, the high likelihood of COVID-19 resulting in a dramatic increase of work from home employees with the resultant decrease in Transit demand, and the expected prolonged period of global economic recovery. The Green Line as proposed is a very expensive expansion of Transit services and may end up being a ***"...colossally expensive White Elephant"***.

I urge City Council to seriously consider the proposals of the Ad Hoc Committee both as to de-risking the elements of Segment 1 of the Green Line design and furthermore the entire basis of the Green Line expansion given historical assumptions on population growth and future Transit demands in the City of Calgary. Perhaps the Green Line Project should be postponed indefinitely or cancelled outright. To quote the Ad Hoc Committee's final statement:

"To reiterate, Calgary will emerge as a better and stronger city over the long run. But this can only happen if we adapt to new realities and avoid irreversible mistakes in the meantime."

It is time for Calgary's City Council to make the right decisions to de-risk the Green Line.

Yours truly,

[submitted by email]

John Thomson, CA, CPA

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ronald

* Last name Lee

Email leernald82@gmail.com

Phone 403-860-5081

* Subject Response to the Greenline LRT updated alignment May 12, 2020

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I would like my report to be included in response to the Greenline realignment to be included in the public inquiry at the council meeting record for May 25, 2020.

FROM:

Ronald Lee (Director) Calgary Lees" Benevolent Association Calgary , Alberta <PHONE # 403-860-5081

2020 May 25

Green Line Technical Committee and Members of Calgary City Council Attention: Councillor Shane Keating, GL Technical Committee Chair His Worship, Mayor Naheed Nenshi Druh Farrell WARD COUNCILLOR> Other Members of Calgary City Council 800 MacLeod Trail South P.O. Box 2100, Station Calgary Alberta, T2P 2M5 Submitted by E-Mail to Office of the City Clerk

publicsubmissions@calgary.ca

RESPONSE TO THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020) Your Worship and Members of Calgary City Council,

In 2017, Calgary City Council approved the Green Line LRT alignment with a deep tunnel under 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This alignment was largely accepted by Calgarians after 2 years of quality and very satisfying public engagement. This alignment brought the promise to:

- preserve the Riverwalk pathway, Prince's Island Park and the wetlands,
- protect the birds, fishes and other wildlife,
- be the city-shaping initiative which would revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities,
- be the legacy LRT line serving the long-standing needs of Calgary's growing north-central and southeast suburban communities, and
- be built within budget.

This is a promise that has not been forgotten and one which should not be broken.

Since then, it has become apparent that this Green Line LRT Alignment cannot be built within the \$4.9B allocation of funds because of the deep tunnel risks in the 2nd Street SW downtown segment and under the Prince's Island and Bow River crossing. It is also understood that recent cost estimates show this approach costing at least 10% higher than the \$4.9B approved funding limit. We appreciate City Council's wisdom to direct the Green Line Project Team to revisit the build and alignment approach and bring back the reasonable legacy alternative.

Calgarians are still holding The City to these promises.

Our Concerns

Earlier this year, the Green Line Project Team presented and hosted several public engagement sessions where they outlined alternative ideas. Several Calgarians participated in these sessions to provide feedback and consequently, the Green Line Project Team revised and presented their updated Green Line LRT alignment on May 12th. While we are supportive of the SE segment to the Downtown, we find the alignment and the build approach north of the downtown core unacceptable. Specifically,

- a LRT bridge over Prince's Island Park and the Bow River breaks the promise to preserve the park and protect birds and fishes;
- the LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
- dedicating the 2 center lanes of the Centre Street bridge for bus-rapid-transit (BRT) will create traffic havoc (i.e. congestion on the bridge and left / right turns on the Avenue roadways) and impact pedestrian safety at street crossings (i.e. Chinatown's 2500 population is 40% seniors) in the Chinatown community;
- placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative as it would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles, and more
- the Green Line LRT Project speaks in generalities of a better urban realm for Crescent Heights and Chinatown with no actual design and commitment to follow-through; and
- the proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.

Our Alternative Approach to a Legacy Green Line LRT

To keep many of the Green Line Project's promise as best as possible, we believe the Green Line LRT alignment and project should be modified whereby:

- The SE segment from Sheppard to Elbow River (Inglewood / Ramsay) is approved immediately for design / build and utilizes this capacity to spur the economy, create jobs, and provide much needed LRT transit ridership to downtown as soon as possible;
- The Elbow to the Beltline segment be approved only after The City provides full and transparent understanding of the costs and benefits of the current 11th Avenue underground alignment vs. the 2017 12th Ave / 10th Avenue South alignment;
- The Beltline to Eau Claire segment under 2nd Street SW be approved only 'with absolute promise' that there will never be a bridge over Prince's Island and the Bow River, thus protecting the park, the river, the Riverwalk Pathway, and the River Run condominiums in Eau Claire;
- The Calgary North segment from 160 Ave North to downtown be built as 'expanded and enhanced' Bus-Rapid-Transit (BRT) system including

additional BRT vehicle capacity and expanded running schedule to match the growing demands of communities north of the Bow River; ○ operating Green Line using 'low-cost, low-carbon emission' natural gas buses; ○ enhanced intersection signaling system for priority BRT crossing; ○ developing BRT-based Transit-Oriented Development (TOD) stations that encourages small business, Mainstreet community development; ○ rebuilding the 16th Avenue / Centre Street intersection for smooth, efficient, and safe transit, vehicle and cyclists crossing; ○ incorporating 'Mainstreet' urban development with a relaxing 'public realm'

in Crescent Heights and Chinatown including 40 kph traffic speed limitation, pedestrian safety, wide sidewalks, off-street parking, and restricted residential street access for these communities and Tuxedo Park; and o establishing a revised North-Central BRT downtown route for a better Red, Blue and Green Line LRT inter-connection and engagement with a new Eau Claire market and the 'Tomorrow's Chinatown' local area plan.

All of these modifications certainly cannot be achieved within \$4.9B, but they represent the best way to maintain a legacy mass transit system which can be achieved in phases within the economic and fiscal capacity of all levels of government. Given a post-COVID economic climate, the Green Line LRT must only proceed if it does not become a financial burden to Calgary taxpayers and transit ridership.

Please ensure that Council deliberates these suggestions in detail and gives Administration time to bring forward the right answers. We cannot afford to and do not want less than an optimum solution within the long term economic capacity to cover both the capital and operating costs. A vote to approve each segment individually would be most appropriate and delaying a vote on the unknown or unanswered is absolutely necessary.

We appreciate the need to create jobs and add to the economy as the cost of construction and capital equipment is low, but we must build the right alignment and approach in the right way.

As a former member of ACCT who opposed the spot rezoning of Chinatown, I find council's actions reprehensible .

REGARDS,

RONALD LEE



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Bethany

* Last name Whittal

Email beth.whittal@gmail.com

Phone

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Good evening,

I am writing to you today to express my enthusiastic support for the green line c-train. I have full faith that the council will implement creative solutions to address environmental impacts, budgeting concerns, and accessibility considerations.

I urge the council to demonstrate commitment to this project. The green line is a worthy investment of our resources, expertise and cooperation.

Personally, I have chosen to be a public transit user to because I am strong advocate of accessible public transportation. The green line is a more inclusive approach to mobility for Calgarians. It also supports so many well-being outcomes that Calgarians value. Unfortunately, a pattern of decision-making that prioritizes drivers will only continue to marginalize low-income families, people with disabilities, and new Canadians. I ask that you consider the vast diversity of Calgarians who need accessible public transit to go to work, school and explore our wonderful city.

The small, albeit noisy group that is working to delay, and end this project are unable to see the proven economic benefits and quality of life achieved through accessible transportation. They do not speak for me or many of the people I know and work with.

Thank you,
Bethany

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May 24, 2020

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* First name Josephine

* Last name Tsu

Email josephinetsu@hotmail.com

Phone

* Subject Greenline LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I don't agree to build Greenline LRT at this time because tax burden to Citizen!
1) Due to Covit 19,millions lay off around the world that have affected whole world economy, demand for oil at all time low, encountered negative oil price never happened in history!
(2) Our local economy is based on Oil & Energy sector that have no recovery time line! Many oil company had left Calgary, many more business will be closing in the coming months, will see more vacancy in downtown area.
This green line from Downtown and stopped at 16 Ave. N.W. will have how many rider a day to justify spending 2-3+ billion dollars to build this route causing tax burden for citizen!

(4)Please consider to STOP building this route until recovery of economy and extension North of 16th Ave to Sandstone area is approved!
Thanks You

ISC:

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Unrestricted

May 24, 2020

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Tamara

* Last name Lee

Email microbe.picolina@gmail.com

Phone

* Subject Build the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Build the Green Line to support the Calgary of the future. The current City Council must not allow a small, wealthy cabal with self-centred interests, PR resources, but no vision for the city and citizens as a whole to dictate the development of Calgary for their own narrow benefit. Calgary was and is built on the aspirations of all Calgarians. All of us want to get around the city as efficiently and cost-effectively as possible, and have multiple, alternative mobility choices. It is imperative that Council commit to building the Green Line as critical urban infrastructure. Build it now, and build it well.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Katie

* Last name Levinson

Email katie.amory@gmail.com

Phone

* Subject Build the GreenLine now

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I'm a university student and use the LRT all the time to quickly get to my classes. The Green Line will help me more easily travel all over Calgary, and it will help many of my fellow students who can't afford a car or the parking fees to get to university. Please build the Green Line now.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Caleb

* Last name Leung

Email cyclelung@gmail.com

Phone

* Subject Green line development north of down town

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am a resident of Crescent Heights and I also operate a small business in the neighborhood. I would just like to voice out my views of the Green line and my uneducated suggestions.

I think the budget does not allow this current alignment to be useful and the return of investment is not worthy of the risks taken to build this. The alignment is somehow down south and a really short line up to the north (16aveN). Which I think it benefits very few people who actually commute daily from the communities north of 16. Not only will it disrupt the crescent Heights residents and businesses for many years of constructions, it will serve little practical purposes after it is built since the North has a very efficient and effective bus routes.

My suggestion: Use all the budget to build the south line all the way to Seton. Leave the North alone until there is money to build it right.

Thanks for you time.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jonathan

* Last name McCaslin

Email jon_mccaslin@hotmail.com

Phone

* Subject Green Line - Stage One Alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I strongly support the Green Line - Stage One Alignment Plan and the inclusion of an above ground station at 9th Avenue NW and Centre Street.

Jonathan McCaslin
211 – 8th Avenue NE
Calgary, AB
T2E 0P8

May 25, 2020

To Whom It May Concern:

My name is Jonathan McCaslin and since 2004 I have been a resident of Crescent Heights. I wish to express my support for the City of Calgary's plans for the Green Line – Stage One Alignment and for the project as a whole.

I believe that the Green Line and its proposed extension through Crescent Heights represents a positive opportunity to expand the infrastructure of our city. This is an important investment in the long-term future of our neighbourhood and of the city at large.

As Calgary continues to grow I believe that it is important to invest in a properly funded public transportation system as an efficient means to move people across our ever-growing city and connect our neighbourhoods. It is imperative that all Calgarians, regardless of location, income or social-economic status are able to access all points of our beautiful city in a reasonable manner without relying on the use of an automobile. The Green Line is key to Calgary's future.

The addition of a train station at 9th Avenue NW and Centre Street will connect our neighbourhood in a positive way with the rest of the city. I believe that the Centre Street/Crescent Heights corridor has the potential to be a vibrant pedestrian and business-friendly community. However, due to the high volume of traffic on Centre Street, it is currently not amicable in either regards. The current status quo along Centre Street is unacceptable, unattractive for business development and very dangerous for pedestrians. The Green Line and its route along Centre Street, along with the inclusion of an above ground station at 9th Avenue NW will greatly improve the quality, accessibility and safety of our neighbourhood.

I also believe that the investment in the Green Line (and Calgary's public transportation network at large) will contribute to the reduction of traffic not only in Crescent Heights, but in our city as a whole. Overall, I view the Green Line as an important step towards improving the quality of life for all Calgarians.

If Calgary truly aspires to be a world-class city, attracting (and retaining!) people and business from across Canada and around the world, a properly funded and accessible train line and public transportation system is integral.

I strongly support the Green Line and I support the inclusion of an above-ground station located at 9th Avenue NW and Centre Street.

Sincerely,

Jonathan McCaslin

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Daniel

* Last name Levinson

Email danny@picolina.net

Phone

* Subject I support building the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line is an integral part of Calgary's transportation plan. Building it now will leverage support from the federal government and demonstrate Calgary's commitment both to enhancing the lives of our citizens and to a carbon neutral future. To abandon it will be to abandon our claim to be a 21st century city. I urge you to take the long view and commit to the Green Line.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Terry
* Last name	Wong
Email	ed@calgarychinatown.com
Phone	4039187298
* Subject	Green Line Technical Committee Meeting - Written Submission (May 25); Committee Date (June 1st)
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	On behalf of the Chinatown Business Improvement Area, please find enclosed a formal letter of response for the Green Line Technical Meeting - June 1st



Chinatown

華埠促進會 **BIA**

Business Improvement Area

Suite 208, 328 Centre Street SE, Calgary, AB, T2G 4X6



CALGARY
CHINATOWN

May 25, 2020

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

The City of Calgary
800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Attention: **Green Line Technical Committee**
His Worship Mayor Nenshi and City Council

UPDATED GREEN LINE LRT ALIGNMENT

Your Worship and Members of City Council

Doing the Right Thing and Doing Things Right

Today, Calgarians are wondering if, and when, this City will ever return to its grand economic form that it enjoyed before the oil and gas market crash and the onset of COVID-19. In the next couple of weeks, they are going to wonder if they will again be afflicted by a threat to their prosperity and their quality of life. This upcoming threat will be self-inflicted by the decision of City Council on June 15th.

On June 1st, the Green Line Technical Committee will receive recommendations from City Administration regarding the 'Updated Green Line LRT Alignment'. Approval of these recommendations will drive Calgary towards 5-7 years of construction and community building.

Most Calgarians believe that the Green Line LRT Project will bring much-needed economic stimulus and jobs to the local economy and no one doubts the benefits of the initiative. Many also believe that this is a city-shaping initiative that can build communities and move people to places. However, if the wrong alignment and approach are approved, then Calgary – particularly downtown and north central – will suffer irreparable damage forever.

The critical decisions to be made is to, 'Do the Right Things' and to 'Do Things Right'.

Chinatown BIA's Green Line LRT Engagement

The Chinatown BIA support the Green Line LRT Project vision and the principles accepted by City Council. Unfortunately, or fortunately, we believe there are different alignments and different build approaches to realize this vision:

'A city-shaping transit service that improves mobility in communities north and southeast Calgary, connecting people and places and enhancing the quality of life in the city.'

It is the openness to which we consider and evaluate the divergent opinions that will lead us to the right alignment and approach and bring benefit to all communities and businesses, our residents and taxpayers, and the environment.

The Chinatown BIA has attended most, if not all, of the public engagement sessions. They have met privately with the Green Line Project Team to better understand the proposed alignment, to share ideas, and to facilitate broader public engagement.

The Chinatown BIA has also hosted several Chinatown community, business ratepayer and resident discussion forums throughout 2019 and 2020 to listen, share, understand and formulate advocacy positions on how the Green Line LRT could best serve the Chinatown community and Calgarians. Upon request, we have also assisted ratepayers, residents, and community groups in assessing the updated Green Line LRT proposal, establishing alternatives, and reaching their understanding and position on alignment and approach. Virtually all of the community advocates and residents are of the same mind:

We believe democracy and right decisions starts with being informed, being heard, being understood, and being thoughtful, objective, rational, fact-based and skilled at arriving at the right position.

The BIA has also hosted meetings with neighboring community associations (e.g. Eau Claire and Crescent Heights) and business improvement areas (e.g. Eau Crescent Heights, Victoria Park, Calgary Downtown Association) where we served as meeting hosts, meeting facilitators, group moderators, and on occasion as participants in sharing our understandings and perspectives.

Finally, we have engaged regularly with NAIOP and BOMA (i.e. representatives of land developers, building owners, and building operators), the Ad-Hoc Committee (i.e. informal concerned citizens group), and private land owner interests before formulating our position.

Chinatown BIA Believes in the Green Line LRT Project

The Chinatown BIA believe that the Green Line LRT Project

- **must be built as a legacy**
 - Do the Right Things and Do Things Right because you only get one expensive chance;
- **is about moving people from their place of origin to their place of destination**
 - To maximize ridership and deliver a very satisfying trip, you must provide transit service close to people's home as you possibly can; the travel time must be comparable or shorter than other transportation methods.
- **is a city-shaping initiative**
 - This project must enhance and grow with Calgary and Calgarians. The Green Line LRT cannot deteriorate, take away, or destroy property, business prosperity, and lives of Calgarians;
- **is built to support communities, residents, businesses and property owners**
 - This project must sustain and improve Calgarian's quality of life, the value of what they own (e.g. property, businesses, etc.), and the opportunities for education, business, and social gathering;
- **must preserve Prince's Island Park including the wetlands and to protect the birds, fish and wildlife**
 - This was the promise of the 2017 Green Line LRT Alignment. Calgarians continue to enjoy the natural beauty of the park and river as evident by the users during this COVID-19 social distancing period;
- **must be built within available \$4.9B funds or less.**
 - Calgarians have expressed demands that the Green Line LRT be built for \$4.9B or less, not a dime more. Secondly, the build must be in keeping with the legacy promised. If the updated alignment is a compromise of the legacy just to stay within the \$4.9B budget, then it's better to build only the parts that we can afford and leave the rest until later; we cannot afford a compromise.

The Chinatown BIA believes that the updated Green Line LRT alignment falls short of meeting desired expectations for a variety of reasons.

Chinatown Visitor Origin and Destinations

In 2015, a survey was conducted with visitors to a summertime Chinatown festival and

- 49.13% of respondents identified car/taxi as their frequent or regular mode of visiting Chinatown;
- 37.41% walked;
- 29.14% travel by bus;
- 11.82% ride their bicycles

Additionally,


- 73.91% of respondents identified themselves as living over 20 blocks away from Chinatown,
- 14.29% between 5-20 blocks,
- 11.18% live within 5 blocks.

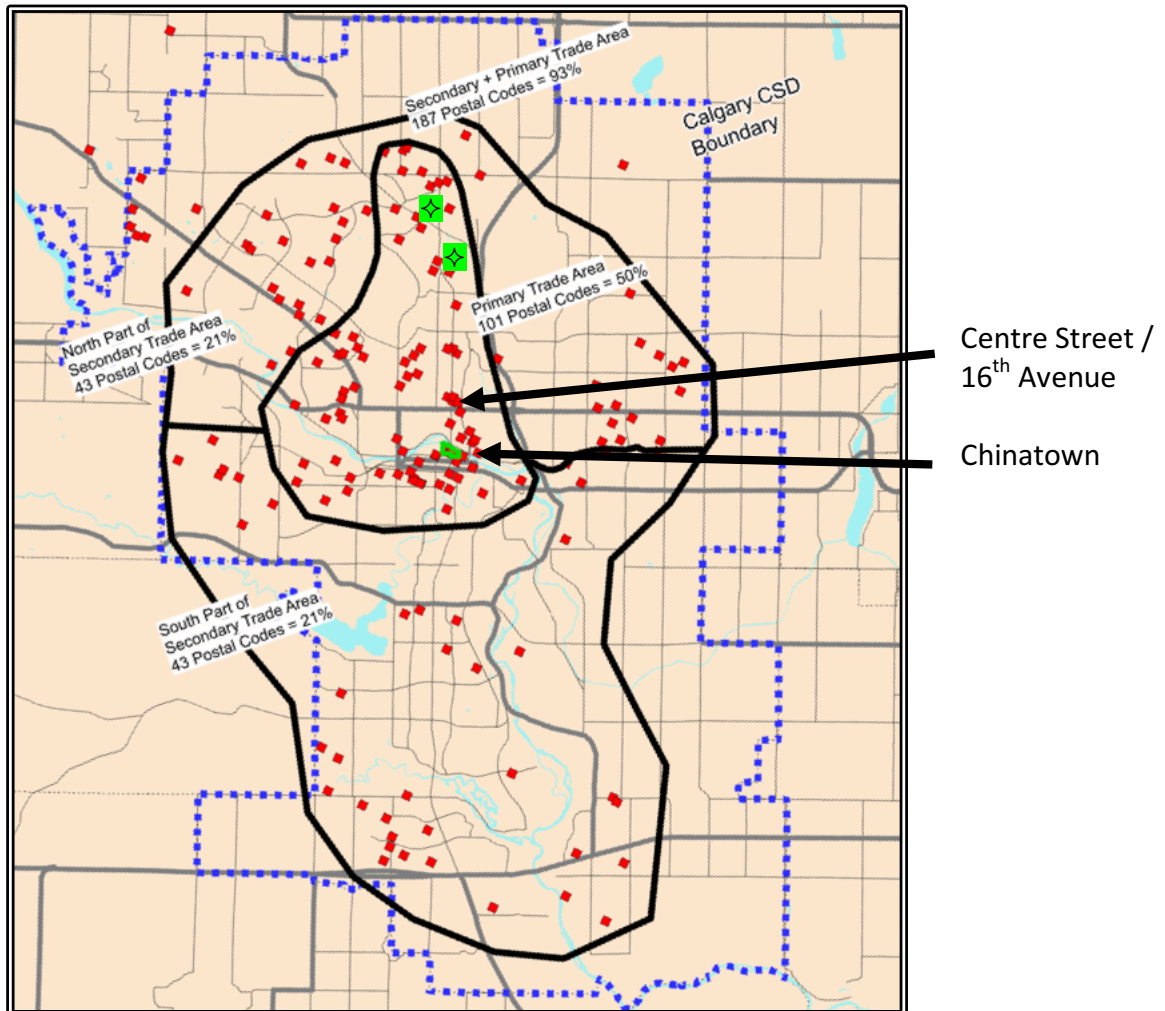
This shows that Chinatown is highly dependent on visitors travelling greater than 20 blocks away (74%) and nearly 50% travel by personal vehicle and 30% by bus.

Centre Street Alignment – Negative Traffic Implications

The proposed Centre Street alignment to 16th Avenue proposes the removal of 2 center-lanes to accommodate BRT (downtown to 16th Avenue North) and LRT (5th Avenue to 16th Avenue North).

Reducing north and south bound lanes to one lane each way has significant commuter effects to Chinatown and downtown where 25,000 vehicles a day travel. City estimates see Centre Street vehicle traffic reduced from 25,000 vehicle daily to less than half. They suspect that many of these vehicles will divert to 10th St NW, Edmonton Trail NE, and Deerfoot Trail. Given these choices, Edmonton Trail is the only diverted route likely to be used but it is not desirable especially if you travel from west of Centre Street. Communities of Tuxedo Park have already expressed great reservations of vehicles cutting through their communities to reach Edmonton Trail.

Chinatown relies heavily on visiting commuters who come from Beddington, Huntington, Thorncliffe Greenview, etc. which are along Centre Street. This is illustrated by the  symbol on the map in the following page. These communities and visitors are largely along the Centre Street alignment.



Centre Street Implications on Businesses

Chinatown and Crescent Heights businesses relies heavily on Centre Street North for food supply distribution. Many business merchants on both sides of the Centre Street Bridge have corresponding businesses or supply distribution connections up and down through to and on 16th Avenue N (i.e. BBQ meat delivery, butcher meat delivery, prepared food – dim sum, bakery, etc. delivery, etc.)

- Left turn and finding parking along Centre Street will become increasingly difficult to complete especially from a curb lane crossing 2 LRT/BRT lines and on-coming vehicle traffic.
- Designated left turn intersections will only be slightly effective as these intersections will have east and west bound turns at the convenience of LRT and BRT priority traffic signals.
- Limited loading zone and back lane zone travel will be heavily utilized resulting in increased commercial travel and loading / off-loading parking along Crescent Heights residential roadways.
- A Calgary Parking Authority parkade loading area will not suffice as loading / offloading must be within 25m of business for product safety reasons.

These traffic impediments will deteriorate business efficiencies.

Centre Street Implications on Commuters

Single lane of north or south bound traffic will be consistently congested with

- double the quantity of vehicles on the single lane
- as they queue waiting for people to complete left and right turns,
- as they wait for a stalled vehicle to clear in front of them,

- as they wait for BRT and transit buses to load and offload against the curb and then cross back into the centre lane,
- as they wait for emergency vehicles to address distress situations

Chinatown (and some merchants in Crescent Heights) fear that regular Centre Street commuters will not use the diversion routes or worse, not come to Chinatown in favour of our convenient destinations (i.e. Panorama, Country Hills, NE Calgary, etc.).

Prince's Island Park and the Wetlands

In addition to Prince's Island Park being a gem for Calgarians and visitors, it should be noted that the wetlands are within the Chinatown community. For the community, our residents, and our visitors, the Chinatown BIA strongly believes in preserving the park and the wetlands and protecting the birds, fish and wildlife. A bridge crossing cannot be permitted and this was expressed strongly in 2015-2017 when a bridge option was first contemplated, then rejected.

Studies have shown that it takes time for migratory birds to return to developed areas and its especially difficult if these areas are noisy, contain risks (i.e. electrical lines), and disruptive to their habitat. This is a common technique to keep birds away from oil extraction tailing ponds. The LRT Bridge overhead electrical lines, the whistling of the train, and the squealing of the wheels while deter bird and wildlife from returning.

A fight to preserve and protect the park will resemble the time the Chinese community fought to protect Chinatown along 2nd and 3rd Avenue in the 1960's and 70's when previous City Council officials wanted to build the east-west downtown penetrator to join Memorial Drive to Bow Trail.

Let not history repeat itself again.

Conclusion and Final Position

The Chinatown BIA strongly believes that the Green Line LRT Project should only proceed as follows:

- Separate the Green Line LRT alignment into four initiatives and phases of development:
 - Sheppard to Elbow (Stage 1)
 - **proceed immediately** as this is define and ready
 - this will create local jobs quickly
 - Elbow to Eau Claire (Stage 1)
 - **proceed ONLY to Eau Claire without ever crossing Prince's Island Park and the Bow River**
 - the S-curve bridge can never be built
 - Downtown to Beddington Trail (Stage 1)
 - **Replace the Centre Street Green Line LRT with enhanced transit and BRT network, specifically,**
 - **Increase better level of service and capacity transit system**
 - along Edmonton Trail
 - along 4th Street NW
 - **Implement dual BRT network** in Calgary North
 - a BRT serving downtown to Beddington Trail serving all stops along Centre Street North especially new TOD stations
 - a BRT serving from downtown straight to Beddington Trail and onwards to 160th Avenue N and returning along Centre Street North with stops at new TOD stations
 - Sheppard to Seton (Stage 2)
 - **Design / Build the SE LRT extension to SETON as soon as possible**

- Use remaining funds diverted from the Bow River bridge crossing and Centre Street alignment and train station.
- Commission immediately a Main Street urban corridor / public realm development plan for Tuxedo Park, Crescent Heights and Chinatown as the future of transit can serve as a catalyst for urban renewal and revitalization. Like 17th Ave SE, these communities will either suffer or benefit from transit initiatives done right or wrong.

The Chinatown BIA believes these options will save Chinatown and Crescent Heights, serve commuters across Calgary North Central, be achievable within the \$4.9B budget, and realize significant local job creation including transit operators and maintenance.

Sincerely,



Grace Su,
Chinatown BIA Chair



Terry Wong,
Chinatown BIA Executive Director



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Nicole

* Last name Gapero

Email nicole.gapero@ucalgary.ca

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am in support of the addition of the Green Line in Calgary as it will provide more affordable and efficient commute for those around the city who do not currently have access and are struggling with what Calgary's transit system lacks currently

**Public Submission**

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* First name Eric

* Last name Moore

Email

Phone

* Subject Green Line Committee Meeting 1st june 2020

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I have attached a pdf of my submission to Council for the above meeting which represents the owners of the properties at 506,507,508,509 Lewis Lofts, 240 11 Ave SW Calgary.

To whom it may concern,
Green Line Committee Meeting on June 1, 2020.
City of Calgary.

24 May 2020

This submission is being made on behalf of:
Eric D. Moore and Carma Assel-Moore, 507 Lewis Lofts, 240 11 Ave SW, Calgary.
368869 Alberta Ltd., 509 Lewis Lofts, 240 11 Ave SW, Calgary.
957055 Alberta Ltd., 506 & 508 Lewis Lofts, 240 11 Ave SW, Calgary.

As owners of condominiums in the Lewis Lofts building there are several concerns that we have with the proposed Green Line route and economic feasibility of the plan as a whole. We will list our concerns below.

Current route plan and the effect on Lewis Lofts and its' owners

We have owned in the building for close to 20 years. Our units were bought as investments, either personally, or in the name of our numbered companies. As independent contractors these investments are, in effect, our pension plan. The City of Calgary's continual changes in route, tunnel plan, station locations, and personnel, has led to a rather drawn out affair that has impacted the valuation of the condominiums that comprise the Lewis Lofts. On average our property valuations have decreased between 20-30% since the City announced their initial plan. The continual uncertainty of what the City is going to do has impacted upon any plans we might have had to divest our property portfolio. Units in our building just do not sell any more, unless the seller wants to list way below market value. These statements are made in the light that Calgary is a depressed market, however, the City's actions have just depressed the Lewis Loft values even more. We know this because other properties that we own in the downtown area have not suffered the same level of devaluation as compared to Lewis Lofts.

The building itself does not have a conventional substructure footing, and as such, will be substantially impacted by tunnelling under the building. Our next door neighbour, another circa 1911 building, had its' building structure cracked when a newer 10 storey building was excavated on its' east side.

Our units are on the 5th floor of the Lewis Lofts building, and when the CP Rail trains come to a halt between 9th and 10th Ave SW our building literally shakes. Why does the City think tunnelling under a 1911 building, with no real footings, will not cause tremendous damage to the structure? The City might as well just plough the building down before it starts tunnelling, it would be much safer.

Feasibility of the Green Line

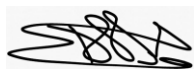
Previous submissions to Council via the Green Line Committee have already suggested that tunnelling under the Bow River is not recommended, however, tunnelling down 2nd Street SW, from a geological point of view, isn't the optimal choice either. As a Geologist, who has been involved with drilling over 1500 horizontal bore holes, I might suggest the City's choice of route is somewhat lacking. Firstly, it is well known that there is an underground water course that runs roughly down 2nd Street SW. This water course, in layman's terms, travels between the Bow River and the Elbow River. It passes past the East Tower of Bankers Hall and almost caused a

foundation collapse while the East Tower was being constructed. This water course passes right by the Lewis Lofts too. Most municipalities would not considering boring tunnels in such a location, so why is Calgary?

Another unknown for the City to grapple with is the actual physical geology that the tunnels will pass through. Although the City may have cut some observation boreholes near the Lewis Lofts, the City has no idea what is underneath the Lewis Lofts, or any of the surrounding buildings. This may not seem to be a big issue to the layman, however, to a Geologist who has bored thousands of holes it is a huge potential issue. The proposed Green Line tunnels will not be boring through solid rock. The lithology present is a type of glacial till. It is substantially large rocks and boulders surrounded by weakly compacted clays and sediments, some of which contain substantial sections of porosity filled with water. This is an unstable lithology to bore tunnels in, and because it contains the potential to have large glacial erratic boulders it makes the process of tunnelling even worse. The potential for damaging, or losing, boring equipment in the hole is much greater in this scenario. Think of it as somewhat like drilling a hole in a piece of wood, and then hitting a nail. The hole doesn't end up where you wanted it to go, and you're off to Home Depot to buy a new drill bit! Except, the City would be losing their "drill bit" to the hole. This is a potential consequence of the City boring through unknown stratigraphy. In this case it would be doubtful that a tunnel boring contractor could be held responsible for such a catastrophic loss. The taxpayer would be paying for it.

With the recent covid-19 pandemic events one has to wonder how the City of Calgary can justify such a tunnelling project expense? Ridership is going to be drastically reduced because people will be less likely to use public transport for years to come, whether it is due to contamination concerns, physical distancing, or the fact that many people will choose to work from home. This should be a time in which the City should be concerned with reducing costs, not escalating them. At some point someone in the City has to be brave enough to say that this is no longer a fiscally feasible project. The taxpayers of the future should not be responsible for a "legacy project" that has gone wrong.

Sincerely,



Per: Eric D. Moore, President 368869/957055 Alberta Ltd.
Carma Assel-Moore
Owners, Lewis Lofts

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Brent

* Last name Zuber

Email blzuber@hotmail.com

Phone 4035600431

* Subject Positive support for more investment into public transit - Positive on Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I believe Calgary, the Province, and the Federal Government need to invest more into public transit. Our large (spread) urban cities have a large deficit in good public transit, and we will benefit greatly by closing the gap with other mega-cities worldwide.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Elliot

* Last name Weinstein

Email weinstein.elliott.s@gmail.com

Phone

* Subject Green Line support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello, I am a resident in Calgary, living in ward 11. I fully support the green line and would like to see it approved and construction started.
Thanks!

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Cassandra

* Last name Caiger

Email cassandra@intelligentfutures.ca

Phone

* Subject Support for Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

To whom it may concern, please consider this letter my strong support for the latest in the Green Line planning. Our City is in desperate need of equitable mobility, which I believe this LRT line will greatly contribute to. Thanks!



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Carolyn

* Last name Horwitz

Email carolyn.horwitz@gmail.com

Phone

* Subject Green Line - north Calgary

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The north part of the green line from Eau Claire across the river needs to be reconsidered. There has not been enough neighborhood consultation with crescent Heights regarding the new 'above ground' changes. Yes, there have been a few open houses but the changes were made without consultation and thus there are still too many unanswered questions. The actual residents of the neighborhood need more information and actual plans surround parking, traffic flow and access to our own neighborhood. If the demand for transit is to bring people from the far north to down town, why not start the green line in the north and bring it south vs having it stop at 16 Ave with no real time line or funding to extend it north? It seems like the process was started for the green line but changes were made so the optics to stop it would cause people to lose their jobs. Let's think through the north end extension better to have it make financial and logistical sense.



Public Submission

City Clerk's Office

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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Camie

* Last name Leard

Email camie@crescentheightsvillage.ca

Phone 4038747694

* Subject Crescent Heights Village BIA Green Line Position

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please find attached the Crescent Heights Village BIA's position on the May 2020 Green Line Alignment

MAY 25, 2020

Green Line Alignment Position Crescent Heights Village BIA

Submitted for consideration by Calgary City Council May 25, 2020 by the Crescent Heights Village Business Improvement Area Board of Directors

Introduction

Centre Street lies at the heart of Calgary's north and is one of our beloved (and designated) Main Streets. Described by the City as places where citizens come together, Main Streets are places where we want to go, we enjoy, and we coalesce as a community. Main Streets are resilient, adaptable, and attractive public spaces that, celebrate the character of the community, encourage diversity of local business and create a vibrant destination.

Take a walk down Centre Street in 2020 and it's abundantly clear that this historic and important mainstreet has been left behind. Crumbling sidewalks lined with neglected buildings are sparsely populated with nervous pedestrians - scared to cross four lanes of commuter traffic. Cars and busses full of Calgarans from all over the city (85% of whom are not local to the area) rush through the neighbourhood twice a day, leaving behind a desolate road intended to be the heart of a village community, but left to languish for years of uncertainty as the City addressed other concerns in other areas.

At the same time, intrepid small business owners have managed to eke out a living despite parking woes and dwindling pedestrian traffic - some have been here for decades. Founded as a village in 1901, Crescent Heights is Calgary's first community outside the valley. Annexed in 1911 and established as a neighbourhood in 1914, Crescent Heights is steeped in the history (and built on the hard work) of Calgary's Chinese community. Today's Centre Street is home to an eclectic mix of diverse business owners from all over the world. It's for these hard working, risk-taking, job-creating Calgary business owners that the new Crescent Heights Village BIA was formed in 2020 and on behalf of whom we offer this position on the proposed Green Line LRT alignment released on May 12, 2020.

The Potential

The Crescent Heights Village Board of Directors believe Centre Street's time has come. Our community (and, indeed, all of North Calgary) has waited long enough for the City's attention and investment. It's time to shift the role of Centre Street from an unplanned and haphazard commuter traffic thoroughfare to a vibrant and colourful, people-focused local business hub where Calgarians from all over the city come to eat, shop, work and play - by foot, by bike, by car and, of course, by transit.

The proposed alignment of May 12, 2020 provides an unprecedented opportunity to rethink, reinvent and revitalize Centre Street by:

- Reducing out-of-area commuter traffic while improving access to local businesses
- Slowing car traffic down with narrowed lanes
- Creating opportunities for city-funded sidewalk improvements, pageantry, trees, infrastructure and lighting we may not otherwise see
- Creation of a 9th Avenue (Crescent Heights Village) station bringing foot traffic to area businesses

Of course, with this exceptional opportunity comes exceptional risk, including:

- Three to five seasons (or more) of construction disruption to small business owners who have already experienced the unprecedented and devastating effects of COVID-19.
- The loss of a great deal of precious parking along Centre Street that business owners rely on for their customers, for pick-up/delivery services and for loading - parking that is already inadequate.

Our job as the Business Improvement Area is to assess the needs of the businesses in our area in the short, medium and long term. Often, these are in opposition to one another - as is the case with the Green Line alignment. While there's no doubt the long-term benefits of the development will be transformative for Centre Street Village, getting there will be difficult at best, calamitous at worst. Given the recent economic downturn, challenges seen in other BIAs under construction (17th Avenue S.W.) and now the impact of the pandemic - the risk to many of these small business owners is substantial.

Our Position

Trying to balance the opportunity and the risk results in our position of **conditional support of the proposed Green Line alignment, contingent on:**

1. A robust and material business support program which might include but is not limited to:

- Grants, reverse levies, tax freezes and other financial support measures through construction and for a period following its completion.

Additional consideration of:

- A policy of using local businesses for construction needs throughout the project (office rental, business services, insurance, food and beverage, etc.)
- Marketing and advertising support (both financial and City communications channels) throughout construction (beyond on-site signage).
- Strict protocols on maintaining access to businesses including pedestrian escorts, flagging, etc.
- Managing parking of site workers and others.

2. Replacing lost parking in its entirety and adding additional parking capacity, potentially by:

- Building a CPA parkade
- Buying existing surplus parking from landowners
- Expanding two-hour parking into the residential streets
- Finding areas for angled parking/parking nodes (1st Avenue W)

Unprecedented times call for unprecedented measures. Never before has the City asked small businesses to make the sacrifice of enduring a long construction period after five years of recession and a global pandemic that put them out of business for months.

Likewise, there isn't another BIA in the city that offers zero parking along the BIA's main street with the possible exception of International Avenue, which enjoys ample opportunity on residential side streets and large parking lots.

But the Crescent Heights Village Board believes moving forward is more important than waiting for the perfect circumstances — this far along in the process, standing still is as good as stepping backwards. We want to step forward and create an exceptional future for Centre Street.

Additional Considerations

It's important to note that our ratepayer community does not unanimously support this alignment, nor does our board. The project team has asked the business owners of Crescent Heights to take a major leap of faith with many unanswered questions. Given the long term potential benefits to the area, it's a leap we're willing to take with an understanding the Green Line project team and Council will continue to work with us to support the businesses in our area. In the spirit of that collaboration, we also request consideration of the following:

1. Consultation and funding of public realm improvements including:

- Public art
- Trees and Greenery
- Alley lighting/beautification
- Interim traffic calming and parking measures such as a 4-to-3 lane conversion and permanent parking on both sides
- Improved sidewalks and crosswalks
- Pedestrian scale lighting
- Use of character materials
- Multi-use pathway on the train bridge
- Bike parking (re-installation of existing CH branded racks)
- Installation of benches and other streetscape enhancements that can be removed and replaced during and after construction
- Maintaining permeability of centre street with no fences or arms dividing the street

- 2. Station Naming:** It is our request that the 9th Avenue station be called Crescent Heights Village to give it a sense of place that celebrates Calgary's history, to recognize it as a destination, and to give back to businesses in our area by promoting economic development once the project is complete. Input on the 16th Avenue station naming, design and public realm is also requested.

3. Traffic/speed Management including:

- Lower posted and street design speed of Centre Street to 40 km/hour between 7th and 16th Avenues for both trains and motor vehicles to provide a “Main Street” feel, improve safety, and promote economic development (speeding vehicles don’t stop for coffee)
- Dedicated left-turn lanes
- Busses share LRT lane versus using the car lanes

Summary

The business owners in the Crescent Heights Village BIA have shown a tremendous amount of grit over the last decades as Centre Street sat in limbo. Dangling in the winds of politics, economics and public opinion, these restaurateurs, accountants, pharmacists, herbalists, retailers, dentists, barbers and grocers have continued to create jobs and serve their community with pride and resilience. Let’s reward their perseverance by giving them a Centre Street that works - during construction and for decades to come.

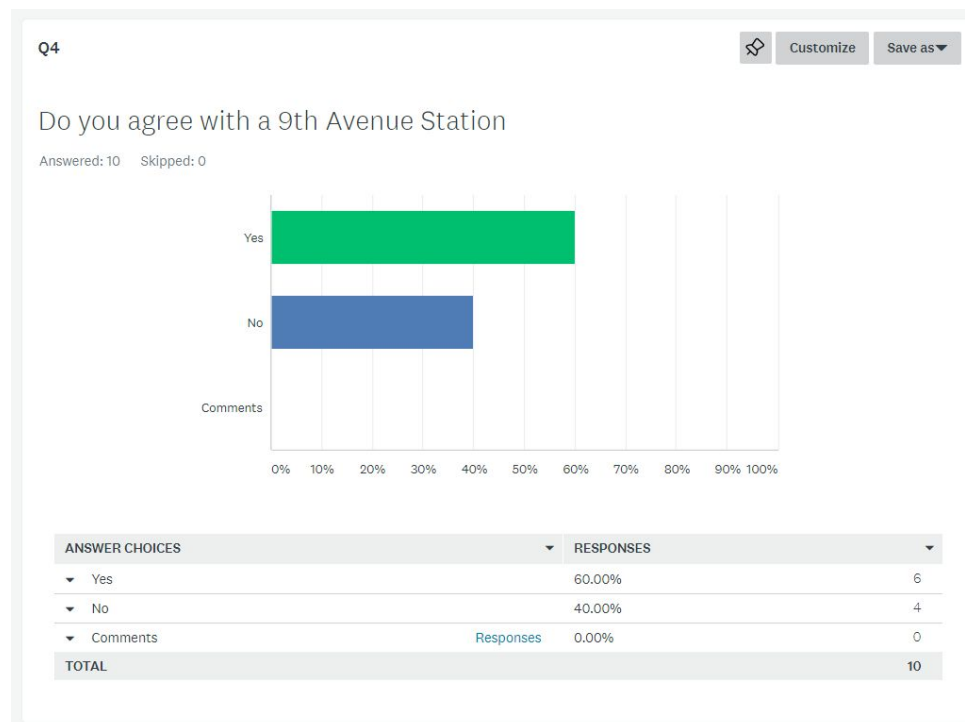
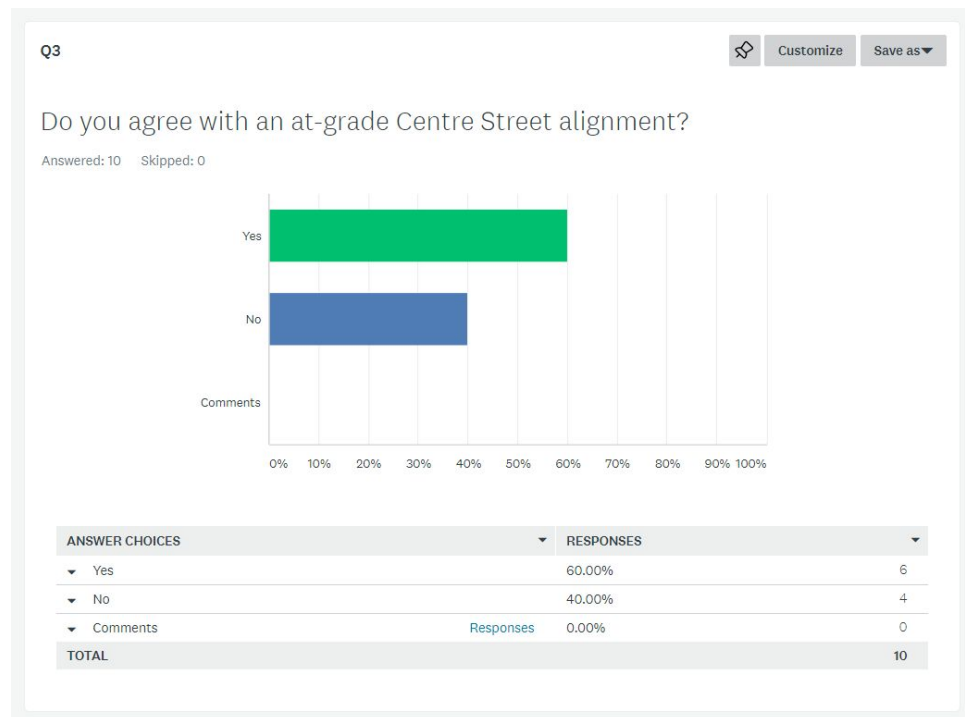
Appendices

1. March 2020 Engagement Results Infographic
2. BIA ratepayer survey results

Appendix 1: March 2020 Engagement Infographic



Appendix 2: BIA Ratepayer Survey Results





Comments:

- *Side running streetcars preferred for pedestrian friendly use.*
- *Yes. Initially I was skeptical but I think overall it is a good thing because it allows more trees to be plan*
- *If the streetcars are used, then centre-running is the best option, but there should not be street level cars on Centre Street*

What are your thoughts, opinions or concerns about the City's proposed alignment and approach?

1. *Great for the enviroment. My concern is has no impact on business since we dont have enough parking at the back of the building most of the time we have the delivery service parks on street for couple mins to pick the order.*
2. *I think the stops should start passed 16th ave. Since those are the ppl likely wanting to leave their vehicles at home to take transit downtown. Ppl living in crescent are already walking in to work or taking the bus down.*
3. *Encouraged with the idea of getting Calgarians and visitors to use public transit.*
4. *During a very uncertain time financially, running the Green line across the river and up to 16th Avenue is a poor idea. The funds would be better used in other areas, or to improve the other parts of the Green Line if they cannot be diverted. When the city is struggling with a serious*

property tax issue, the pandemic is showing that more people are able to e-commute and funding problems are likely, why would we ever make it more difficult for people from the north to reach downtown? This is going to lead to further companies and their employees leaving the downtown core, and significantly increase the property tax issue, which is already a very significant problem.

- 5. I can see why residents would prefer Centre Alignment. For business owners, I think Centre Alignment may provide more clarity of who is responsible for what.*
- 6. Side running would be safer.*
- 7. I'm not a fan of another bridge, especially one literally beside an existing bridge, over the river at all. There is already a centre street bridge and that should be refurbished and reutilised OR accept the risks and build the tunnel according to the original plan.*

Dresden has their UNESCO heritage status stripped because of a bridge over the river Elbe in 2017. I believe Calgary will suffer similar consequences because of a bridge. Calgary will have their status as an up and coming world city stripped also if we can't figure out how to put a train under the river AND mar the wetlands AND destroy the river wildlife ecosystem AND fail to recognise that building yet another bridge literally beside an already existing bridge is a short sighted endeavour that does not utilize our best professionals (including engineers, geologists, designers, etc) abilities. Why can't we just widen the centre street bridge? Was it because calgarians didn't think far ahead enough back when the original bridge was built ??

Calgary wants to be a world class city? Then it's gotta come together and use our best minds, use our best resources, and organise something that will keep us as a top city for generations to come.

Keep the train and train stations underground with access to the surface. Think London and Hong Kong. Underground trains, underground stations, underground retail malls, with surface connections via escalator/elevator/stairs. 8 stories of underground retail space in a central location would be amazing.

Save the bluffs. Save the river. Save the wetlands. Save the space in Eau Claire market to design and build something truly worthy of that overground space!

- 8. I love the alignment. I want to make sure we also get the following as part of the project: Parking: Increase the amount of 2-hour parking on side streets Art: Public art Greenery: Trees and planters with native plantings Walking infrastructure: Improved sidewalks and crosswalks Walking and wheeling connections: Multi-use pathway on the new LRT bridge. Lights: Pedestrian-scale*

lighting Waste: Trash receptacles on Centre Street. Buses: Buses share LRT lane Materials:

Brick, wood, cobblestone character materials used at stations Bike parking: Re-install branded

Crescent Heights Village bike parking when project complete Crescent Heights Village Station:

Approve 9th Ave Station & name it "Crescent Heights Village" Safety: Increase safety for people

crossing Centre Street by lowering the speed limit for the train and motor vehicles to 40 km/h, and

designing vehicle travel lanes for lower speeds Permeability: No fences or arms dividing the

street Access: Permit left turns from Centre Street Noise: Quiet train operation (i.e. Centre Street

is a pleasant place to sit outside, shop)



Public Submission

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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Greg

* Last name Miller

Email greg.miller@outlook.com

Phone

* Subject Let's move forward with the Stage One Green Line plan

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please accept this as my public submission for the June 1 council meeting.

The Stage One Green Line plan is right for North Central Calgary

These are uncertain times in Calgary. The pandemic and the collapse in oil and gas markets have left us wondering what our future holds. We're faced with a choice: invest in our future, or retreat to our past?

Very soon council will be asked to invest in improved mobility, in the Green Line. Council will be asked to approve a revised Stage One plan that will finally begin to deliver improved transit services for the north and for all of Calgary. I support this plan. It's the first step to achieving transportation and community improvements for North Central Calgary. It's an investment in our future.

For years Centre Street has been the most highly transited bus corridor in the city. We recognize the greatest hurdle to adding much needed capacity up Centre Street is crossing the Bow River. Now, thanks to a \$3 Billion funding commitment and a new bridge, the Green Line makes crossing the river and connecting the north a reality. If we don't seize this opportunity now, if we lose this precious funding, then I fear this opportunity will not return for a long, long time.

Our overall goal is connected LRT service through downtown all the way up Centre Street and along Harvest Hills Boulevard. I believe that with Stage One's commitment to the north literally poured in concrete across the Bow up to 16th Avenue, this is far more likely to happen. It will happen over time, station by station, as incremental funding comes available. This has been the pattern for almost every other CTrain extension, and there's every reason to believe the Green Line will follow suit.

While Stage One will not yet deliver the entire train we need, it does commit to BRT improvements along the way, including priority signals, bus lanes, and improved bus shelters. It will also improve service reliability by letting BRT and express buses travel on a dedicated right of way from 13th Avenue all the way to downtown. I believe this bundle of BRT improvements is a critical part of the Stage One proposal and must be included.

Northern communities have watched for decades as other areas of Calgary receive infrastructure and transit investments. Finally, after 2 years of consultation, the new North Hill Plan offers hope for investment and community improvements around Edmonton Trail, Centre Street, and 4th Street. Foundational to the North Hill Plan is an assumption that the Green line is built to support it. This investment in community redevelopment is significantly impaired without the transit and mobility options that the Green Line will bring.

Calgary's past was built on one primary industry. Our primary transportation mode was based on the automobile. We cannot, we must not, assume either of these alone represent our future. The investments we make now to provide choice in transportation along with choice in housing, recreation and culture will have a direct bearing on the future industries we'll attract, and the Calgarians they'll employ. Investing in the Green Line today will help enable the choice we need for the future we want.

The Green Line has been planned for years, with input from countless residents, businesses, and elected representatives alike. It's time to realize our return on years of investment from Calgarians. Let's move forward with Stage One.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kent

* Last name Vuong

Email aiybee@gmail.com

Phone

* Subject Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

This project is an opportunity to revitalize Centre Street, keep people employed, and serve an area of the SE that has poor transit access. Please don't kill this project.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ronald

* Last name Wilburn

Email wilburn.ron@gmail.com

Phone 4032835835

* Subject Green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

This is to express my support for the green line construction project. I see this project as satisfying a number of extremely important priorities as our city emerges from the Covid-19 crisis. For one thing, it is a shovel-ready project, ready to go once normalcy is restored. For another thing, it represents a new and realistic direction for municipal development. Oil revenue has been shown to be undependable. Climate change has been shown to be immanent and threatening. Public transportation is geared to the future, not the past. I realize that some in the business community object to the proposed route. But I strongly suspect that this is nothing more than a stalling tactic at a time when standing still is no longer an option.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Sasha

* Last name Lavoie

Email sashalavoie@gmail.com

Phone 5875727991

* Subject In support of the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I'm a 33 year old living in the Beltline. I use public transit to get to my job at the University. My partner and I own one vehicle and use it several times a week. I broadly support the green line. Ever since first visiting Europe as a teenager, as well as other great cities in the world, Mexico City, New York City, I've come to the conclusion that great public transit is part of the make up of a great city. I am discouraged that a small group of older, privileged white men are what makes up the anti-transit movement. I hesitate to make assumptions, but I doubt this group needs access to public transit and therefore lacks insight into how beneficial this project truly is. I've been excited about this project from the get-go, as well see this excitement in younger friends of mine. Let's keep this city growing in the right way.

**Public Submission**

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* First name Alberta Assembly of Social Workers

* Last name c/o Mare Donly, MSW, RSW

Email maremontell@mac.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Alberta Assembly of Social Workers Supports Calgary's Green Line
Calgary's Green Line is a vitally important project for Calgary's future. The Alberta Assembly of Social Workers (AASW) fully supports the expansion of our LRT system as it will improve access and mobility for Calgarians in the two quadrants of the city currently underserved. A fast, efficient and economical transit system plays a crucial role in poverty reduction, enabling better access to employment, basic goods and services, reducing transportation costs and creating jobs. A complete LRT/BRT system throughout Calgary also enhances quality of life for all, making our communities healthier places to live and breathe. The current plan before this council, implementing Phase I of the Green Line, while improving the BRT lines north and south is the best way to prepare for Calgary's future growth and expansion.

The Alberta Assembly of Social Workers Supports Calgary's Green Line

Calgary's Green Line is a vitally important project for Calgary's future. The Alberta Assembly of Social Workers (AASW) fully supports the expansion of our LRT system as it will improve access and mobility for Calgarians in the two quadrants of the city currently underserved. A fast, efficient and economical transit system plays a crucial role in poverty reduction, enabling better access to employment, basic goods and services, reducing transportation costs and creating jobs. A complete LRT/BRT system throughout Calgary also enhances quality of life for all, making our communities healthier places to live and breathe. The current plan before this council, implementing Phase I of the Green Line, while improving the BRT lines north and south is the best way to prepare for Calgary's future growth and expansion.

The Alberta Assembly of Social Workers is an anticolonial, antiracist and equity seeking civil society action group. We value diversity and see it as a strength among us and welcome all social workers and those committed to the core values and ethics of our discipline. We are grounded in a social work praxis of personal transformation, relational accountability, peace-building and solidarity action.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Tudor

* Last name Dinca

Email tcdinca@gmail.com

Phone 5875865864

* Subject Support for the Green Line (Alignment with a tunnel to 16th Avenue)

Good morning,

I would like to take this opportunity to express my conditional support for the construction of the Green Line LRT project. I say conditional because the city seems to be pushing for the alignment that will go along Center Street, at street level. From my experience of using a number of public transportation services from around the world, I can say that, without a doubt, in order to ensure a reliable method of transport that causes the smallest footprint in terms of congestion and time waste, the city should pursue an alignment that goes underground all the way up to 16th Avenue. It is true that the cost would be an additional 250 million to 300 million dollars as indicated by the city but in the long run the reduced amount of maintenance combined with a much lower frequency of accidents and incidents along the track will make this tunnel a well worth investment.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As well, I would encourage City administration and Council to think about the present inefficiencies that we all, as Calgarians, are experiencing as a result of having the older lines of our C-Train system run at ground level (especially those that run through downtown). The amount of time, resources and other inefficiencies that have resulted in our present day as a result of poor planning in the 1980's are probably more costly than the initial cost of having to tunnel underground downtown. Let's not make these mistakes again.

ISC:

1/2

Unrestricted

May 25, 2020

9:01:40 AM



Public Submission

City Clerk's Office

Please do build the Green Line but do so with an underground tunnel that goes all the way up to 16th Avenue. Thank you for your time.

Tudor Dinca



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jon

* Last name Kozak

Email jonkoza@gmail.com

Phone

* Subject Green Line Reflection

I've been to several engagement sessions and have to say the latest version with revisions is one I can support. I commend the efforts of the Northern voice in the need for there to be a next phase that addresses the access to the many transit users in the north regions of Calgary. I get the concern of the bridge and it's effect on Prince's Island Park. It's about adding a view rather than taking it away. Secondly it would add a transit multimodal pathway system which is equally valuable to the LRT line.

I'll stop my viewpoint tho and reflect on someone I've been following. Consider this, Canada's largest company has a lot of interest in Calgary, even if they don't directly state it. While we pandered for the attention of Amazon HQ, it's interesting to see what interest Spotify has on the globe, climate and their impact, next to their support for entrepreneurs and shipping products ethically.

While they've adjusted to the new norm and noted offices will transition or close, here's there expectation:

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Sustainable offices: We look for LEED-certified office space, and most of our square footage is LEED Gold or Platinum. We've chosen buildings in areas with high transit and walkability scores, and built with local materials wherever possible. This also includes minor but locally impactful things like adding bike racks and storage to every office.

ISC:

1/2

Unrestricted

May 25, 2020

9:09:16 AM



Public Submission

City Clerk's Office

Quote again "high transit" because they see every option be it foot, bike, drone being an option for getting products from business to customer.

I know this hits home for several councillors looking to price products based on waste or considering the plan for shipment corridors important for growing business. This is Canada's largest company telling us where the future is going.

I respect Calgary's past but we are taking about the future. I will now share tho that I'm disappointed that digital payments has taken so long to be fully implemented. Projects should be revised (as they have) for the better results but we need to continue to think with a growth mindset and what options exist on top of transit being just about moving people.

Thank you and again I fully support this green line project going forward.



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Curtis

* Last name Mah

Email curtmah@gmail.com

Phone 5874362878

* Subject WE NEED THE GREENLINE !!!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
We need the greenline in Calgary, we need a new future, please please please support this project



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Simonetta

* Last name Acteson

Email simonetta.acteson@gmail.com

Phone 4038040372

* Subject Green Line

We are writing to object to the passing of the Green Line proposal before Calgary City Council.

Though we strongly support the need for effective and accessible public transit, we do not support Green Line, in its entirety, but most specifically the downtown to 16th Avenue portion, as proposed for the following reasons:

1. Our post COVID-19 world is unknown and the repercussions will be felt for years (if not indefinitely). The requirements for publically accessible transit may be required to undergo significant changes now and in the future. In a changing world, cities must react with alternative and elastic options which can offer users separation and safety while responding quickly to changing needs. A \$4.95 Billion infrastructure investment that does not accommodate any future flexibility during a time of many unknowns is hugely irresponsible. The very future of a downtown workplace hub is questioned at this time as many companies re assess how to work from home, and what reasons for congested office spaces are still valid and important.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

If even a small fraction of the proposed funds were allocated to exploring and implementing alternate methods of public transportation that could be reviewed, altered as needed, and be responsive to our changing future, the City would be better posed to address the future urban world.

ISC:

1/2

Unrestricted

May 25, 2020

9:21:24 AM



Public Submission

City Clerk's Office

2. We strongly object to a bridge being put over the Bow River and any part of Prince's Island. The environmental, visual and physical alterations to one of our most prized and loved areas in our City is simply unforgivable.

While attending numerous open houses and online presentations, we have heard City administration cite so much conflicting and changing information about the proposed bridge and the need for it that it is impossible to believe anything being put forward.

For example:

a. When asked if the train could be placed on Centre Street bridge rather than introducing a new bridge, the response was that the Bridge could not accommodate the weight. In the last presentation attended, this answer changed to the need to have the location moved to the west to increase accessibility (how different is two blocks? Are people not expected to walk to a train??) Which answer is correct? Does anyone actually know?

3. In our opinion public participation has been seriously flawed for the revised proposal for downtown to 16th Avenue N. The proposal was significantly changed and new information and refinements to the proposal have continue



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Rebecca

* Last name Middlebrook

Email rebeccamiddlebrook@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I grew up in McKenzie Lake in the SE and getting to the university using city transit was always a long process, often made more difficult with rush hour traffic or inclement weather. I never understood how an entire quadrant of the city was just forgotten when it came to implementing efficient transit options. After one year of frustrations I moved inner city to be closer to my post secondary institution, but I was lucky enough to be in a situation that allowed me to move out of my parents home. Having the green line train reaching in to the deep SE will provide others more options on how to navigate this city, reducing their reliance on vehicles, freeing up time previously spent in traffic—time that can be spent at a job or with loved ones. Calgary needs the green line to help transition us into a forward-thinking city that understands the value of promoting multi modal forms of transit, lessening people's dependence on single occupancy vehicles.

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name John

* Last name McDermid

Email johnmcdermid@shaw.ca

Phone 403-277-8653

* Subject Submission of documents for June 1 Green Line SPC of Calgary City Council

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Crescent Heights Community Association would like to submit the attached documents for the June 1, 2020 meeting of the City's Green Line SPC. I attach our letter of today's date in both Word and pdf formats. Thank you.



Monday, May 25, 2020

To: Calgary City Council's Green Line Standing Policy Committee

From: Crescent Heights Community Association

As a board, we support improvements to Crescent Heights. We perceive the Green Line to be an improvement for our community. There are still many details to be worked out and we do not have unanimous support among board members or residents, but at this stage, we support going forward with the Green Line. We will be active in future engagement, and we encourage our residents to be as well, as this project needs to improve Centre Street and bring positive change to our community.

CHCA's priorities for the Green Line are now as they have been through many years of engagement on the Centre Street alignment:

- Public Realm Improvements;
- Walkability;
- Traffic Mitigation; and
- Robust Support for Businesses

We are pleased that our support is in accord with the newly-minted Crescent Heights Village BIA, an entity that did not exist when CHCA endorsed the earlier below-grade configuration. We will work with our BIA partners to ensure the vitality and viability of local business through the planning, construction and completion phases of the Green Line.

We have arrived at our position of support through the City's engagement process, lively conversations within our community and through consultation with neighbouring communities; we have examined possible adverse impacts and balanced them with improvements and net benefits to Crescent Heights.

Despite differences of opinion about the addition of a 9th Avenue station, CHCA supports the station and takes the following firm position on the scale and scope of development in the station area: we consider the approved six-storey development at the Tigerstaedt site as the benchmark

for the station area. We support building heights no higher than six storeys. Future 9th avenue station area development must align itself in the Centre Street corridor and not extend east or west into adjacent low density residential. Sensitive transition to the adjacent low density LUD is of paramount concern to CHCA.

We extend our thanks to the Green Line Project Team.

Please find below two additional documents. The first is a list of specific streetscape improvements we would like to see for Centre Street. The second is a graphic drawing by Sam Hester, who was hired by the BIA and CHCA to capture residents' opinions, concerns and thoughts at the March 8 Green Line engagement session.

Yours very truly,

John McDermid
Director
for Crescent Heights Community Association

Streetscape:



- **Art:** Public art
- **Greenery:** Trees and planters with native plantings
- **Walking infrastructure:** Improved sidewalks and crosswalks
- **Walking and wheeling connections:** Multi-use pathway on the new LRT bridge.
- **Lights:** Pedestrian-scale lighting
- **Traffic calming:** Traffic diversion on parallel streets to prevent cut-through traffic
- **Buses:** Buses share LRT lane
- **Materials:** Brick, wood, cobblestone character materials used at stations
- **Bike parking:** Re-install branded Crescent Heights Village bike parking when project complete
- **Crescent Heights Village Station:** Approve 9th Ave Station; name it “Crescent Heights Village”
- **Safety:** Improve safety for people crossing Centre Street by lowering the speed limit for the train and motor vehicles to 40 km/h, and designing vehicle travel lanes for lower speeds
- **Permeability:** No fences or arms dividing the street
- **Access:** Permit left turns from Centre Street
- **Noise:** Quiet train operation (*i.e.*, Centre Street is a pleasant place to sit outside, shop).

Construction

- **Access:** Maintain access to businesses
- **Promotion:** Events and advertising campaigns advising Calgarians that Centre Street is open for business
- **Cut-throughs:** Traffic calming on parallel streets to prevent cut-through traffic during construction
- **Time:** Minimize the length of time of construction
- **Dust:** Dust abatement
- **Business support:** Establish a business support program to support businesses through construction.



BUSINESS IMPROVEMENT AREA



CRESCENT HEIGHTS
Community Association

WHAT DO YOU THINK OF THE GREEN LINE ALIGNMENT?

There's a **REAL DIVERSITY** of perspectives!

There are **pitfalls & opportunities!**

WHAT ABOUT RETAIL?

I'M CONCERNED THAT IT WILL BE MORE DIFFICULT TO ATTRACT BUSINESSES WITH THE TRAIN, THAN WITHOUT IT!

INCORPORATING **Trees** means noise reduction, shade, benefit to people and wildlife!

I THINK WE NEED A **STATION** AT 9th AVENUE TO HELP PEOPLE COMING TO THE BUSINESSES!

STICKING A TRAIN IN THE MIDDLE OF CENTRE STREET CHANGES CRESCENT HEIGHTS FOREVER!

WE WANT TO MAKE THE **BEST POSSIBLE PLAN!**

WITH LESS TRAFFIC, IT'LL BE EASIER TO CROSS THE STREET!

WHERE ARE THOSE CARS GOING TO GO?

YOU CAN'T JUST WISH THE TRAFFIC AWAY!

RUSH HOUR?

SPILL OVER TRAFFIC!

COULD WE CLOSE OFF THE COMMUNITY, LIKE THEY DID IN KENSINGTON?

HOW WILL OTHER STREETS → LIKE OUR STREET? SHOULD BE ALLOWED ON EDMONTON TRAIL ALL THE TIME EXCEPT RUSH HOUR!

WE'RE A **gateway** TO THE REST OF THE CITY! THIS IS NOT A TRAIN TO NOWHERE... IT'S A TRAIN TO **Somewhere!**

I WANT THE CITY TO APPLY PRINCIPLES OF **COMMON SENSE & good Budgeting!**

THIS FEELS LIKE A **SHORT-TERM VISION...**

WE'VE ALL BEEN WAITING FOR A VERY LONG TIME FOR CENTRE STREET TO **DEVELOP!**

WE'RE GENERALLY PRETTY **OPTIMISTIC!**

WHAT I SEE TODAY IS **JUST ONE OPTION**. THAT DOESN'T FEEL LIKE CONSULTATION!

I DO AGREE THAT CENTRE STREET NEEDS HELP... BUT IS THIS THE RIGHT WAY?

WE HAVE SO LITTLE **GREEN SPACE** IN THE UNDER CITY.

WE DON'T WANT A BRIDGE TO DISRUPT THE ENJOYMENT OF THE PARK.

JACK PRINCE DONATED THAT LAND TO BE A **PARK**.

IF THERE'S NO FENCE, HOW WILL THIS BE **SAFE?**

WHERE WILL PEOPLE PARK?

OFF-PEAK HOURS? **RUSH HOUR?**

I STILL FEEL THERE ARE SO MANY **UNKNOWN!**

THIS IS SUCH A **BEAUTIFUL** PART OF THE CITY.

WE WANT TO **PROTECT** IT!

TO ME, THE GREEN LINE FEELS LIKE A **NECESSARY EVIL**. IF WE HAVE TO DO IT, LET'S DO IT **RIGHT!**

I HOPE THE CITY WILL **CONSIDER** OUR COMMUNITY IN CREATING THE NECESSARY ALIGNMENT!

THE CITY REALLY NEEDS TO **LISTEN**.

I REALLY WANT TO BE TAKEN **SERIOUSLY!**

WE WANT TO MAKE SURE THAT **CHANGES** HAPPEN WITH **CONSULTATION & COMMUNITY BUY-IN!**

WE NEED A **STOP!** THIS IS OUR **OPPORTUNITY** TO CONNECT CRESCENT HEIGHTS TO THE TRANSIT SYSTEM!

CAN YOU IMAGINE... SOMEDAY WE HAVE A **WORLD-CLASS** TRANSIT SYSTEM AND CRESCENT HEIGHTS DOESN'T HAVE A **STOP?**

WE'RE THINKING AHEAD TO A TIME WHEN CALGARY'S WORK ENVIRONMENT IS MORE **DIVERSIFIED** & IT'S NOT JUST ABOUT GOING DOWNTOWN.

RIGHT NOW IT FEELS A BIT DAWDLE TO WALK UP THE HILL TO CRESCENT HEIGHTS!

A TRAIN WOULD **WELCOME** MORE PEOPLE IN!

IF THEY DO THIS RIGHT, IT COULD BE **VERY NICE!**

IT'S AN OPPORTUNITY TO HELP CALGARIANS **RE-THINK** CENTRE STREET!

IT'LL NO LONGER BE A **COMMUTER STREET**.

WINTER-FRIENDLY INFRASTRUCTURE!

SAFETY AT CROSSINGS

EAST-WEST CROSSINGS ARE A BIG OPPORTUNITY FOR **IMPROVEMENT!**

IT HAS TO BE **SAFE & CONVENIENT** FOR PEDESTRIANS & BIKES!

I'M CONCERNED ABOUT THE **STREET LIFE**. THE EXAMPLES I'VE SEEN IN CALGARY, OF TRANSIT RUNNING DOWN THE MIDDLE OF A STREET, HAVE NOT INSPIRED ME!

WE WANT TO FEEL WE CAN **TRUST** THE CITY'S PLAN!

FURTEST DOWN!

LOOK AT THE **BORDERS** OF OUR COMMUNITIES!

Riding a **LOW-FLOOR TRAIN** is a **PLEASANT** experience!

THIS ISN'T JUST A LITTLE TRAM OR TROLLEY... IT'S A **TRAIN!**

CROSSINGS ARE IMPORTANT!

CLEARLY, A LOT OF WORK HAS GONE INTO THE PLANNING. BUT AS A RESIDENT, I'M CONCERNED ABOUT **WALKABILITY!**

PROPERTY **VALUES?**

WILL **RENT** GO UP?

WE LOVE CRESCENT HEIGHTS

BUT CAN WE LIVE THROUGH THE **GROWING PAINS?**

THE CITY HAS AN OPPORTUNITY TO LEARN FROM WHAT OTHER CITIES HAVE DONE.

THE "PORTAL" FEELS LIKE AN INTERESTING OPPORTUNITY FOR SOMETHING **COOL!**

THE DESIGN SHOULD **BLEND IN!**

IMPACTS ON THE **ENVIRONMENT?** OUR RIVER VALLEY IS THE **GEM** OF THE CITY!

IF IT'S TOO EXPENSIVE TO BUILD IT **UNDERGROUND**... LET'S WAIT AND BUILD WHEN WE CAN AFFORD IT!

WE TRAVEL TO CHINATOWN AT LEAST ONCE A WEEK... **CONNECTIVITY TO CHINATOWN** would make a big difference for us!

OUR OPINIONS ARE INFORMED BY OUR **PAST EXPERIENCES** WITH PROJECTS LIKE THIS, LIKE THE CLOSING OF CENTRE STREET A WHILE AGO.

I THINK THIS WILL **REVITALIZE** CENTRE STREET BUSINESSES!

THIS KIND OF PLAN TAKES **TIME**

WE NEED TO DO THIS **RIGHT**... AND DO IT **QUICKLY**, TOO!

A TRAIN... AT STREET LEVEL? **HOW?!**

IT'S IMPORTANT TO ME THAT THE STREET IS **INTERACTIVE!**

IN THE LONG RUN, THIS WOULD BE A **BENEFIT** TO CHINATOWN! **SLOWING TRAFFIC DOWN** AND BRINGING MORE **WALKABILITY** WOULD BE A BOOST TO OUR COMMUNITY!

MARCH 8TH 2020

SAM HESTER
The23rdStory.com

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Annette

* Last name Fung

Email annettefung1@gmail.com

Phone 4036808318

* Subject Against the Green Line LRT updated Alignment (May 12,2020)

2020 May 25

Silver Dragon Restaurant
106 3 Ave SE
Calgary, AB T2G 0B6

The City of Calgary
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Attention: Green Line Technical Committee

GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

My name is Annette Fung, owner/operator of the Silver Dragon Restaurant located in the heart of Chinatown at 3rd Avenue / Centre Street Southeast. We have been a venerable Chinatown business serving authentic Cantonese /Szechuan cuisine and Dim Sum by trolley carts to Calgarians since 1966.

Due to the downturn of Oil and Gas business, high office vacancies in Downtown and now under the restrictions of public gatherings because of COVID-19, our restaurant has suffered significantly with the loss of customers, revenue, lingering operating costs

ISC:

1/2

Unrestricted

May 25, 2020

10:03:38 AM



Public Submission

City Clerk's Office

(i.e. lease, property tax, BIA levy, utilities, etc.), This loss of business and revenue cannot continue much longer which may cause loss of job positions.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

However, as soon as COVID-19 is under control, 1-2 years away, I fear that Chinatown will suffer further reductions as Green Line LRT construction gets underway along Centre Street at Crescent Heights but this will continue for eternity. The proposed Centre Street alignment includes redesignation of the 2 center-lanes for dedicated north-south LRT and BRT lines from Chinatown through 16th Avenue North; FOREVER.

My business and many others in Chinatown cannot suffer this 'choke-hold' on Centre Street that will severely restrict optimal business performance and prosperity. Traffic congestion will impact those customers who predominantly come from Calgary's north central region and those out of town customers who travel into Calgary by car.

I have been told this is the time for City Council to re-examine the impacts of the Green Line LRT on Chinatown and to explore other transit options for Calgary north-central rather than surface running LRT. I have been told that an enhance transit and BRT system could be achieved within the \$4.9B budget through the savings of LRT at Centre Street and eliminating the LRT bridge across the Bow River. This should be seriously considered along with the benefits of protecting the peacefulness of Prince's Island Park, the wetlands and the birds, fish and wildlife habitat.

Sincerely,

Annette Fung

Copies: His Worship, Mayor Naheed Nenshi
Members of Calgary City Council
City Manager – David Duckworth
General Manager – Michael Thompson
Chinatown BIA

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Joe

* Last name Slabe

Email joeslabe@yahoo.ca

Phone

* Subject Input to the Green Line Committee

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I'm writing to support moving ahead with the Green Line as it's currently proposed. I've watched with alarm as a group of wealthy individuals have attempted to convince council and Calgarians not to move ahead with this project. I suspect that few if any of them regularly take public transit so I view their input as out of touch and not in the best interests of the community as a whole. Having lived in Calgary for over 50 years, I've been frustrated with the infrastructure deficit in our city. I believe this is the time to move forward with confidence on this project as the social and economic benefits outweigh the risks outlined by a group of shortsighted naysayers opposing the Green Line for their own, selfish reasons.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name John

* Last name Scott

Email rocketboot@gmail.com

Phone

* Subject Public Transit to fight for the Environment and against Poverty

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Though we value the green spaces within our city, we have to think of the big picture. Extending the city's public transit will reduce cars on the road, which will positively effect the environment beyond the benefits of a single park.

Those with limited mobility rely on services like public transit to bring them closer to basic essentials, connects them to employment opportunities, and allows for a higher quality of living.

Public Transit brings people together and expands communities for those in need to find the support to help them move forward. With this additional access It helps to level the playing field, providing more people with the means to succeed and contribute to the progress and prosperity of our city.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jane

* Last name Ebbern

Email jane.ebbern@gmail.com

Phone 403-283-7162

* Subject Imperative to Approve the Proposed Stage One Alignment of the Green Line

Dear Councillors and the Mayor,

There has already been extensive citizen engagement and discussion and engineering revisions to the original Green Line plan over the last 2 years and city staff are now presenting a well thought out, well researched green line project for approval. It is time to stop talking about the green line and get this shovel ready project approved and in progress. Here's why.

- of the \$4.9 billion cost, \$3 billion of this is coming from federal and provincial coffers and to delay further, puts this funding at some risk.

- more than ever, during our COVID19 economic recovery, we need the huge jobs benefit of this major infrastructure project - an estimated 12,000 direct and 8000 indirect jobs.

- this line is a key environmental advance - estimated at taking 6000 cars off the road on opening day for a savings for 30,000 tonnes of greenhouse gases.

- this line will provide better transportation choices, particularly for the more vulnerable Calgarians and should promote more transit oriented development. And better transit is a key part of attracting new businesses to Calgary as we seek to diversify.

A small, special interest group of wealthy Calgarians is trying to derail the proposed

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

ISC:

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May 25, 2020

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Public Submission

City Clerk's Office

Green Line project at the last minute. They somehow seem to think that they are better able to assess construction and engineering risks and transit route alternatives than our transportation experts at city hall? They talk about the need to "stop, look and listen", but we have been doing just that for 2 years and it is time to now get this project underway. The Green Line is vital for Calgary's future. Let's get access to this federal and provincial funding soonest possible and get spades in the ground please.

Please vote to approve the proposed Stage One Alignment of the Green Line on June 1st.

Sincerely,
Jane Ebbern
a concerned Calgary citizen



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Dave
* Last name	Colquhoun
Email	daphnecolquhoun@hotmail.com
Phone	17788211967
* Subject	Calgary Green Line Concerns
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	Please accept the attached letter for consideration at the next meeting of the Calgary Green Line Committee.

2020 May 25

Dear Mayor Nenshi and Councilors:

SUBJECT: CALGARY GREEN LINE CONCERNS

Each of you recently received a letter from my former transit colleague, Neil McKendrick, outlining several valid concerns with the current phasing plan for the Calgary Green line.

I worked closely with Neil for 30 years in my previous role of Manager of Transit Planning at Calgary Transit and Transportation Co-lead for the Calgary Transportation Plan (2009). I agree with the concerns Neil has identified and believe that the current plan to build two short LRT segments in the north and southeast sectors will not provide the level of mobility benefits which Calgarians should expect from a \$4.9 billion capital investment. To reinforce this point, I would like to highlight some of the lessons learned from the phased construction of the Northwest LRT line.

The completion of the northwest line to the University of Calgary, in 1987, had the benefit of directly serving major educational institutions and the 1988 Olympic Games venue at McMahon Stadium and attracted significant ridership from across the city. However, I believe that it's fair to say that the line did not meet the service expectations of many northwest residents due to excessively long feeder bus travel times to the LRT terminus and resultant lack of travel time savings compared with previous express bus services. As a result, public pressure led City Council to endorse operating costly duplicate bus services to downtown from Ranchlands, Scenic Acres, Ranchlands and Dalhousie for sixteen years, until the line was extended to Dalhousie in 2003.

Unfortunately, similar complaints will likely be raised if the southeast line is terminated at Shepard Station as a large segment of the catchment areas will be beyond a 20-minute feeder bus travel time. Based on Northwest LRT rider surveys, we learned that feeder bus ridership falls off significantly beyond this threshold. As 60 percent or more of LRT riders typically arrive by feeder bus, and given the limited park and ride opportunities available along the line, it is critical that the line be extended to McKenzie Towne and preferably, to Seton to achieve the best possible ridership for a \$4.9 billion investment.

It is my view that there is no reasonable justification for proceeding with the short LRT segment along Centre Street as it will in no way replace the well-used express bus services in this corridor. Investment in LRT services in this corridor should be deferred until sufficient funding is available to properly serve the population base in north Calgary.

Some Calgarians are saying that The City should not be investing in new transit infrastructure at this time, given the difficult circumstances we are currently facing with the Covid 19 pandemic, disruption in the energy industry, and the resultant impacts on downtown employment and transit ridership.

I do not share this view and believe that investing in the green line will aid the city's economic recovery by creating essential local jobs and positioning Calgary to adapt to future challenges associated with climate change. However, the current challenging circumstances demand that Council take every step possible to minimize risk by ensure that the Green line can be completed within budget and to ensure that the project achieves the greatest return on investment with the available funding.

It is unlikely that any level of government will have the financial capacity in the foreseeable future for further extension of the LRT line; therefore, whatever is built must withstand the test of time for many years.

Constructing two short LRT segments, as proposed, is not the best use of limited tax dollars and will provide little benefit for either corridor at a significant cost. Therefore, my recommendation is that the greatest benefit and return on investment would be to construct the entire Southeast LRT line – downtown to Seton and minimize the extent of tunneling or elevated segments for the downtown. Plans to extend the line northward along Centre Street at this time should be dispensed with and any savings in capital funds should be used to upgrade bus rapid transit services in north Calgary.

This is a critical decision for Calgary's future, and I urge you to carefully consider these thoughts.

Sincerely,

A handwritten signature in cursive script, reading "Dave Colquhoun". The signature is written in dark ink and is positioned above the printed name.

Dave Colquhoun

Former Manager of Transit Planning, Calgary Transit



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Denise

* Last name Chan

Email dbbchan@gmail.com

Phone

* Subject June 1 - Green Line Committee Written Submission

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I was surprised by the overall positive tone of the May 12 report. Many issues are not addressed or the solutions/decisions are detrimental to my property. Concerns I still have include:

- Number one concern is safety. People push the limits on the yellow lights/flashing hands when crossing Centre Street.
- Traffic impact studies not complete until after the project has begun (i.e. relying on Google Maps to reroute traffic – comment from traffic expert at the Open House!). Concerns about impact to Rosedale, Renfrew, and short cutting through Crescent Heights. Traffic calming measures like circles and humps will likely be suggested but do not reduce the risk to zero, especially for all the small children in the area. Further, there were no answers on how 16th Avenue will be impacted by a station and reduced traffic flow. 16th is congested, even on the best of days. Will this push further traffic into the neighbourhood? Edmonton Trail is also not equipped to handle double the amount of traffic.
- Loss of parking on Centre Street (and likely Edmonton Trail in the future) pushes parking into the neighbourhoods. With more dense housing being built (a topic for another day), there is already a lack of parking on some streets in Crescent Heights. Where are people visiting businesses going to park? What is the impact on the viability of the businesses as well?
- 9th Ave Station – not welcomed. Centre running train forces the worst of both worlds – a station and still allowing right hand turn traffic into the community. Crescent Heights already experiences inner city crime (car theft, garage break ins, garbage picking). A

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Public Submission

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train station will bring increase foot traffic and crime into the area. Will Calgary Transit strictly enforce ticket purchase to ride the train north to reduce this traffic?

- This says nothing of what our Eau Claire neighbours are losing. I cannot begin to describe what a train bridge across the city's river and Prince's Island means to the area. I walk to work year round and highly value the river area and the wildlife it brings. I greatly worry about the impact of another bridge on wildlife.

- Noise pollution where the bridge will come over the river which impacts our neighbourhood park and playground (Rotary Park) is a big concern. We use this space every day for half of the year and this is a disruption to the enjoy ability of the area. We already pay a large property tax bill. I forsee this bill increasing for decades to come.

I was surprised by the overall positive tone of the May 12 report. Many issues are not addressed or the solutions/decisions are detrimental to my property. Concerns I still have include:

Number one concern is safety. People push the limits on the yellow lights/flashing hands when crossing Centre Street.

Traffic impact studies not complete until after the project has begun (i.e. relying on Google Maps to reroute traffic – comment from traffic expert at the Open House!). Concerns about impact to Rosedale, Renfrew, and short cutting through Crescent Heights. Traffic calming measures like circles and humps will likely be suggested but do not reduce the risk to zero, especially for all the small children in the area. Further, there were no answers on how 16th Avenue will be impacted by a station and reduced traffic flow. 16th is congested, even on the best of days. Will this push further traffic into the neighbourhood? Edmonton Trail is also not equipped to handle double the amount of traffic.

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9th Ave Station – not welcomed. Centre running train forces the worst of both worlds – a station and still allowing right hand turn traffic into the community. Crescent Heights already experiences inner city crime (car theft, garage break ins, garbage picking). A train station will bring increase foot traffic and crime into the area. Will Calgary Transit strictly enforce ticket purchase to ride the train north to reduce this traffic?

This says nothing of what our Eau Claire neighbours are losing. I cannot begin to describe what a train bridge across the city's river and Prince's Island means to the area. I walk to work year round and highly value the river area and the wildlife it brings. I greatly worry about the impact of another bridge on wildlife.

Noise pollution where the bridge will come over the river which impacts our neighbourhood park and playground (Rotary Park) is a big concern. We use this space every day for half of the year and this is a disruption to the enjoy ability of the area.

We already pay a large property tax bill. I foresee this bill increasing for decades to come to account for the costs of the Green Line. All this while the project destroys the value of the neighbourhoods.

I appreciate that a large team has worked on this project of many years. I have met some of them at the open houses. However, rushing through this decision just to make use of the funding is short sighted. Many residents living in both Crescent Heights and Eau Claire have made lifetime decisions on where to live based on plans ten years in the making. This now feels like a betrayal and that is disappointing.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Vaneesa

* Last name Cline

Email vaneesa@shaw.ca

Phone 4038623905

* Subject Greenline

I lease an office space inside the boundaries of the Crescent Heights Village BIA and am a long-time resident of the community. Based on information shared by others through community engagement and while engaging in activities as they related to the establishment of the Crescent Heights Village BIA, I spoke in front of City Council in September 2019 about the benefits of having a tunnel under the river and to continue below the surface up to the 16th Avenue station. After much more thorough research on similar projects elsewhere and their impact, asking questions of the Greenline Team, gaining a better understanding of what makes a world-class city, reading, and questioning, I have changed my position.

The vision for the Green Line north of 16 Avenue N has been a surface running train since the city's 2017 recommendations. It makes more sense to have the Green Line stations south of 16th Avenue also at surface level. This option allows for a station at 9th Avenue N that integrates into the community and the businesses around it and will finally provide Crescent Heights residents and businesses better transportation in this community.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The current recommendation the Greenline team checks all the boxes. While there are still some questions, they are not unsurmountable and it does not seem sensible to defer approval of this recommendation.

For many business owners, especially those in the service industry, the Greenline can

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Public Submission

City Clerk's Office

help provide access to workers in a larger geographic area because of the increased mobility and efficiency. It also provides the opportunity to take transit into the core for meetings, lunches, and conferences at the local hotels and conference facilities without having to find parking.

The Greenline team is professional, acts with integrity, and has access to many experts with a wide scope of diversity to help ensure they get it right and make the best decisions for Calgary as a whole. While there are challenges for current business owners and community as anticipated, there is nothing that cannot be overcome with their continued consultative approach, and creating programs to help ensure business owners can still thrive during this period.

I am confident the city will re-assemble the man-made marsh and wetlands area known as the Chevron pathway, and that once the train and bridge are built, more pedestrian traffic in the area will deter the re-establishment of the numerous homeless camps in the area.

Let's not lose the tale

Calgary has one of the highest migration of young people to other cities. We are potentially losing future talent. Let's build a world-class city and do what we can to help young people stay and carve out their own life. Let's embrace our Western Canadian Heritage, take our savvy, innovative intuitiveness, and build bridges to help everyone end this decade better than we started.

The last few months have provided an opportunity for safe engagement online. The pandemic provided an opportune time to engage while people were home, not going out to movies, the gym, and generally having a little more time on their hands. My feeling is the additional time already given is more than sufficient for all stakeholders. While in-person engagement is appreciated, I hope that after our pandemic pause, the City of Calgary will continue to include online town halls.

One of the most significant challenges for the north Centre leg of the LRT has always been the barrier of the river and getting over or under it. This failure to get it done has contributed to the lack of mass investment and development. Centre Street as a corridor, whether you look at the section before 16th Avenue or areas farther north toward McKnight, is decaying. There are several areas along this corridor that are not developed, derelict, and many properties that are unkept and increasingly worsening over time as properties age.

When there was significant public opposition to the recommended LRT alignment through the community of Sunnyside, implementation priority was shifted to the northeast line – delaying it being built. However, once the LRT to Sunnyside and farther north was completed, local businesses grew and residential housing prices increased in value and made it a much more desirable neighbourhood for both young families and people who wished to age in place, and have a community they could live in long term – without having the burden or financial expense of a car.

My concern about delaying proceeding with the Greenline and the Centre Street alignment is that it will further put many of Calgary's loved and well-established communities at risk of thriving. Many well-established communities north of the Centre Street bridge have been waiting, waiting a long time.

Property owners pay the same mill rate. This means that for our 'higher valued' inner-city residences, that are on less land, residents who likely use less roadway on our commutes, one could presume we are less of a burden on the tax system – but they close our inner-city schools (provincial), forcing people with children to move farther out, offer a poor police presence, lack inner-city grocery (food desert), close recreation centres (municipal), blow up our hospitals (provincial), and let our main streets suffer (municipal).

Inner-city communities have been subsidizing the rest of the transit system for nearly 40 years since the first LRT line was built. Since then, communities much younger than ours have an LRT station because it was easier to extend the line than dealing with the barrier of getting over the river. People in these communities have been paying taxes repeatedly. It is time for these communities to benefit from this type of infrastructure. We have not been a priority in the past. Many of the communities directly north have been paying taxes for years, many times over that of other communities that have LRT. We probably could have paid for LRT over and over, but don't have a line all because of the barrier of the river and getting over or under it.

Let's not forget, many of these communities we are now trying to get to are more than 40 years old.

- Beddington Heights established in 1979,
- Huntington Hills in 1967,
- Thorncliffe was established in 1954,
- Capitol Hill in 1948,
- Winston Heights - Mountview in 1932,
- Tuxedo in 1929,
- more than 100 years ago, Mount Pleasant in 1912.
- And a few more communities not mentioned.

And for Crescent Heights, I feel one of the biggest challenges is to help ensure we have access to a good transportation system that includes accessibility for vehicles, pedestrians, and good public transit that serves us and the rest of the city without sacrificing the enjoyment of living in our community or negatively impacting our property values.

I've had a few people say to me that they see lots of people from Crescent Heights walk up and down the bridge, as though we like it and want to be active. Don't get me wrong, I love anything that can incorporate getting healthy and staying active, but I hate not having the option of being able to take the bus downtown. What do I mean by that? Often, especially during peak times, if you're trying to catch a bus south of 16th Avenue N, the busses just bypass you because they are at capacity.

And I am not looking to just take the bus downtown. Most often, I am trying to get through downtown and into Mission and Mount Royal, on bus routes, that bypass me as I walk down Centre Street North. Half a person's commute should not have to be on foot, along the bus line they intend to use, and for me, it has totally discouraged me to take transit, and I can honestly say, my neighbourhood is treated as a thoroughfare for the benefit of Calgary.

With Centre Street shifting to a mass transit corridor, more people will take transit, it could reduce traffic congestion on Deerfoot, and help encourage people who used to take Centre or Edmonton Trail most of the way down, back on to the Deerfoot where they should be, and single-vehicle traffic left primarily for local residential and business traffic.

We are already used as a thoroughfare for the rest of the city, with 3 lanes of traffic into the core in the AM, and 3 lanes northbound out of the core starting in the early afternoon. This traffic does not stop – they are passing through. This is not good for the local business. What I find a little frustrating is that inner-city residents, past and present, including those in Crescent Heights, have been paying city taxes over and over and again and we are still not properly served by transit. Great transportation systems need to serve all kinds of stakeholders, whether it's daily commuters, occasional users, businesses, and staff along the routes, landowners, developers, and tourists to name a few.

I am a fan of the development that is happening around 8th and 9th Avenue N, I do not think that recent developments that have helped spur on recent economic activity, and made living in the neighbourhood a little more pleasant, as sustainable for the long-term. The primary concern I have is that that the LRT not coming up Centre Street North will continue this decades-long halts in improvements.

Build station on 9th. Help us to finally get good, environmentally safe, pedestrian-friendly cost-efficient transportation to Calgary's north. And in September 2019, I spoke to City Council advocating for how much I favoured underground tunneling, a 9th Avenue Station, and how much better it would be for the City of Calgary and the community of Crescent Heights. I wish to have that struck from the record.

I am a resident who lives near the south side of Rotary Park, has a professional business operating out of 1110 Centre Street North, and one of the founding Board Members for Crescent Heights Village BIA... I've spent a lot of time thinking about the short-term and long-term consequences of building the Greenline north along Centre.

Like many of you, I have several concerns about this project and agree with many that it is important to 'Build the Project Right'. The traffic on Centre Street is a nightmare. Being a pedestrian during lane reversal AM and PM is dangerous because of poor visibility, especially during the winter months and often cars do not stop for pedestrians, they just plow through Centre Street at excessive speed. Traffic does not treat us as a residential neighborhood, or as a gateway to connecting downtown to the north side – we are more like a speedway of traffic in and out of the city core that is not supporting our local businesses. One good thing is that at least the Calgary Police can catch some of these speeders.

I also think the train will encourage transit use and help get more people out of the core and make driving along Centre street easier and give more room for the 6 or 7 BRT and bus routes (301, 2,3,17, etc.) get moving more quickly, without having to go over the speed limit.

LRT's help gets more people in and out of dt core, reduce unnecessary vehicles along Centre St make it safer for pedestrians & residents. Busses more room to safely navigate more efficiently, and quickly up to 16th Avenue and beyond. With fewer people in their cars by creating more transit users (ie not diverting them to other roadways) and providing buses and BRT lines with more room, it could help relieve a lot of unnecessary congestion.

During peak hours, no parking is available on Centre street, because of lane reversal. I also hear from my clients and clients of other people in the area that they feel unsafe parking along Centre Street because of the fast speed of traffic and opt to pay for parking on the side streets, where they feel safer.

During the daytime, I see almost no one parked between 9th and 13th Ave. While the loss of parking is minimal during this economic downturn, it is important the city address public parking for people who choose to drive. This can be done in part by ensuring public parking is made available for a nominal cost in new developments that go up, much as the city did with construction projects like Kensington Gate. It's cheap, accessible, and easy to use.

There is no denying that the parking revenue adds up over the course of a year. But let's face it \$20,000 of parking revenue over 6-day weeks is \$64 daily for the area (is this up to 16th AVE and both sides of E/W)? This helps drive to my point that few park here.

I am also concerned about the lack of not having a station at 9th Avenue. While I initially favoured tunneling, it no longer makes sense to me. The ecological impact on wildlife and fauna, temporary disruption of river flow, and the high cost of ongoing maintenance for a tunnel that has to transition from above ground to underground in a severe winter climate where the temperatures often change 20 degrees Celsius (and more) in 24 hours is unimaginable. Especially when concrete cracks more in wintry weather.

I am confident the city will re-assemble the man-made marsh and wetlands area known as the Chevron pathway, and that once the train and bridge are built, more pedestrian traffic in the area will deter the re-establishment of the numerous homeless camps in the area.

These are photos I took the morning of May 24, 2020





This also leads to me consider how 'desirable' it would be to be in a deep underground subway tunnel. The amount of ventilation that would be needed, especially during times of extreme weather changes, sounds like quite the challenge. I can only imagine the sound of high-pitched fans that would be required to move the air around. Not a very pleasant experience, nor a safe one. Then there is the challenge of electrical – especially when flooding occurs.

This ambient noise would help make it more difficult to be aware of your surroundings, and in the event, danger presents itself, fewer places for you to go. The huge benefit of a surface line station is the additional blanket of safety it could provide. Ie – having the option of popping into a café to buy a cup of coffee or walk up to a restaurant and ask them about their menu.

We've seen some high-density residential, office, and retail development that has occurred next to existing LRT stations at Lions Park (northwest), Stampede/Elton (South), Southland (South) and Franklin (Northeast). These additional residents help support the success of many local businesses, whether it is the dentist, coffee shop, grocer, or local restaurant, without increasing traffic. Proven examples that higher density does not necessarily increase traffic congestion – it's people starting to recognize the value of living and working close to the LRT system.

When you consider car repairs, fuel, loan payments, parking fees, insurance, taxes, and licensing, traveling by LRT is certainly inexpensive, convenient, safe, and environmentally friendly.

The City of Calgary has presented some great ideas – ones that I am hopeful they will follow through on. For example, the showed how they can

- integrate the scale and design of stations with adjacent land uses
- have a design that offers the barrier-free accessibility standards
 - o which are potentially even more important in a post-covid world, ie helping to prevent the spread of diseases.
 - Having to go underground, possibly through more doors, needing to hold onto handrails while on stairs, concerns about being in more confined spaces, and touching surfaces that hundreds of other people touch during a day can lead to the spread of bacteria and viruses. While we know we can mitigate these risks by practicing proper hand sanitation, but even the most careful passenger can still pick up an infectious disease.
- If it is underground, there need to be no steps to help ensure accessibility for all (long runways – not stairs
- I also hope the city will invest time, effort and funds (beyond main streets) to ensure the station design functions well, is intuitive, understandable and creates a “significant place” in the community from a customer perspective
- Have a station where the people are. Many conscientious people understand that and are helping to ensure LRT is going where the demand is (present or planned), **not** just somewhere it is easy to get land (ie along Deerfoot to Nose Creek)
- While closed-circuit cameras, security can only do so much, and would feel more vulnerable in a subway, and have less worry on a surface line, and feel less at risk for pickpocketing, assault
- During crowding, there are only so many ways to get out. Exits only on either side of the corridor

Part of me is surprised we are still discussing tunneling versus surface and I am a bit frustrated even with myself for somehow letting myself get pulled in to a position that undermines the expertise and planning of the transit project.

Even in 2004, more than 16 years ago, expert Urban Planners, and engineers, stated the challenges of having a tunnel under the Bow River would mean the train may stay underground until 16th Avenue or 24th Avenue N.

I feel some people are trying to get into the weeds. I understand part of it. We need to have something to help ensure the city is accountable. But I also feel like some of these questions cannot be answered. That they are two specific, like having to know the brand of kitchen taps you want for your kitchen reno – but you have not even started the demo yet. I trust the experts and the Greenline Team because they have taken a consultative approach. This project has been vetted and vetted.

I am primarily concerned about noise, pedestrian safety, and overall quality of life – and feel the city has adequately answered these questions.

Convenience - Congestion is a huge issue in Calgary. I hope that more LRT users (especially in the core) will help relieve congestion, especially between Memorial and 17th Avenue S.

Safety - Ditching the car can potentially save lives. I read a study on publictransportation.org, ditching the car, and taking public transit saves 200,000 deaths every year. While the source is American, I would presume it would be similar in Canada. According to the International Association of Public Transport, light rail is approximately six times safer than traveling by car.

On Centre Street, we currently have the C train route 301 running north and it does not serve our community as it stops at 16th Ave. The BRT lines are unpredictable, and I don't feel safe walking or biking around them. They interrupt and impede the flow of our traffic and waste space with dedicated lanes but don't move that many people when compared to LRT.

Reliability - Because light rail cars travel on tracks, they can still run in some adverse weather conditions in which buses & cars cannot. They stick more to a schedule than BRT

Environmental Benefits - LRT is extremely green.

The cost to maintain an underground station especially during the winter months would be more costly than a surface line and more cost-efficient and better use of taxpayers' money

The current BRT vehicles and buses in use are very noisy. While lower-cost initially, not as environmentally friendly, and require a lot of maintenance because of the rubber tires that need changing much more often (and used tires end up in landfills) when compared to metal LRT wheels. Metal LRT wheels also use less energy and offer lower operation & maintenance costs.

I trust the city to have a thoughtful approach when taking into consideration ecology and wildlife in our urban setting. The landing area of the south end of the bridge integrates nicely. There is lots of room for cyclists, pedestrians, and families to hang out and I like how it enhances the green space.

An LRT above ground would have less impact on water table and disruption to wildlife.

Don't have construction during nesting periods or times of local migration. DO IT RIGHT. A bridge is better for the environment. Not a tunnel.

Crescent Heights is primarily a residential neighbourhood that is also an important link to the downtown core and gateway to the northside of the city. Having a Centre city leg that links the south and north supports employment and increased residential density in the downtown core.

Currently, Centre Street serves as a thoroughfare in and out of downtown, where there are 3 lanes of traffic heading into the core in the morning, and 3 lanes coming out of the core starting in the afternoon. I have often been concerned for my safety when out for walks along Centre Street.

The surface line will help slow down traffic, making it more pedestrian-friendly as long as it is designed in a way that it is integrated with the streetscape like the city says and not barrier right down the middle of the community.

I've experienced firsthand how well-planned transit systems help commuters of all types help cities thrive, support economic development, encourage tourism, foster the development of business and cultural districts, and make a positive impact.

Pre-COVID, and soon post COVID, it is important economic development, cost, and the actual benefit are

I would like to know what the current average hourly operating cost of LRT is, including operating, maintenance, and utility costs. Versus the average cost per bus passenger. I would also like to know more about what Calgary Transit overtime costs were in 2019. It is challenging work, and I imagine a hard job to recruit for.

The Green Line project is very much in alignment with the federal government's stated goals and platform on environment and job creation, and the provincial governments' recognition that infrastructure is an excellent way to boost the economy and provide much-needed jobs, especially for those who have skills that they are not able to use in an industry that may not have work for them soon. I am confident we will find a workable solution.

The City has acknowledged they can do better to communicate to stakeholders on this project and already know what they need to implement. We have a strong staff on CHV BIA and CH CA to help ensure the city is accountable. I trust the city will manage disruption and BIA and CA will be there to help mitigate that.

Building the LRT does have an impact – it will bring more people, more improvements. It is important local businesses are supported by residents. Those who are creative, innovative, and offer a quality product, service, will get through it.

The City of Calgary and staff have done an excellent job with the budget regarding capital operational maintenance cost and the overall value. Jobs and infrastructure projects go hand in hand and are an excellent way to create them, support local businesses, and help our economy recover. LRT means we have lower labor costs which are especially important because it's already difficult for Calgary Transit to attract new drivers.

Up to 16th is where stage 1 ends, the city has shown charts where it shows many users will be those living and working in the core – and they need access to better transportation. It should not take 3 buses to get from Crescent Heights to Ramsay or the nearest farmers market.

A thoroughfare straight to 16th Ave would be a detriment to long-time established and emerging business district developing South of 14th. Of course, make sure there is sufficient traffic signage, but don't clog up the street with it.

Chinatown, Eau Claire, and the downtown core are not properly served by grocery stores, and they need more access to choice. A train up to 16th Avenue will help make it more accessible to Co-Op and Safeway on and near 16th.

I love how the bridge integrates with the skyline less over traffic will mean less noise from Centre St current buses are very noisy and movements unpredictable and not safe to be around.

And the low profile of the bridge samples helps us still see lots of skies! The pathway examples and bike lanes are cool too.

The 9th Ave station helps serve the community- doing so will help move people in and out of the core allowing people off at night will help ease congestion and open up more spots for users getting in at 16th Ave North

There is a lack of residential development along Centre St north up to McKnight. The development of Phase 1, followed by Phase 2, could help boost investment and get more development along with derelict parts of Centre Street.

Of course, these benefits do not come for free. Building a rail system comes with significant upfront costs & ongoing expenses to provide affordable means of transportation and support tourism. We subsidize roads too.

ADVANTAGES of LRT over BRT

- More comfortable ride
- Higher passenger capacity per lane per hour in the right conditions
- Lower operating costs per passenger
 - Rubber tires
 - Drivers
- Lower noise, both inside and out
- A benefit to other road users where surfaces are rebuilt - i.e. fewer jolts for the buses
- Aesthetic - very well-designed trams are adding visual appeal to the urban landscape
- Seen as a positive benefit to areas - part of urban renewal schemes, affecting property values

- Legibility - people including infrequent public transport users can see where it goes and feel confident a LRT vehicle will come soon
- A 9th Avenue side running station could integrate well into the community
- Symbolic value: owing to the cost and effort required, can be seen as proof that a government is committed to public transport

DISADVANTAGES of LRT compared to BRT

- Higher capital costs - initially
- The inflexibility of route e.g. in case of breakdown or a temporary street closure due to a special event or parade
- Disruption to traffic and local businesses during construction
- Too many people think they are a transportation and urban development expert
 - Construction disruption

The LRT may help induce investment and development. I read a report that said some industry sectors have a greater propensity to locate near transit, that knowledge-based industries tend to locate in high-density areas, which are close to mass transit systems. I think there is a possibility we could have a little 'hub' of something. Maybe we are an incubator neighbourhood for start-ups, or something else.

Traffic-related deaths are lower for light rail than for buses.

Sources: Centre for Transit-Oriented Development; Old Dominion University's 2010 State of the Region ReportCons

Benefits - It would be easier for employers to offer employees incentives to take transit to work. More about that here <https://www.vtpi.org/tranben.pdf>

Back in the early 1980s were in a recession. Housing prices fell by 20% in Calgary, unemployment and interest rates were high, bond rates were low in relation to high-interest rates.... but building the C-train line was still a success. I think this decade can be the same.

As of 2017, Calgary has one of the busiest light rail transit systems in North America, with 306,900-weekday riders, and has been growing steadily in recent years.^[8] About 45% of workers in Downtown Calgary take the CTrain to work. Please don't take anyone too seriously if they are comparing the cost of this to other infrastructure projects, or government costs (ie healthcare, schooling, roadway). It seems to go against common sense to link them.

Lastly, I am curious about what is building it right? The City of Calgary advised it is not technically feasible to build a tunnel under the river as the cut and cover method required through the downtown core means the Eau Claire station won't be built at a sufficient depth to permit tunneling under the river. So regardless of whether the northern segment to 16th is built now or 20 years from now, we are going to have a bridge. Let's move forward.

Regards,
Vaneesa Cline



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Veith

* Last name Becker

Email vtb@gmx.net

Phone

* Subject Green Line support

Hi there,

I am writing to express my strong support for the proposed green line project on as fast a schedule as possible.

We need the green line to

- provide equitable transport options for all Calgarians,
- reduce the need to own a car to live and work in Calgary,
- replace car trips and thus reduce the need for extensive car infrastructure that reduces density

I am a Crescent Heights resident and I am not concerned that this will have negative long term effects on the neighbourhood, quite the opposite. I am certain green line will facilitate business along its run due to above mentioned effects.

Green line must not delayed any further, Calgary's current traffic concept is already not sustainable anymore and a modern traffic concept that is applied broadly and with determination is long overdue. Any further delay will leave Calgary unprepared for the future that is certain to come and we will regret stalling it now for decades to come.

* Comments - please refrain from providing personal information in this field (maximum 2500)

I am quite frankly disappointed that in matters of urban development public engagement plays such a prominent role while effective means to improve this city are straight

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May 25, 2020

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Public Submission

City Clerk's Office

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forward and well tested all over the world. Why do I as a layman have to spend my time writing statements like this when experts and studies all over the world show how it's done for decades now? Stop listening to unfounded opinions of nay sayers and follow expert consensus that is proven to work.

We also cannot stop with just the green line. We need more LRT or tram lines on a significantly accelerated schedule in a town of more than a million people as well as other equitable transport option, especially bike infrastructure, to be prepared for the many challenges of the future, which will not be the challenges of the past. Transition away from Ressource based economy will have Calgary competing with a host of different cities worldwide with often vastly more advanced urban living concepts for jobs and investments. It honestly feels as if calgary is dropping the ball on this trend, being inactive where it shouldn't and spending time and resources on tent pole projects that will appear as the ruins of the priorities of old rather sooner than later and will lock Calgary in outdated infrastructure that is a liability already today.

It is time to turn this city around to make it work for all Calgarians. We cannot focus on ring roads, vanity arenas and at the same time dismiss projects that provide actual long term improvements and returns for all.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Nathan

* Last name Liegman

Email nliegman@gmail.com

Phone

* Subject Green Line June 1 Submission

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am very concerned that many aspects of the updated plan for the Crescent Heights have not been adequately addressed. I think it is absolutely irresponsible to move forward with the proposed plan without more community engagement and a DETAILED plan to address the following:

Parking – The committee has not investigated, or at the very least, communicated the impact on the community of reducing two lanes of parking. How will this be addressed?

Vehicle traffic – Same concerns. Are there models showing where traffic will be re-routed. How much cut-through traffic is expected. How will this be mitigated?

9th Ave Station – Most neighbors I have spoken with do not want this station and I was very surprised to see this put forward in the new plan. Will this increase the amount of undesirables in the community? How will this affect property density?

Pivoting directions to a surface train adds myriad new impacts to Crescent Heights and should have been matched with the same level of consultation. Based on my attendance at the various open houses, this new plan feels rushed. The community was supportive of the original underground plan. We are not supportive of this one.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Michael

* Last name Glaser

Email michaelg822@gmail.com

Phone 4037028014

* Subject Support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
As a homeowner in Ramsay the green line is so important for my family. I believe more public transit is a great thing for the city and fully support the plans for this project.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Randy

* Last name Wall

Email r17wall@gmail.com

Phone 403-827-8700

* Subject Green Line Committee, June 1, and Green Line Council, June 15

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The proposed changes to Centre St. for the proposed Green Line will have a negative effect on the North Hill for decades to come. Reducing traffic to one lane in each direction, with ZERO street parking, will cause immeasurable harm to the businesses, as well as those who simply use Centre St, to travel by car. Those 20,000 vehicles per day will need to find some alternative- which alternative has never been suggested by the planners.

Having only one lane will not only create chaos for personal vehicles, it will also significantly disrupt Calgary Transit. This will be especially true for the successful BRT, which leapfrogs the conventional Transit buses. With only one lane, the BRT buses will be forced to stay behind personal vehicles and conventional buses - rendering the BRT trip to be no different than a conventional bus trip.

With many of the cross-streets closed, and with only one lane, the routes for large vehicles will be impacted. Will delivery trucks still be able to access businesses? Will school buses still be able to access their schools and drop-off points for students?

The proposed massive transformation of the North Hill into a pedestrian-only area would take between 20 to 30 years to even BEGIN to have a positive effect.

In the meantime, there will be one station (15 Ave N), or possibly two stations (between 9 and 10 Ave - 500 meters from 15 Ave station - what is the point of a station so close to 15 Ave and so close to downtown? There are hardly any passengers that board southbound buses to go downtown on that stretch of Centre St.) that dead-end, and will remain a dead-end until at least 2030.

This proposed north segment of the Green Line seems to be purely ideological - a

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May 25, 2020

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Public Submission

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solution in search of a problem.

I agree with those that find creating an entirely separate LRT system, both as to type of track and type of cars, that will create an additional \$500 million in cost, to be gratuitous.

I also support the expansion of the BRT for the North Hill instead of the very ill-conceived plan for the Centre St LRT that will disrupt the North Hill for decades.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name
Bruce

* Last name
Brownlee

Email
bruceabrwnlee@gmail.com

Phone
403 852 9052

* Subject
Calgary Green Line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I take issue with the change of direction to the original 2017 alignment. Specifically the new proposed above grade bridge north of Eau Claire thru Crescent Heights terminating at 16th Avenue N. Not only will this new proposed alignment have an impact on the residential community (devalued properties, annexed properties (River Run) but it will have a long term effect on the natural environment of the Bow River and Princes Island. Further impacts will be felt on the flow of traffic on Centre street with an elevated LRT that will remove 2 lanes of traffic on the bridge to downtown. This will impact all businesses from Chinatown to the Beltline. I understand the need for the Green Line but strongly urge council and his worship, May Nenshi, to reexamine this Northern section of the Green line. This leg of the Green line should be as was originally proposed in 2017 (underground) and if this best solution means delaying this leg of the line until proper funds are available then so be it. There are ways to increase service to this Northern section of the city thru increased BRT services until the LRT can be extended the way it was originally presented and agreed upon by all those within that serviceable area.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name James

* Last name Gray

Email Jim.Gray@brookfield.com

Phone (403) 770-7208

* Subject Green Line Submission - for June 1 Green Line Committee Meeting

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please find attached a submission regarding the proposed Green Line plan. It is provided on behalf of an ad hoc committee of concerned citizens of Calgary.
Thank you.
Jim Gray

May 25, 2020

Submission to City of Calgary Green Line Committee

For Monday, June 1, 2020 meeting

First, we want to express our appreciation to every member of the Green Line Committee, all members of City Council and the City's administration for their service to Calgary during this exceptionally difficult time in our city's history. The global crash in energy prices and the health, social and economic crisis brought on by COVID-19 have called upon you to demonstrate an exceptional level of compassion and commitment and you are rising to the challenge. Thank you.

We are in the midst of a major transformation; "Office centrality is over"

It is clear that the combination of the ongoing energy disruption and COVID-19 are transformative. What these massive disruptions mean for the future is impossible to know. Neither the energy transformation nor the pandemic have run their course. There can be no consensus on the new normal nor the extent of the changes that will result. In a survey of over 5,000 Canadians conducted by EKOS (April 30 -May 7) 73% said they expected a "broad transformation of our society" and only 26% expect a "return to the status quo" after COVID-19.¹

One of the biggest changes is the almost total shift to remote, home-based work for every type of administrative, professional, managerial, governmental and corporate employee - the people who in the past worked downtown. Zoom, Teams and other platforms for online communication and collaboration are now part of our daily routine.

In the past two weeks major employers like Shopify, Spotify, Twitter and Facebook have announced they are permanently shifting to remote work. The CEO of Shopify, the largest company in Canada (having recently surpassed RBC in market capitalization)², declared last week that "office centrality is over."³ Even after the pandemic passes, an increase in home-based work will be the norm for many. Not because people *have* to work from home. It will be because they, and their employers, *want* to. Work and commuting will never be the same. The implications for public transit planning are enormous.

Money is tight; there is no room for error

Along with this broad social transformation, the City of Calgary's financial situation (along with that of every government) is dire. Mayor Nenshi correctly said that "Calgary will be hit harder than any other city" by the global recession, energy price crash and COVID-19.

Calgary families and businesses can't afford a tax increase. With corporations downsizing and their revenues crashing, with real estate values decreasing and with many small and medium-sized businesses like restaurants and shops going under, our tax base is eroding at an alarming rate. Larger companies in

¹ EKOS Research, referenced online by Frank Graves:

<https://twitter.com/VoiceOfFranky/status/1260033305564426240>

² <https://ca.finance.yahoo.com/news/shopify-sales-surge-businesses-shift-111446602.html>

³ <https://twitter.com/tobi/status/1263483496087064579?s=20>

the energy sector will continue to downsize and may never return to pre-COVID levels. We have great faith in the resiliency of our city but we have never before faced such an uncertain future.

As a result, a thoughtful economic recovery plan and stimulus are very important. At the same time, fiscal discipline is imperative. As you know, a big mistake on a massive project like the Green Line will result in a huge economic penalty for decades. It will lead directly to cuts to essential services and projects and unbearable tax hikes on families and businesses. In short, a big mistake on a major project like this quite literally puts our city's future at risk.

The Green Line needs to be substantially de-risked

In light of this new reality Council is faced with a critical choice: 1. Proceed with the current pre-crash, pre-COVID plan; OR 2. Recognize the new reality and modify the current plan in a way that substantially reduces risk.

A Green Line plan that is cost effective and has a chance of being viable can create construction jobs in the short-run and improve service in the long-run. Such a plan will secure funding from the two other levels of government.

Based on our technical analysis (undertaken by members of our group with a background in transit planning and major transportation projects here and in other cities) we are very concerned that the current (pre-crash, pre-COVID) plan:

- Has a serious risk of being substantially over budget (both capital and operating).
- Will create two uneconomic stubs, instead of one viable line. By not extending far enough north or south to serve high-population areas, you are spending \$4.9 billion on a line that will fail. It won't improve service and attract riders at levels that can be justified by the cost. There are good reasons why every other segment of our present system was built as a viable unit to connect downtown and a suburb.
- Will require a future City Council to find billions more from taxpayers to extend the line in both directions to give it a chance of being economically viable. There is no guarantee provincial and federal governments will have the ability and desire to help.
- Contains unnecessarily complex and expensive segments along the Beltline and under downtown.
- Involves putting a bridge over Prince's Island Park and building a short and disruptive section up Centre Street North that is highly problematic.
- Is reckless to the point that it puts Calgary's reputation at risk. It risks making it more difficult to find supportive funding partners in the future and reducing public confidence in the City's government.

In light of these unacceptable risks, we offer an alternative approach. To summarize, we suggest that the City:

- Proceed with the Elbow River to Shepard segment. Much of the preparatory work has been done and this is a lower-risk segment.
- Rethink the plan for the Elbow River, Beltline and downtown segment. There is no good reason to connect the north and the south with an expensive and risky downtown connection. Most

commuters are destined for downtown. Avoid risky and expensive tunnels in favour of surface or elevated lines.

- Put the Bow River crossing and Centre Street North segment on hold. Instead, enhance BRT service for north Calgary. Consider building a north LRT line later in the event it makes sense and the funds are available.
- Consider using savings to extend the Green Line further south from Shepard. Extending to the south is easier to execute and less costly on a per-km basis. This could create one viable line between downtown and the population and employment centres in the southeast part of the city.
- Reconsider the costs and benefits of ground loaded rail cars, which are incompatible with the existing fleet of platform-loading cars.

This is about your legacy

The key point we wish to emphasize is that the current plan is an unacceptable gamble. In the face of massive uncertainty and economic fragility it would be the height of irresponsibility to proceed without fully de-risking and carefully reconfirming every element of this immense and complex project.

A failure to fully de-risk and reconfirm the project would be the most reckless decision in Calgary's history. On the other hand, a decision to rethink and de-risk the project, as difficult as this might be, will be remembered as an act of courage and foresight, and a positive turning point for the city we all care so much about.

Again, thank you

We are grateful for the time and effort you put into guiding our wonderful city. We appreciate the fact that you have made prudent adjustments to this important project in the past. We know you face criticism every time you turn around and want you to know we are here to be constructive, helpful and supportive.

Respectfully submitted on behalf of an Ad Hoc Committee of Calgary citizens,

James K. Gray
Barry Lester
Patti Grier
Neil McKendrick
Emily Farquhar (Struck)
Brian Felesky
Ken Stephenson
Daniel Cheng
Phil Roberts
And others



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Madeleine

* Last name Gustavson

Email madeleine.gustavson@gmail.com

Phone

* Subject Green Line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing this statement in staunch support of the Green Line project. Increased rapid transit infrastructure in the city is quite frankly one of the factors that will keep me from moving away from the city in the future. This project stands as an incredible opportunity for economic recovery from COVID and decreasing our city's reliance on individualized transport. An additional C-Train line is long overdue.

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May 25, 2020

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name STEVEN

* Last name HO

Email sho3.arch@gmail.com

Phone 4038706169

* Subject Updated Green Line LRT Alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

My name is Steven Ho. I am an Architect living in the Tuxedo Park community. I have projects in Chinatown and along Centre Street North between 9th Avenue and McKnight Blvd. I am very concern about the LRT running surface along Centre Street to the North end. Before the pandemic lockdown, rush hour traffic on Centre Street is slow and packed like a parking lot, especially with poor weather conditions. I can't imagine if we only down to one lane on Centre Street both direction with LRT and BRT line in the middle section. There is no way Centre Street can handle the traffic even though the traffic study suggests public will detour using Edmonton Trail, Deerfoot Trail and 14 Street. People using Centre Street does not going all the way to Beddington and beyond. The traffic branches off at 12th Ave, 16th Ave, 20th Ave, 41st Ave and McKnight Blvd. Therefore, people using Centre Street because of the convenience and its centralize location. I would still think either going underground on Centre Street as previously proposed or NO LRT to the North and use BRT service. Centre Street is a major North-South thoroughfare. It will be a bottle neck "AGAIN" coming from the North with 2 lane traffic and down to one lane to Chinatown and downtown. This is exactly what's happening on Deerfoot Trail at McKnight Blvd. It's a bottle neck situation. If we only have one lane on Centre Street and LRT/BRT in the middle, it will be a disaster. I can expect slower traffic, stop and go for the traffic light, accidents, pedestrian crossing, etc. What happen if there is stalling vehicle or accident? How could you handle if only one lane traffic! I thought it will be at least two lane traffic plus the LRT track. What happen to the 3.81m road widening setback?

ISC:

1/2

Unrestricted

May 25, 2020

11:42:16 AM



Public Submission

City Clerk's Office

36th Street NE is already a bad example. Rush hour traffic plus the LRT crossing every few minutes in addition to the traffic light. I try to avoid going there during rush hour because of the traffic. What does that mean? That means it will affect the business along the 36 Street NE. By the same token, it will definitely affect the business along Centre Street and Chinatown.

Please please don't make this mistake again. If there is not enough money to do underground from downtown to 16th Avenue N, then go with the BRT system. Currently 300 and 301 is very successful. Construction of the Green Line will further impact the business along Centre Street and in Chinatown in addition to the COVID-19 lockdown.

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Srimal

* Last name Ranasinghe

Email srimal.ranasinghe@gmail.com

Phone

* Subject Long Overdue

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line is a much needed, incredibly important infrastructure project for Calgary, setting the stage, tone and direction for what sort of city we will evolve into over the next few decades. While there are certain finer-grain details one can quibble over, overall, the project as proposed makes Calgary a more equitable, vibrant, sustainable city in the longer run. As such, I, and my whole family, wholeheartedly support this.



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name James

* Last name Cousin

Email james_cousin@hotmail.com

Phone 4034678308

* Subject Calgary Green Line

Re: Calgary Green Line.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I attend the Online Engagement Session on May 21st to get more information from the planner's perspective on the Green Line. I have also read the greenlineinfo.ca group's perspective. I think both sides make valid points as to what they want the Green Line to be. However, one point that the planners made in the Engagement Session that I believe is problematic is the reason given for building beyonds 7th Ave downtown to 16th. They stated the main consideration is that it will be easier to expand later. However, with the cost right now and economic uncertainty, that could be many decades away. Calgary will have a train to nowhere that serves no purpose for a long, long time. With the the negative effects on traffic on 16th, it will also put too much pressure on other routes to downtown (Memorial Drive, Edmonton Trail) creating more traffic problems. Plus, the bridge through Prince's Island Park ruins one of the great public areas in Calgary. I don't see why the city doesn't consider building the Green Line from 7th to Seaton as currently proposed to actually have a fully functioning transit line. Also, unlike greenlineinfor.ca, Calgary should still build the 7th to Elbow River Section underground as proposed because having an at grade train through the Beltline and North/South direction downtown will be a traffic nightmare.

Calgary successfully built the NE section of the Blue line before expanding west. Build the SE section to Seaton to make it an actual transit alternative for Calgarians!

ISC:

1/2

Unrestricted

May 25, 2020

11:44:12 AM



Public Submission

City Clerk's Office

Thanks,
James



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Joan

* Last name Lawrence

Email info@jcommunications.ca

Phone 403-276-9946

* Subject Calgary Alliance for the Common Good support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
If someone else from the CACG has already submitted, apologies for the duplication.



Green Line The Calgary Alliance represents over 35,000 Calgarians bringing together faith, labour, non-profit and community organisations. We are raising our collective voice in support of the construction of the Green Line **as proposed in the Stage 1 Alignment**. We believe the project team has presented a plan that successfully mitigates construction and budget risks and will integrate well with the existing transit system and adjacent neighbourhoods.

Support for vulnerable populations We are raising our collective voice to ask that the Green Line proceed to meet the needs of Calgary's most vulnerable.

Specifically, we ask that city council recognize that:

- **The Green Line will connect areas which are currently under served by transit.** Transit is an essential service for vulnerable Calgarians to get to work, to travel to medical and other appointments, and to reduce social isolation. It is critical to maintain and expand transit to under-served areas of the city in the north central and southeast.
- **The Green Line will connect over 2,300 existing affordable housing units** with the South Health Campus, the Central Library, and provide integration with other major transit routes, including the BRT.
- **The Green Line will provide jobs.** As a shovel-ready project, construction of the Green Line will provide 12,000 direct and 8,000 indirect jobs at a time when many are suffering due to the economic slow down of the pandemic. These jobs will be spread throughout the communities along the route.

Green Stimulus We are raising our collective voice to ask that the Green Line proceed as part of the effort to shift our economy to an increasingly environmentally sustainable path.

Specifically, we ask that city council recognize that:

- **The Green Line will contribute to GHG emission reductions.** Estimates provided by the project team indicate that the line will reduce greenhouse gas emissions by 30,000 tonnes, the equivalent of 6,000 removing vehicles on opening day.
- **The Green Line will contribute to active transportation.** Transit is a key component of The City's Climate Resilience Strategy, contributing to transit-oriented development, walkable communities, and integration with other active modes of transportation.
- **The Green Line will contribute to attracting new business and diversifying our economy.** The Green Line will connect Calgarians to social and cultural destinations and promote affordable housing and will help position our city as a desirable location. Enhancing transit access to downtown will reduce the chance of office towers becoming stranded assets.

Ultimately City Council's decision will reveal whether they support a city that looks after ALL of its citizens, one that believes in helping our vulnerable get to their place of work, helping families take their children to school and recreational facilities, and helping our seniors remain mobile or... one that turns a blind eye to the transportation hurdles our vulnerable, aging, and lower income members face on a daily basis.

We must build a city for the Calgary we want in 10, 20, 30, 100 years. So, the Calgary Alliance is asking for our City Council to support the construction of the Green Line and delay no longer.

The Calgary Alliance for the Common Good:

Anatolian Turkish Islamic Center of Calgary
Anglican Diocese of Calgary
CUPE 38
Knox United Church
Roman Catholic Diocese of Calgary - Office of Social Justice
St. Andrew's Anglican Church
St. Laurence Anglican
UBCJA - 2103
Beth Tzedec Congregation
Calgary Climate Hub
Eritrean Canadian Community Association of Calgary
St. Thomas United Church
Bethany Care Society
Hillhurst United Church
Lutheran Church of Our Saviour
St. David's United Church
Ambrose University
Lutheran Church of the Cross
Vibrant Communities Calgary
B'Nai Tikvah
Amalgamated Transit Union Local 583
General Teamsters Local 362
Calgary Interfaith Council
Good Shepherd Moravian
Scarboro United
St. Mary's University
Trinity Place Foundation of Alberta
St. Stephens Anglican Church
Christ Church Anglican
Lutheran (ELCIC ABT) Synod
United Church Presbytery
Unitarian Church of Calgary
Calgary Centre for Global Community
Holy Nativity Anglican
CUPE 1169



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Annie

* Last name Wang

Email wwllyygg@gmail.com

Phone

* Subject Green line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please reconsider the design for the Green line LRT. Please save Chinatown, the princess's island park, and the communities in Eau Claire. Make it close to the east village Superstore if possible. The east village needs development.
Thanks,
Annie



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Dan

* Last name Evans

Email evans.dan@mac.com

Phone

* Subject Petition to Defer Approval of Green Line North to allow for further community engagement.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Submitted on behalf of 1100+ signatories to the petition.

May 25, 2020

Mayor Nenshi and Calgary City Council
PO Box 2100, Station M
700 Macleod Trail South
Calgary, Alberta
T2P 2M5

This Petition is submitted on behalf of the 1000+ signatories of the Green Line Done Right petition.

To see the petition, go to GreenLineDoneRight.com

As Calgarians who live, own businesses, and enjoy the parks, pathways, roadways and amenities in the neighbourhoods on both sides of Centre Street, **we are opposed to the new Green Line alignment from Eau Claire to 16th Ave N as currently presented.**

We want Calgary City Council to defer approval of this leg of the Green Line until proper community engagement can be completed; answers to critical questions can be shared with the public, and all impacts of the project on our community can be fully understood.

Background

In 2017, after almost 10 years of planning, design, engineering, budgeting and public consultation, the City of Calgary had consensus on an alignment for the Green Line.

Then it got changed.

Due to budget concerns, City Administration was tasked to come up with a new alignment that could be done within the available budget. That resulted in a fundamental change to the alignment from Eau Claire to 16th Ave N – moving the train from underground to run at street level.

We believe for the Green Line to be successful it has to be done right. This is a 100-year project for our city, and changing course without proper consultation or a thorough impact assessment is not a smart approach.

Making the Right Decision

We want Calgary City Council to be able to make the right decisions for us and for our city, and that means adequate time to evaluate the new alignment, complete impact assessments, and conduct extensive engagement with the citizens of Calgary.

This had started, but public engagement was halted as a result of COVID-19, without answering critical questions regarding the final design and community impact of the north part of the line.

We should not compromise and build a transit system that we'll regret. We need to build the right transit solution to serve our communities. We are willing to wait to get it right, so that it will meet Calgary's needs in the short and long term.

Making the right decision means delaying approval until:

- The Green Line Team has the opportunity to answer all outstanding design and planning questions;
- The Green Line Team has the opportunity to do appropriate community engagement on a completed plan;
- The City of Calgary has a plan and timeline in place for extension of the line beyond 16th Ave.

City Council should not approve the new 2020 alignment north of Eau Claire and along Centre Street until proper engagement can be completed, and critical questions can be answered.

Unanswered Questions

1. How can you approve a new alignment without adequate community engagement?

The 2017 approval was based on 2 years of consultation. The 2020 alignment has had less than 16 weeks, and for more than half of that time we've been in a pandemic. Asking people during this time to think of anything but their safety and the health of their family and their communities is dismissive.

2. How can you approve a new alignment without fully understanding and planning for the impact of traffic in residential communities?

We're concerned about the diversion of vehicle traffic through residential streets. The proposed plan relies on the use of residential streets to detour traffic when there is an accident; to route traffic to business destinations; and to loop traffic through the neighbourhood in order to restrict turns from Centre street to designated intersections. In addition, there is no plan for the 20,000+ commuter vehicles per day that will now have to be

re-routed. Administration acknowledges that a mobility plan has not been done, and that it will have to happen at some point in the future.

3. How can you approve an alignment without a final design, cost and impact of the future crossing at 16th Ave N.?

The new alignment presented for approval terminates at 16th Ave N and does not include a plan for a future crossing of a major artery. The Green Line Team admits that they haven't worked this out yet, and aren't including that as part of Stage 1. The design of the crossing, with a potential portal south of 16th Ave, will have a significant impact on the surrounding community and businesses. The design of this component must be decided upon and the community consulted.

4. How can you approve a new alignment if you're not able to confirm where stations will be and how they respond to community need?

At this point, City Administration is recommending a station at 9th Avenue. This decision will have significant impact on the community on issues ranging from access and business development, to traffic impact and neighbourhood crime. Decisions regarding a 9th Ave N station must be included in a more complete community engagement process.

5. How can you approve a new alignment without a full understanding of how the bridge will impact the environment and the visitor experience on Prince's Island?

The location, design and impact of a bridge over Prince's Island is of critical concern to all Calgarians, not just those living in adjacent neighbourhoods. The current plan will disrupt the pathway system on both the south and north side of the river, as well as destroy existing green spaces.

It's clear that the cost of the bridge will have a significant impact on the project budget, and that means it's essential to finalize an acceptable design prior to approving the northern alignment. Once again, we worry that budget will be the only design criteria for what should be a critical urban design decision for Calgarians. In addition to aesthetics, a detailed environmental impact study can only be done after a bridge design is finalized.

6. How can you approve a new alignment if there's no firm commitment to extend the LRT beyond 16th Ave N.?

Currently, there's no initiative in place to plan or fund LRT expansion north of 16th Avenue. According to the Green Line Team the future expansion of the green line past 16th Ave N is unknown and will be completely dependent on future funding proposals and budget. Without an expressed commitment and timeline to extend LRT beyond 16th Ave N, we question the value of a north line that is only 2 km long, and possibly stays that way for decades. The Green Line plan needs to commit to further northern expansion as a priority before approval.

7. *How can you approve a new alignment without providing businesses a thorough and honest assessment on how this will affect their business?*

The proposed 2020 alignment will have significant impact on the businesses along Centre Street. The combination of years of construction, reduced vehicle access and loss of parking will need to be carefully planned and managed to avoid permanent closure of businesses. The current recommendation does not provide solutions to these negative impacts, nor has there been adequate engagement with the business community to discuss mitigation strategies.

8. *How can you approve a new alignment without understanding how cyclists will be accommodated and the impact on residential streets?*

The current alignment does not provide any clear direction on how cycling traffic will be accommodated. With only one lane open for vehicle traffic on Centre Street, there won't be any room for cyclists. The Green Line Team suggests that cyclists may be moved to 1st Street NE, but there are no plans for how this might affect residential parking or traffic flow.

9. *How can you approve a new alignment without clarity regarding whether the vision for the Centre Street urban realm can be delivered?*

There have been drawings presented of what the future urban space could look like on Centre Street. However, our understanding is that the recommended plan is dependent on a number of things, including co-operation from private property owners along the route. There needs to be much more clarity about what the City is prepared to commit to in order to live up to the ambitious vision for this streetscape.

10. *How can you approve an alignment if you haven't fully evaluated something as significant as whether trains are running down the centre or the side of Centre Street?*

Design of the northern leg of the Green Line will have an inescapable influence on life in Crescent Heights, and that influence will be significantly different if the train is center-running or side-running. It's more than just a logistics questions, it's an experiential question, and it's unthinkable that the final decision hasn't been presented to the community for feedback.

You Must Defer Your Decision

This list of outstanding issues is not complete and there will be many more if and when a complete design proposal is put forward. However, given the scope and size of the project, and its lasting impact on the people of our City, as both users and taxpayers, we believe there is too much unanswered to approve the northern portion of this project at this time and urge Council to defer a final decision on the line north of Eau Claire until such time as those are adequately answered.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Stephan

* Last name Guscott

Email stephan.guscott@gmail.com

Phone

* Subject Please approve the Green Line Jan 28 2020 Stage 1 Alignment without delay.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I strongly support the January 28 updated Green Line Stage 1 Alignment and urge the Green Line Committee and City Council to approve the same alignment urgently and without delay.

I have been taking Calgary Transit my entire life—the bus to the stampede parade, to school, to university, and to businesses I love. For all my life, the bus was how I got around-- because it was all I could afford. Now I have the privilege of accessing a personal vehicle for transportation, but I still prefer transit—because it is more affordable, better for the environment, and better for my health.

The only times I avoid taking transit is when I would need to connect across multiple buses and would end up commuting for 1-4 hours, depending on how my connections played out. Right now, that is my experience trying to access businesses, parks, or services by transit in north central Calgary or deep southeast Calgary.

A north central BRT aligned with the green line LRT that crosses the Bow river would solve this problem. These are communities that are underserved, and for Calgarians who rely on transit to get around, transit is a necessity. If this project is delayed now, the need for dependable and affordable transit will only rise, and we will have done a disservice to the next generation of Calgarians.

I urge you to lead Calgarians during this uncertain time, of health and economy, to build the infrastructure to provide the essential services Calgarians need and deserve. Please support action on the green line today.

ISC:

1/1

Unrestricted

May 25, 2020

11:50:59 AM

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Guy

* Last name Huntingford

Email guy.huntingford@naiopcalgary.com

Phone 4036072644

* Subject Green Line submission to committee and council

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please see attached letter from NAIOP Calgary and BOMA Calgary



May 25, 2020

Mayor Nenshi and City Councillors
P.O. Box 2100, Station M
700 Macleod Trail South
Calgary, AB
T2P 2M5

Re: Green Line Alignment

Dear Mayor Nenshi and City Council,

In the coming week Calgary's City Council will face a major decision on a project that has been in the works for over 10 years, the Green Line LRT. This massive infrastructure project is designed to link underserved communities from Calgary's deep south to the far north. As owners of land and buildings along the route and developers who would be contributors to some of the Transit-Oriented-Development (TOD) along the length of the route, as well as Community Associations and Business Improvement Districts that would be impacted, we see ourselves as key stakeholders in decisions that are made.

As stakeholders, we strongly believe the project should proceed as quickly as possible. It is estimated that the construction of the south segment alone - Shepard to the Elbow River –will provide the city approximately 20,000 construction jobs. Those jobs are critical to the economic health of the city right now. Additionally, the Green Line will spur development along the line, including the critically important Rivers District, all of which will be important contributors to the economic well-being of our ailing community.

And as stakeholders, we want to see the project be a positive example of intelligent city building. We believe that City Administration's Green Line planning team has done an impressive job of juggling a myriad of issues, budgets and community concerns in coming up with the current 2020 alignment, particularly related to the improved alignment through the downtown core to Eau Claire.

However, we believe strongly that some important changes can be made to ensure the entire Green Line maximizes its potential as a significant city building project.

Alignment through the Beltline

When the project was finalized in June of 2017 the Council approved alignment was from the Elbow River along 10th Avenue with a slight curve south to 12th Avenue before turning into the downtown core. This alignment was agreed to by all the stakeholders in the Rivers District, including such significant players as the Calgary Stampede, Calgary Sports and Entertainment (Calgary Flames), commercial

property developers, Calgary Municipal Land Corporation and the Beltline Community Association representing the residents.

Since then, the Green Line alignment through the Beltline has been altered to cross the Elbow River with a curve and portal bisecting two development sites in order to get to 11th Avenue which it follows, before turning into the core. We are strongly urging Council to return to the original 2017 alignment for several important reasons.

Development of the Rivers Entertainment District, including the construction of the new entertainment centre (arena), depends on a Community Revitalization Levy (CRL) that is funded by the increased property taxes from development in the area. The most significant catalyst to private, tax-paying redevelopment in the Rivers District was the original Green Line alignment, and these developments would be difficult or simply not viable with the new alignment resulting in a direct negative impact on the potential revenue generation for the CRL. We believe this number will be, conservatively, between \$150 and \$250 million of foregone revenue over the life of the CRL, a significant amount that would be going to fund the new Event Centre and assist in the development of the whole district.

Additionally, the original alignment along 12th Avenue in the Beltline improves transit access for a broader population and better positions a Centre St. station for integration into the future development of surrounding vacant parcels.

We strongly urge that Council consider the following amendment to Administration's proposed plan:

- Council directs administration to amend the alignment of **Segment 2** (Elbow River to Eau Claire) incorporating the previously Council approved 2017 alignment through the Beltline to maximize revenue opportunities for the CRL in Victoria Park.

Eau Claire Station

We applaud the Administration's Green Line Team for both listening to and working with the business community and the residents of the Eau Claire and Riverfront communities, in proposing a below grade solution from the Beltline to the banks of the Bow River, including an underground station on the existing Eau Claire Market site. We believe this is the best solution to the alignment through this segment of the line and that it will assist in kick-starting re-development in the area.

Green Line North of Eau Claire

The segment from Eau Claire to 16th Avenue N is the most difficult part of the Green Line for a number of reasons. While we fully supported the original concept of tunnelling all the way under the Bow River to 16th Avenue N., we also understand the financial risks associated with an under the river tunnel are too great. We also believe that extending the LRT to the northern communities is an important goal of the entire project and one that is worth pursuing as expeditiously as possible.

However, we would propose that Council take a cautious approach in the development and construction of the rail line north of the Bow River. The Administration's Green Line Team has proposed a schedule

whereby there will be another six to eight months of public engagement and design work before finalizing this proposed route.

We believe it would be financially prudent to wait until the south leg of the Green Line, from Shepard to Eau Claire, is tendered and contracted, therefore ensuring the entire project is within the assigned budget before proceeding with tendering of the northern leg. This would ensure that the budget of \$4.903 billion which has been committed by all three levels of government will be sufficient to complete the project as envisioned.

We strongly urge that Council consider the following amendment to Administration's proposed plan:

- Council directs Administration to phase construction of Stage 1, aligned with the following segments:
 1. Segment 1: Shepard to Elbow River;
 2. Segment 2: Elbow River to Eau Claire;
 3. Segment 3: Eau Claire to 16th Avenue N.
- Council approves construction of **Segment 1**, from Shepard to the Elbow River, to begin as soon as possible.
- Council approves construction of **Segment 2**, from the Elbow River to Eau Claire, to begin once final alignment is confirmed and the land and right of way acquisitions needed are obtained.
- Council directs Administration to complete community engagement and further design work of **Segment 3**, from Eau Claire to 16th Ave N. Once complete, and after Administration has completed tendering of **Segments 1** and **2** and is able to confirm adequate funding is in place, proceed with tendering of **Segment 3**.
- Council approve the construction of the **BRT component** of the new 2020 Green Line alignment that is included in Administration's recommendation (from 16th Avenue to Beddington), to begin as soon as possible, in order to provide enhanced transit to the city's northern communities.

It can't be overstated that the Green Line is a critical piece of public infrastructure that will serve the city of Calgary and its citizens for the next 100 years and should be built now. The Green Line Team has done an extraordinary job juggling a myriad of issues and conflicting positions from residents, building owners and potential transit users. We are almost there and we hope that Council will consider these final suggested improvements when giving final approval and the go-forward directive.

Thank you for your consideration.

This submission to Calgary City Council is endorsed by members of the following organizations listed on the following page.

Richard Morden, Senior Vice President, Office Properties, Western Canada, Quadreal Properties & Chair, BOMA Calgary

Guy Huntingford, Director Strategic Initiatives, NAIOP Calgary

Scott Macdonald, Vice President, Development & Construction, Alberta, Harvard Developments Inc.

Guy Priddle, General Manager, Calgary Office Properties, The Cadillac Fairview Corporation Ltd

Lloyd Suchet, Executive Director, BOMA Calgary

Jessica Karpat, President, Mount Pleasant Community Association

Eileen Stan, Matco Development Corp & Chair of the Board, Calgary Downtown Association

Robert Homersham, Barrister & Solicitor & President-Elect, NAIOP Calgary

Chris Ollenberger, President, Quantum Place Development & Chair NAIOP Government Affairs Committee

Rosanne Hill-Blaisdell, Managing Director & COO, Harvard Developments Inc.

Rob Blackwell, Chief Operating Officer, Aspen Properties & Chair-Elect BOMA Calgary

David Routledge, Vice President, Real Estate Management West, Oxford Properties Group

Ian Parker, COO, Western US & Canada, Office Division, Brookfield Properties

Dwight Jack, Senior VP, Office Leasing, Canadian Office Division, Brookfield Properties

Chris Nasim, Vice President, Asset Management Prairie Region, GWL Realty Advisors

Paul Gedye, Director of Development, GWL Realty Advisors.

Cody Clayton, President, Remington Development Corporation

Jamie Cooper, Senior VP, Land Development & Construction, Remington Development Corporation

Gillian Lawrence, General Manager - Land Development, Remington Development Corporation

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Sharon

* Last name Howland

Email sharon.howland@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Put simply, the years and years of public consultation and the various modelling scenarios demonstrate that The City has done its due diligence. We need to trust the experts on this and move forward with the Green Line project as planned.

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Brett

* Last name Jackson

Email bjackson@cenairus.com

Phone 4038044721

* Subject Lewis Lofts -Two Tunnels Under Lewis Lofts

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello, attached is a written submission on behalf of the Condo Board at Lewis Lofts in response to, and for presentation at, the upcoming June 1 Green Line Committee Meeting.

Thank you



Green Line LRT

Two Tunnels under Lewis Lofts

What is the impact? 59 Homeowners wonder

May 25, 2020

Lewis Lofts Condominium – Who we are

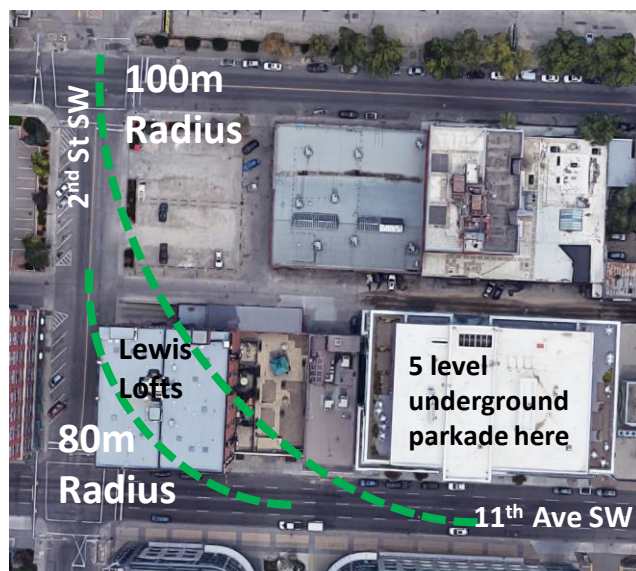
- Originally built in 1910 as a warehouse
- Converted to 59 residential condo units in 1995
- Combination of a concrete side and wood side - built at different times with different techniques
- Building envelope and foundation are old, heterogeneous and undocumented
- Underground parkade was added in 1995 and extends approximately 4m below street level
- Not built on stable bedrock
- Level A Municipal Heritage Designation
 - Notable, unique and rare; worthy for consideration under the Historical Resource Act
- There are only four residential heritage warehouse buildings in Calgary, Lewis being the largest, supply is very limited



Where we think we are on the Green Line Route

- We have not been provided detailed routing to review and analyze
- The green lines in the right-hand view are our best approximation based on the City website
- Both the North and South line tunnels run under our building from what we can tell
- In 2017, the City said expect expropriation and we are a stakeholder
 -> we assume from this we are in the path of the tunnels currently

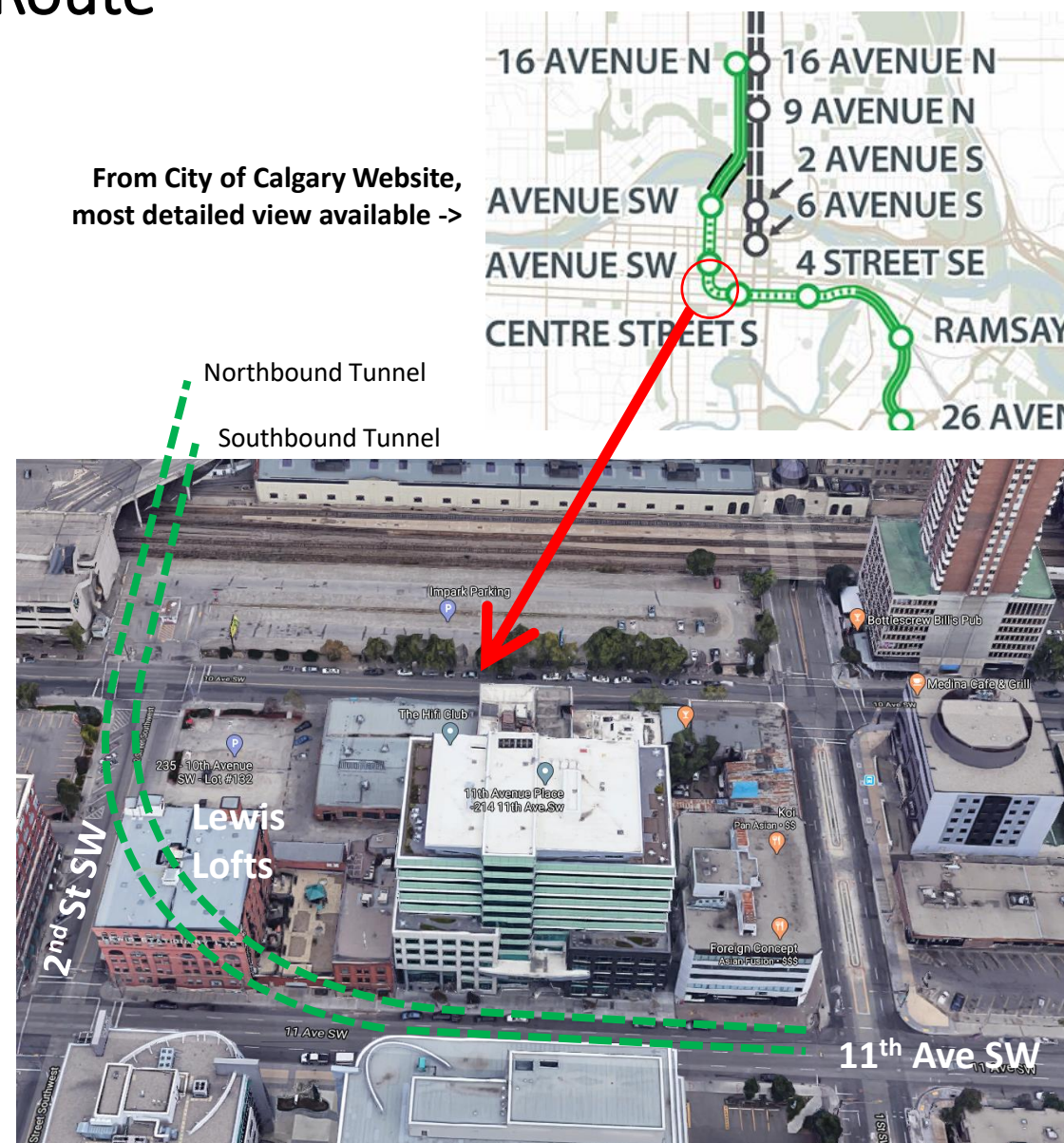
How far off could we be?



Our assumption of where the tunnels will go->

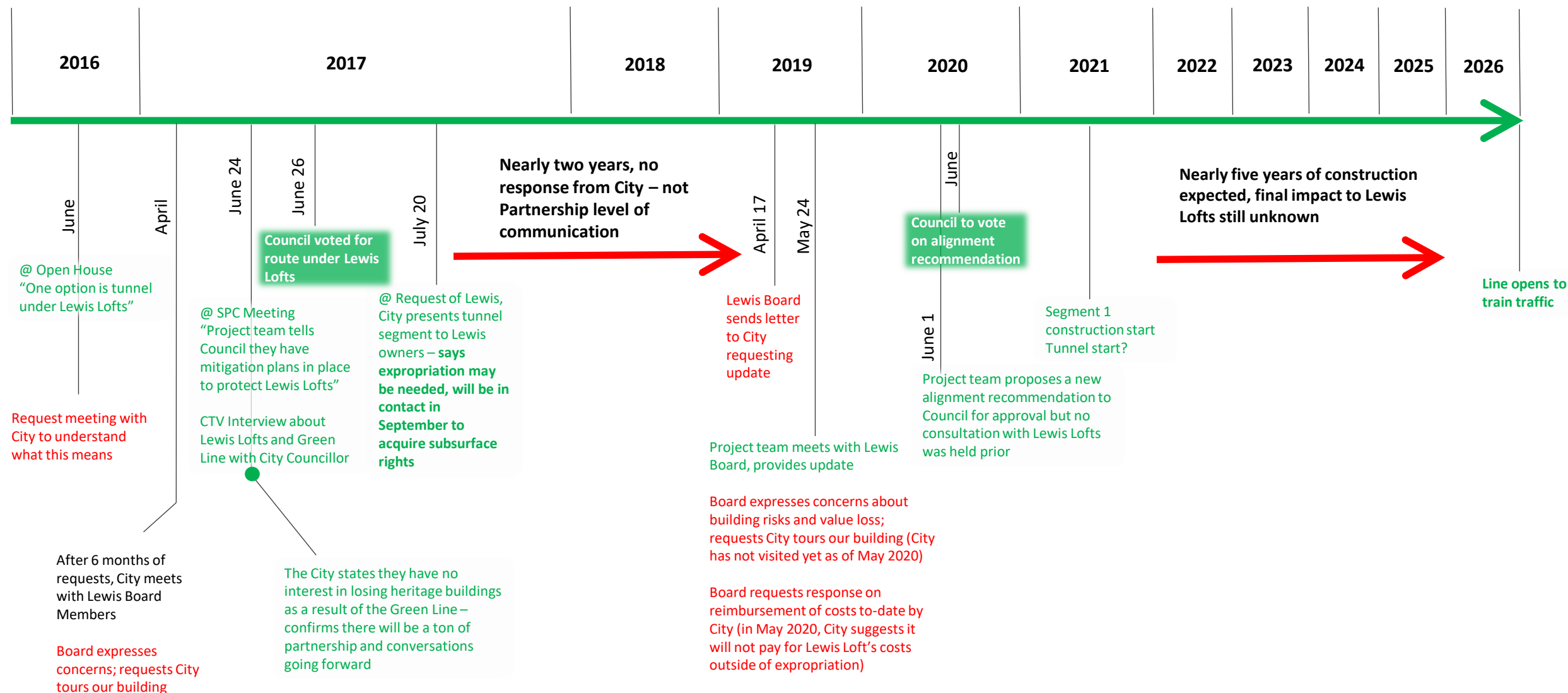
- 80m radius close to the tightest existing Calgary LRT turn
- 90m minimum light rail tunnel radius recommend by NRC Track Design Handbook
- 100m+ will interfere with existing 5 level deep underground parkade

From City of Calgary Website,
 most detailed view available ->



This is going to be a 10+ year ordeal for Lewis Loft Owners

What did the City say? What did we do?



What do 59 homes look like elsewhere?

It is a big area, if a tunnel were to cause settling or vibrations that forced people out it would be a major impact to the Lewis Lofts owners and the City who would have to compensate them all.

A tunneling failure under Lewis Lofts could be nearly 50% of the scale of Lynnwood Ridge where homeowners lost their places due to contamination...it was highly disruptive to people's lives, costly to the project owner and a very long and public resolution -> it is reasonable to consider also that if Lewis Loft residents are driven from their homes they won't find a comparable vintage home.

Nearly equivalent amount
of homes as Lewis Lofts

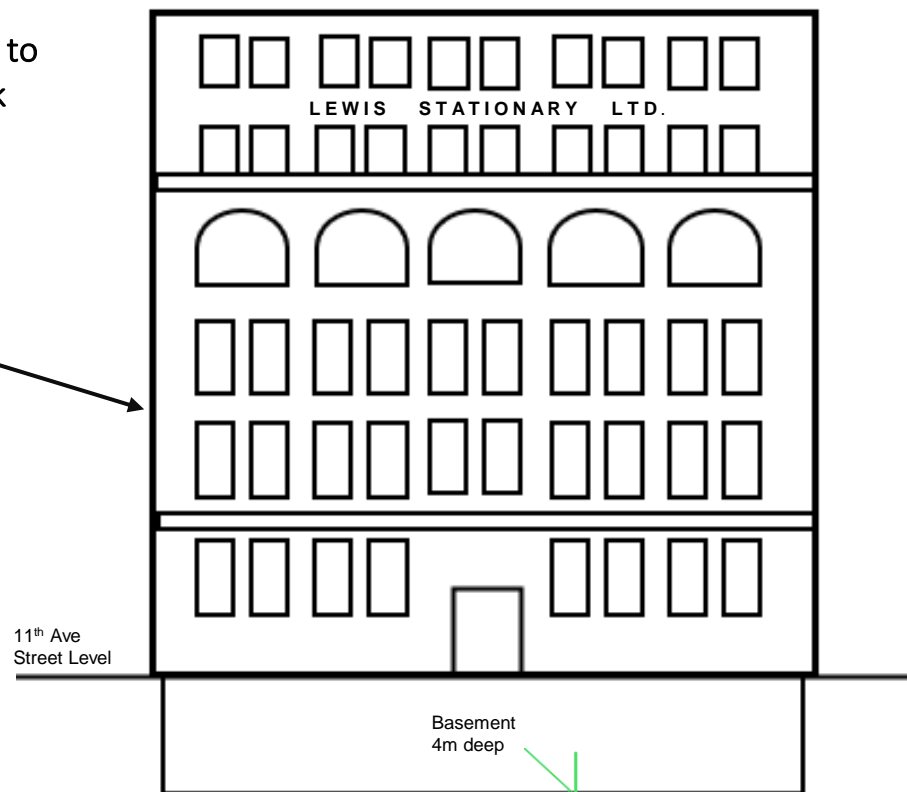


Lewis Loft owners and experts are very concerned about the tunnels

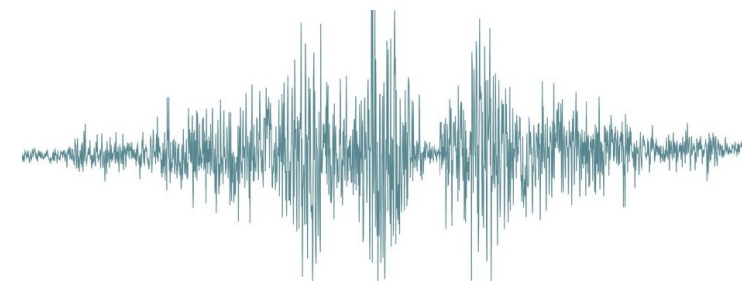
Significant risk of serious structural damage due to ground settling – building moves and walls crack



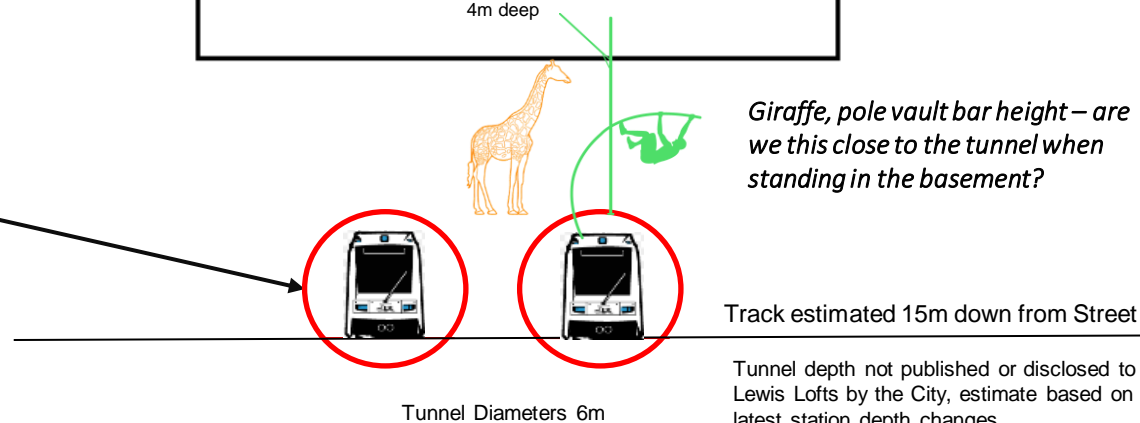
Catastrophic tunnel boring failures are not uncommon, especially in soils as found under Lewis Lofts



How bad will be the vibration be during construction and operation of the tunnels?
– Quality of life and ability to remain in homes is in question



Lewis units have already lost significant value on just the potential of tunnels below the building
–Significant further financial losses are expected



Lewis Lofts is built on “Bow River Gravel”*

*Excerpts from: **Geotechnique in Calgary – A 60-year retrospective**

Heinrich K. Heinz, Mauricio Pinheiro
Thurber Engineering Ltd., Calgary, Alberta, Canada
Tai T. Wong
SAIT Polytechnic, School of Construction, Calgary, Alberta, Canada

**The nature of these fine-grained soils is complex, and they have been associated with geotechnical issues.....*

**.....high silt content (around 90% silt has been measured), and is essentially cohesionless.*

- These quotes come from a technical article specifically about the challenges of foundation construction in Calgary’s downtown area
- Hard, and expensive (Banker’s Hall East Tower), lessons have been made in trying to build subsurface structures in the silt and clay region found between Centre and 8th St SW. **Based on the drilling reports provided by the City, Lewis Lofts appears to sit atop a deep silt and clay region**
- **We are concerned there is a significant risk of our building settling if, indeed, our building sits on the fine-grain cohesionless soil.** It is not clear to us what geotechnical analysis has been conducted by the City on the proposed route under our building.
- **We are on shallow footings in the gravel layer with brick walls, settling will cause serious cracking**

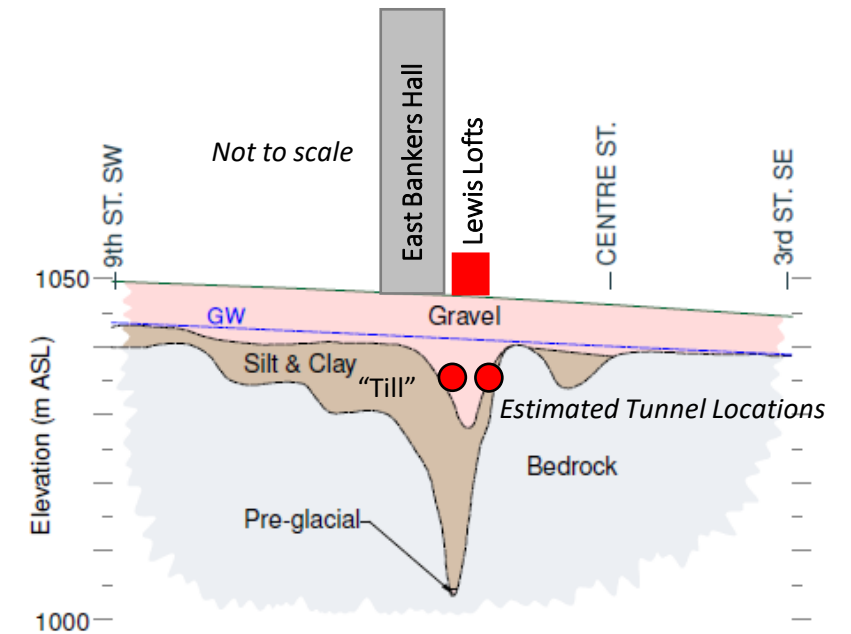


Figure 1. West-East stratigraphic section of Calgary's downtown core along 8th Avenue (Thurber, 2007).



Settling damage is not a new issue for vintage warehouses in the Beltline

- Most built on sand/gravel river bed soil conditions
- Three warehouse lofts; Hudson, Imperial and Alberta Paint were recently damaged structurally by adjacent new deep foundation construction
- Caused by settling
- Potential for damage to Lewis Lofts is greater as it involves tunnelling under the building

We think the City is aware of the issue, we hear local experts are concerned, we see additional bore sampling taking place...

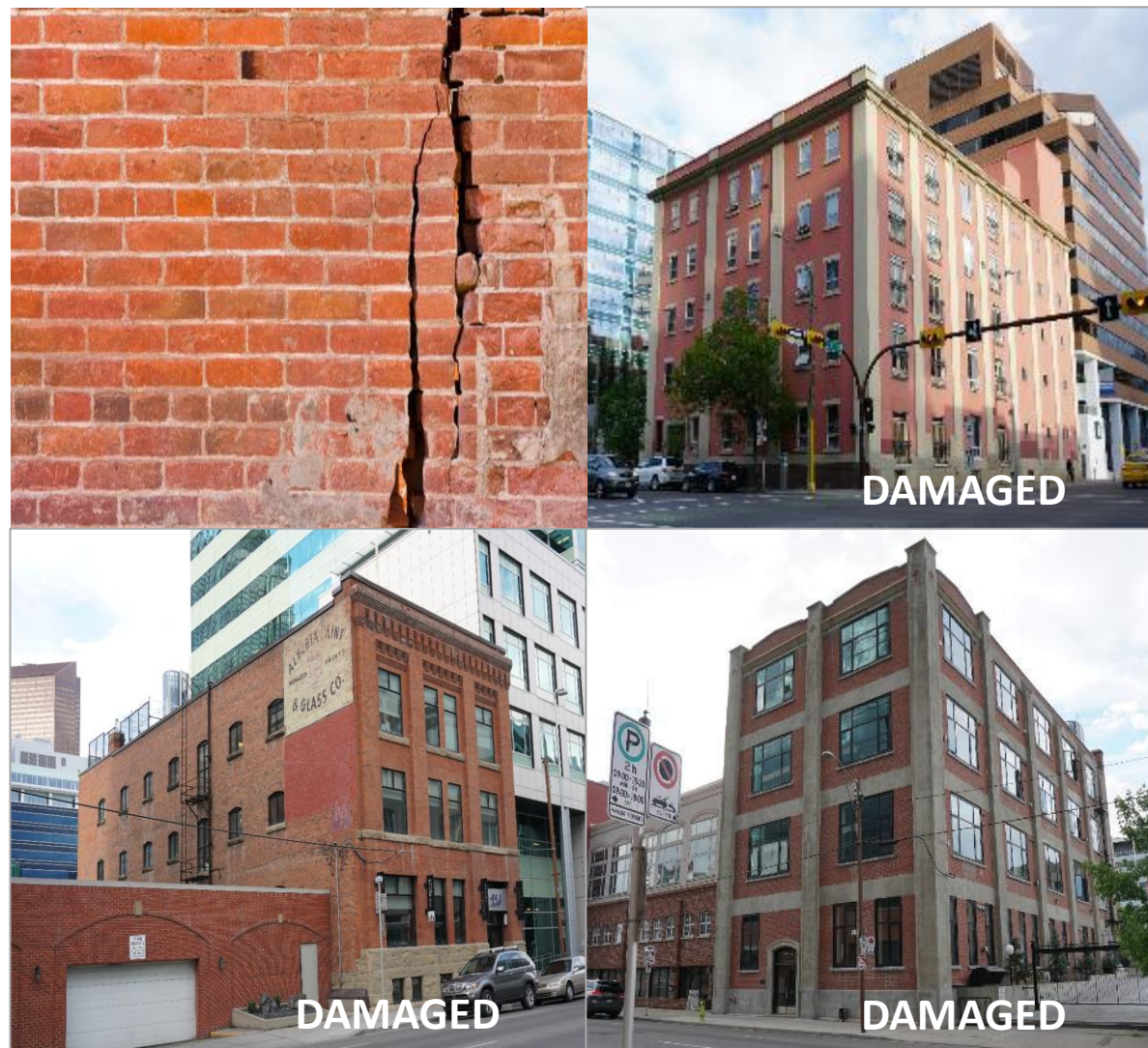
Is the Green Line Project team recommending this route because a guaranteed solution has been put in place?

If so, why hasn't this been shared?

If not, why would Council vote to proceed without knowing the risks?

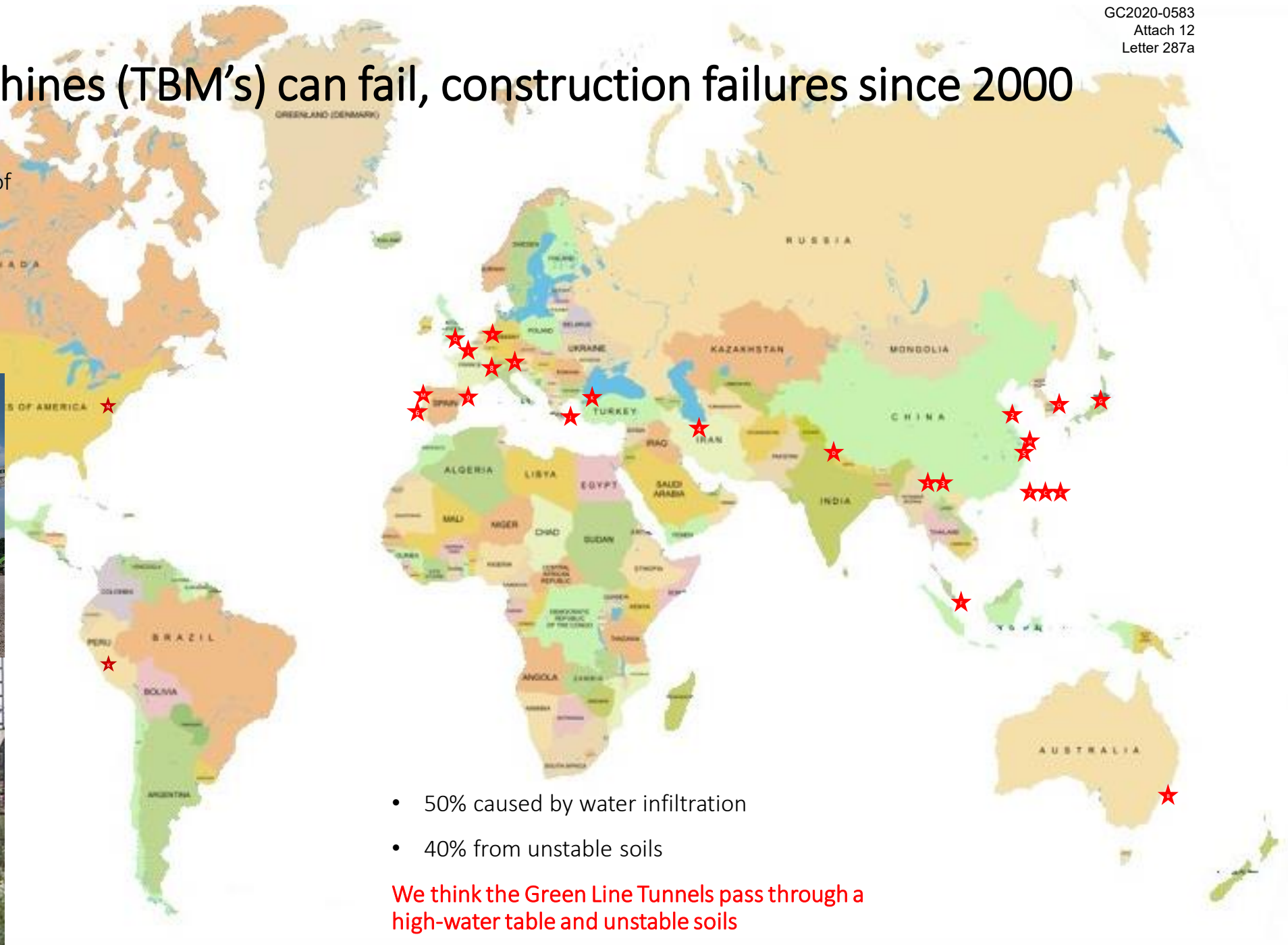
Or is Lewis Lofts and the owners subordinate to the tunnel?

If so, this position should be announced and a plan agreed upon to protect the building and ensure the owners are made whole before proceeding with further tunnel work.



Tunnel Boring Machines (TBM's) can fail, construction failures since 2000

- 27 incidents with substantial loss of property
- Many caused surface settling and significant building damage
- 70% in Metro LRT Lines



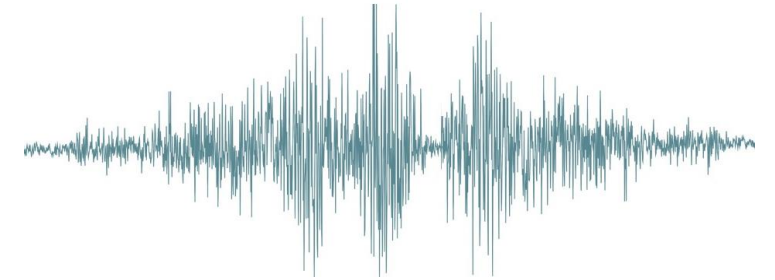
- 50% caused by water infiltration
- 40% from unstable soils

We think the Green Line Tunnels pass through a high-water table and unstable soils

We will have 100 tons of train going under us and a boring machine

Big stuff will be happening beneath our homes, many times per day, for the foreseeable future.

We asked will the train or the TBM be turned off if we cannot sleep or concentrate -> Answer by the Green Line project team was NO in July 2017



We learned from a contract tunneling engineer at the City that we will be severely disrupted when the TBM goes under, twice. Does this not indicate our building will be exposed to potentially damaging stresses besides displacing residents during construction?

The City said there are post construction processes in place to manage disruptions, and resulting losses in market value, but we may be years away, or more, from knowing this outcome and reaching a resolution if so. Yet, we are already seeing damage now to our market value caused by the City's plans, before construction even starts.

We are losing money already, nearly \$5 million to-date



This was 2015: Lewis Lofts market value outperforms the average condo

Calgary’s rare ‘hard lofts’ still in high demand amidst depressed market



Unlike other cities, Calgary has relatively few ‘hard lofts’ derived from 100-year-old warehouses. The Hudson, above and below, is one of four such buildings.

SHARON CROWTHER
CALGARY
SPECIAL TO THE GLOBE AND MAIL
PUBLISHED OCTOBER 30, 2015
UPDATED MAY 15, 2018

In 2017: Council approves Green Line route alignment including tunnels under Lewis Lofts

Calgary

City council approves the Green Line as focus turns to funding

Green Line alignment, stations approved but full build-out could be far in the future

Scott Dippel - CBC News - Posted: Jun 26, 2017 5:45 PM MT | Last Updated: June 27, 2017



City council has voted 12-3 on the final alignment and station locations for the Green Line, Calgary’s next LRT project. (Evelyne Asselin/CBC)

In 2020: Lewis Loft market value has dropped significantly more than the local condo market since 2017

The marketplace reflects our concerns over the tunnels under Lewis Lofts:

- Unit re-sales have nearly stopped, one has sold since 2017, **sales virtually frozen**
- Initial independent appraisal information estimates at least **\$5m in value loss**, over and above, the local condo value decline

The Green Line project has placed a cloud over the Lewis Lofts -> People there can’t get out and people buying don’t want the hassle or uncertainty of dealing with the pending issues; the value has plummeted on just the potential of tunnels running beneath. This has caused significant impact on owners’ lives, finances and retirement.

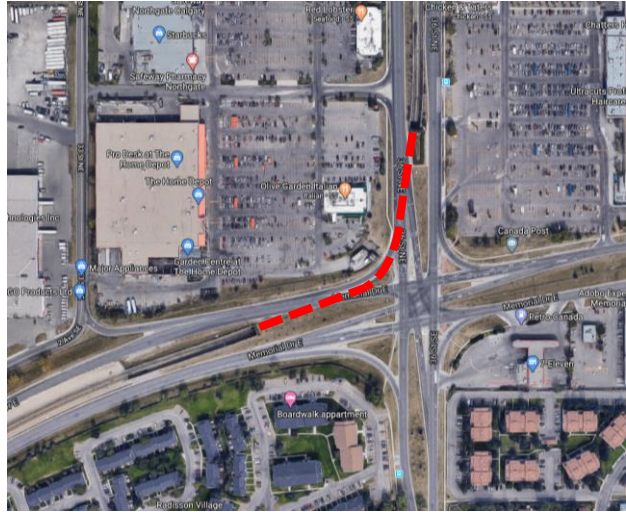
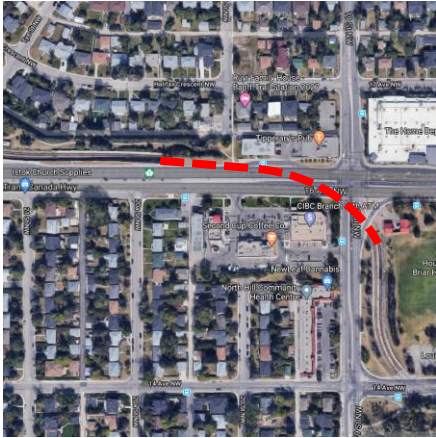
The Condo corporation has also deferred much needed exterior refurbishments due to the concern of structural damage to the building envelope caused by the tunneling.

A failure of the building following construction could be quite significant; the value of the building alone currently is in the range of at least \$20 million. In addition, there would be very significant relocation costs and other losses suffered by 59 owners and families.

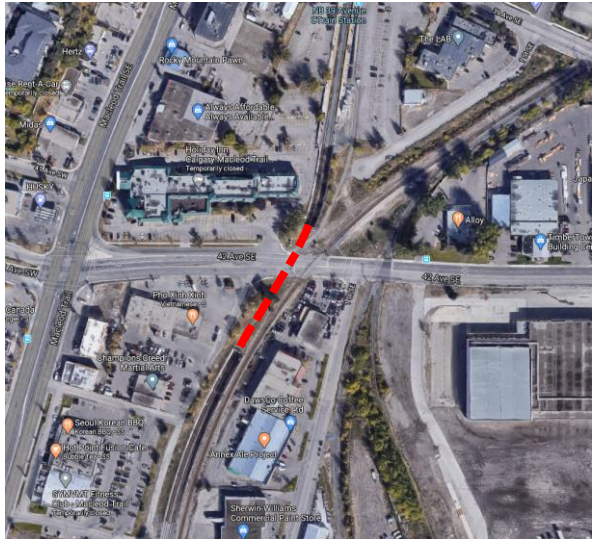
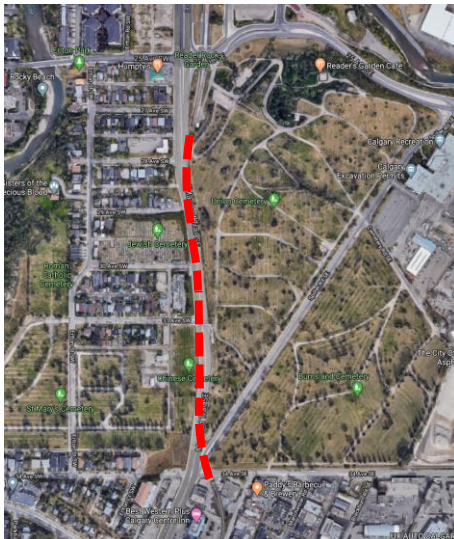
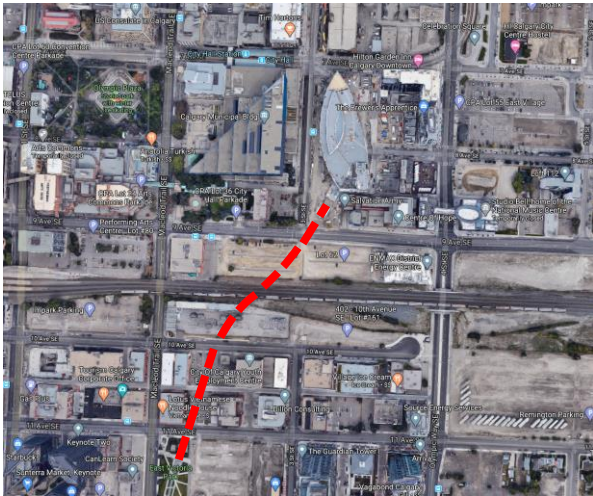
On May 22, 2020, the City advised Lewis Lofts that **“The City has not identified or confirmed a requirement for an acquisition from the Lewis Lofts Condo Corporation.”** The City for the last three years has indicated, both in person and on public maps, that we are on the path of the alignment. We feel the Lewis owners have carried the cost for the City to determine its ultimate plans and needs.

Has the City tunneled under buildings before?

All existing tunnels, shown in red, do not run under buildings



LRT Tunnels In Calgary



The New library has a train running beneath it....does it not compare?



Built for Ashdown Hardware in 1911



Width doubled in ~1914, "new" east portion wood post and beam; west portion is concrete – little record of design



Comparisons...

1. Speed of Train

Observed 0-15 km/hr under library

50-60 km/hr under Lewis Lofts
(figure given by Hatch engineer
@ open house in 2017)

***That is up to 16x more energy
transmitted under Lewis than
the Library by a 100 ton train***

2. Foundation Design

<- 4m deep foundation,
dug by horses

30m deep foundation,
drilled into bedrock ->

<- Tunnels beneath not
considered in design

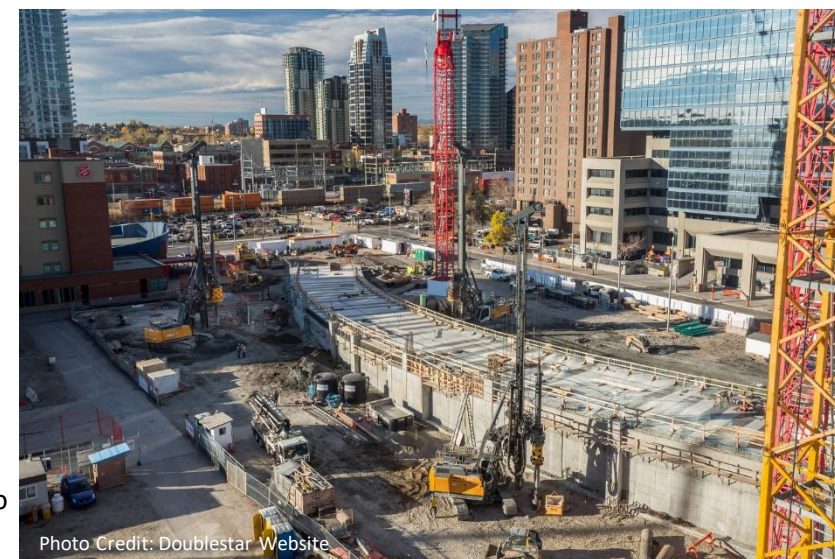
Millions spent on acoustic isolation
of capped tunnel and building ->

<- Building has been in place for 106
years without structural issues

Train line existed before building, no
risk of construction failure->



New Calgary Public Library built in 2017-2019



What do Lewis Owners want?

We are not judging the merits of the Green Line project as a whole: our concerns presented here are regarding the **integrity of our building, quality of life and financial wellbeing of the owners and affected families.**

1. **We are requesting Council postpones the decision of the alignment until the real costs and impacts are established with respect to Lewis Lofts**
 - > The latest response by the Green Line Team to our questions indicates that the recommendation will be to go under us and the details of “how” will be presented in the fall 2020.
 - > These tunnels will ultimately successfully carry trains but there are serious, and very costly, risks to mitigate beforehand and we don’t understand how a route alignment decision can be made without more finite understanding; your Project team is saying to us they don’t have answers to where the specific location of the curve will be between 2nd St SW and 11th Ave, nor the height, span between, or the speed of the train. From an engineering perspective this appears to be an incomplete recommendation and we are assuming:
 - A. The Contractor(s) selected will be responsible for solving these unresolved issues which relieves the City from the liability or,
 - B. We are not being provided the details as we are directly impacted in a substantive enough way (cut and cover?) it may influence the decision
2. **We want the City to be transparent about the recommended alignment before the decision;** there are limited paths for the tunnel to take, and from what we can see, all lead under us. There must be a general idea of the potential impacts to us and revealing this after the decision shows no indication of a partnership or genuine concern for 59 stakeholders who will live above this project.
3. **Ideally, an alternate route.** There are alternate routes and do these routes look more attractive if considering the worst-case scenario which could be at least \$20 million in damages to Lewis Lofts if there is a major incident?
4. We feel the City is focused on getting the alignment decided upon and the fate of Lewis Lofts will be sorted out later; this cloud the City has placed over our building has forced owners to postpone life decisions, alter financial plans, directly lose money and in general has trapped the owners for several years now likely with many more to go. **We want the City to treat this situation with special consideration and present a plan on how to protect our interests and make us whole for the duration of the project.**



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Diana

* Last name Soroaga

Email diana.soroaga@gmail.com

Phone 4038620028

* Subject Green Line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am so ashamed to see fellow Calgarians delaying and potentially even cancelling a project as important and life changing for citizens as the Green Line. There was such a big hurrah from the community (including some of individuals now leading the anti-transit campaign) during the approval and negotiation process of the new arena, I would hope to see the same in order for approval of a much more important and meaningful project.

I am not going to argue which version of the Green Line project is better; it is not my place and I especially don't think it's important at this time. What is important is that the Green Line project progresses at a reasonable pace to provide much needed transit services to feeder communities and to Calgarians in general - be that by bus, underground or at grade rail services. As seen in this especially difficult time Calgarians did not use the Saddledome to survive a global pandemic, but they did rely on public transportation to get them to work, groceries and access other essential services. The biggest mistake with public transit is it always gets built too late; investment in public transit does not compare to that of roads despite it being a 'top priority' in numerous planning documentations, including many at the City of Calgary.

What do we want our legacy to be in 20 years time? I would like to look at the 2040 Calgary Transit Network Map and reflect on a council and community that saw through a group posing as concerned citizens that spread its propaganda and pretended to advocate for the 'proper Green Line' and instead built something beautiful.

ISC:

1/2

Unrestricted

May 25, 2020

11:58:08 AM



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Richard

* Last name Zach

Email rrrichardzach@gmail.com

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

We need public transit infrastructure more than ever. Build it as planned.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Marie

* Last name Semenick-Evans

Email marieevans@shaw.ca

Phone

* Subject Letter regarding proposed Green Line alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Please see the attached letter.

Dan Evans and Marie Semenick-Evans
202 9th Avenue NE
Calgary, AB T2E 0V4

May 25, 2020

Mayor Nenshi and Calgary City Council
PO Box 2100, Station M
700 Macleod Trail South
Calgary, Alberta
T2P 2MS

To Your Honour and Councillors,

We're writing to you to implore council to delay approval of the segment of the Green Line north of Eau Claire to 16th Avenue North.

We've been residents of Crescent Heights for over 25 years, as well as being residential developers in the neighbourhood. We've been supporters and active participants in the evolution of our community, including being supporters the Green Line.

It's important to understand that we are not coming in late to the party here. We have been following the Green Line for many, many years and were active participants in all public engagement leading up to the original approval in 2017.

The City spent over 2 years engaging our community and building consensus on the original alignment, which is why we are so surprised and frustrated at the dismissive approach to engagement on the new alignment presented in January 2020.

The new alignment was first released at the end of January 2020, and engagement with the community started a few weeks later on Feb 12th. Public engagement was abruptly halted only 5 weeks later when the city was forced to shut down due to COVID-19.

But to our surprise, it wasn't just halted, but essentially abandoned as City Council decided to push through and have the new alignment presented on June 1.

We were already disappointed by the short engagement that there was when engagement ran prior to being halted. We went to the several open houses and found many significant questions were still unanswered, like traffic management, community crime and impact on parking. The Green Line North plan that was presented was not complete. Here are just a few of unresolved planning issues.

Community Engagement:

First we'd like to point out that you have presented a new plan for the North Green Line during a period when at least half of that time we've been in a pandemic. Asking citizens during this time to think of anything but their safety and health and that of their family and their communities is insensitive and dismissive.

There is no acceptable reason to believe you need to approve the north leg at this time without adequately completing community engagement. We're not alone in this feeling. We heard this over and over in our community, and decided we had to take action.

We started a petition that garnered over 1100 signature in 10 days. We're clearly not alone in our frustration. We've presented that petition as a separate submission.

Residential Traffic:

When asked what the city will do to prevent traffic from cutting through the residential neighbourhood of Crescent Heights the response was that additional studies would need to be done, but not until after approval. How can you approve a plan that doesn't have answers for the residents of Crescent Heights as to how the community will be affected by traffic?

To be successful the proposed Green Line plan is already planning to rely on the use of residential streets of Crescent Heights to make it work. From what we understand, with this new plan, there are 2 confirmed ways that traffic will be directed through the community of Crescent Heights:

1. When there is an accident on Centre Street, traffic will be redirected through the neighbourhood,
2. To get to a business, customers will have to make a turn at designated streets and travel through the residential streets to get to their destination,

In addition, the city has in the last couple of weeks stated that it is willing to open up parking for businesses on the avenues that run adjacent. The traffic and parking provisions made to the plan have not been made know to the community at large, and must be part of any complete public engagement.

In addition, there is no commuter traffic mitigation strategy. Where are the 20-30,000 vehicles that travel on Centre Street each day going to go? We were informed that a broader plan will be done after approval – we need to know before approval to know whether it should be approved – whether it's do-able.

We do not want our beautiful residential streets of Crescent Heights to become inundated with traffic. Our community has high pedestrian utilization – people of all ages (children, seniors, work professionals) moving through the neighbourhood to our parks and amenities and walking to and from work.

The Green Line proposal is not viable if it cannot be successful without imposing such traffic measures on our residential community.

9th Avenue Station:

We were informed at your pop up open house that transit doesn't bring crime to neighbourhoods. When we spoke to our city police they suggested just the opposite – that there is an increase in crime where the train goes. This is a very important consideration for placement of a station in Crescent Heights and demands further consultation with the community.

In addition to crime, any station in the community will result in parking demand. Combined with the elimination of street parking on Centre street, this will push parking onto adjacent residential streets. This is, in fact, the solution proposed by the Green Line team, and is not an acceptable solution for residents in the community.

You Must Defer Approval

It's unacceptable to think you're making such a significant decision on behalf of Calgarians without completing public engagement. We strongly urge City Council to defer it's approval of the proposed Green Line alignment north of Eau Claire until answers to these important planning questions can be provided and community engagement can be adequately completed.

Thanks for your consideration.

Sincerely,

Dan Evans and Marie Semenick-Evans

**Public Submission**

City Clerk's Office

Please use this form to send your comments relating to matters, or other Council and Committee matters, to the City Clerk's Office. In accordance with sections 43 through 45 of Procedure Bylaw 35M2017, as amended. The information provided may be included in written record for Council and Council Committee meetings which are publicly available through www.calgary.ca/ph. Comments that are disrespectful or do not contain required information may not be included.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

Personal information provided in submissions relating to Matters before Council or Council Committees is collected under the authority of Bylaw 35M2017 and Section 33(c) of the Freedom of Information and Protection of Privacy (FOIP) Act of Alberta, and/or the Municipal Government Act (MGA) Section 636, for the purpose of receiving public participation in municipal decision-making. Your name, contact information and comments will be made publicly available in the Council Agenda. If you have questions regarding the collection and use of your personal information, please contact City Clerk's Legislative Coordinator at 403-268-5861, or City Clerk's Office, 700 Macleod Trail S.E., P.O. Box 2100, Postal Station 'M' 8007, Calgary, Alberta, T2P 2M5.

✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Stephen

* Last name Marando

Email marandosteve@gmail.com

Phone 403-618-1393

* Subject Green Line - 9th Ave N Station Objection

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing with strong concerns pertaining to the addition, once again, of a 9th Ave N station. I live close to the area and I and many of the neighbours directly impacted by the addition of this station are vehemently opposed it. Studies have shown that for those homes closest to stations suffer from increased noise from the trains, increased pedestrian traffic, increased trash, vandalism, and crime all of which, will lead to reduced safety for those residences along with a reduction in residential property values. There will also be increased parking congestion near stations. These studies show being within 300 meters of a station have a negative impact on property values. Crescent Road issues are a prime example of what happens when an increase volume of people are unchecked. In addition, I would argue a station so close to downtown, is not necessary and the negative impacts to any of those residences in close proximity far outweigh any benefits.

Also, if a station is absolutely required, a better location would be at the commercial section of 10th and 11th Ave N. where there is a higher commercial presence.

I also raise the argument that this LRT line, at this point in time, is not necessary. The city would be better off spending money on infrastructure projects with lower price tags that could be better cost controlled. Prior to the Covid-19 virus, downtown office vacancy was in the neighborhood of 25%. With the virus this vacancy rate has skyrocketed. Businesses that continue to function with their people working from home are discovering that they don't need staff in office towers to continue to function. It is

ISC:

1/2

Unrestricted

May 25, 2020

12:03:47 PM



Public Submission

City Clerk's Office

highly probably, in this current economy, and an economy projected to be poor for a long time to come, will decide holding expensive real estate is no longer viable, nor necessary. The volume of people using this line will diminish significantly under these current economic conditions. The line will become a white-elephant draining the city of the opportunity to conduct cost effective projects and continuing to place an operation financial burden on tax-payers who are already suffering. My vote is to shelve the line and stop any further expenditures on the project.

From:
Sent: Monday, May 25, 2020
To: Public Submissions
Subject: FW: [EXT] Opposition to Green Line LRT Updated Alignment

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Email sent asking if OK to add to Agenda as is

From: Joseph Wang [mailto:zwtws@gmail.com]
Sent: Sunday, May 24, 2020 7:34 PM
To: City Clerk <CityClerk@calgary.ca>
Subject: [EXT] Opposition to Green Line LRT Updated Alignment

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

- **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- **Protect the wetlands and the birds, fish and other wildlife that call it home;**
- **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
- **Create a legacy LRT line to serve the long-standing needs of Calgary's growing communities; and**
- **Embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core.**

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are **unacceptable**.

Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:
 - Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
 - Enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and residents of those communities.
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
- Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.
- The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
- An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: Zongqi Wang

Address: 705-138 Waterfront Court SW Calgary AB T2P 1L1

From: Tyson Bolduc <planning@beltlineyc.ca>
Sent: Monday, May 25, 2020 10:31 AM
To: Public Submissions; City Clerk
Cc: CAWard8 - Zev Klymochko; CAWard11 - Chris Carlile; CAWard7 - Dale Calkins; CAWard9 - Shifrah Gadamsetti; Office of the Mayor; Gerylo, Graham; Tierney, Lara J.; Thompson, Michael; Peter Oliver
Subject: [EXT] Green Line LRT – Updated Stage 1 Alignment – BNA Letter of Support
Attachments: 2020-05-25 – Green Line – BNA – Letter of Support.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Email sent asking if OK to add to Agenda as is

Good morning,

With respect to the upcoming meeting of the Green Line LRT Project Committee on June 1, please find attached the Beltline Neighbourhoods Association's **letter of support** for the updated Stage 1 alignment recommendation.

Please let us know if we can provide any further clarification to the City Clerk's Office or the Committee to help support this process.

Thank you,

Tyson Bolduc
Director of Planning and Urban Development
Beltline Neighbourhoods Association

www.beltlineyc.ca



May 25, 2020

The City of Calgary
700 Macleod Trail S.E.
Calgary, AB T2G 2M3

ATTN: Green Line LRT Project Committee

RE: Green Line – Stage 1 Alignment

Dear members of the Green Line LRT Project Committee,

The Beltline Neighbourhoods Association is pleased to have had an opportunity to collaborate with the City of Calgary's Green Line team as a stakeholder over the past several years. Through our Beltline Urban Development Committee (BUDC), we have had a chance to share our insights and the perspectives of the community on numerous occasions through a variety of mediums including public open houses, workshops, and participation in public hearings of Calgary City Council and its standing policy committees.

As a community, we are excited about the Green Line's huge potential to bring about meaningful change to the Beltline through connectivity and investment in our civic infrastructure. Visionary projects on the scale of the Green Line are a rare opportunity to make a significant difference to our City. The Green Line is a project that will benefit Calgarians for generations, and we have an opportunity to invest in our future prosperity by supporting growth, attracting investment (that will help to diversify our economy), and creating a more vibrant, sustainable and livable city that will benefit everyone, either directly or indirectly. With so much at stake, it is essential that we get the Green Line right.

The Green Line alignment previously approved by City Council in June 2017 included a bored tunnel from 16 Avenue North to East Victoria Park along 12 Avenue South with an underground transition to 10 Avenue SE and portal to a surface station at 4 Street SE adjacent to the CPR right-of-way. Since summer 2019, we have participated in several conversations with the project team as they've reevaluated their previously-approved alignment to mitigate risk, leading up to their current recommendation, which we **strongly support**.

The Recommended Alignment

The portion of the alignment that passes through Centre City is of critical importance. Getting the Beltline and Downtown sections right is fundamental to ensuring the success of the entire system. Future extensions to the north and southeast will depend on the reliability of the core segment to bring about maximum value to Calgarians. Cutting corners on the Centre City segment risks reducing system reliability and introducing inefficiencies that will negatively impact ridership and increase the costs associated with future segments.

The Green Line Team has brought forward a prudent and realistic solution to the Centre City segment. This recommendation mitigates risks, and critically, maintains the original project vision. The revised alignment for Stage 1 addresses many of the fundamental concerns we have heard from members of our community. We also believe it maximizes ridership for this stage of the project while providing a springboard for expansion as soon as funds become available. Our specific comments on the recommended alignment are as follows:

- **We support the cut and cover tunneling approach:** significant project risk is mitigated by switching to a cut-and-cover tunnelling approach in the Centre City. The proposed solution also allows for shallower stations that are easier to access, which we believe will encourage greater ridership and uptake. Equally, we believe a surface alignment, as has been proposed by some observers, would create major problems for traffic and pedestrians throughout the Beltline in addition to causing accessibility issues and reducing the ridership experience.

- **We support the 11 Avenue underground alignment:** the proposed 11 Avenue alignment effectively addresses the concerns that have been previously raised by the BNA, and many other stakeholders in the area. Achieving deeper penetration into the Beltline, this alignment will serve more of the community (along with several new developments along the corridor) than the previously-approved alignment with a station adjacent to the CPR tracks. The recommended alignment is also closer to the new Event Centre and Stampede Park. Based on input we have received from residents, and the need to avoid traffic disruption along the Macleod Trail and 1 Street SE corridors, **we believe that an 11 Avenue alignment must be located below grade**, and we strongly support the project team's decision to recommend this.
- **We support a 2 Street SW underground alignment:** we previously shared our concern that a tunnel portal in the Beltline would be devastating for future developability and would introduce significant CPTED concerns to the heart of our community. We are pleased that the Green Line Team is avoiding this by recommending the continuation of the underground alignment from 11 Avenue northward along 2 Street SW. We understand that this solution also addresses technical concerns with crossing the CPR main line and the 7 Avenue transit corridor.
- **The Bow River bridge is an effective compromise:** given the technical challenges and risks associated with the deep tunnel boring approach, we believe that a bridge is an appropriate compromise that can contribute positively to the public realm, further enhanced by the proposed pedestrian connectivity. We understand that concerns have been raised about the prospect of a new bridge over Prince's Island. We believe that the recommended alignment, which locates the bridge over the less-used extreme east side of the island, largely negates these concerns. We would encourage the City to demand design excellence and set a high bar for its execution so that it may become an iconic and beloved landmark for the City.
- **There are opportunities for greater mobility:** the recommended Bow River bridge and 2 Street SW tunnel will create exciting opportunities to facilitate greater connectivity for pedestrians and cyclists. If these infrastructures can be implemented to accommodate pedestrians and bikes along new CPR and river crossings, then we envision a seamless new connection along 2 Street SW (which will soon have new dedicated cycling infrastructure south of the CPR) through downtown, and over the river with connections to Prince's Island and the Centre Street corridor through Crescent Heights.

Benefits to the Beltline

The Beltline is an integral part of the lives of most Calgarians, **currently home to 25,000 people and the second highest concentration of offices in the city – all of whom contribute significantly to the City's property tax revenues** (this number and demand continues to increase as evidenced by census data, current construction, and active development permits). We think it is essential that the Green Line development be considered thoughtfully everywhere in the city and would argue that how it travels through and engages with the Beltline will be key to its success or failure.

The Green Line will provide significant direct benefits to our community. The recommended alignment is good for business, good for residents and good for investment in our public realm. We are the densest and least car-dependant community in the City, and effective transit connections are a vital part of how we get around. With two new stations, we also see significant opportunities to revitalize active nodes by enabling new centres of intensity and vibrancy, and creating new intermodal mobility hubs.

The Green Line will also provide better access and proximity to the Stampede, new arena/event centre, BMO Centre and East Village; more convenient passenger transfers to the new Red Line Stampede Station and stronger integration between Beltline residents and businesses (without disruption to existing transportation modes on 12 Avenue SW and the Macleod Trails). The recommended alignment will support the City's modal shift priorities; getting more people out of their cars. Greater transit usage will lead to less traffic in Victoria Park on event days, and **will reduce the demand for surface parking, freeing up high-value developable land to more appropriate uses.**



The Timing is Critical

We understand that a small number of vocal Calgarians have been pushing for a delay to the Green Line project due to economic concerns. In our view, a delay would have devastating consequences for the project, and would potentially mean the loss of funding from other levels of government. Calls for delays seem to be rooted in concerns about the price of oil and the current COVID-19 pandemic. While both issues are serious, they represent a moment in time, and delaying the project now would be the product of short term thinking. Work has already begun on the creation of an entertainment district and the further development of Stampede Park. The Green Line will provide critical access to these developments. **Now is not the time to delay.** Over the course of the next five years, the following significant projects will be coming to fruition:

- The 17 Avenue connection into Stampede Park and the new Stampede Red Line LRT station – 2023
- The half billion dollar expansion to the BMO Centre, which will make Calgary into a Tier 1 conference destination and provide a significant boost to our economy – 2024
- The new Event Centre in East Victoria Park at 12 Avenue and 4 Street SE – 2024
- Peripheral developments along Stampede Trail and 17 Avenue to support these projects and bring greater vibrancy to the area, including at least one major hotel on 12 Avenue that will help support the BMO Centre.

The Green Line goes hand-in-hand with these projects and it is integral to their success, with better transit being essential to accommodate the resulting increase in intensity and movement.

De-Risking The Green Line

A popular buzzword used by a group looking to City Council to reject the project team's recommendation is 'de-risking.' We agree that the project needs to bring maximum value to Calgarians, and the risk of budget overruns must be mitigated. However we also believe that the Green Line Team has done a commendable job of helping to achieve this goal with their current recommendation. **By abandoning the bored tunnel approach and making other changes, the project has already been significantly 'de-risked'.** In our view, the recommended alignment is prudent and does a good job of balancing risk, the need for realistic solutions, and incorporating stakeholder inputs. Most of the alternative approaches that have been put forward have already been thoroughly evaluated and rejected for very practical reasons. **It's now time to move forward.**

Another proposal that has been put forward to 'de-risk' the project involves reducing the project scope by cancelling or deferring the portion of the line extending north of downtown (or north of the Beltline in some scenarios). Our understanding is that a deferral would significantly harm the viability of future extensions up Centre Street – already Calgary's busiest transit corridor – and would reduce the projected ridership to levels that would undermine the project's value (diminishing the return on taxpayer investment). It is critical that the Green Line achieve its mandate to provide maximum value to the taxpayers who will rely on it for years to come.

A Final Word

The BNA is deeply concerned about the rhetoric being used by ad hoc citizen committees who have invested considerable time and resources to discredit the comprehensive work that the Green Line team, and their experienced (largely Alberta-based) consultants have done. Using what appears to be incomplete information, flawed assumptions and alternate proposals that lack rigour, expert input and context, these groups purport to represent the best interests of taxpayers and our community at large. **They do not.**

In our view, these committees do not speak for most Calgarians, and critically, they fail to adequately represent those citizens and businesses who would be the greatest benefactors of the project. The Green Line is a vital and smart infrastructure investment for Calgary, **especially** in the current economic environment. To suggest that we cripple the project because of today's price of oil, or because of COVID-19 (a serious, but ultimately temporal event) represents the kind of short-term thinking that will ultimately lead to missed opportunities, and reflection on how we could have done better. These groups present a troublingly cynical view of our future, and undermine the value of investing in long-term prosperity. A delay in key investments today could very well create further



economic hardship (in terms of both unrealized increases in property value and lost economic stimulus opportunities), negatively impacting all Calgarians, including those who currently oppose the project.

We urge City Council to consider how this project will ultimately shape Calgary as a place that can attract meaningful investment, support growth, and drive greater economic diversity. To realize that vision, we need to adopt a long view; we need to get the Green Line right.

In light of the exciting new developments in East Victoria Park (such as the Event Centre, BMO Centre Expansion, Victoria Park Station) and the challenges encountered with the 2017 bored-tunnel underground alignment, we strongly urge the Green Line LRT Project Committee and City Council to accept the project team's recommendation. This project, as proposed today, will weave together new city-shaping investments and deliver positive, wide-reaching economic and mobility benefits to the City for decades to come. Calgary needs this investment now more than ever.

Sincerely,



Peter Oliver
President, BNA



Tyson Bolduc
Director of Planning, BNA

cc: Office of the Mayor
Cllr. Jeromy Farkas, Ward 11
Cllr. Evan Woolley, Ward 8
Cllr. Druh Farrell, Ward 7
Cllr. Gian-Carlo Carra, Ward 9
Michael Thompson, General Manager (temporary), Green Line
Graham Gerylo, Senior Manager, Stakeholder Relations, Green Line
Lara Tierney, Team Leader, Stakeholder Relations, Green Line
publicsubmissions@calgary.ca
cityclerk@calgary.ca



From: Azat Kuliyeu <azat_k84@hotmail.com>
Sent: Monday, May 25, 2020 6:14 PM
To: Public Submissions
Subject: [EXT] Re: Opposition to Green Line LRT Updated Alignment

Hello,

Yes, please include my submission as part of the public agenda/minutes package.

From: Public Submissions <PublicSubmissions@calgary.ca>
Sent: May 25, 2020 5:33 PM
To: Azat Kuliyeu <azat_k84@hotmail.com>; Public Submissions <PublicSubmissions@calgary.ca>
Subject: RE: Opposition to Green Line LRT Updated Alignment

Hello,

Thank you for your submission regarding the Green Line. Please advise if you would like your submission to be included as part of the public agenda/minutes package?

In accordance with sections 43 through 45 of Procedure Bylaw 35M2017, as amended, **your name, contact information and comments will be made publicly available** as part of the agenda and be published at www.calgary.ca/ph. Please be advised that we have an online submission form for submissions going forward to Committees and Council. It can be found here <https://forms.calgary.ca/content/forms/af/public/public/public-submission-to-the-city-clerks-office.html>

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Thank you,

Jordan Palaschuk
Legislative Advisor,
Governance & Protocol Services, City Clerk's Office
City Manager's Office | The City of Calgary | Mail code: #8007
T 403.268.5861 | **D** 403.268.1123 | **F** 403.268.2362 | **E** jordan.palaschuk@calgary.ca
P.O. Box 2100, Station M, Calgary, AB Canada T2P 2M5
ISC: Protected

From: Azat Kuliyeu [mailto:azat_k84@hotmail.com]
Sent: Saturday, May 23, 2020 11:24 AM
To: City Clerk <CityClerk@calgary.ca>; Public Submissions <PublicSubmissions@calgary.ca>
Subject: [EXT] Opposition to Green Line LRT Updated Alignment

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

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I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

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Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:
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I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 25th meeting.

Sincerely,

Azat Kuliev

1627-222 Riverfront Ave SW T2P 0X2 Calgary, Alberta

From: Barbara Surplus <surplusb@shaw.ca>
Sent: Sunday, May 24, 2020 3:48 PM
To: Public Submissions; City Clerk; Office of the Mayor; Sutherland, Ward; Magliocca, Joe; Gondek, Jyoti; Chu, Sean; Chahal, George; Davison, Jeffrey R.; Farrell, Druh; Woolley, Evan V.; Carra, Gian-Carlo S.; EAWard10 - Lesley Stasiuk; Farkas, Jeromy A.; Keating, Shane; Colley-Urquhart, Diane; Demong, Peter
Subject: [EXT] Green Line Submission to City Council
Follow Up Flag: Follow up
Flag Status: Flagged
Categories: Email sent asking if OK to add to Agenda as is

Dear City Clerk and Public Submissions Officer:

Kindly include this letter as part of the public submissions to the Green Line hearings.

Thank you.

Dear Mr. Mayor and Council Members,

I have read, with great dismay, the Green Line Team's recent update on the Green Line North Project. This has led me to write to you today to express my deep sorrow that you have not taken into account the current reality of the dire economic situation in Calgary, nor have you listened to and taken to heart the multiple and very valid concerns many of the people most directly affected by this rail line have offered you. It is as though we, and our lives in Crescent Heights, don't really matter because many of you have already made your minds up. And that, as they say, is that.

I urge you to re-think your plans for the north Green Line. The game changed completely when you removed the Bow River tunnels. You can't simply bring the line above ground and expect us now to be overjoyed that 60,000 pounds of rolling stock will be rumbling through our neighbourhood umpteen times a day, not to mention the certain destruction of our beautiful Prince's Island wetlands in the name of "progress". How could you even think of that as an acceptable plan?

What makes the North line so utterly unpalatable is that it will terminate barely beyond downtown for years, perhaps even decades. You've thrown us a bone with the 9th Avenue station but that means nothing to most of us. We can walk downtown faster than it takes to wait for a bus some days as it is. Many of our residents actually live closer to downtown than they do to 9th Avenue.

Spend the North Line money on making the South Line **simply excellent**. If you build two lines that are, literally, halfway to nowhere, you're counting on more funding to extend both to take them to their full potential. But who knows if and when that will arrive? It's all a huge uncertainty but

you're gambling now that it will happen some day in the future. Not one of us can even begin to count on that occurrence.

As you are all fully aware, the world – and Calgary's good old cash-cow oil industry - has changed. I urge you to take some time to think about how our tax base has been ravaged, a situation from which we may never fully recover, and then tell your citizens where the money for these future line extensions will come from. Chances are pretty good that you may not be in City Hall by the time the funds arrive, if they ever do, but we will have to live with your decisions for generations to come. It may not be the "glorious legacy" you have hoped for.

Your truly,

Barbara Surplus
136 7 Avenue NE
CALGARY, AB T2E 0M5

403 608 1304

From: Edmond Shin <shin.edmond@gmail.com>
Sent: Sunday, May 24, 2020 5:14 PM
To: City Clerk; Public Submissions
Subject: [EXT] Opposition to Green Line LRT Updated Alignment

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Email sent asking if OK to add to Agenda as is

Green Line Technical Committee and Members of Calgary City Council

Attention:
Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT

The City continues to rapidly pursue the Green line without proper consideration of the economic implications of COVID-19 and this impact on the need for the project. There are multiple reasons why the decision must be delayed for review of alternate options:

- The City cannot afford a project of this magnitude at a time of great economic uncertainty when:
 - Estimated 2020 debt: Federal – \$250B, Provincial AB – \$20B ;
 - This currently proposal still carries significant risk of cost overruns;
 - Falling oil prices and a Calgary economy under pressure.
 - COVID-19 is creating material uncertainties on transit ridership and potentially long term changes to commuter behaviour due to increased permanent working from home.
 - Online feedback is not sufficient to gather public opinion, the most recent changes have not had the opportunity for the public to participate in open house reviews. Those announced changes to the 2nd street alignment and simple assurances the needed environmental oversight for crossing Prince's Island require both public disclosure and public comment and review.
 - Effect on the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area.
 - An LRT Bridge over the river and south down 2nd street will have the impact of significant noise / light pollution and overall negative effect on peacefully enjoyment of the area by the residents of Eau Claire.
- **As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable.**

Sincerely,

Edmond Shin

#1516, Riverfront Ave SW

Calgary AB, T2P 0W3



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Tyler

* Last name Bedford

Email tbedford@bta.ca

Phone 780-298-7626

* Subject Green Line LRT construction

The below submission is on behalf of the Building Trades of Alberta and its more than 60,000 skilled trades members from 18 union locals, province wide.

The Green Line LRT project is an exciting development that means cleaner transit for Alberta's largest city and jobs for many skilled trades workers. With that, BTA is encouraging the City of Calgary to explore hiring Alberta-based local labour for Green Line's construction, and the contractors who employ them for all stages of its development.

Hiring local will help boost Alberta's employment numbers and help improve our current economic situation. This is good for workers, local businesses, shops and restaurants, government and more. Moreover, local hiring would help ensure the health, safety and wellbeing of all on site as a result of COVID-19 and the risks associated with importing labour from other jurisdictions.

Hiring local just makes sense in these times and can be done through Community Benefit Agreements (CBAs), which have seen success in other jurisdictions around Canada, including Metrolinx in Toronto and the Vancouver Olympics.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

CBAs also ensure a certain number of women, apprentices, Indigenous and other underrepresented groups in the skilled trades are employed.

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Public Submission

City Clerk's Office

BTA is proud to work closely with Build Together, Women of the Alberta Building Trades; Helmets to Hardhats (which helps veterans transition to careers in the skilled trades); Trade Winds to Success (which helps get Indigenous youth into the skilled trades); The Educational Partnership Foundation (which trains youth through BTA instructors in the skilled trades) and others.

BTA and its signatory contractors are ready to assist the City of Calgary on the Green Line LRT project, or others, at any time.

Thank you for your time and I encourage you to reach out with any questions or comments you may have.

Terry Parker
780-405-3777
tparker@bta.ca



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Laddie

* Last name Miller

Email laddiemiller@gmail.com

Phone

* Subject Green Line Project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I would like to express my support for the Green Line Project and let the city council know how important it is to me in my everyday life. I moved to Calgary from the U.S. in 2018, and that move would have been impossible without the public transit in place in Calgary. There are many people unable to afford a vehicle, and without public transportation, getting to work would be an impossibility. Public transit has allowed me freedom of movement in the city, and the ability to explore new places and have recreational and professional opportunities throughout the city.

The Green Line is the next step to making transit even more accessible to more people, and making their commutes quicker and easier. My only disagreement with the Green Line is that it does not reach all the way to the Calgary Airport. Making the line go directly to the airport is not only a convenience for those of us without vehicles, but for those with vehicles to avoid unnecessary parking fees and traffic. Doing so. would make Calgary an even better place to visit.

Please know that public transportation such as the Green Line is not a mere convenience for thousands of people like myself in Calgary, it is our lifeline and the only way that we can actively participate in the economy of this great city.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Moraig

* Last name McCabe

Email moomccabe@googlemail.com

Phone 403-992-5298

* Subject Green Line Committee Meeting - June 1st

Dear Mayor and Councillors

As a resident of W3 who has been advocating for the Green Line to be built since 2015, I was hugely disappointed in 2017 that the Green Line LRT was not coming to W3 in Phase 1, to help us cope with the huge demand for transit at Northpointe. However, thanks to the advocacy of my new Councillor and community led advocacy, it appears that we may be getting actual MAX-level BRT (the 301 is only an express bus) in the Phase 1 Green Line recommendations coming forward from Administration, which is a huge relief. My concerns lay with the following (a) the funding of \$50-100M doesn't appear to cover the BRT all the way to Northpointe, where most of the corridor's ridership originates; (b) the funding is subject to the GoA & GoC approval the funding can be used for this.

I know that Phase 1 has to be built in order for W3 to ever see LRT to cope with our demand for transit capacity, but many residents in W3 would like to please see a guaranteed interim solution that builds MAX-level BRT to Northpointe. Many residents in W3 require transit to get to work because they can't afford to drive and park downtown, and to access City, health, social, immigrant, and food bank services to the south of us that just aren't available in our communities in W3. This is not just a commuter issue for us, although commuters too need to be able to rely on being able to actually get on a bus to get to work, something which wasn't a guarantee pre-COVID (and now isn't either, as all of our express buses have been cut).

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

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Public Submission

City Clerk's Office

I know that you will hear from many (that don't support public transit) that in this post-COVID era we will all be working from home, but this is only one possible future, based on an assumption that comes from a position of privilege. Many in W3 won't have that luxury. We also need to consider that the Green Line won't even be ready for 6-7 years, by which time I highly doubt we will all be in lockdown.

To summarize, I would like to please request that you consider:

- (a) Approving the Phase 1 plan, so we can get this thing started and kick start our economy by providing jobs for the many thousands out of work in Calgary.
- (b) Ensuring that MAX-level BRT is provided for those of us north of 16th Ave, at the very least up to Northpointe, to capture the majority of the Centre Street corridor ridership, that will help to make a huge dent in operating costs.

Thank you.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Neil

* Last name Clark

Email neil_clark@live.com

Phone 4039994758

* Subject Project labour agreement for green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I believe the green line would benefit from being built under a project labour agreement for the following reasons

Wages and benefits should not be used as a tool to lower a bid price, contractors should not be able to make their employees carry the cost of a low ball bid, keeping workers in a depressed economy down.

A more ethical hiring procedure can be used making sure those who have been out of work the longest go to work first on the project. This also can add protections for minority status workers.

Other cities have successfully used them for similar projects.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Robert

* Last name Walker

Email robert.walker4@gmail.com

Phone

* Subject Green Line - I support public transit infrastructure

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am a resident and homeowner in Calgary and I support the Green Line project. It is critical that we build transit infrastructure to ensure we have a connected, livable, and modern city. I have a vehicle but I rely upon the CTrain and Calgary Transit buses for my daily commute. Please build the green line.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name James

* Last name Johnson

Email jamesjohnson.tx@gmail.com

Phone

* Subject Green Line Should Move Forward as planned

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
A lot of work has gone into getting to the best possible result, with a good initial plan. The City of Calgary has the responsibility at this point to move forward with the Green Line LRT project as proposed and without alterations influenced by wealthy individuals that have shown a pattern of only looking after themselves.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Rylan

* Last name Graham

Email rylan.graham@ucalgary.ca

Phone

* Subject GreenLine - Please Support this Project!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Good afternoon,
I am writing to the Green Line Committee to offer my support on this project. Please build this project for Calgarians today and into the future. This is a much needed project. Please do not allow a small group of detractors from derailing what is a much needed project.
Rylan



Public Submission

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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name
Bridget

* Last name
Brown

Email
bridget.erin.brown@gmail.com

Phone

* Subject
Support for Green Line

As Calgary grows, our city will be required to find traffic solutions. We know (and have examined in great detail) that an LRT route running North-South through the centre of the city will allow people who don't have access to personal vehicles to more easily get to work, school and other places they wish to go. It will alleviate pressure on our roadways as people choose to take convenient transit instead of drive.

Those who are not in favour of this people-moving flexibility tend not to be those who rely on public transit. They tend to be those who have special interests in keeping as many vehicles on the roads as possible, for whatever business reasons they have. That could be because they make their money from oil, from automobile sales, or from the construction of far-flung communities outside our city's core.

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

We are in the middle of an economic crisis. But right now we have access to federal dollars that make this project much more palatable than it would be without those funds. We are also in a situation where many people are out of work and need to have the flexibility to accept a job wherever it might be. The more transit options that are available, the more time people have to spend with their families, and doing other non-commuting activities.

It is sad that we have to write in support of a project that helps low income Calgarians access transportation, that helps people with disabilities travel more easily, that helps seniors leave their homes and be in the community with fewer barriers, and that helps

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Public Submission

City Clerk's Office

Calgary become a more lucrative destination to investors. However that is the situation we are in. If Calgary wants to move past its dependence on oil revenue and truly become a world class destination, we need the amenities that world class destinations have. If Calgary wants to ensure our most vulnerable are able to access services and work opportunities, we need to make that as easy as possible. We have debated this issue to death. It is time for the Green Line.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Bob

* Last name Holmes

Email commbh@shaw.ca

Phone 4038624263

* Subject Submission to City Council's Green Line Committee for the June 01 2020 meeting

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Mr Chair, and members of the Committee;
Attached please find my submission concerning the Green Line for Monday June 01 meeting of the Committee.
Respectfully submitted,
Bob Holmes.

Submission Re: The Green Line Project

“The future ain’t what it used to be.”

This well-known saying by former New York Yankees star Yogi Berra, was probably not meant to be a contribution to a public policy debate. But it should be the focus of City Council’s Green Line Committee when they meet on June 01.

The current cost for the Green Line project is \$4.9 Billion with funding of \$1.5 Billion from each of the federal and provincial governments, and the balance from the City. The majority of the \$4.9 Billion will be borrowed. The operating cost of the Green Line after completion is \$30-40 Million per year after revenue from the fare box is taken into consideration. This does not take into account the annual debt servicing costs on the money the City will borrow.

Some Calgarians have expressed concern about the risk because of the scale and cost of this project. “Business Leaders again question Green Line Plans”, Calgary Herald Monday May 04. They have proposed to “de risk “the project by significantly reducing the scale and cost of the project. “Here are ways to reduce Green Line’s financial risks, “Calgary Herald Friday May 08.

But financial and project execution risks are not the only risks facing this project.

The Ridership Risk

Ridership is the fundamental aspect of any transit project. It is the major criteria that determines the return on investment. It also directly impacts the net operating costs of the investment—higher fare box revenue, means less taxpayer subsidy. The City estimates that the daily ridership on the Green Line will be 65,000 people. This seems optimistic. In the north, the line only runs on Centre Street to 16 Avenue, and the existing bus rapid transit (BRT) line into the downtown will run beside it. In the south east the line only runs to Shepard. We do not know the assumptions that this ridership estimate is based on. Is it from the existing population? What assumptions have been made about population growth and downtown employment? Are there best and worst case scenarios? The ridership forecasts are being updated for the Committee meeting. This is a good idea. The updated ridership report should be made public.

Prior to the pandemic, the vacancy rate in the downtown was +/-25%. There is a real possibility that the pandemic, and the way Calgarians and companies have adjusted to it, will change where and how some of us work, and other aspects of our lives. Some have called this the “new normal”. In the transit world this has implications for ridership. The future will be different than what we thought when planning for the Green Line began. We can’t predict it with certainty. But we can be very strategic about the infrastructure investments we make.

The Affordability Risk

In the last three months, the federal and provincial governments have had to spend massive amounts of money because of the pandemic and associated impact on our economy. These expenditures, while necessary, were not budgeted and will be funded by borrowing. The federal government's 2020 deficit is expected to be \$250 Billion. The total debt, just under \$1 Trillion. The 2020 provincial deficit is forecast to be \$15 Billion. The debt, just under \$100 Billion. The City of Calgary estimates lost revenue of \$250 Million to \$400 Million this year and has asked the provincial and federal governments for help.

The amount of personal debt has been a concern of the Bank of Canada and CMHC for some time. All this government and personal debt has to be repaid. Statistics Canada estimated Calgary's unemployment rate in March at 8.6%, with 17,000 Calgarians losing their jobs in March. Analysts have pointed out that this is the pre-pandemic number.

It has been argued that because the federal and provincial governments have each committed \$1.5 Billion to the Green Line project this is a good deal for Calgarians. But Calgarians pay taxes to all three levels of government, not just the City. You can only spend a taxpayer's dollar once. So if you choose to spend \$4.9 Billion on one massive project, other priority projects will not get funded. The pandemic has reminded us that there are many other priorities and demands on public

funds: in health care, long term care, pandemic preparedness, housing, encouraging the diversification of our economy, and other city priorities , to name a few. Finding the funds for these priorities while locked into paying high levels of debt will be difficult.

The Green Line is an infrastructure project. History has shown that investing in infrastructure projects in order to create jobs in a recession can be sound public policy. But it has to be the right project at the right cost. This requires discipline and hard choices. The focus of infrastructure projects is usually on the capital costs and job creation. The annual ongoing operating costs frequently get less or no attention. By the time the project is completed, it's too late. Spending \$4.9 Billion for the Green Line project as presently conceived, with a \$30-\$40 Million annual operating cost funded by the Calgary taxpayer is an expensive way to create jobs.

Calgarians and Albertans know that our economy was in trouble before the pandemic. So whether we return to a pre pandemic "normal" or a "new normal" we are in a period of great uncertainty.

Many companies headquartered in Calgary have cut back their capital expenditure programs because of current and future uncertainty and an unwillingness to add more debt to their balance sheets. This is a strategy Green Line Committee should seriously consider in its upcoming meeting.

A Way Forward

The alternative proposal put forward by a group of Calgarians is a thoughtful proposal that still invests in transit, and creates jobs, but with a more affordable capital and operating cost. It should not be dismissed as coming from armchair quarterbacks. It is from taxpayers. It should be considered on its merits.

The Green Line Committee needs to step back from looking at alignment details through the Downtown or the design of another bridge over the Bow River. The times we are in require that the Committee and Council look at the big picture.

The current Green Line project should be restructured as two separate strategic projects. One project is to invest in further improvements to the already well used Bus Rapid Transit System on Centre Street into the downtown. This is a scalable project. In other words the improvements do not need to be bundled in one large project. They can proceed as money becomes available, and they can proceed quickly.

The other project is a surface LRT line from downtown to the ridership rich residential communities like Mackenzie Town and Seton in the south east. Much of the planning and land acquisition work to date on the south east portion of the Green Line can be used on this revised project.

Bob Holmes is a former Commissioner of Planning and Transportation, Chair of the Calgary Planning Commission, and former Senior Vice President of Planning and Capital Projects at the Calgary Health Region.

Palaschuk, Jordan

From: Barbaatar, Davaa on behalf of City Clerk
Sent: Monday, May 25, 2020 10:12 AM
To: Public Submissions
Subject: FW: [EXT] Opposition to Green Line LRT Updated Alignment
Attachments: Waterfront-Green Line Letter to Council.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Email sent asking if OK to add to Agenda as is

From: Rick Li [mailto:wrinkly@gmail.com]
Sent: Saturday, May 23, 2020 3:25 PM
To: City Clerk <CityClerk@calgary.ca>
Subject: [EXT] Opposition to Green Line LRT Updated Alignment

Hello,

Please see attached regarding my concerns on the new proposed Green Line LRT updated alignment.

Thanks in advance.

--

Rick Li

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

- **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- **Protect the wetlands and the birds, fish and other wildlife that call it home;**
- **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
- **Create a legacy LRT line to serve the long-standing needs of Calgary's growing communities; and**
- **Embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core.**

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are unacceptable.

Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:

- Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
 - Enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and residents of those communities.
-
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
 - Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.
 - The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
 - An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: Rick Li

Address: #703 108 2nd ST SW, Calgary, Alberta, T2P1P1



Public Submission

City Clerk's Office

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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Paul

* Last name Gary

Email infodesignform@gmail.com

Phone

* Subject Green Line Submission - Updated

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Attached is a revised and updated letter submission provided yesterday

126 – 8th Avenue Northeast
Calgary, Alberta CANADA T2E 0P5

Paul Gary MID IDSA SEGD
Industrial designer

T 403-277-3270

E formwerkdesign@gmail.com
E infodesignform@gmail.com

Monday, May 25th, 2020

Public Submission via online form

RE: **Updated Green Line alignment - Crescent Heights - Updated**

Dear Sir;

After reviewing the information provided by the City through its localized in-person engagement process as well as recent information provided through the updated project review, the proposed alignment, as it is presented along Centre Street North is plagued by several mobility issues and deficiencies which were initially identified in its alignment proposal options back in 2016 (Option E). At that time, the City recommended an underground tunnel (Option D - "Highest ranked option") from 16th Avenue N, initially leading into the downtown core. Subsequently, another option would see it exiting McHugh Bluffs with a bridge over Princes Island. As it stands with the current update of having a train down the middle of Centre Street N, the initial tunnel proposal still remains the most effective and viable option.

Having had some experience in transit studies (York, Toronto, 1979), the current updated alignment is plagued with transit generated traffic issues. In the short term and long term, it will have a lasting impact on the residents of the adjacent neighbourhood of Crescent Heights, especially on the east side of the community. These deficiencies include:

- the alignment down the middle of Centre St N will create a backlog of southbound traffic to the downtown core at the junction where the train leaves Centre St N and curves towards the future bridge over McHugh Bluffs. According to city traffic engineers, a railway type arm is to be provided where on-street traffic and crossing train link meet. Here, the end result will be impatient drivers seeking alternate routes, either at 7th Ave, 10th Ave or 12th Ave NE and this, despite timed No Left Turns at these intersections. In most cases, drivers will want to go through adjacent avenues in order to attain their goal of avoiding Centre St N.
- with the congestion created by this railway arm control, increased vehicle traffic shortcutting will occur, attempting to save time by using Edmonton Trail N southbound. This will add to the congestion issues at an already peak capacity area – Memorial, Edmonton Trail N and the 4th Street flyover. Some vehicle traffic will also attempt to shortcut through the west side of Crescent Heights and Rosedale, then on to 10th Avenue, although this is substantially less concerning than on the East side of Centre Street N.
- the updated alignment of the Green Line on Centre Street N does away with on-street commercial parking. The net result will be an increased use of neighbouring residential on-street parking, either illegally, curtailed or eliminated Restricted Residential Parking Permit Zone, city implemented public user fee, or a combination of all these elements. Presently, the city does not have the enforcement resources or capabilities to address these issues.

2/...

- for the residents of 7th Avenue NE, it will be especially problematic to have a turn signal at 7th Ave NE and Centre St. N. As with most streets in this area, the narrowness of the avenues currently accommodate local and through-traffic with a “dodge-in, dodge-out” approach to oncoming vehicle traffic. The inclusion of a signal light will increase traffic along this avenue and, in turn, significantly increase road hazards for residents of the area.
- in the city’s decision for a middle alignment of the rail link, it identifies it as “a safer alternative for pedestrians and traffic”. Research in this type of alignment is at best, inconclusive and would suggest otherwise. When separating two distinct modes of transportation for pedestrian crossing, grouping directional traffic together offers the pedestrian a clearer view for crossing. Thus, a grouped dedicated right-of-way for rail and similar direction one lane traffic is simpler for pedestrians to acknowledge and recognize. It also offers lower cost for the infrastructure as sidewalks can be accommodated into platform areas, as shown in most instances in Europe where the city has acknowledge several points of its research.
- the plan is also deficient with at least one additional station along Centre St N. In the 1979 study, while researching user patterns, a survey result amongst transit clients showed an average of 3 to 4 city blocks the maximum distance a user would walk to a subway station. The current localization of the station(s) should accommodate existing residents of avenues, as well the densified areas along Edmonton Trail in proximity of Centre St N. Thus, stations should be located on the West side of Centre St. N, between 7th and 8th Avenues and 10th and 12th Avenues, where current or proposed lights are to be located. In all these locations, extending or accommodating various platform grades can be achieved.

In reviewing the information provided by the city, the basis for its decisions to abandon the tunnel option were cost (10% above a \$4.9b envelope) and “technical issues”. On the first item; over an amortization period of 100 years (we checked with city engineers during the in-person engagement process), the 10% cost overrun is insignificant. Even the initial budget could be increased and it would still be easily managed. With respect to the second item; it appears the city should consider consulting and retaining external expertise as to building this type of underground transit system.

A good starting point as a case study would be Lausanne’s M2 system. With a population of 140,000 inhabitants and a surrounding additional 150,000+, they were able to produce the following system and stats:

- 70-90% of the system is underground (above ground being a small linking bridge)
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- 6.5 kilometres (4.0 mi) in length
- 14 stations on the line, which makes a 338 m (1,109 ft) vertical gain. An additional 2 kilometres (1.2 mi) of track is contained within the depot at Vennes, along with the signalling, security and information facilities.
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- 4-½ year project timeline. Cost in today’s \$Cdn today: \$1b

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With the current economic climate, projected accumulated deficit on provincial resources due to the impact of the pandemic events, continued stagnation in the energy sector, decline in the occupancy of the downtown core, decline in the business and property tax revenue base and projected increase in bankruptcies, it would be highly unlikely the extension of the North portion of this line would proceed after the proposed 2026 completion of the first segment of the north line from downtown. Provincial funding will most likely be heavily curtailed in the foreseeable future.

Given the issues and deficiencies outlined with proposed alignment to Centre Street North, the expected decrease in ridership in the immediate future and uncertain longterm transit usage, and changes in how urban densification will be allowed, it would be advisable to consider suspending development of the Centre Street N. portion until such time a clearer and more timely and viable option is proposed, based on future ridership needs, mobility needs, impact and stakeholder security, acquiring the necessary technical expertise to service the underground option and, not simply limit the project on budgetary shortfall projections. Ultimately, it is in everyone's interest to get this right as we will all live with the decisions for decades to come.

Best regards;



Paul Gary BDes MID
Resident, Crescent Heights

pg. /

cc.:

residents: MA Smith, A Smith, C McLaren



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Alex

* Last name Reed

Email reedalex@hotmail.com

Phone

* Subject Green Line LRT: Centre Street

The Green Line LRT should be tunnelled under Centre Street from 24th Avenue N to the river bluffs for two major reasons:

1. The Green Line is intended to provide an enhanced means of travel when the line is extended to the northern communities. Being in a tunnel along Centre Street means that the LRT will be able to travel much faster along this segment, probably saving about five minutes per trip. The benefits to the passengers in 10 years will add up to more than \$100-\$300 million cost of burial. The surface alignment will require lengthy waits at the intersections with 12th, 16th and 20th Avenues. Burial of the LRT line will increase trip velocity which will attract more passengers than the surface route. We have the opportunity to get this decision correct now, instead of moaning how we got it wrong for the next 100 years.
2. Centre Street is a major commuting corridor for the northern half of the city. Derating this asset will push more traffic onto Edmonton Trail and 4th Avenue SE which are already restricted by the Memorial Drive traffic lights and the heavy traffic load already on 4th Avenue. Derating Centre Street will also push more traffic onto 10th and 14th Streets NW which are already at capacity trying to funnel traffic into the western side of downtown. The cost of upgrading these streets should be included in the cost of placing the LRT on the surface of Centre Street. In spite (or because) of being a major driving thoroughfare, Centre Street is a vibrant shopping & business district.
- * Comments - please refrain from providing personal information in this field (maximum 2500 characters)

ISC:

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Unrestricted

May 25, 2020

2:54:49 PM



Public Submission

City Clerk's Office

Bow River Bridge

My preference would be to see the LRT buried under the Bow River to protect the natural and park spaces along the river and Prince's Island. However, I understand the cost of deep burial is too significant. The LRT bridge should have an appearance that complements the arches of Centre Street Bridge. Whatever bridge is chosen will detract from the beauty of the park and pathway spaces in a manner similar to the 4th & 5th Avenue flyovers.

Thank you.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Michael

* Last name von Hauff

Email michael.vonhauff@gmail.com

Phone 4034735376

* Subject Green line LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Hi,
Just wanted to say that I fully support the green line expansion! Anything that makes it easier for people to get into the downtown core is a long term win for Calgary.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Kimberley

* Last name Nelson

Email bluhrgirl@gmail.com

Phone 4038898866

* Subject Green Line Support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please proceed with the creation and expansion as appropriate of the Green Line LRT. As a Calgarian that made the choice in 2014 not to own a personal motor vehicle and instead travel the city by walking, biking and transit, this new line will further open the city to mobility, and help to address the endless (and continuing) legacy of sprawl. Of note, the closest station to my home would be 9th Ave in Crescent Heights, so I would like to commend the team on making sure this was able to be included. Having recently attended a physically distanced cello concert at St Patrick Island, I can say that the Ctrain crossing over the Bow River did nothing to detract from the experience, and I am sure with design and noise considerations this too will work with our beloved Prince's Park. The future of our city is in the hands of this council, and we cannot be taken hostage and held back in an auto-centric mindset by the will of a few individuals that oppose public active transportation projects. The decision to not own a personal vehicle was not made lightly, and done only after seeing the improvements that were being made to the Calgary Transit service levels. To take a step back from enabling Calgarians to make the same decision would be a disastrous mistake that would have long-reaching impacts.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Richard

* Last name Parker

Email

Phone

* Subject Green Line Committee Meeting of June 1 2020

* Comments - please refrain from providing personal information in this field (maximum 2500 characters) Please include the attached written submission in the Agenda for next Mondays Green Line Committee Meeting

Submission to the Green Line Committee

My name is Richard Parker. I am a Professional Planner and have been involved in the planning and development of Calgary since 1974 including working for the City from 1974-2003. I am writing to share with you some thoughts regarding the important decisions you are about to make regarding the Green Line. In previous correspondence with you I shared ideas regarding potential alternatives to the current proposal to construct Stage 1 of the Green Line from Shepard to 16 Ave North.

I believe that Calgary's circumstances have changed significantly in the past 6 months due to both the Covid Crisis and the significant drop in oil prices. Both of these have the potential to have a significant impact on the future of Calgary, particularly Downtown and transit ridership. These impacts are significant enough to hit the "Pause and ReThink Button" on the Green Line Project at this critical time.

I say this for the following reasons:

- Covid 19 could result in significant changes in the public's perception of and willingness to use Public Transit. At this stage we don't know what that will look like but Boris Johnson's, (A former very transit supportive Mayor of London) call for people to return to work but "not use Public Transit" could be a sign of things to come.
- The number of workers in Downtown Calgary could be impacted by Covid 19 and the oil price drop in a number of ways
 - Many employees could be required to or choose to work from home for at least part of the week.
 - Social distancing and other health requirements could result drop in the intensity of use of office space leading to fewer potential transit riders
 - Even when oil prices do rise, we cannot assume that it will lead to a return of significant oil and gas related employment in Downtown Calgary. Recent experience has shown that the oil industry is capable of producing oil and gas with far fewer staff than in the past due to technology etc.

All of these could have a significant impact on the demand for transit access to Downtown Calgary.

- Responding to the Covid Crisis has had a negative impact on the revenues and expenditures of all orders of government in Canada. Calgary is requesting help in balancing its books this year and both the Provincial and Federal Governments are running deficits that would have been deemed totally unacceptable a few months ago. This makes it even more important to ensure taxpayer's money is being wisely used.

Before going into any of the details of the Green Line Project I would encourage Council to consider the following question

“ Given what is happening to the National, Provincial and Local Economies, is the expenditure of \$4.9 Billion on Stage 1 of an LRT line that will not see transit passengers riding it for 7 years the best use of taxpayers money at this time”

I realize that this project will generate 20,000 jobs over the next 7 years and significant money has been spent to date. However alternative uses of \$4.9 Billion on other projects will likely produce as many if not more jobs locally and would enable Council to address a wider range of issues currently facing the City.

While the current Federal and Provincial contribution to this project is for LRT, given all the changes those governments have had to make in the last few months, an indication that the City is reconsidering its priorities is not a bad thing! It is like the person who is designing a new home when their financial circumstances suddenly change; do they keep going because they have already paid an architect for preliminary drawings or do they say let's rethink our future and how we spend our money.

Should Council decide that it wishes to proceed with the Green Line discussion I believe a more cautious approach to moving the project forward is justified because:

- All involved recognize that an LRT line from Shepard to 16 Ave. North is just the start of meeting the transit needs of the South East and North growth areas. Significant funds over and above the \$4.9 Billion will be required to provide those growth areas with attractive transit options to the car. The current proposal going part way to meeting each directions needs, and thereby not satisfying either does not make sense.
- All parties have acknowledged the significant challenges involved in linking the South East and North LRT lines through the Downtown and across the Bow River. I do not believe that the ridership demands for travel in either direction between South East and North Central Calgary justify the magnitude of expenditures involved. I believe an investigation of options to create a “Grand Central Station” transfer facility serving all major transit lines accessing Downtown Calgary could lead to a more efficient and less expensive way to meet future travel needs of all Calgarians.

These issues, coupled with concerns that have been raised over the past year regarding both operational and technical issues related to the Green Line mean that time taken now to evaluate concerns and consider alternatives is time well spent

While the Green Line has been a Council Priority for a number of years, events of the past 6 months justify hitting the “Pause and Rethink Button” and I encourage Council to do so.

Thank you for considering my thoughts.

Regards Richard Parker FCIP



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	P
* Last name	GARY
Email	infodesignform@gmail.com
Phone	
* Subject	Green Line Submission response
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	Please se attached PDF

126 – 8th Avenue Northeast
Calgary, Alberta CANADA T2E 0P5

Paul Gary MID IDSA SEGD
Industrial designer

T 403-277-3270

E formwerkdesign@gmail.com
E infodesignform@gmail.com

Monday, May 25th, 2020

Public Submission via online form

RE: **Updated Green Line alignment - Crescent Heights**

Dear Sir;

After reviewing the information provided by the City through its localized in-person engagement process as well as recent information provided through the updated project review, the proposed alignment, as it is presented along Centre Street North is plagued by several mobility issues and deficiencies which were initially identified in its alignment proposal options back in 2016 (Option D). At that time, the City recommended an underground tunnel from 16th Avenue N, initially leading into the downtown core. Subsequently, another option would see it exiting McHugh Bluffs with a bridge over Princes Island. As it stands with the current update of having a train down the middle of Centre Street N, the initial tunnel proposal still remains the most effective and viable option.

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Best regards;

A handwritten signature in blue ink, appearing to read "Paul Gary", followed by a period.

Paul Gary BDes MID
Resident, Crescent Heights

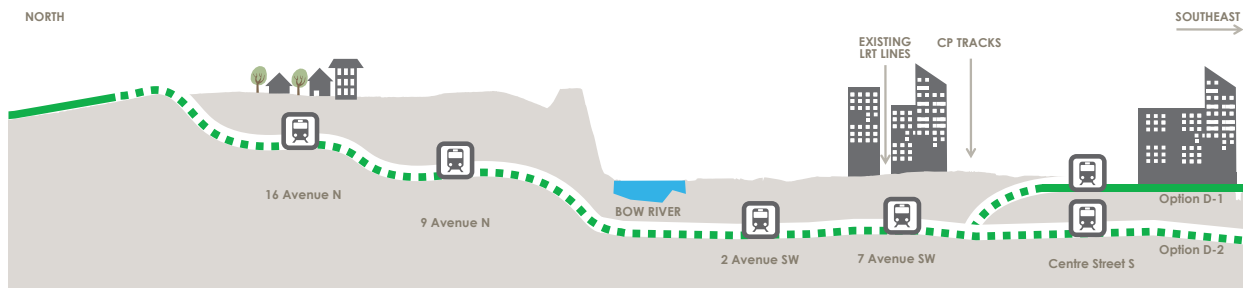
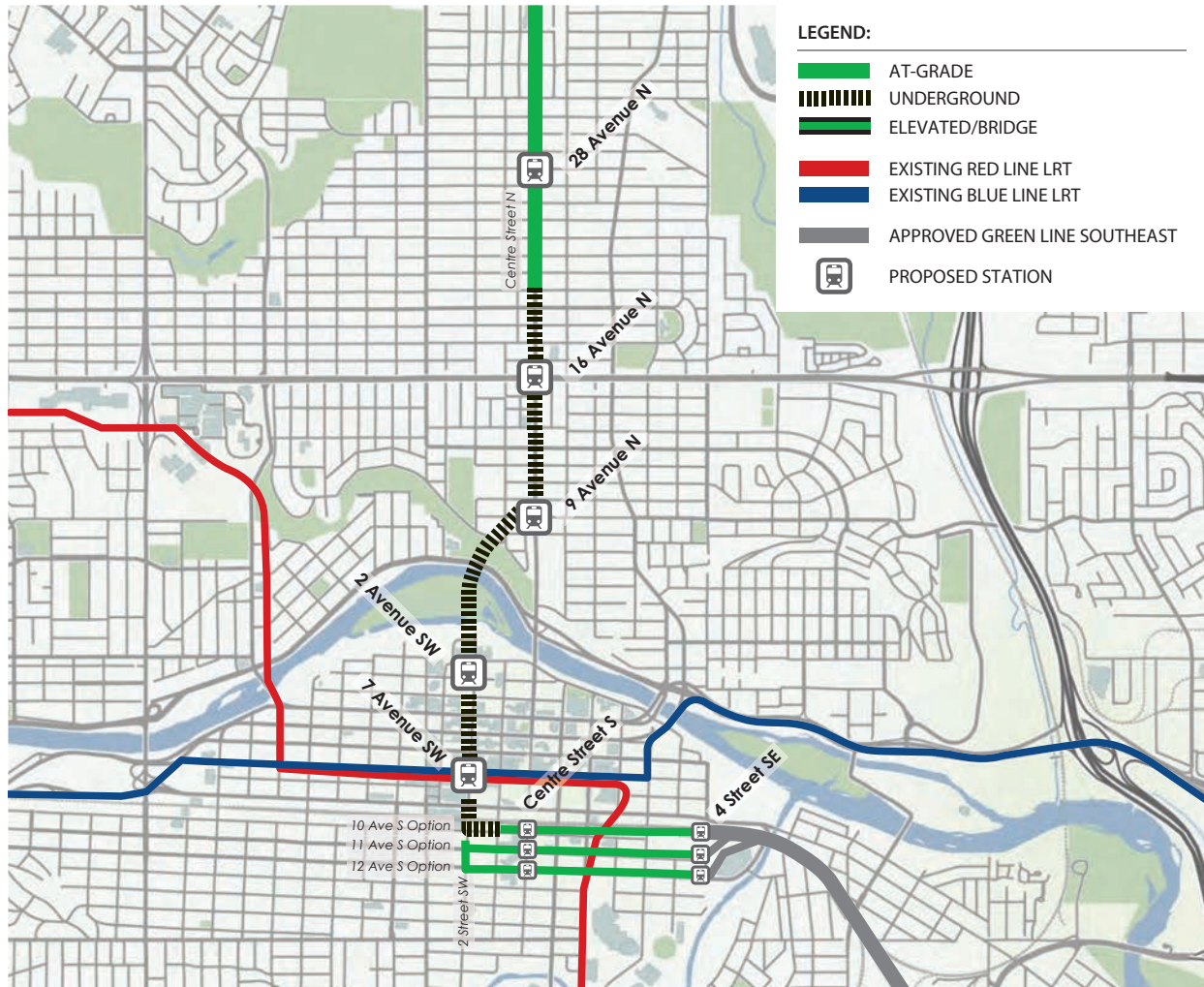
pg. /

cc.:

residents: MA Smith, A Smith, C McLaren

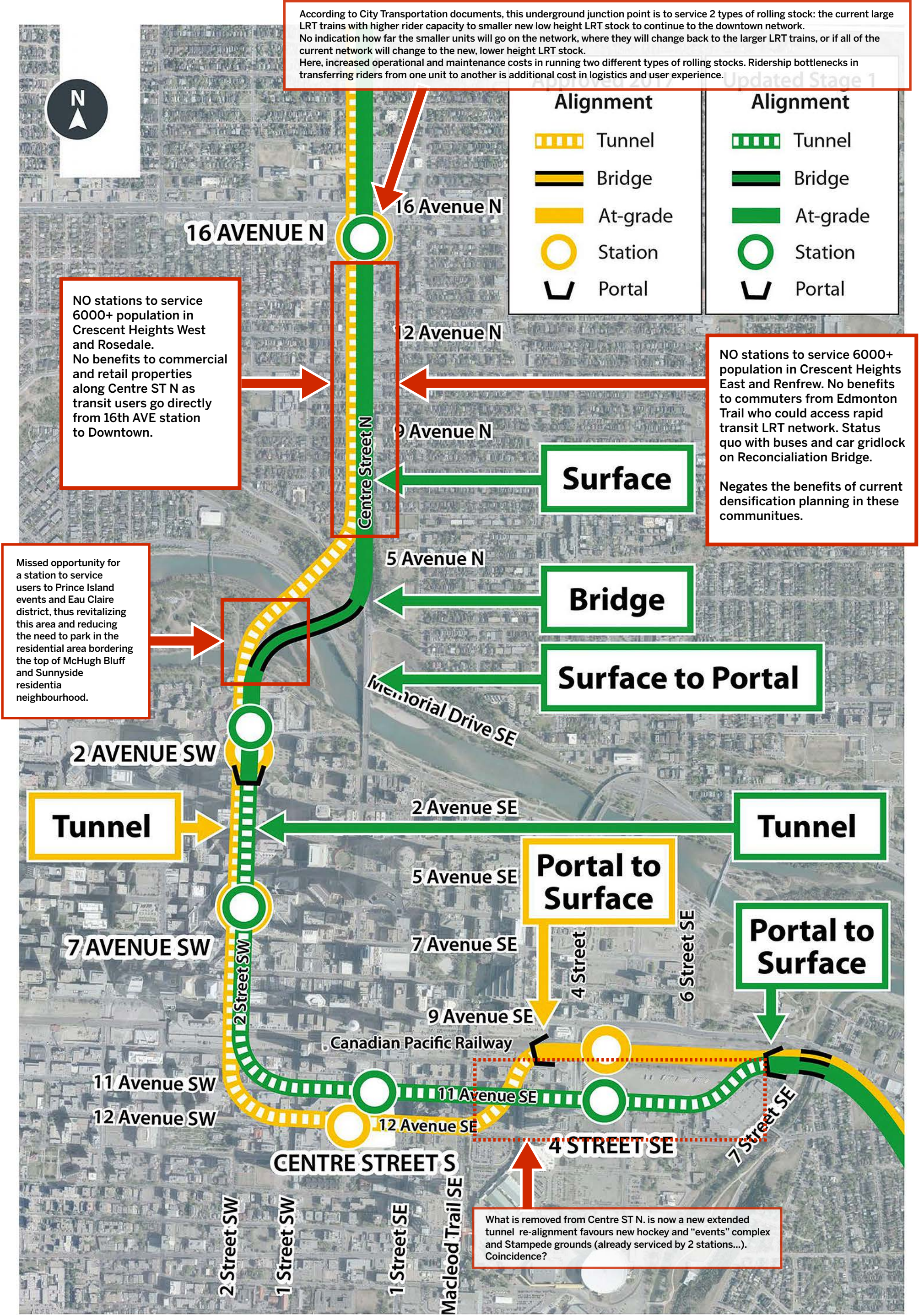
Green Line LRT

Centre City Alignment Options



Option D | Highest Ranked Option

Tunnel under the river, underground in Centre City



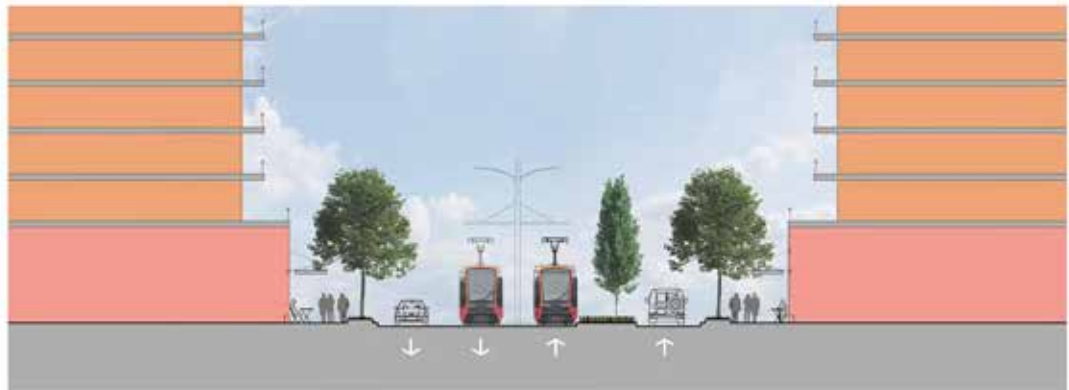
What the City of Calgary proposed in 2017 STREET SECTIONS

CENTRE ST. N, HEADING SOUTH OF 16TH AVENUE

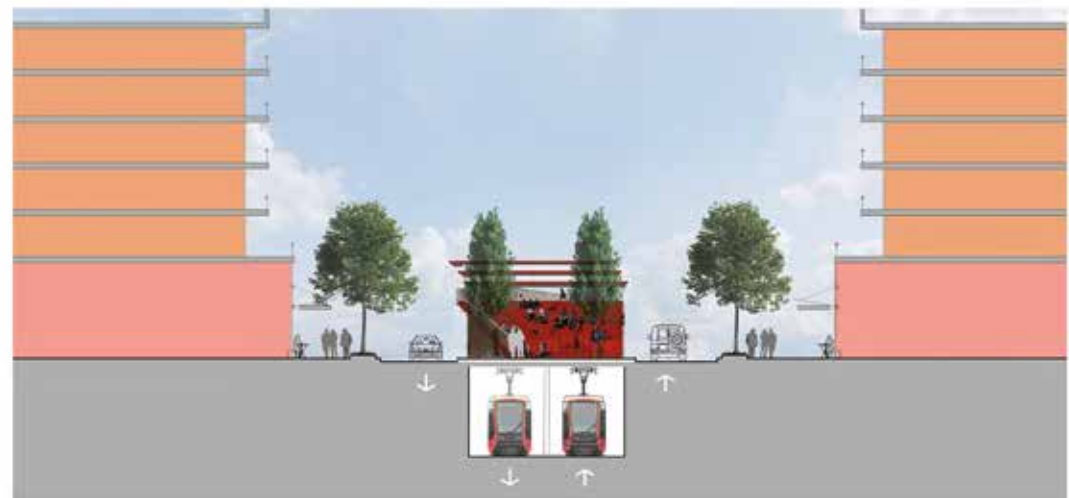
AUTHOR'S NOTE:

THIS CONCEPT WOULD REPRESENT THE STREET SPACE ALLOTMENT PROPOSED FOR AT-GRADE LRT.

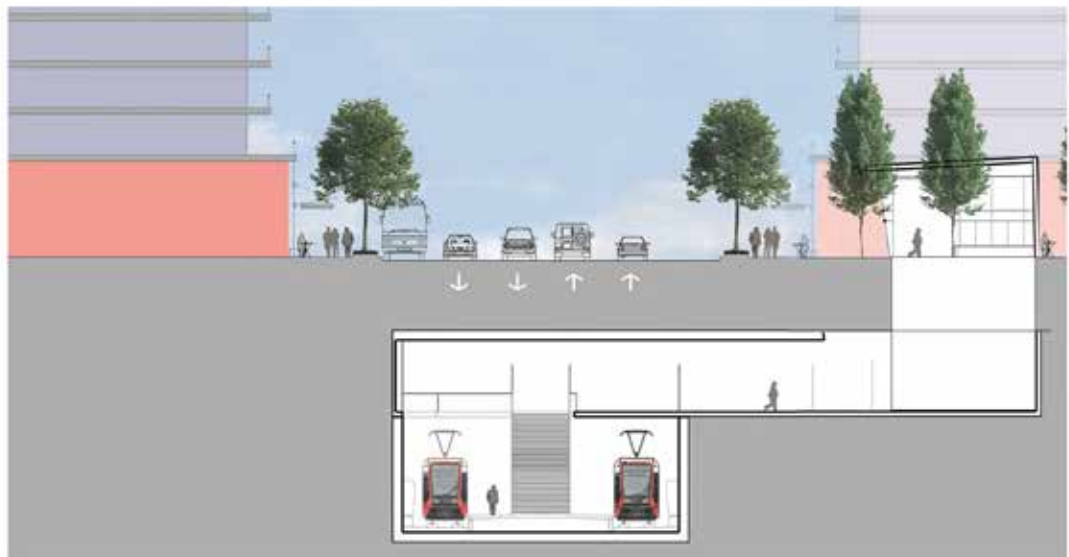
CURRENTLY, STREET WIDTH DIMENSIONS DO NOT ALLOW FOR THIS CONCEPT AND SEVERAL PROPERTIES ALONG THIS CORRIDOR WOULD REQUIRE EXPROPRIATION,



CENTRE ST N. AT THE PORTAL TRANSITION



CENTRE ST. N., NORTH OF 18TH AVENUE N



STREET SECTIONS

CENTRE ST. SOUTH OF 16TH AVENUE

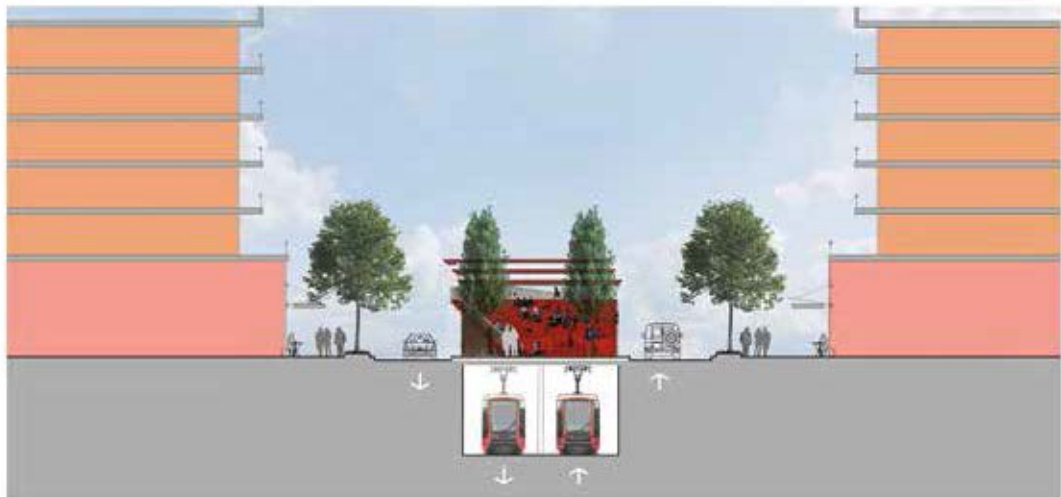
MODIFIED LAYOUT:

THIS CONCEPT WOULD PROPOSE A NEW THE STREET SPACE ALLOTMENT FOR THE PROPOSED AT GRADE LRT.

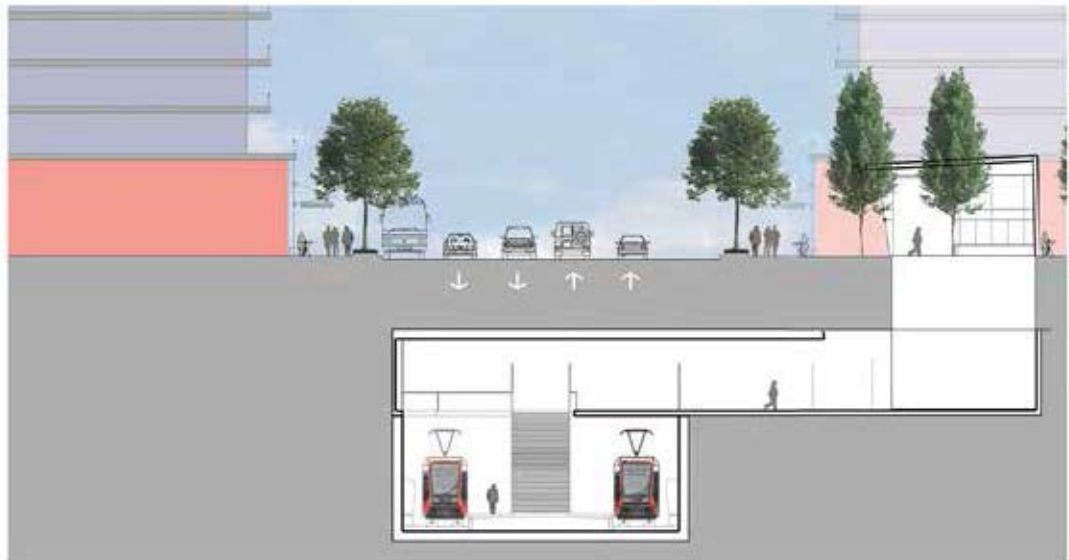
THIS WOULD ALLOW STATIONS ALONG CENTRE STREET N, ONE INCREASED LANE REVERSAL LANE OF TRAFFIC (WHICH COULD BE SUBSTITUTED FOR ONE SIDE ON STREET PARKING STALLS)



CENTRE ST. AT PORTAL TRANSITION

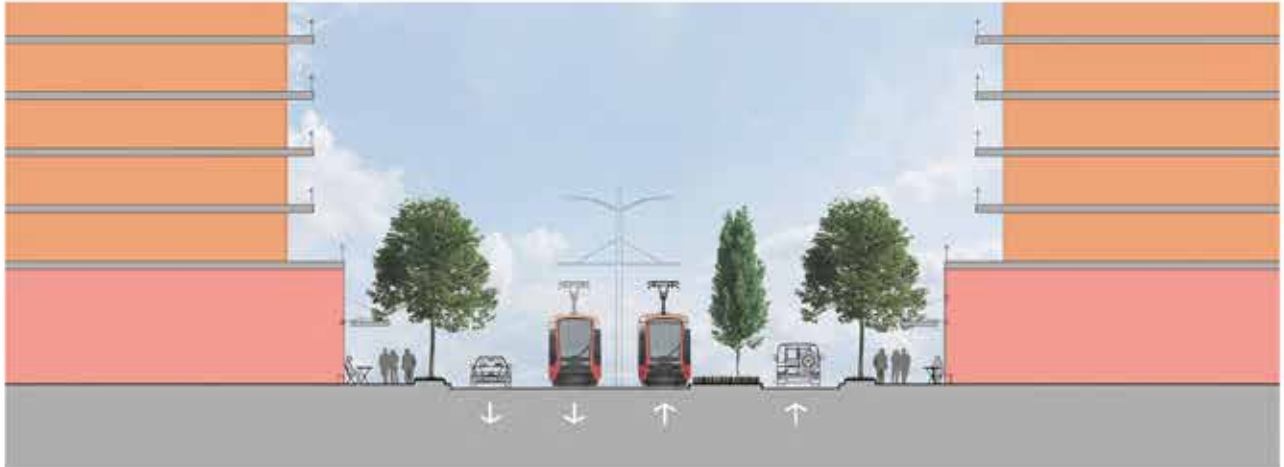


CENTRE ST. NORTH OF 18TH AVENUE



1) What the City of Calgary proposed in 2017

CENTRE ST. N, HEADING SOUTH OF 16TH AVENUE



2017 PROPOSED LAYOUT:

CURRENTLY, STREET WIDTH DIMENSIONS DO NOT ALLOW FOR THIS CONCEPT AND SEVERAL PROPERTIES ALONG THIS CORRIDOR WOULD REQUIRE EXPROPRIATION.

BENEFITS

PROS NONE.

- CONS**
- NO STATIONS FOR RESIDENTS NOR ACADEMIC INSTITUTION USERS IN THE COMMUNITIES .
 - REMOVAL OF TWO LANES OF TRAFFIC LEADING TO INCREASED SHORTCUTTING THROUGH NEIGHBOURING COMMUNITIES, ALREADY CLOGGED WITH SHORTCUTTING AND SPEEDING TRAFFIC, ESPECIALLY DURING PEAK PERIODS.
 - SHORTCUTTING TRAFFIC WILL NOW WANT TO TAKE EDMONTON TRAIL TO DOWNTOWN CORE, LEADING TO INCREASED TRAFFIC CONGESTION AT MEMORIAL DRIVE / RECONCILIATION BRIDGE AND THE FLYOVER.
 - NO ON-STREET PARKING STALLS, LEADING TO ILLEGAL PARKING IN RESIDENTIAL NEIGHBOURHOOD STREETS AND LOSS REVENUE TO THE CITY.
 - INCREASED COSTS TO CONSTRUCT AN ELEVATED PORTION AT MCHUGH BLUFFS AS THIS WILL BE NEEDED TO RAISE THE TRACKS IN ORDER TO PREVENT IMPEDING THE FLOW OF SOUTHBOUND TRAFFIC ON THE WEST SIDE.

2) What should be done in 2020 to South of 16th Avenue N. alignment to lessen the impact on adjacent neighbourhoods

CENTRE ST. N, HEADING SOUTH OF 16TH AVENUE



MODIFIED LAYOUT:

THIS CONCEPT WOULD PROPOSE A NEW STREET SPACE ALLOTMENT FOR THE PROPOSED AT-GRADE LRT.

THIS WOULD ALLOW STATIONS ALONG CENTRE STREET NORTH, ONE INCREASED LANE REVERSAL LANE OF TRAFFIC (WHICH COULD BE SUBSTITUTED FOR ONE SIDE ON STREET PARKING STALLS).

BENEFITS

PROS

- 2 PLATFORM STATIONS, ONE @ 12TH AND ONE @ 11TH, FOR RESIDENTS AND ACADEMIC INSTITUTION USERS IN THE COMMUNITIES. COMMERCIAL BENEFIT TO RETAIL ESTABLISHMENT WITH POSSIBLE NEW INVESTMENT OPPORTUNITIES.
- NO EXPROPRIATION COSTS AS PLATFORM CAN BE ACCOMMODATED IN EXISTING SIDEWALK AREAS WHERE NEEDED AT 12TH AND AT 11TH.
- THREE LANES OF TRAFFIC INSTEAD OF TWO, WITH PEAK LANE REVERSAL OPTION.
- ONE SIDE ON-STREET PARKING STALLS OPTION INSTEAD OF THREE LANES OF TRAFFIC
- LESS COSTS TO LEAD AN ELEVATED PORTION AROUND MCHUGH BLUFFS TOWARDS PRINCE'S ISLAND BRIDGE. THIS WILL ELIMINATE ANY ISSUES OF IMPEDING THE FLOW OF SOUTHBOUND TRAFFIC ON THE WEST SIDE.

CONS

- STILL AN AT-GRADE SOLUTION. IMPACT DURING CONSTRUCTION.
- AT-GRADE SOLUTION MEANS MORE MAINTENANCE DUE TO CLIMATE WEAR AND PRONE TO SERVICE DISRUPTIONS.
- INCREASED CHANCES OF PEDESTRIAN AND VEHICLE SAFETY ISSUES. MORE COSTS TO TRAFFIC MANAGEMENT INFRASTRUCTURE (INCREASED SIGNALLING, LIGHTS, ETC.)
- REMAINING PARKING AND SHORTCUTTING ISSUES THROUGH ADJACENT NEIGHBOURHOODS

RECOMMENDATION

- THE BETTER LONG-TERM LIFESPAN SOLUTION AND EXISTING SYSTEM INTEGRATION, BOTH FOR THE CITY AND ITS NEIGHBOURING COMMUNITIES, IS TO GO UNDERGROUND WITH AT LEAST ONE STATION IN THE COMMUNITY, AS APPROVED IN THE ORIGINAL STUDY OUTCOME.
- MAJOR CIVIC PROJECTS SUCH AS THIS ARE MEASURED IN 60-70 YEAR LONG-TERM OUTCOMES, NOT SIMPLY ON 2020 BUDGET NEEDS AND FINANCIAL SHORTFALL.
- IF THIS PORTION OF THE PROJECT CANNOT BE RENDERED AS ORIGINALLY INTENDED, IT SHOULD BE POSTPONED UNTIL SUCH TIME AS IT WOULD ALLOW A PROPER CONCLUSION TO THE INITIAL CHOSEN RECOMMENDATION.

Please check accuracy of renderings when releasing to public.





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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ken

* Last name Stephenson

Email ken@kenacocapital.ca

Phone 403.510.6115

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

This Council seems willing to spend \$1.3 billion on the north leg that may never be extended by future Councils. To suggest that the leg as a stand alone is economically or functionally sound makes no sense. It will duplicate the Centre St. bridge at a cost of hundreds of millions of dollars which already has a bike and pedway, and a dedicated bus lane.

It's disingenuous for the City to be portraying Centre St. N. as an oasis for pedestrians, there are near to none now and less with an LRT.

LRT will not enhance the businesses on Centre St., it will devastate them.

I believe it is disingenuous for the City to try to justify this line by claiming there will be transfer from buses to LRT at 16th Ave. Why would a rider get off a bus that is going to take him or her to their destination to get on a train that takes them to a single point on 7th Ave.

I do not have the advantage of spending \$125,000 per day on engineering and surveys but my guess is the ridership from 16th Ave and 9th Ave stations will be pitifully low. THIS LEG WILL BE A \$1.3 BILLION DOLLAR WHITE ELEPHANT, forever.

Recommendation:

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Unrestricted

May 25, 2020

4:03:44 PM



Public Submission

City Clerk's Office

-
- Stop all work on the leg from 7th Ave N.
 - Apply the funds to the SE line to extend it to Seton so it will be more viable.
 - If future Councils wish to build an LRT to North Calgary then build it all at once and it may not be up Centre St.
 - Use part of the \$1.3 Billion as a reserve for the downtown construction.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Patrick

* Last name Lindsay

Email

Phone 403.461.5233

* Subject River Run

Dear Green Line Committee,

The City's latest alignment involves destroying the homes of 23 families that live in River Run. As owners in River Run, our main concerns are:

1. Bias
2. Redevelopment without involving landowner

1. Bias

The City messaging regarding the Greenline highlights all potential benefits and downplays or omits mentioning costs. Benefits are quantified (potential ridership, potential jobs). Costs are not quantified (diminished value of the park, number of negatively impacted drivers on Centre and downtown, number of homes destroyed, anticipated financial losses).

The City could have provided objective, unbiased information such that citizens could be in a position to have an informed view. Since the City has not done so, we are in the position of likely having our homes destroyed without even knowing whether the project will be a net benefit to the City.

2. Redevelopment without involving landowner

ISC:

1/2

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May 25, 2020

4:26:17 PM



Public Submission

City Clerk's Office

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The City talks about its engagement with stakeholders. As a group of 23 families that the Greenline intends to push out of their homes, we are clearly stakeholders.

We learned that the City wants to demolish our homes, not through any direct communication with us but, instead, from diagrams posted by the City at a public engagement event that show the train veering off of 2nd street into our homes. To say that the City's "engagement" with us is poor is an understatement. The City has provided no information to the owners of River Run that is not publicly available.

We expressed our interest in working with the City to redevelop our land if needed to accommodate the train, as the train only requires part of our land. After that offer, the next alignment had the train alignment moved further on our land. The City has not discussed any potential redevelopment with us.

Based on our review of the City website, we learned this month that the City is having ongoing discussions with developers regarding how to redevelop our land. The City has excluded us, the landowners, from such discussions. To say that such private discussions erode trust is an understatement.

Please do not destroy our homes. If our homes must be destroyed, please stop excluding us from discussions regarding how our land may be redeveloped.

Regards,

Patrick and Jane Lindsay

Dear Green Line Committee,

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1. Bias
2. Redevelopment without involving landowner

Bias

The City messaging regarding the Greenline highlights all potential benefits and downplays or omits mentioning costs. Benefits are quantified (potential ridership, potential jobs). Costs are not quantified (diminished value of the park, number of negatively impacted drivers on Centre and downtown, number of homes destroyed, anticipated financial losses).

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Redevelopment without involving landowner

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Regards,

Patrick and Jane Lindsay



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Cameron

* Last name Yost

Email cam_yost@hotmail.com

Phone 4039756900

* Subject Centre Street Realignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Our family is one of many living in the Crescent Heights community that struggle with the staggering amount of cut through traffic the area contends with. Our household is very happy to see that consideration is being given to how our neighbourhood and Centre Street could evolve to become more pedestrian friendly and for how the Green-line will benefit the City for generations to come. We are, however, deeply concerned that the proposed realignment on Centre Street, particularly the proposed turn strategy, will route even more traffic through an area that already suffers from an overabundance of it and does not take into account existing infrastructure. There is currently traffic management infrastructure at 8th Avenue, 10th Avenue and 12th Avenue. Utilizing the existing infrastructure would be far less burdensome on the community than adding additional infrastructure on 7th and 9th. The design team has also not provided a clear plan for the other consistent issues raised including how the additional parking burden on the community will be managed, impacts to property values, potential for increased crime, etc. We strongly feel that much more consultation is needed with the community members of Crescent Heights to understand common concerns and create meaningful plans to address them. Given the length of time it took to land on the original alignment, the few months provided to citizens to digest the revised alignment and related impacts was not enough. The minimal engagement was further truncated by COVID 19 restrictions impacting the few consultations that were set to take place. Additional consultation time should be added to account for that and to allow those that stand to be most impacted by the development time to work with the design team to

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May 25, 2020

4:36:22 PM



Public Submission

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develop meaningful solutions to the consistent concerns raised.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Alex

* Last name Naylor

Email alexandra.naylor21@gmail.com

Phone

* Subject Calgary NEEDS the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Calgary is split into two cities - those who can afford to drive comfortable expensive cars and pay for taxis home when intoxicated, and those who rely on public transit to get to and from their jobs or social events. In my travels to other cities with more connected transit systems, I have seen that the street life is more diverse and walk-up traffic to local businesses is much more frequent. The Green Line would be an important step to ensure that middle and working class Calgarians, who aren't part of the quickly-disappearing caste of rich oil oligarchs, can get around the city in a safe and sustainable manner. I want the Calgary of the near future to allow for affordable, convenient movement for EVERYONE.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Andrea

* Last name Battistel

Email acmbattistel@gmail.com

Phone

* Subject Support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line is an important step forward for the city of Calgary. The Green Line will add fast, frequent rapid transportation needed to keeping Calgary moving and help to reduce unnecessary congestion on our roadways. It will also move us forward towards meeting our climate goals by taking vehicles off the road. The Green Line is a much needed step forward for Calgary, leveraging years of planning, public engagement and \$3 billion in approved provincial and federal investment. The Project will directly benefit Calgarians and our city's economy and well-being when we need it most.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Craig

* Last name MacDonald

Email Craig.macdonald94@gmail.com

Phone 4039910425

* Subject Support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please continue support for the Green Line LRT project.

The Green Line is an ambitious and sorely needed project. It would be a terrible shame to stop the project after so much fantastic work has already been done. Being able to access these parts of the city by transit would be a blessing. A revitalized north centre corridor and easier access to the south-east would be exactly what the city needs to maintain a cohesive whole. Building the Green Line sooner rather than later is important as investments into TOD communities take time. I'm excited to see what the city looks like in 20 years, and what amazing communities spring up around the new transit hubs.

Please continue to support the Green Line!



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Madeline

* Last name Bemrose

Email maddiebemrose@gmail.com

Phone 4034040324

* Subject Green Line comments

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

My main concern with the Green Line, which as a whole I support, would be the increase of traffic residential areas - specifically Renfrew. Since folks will be looking for alternative routes to Centre street Edmonton Trail is likely going to be come much busier. People will look to avoid Edmonton trail people and many will seek out Renfrew as a way around dense traffic (we already see this happening but I expect it will get much worse). If the Green Line is to go ahead as planned some infrastructure will need to be put in place to prevent an increase of traffic in Renfrew and to slow down the traffic that does choose to travel through Renfrew. Reduced residential speed limits (30km/hr), bump outs, increased 4-way stops, and the closing of some street access to 16th could all help achieve this.

Lastly, because Edmonton Trail is going to see an increase in traffic (including increased foot traffic for folks travelling to the Green Line) it is important that Main Streets funding continue to ensure that Edmonton Trail can be outfitted to ensure proper crosswalks, and wider sidewalks (among the other things that residents involved many request). As it is now Edmonton Trail has narrow sides walks and sub-par crosswalks.

Both the increase of traffic in Renfrew and the creation of a safer Edmonton Trail should be done well before the Green Line's Centre St. portion to ensure safety.

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Unrestricted

May 25, 2020

8:37:15 PM



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Thank you



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* First name Binnu

* Last name Jeyakumar

Email binnus@gmail.com

Phone

* Subject Binnu

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello I think our city definitely needs the Green Line to increase transit access to a greater number of residents. We need to provide residents with more alternatives to driving. A strong transit infrastructure is key to any thriving city. Particularly in a time of economic hardship as now, such an investment can help create jobs and help ensure mobility for all.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name James

* Last name Attfield

Email jamesattfield@gmail.com

Phone 4038018428

* Subject Green Line Expansion

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I don't have any objections to the Green Line per se and am glad to see it going forward. With that, I do have some concerns around how it may affect the rerouting of traffic into nearby neighborhoods like Renfrew and Crescent Heights. My worry is that the Green Line may lead to greater congestion along Centre St. which may push increased traffic into the surrounding communities and residential areas.

I think it would be worth looking into this issue and coming up with ways to discourage traffic from detouring through nearby neighborhoods. Traffic is already a major issue in my community of Renfrew because we are close to the major thoroughfares of Edmonton Trail and 16th Ave. Despite being a residential area with schools, parks and plenty of young families with children, speeding motorists who disobey stop signs are far too common and pose a serious danger to those who live in the community. I hope, and also expect, that the City is aware of this issue and will implement sufficient measures to mitigate traffic rerouting through nearby communities. Bump outs, traffic circles, speed bumps and permanent barricades are all options and should be assessed as part of a comprehensive response to the preceding concerns.

Thank you for the opportunity to add my voice.



Public Submission

City Clerk's Office

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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Peter

* Last name Haley

Email wisdomhi@shaw.ca

Phone

* Subject Green Line - Updated Alignment

To the Members of the Green Line Committee:

In consideration of the Green Line Committee's imminent recommendation to Council regarding the current "updated Stage 1 alignment", I am urging the committee members to reflect on the following suggestions:

1. Revisit the rationale that led to the original approved route and its Bow River crossing strategy, and test the updated proposal against it;
2. Examine the duality/redundancy of the current proposal between 16th Avenue N, and 6th Avenue S.
3. Reflect carefully on the spatial character, safety, and urban design of the segment in Point 2, above;
4. Prioritize this segment ... if necessary at the expense of other segments north of 16th Avenue N and south of Ramsey/Inglewood Station;
5. Support the proposed realignment of the underground routing from the Eau Claire Station through the Downtown and along 11th Avenue S;

I look forward to engaging in a discussion of these suggestions with you at your meet-

ISC:

1/2

Unrestricted

May 25, 2020

11:31:22 PM



Public Submission

City Clerk's Office

ing on June 1st.

Respectfully,

Peter Haley
Calgary, AB



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Carolyn

* Last name Van de Vyvere

Email carolynn@ivydesign.ca

Phone 4036187114

* Subject Greenline LRT

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

A good transit system is a hallmark of a great city. Public transportation shapes the physical, social, and economic landscape of an urban landscape, providing daily benefit to residents and visitors alike. I moved to Calgary in the 1990s when it was not a great city. The downtown core emptied out every evening at five, cultural venues were few and far between, and transit was abysmal. It's a different city today. Our city has blossomed in recent years, and I'm proud to call Calgary home. That said, our transit system still has a ways to go. If we are to continue along this road of making Calgary a liveable city, a place where people choose to live even if the streets aren't paved with oil and gas money, we must take this opportunity to invest in the Green Line.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Hamish

* Last name MacAulay

Email buzzangus@gmail.com

Phone 4038354049

* Subject Green Line approval

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Tens of thousands of Calgarians need this project. We need to get to work, get to school or get to medical appointments. Every C-Train line has been crowded and well used within a year of completion. Not because people love mass-transit, but because we need it. Please ask anyone who opposes this if they, or their friends, have taken mass transit in this city in the last decade. If the answer is no, theirs is a small voice and should not be given greater credence because it is loud. If Calgary is going to rebuild its economy, its workers need to get to work at a time when choices are being made between car payments, rent and food.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Stella

* Last name Lau

Email stellawanglau@gmail.com

Phone

* Subject Greenline

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I'm currently an owner of at 222 Riverfront Avenue. My building sits on 2nd Street. The new greenline route will run right along side of my unit and cause extreme noise and disruption and anxiety to me. Not to mention our home value will likely drop by 50%. Our treasured princes island park will be destroyed. I bought my condo for the tranquility and peace of the park and the quick access to river paths. Not for 5 years later there will be a train going by for 20 hrs a day ringing it's bells and alarms. This is not right for the city to do this to all the poor owner and residents who have units along 2nd Street. The greenline should either go up centre st the entire way or wait until it can be done properly underground.

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

- **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- **Protect the wetlands and the birds, fish and other wildlife that call it home;**
- **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
- **Create a legacy LRT line to serve the long-standing needs of Calgary's growing communities; and**
- **Embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core.**

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are **unacceptable**.

Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:

- Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
 - Enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and residents of those communities.
-
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
 - Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.
 - The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
 - An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: Sally Dinh and Duc Dinh

Address: 411 108 WATERFRONT CRT SW, CALGARY AB T2P 1K7

Pendola, Amy J.

From: Barbaatar, Davaa on behalf of City Clerk
Sent: Monday, May 25, 2020 2:44 PM
To: Public Submissions
Subject: FW: Opposition to Green Line LRT Updated Alignment

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Email sent asking if OK to add to Agenda as is

From: D Ng [mailto:dng99@shaw.ca]
Sent: Friday, May 22, 2020 4:59 PM
To: City Clerk <CityClerk@calgary.ca>
Subject: [EXT] Opposition to Green Line LRT Updated Alignment

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair

His Worship, Mayor Naheed Nenshi

Councillor Druh Farrell, Ward 7, Greenline Committee member

Other Members of Calgary City Council

800 MacLeod Trail South

P.O. Box 2100, Station

Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

**MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT
(MAY 12, 2020)**

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

- **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- **Protect the wetlands and the birds, fish and other wildlife that call it home;**

- **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
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I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are **unacceptable**.

Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:
 - Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
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- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
- Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.

- The proposed Green Line LRT alignment is a ‘less than’ approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
- An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn’t be on the table. I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: _____ Darlene Ng

Address: _____ 3307 Underhill Dr. NW Calgary, AB T2N4E4



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Maureen

* Last name McNamee

Email mmcnamee@shaw.ca

Phone 4032767357

* Subject Green Line: Yes!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I'm happy to see a station at 9 Ave on Centre Street North, and space for cyclists and pedestrians on the proposed bridge over the Bow River. This is a big improvement over the last draft. I support the Green Line and I'm in favour of this new plan.

Pendola, Amy J.

From: Barbaatar, Davaa on behalf of City Clerk
Sent: Tuesday, May 26, 2020 11:13 AM
To: Public Submissions
Subject: FW: [EXT] Concerns regarding the Green Line LRT updates alignment

Follow Up Flag: Follow up
Flag Status: Completed

From: Kyla Margulies [mailto:margulies.kyla@gmail.com]
Sent: Tuesday, May 26, 2020 10:52 AM
To: City Clerk <CityClerk@calgary.ca>
Subject: [EXT] Concerns regarding the Green Line LRT updates alignment

Concerns regarding the Green Line LRT updates alignment

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd St SE in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Ave N. This approved alignment, which I continue to support, brought with it the promise to:

- preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park
- protect the wetlands and the birds, fish and other wildlife that call it home
- revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind
- create a legacy LRT line to serve the long-standing needs of Calgary's growing communities
- embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposes revised alignment **does not** meet the commitments made to community residents. Calgarians, like me and my neighbours, are still holding The City to these promises

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. *I support the SE segment to the Downtown, but the alignment and the built approach norther of the downtown core are **unacceptable**.*

specifically:

- An LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:
 - preserve the park and its wetlands, birds, fish and beavers
 - maintain or increase access and walkability of the local pathways and park spaces
 - maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area

- enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and resident of those communities
- the LRT bridge intersecting at the top of Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival/event organizer
- placing the LRT line at-grade (i.e., street level) with two centre roadway train lines breaks the promise of a city-shaping initiative. it would create traffic barriers east/west, increase accident risk at intersections, deter people from visiting by personal vehicles
- the proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9 B funding envelope. This, again, breaks the promise of a legacy mass transit system
- an LRT bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and overall negative effect on the community property values.
- This new plan is short sighted. Taking short cuts is not the right way to improve our transit system and will only create more problem further down the road
- An LRT bridge will invite vandalism, lowering the aesthetic appeal of the community.
- While the plan promises to address the conservation concerns regarding the wetlands after the fact, I am concerned about the wildlife that will be displaced or killed during the process. Additionally, I Am concerned about how the construction over Prince's Island Park, the wetlands and the Bow River will impact the water quality of the Bow.

as a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be - settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit this segment of the plan. t should not, in its current form, be approved by Council.

Sincerely,

Kyla Margulies
108 2nd Street SW, Calgary, Alberta

Pendola, Amy J.

From: Barbaatar, Davaa on behalf of City Clerk
Sent: Monday, May 25, 2020 3:40 PM
To: Public Submissions
Subject: FW: [EXT] Opposition to Green Line LRT Updated Alignment

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Email sent asking if OK to add to Agenda as is

From: Gerry Gao [mailto:gerry.gao@gmail.com]
Sent: Monday, May 25, 2020 10:44 AM
To: City Clerk <CityClerk@calgary.ca>
Subject: [EXT] Opposition to Green Line LRT Updated Alignment

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

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I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: Gerry Gao

Address: 108 2nd Street SW Calgary, AB

--

Gerry Gao

Pendola, Amy J.

From: Barbaatar, Davaa on behalf of City Clerk
Sent: Monday, May 25, 2020 3:40 PM
To: Public Submissions
Subject: FW: [EXT] Green Line Concern

Follow Up Flag: Follow up
Flag Status: Flagged

From: kim ngo [mailto:kimngo07@yahoo.ca]
Sent: Monday, May 25, 2020 10:47 AM
To: City Clerk <CityClerk@calgary.ca>
Cc: kim ngo <sieuhan@gmail.com>
Subject: [EXT] Green Line Concern

Green Line Technical Committee and Members of Calgary City Council
Attention: Coucillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrelll, Ward 7, Greenline Committee Member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

MY CONCERNS REGARDING THE BUILDING OF GREEN LINE

Your Worship and Members of Calgary City Council,

The building of the Green Line need to be reconsidered. The proposal of the Green Line was at the point of time when oil industry at it's optimum, thus the economy was thriving. Calgary traffic was bottlenecked most of town during the busy periods.

Considering the future of Oil, Calgary will be in downturn for years to come. This means Calgary's current road infrastructure is sufficient to handle the traffic load.

Until then, lets take care of the deficit first, then build a world class Green Line the way it should with a tunnel to cross the Bow through downtown with no regrets.

To build the Green Line on surface in downtown downgrades the image of Calgary.

Sincerely,

Kim Ngo
#505 108-2 Street SW
Calgary, AB
T2P 1P1



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ronald

* Last name Wilburn

Email wilburn.ron@gmail.com

Phone 4032835835

* Subject green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

This is to express my support for the green line construction project. I see it as a shovel ready project of precisely the sort that the city should be invested in right now as we plan for a post-covid recovery, especially since so much of the funding has already been approved from non-municipal sources. It would be folly to now abandon a project which promises to address so many long-range transit, congestion, and environmental concerns as does the green line. This is an investment into the next fifty years of the city, and the objections to it I most often hear reflect a lack of the kind of long-range vision which is needed right now. The demand that the green line be "rethought," I suggest, little more than an effort to stall the project to death, a demand engineered by folks who would prefer that public funds be used to provide welfare relief to a failed petroleum economy instead. Please tell me what I need to do address this issue at the June 1st meeting.

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk. cityclerk@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

- **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- **Protect the wetlands and the birds, fish and other wildlife that call it home;**
- **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
- **Create a legacy LRT line to serve the long-standing needs of Calgary's growing communities; and**
- **Embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core.**

Prince's Island Park is really a very rare "jewel" that Calgary's Downtown has in its ownership. I have travelled to numerous cities worldwide and I can tell you no other city has such a unique and beautiful park such as Prince's Island Park.

The construction of an LRT bridge over the Bow River and Prince's Island Park would forever negatively change the feel, character and uniqueness of Prince's Island Park. This LRT Bridge would create an eye sour with significantly increased noise pollution making it almost as bad as Toronto's Gardiner Expressway. Toronto council still talks about tunneling this roadway.

Please make the right choice for Calgary's future and history and vote to have an LRT tunnel built under Prince's Island Park and the Bow River as was originally approved by you.

If the City of Calgary really wants to be a world class city to attract worldwide businesses and people, it must build world class infrastructures, such as an LRT tunnel under the Bow River and Prince's Island Park.

As an engineer, myself, I love challenges and I love even more to find economic ways to overcome challenges. Tackling challenges will bring out the best in Calgarians.

I have not seen the technical challenges that the Greenline LRT team is afraid of tackling, but as you probably know more complex and challenging train and vehicle tunnels have been successfully built all over the world. I don't understand why Calgary should shy away from building the right solution in a sub-surface LRT. Some of these major tunnels built under major waterways are listed in the table below.

Rail and Car Tunnels are Successfully Built below Bodies of Water (rivers, sea channels, lakes, bays, straits and inlets) all over the world. Some examples are:					
Tunnel Name	Body of water that Tunnel is built under	Location	Length of Tunnel below body of water in KMs	Depth of Tunnel below Sea Level in Meters	Year Started & Year Operational
Seikan Tunnel	Tsugaru Strait	Japan	23.3	790	1971-1988
Channel Tunnel	English Channel	United Kingdom & France	50.1	115	1988-1994
Holland Tunnel	Hudson River	USA- NY+NJ	2.6	28.3	1920-1927
Queensway Tunnel	Mersey River	England - Liverpool	3.2	51.8	1925-1934
New Elbe Tunnel	Elbe River	Germany - Hamburg	3.3	24	1968-1975
Tokyo Bay Tunnel	Tokyo Bay	Japan	9.6	45	1989-1997
North Cape Tunnel	Mageroya Strait	Norway	6.8	212	1993-1999
Eiksund Tunnel	Vartdalsfjorden Strait	Norway	7.8	287	2003-2008
Ryfjike Tunnel	Horgefjord Strait	Norway	14.3	293	2013-2020

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents. **More importantly, this revised re-alignment with an LRT above-surface bridge will forever negatively change the unique character of Calgary's "jewel" in Prince's Island Park.**

Please do not approve the building of a LRT bridge over Prince's Island Park and the Bow River.

Calgarians, like me and my neighbours, are still holding The City to these promises. **Act like and be a World Class City taking world class decisions and actions and approve and build an LRT Tunnel under Prince's Island Park and the Bow River.**

My Concerns are summarized as follows

I do not support the updated Green Line LRT alignment that was presented on May 12, 2020. I do support the SE segment to the Downtown, but I DO NOT support the alignment and the build approach north of the downtown core and I find this totally unacceptable.

Specifically:

- **Any LRT bridge over Prince's Island Park and the Bow River would forever destroy the world class uniqueness of Prince's Island Park and also importantly breaks the promises made to:**
 - Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
 - Enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and residents of those communities.
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
- Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.
- The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
- An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be and make it a world class piece of infrastructure which will surely showcase Calgary to the world in a much more attractive and positive fashion that will help to attract new businesses to Calgary – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: Nick and Berta Ciappa

Address: 1915 -222 Riverfront Ave SW, Calgary

May 19, 2020

Mayor Naheed Nenshi
And Calgary City Council

Subject: Green Line Concerns

Dear Mayor Nenshi and Councillors:

As a former manager of transit planning, with over 30 years experience planning transit services, including LRT, in Calgary, I am writing this letter to express my concerns with the current plans being considered for the Green Line. My concerns are:

- The proposal to build only 10 percent of a north line to 16 Av. N and 70 percent of the southeast line to 126 Av. SE will not extend LRT service far enough to provide benefits for existing transit users or the ability to attract new customers. These short line segments will not offer travel time savings and convenience compared with the current bus services in SE and North Calgary.
- The need for a direct LRT link between SE and North Calgary is not obvious (current and projected trips). The tunnel being investigated to connect the SE line with the north line will consume a considerable portion of the funds available for this project with considerable risk of both cost overruns and negative reaction by citizens. Funds to construct these tunnels could be better spent on other capital projects, including completion of the full SE LRT line.

Southeast Concerns

In order to attract sufficient ridership to reward the significant investment in LRT the SE portion of the Green Line will need to offer a more attractive service both in terms of travel time and customer convenience. An interim terminal station at 126 Av SE will not provide that.

Stopping construction at 126 Av SE will place the line's interim terminal station on the northern fringe of most of the population to be served by this line. The travel time benefit compared to existing bus services and the inconvenience of making an additional transfer after a lengthy bus ride are not likely to attract sufficient new customers to justify building LRT. Current ridership on Route 302 and the SE express bus routes that the Green Line is intended to replace is not very high. In fact these are some of the poorest performing bus routes in the city. Travel time and traffic delays on these routes is a common complaint of SE transit customers and, particularly by residents who do not use the service. Green Line needs to address these issues.

Shepard station, the interim terminal, is not intended, in the long term, to be a major station. It is somewhat isolated behind a shopping centre with only local road connections. In order to function as a terminal there will need to be extensive investment in roadways and passenger facilities that will not be required when the line is extended.

The true benefit of this line will only be realized by extending the line to Seton where the next six stations will be located in close proximity to the majority of SE residents. The planned stations already function as access points (walking, local bus and park and

ride) to the existing Route 302 BRT service. Extending to Seton will also provide a vital connection to the new hospital and adjacent businesses for all Calgarians. The SE line beyond Shepard appears to be extremely straight forward and relatively inexpensive to construct.

Northern Section of Green Line

LRT is being proposed for North Calgary due to the very high ridership on existing bus routes and to serve future communities. Combined, these northern buses carry upwards of 35,000 customers per day, one of the most successful and efficient bus corridors in North America. However, terminating the LRT line at 16 Av. N will provide no benefit to current transit customers and will have a limited ability to attract new ridership from the area immediately adjacent to the planned north stations. Therefore, this first section of the line will only replace Route 301 BRt. The other current, extremely popular north bus routes will need to be continued. Most current bus routes offer more attractive service and existing customers will demand that they be retained.

South of Beddington Tr, transit service in North Calgary, is provided in 3 corridors - 4 St NW, Centre St N and Edmonton Trail. For the new communities north of Beddington Trail, Route 301 (BRT) and several express bus routes operate very efficiently and effectively along Harvest Hills Bv and Centre St N. The bus-only crossing at Beddington Trail ensures that buses can operate along Centre St N with minimal delay. The Centre St N, 4 St NW and Edmonton Tr bus services offer connections to both downtown and local destinations along the way and are accessible with only a short walk. Once they enter the downtown, all bus routes coming from North Calgary travel the length of downtown providing service along the eleven blocks west of Centre St. A central north LRT line will not offer these benefits for most existing customers.

LRT, operating at grade, with multiple roadway crossings, and parallel traffic along Centre St N and, ultimately Harvest Hills Bv, will not offer the kind of travel speed that Calgarians experience on the existing lines. Current LRT lines operate in a protected right of way, with limited stops that enable the trains to achieve higher speeds and much greater reliability than buses. Even in downtown the Red and Blue lines operate on a transit only street. The only advantage that the proposed at-grade Centre St N concept will offer is higher capacity vehicles.

NW LRT Experience

In 1987, I was part of the team that planned and designed the NW LRT line and revised bus routings. The first leg of NW LRT was opened only as far as University Station due to limited funds and the need to have the line operational for the 1988 Olympic Winter Games. To provide an attractive service this first leg should have been built to Brentwood. The University Station did not sufficiently reduce travel time nor did it provide a suitable transfer station for the large number of bus routes and high passenger volumes coming from NW communities. The reaction from NW transit riders and residents was extremely negative. As a result there were significant protests, an internal investigation by an independent auditor, and considerable loss of confidence on the part of Calgarians. As a result, the downtown oriented NW bus services were retained and ran parallel to NW LRT, at considerable extra cost for the next 16 years until the NW line was extended to Dalhousie.

Conclusion

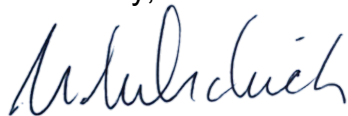
As many have said, this project is the most expensive and complex in Calgary's history. I hope that when you consider the best use of limited tax dollars provided by Calgarians, Albertans and Canadians that you reject the idea of the current plan to connect two relatively short LRT segments with costly tunnels. A transit connection between North and Southeast Calgary is not justified given the risk and cost involved. Finally, neither of these two LRT segments will be as attractive as the bus services they are intended to replace.

If a partial Green Line (both SE and North) provides little benefit for either corridor at a very significant cost, the chance of attracting further investment for an extension of either line will be very difficult. With little or no improvement in travel time and convenience, current transit customers are unlikely to embrace these new short lines and will demand the retention of existing services. In other words, the risk is that you end up with a \$4.9 billion white elephant.

It is my recommendation that the greatest benefit and return on investment will be provided by constructing the entire Southeast LRT line – Downtown to Seton. It is also recommended that the proposal for extensive tunneling in the downtown be reviewed in light of either at-grade or an elevated options. Any savings in capital funds could be spent improving transit service in other quadrants, such as BRT in North Calgary, and extension of the NE and South lines which can all be done for less than \$1 billion.

I recognize that this is a monumental decision for Calgary's future. I trust that you will consider all ramifications of this plan.

Sincerely,



Neil McKendrick
Former Manager of Transit Planning, Calgary Transit

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

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Your Worship and Members of Calgary City Council,

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I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are **unacceptable**.

Specifically:

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As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: Jackson Wong

Address: Unit 311, 128-2nd Street SW



Public Submission

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Tommy

* Last name Wong

Email wong6@telus.net

Phone 4032013357

* Subject Opposition to Green Line LRT updated alignment

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hello,

Please find attached my opposition to the proposed re-alignment .

Thx

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
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I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are **unacceptable**.

Specifically:

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 - The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
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As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: Tommy Wong

Address: Unit 508, 108-2nd Street SW, Calgary

Palaschuk, Jordan

From: Carolina Lopez <admin@minassteakhouse.com>
Sent: Monday, May 25, 2020 8:39 PM
To: Public Submissions
Cc: Jose Montes
Subject: [EXT] Green Line Letter from MINAS
Attachments: Green Line LTR.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Email sent asking if OK to add to Agenda as is

Good evening,
Please see attached for your consideration.

Regards,

Carolina Lopez
Minas Brazilian Steakhouse
www.minassteakhouse.com
 [Facebook](#)  [Twitter](#)



This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed. If you have received this email in error please notify the sender. This message contains confidential information and is intended only for the individual named. If you are not the named addressee you should not disseminate, distribute or copy this e-mail. Please notify the sender immediately by e-mail if you have received this e-mail by mistake and delete this e-mail from your system. If you are not the intended recipient you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited.



May 25th, 2020

The City of Calgary
800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Attention: Green Line Technical Committee
Ward 7 Councillor Druh Farrell

GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

My name is Carolina Lopez Chinchilla, owner/operator of MINAS Brazilian Steakhouse restaurant located along 2nd Street SW (the Waterfront Condominium complex) in the Chinatown community. We bring the traditional cuisine from the heart of Southeast Brazil, under the guidance of master head chef and husband Jose Montes. It's Brazilian open barbecue cuisine, known as rodizio. Served tableside on skewers, our delicious selection of meats is complemented by a wide variety of delicious traditional dishes. We opened our restaurant in March 2015.

Positive

We are located within 100M of the proposed 2nd Street LRT line and Eau Claire station on Harvard Development property. Initially, we were very concerned about the prospects of a train line directly on 2nd Street and are relieved that the alignment has been moved. Without this, our business would have been severely threatened due to potential traffic congestion concerns, and Walk-in traffic interruptions. Our destination restaurant relies heavily on customers who drive their vehicles from all parts of Calgary and the region, and many are not conveniently on an LRT or transit line.

Negative

We remain very concerned that an LRT train over Prince's Island Park and the Bow River will turn people away from the park as the peace and tranquillity of the park will be forever altered, if not destroyed. The park has served as a gathering place for picnics, family gatherings, summer festivals like the Folk Festival, and many more activities. The Riverfront Walkway is also a highlight for many visiting Eau Claire / Chinatown. The proposed low-level LRT bridge is viewed negatively by respondents to the Public Engagement survey, and we fear that there will be a loss of patronage.

Chinatown is our community and taking away 2 lanes of Centre Street and bridge traffic will only deter the public from going to Chinatown and driving along Centre Street, leaving us with limited roads that lead to our business. Patrons or visitors will avoid going to Chinatown if they have to face a single lane roadway into downtown. We believe Calgary north will benefit better from an expanded transit and BRT network through Centre Street and the downtown core.

Respectfully,

Carolina Lopez Chinchilla
403.399.2455

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca



Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

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 - The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
 - An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Philip Ho

1801 - 108 Waterfront Court SW & 304 – 128 2nd Street SW

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Councillor Druh Farrell, Ward 7, Greenline Committee member
Other Members of Calgary City Council

800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

- **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- **Protect the wetlands and the birds, fish and other wildlife that call it home;**
- **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
- **Create a legacy LRT line to serve the long-standing needs of Calgary's growing communities; and**
- **Embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core.**

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are unacceptable.

Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:
 - Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
 - Enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and residents of those communities.
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
- Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.
- The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
- An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

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Sincerely,

Philip Ho

1801 - 108 Waterfront Court SW & 304 – 128 2nd Street SW



Public Submission

City Clerk's Office

Please use this form to send your comments relating to matters, or other Council and Committee matters, to the City Clerk's Office. In accordance with sections 43 through 45 of Procedure Bylaw 35M2017, as amended. The information provided may be included in written record for Council and Council Committee meetings which are publicly available through www.calgary.ca/ph. Comments that are disrespectful or do not contain required information may not be included.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

Personal information provided in submissions relating to Matters before Council or Council Committees is collected under the authority of Bylaw 35M2017 and Section 33(c) of the Freedom of Information and Protection of Privacy (FOIP) Act of Alberta, and/or the Municipal Government Act (MGA) Section 636, for the purpose of receiving public participation in municipal decision-making. Your name, contact information and comments will be made publicly available in the Council Agenda. If you have questions regarding the collection and use of your personal information, please contact City Clerk's Legislative Coordinator at 403-268-5861, or City Clerk's Office, 700 Macleod Trail S.E., P.O. Box 2100, Postal Station 'M' 8007, Calgary, Alberta, T2P 2M5.

✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Waterfront

* Last name Unit Owner

Email n_naemeh@hotmail.com

Phone

* Subject Opposition to Green Line LRT Updated Alignment

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT
(MAY 12, 2020)

Your Worship and Members of Calgary City Council,
The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment, which I continue to support, brought with it the promise to:

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* Comments - please refrain from

ISC:

1/2

Unrestricted

May 27, 2020

12:15:16 PM



Public Submission

City Clerk's Office

providing personal information in this field (maximum 2500 characters)

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Waterfront Green Line Owners (WFGLO)

* Last name Waterfront Green Line Owners (WFGLO)

Email wfglo31@gmail.com

Phone

* Subject June 1st Green Line LRT submission

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Please see the following attachements:
Cover Letter
Public Opinion Poll
Summary of Public Opinion Poll
Call to Action Poster

Thank you
WFGLO Coordinators

2020 May 25

WFGLO – Waterfront Green Line Owners Group
wfglo31@gmail.com

The City of Calgary
800 MacLeod Trail South
P.O. Box 2100, Station
Calgary Alberta, T2P 2M5

Attention: **Green Line Technical Committee and Members of Calgary City Council**
Councilor Shane Keating, GL Technical Committee Chair
His Worship, Mayor Naheed Nenshi
Members of Calgary City Council

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

WFGLO RESPONSE
GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Please find the following attachments:

- **Attachment 1**
 - A copy of a WFGLO Public Opinion Poll
- **Attachment 2**
 - A summary of responses of 401 online respondents and physical signatures of 389 with a total of 790. These were collected from respondents owning and/or living in condominiums, users of Prince's Island Park, and those operating businesses in Chinatown/Eau Claire communities to the Green Line LRT Updated Alignment Proposal presented March 4th through May 12th by the Green Line LRT Project Team to Calgarians.
- **Attachment 3**
 - The 'call to action' poster

The WFGLO group is an informal citizens group of concerned citizens and residents of the Waterfront condominium complex consisting of 10 buildings (Riverfront Avenue SW, Waterfront Mews, 2nd Street), Riverfront (1st St SW), and River Run (Barclay Parade SW) condominiums. We have attended each of the community forums in Chinatown and Eau Claire as well as special Green Line LRT Project Team presentations at WFGLO organized information sessions. We share with City Council our interest, enthusiasm and concerns about the Green Line LRT alignment as proposed.

In principle, we are interested in:

- Preserving the Prince's Island Park, the wetlands, the Riverwalk pathway, and the Bow River in their current form;
- Protecting the birds, fish and other wildlife;
- Participating in Calgary's largest city-shaping initiative which would revitalize and affect our communities of Chinatown and Eau Claire;
- Supporting a public transportation system that serves all Calgarians and;
- Ensuring the project is fiscally responsible without any surprises and added financial burdens on Calgary taxpayers.

The 2017 Green Line LRT alignment fulfilled many of these interests and became a promise of good things for our communities and our condominiums. However, due to risk concerns and rising cost estimates, we understand and appreciate that Calgary City Council had to find alternative ways to build the Green Line LRT.

The 2020 Green Line Engagement process did not afford the community enough time to fully digest the recommendations especially those presented on May 12 (less than 2 weeks before the deadline for public submissions). As such, there remains a lot of unanswered questions, speculation, and doubts. We made a request to City Manager David Duckworth for more time but this was not granted. Instead, our questions were either deferred to the design/build stage or unanswered. Therefore, we do not feel that we can make an educated and informed decision about the entire Green Line Alignment. We hope that Calgary City Council on June 15th will consider accepting Segment 1 of the Green Line alignment and defer Segment 2 until more expert consultation and appropriate studies can take place.

As such, the 2020 Green Line LRT alignment addresses a portion of our interest and concerns, thus we wish to indicate our:

- Support for the 2nd Street SW underground tunnel segment from the Beltline through to Eau Claire station, then end the line here.
- Demand that the S-curve LRT Bridge over the Riverwalk, Prince's Island Park, the wetlands, and the Bow River not proceed.
- Request that The City reconsider for Segment 2, alternative approaches to serving the citizens north of the Bow River that do not include a bridge crossing, such as an expanded bus rapid transit (BRT).

WFGLO signatories believe the Green Line to be a legacy system, which means doing the right things by selecting an alignment and build approach providing the greatest benefits to property owners, business operators, residents, and visitors. This requires doing it the right way by ensuring the best value for capital dollars, low risk, satisfying level of transit service, affordable ridership, low operating costs, supporting industry, revitalizing the economy and providing local jobs.

Members of the WFGLO Coordinator group undersigned will be presenting our perspective on Monday June 1st and will speak to the concerns of the 790 signature respondents highlighted in Attachment 2.

Sincerely,

Habiba Elahee

Josie Ho

Barbara Mendaglio

Sona Kuliyeve



PRESERVE THE PARK



PROTECT THE BIRDS AND FISH



URGENT ATTENTION REQUIRED

After only 2 weeks of public engagement, the City Green Line LRT Project Team has unveiled its final alignment recommendations and this will affect you, your life in the community, and all Calgarians. (<http://engage.calgary.ca/greenline>)

WFGLO has been advocating to **preserve Prince's Island Park**, to **Protect the Birds and Fishes**, and to **Save Our Community** by asking The City to:

1. Get the LRT trains off the surface of 2nd Street SW
 - **This has largely been achieved**
2. Stop a LRT Bridge crossing over Prince's Island Park and the Bow River
 - **A bridge is still in the plan**

YOUR SUPPORT IS NEEDED – NOW!

To preserve and protect Prince's Island Park, the Riverwalk, the wetlands, and the enjoyment of a downtown urban park for generations to come, we need you to tell City Council

- **Do not cross Prince's Island Park/Bow River with an LRT Bridge**
 - Keep this urban park and river pristine for future generations

Without a bridge, we recognize that Calgary North needs rapid transit

- **Expand the Bus Rapid Transit (BRT) Line from Downtown to Calgary North, providing an effective, affordable, and flexible mass transit system**
 - This approach serves North Calgary communities and supports the development of Centre Street as a vibrant and viable 'Mainstreet'

HERE'S HOW YOU CAN TELL THE CITY – BY MAY 25

The Green Line Project Team will present their recommendations to the Green Line Technical Committee on Monday June 1st. Now more than ever, it is important that individuals and businesses write to City Council via the Office of the City Clerks at publicsubmissions@calgary.ca with your concerns and preferences. The deadline for submissions to be included in the report is this Monday May 25th at 12 noon.

A sample letter is provided at www.greenlineinfo.ca for your use as a starter to modify as you see fit.

DON'T DELAY, TELL CITY COUNCIL NOW.

PRESERVE PRINCE'S ISLAND PARK 保護王子島公園

Situation Overview & Key Issues:

City altered original LRT route as costs inflate

- Bridge over Prince's Island Park (vs. underground)
- Above ground through Centre Street North

Timeline for consultation too short (~10 weeks until vote)

- No detailed plans & engineering
- Inadequate consultation with stakeholders

Will impact generations to come

- Destruction of Prince's Island Park
- Safety concern (EMS access, crossings, etc.)
- City is writing a blank cheque to fund overruns
- Expropriation of homes

WILL HAVE A MATERIAL IMPACT TO NATURAL
WETLANDS SURROUNDING PRINCE'S ISLAND PARK

KEEP IT UNDERGROUND 请使用地下隧道建绿線轻铁

Key Objectives & Desired Outcomes:

Construct the Green Line... THE RIGHT WAY!

- Green Line should ultimately be constructed, but...
- One chance to do it the right way – do it underground

If we cannot do it the right way now, we should wait

- Construct once we have the resources to do so
- More time will benefit all involved
- Less risk of negative outcomes & cost overruns

Revert back to original below surface alignment

- Preserves the park and wetlands
- Meets broader stakeholder objectives

QUALITY OF LIFE & COMMUNITY IN AND AROUND
THE PARK WILL BE ADVERSELY AFFECTED

PLEASE SIGN YOUR SUPPORT BELOW OR VISIT

<https://tinyurl.com/yycgreenline>

LET YOUR VOICE BE HEARD

City Clerk's Office

Mail Code #8007

P.O. Box 2100, Station M

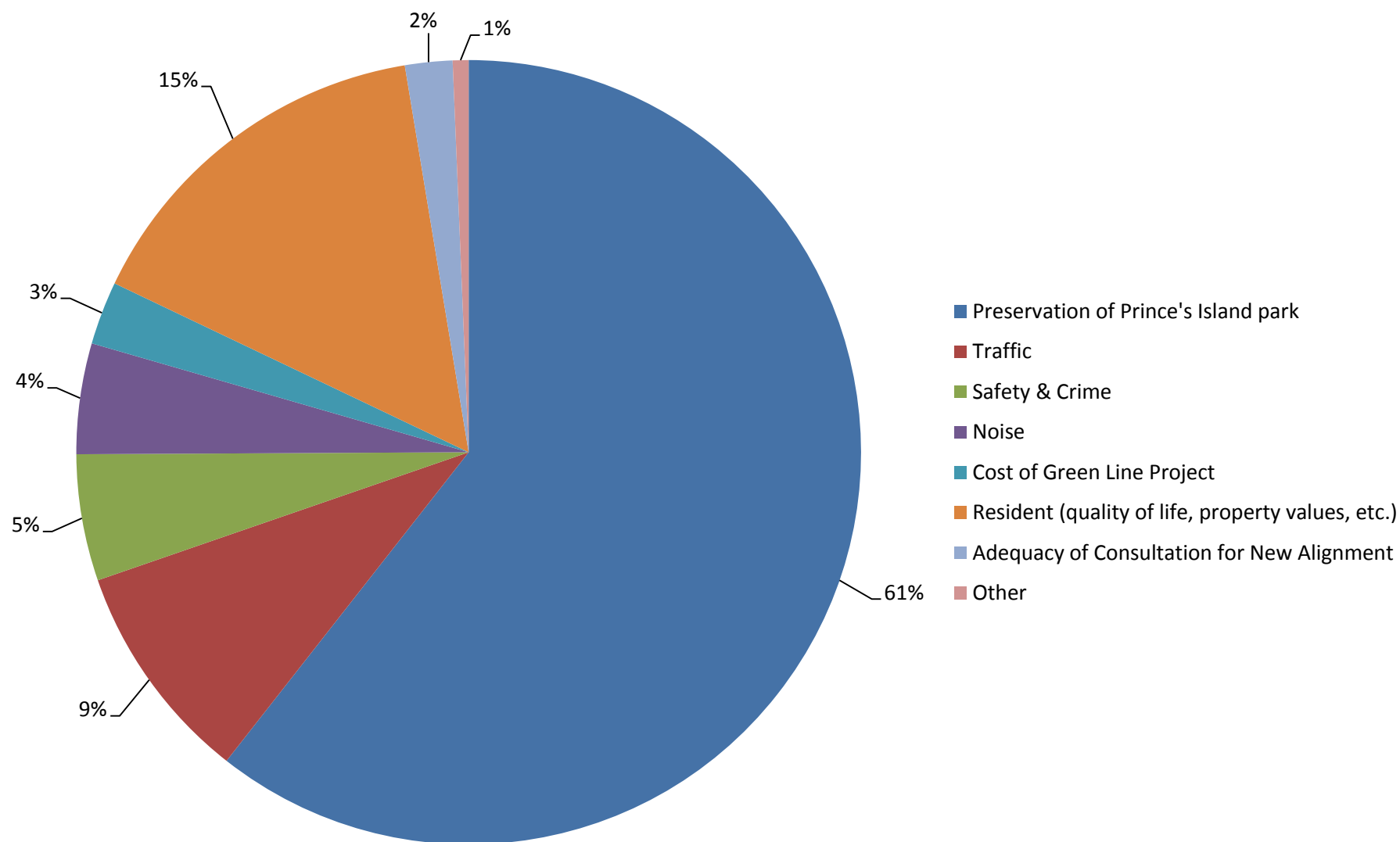
Calgary AB Canada T2P 2M5

403-268-5861 cityclerk@calgary.ca

Name: _____ Address: _____

Email: _____ Signature: _____

Key Concerns in Comments Submitted*



**Note: Based on a total of 401 online responses; 231 respondents (or 58%) included a comment. Including paper copies, there were 790 responses.*

Please note:

An opinion poll with 401 individuals' names and their location was provided with this submission, with respect to Report GC2020-0583, Green Line Update Stage 1.

As no Freedom of Information and Protection of Privacy Act statement to collect personal information with the intent of reproducing it in an Agenda was included, the opinion poll will not be made part of the public Agenda, but the list of names and locations will be provided to Council by a confidential attachment, not to be released further.



Calgary River Valleys champions and engages the public in the protection, appreciation and stewardship of Calgary's rivers, creeks, wetlands and watershed resources.

We are the voice of our rivers.

May 26, 2020

Attention: **City Clerk**
Sent via Email to: PublicSubmissions@Calgary.ca,
Re: **GreenLine Committee Meeting June 1**
Green Line LRT Updated Stage 1 Alignment Proposal
From: **Calgary River Valleys**
Via Email: CalgaryRiverValleys2@outlook.com

Overview of Calgary River Valleys' Comments

Category	Comments
Demonstrated Need for bridge vs Tunnel to Cross Bow River	Principle 1 in Appendix B of the Calgary Transportation Plan (CTP) states that "A balanced triple bottom line framework should be used to assess the social, economic, and environmental implications of the crossing and the corridor it serves and all alternatives, including the option of doing nothing." More information and transparency is required to confirm this Principle has been adhered to.
Site / Location for Bridge	Principle 2 in Appendix B of the CTP requires consideration of several factors when "planning, designing and constructing" river crossings. These include: use of the river corridor by people and wildlife, recognition that a bridge is human development within a <i>watercourse ecosystem</i> , review of impacts from a new bridge in both flood and drought conditions, impacts on riverbank erosion, and river channel movement. <u>CRV is concerned that the proposed siting of the Bow River bridge in the downtown area appears to based more on the prior 2017 tunnel alignment than on the most appropriate bridge location.</u> <i>CRV believes rigorous and comprehensive studies of the impacts of a new river crossing should be completed prior to acceptance of an alignment / site for any new bridge.</i>



Category	Comments
Biophysical & Social Impacts	Principle 3 in Appendix B of the CTP requires consideration of impacts (including cumulative impacts) from a new bridge on river changes due to droughts, floods, and ice conditions, changes to the water flow and impacts on river erosion & deposition, plants & wildlife habitat including fish passage, as well as long term impacts from operations. Our river valley corridors are recognized as a jewel, and their natural functionalities and biodiversity should be protected to the highest extent possible.
Co-location of Complementary Functions and Infrastructure, & Avoidance of Adverse Impacts	Principle 4 in Appendix B of the CTP intends to minimize future “impacts from construction, rehabilitation and ongoing operation and maintenance” , by ensuring that all possible needs are addressed in the design phase, so as to avoid lost opportunities to build key infrastructure elements into the bridge. Before a decision is made about the GreenLine LRT alignment, CRV believes decision-makers should know what we are protecting and what we will be losing with the various bridge alignment options that could be considered
Transparent Adherence to Legislation & Policies, & Documentation of Environmental Trade-Offs	Principle 6 in Appendix B of the CTP requires that “proper planning and design of watercourse crossings must be governed and supported by environmentally responsible legislation.” Documentation should be made publicly available, including the environmental options already reviewed, as well as the reasoning for recommendations that so far appear to be <u>not</u> fully compliant with environmentally responsible legislation & policies BEFORE any decision is made on the alignment / siting for a river crossing

Who Is Calgary River Valleys (CRV)?

- CRV was formed in 1990 at the request of Calgary City Council; the River Valleys Committee (RVC) was placed under the Parks Foundation Calgary’s umbrella, to provide an opportunity for Calgarians to participate in the development of policies and projects to manage use of Calgary’s river valley system.
- In 2008 and 2009, Calgary River Valleys (at that time as the River Valleys Committee) was extensively involved in the Plan-It Calgary process that resulted in the development of the *Principles and Design Considerations for River Crossings* that form Appendix B in the Calgary Transportation Plan.
- In 2010, CRV became an independent society commonly known as Calgary River Valleys (CRV).
- CRV has worked in collaboration with many City of Calgary departments, Province of Alberta staff, representatives of Calgary communities, and members of the general public to provide input on major urban planning and development proposals, including among others:
 - Crowchild Trail bridge pedestrian & cycling pathway addition
 - Nose Creek Watershed Water Management Plan



- Wetland Conservation Plan
- Harvie Passage design & post-2013 flood re-build design
- Various Area Structure Plans large parcel outline plans, city-wide policies, public parks and individual riverfront development proposals
- Stoney Trail bridge over the Bow River & 37 St SW bridge over Fish Creek
- Southwest Calgary Ring Road
- Calgary Growth Management Plan to focus urban development in corridors
- Original 2017 GreenLine LRT alignment, station workshops and charettes.
- From 2009 to present, CRV has been the lead organizer of an annual citizen science project to locate and count the Brown Trout spawning nests in the Elbow River as a trend indicator of the river's ecosystem health; this data was used by the City of Calgary and the Government of Alberta in 2018 to identify suitable locations for restoring fish spawning habitat in the Elbow River in 2019.
- Other recent CRV work includes providing input for the post-2013 flood restoration of the Chevron Learning Pathway in the constructed wetland on Prince's Island, providing input and some funding for City of Calgary's River Access Signage project so boaters and rafters could safely and responsibly access the river, as well as small riverbank restoration projects to re-naturalize some privately-owned sections of Calgary's riverbanks, and to encourage other river-adjacent landowners to do the same.

General Information re CRV Comments re GreenLine Stage 1 Alignment

Our comments on the Green Line LRT 2020 Updated Stage 1 Alignment Proposal have been generated through discussions with our members, contacts, and staff. The majority of our comments and concerns lie with the proposed plan to build a bridge over the Bow River. As indicated above, CRV was significantly involved with the process that developed the *Principles and Design Considerations for River Crossings*, that make up Appendix B in the Calgary Transportation Plan (CTP).

In particular, CRV has concerns that the process for the GreenLine LRT Stage 1 Alignment Proposal has not properly adhered to CTP Appendix B Principles 1, 2, 3, 4, and 6. Our comments below will summarize these concerns.

Principle 1 of Calgary Transportation Plan Appendix B: Demonstrated Need For the Crossing - Bridge vs Tunnel

The original 2017 approved plans for the GreenLine alignment included plans for a tunnel under the Bow River, which was the option preferred by the public after months of GreenLine engagement, even though it was clear it would come at a higher cost. It was also preferred by environmental stewardship groups like ours because the tunnel option would have fewer impacts on the river and its valley.

Recently, we learned that these plans had been changed to recommend a bridge to cross the Bow River instead. It is the opinion of CRV members that the reasoning for defaulting to a new bridge to cross the Bow River did not comply with Principle 1, in that it was not well-demonstrated. CRV was subsequently advised by GreenLine team members that this change was required as a cost-saving measure, and to improve accessibility



for users of the GreenLine. The balancing of all costs and benefits, long-term impacts, and opportunities should be well-demonstrated and publicly available.

Principle 1 states that a **“balanced triple bottom line framework should be used to assess the social, economic, and environmental implications of the crossing and the corridor it serves and all alternatives, including the option of doing nothing.”** While the economic reasoning has been outlined, it has not been made clear that the other two pillars of Triple Bottom Line assessments have been considered in a “balanced” way; more information and transparency is required regarding the “demonstrated need” for a bridge rather than a tunnel or even no crossing at all. CRV would be pleased to review and provide comments on technical documents outlining the justification for this recommendation if such documents were shared with us.

Principle 2 of CTP Appendix B: Advanced Planning for Appropriate Siting

The siting proposal for a new bridge appears to be based on the original 2017 tunnel location, rather than an independent evaluation of the best possible location for a bridge crossing. It has not been made fully clear to us as to why an existing transportation corridor across the Bow River such as the Centre St Bridge could not be used for the GreenLine LRT.

We understand there are competing forces the GreenLine team is dealing with regarding this project, including various groups who are for and against different locations to locate a bridge over the Bow River. We also understand the GreenLine team’s position that the south end of a bridge over the Bow River would be better closer to existing dense residential development and employment destinations (i.e. closer to 2 St SW rather than at Centre St S), so as to support connectivity and compact growth. In general, we support this intent. However, the general theory to support the development of major transportation corridors such as this, is that they, with planning support, would result in Transit Oriented Development on any new alignment.

The proposed siting for the GreenLine bridge from 2 St SW downtown to connect to Centre St N would need to be either on an angle, or in an “S-shape” as has been suggested. Any new bridge would therefore also be significantly longer within the river valley than one in a straight alignment across the river, and would therefore have a considerably larger impact on the Bow River and its valley. If a Centre St siting were used, there would be no new bridge footprint, although some other impact issues could be added. We believe the larger environmental impacts that will result from this trade-off need to be fully considered before the bridge location or site is finalized.

A new bridge, especially a long bridge as has been proposed, will no doubt have other additional impacts on the river valley with pedestrian access and egress staircases potentially connecting to Memorial Drive, and Prince’s Island. CRV believes a more complete study of these environmental considerations should be conducted before a siting decision is finalized.

Specifically, our members would like the factors outlined in Principle 2 to be given more consideration prior to a siting decision. These include:

- **“Use of the river and stream corridors by people, fish, migratory birds and other wildlife and the sensitive integration of human development within *watercourse ecosystems*,”**



- “Waterway constraints, such as *hydrology* (e.g. volume of water from droughts to floods, etc.), hydraulics (e.g. erosive power of moving water and ice, etc.) and channel morphology (e.g. meandering, braiding, entrenchment of the river channel, etc.)”, and
- “Location and design of stream channel crossings”.

Principle 2 specifically states, “River crossing sites should only be chosen after careful determination of the least damaging crossing location – before the crossing and the associated infrastructure leading to it are designed.” Any new bridge the City of Calgary builds should be treated as an opportunity to build something better than we have done in the past, with the expectation that it will exist for hundreds of years. Any such river crossing should minimize the impacts on the river valley and watercourse ecosystem.

Principle 3 of CTP Appendix B: Adherence to Recommendations of Biophysical and Social Impact Assessments

We have been advised by the GreenLine team that a Biophysical Impact Assessment (BIA) has not yet been completed for this project, and that it cannot be undertaken until the GreenLine Stage 1 Alignment Proposal has been approved by City Council. While it is clear from our interactions with the GreenLine team that some studies have been completed or technical opinions have been received with regard to the plans for a Bow River bridge, this technical documentation has not been shared with us nor posted on the City’s website.

Various considerations of impacts are required for adherence to Principle 3. Any decision regarding a bridge over the Bow River instead of a tunnel should certainly include the consideration of:

- Plants and animals that would be impacted, as well as existing park infrastructure and usage,
- Seasonal and climate-related hydrological changes (droughts, floods, ice conditions, etc.),
- Conditions and functionalities of the watercourse ecosystem before and after construction,
- Hydraulic conditions and functions (e.g. erosion, scouring and deposition),
- Connectivity of viable wildlife habitats, including fish passage, and
- Long term impacts on the ecosystem from bridge operations.

Principle 4 of CTP Appendix B: Successful minimization of impacts from construction, rehabilitation and ongoing operation and maintenance through engineering design and rehabilitation requirements

We know there are already significant impacts on the Bow River in Calgary, especially in the section through downtown. There are already 12 full span bridges within 2.5 km either direction of the proposed new site for the GreenLine LRT bridge. Each bridge represents an additional cumulative impact on the river ecosystem, each with its own impacts on river flow and water quality, and each contributing to further degradation of the wildlife corridor. Any new bridge would also represent an opportunity to “bundle” infrastructure and improvements that were missed in the design of previous crossings.

Since the 2013 flood, much of the riverbank along this section of the river has had rip rap (large boulders) placed along it to prevent bank erosion. While rip rap can help to prevent erosion of the riverbank or riparian area, it significantly negatively impacts the normal functionalities of riparian areas, since it transfers hydrological energy to other sites downstream and eliminates habitat for ground-nesting birds, insects, and



prevents normal transit by other native species, both local and migratory. Any new river crossing also represents an opportunity to restore or improve functionality of the riverbank and riparian areas in this part of Calgary.

With regard to flood risk, we have been advised that both the proposed Bow River bridge and the proposed portal at the south end of it, at 2 St SW, would be designed to withstand a 1 in 200-year flood. The expectation is that any bridge alignment that is selected will be located within the river valley for substantially more than 200 years. We believe the standard for flood resiliency for this public infrastructure should be substantially higher than a 1 in 200-year flood level. CRV has been advised by City of Calgary Water Resources experts that we likely to receive substantially more precipitation in the next 50 to 70 years, and in fewer but more concentrated events, therefore resulting in greater likelihood of more frequent and more damaging floods in future.

The result from significantly increased precipitation will also include impacts to the riverbed and banks, such as currently unforeseen scouring, erosion, and deposition of river rocks and sediment. These kinds of impacts from the 2013 flood modified the 10th St Wave by shifting large rocks within the river and re-routed sections of the river channel. Future flood events are likely to leave considerably larger after-effects.

While some information related to these issues was synthesized into the summary documents shared by the GreenLine team, without being able to review the technical details that informed the team on these environmental impacts and issues, we cannot determine if these CTP principles were adhered to. We believe that before a final decision is made for a new bridge over the Bow River, comprehensive studies of the potential impacts should be made available for review.

Principle 6 of CTP Appendix B: Effective Policies, Regulations, Guidelines and Enforcement

This CTP principle states that **“proper planning and design of watercourse crossings must be governed and supported by environmentally responsible legislation.”** CRV was pleased to note that the GreenLine team outlined in their online engagement sessions that much additional work will need to be done to comply with Federal and Provincial legislation.

As per the City of Calgary’s River Access web page: **“The Bow and Elbow rivers are integral to our city and provide extensive opportunities to promote social, economic, and environmental well-being in Calgary.”** In addition to compliance with legislation, we encourage and support compliance with the City policies that have been developed to ensure protection of these natural areas in Calgary. CRV would support a move by the City of Calgary to include publicly available documentation with all planning files that would identify the policies that were considered and which were deemed to be in (or not in) the public interest. For example, it would be desirable to provide documentation that indicates which scenarios were considered that may have higher and lower costs but also have fewer or more environmental benefits. Planning recommendations could then be shown to be based on weighing the costs and benefits, which would provide more transparency and would likely create more public buy-in for planning matters.



Relevant City policies related to environmental matters include but are not limited to:

- Open Space Plan (2003), which states **“Calgarians recognize and appreciate that parks, urban forest and natural areas are significant contributors to the environmental quality and recreational fabric of Calgary,”**
- Municipal Development Plan (2009), which provides the objective to **“maintain biodiversity and landscape diversity, integrating and connecting ecological networks throughout the city,”** with an ecological network including the components of the river valley system, natural environment parks, regional and neighbourhood parks, and pathways among other components.
- Our BiodiverCity – Calgary’s 10-Year Biodiversity Strategic Plan (2015), which **“establishes clear, strategic and comprehensive principles to consider biodiversity in all aspects of local planning and management, from land use and mobility to social and economic development,”**
- The Durban Commitment (2016), which **“recognizes that biodiversity is the variety of life on earth on which human well-being is dependent and that biodiversity provides eco-system services that underpin all of our community’s needs.”**
- The Riparian Action Program (2017), which states, **“Responsible planning and management of riparian areas will benefit Calgarians by providing cleaner water and improved drainage that supports recovery after climatic events, including flood and drought.”**
- As well as other plans, including: Calgary Urban Park Master Plan, Calgary River Valleys Plan, and the Calgary Wetland Conservation Plan.

Conclusion

There are clearly multiple competing forces and voices from members of the public and special interest groups regarding the GreenLine. Calgary River Valleys recognizes and appreciates the effort put in by the GreenLine team to attempt to balance competing forces but we believe this project must address these Principles for river crossings, especially with regard to siting and impacts before a decision is made on the alignment across the Bow River through downtown.

We were pleased to see that some feedback received from the public earlier this year was incorporated into the latest iteration of the proposed Stage 1 Alignment. One example is the plan to include pedestrian and cycling infrastructure with a new bridge, which didn’t appear to be included in earlier versions of the plan. We also appreciated the efforts by the GreenLine team to answer questions during the recent online engagement sessions and to explain why some suggestions from the public could not be included in the GreenLine LRT alignment proposal recommended for approval.

However, we want to ensure the Triple Bottom Line framework is well-balanced for this project, that environmental and social considerations are given their due, just as economic considerations are. Before any final decision is made, we recommend a rigorous, comprehensive, and transparent review of the environmental and social impacts be completed, or if these have already been done that this information be shared.



CRV would be happy to help develop Terms of Reference for additional studies and participate in technical discussions surrounding how best to balance the economic, environmental, and social implications of this major infrastructure project.

The section of the Bow River valley in question that is proposed for the potential bridge siting location is often described as a jewel making up part of Calgary's open space. As we impose our urban and suburban footprint in a broad corridor between the foothills and the prairie, our river valleys are the major concession that we make, as a City, to biodiversity and natural functionalities, including wildlife corridors. The downtown section of the Bow River is already heavily encumbered and impacted by the development practices of the past, and any plan for a new bridge must consider the impacts it will impose on this natural asset. We must use this as an opportunity to rise to a higher and better standard.

Calgary River Valleys looks forward to working with City Administration to provide input for subsequent stages of this project as it progresses.

For further information, please contact CRV Program Manager, Anne Naumann, via email at CalgaryRiverValleys2@outlook.com.

Sincerely,



Bill Morrison
President, Calgary River Valleys

cc: CRV Circulation



Palaschuk, Jordan

From: Barbaatar, Davaa on behalf of City Clerk
Sent: Monday, May 25, 2020 2:40 PM
To: Public Submissions
Subject: FW: [EXT] Opposition to Green Line LRT Updated Alignment

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Email sent asking if OK to add to Agenda as is

From: mehdi keshtkar [mailto:m.keshtkar@gmail.com]
Sent: Friday, May 22, 2020 4:10 PM
To: City Clerk <CityClerk@calgary.ca>; Public Submissions <PublicSubmissions@calgary.ca>
Subject: [EXT] Opposition to Green Line LRT Updated Alignment

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical Committee Chair

His Worship, Mayor Naheed Nenshi

Councillor Druh Farrell, Ward 7, Greenline Committee member

Other Members of Calgary City Council

800 MacLeod Trail South

P.O. Box 2100, Station

Calgary Alberta, T2P 2M5

Submitted by E-Mail to Office of the City Clerk publicsubmissions@calgary.ca

MY CONCERNS REGARDING THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

Your Worship and Members of Calgary City Council,

The Green Line LRT alignment approved by Calgary City Council in 2017 committed to an underground tunnel beneath 2nd Street SW in the downtown core, the Riverwalk Pathway, Prince's Island Park, Bow River, Crescent Heights community, and Centre Street to 16th Avenue North. This approved alignment brought with it the promise to:

- ☐ **Preserve and enhance public access and enjoyment of the Riverwalk pathway and Prince's Island Park;**
- ☐ **Protect the wetlands and the birds, fish and other wildlife that call it home;**
- ☐ **Revitalize the Crescent Heights, Chinatown, Eau Claire, Beltline and Victoria Park communities with the spirit of best practices of urban planning in mind;**
- ☐ **Create a legacy LRT line to serve the long-standing needs of Calgary's growing communities; and**

□ Embrace and deliver on the vision of Calgary as a world class, vibrant, and walkable city where all residents can access and enjoy the beautiful natural setting and culturally diverse communities of the downtown core.

I understand and appreciate that due to funding and other concerns, City Council directed the Green Line Project Team to revisit the alignment and build approach in order to examine other alternatives, but the proposed revised alignment does not meet the commitments made to community residents.

Calgarians, like me and my neighbours, are still holding The City to these promises.

My Concerns

An updated Green Line LRT alignment was presented on May 12, 2020. I support the SE segment to the Downtown, but the alignment and the build approach north of the downtown core are unacceptable.

Specifically:

- Any LRT bridge over Prince's Island Park and the Bow River breaks the promises made to:
 - Preserve the park and its wetlands, birds and fish;
 - Maintain or increase access and walkability of the local pathways and park spaces;
 - Maintain the spectacular views of Prince's Island Park and the Bow River, which are currently enjoyed by the local residents and many members of the public visiting the area;
 - Enhance and revitalize the local neighbourhoods through the thoughtful addition of mass transit in a manner that respects the history and residents of those communities.
- The LRT bridge intersecting at the top of the Centre Street Bridge will impede southbound vehicle traffic, impair access to downtown and Chinatown, hurt business operators and festival / event organizers;
- Placing the LRT line at-grade (i.e. street level) with two center roadway train lines breaks the promise of a city-shaping initiative. It would create traffic barriers east / west, increase accident risk at intersections, deter people from visiting by personal vehicles.
- The proposed Green Line LRT alignment is a 'less than' approach where scope and quality is reduced to stay within the \$4.9B funding envelope. This, again, breaks the promise of a legacy mass transit system.
- An LRT Bridge over the river will have the impact of obstructed views, produce significant noise and light pollution and an overall negative effect on my property value.

As a local resident who stands to be impacted by the future Green Line LRT, I find the current proposal, with respect to the issues outlined above, unsupportable. This is our only opportunity to make the Green Line the best it can be – settling for an inferior proposal shouldn't be on the table.

I urge the Green Line Technical Committee and Members of Calgary City Council to revisit and rethink this segment of the plan. It should not, in its current form, be approved by Council at their June 15th meeting.

Sincerely,

Name: Mahdi Keshtkar

Address: unit 607 - 108 2nd street SW

--

Mehdi KESHTKAR, Ph.D.

Me} {di



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Danny

* Last name Haines

Email hainesdanny@gmail.com

Phone 4032008625

* Subject Build the Green Line!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

The Green Line LRT project must be built on schedule. It is foolish to even consider delaying, shrinking or cancelling this project. Calgary needs more transit infrastructure and now is the time to build it. Let's take advantage of provincial and federal investments into our city and build this as soon as possible. This project will provide much-needed construction jobs in this time of intense unemployment and will set us up on the right track for when our economy is booming again. Construction companies will be eager to bid on this work and will provide highly competitive prices.

Build the Green Line now to meet our transportation needs now and in the future.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Leopoldo

* Last name Jimenez Jones

Email atlanticfreights@gmail.com

Phone 4034372949

* Subject We Need The Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
We need the Green Line build



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ramsey

* Last name bedet

Email

Phone

* Subject prosperus alberta

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

we need the green line and we need the oil industry to make the world go around.. other wise Calgary and alberta will die economically . none of us can afford this

City Clerk's Office

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* Comments - please refrain from providing personal information in this field (maximum 2500 characters)



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Siobhan

* Last name Snyder

Email siobhan112079@gmail.com

Phone 15875777345

* Subject Green Line a Go

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Dearest City Council,

As a considerate Calgarian, I am writing you today to implore you to give the green line the go ahead. For the health of our city, the wellness of the people, the city streets and economy, the green line means that we all will live greater lives. With 30,000 tonnes of green house gases off the street everyday, 20,000 plus jobs and a community that brings people together to live better lives, Calgary will be online to shining like the greatness that brings us all here in this modern age...we should be living modern lives with a higher standard, and the realization of the green lines brings us closer to this goal.

Many blessings and considerations for you and all Calgarians in this time of transition. May the promise and potential for the greater good be realized.

Siobhan M Snyder



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* First name Lorraine

* Last name Thibodeau

Email lorrainethibodeau17@gmail.com

Phone 4039222177

* Subject Calgary needs jobs

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
It would be a shame to cancel the green line
Calgary is in crises even before covid 19
Jobs are needed
Do not cancel this project



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jacqueline

* Last name Wallace

Email jacqueline.wallace@yahoo.ca

Phone

* Subject Please build the green line!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
We need the green line to combat climate change, to create jobs, and to provide transportation for Calgarians. This city is not only for the wealthy.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Jessica

* Last name Jarvis

Email jjarv611@gmail.com

Phone 4039785790

* Subject Jobs

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I am very worried about the jobs of people in Calgary. We need the green line to make transit better. Thank you ??



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Carson

* Last name Schmidt

Email carsonschmidt419@gmail.com

Phone 5872244567

* Subject Cancelling the Green Line is a Terrible Message for Outsiders

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Our sprawling city is in desperate need of better transit coverage, and Calgary's South-east neighbour hoods are an absolute nightmare to commute from. Students going to the U of C will ride for 3 hours or longer each day just to go to school, and commuters fight over parking stalls, desperate to get to work for an affordable price. The green line will drastically improve commute times and reduce congestion, while providing new opportunities for all Calgarians.

The Green Line is an investment in the future of our city, and cancelling this project would be a sign to investors that Calgary is not worth their time or money. Investment in our communities will immediately follow the completion of this line, and prove to the world that Calgary is a great city worth international attention. We are already far behind other major Canadian cities, and it's disgraceful that our government is so unwilling to keep up with the times. Entering a recession is the perfect time for us to invest in our future, and the jobs created will keep our economy afloat much better than oil industry bailouts ever could.

Please, for the sake of all Calgarians who aren't wealthy enough to drive, for those too young, the eco-friendly and the disabled, don't cancel the Green Line.



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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Geoff

* Last name Granville

Email

Phone

* Subject Request to speak during the Greenline Cttee meeting on June/1

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I would like to take the opportunity to address the cttee during next Monday's meeting. My speaking notes would be based on the attached written document, which I understand was sent in too late to be included in the formal written record of comments.

Thank you, Geoff Granville



**Guardian South Corporation
1188-3rd St., SE
Calgary, AB, T2G 1H8**

27 May 2020

COMMENTS TO THE CITY'S GREENLINE COMMITTEE ON THE GREENLINE PROPOSAL

The Guardian South Condominium Corporation has the following comments:

- 1) Providing it meets current cost estimates and cost sharing commitments, Guardian South supports the alignment currently proposed by the City's Administration. It would bring great value to residents in this part of the Beltline in terms of convenience and connectivity. In addition, it should result in reduced traffic during events and thus improve the quality of life in the East Victoria Park region.
- 2) We note the latest alignment includes a crossing over the Elbow river after which the Greenline would track beneath 11th Ave from 7th St SE to 2nd St SW using a "cut and cover" approach rather than a boring a deep tunnel, in order to save costs and improve ridership experience. We support this approach from a financial perspective and also because it saves travel times for all while minimizing unintended interactions between pedestrians, vehicular traffic and the LRT in this densely populated and trafficked part of the city.
- 3) We support the location of a station between 4th and 5th St SE. Given the proximity to the Stampede area and future event centre, Guardian South strongly supports sensitive planning and development for the area around the station to meet livability requirements in concert with providing an energetic public realm. That is, the area must function both as an active meeting place and conduit for large crowds yet simultaneously provide an inviting public realm for local residents and enable and encourage local businesses to flourish during periods between events. Together with the expected construction of a new 5th St SE roadway and underpass beneath the CP Rail line, we foresee both challenges and opportunities in realizing this vision, and look forward to reviewing specific plans when available.
- 4) Similarly, the proposed station at Centre St must also be thoughtfully designed to provide Greenline passengers safe and convenient access to streets and avenues in all directions two blocks away from the footprint of the station, and particularly including 1st St. SW.
- 5) Guardian South recognizes Greenline construction will create significant hardships to residents and businesses along 11th Ave. It is expected we will contribute to, and comment upon, the details of road modifications and closures required during that period.

Thank you for your time.

GC (Geoff) Granville

President, Guardian South Corporation (CNN 1611563)

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Ronald
* Last name	Antonio
Email	ronantonio9@gmail.com
Phone	4033555355
* Subject	Green line - STOP and let's rethink
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	let's move it back now

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Rosalie

* Last name Sia

Email sia_rosalie@yahoo.com

Phone 4033995034

* Subject Support the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Many calgarians like me were reallyying the transit reach to our work, I think with the green line this can help us and save our time especially during winter time.

**Public Submission**

City Clerk's Office

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name	Lisa
* Last name	Lassman
Email	lisa.lassman@gmail.com
Phone	5875763648
* Subject	Green Line
* Comments - please refrain from providing personal information in this field (maximum 2500 characters)	The Green Line to be squelched doesn't make sense. It will create jobs, which Calgary is deficient in, it will also help with the elimination of fuel emissions. European countries are more public transport oriented its time for Calgary to consider the same. Thank you.



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* First name Yvonne

* Last name Schmitz

Email yvonnems@telus.net

Phone 403-240-0311

* Subject Support for the Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am writing to indicate my strong support for the immediate building of the Green Line LRT. I am a frequent user of the LRT and am convinced of the crucial importance of expanding our LRT system. Not only is public transit crucial for people who have limited access to other forms of transportation, but it makes so much sense in terms of us moving away from using cars to get around town. Currently, considering how spread out this city is, I often need to use my car to get to other quadrants of the city. I would rather have a way to get to every corner of the city via LRT. I have just turned 70 and hope to be able to keep driving for a few more years, but I am also thinking of perhaps 10 years in the future when I may no longer be able to drive. Having a great public transit system will be critical to mobility for Calgarians like me. Thinking of the needs of older people, people with disabilities and Calgarians with limited means, as well as the positive environmental impact, it is of great importance that the City proceed with the Green Line project on an urgent basis.

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* First name Grant

* Last name Carlson

Email

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Cancel Green Line!



Public Submission

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* First name Glenn

* Last name Gunson

Email gggunson13@gmail.com

Phone

* Subject Green Line Cancellation

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As a resident of ward 14, I am deeply concerned about the talk of cancelling the green line expansion. An efficient and accessible public transit system is essential to a city that has been voted as " the best city in the world". This project will also mean jobs at a time when Calgary desperately needs them. There is no better time to proceed with a project of this magnitude then now. The green line must move ahead.

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Lucretia

* Last name Martenet

Email lemarten@shaw.ca

Phone

* Subject Green Line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I support the continuation of the Green Line Project. Public transportation is important for many reasons, including helping keep down traffic congestion and improving the environment. The jobs created through this project would help many people struggling with the economic downturn. The city should put more into public transportation in general, and this project in particular.

ISC:

1/1

Unrestricted

May 28, 2020

5:08:32 AM



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Carole

* Last name Léger-Kubeczek

Email legerkubeczek@gmail.com

Phone 403-850-8867

* Subject Support for the Green Line Project

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

As an owner with a property located in the targeted area, we strongly support the plan to build the Green Line. As already stated, it will give a boost to the economy with much needed employment and as an added bonus, the reduction of traffic downtown will have a lasting impact by cutting back on greenhouse gases. Time to think big, smart and outside the box.



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☒ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Chelsea

* Last name Christie

Email chelsea.christie1@ucalgary.ca

Phone 4038307936

* Subject I support the green line

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I fully support the green line! Let's make Calgary a more pedestrian-friendly city.



Public Submission

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Steven (Yusun)

* Last name Jin

Email s.jin1990@gmail.com

Phone 403-554-3612

* Subject RESPONSE TO THE GREEN LINE LRT UPDATED ALIGNMENT (MAY 12, 2020)

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

I am strongly suggesting City Council to cancel the Green Line LRT North project completely, including the Stage 1 project. This opinion has been explained in the email and its attached letter I sent to the Council and Green Line Team on March 25, 2020. In conclusion, Green Line LRT North project could create less benefits for residents than the harms as to destroy the existing Center Street N, generate huge costs and big tax burden for whole city, and impose several years of construction mess for Calgary North residents. BRT is a much better option for the North, which could provide the basic transportation needs for the residents on North-End communities. Severe Covid-19 and worsen economy downturn do also require the City to re-consider the Green Line North Plan.

Steven Jin, President
Calgary Chinese Union Association (CCUA)
332 Hawkstone Close
Calgary, Alberta T3G 3P2
s.jin1990@gmail.com
403-554-3612©

May 25, 2020

Green Line Technical Committee and Members of Calgary City Council

Attention: Councillor Shane Keating, GL Technical
Committee Chair
His Worship, Mayor Naheed Nenshi
Other Members of Calgary

City Council 800 MacLeod Trail South
P.O. Box 2100, Station Calgary Alberta, T2P 2M5

**Subject: RESPONSE TO THE GREEN LINE LRT UPDATED ALIGNMENT
(MAY 12, 2020)**

Your Worship and Members of Calgary City Council,

I am a 25 years of Calgarian, having lived in Travois Cres NW for 8 years since 1990 and then moved to other communities, so I know very well about Calgary North, especially the Centre Street N.

After I visited the nice Green Line simulation demo of City website, I did have **big concerns** about Green Line North plan. On March 5, I attended the Green Line LRT Open House in Chinatown. All of the displays are professional with high quality; however, it shows only the Stage 1 from Downtown up to 16 Ave N. I left with several comments about the plan. Later, I joined the team's web presentation on May 20 that provided with quite detailed plan. I was disappointed as finding that the city keeps moving the direction as planned without considering many Calgarians' feedbacks and comments.

My opinion is: the Green Line North Plan shall be turned down completely! The soon, the better; no further wasting tax payers money on the planning and future project!

The reasons are abundant. Please carefully read the letters of **Chinatown BIA** and many community associations. Also, please pay special attention to an [Opinion Letter](#) that has given a well written objection to the Green Line North plan by **Barry Lester**, 45 years of transportation engineering experience in Canada and a member of an ad hoc citizens' committee, published on Calgary Herald, May 6. Severe **Covid-19** in Calgary and economy downturn is also another reason to cancel Green Line North Plan.

In addition, I have several opinions:

1. If looking at all existing LRT lines and the new extension projects in recent years, all were well planned, designed and constructed except Green Line North. They all didn't occupy a single main traffic street or boulevard, but Green Line North is

occupying Centre Street N and greatly sacrificing motor vehicle traffic, pedestrian walking and street side business. This is wrong!

2. Green Line North plan appears an amateur idea or simply a not well-thought political promise for voters. Stage 1 is just part of Green Line North LRT plan. It shall not be started to go ahead for its detailed design process and construction without well review and approval of overall Green Line North LRT plan.
3. There is no alternate road that could replace Centre Street for main traffic if it is occupied by Green Line LRT. A "nearby" road westward is 4th Street N that is ended at 10 Ave N (an internal community road) at south and merged into Centre Street at its north end at 72 Ave NE. After merging, there is only Center Street alone; no more alternate road going north. Another "nearby" road eastward is Edmonton Trail N, that is a one lane two-way road, ended at McKnight Blvd. Both roads could not be used as regular routes for daily traffic, except occasional detour.
4. Centre Street N is a main traffic road. From downtown up to 20 Ave N it has a lane direction conversion arrangement, so that there are 3 lanes to downtown in mornings and 3 lanes out of downtown in evening. Even if building LRT on Centre St. they could be reduced to at most 2 lanes; not 1 lane. The current design places only one lane.
5. Adding and keeping a **BRT from downtown up to 130 Ave N**, instead of LRT of Green Line N, is a better, economical option. The BRT running on current Centre Street N would not increase much traffic, while providing convenience to the residents of north communities, incorporated with local buses. Why must go LRT scheme for the North? LRT is just a transportation means, with high costs of construction and maintenance. It couldn't work well if no large parking lots and local buses. Its riding load rate couldn't be high to justify and support the LRT scheme.
6. For 30 years, the Centre Street N has a **bottleneck spot** that is at end of Centre Street N before approaching Beddington Trail N. There is a road barricades to stop cars driving through. This is very inefficient arrangement for north residents, who have to turn around and drive 10 more minutes more on roads. Of course, BRT is allowed to drive through the barricades. Why don't remove the bottleneck and widen the road to allow cars to drive through there too. Maybe this can offer benefits and convenience to those north residents, no much less than building a costly Green Line North.

If the City Council insists on Green Line North plan by ignoring and turning down all of objections from Calgary citizens, I still would like to suggest to move the s-bridge cross the Bow River to east side of the existing Central Bridge, and use **elevated** structure alone **1st Street SE**, rather than the current tunnel design under 2 Street SW.

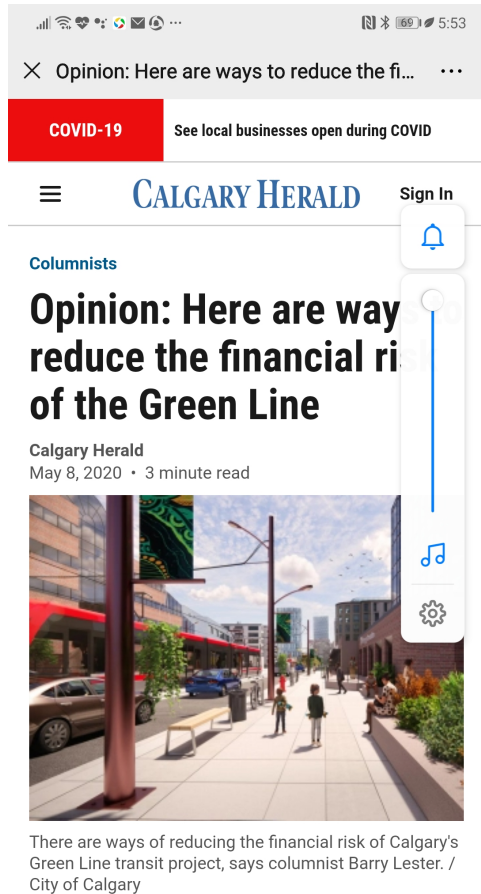
You may contact me for further information and discussions.

Regards,

Steven Jin, M.Sc. P.Eng.
403-554-3612

Cc. Terry Wong of Chinatown BIA and Ed Tam of CCCA

Barry Lester's Opinion Letter posted on Calgary Herald on May 6, 2020:



The sign warns us to "Stop, Look and Listen" before crossing the railway tracks.

Opinion: Here are ways to reduce the financial risk of the Green Line

<https://calgaryherald.com/opinion/columnists/opinion-here-are-ways-to-reduce-the-financial-risk-of-the-green-line/?from=groupmessage>

Barry Lester has 45 years of transportation engineering experience in Canada and a member of an ad hoc citizens' committee.

I fully support his valuable opinions and analyses.

Steven Jin

**Public Submission**

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* First name Dirk

* Last name van Wyk

Email dirk@makedovisibles.com

Phone 4032837665

* Subject Green line support

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
I support the construction of the Green Line



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* First name Baher

* Last name Binesh

Email baher.bin@gmail.com

Phone 4035609354

* Subject Centre Street above Surface routing

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Hi,

As a resident of Crescent Height, I believe having the train above ground on the Centre Street is not a permanent solution. While this can cost less for the time being, in long run it cause several issues. For example, Centre street is one of the few ways to go in & out of Calgary downtown. By removing two lanes from the street, the traffic will be limited to just two lanes which is obviously inadequate since during rush hour even three line from each side cannot handle the traffic load. As its a plan for a busier Calgary in future, I see a big issue with it even right now. The plan is also add lights with possibility of turning left that can limit the traffic even more as there will be only one lane for north and south side of the street. Another problem with that is the safety of Crescent Height community as by having stations above ground, we will see many more people come and go in the area that affect peoples safety. The other issue with above surface train is pedestrians safety to walk through the street and also with larger commute in the area, its not safe for children to be around the Centre Street anymore.

ISC:

1/1

Unrestricted

May 29, 2020

10:00:19 AM



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* First name Gil

* Last name McGowan

Email afl@afl.org

Phone

* Subject AFL Letter to Calgary City Council RE Procurement of the Greenline Light Rail Transit Line - May 29,

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)
Sent on Behalf of Gil McGowan, President of Alberta Federation of Labour



May 29, 2020

Mayor Nenshi & Council Members
The City of Calgary
800 MacLeod Trail
Calgary, AB T2P 2M5

Dear Mayor Nenshi & Council Members:

RE: Procurement of the Greenline Light Rail Transit Line

The Green Line is Calgary's next Light Rail Transit (LRT) line and will nearly double the size of our current LRT network.

In the City of Calgary's consultation, they refer to The Green Line as "more than just a transit project; it will improve the way we live, work, play and move in the city by helping to create sustainable, livable and vibrant communities".

This is also true for how we procure this important piece of community infrastructure. Investment of public dollars should provide a public benefit.

The public procurement process for infrastructure should ensure that Alberta workers, businesses, and communities will benefit from the money being spent. This means adopting a stronger public procurement policy for the project, which would include binding Community Benefit Agreements.

Community Benefit Agreements have been used in many provinces and states to ensure local workers and communities benefit from public procurement, and to ensure better training and inclusion of women, Indigenous workers and other less represented groups in the trades.

Where possible government procurement should utilize local workers and local materials (Canadian sourced products and materials).

The building of the Green Line LRT is an opportunity for the City of Calgary to do just that. We encourage you to ensure public benefit when spending the public dollars to build this crucial community infrastructure.

Sincerely,

A handwritten signature in black ink, appearing to read "Gil McGowan". The signature is stylized with a long horizontal line extending to the right.

Gil McGowan
President
Alberta Federation of Labour

**Public Submission**

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✓ * I have read and understand that my name, contact information and comments will be made publicly available in the Council Agenda.

* First name Ashish

* Last name Makin

Email ashishmakin@gmail.com

Phone 4039710969

* Subject Greenline - Please Save the Park!

* Comments - please refrain from providing personal information in this field (maximum 2500 characters)

Respected Sir/Madam,

Please don't take a decision that spoils the tranquility of the prince's island park. The decision of taking the greenline on a bridge over the prince's island park will be a disaster for downtown.

Please keep long time vision in mind before making a decision that might only give you a short term financial relief.

Please don't spoil a beautiful park where children love to play and spend time.

Please be mindful of the impact a train bridge will have on the community and park life.

Thank You!



Guardian South Corporation
1188-3rd St., SE
Calgary, AB, T2G 1H8

27 May 2020

COMMENTS TO THE CITY'S GREENLINE COMMITTEE ON THE GREENLINE PROPOSAL

The Guardian South Condominium Corporation has the following comments:

- 1) Providing it meets current cost estimates and cost sharing commitments, Guardian South supports the alignment currently proposed by the City's Administration. It would bring great value to residents in this part of the Beltline in terms of convenience and connectivity. In addition, it should result in reduced traffic during events and thus improve the quality of life in the East Victoria Park region.
- 2) We note the latest alignment includes a crossing over the Elbow river after which the Greenline would track beneath 11th Ave from 7th St SE to 2nd St SW using a "cut and cover" approach rather than a boring a deep tunnel, in order to save costs and improve ridership experience. We support this approach from a financial perspective and also because it saves travel times for all while minimizing unintended interactions between pedestrians, vehicular traffic and the LRT in this densely populated and trafficked part of the city.
- 3) We support the location of a station between 4th and 5th St SE. Given the proximity to the Stampede area and future event centre, Guardian South strongly supports sensitive planning and development for the area around the station to meet livability requirements in concert with providing an energetic public realm. That is, the area must function both as an active meeting place and conduit for large crowds yet simultaneously provide an inviting public realm for local residents and enable and encourage local businesses to flourish during periods between events. Together with the expected construction of a new 5th St SE roadway and underpass beneath the CP Rail line, we foresee both challenges and opportunities in realizing this vision, and look forward to reviewing specific plans when available.
- 4) Similarly, the proposed station at Centre St must also be thoughtfully designed to provide Greenline passengers safe and convenient access to streets and avenues in all directions two blocks away from the footprint of the station, and particularly including 1st St. SW.
- 5) Guardian South recognizes Greenline construction will create significant hardships to residents and businesses along 11th Ave. It is expected we will contribute to, and comment upon, the details of road modifications and closures required during that period.

Thank you for your time.

GC (Geoff) Granville

President, Guardian South Corporation (CNN 1611563)

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Green Line Program Governance

EXECUTIVE SUMMARY

Ensuring that the optimal governance structure is in place to secure successful delivery of the Green Line Program in accordance with the Council-approved vision, outcomes for Calgarians and guiding principles included in the Green Line Committee's Terms of Reference has been identified as essential by Council, the City Auditor and the Technical and Risk Committee (TRC). The members of the TRC are external industry project specialists in the areas of governance, procurement, commercial strategies, stakeholder management, design, and construction who were retained by the General Manager, Green Line to assist him and the Program's Executive Steering Committee (ESC) in undertaking due diligence, identifying risks and developing effective risk mitigation strategies and engaging in preventative risk management activities to ensure the successful execution of the Green Line Program on time and on budget.

On 2019 July 29, Council directed Administration to have the members of the TRC conduct an independent peer review of various matters including the suitability and adequacy of the governance of the Program. This review is now complete and the TRC's findings as outlined in Attachment 2 to this report have been shared with the General Manager, Green Line and the ESC which is the Administrative committee currently overseeing the Green Line Program. The ESC is chaired by the City Manager and ESC members are the General Manager, Green Line, the Acting General Manager, Transportation, the Delivery Director for the Green Line Program, the Chief Financial Officer, the City Solicitor and General Counsel, the Acting Director of Calgary Transit, and the Director of Supply Management.

This report outlines the findings of the TRC's governance review and the rationale for Administration's concurrence with the TRC's recommendation that Council establish a new Council Committee, the Green Line Program Governance Board (the "Board"), to govern and oversee the successful delivery of the Green Line Program. Administration also supports the TRC's recommendation that Council appoint to the Committee the City Manager and individuals with a range of expertise in areas such as governance, leadership, procurement, engineering design, construction, project management, and P3 transactions in respect of projects comparable to the Green Line Program. Attachment 3 to this report contains the proposed text of a bylaw, the passage of which would result in the creation of a Board with a clearly defined mandate, powers, duties, functions, and accountabilities.

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Green Line Program Governance

ADMINISTRATION RECOMMENDATION:

Administration recommends that the Green Line Committee recommend that Council:

1. Give three readings to the proposed Bylaw, the Green Line Program Governance Board Bylaw (Attachment 3), to establish the Green Line Program Governance Board (the "Board") as a Committee of Council responsible for governing and overseeing the successful delivery of the Green Line Program;
2. Appoint the City Manager to serve as a member of the Board; and
3. Amend Section 2, the Mandate of the Green Line Committee, in the Green Line Committee Terms of Reference by:
 - replacing "Receive quarterly reports from the Green Line Project Team" with "Receive quarterly reports from the Green Line Program Governance Board" and
 - deleting "Receive quarterly reports from the Green Line Technical and Risk Committee."

PREVIOUS COUNCIL DIRECTION / POLICY

Previous Council direction in regard to Green Line Program governance is included in Attachment 1.

BACKGROUND

The \$4.903 billion Green Line Stage 1 Program will be the largest infrastructure investment ever made by The City of Calgary. It is critical to ensure that the appropriate governance framework is in place to enable delivery of the Program in accordance with Council's vision on time and on budget.

As requested by Council on 2019 July 29, the TRC conducted an assessment of the existing Green Line Program governance structure, and of governance structures utilized in various mega projects around the world. On 2019 February 21, the TRC advised the Green Line Committee that it was both essential and an optimal time to enhance the Program's current governance structure given that the Program was moving from planning and design to procurement and delivery. Consideration of the TRC's review and recommendations has resulted in Administration's recommendation in this report that while Council retains responsibility for determining the scope, schedule and budget for the Green Line Program, Council should also:

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Green Line Program Governance

- establish a new Council Committee, the Green Line Program Governance Board, mandated to govern and oversee the successful delivery of the Program;
- appoint to the Board individuals with a range of expertise in governance, leadership, procurement, engineering design, construction, project management, and P3 transactions in respect of projects comparable to the Program; and
- ensure alignment with corporate financial and other matters and collaboration between the Board, the Green Line Program Team and the Administrative Leadership Team (ALT), and include the City Manager as a Board member.

To support the Board in its due diligence activities on behalf of The City, effective at the Board's first meeting, Administration is recommending that the TRC report to the Board rather than to the Green Line Committee. To ensure that the Green Line Committee continues to fulfil its mandate, Administration is recommending that the new Board provide quarterly reports on the Program to the Green Line Committee.

The text for a proposed bylaw clearly outlining the Board's mandate, roles, responsibilities, and accountabilities is attached to this report as Attachment 3.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Governance Audit – City Auditor

The objective of the City Auditor's 2019 audit of Green Line Program governance was to assess the effectiveness of the then current Program governance framework (Report AC2019-0353 - "Green Line Project Governance Audit"). The report identified that the ESC was the key body within the Green Line governance structure responsible for providing strategic direction and oversight and that the Green Line Department was responsible for the delivery of the Green Line Program.

The audit identified concerns with a lack of clarity around roles, responsibilities and associated accountabilities, decision making, and risk identification. Due to the historical changes in the composition of the Program team, along with the transition of the Program from planning and design to procurement and delivery, there has been a blurring of roles and responsibility and the decision-making structure has not been well defined.

The City Auditor determined that clear lines of decision-making authority are needed throughout the entire Program team from the governing body and senior leadership across to the engineers and supporting services to enable efficient and effective decisions to be made by the appropriate person at the appropriate time. For a Program of this magnitude and complexity decisions must be made in an expedited manner by experienced personnel to avoid unnecessary delays that can increase the risk and ultimately the total cost of the Program.

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Green Line Program Governance

Governance Review - TRC

TRC's Assignment

Administration was directed by Council on 2019 July 29 to request that the TRC assess the "suitability and adequacy of the governance and resourcing of the Project."

Investigation

In conducting its assessment, the TRC reviewed a July 2019 draft document titled "Green Line Project Governance," Administration's presentations to the SPC on Transportation and Transit and agendas and minutes of ESC and Green Line Project Senior Leadership Team meetings. In addition, the TRC met with the General Manager, Green Line, the Delivery Director for the Green Line Program and members of the ESC to discuss governance.

The TRC's assessment of governance focused on two questions:

- Are there opportunities to improve the existing governance structure?
- What are the alternatives to the existing governance structure?

Conclusions

In its deliverability report, the TRC noted that it defined "successful delivery" as "a program that meets or surpasses the program objectives including safety, budget, schedule, and quality" and concluded that immediate action on several matters (including governance) was required to ensure project success. Overall, the TRC concluded that the Green Line Program Team had been confronted with many concurrent challenges including:

- managing Segment 2 program planning involving the analysis of various options and frequent engagement with stakeholders including members of the public, businesses and Council members;
- preparing and validating iterative cost estimates for the various planning options being considered;
- preparing complex contract documentation coupled with technical engineering design to enable procurement commencement for the first two major contracts (Segment 1 and Light Rail Vehicles);
- active construction of enabling works including complex utility relocations and projects involving both Canadian National and Canadian Pacific Railways;
- securing the professional expertise, project management processes and systems required to execute the multifaceted tasks of managing the procurement and delivery of a mega project; and,
- managing relationships and formal funding commitments with Federal and Provincial funding partners;

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Green Line Program Governance

In 2019 July, the procurement strategy for the Green Line Program was changed from one design-build-finance (DBF) contract to a strategy of multiple large contracts with discrete scopes, resulting in some additional complex matters for the Program Team to deal with. While the change in procurement strategy was recommended as a way to de-risk the Program in one respect (by creating smaller projects within the Program that would be more attractive to the market), it added further complexity for the Program Team to address given that, instead of managing one large procurement including one set of Project Agreements and related documentation, there are now three sets of Project Agreements and related documents requiring three RFQ (Requests for Qualification) and RFP (Requests for Proposals) processes. This requires that the Program Team manage owner interfaces for multiple contractor teams and interface risks associated with a physical scope that crosses multiple major contracts.

A scan of the contractor market revealed that contractor teams generally active in delivering large projects were becoming less receptive to accepting the heightened profile of cost and scheduling risks that owners had historically been successful in transferring to them. Contractor teams are now looking for projects to be de-risked to a certain extent prior to the commencement of procurement of the major contract. The enabling works projects currently underway for the Green Line Program (designed to, for example, see utilities requiring relocation be moved prior to entering into large construction contracts) are intended to mitigate that concern. In the current market, contractors that typically bid on transit projects are most interested in projects that are less than \$2.0 to \$2.5 billion. While the 2019 July change in contracting strategy introduced new risks, an offsetting benefit is that contractors may be more motivated to participate in the Green Line Program procurements.

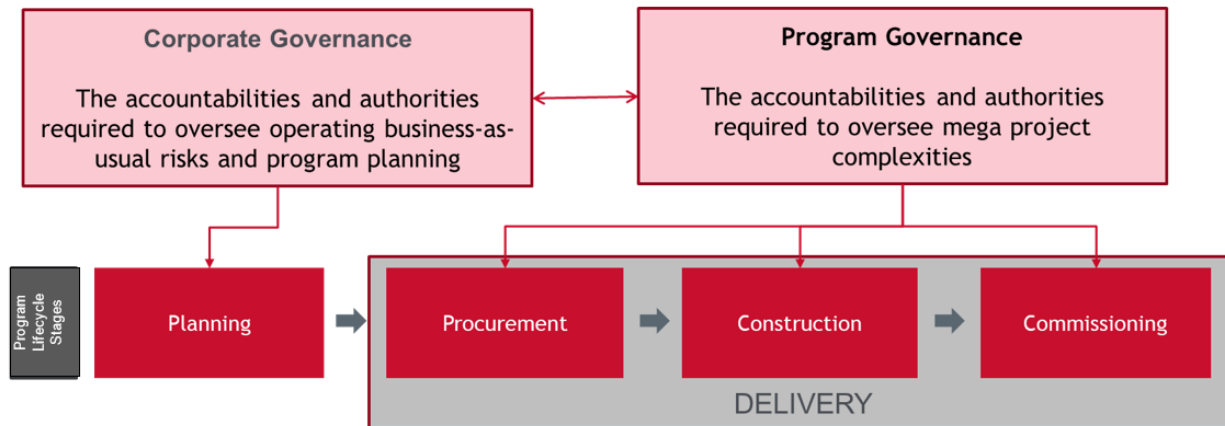
The TRC's view is that it is appropriate and necessary to review mega project governance from time to time and move to new governance structures at various project stages. Given the concurrent challenges noted above, it is essential and in fact the optimal time, to enhance the Green Line Program's governance.

The RFP for Segment 1 is expected to be released in late July in 2020. At that time, the Program Team must successfully transition to focus on management of that procurement, completion of the enabling works program and preparation for the management of the construction of Segment 1. The RFP for the light rail vehicles (LRVs) is expected to be released in early June of 2020. The Program Team must also shift its focus to the management of the procurement of the LRVs along with the interface of that procurement with Segment 1. These two procurements and the construction of Segment 1 and the enabling works can be described as the "Delivery Phase" of the Green Line Program. The TRC determined, and Administration agreed, that it was important to assess the governance structure in the context of meeting the challenges of the Delivery Phase. Concurrent with the Program transitioning into the Delivery Phase in 2020, the planning of Segment 2 must be completed for transition into the Delivery Phase in early 2021.

The TRC's analysis and recommendations are outlined in Attachment 2 to this report.

Overall, the TRC concluded that to successfully execute on a mega project, it is essential to ensure a clear understanding of "Corporate Governance" and, "Program Governance" and the relationship and distinctions between them. The TRC defined "Corporate Governance" and, "Program Governance" as follows relative to the lifecycle of the Program.

Green Line Program Governance



From a governance perspective, the TRC's recommendation is that having the City Manager serve as a member of the proposed Program Governance Board (the Board) is crucial in ensuring a positive and collaborative relationship between Council, the Board, the Program Team, and the members of The City's Administrative Leadership Team (ALT). The City Manager will be able to assess where the Program Team needs to adhere to corporate policies, procedures and processes that govern the provision of all City services, and where alternate policies, procedures, and processes are required to capitalize on the opportunities presented by, and manage the risks associated with the Green Line Program.

In anticipation of managing the Delivery Phase risks while completing the planning and design work required for Segment 2, the Program Team's organizational structure has already been redesigned to more clearly allocate resources between these two important workstreams. The TRC believes that Council's approval of the Segment 1 and 2 alignments in Report (GC2020-0583) is required to identify and attract internal and external human resources sufficient to successfully deliver the Green Line Program.

The TRC's view is that to enhance the confidence of taxpayers, funders and stakeholders in The City's ability to successfully deliver the Green Line Program, ensuring effective program governance by individuals experienced in projects similar in magnitude to the Green Line Program is required.

Currently, the ESC is responsible for oversight of the Program. As noted earlier in this report, the ESC is comprised of some of The City's most senior leaders, all of whom have deep experience in the delivery of public service in addition to their individual professional and technical expertise. However, these leaders have a myriad of responsibilities and accountabilities and are required to manage the most important and complex initiatives and issues. The TRC believes that for the Green Line Program governance model to be successful, those accountable for governing and overseeing the successful delivery of the Green Line Program must have both sufficient time and similar program expertise to provide this oversight.

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Green Line Program Governance

ESC members are now also having to deal with the significant implications of the COVID-19 pandemic and its impact on the corporation and Calgarians. The TRC believes that it would be an optimal time for Council to establish a Board singularly focused on ensuring the successful delivery of the Program and having strong ties, through the City Manager, to all ALT members and the Director of Calgary Transit and Director of Supply Management.

The TRC's view is that the following are the attributes of effective governance required in the Green Line Program:

Accountability (Focus)	Accountability must be unambiguous and ensure there is absolute focus around managing Project risk and meeting Project objectives.
Authority (Autonomy)	Authority must be delegated to the Project leadership and they must have reasonable autonomy from public sector operating environment to make decisions.
Alignment (Culture & Policies)	Alignment of the culture and policies must be around the Project and not the operating environment. These needs will change through the Project lifecycle.
Disclosure (Transparent)	Disclosure of information must be transparent to meet the needs of the public whilst protecting the commercial confidentiality required to manage risk. And the Project leadership must proactively and frequently disclose changes in major project risks.

* UK Department of Transport – Lessons from transport for the sponsorship of major Programs

Given this, following an analysis of governance structures used for comparable programs in various countries, the TRC assessed the applicability of three frameworks to govern and oversee the Program:

- implementing enhancements to the current governance framework;
- recommending that Council establish a new Committee of Council, the Board, to govern and oversee the Program; and
- the creation of a City wholly owned subsidiary with an independent Board to govern and deliver the Green Line Program.

Enhancing the Current Governance Framework

The TRC concluded that taking further steps to enhance the current Green Line Program governance framework may result in marginal improvements to overall governance but given all the responsibilities that ESC members have, will not likely be sufficient to deal with the real challenges of the Delivery Phase. The TRC noted that although other governments have managed comparable projects with similar internal governance structures, those governments typically operate in jurisdictions that have strong and experienced centres of technical and management expertise (such as Infrastructure Ontario and Partnerships BC) that play strong supporting roles in governments' execution of projects.

Green Line Program Governance

Creating a Wholly-owned Subsidiary

A wholly-owned subsidiary would be an effective governance framework. Given the pressure on the delivery of the Green Line Program, TRC and Administration concluded that there is insufficient time to implement a wholly-owned subsidiary. The Program Governance Board Framework as described below should deliver equivalent benefits.

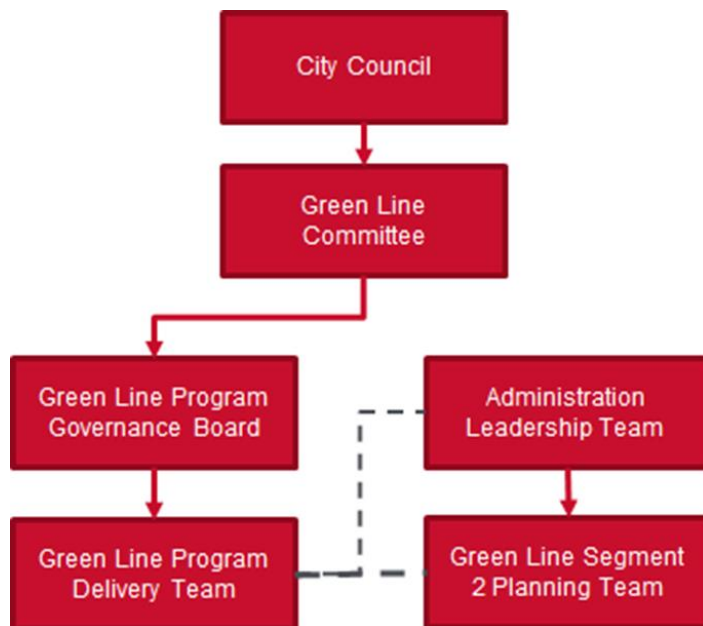
Establishing a Program Governance Board

Some jurisdictions, including British Columbia, when delivering projects comparable in importance, complexity and magnitude to the Green Line, have mitigated project risk by creating governance frameworks that featured boards with directors who are independent qualified professionals with significant mega project delivery experience and overall governance experience. Specifically, the Capital Regional District (CRD) delegated through a bylaw the authority and accountability for delivering a complex \$775 million wastewater treatment program to a non-corporate Commission of the CRD. A dedicated Project Board is accountable for the delivery of that program.

As further described below, similar to the CRD Commission, the proposed Board would operate with a Council-approved mandate defined in a bylaw that would clearly outline authorities and accountabilities delegated to the Board. The individuals serving on the Board would be appointed by Council based upon an assessment of their competency, capacity and commitment to serve on the Board.

Governance Framework

The figure below illustrates the proposed governance framework:



Note: Dotted line denotes communication/collaboration as required.

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Green Line Program Governance

Bylaw to Create the Green Line Program Governance Board

The proposed bylaw text attached to this Report creates a new Committee of Council, the Green Line Program Governance Board. It defines the respective responsibilities of Council and the Green Line Committee, the Board, and Administration and prescribes the Board's mandate to govern and oversee the successful delivery of the Program.

Council and Green Line Committee of Council

Council continues to retain decision making authority over:

- Scope: alignment, station locations, and guiding principles (as identified in the Green Line Committee Terms of Reference);
- Budget: capital and operating budgets for the Program and financing;
- Schedule; and
- Real-estate matters.

Council will continue to receive audit and land reports and recommendations from the Green Line Committee on matters within the Green Line Committee's mandate.

The Green Line Committee will receive quarterly reports from the Board and will continue to consider elements of Segment 2 planning and make recommendations to Council accordingly. In order to assist the Board with its due diligence and risk management responsibilities, the TRC will report to the Board rather than to the Green Line Committee.

It is important to note that this proposal is not a change to Council's typical role in procurement and delivery of capital projects, as Council has always delegated responsibility to Administration to prepare procurement documents, conduct procurement processes and make awards, however, it is a change in the sense of having the Board make these awards instead of Administration.

Council will appoint the Board chair and Board members who are individuals with expertise in areas such as governance, leadership, procurement, engineering design, construction, project management, and P3 transactions in mega projects comparable to the Green Line Program. Recruitment for Board members for Council's consideration will begin after the bylaw is passed.

The City Manager will be a permanent member of the Board and the only member of Administration on the Board. Members of Council will not be members of the Board or ex-officio members of the Board, but will remain members of the Green Line Committee.

Together, Council and the Green Line Committee will hold the Board accountable for the mandate the Board is given in the bylaw and for achievement of the Green Line Program vision and outcomes for Calgarians, as outlined in the Guiding Principles and Goals contained in the Green Line Committee's Terms of Reference.

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Green Line Program Governance

Delegation of Authority to the Board

Authority is delegated to the Board to ensure that Council's Green Line Program vision is achieved on time and on budget. The mandate of the Board is to oversee and ensure best practices are implemented by the Green Line Program Team with respect to the:

- development of procurement documents and coordination with business units;
- construction and implementation of the Program in a manner consistent with estimates, budgets, and plans approved by Council;
- management and execution of obligations arising under contracts associated with the Program;
- protection of the integrity of the Program procurement processes in accordance with applicable law and trade agreements to ensure a fair, open, and transparent procurement processes, including avoidance of conflicts of interest;
- receipt and review of reports from an independent fairness monitor;
- evaluation of submissions in response to RFQs and RFPs issued for the Program, including development of the evaluation process and the recommended "short-list";
- management of any scope changes to the Program;
- management and oversight of the implementation of the Program and The City's contractual obligations with regard to the Program;
- management of contractual interfaces;
- receipt, review, clarification and approval of invoices in respect of the Program;
- management of delays and project schedules;
- assessment of whether substantial completion of the work under the project agreements has been achieved;
- assessment of whether Program contracts are being performed in accordance with their applicable contractual terms;
- management of communications and public relations (including as required by the funding agreements)
- Green Line Program Team's reporting relationship to the Administrative Leadership Team; and
- the acquisition and disposition of land required for the Program.

In order to achieve the above mandate, the Board will be provided the authority to allocate Program funds made available under the Program budget approved by Council, oversee the implementation of information technology, project management and document management systems compatible with City systems, and approve the final project agreements and recommend them for execution to the City Manager and City Clerk. The Board will also be provided authority to review and approve the recruitment, hiring, compensation and management of the Program's senior executive and the structure and composition of the Program team, including establishing a compensation structure, evaluation criteria, and recruitment process to recruit and/or retain skilled staff for the Program in a manner that may vary from City policies.

The Board will continually monitor the affordability of the Program and advise Council if material changes to scope, schedule, or budget are required. The Board will be obligated to comply with

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Green Line Program Governance

all Council policies and will hold regular meetings which will be open to the public except for those portions of the meetings dealing with confidential or commercially sensitive matters.

The ESC was largely comprised of a subset of ALT members. The ALT will take over ESC's responsibilities in respect of efficient decision making on corporate wide matters, such as corporate wide financial impacts and corporate cross-operational impacts. For the purposes of considering Green Line Program matters, the Director, Supply Management and the Director, Calgary Transit will attend ALT. The City Manager, as a permanent member of the Board, will exercise his discretion in the application and interpretation of Administration Policies if there is a question in regard to whether an Administration Policy (or portions of it) applies to the Program.

The objectives of the bylaw are to enable Council and the Green Line Committee, the Board, and administration to work collaboratively to enable successful execution of the Program for all Calgarians.

Stakeholder Engagement, Research and Communication

Calgarians have emphasized the need to carefully manage risk throughout the planning, design, procurement, and delivery of the Green Line Program. Council, the City Auditor, the City Manager, and the General Manager, Green Line have all recognized the need to ensure an optimal governance structure to oversee the successful delivery of the Green Line Program on time and on budget and in accordance with the Council-approved Program vision, outcomes for Calgarians and guiding principles outlined in the Green Line Committee's terms of reference. On 2019 July 29, Council directed Administration to request that the TRC conduct an independent peer review of the suitability and adequacy of current Program governance.

The result of the TRC's review and recommendations were shared with the ESC. ESC members' comments were very helpful in clarifying and crystallizing recommended roles and responsibilities as between Council, the Green Line Committee, the proposed Green Line Program Governance Board, the Green Line Program Team, and ALT, in ensuring that both the required linkages and distinctions between corporate and project governance were recognized and in ensuring a clear mandate and scope for the proposed Board as outlined in the attached proposed bylaw.

Strategic Alignment

The Green Line Program Team is executing on Council's desire to advance the Council-approved RouteAhead transit program and deliver the Green Line Program as noted in the section headed, "Stakeholder Engagement."

Social, Environmental, Economic (External)

Improved governance will support the successful delivery of the Green Line Stage 1 Program and ensure the benefits contemplated by the Program overall.

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Green Line Program Governance

Financial Capacity

Current and Future Operating Budget:

The recommendations in this report do not impact the current and future operating budget for the Green Line Stage 1 Program.

Current and Future Capital Budget:

This report has no impact on the \$4.903 billion capital budget for the Program.

Risk Assessment

The risks associated with not implementing an optimal governance framework are significant. The Administration and TRC are of the view that a change in the current governance framework is required to ensure that the Green Line Program will be successfully delivered.

There are however some risks associated with implementing the proposed Green Line Program Board. These risks are identified and addressed in Attachment 2 (Program Governance Board Risk Slide, page 28), and mitigation measures have been considered. This governance framework requires a high level of collaboration between the Board, the Program Team and ALT. If this collaboration is not achieved, the ability to balance Program needs with City corporate needs will be undermined.

REASON(S) FOR RECOMMENDATION(S):

Council directed Administration to request that the TRC, among other matters, carry out an independent peer review of the “suitability and adequacy of the governance and resourcing of the project”. For the reasons outlined in this report the TRC has recommended that this is the optimal time for Council to adopt the recommendations included in this report and establish a new Committee of Council, the Green Line Program Governance Board, and assign to it accountability for the governance and oversight of the successful delivery of the Green Line Program.
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ATTACHMENT(S)

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| <ol style="list-style-type: none">1. Attachment 1 – Previous Council Direction2. Attachment 2 – Options Analysis and Recommended Options3. Attachment 3 – Draft Green Line Program Governance Board Bylaw Text |
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PREVIOUS COUNCIL DIRECTION

At its 2019 July 29 Combined Meeting, Council considered report TT2019-0811 titled “Green Line Q2 2019 Update”. The “Risk Assessment” section of that report indicated that Administration was establishing a Technical and Risk Committee (TRC) comprised of external industry project specialists in the areas of procurement, commercial strategies, stakeholder management, design, and construction to help mitigate risk associated with the Green Line Program. Council adopted the following motions in regard to the TRC’s consideration of governance:

- Recommendation 4: Direct Administration to have the Green Line Technical Risk Committee carry out an independent peer review of “the suitability and adequacy of the governance and resourcing of the Project”; and
 -
- 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 peer review over the previous quarter”.

On 2019 September 18, in the “Risk Assessment” section of report TT2019-1073 titled “Green Line Q3 2019 Update”, Administration advised the SPC on Transportation & Transit that the members of the TRC had been selected and on that date, the TRC provided its first report (TT2019-1076 titled “Green Line Technical Risk Committee – Q3 2019 Update”) to the Committee. Council considered both reports on 2019 September 30 and adopted the recommendation of the SPC on Transportation and Transit in report TT2019-1076 directing Administration to have the TRC return with a quarterly update no later than Q4 2019. Report TT2019-1076 included biographies for each of the TRC members (Chair Don Fairbairn and members Albert Sweetnam, Eric Tromposch, and Erich Neugebauer) and, as Attachment 2, the TRC’s terms of reference. The terms of reference indicate that the TRC’s work is divided into two modules, module 1 focusing on the independent review of specific work elements as defined in report TT2019-0811 and module 2 focusing on preventative risk management.

On 2019 December 17, in accordance with Recommendations 4 and 6 adopted by Council on 2019 July 29, Chair Fairbairn provided a verbal report to the members of the Green Line Committee outlining the TRC’s analysis of enhancements required to Green Line Program governance (GC2019-1594 titled “Technical and Risk Committee (TRC) Governance Review (Verbal)”). The Committee received his presentation for the Corporate Record.

On 2020 February 21, the Green Line Committee considered report GC2020-0246 titled “Green Line - Project Readiness Report”. This report included information about the project readiness plan developed jointly by the Green Line Program Team, the TRC and external experts supporting the Program in response to the conclusions and recommendations of the TRC in their project deliverability review which was completed in response to requests for the same by the General Manager of the Green Line Program and Council.

The deliverability review included a finding by the TRC members that the then current form of Program governance was ineffective for the delivery of a mega-program.

The readiness plan was intended to move the Green Line Program from its then current state of maturity, as reflected in the TRC members' findings, to the state of maturity required to successfully deliver the Program. The readiness plan was developed to:

- address gaps in program delivery identified by the TRC and required for successful execution of the Program; and
- support the successful completion of set-up, planning, procurement, and delivery activities required to be ready to go to market with minimal impacts to the overall schedule.

The Green Line Committee was advised that the development of the readiness plan was guided by five principles:

- Structure: Defining how the program and the definition of key deliverables (including scope, procurement documents and cost/schedule definition) will mature over time;
- Focus: Establishing a sequence and division of work to efficiently allocate resources, prioritize activities, reduce unnecessary change, and eliminate re-work;
- Accountability: Establish transparency and ownership of activities across the Green Line Program Team;
- Confidence: Re-establish confidence in the Program and the realization of the vision from within the team as well as from within The City organization, Council and other key stakeholders; and
- Discipline: Create discipline across the Program, reflected in the actions of every team member, to adhere to the plan and proactively support structure, focus, accountability, and confidence within themselves and their peers.

In regard to addressing the issues with governance identified by the TRC, the Committee was advised that one of the Green Line Program Team's 2020 goals was to secure Council approval for a final governance model, ensure that the governance model was fully operational and retain and recruit senior leadership and staff members with the right level of expertise who excel in a project environment.

On 2020 March 16, Council received report GC2020-0246 for the Corporate Record.

At its 2020 February 21 meeting, the Green Line Committee also considered report GC2020-0244 titled "Green Line Q4 2019 Update" and directed Administration to report back on 2020 April 23 with the final recommended Stage 1 alignment, business case, borrowing bylaws, What we Heard Report, and governance recommendations. The 2020 April 23 Green Line Committee meeting was cancelled due to the COVID-19 pandemic. This report fulfils the Green Line Committee's direction to report back with governance recommendations.

City of Calgary-Green Line

Governance - Options analysis and recommended option

Technical and Risk Committee

May 2020

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Purpose and Recommendation

Purpose

Purpose: The purpose of the governance assessment is to:

- Determine gaps in the current governance framework;
- Recommend improvements to enhance Program governance; and
- Assess the applicability of other governance frameworks utilized in comparable Programs.

This review considers:

- What governance framework will enable the Program to be successful?
- Are there significant implementation obstacles?
- Will a change in governance result in increased confidence in the Program?
- Can the Program attract and retain the leadership expertise required?
- What does success look like?

Governance Key Success Factors

Program governance effectiveness can be assessed around 4 key pillars*:

Accountability (Focus)	Accountability must be unambiguous and ensure there is absolute focus around managing Program risk and meeting Program objectives.
Authority (Autonomy)	Authority must be delegated to the Program leadership and they must have autonomy from public sector operating environment to make decisions.
Alignment (Culture & Policies)	Alignment of the culture and policies must be around the Program and not the operating environment. These needs will change through the Program lifecycle.
Disclosure (Transparent)	Disclosure of information must be transparent to meet the needs of the public whilst protecting the commercial confidentially required to manage risk. And the Program leadership must proactively and frequently disclose changes in major Program risks to the governing body.

* UK Department of Transport – Lessons from transport for the sponsorship of major Programs

Technical and Risk Committee Conclusions and Recommendation

Conclusions:

- **An improved internal governance framework** would be less likely than a Program Governance Board (the PGB) or wholly-owned subsidiary framework to result in a successfully delivered Program;
- **The PGB framework** was, in 2019, not eligible to be implemented as the Municipal Government Act (MGA) prohibited the required delegation of Council's authority. The MGA has since been revised to enable the required delegation of authorities by Council. The PGB is a proven framework that can be efficiently implemented;
- **A wholly-owned subsidiary framework** could be implemented, however, it is more difficult and time consuming to implement.

Recommendation:

Seek Council direction to:

- Implement a Program Governance Board framework; and
- Give three readings to the Bylaw that enables the establishment of the PGB.



Background

Mega Programs

Delivering mega programs successfully is a difficult undertaking. Mega programs are large scale, technically and operationally complex, that must achieve results that have not been realized before to support improved public services.

These programs are expected to not only be executed successfully but to sustain public support in a fluid political environment. They are expected to be delivered within budget and on schedule and, as they employ public money, to be right the first time.

The focus required to successfully deliver a mega program is often significantly under appreciated by both public sector and private organizations. Mega programs require:

- Clarity of vision and unrelenting focus;
- Unambiguous accountability and authority;
- Extraordinary leadership with experienced and dedicated teams;
- High performance culture based on trust and commitment;
- High level of transparency
- Committed corporate and political leadership; and
- Rigorous controls and risk management processes.

Mega Programs

- Mega programs within Canada and abroad are failing to achieve the benefits, cost estimates and schedules initially promised. Significant budget over-runs and schedule delays are becoming more common.
- Programs are becoming more complex and larger; and owners do not normally have the required experience and expertise to successfully manage them.
- Owners are required to retain more delivery risk as programs increase in scale and complexity and contractors are unwilling or unable to accept risks that they historically accepted.
- Public sector owners deliver a multitude of services to citizens but are not typically set up to deliver unique mega programs.
- Effective program governance is foundational to success and can and should change through the lifecycle of a program.

Current Situation

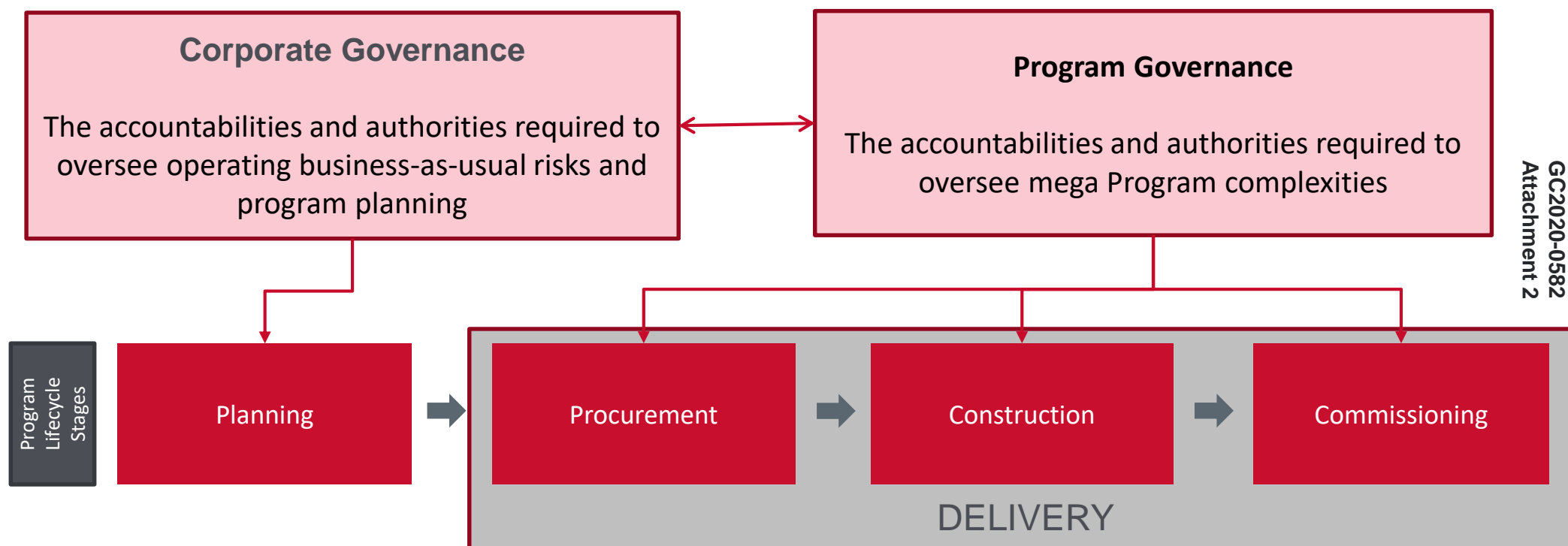
- Green Line is a mega program and the size and complexity of the Program is unlike anything The City has delivered before;
- There is evidence that trust and confidence in the successful delivery of the Program has eroded;
- Council along with the City Auditor has identified the need to assess governance; and
- The Green Line Program would benefit from:
 - Enhanced focus and accountability;
 - Additional leadership throughout the team with mega Program experience;
 - Enhanced transparency through additional Program reporting;
 - A Program culture that is focused on timely and focused execution of work;
 - Corporate policies and systems tailored, where required, for a mega Program; and
 - An organizational transition from planning to the delivery phase.



Program Governance Frameworks

Corporate vs Program Governance

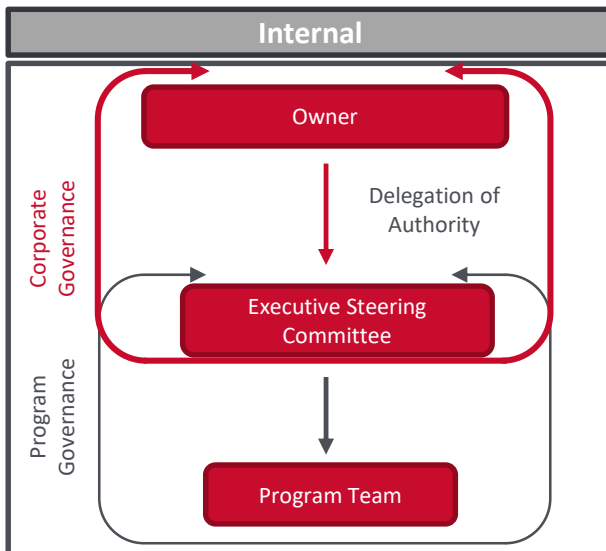
- Corporate governance focuses on planning and managing the risks of delivering services to taxpayers
- Program governance focuses on managing the risks of delivering large capital programs
- Stage Gates are required for City (Planning) and PGB (Program Delivery Gates)



Program Governance Frameworks

Program governance frameworks vary in structure and quality of execution. The frameworks can be described, from the perspective of a Program owner, as internal, hybrid and external.

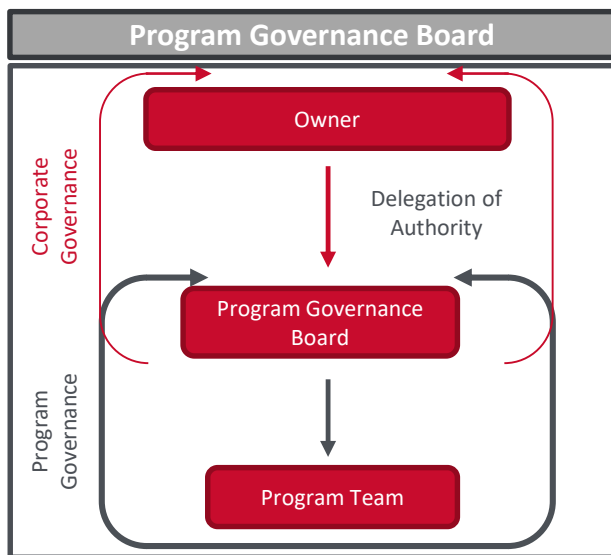
- Internal governance - can be effective if the owner is experienced with the delivery of mega Programs and has the culture and policies to support it.
- Hybrid structures - can be effective if the Program Governance Board has delegated authorities and is comprised of an independent board of qualified professionals.
- External structures can be more effective if the external board complies with appropriate directives of the owner, as shareholder.



Internal:

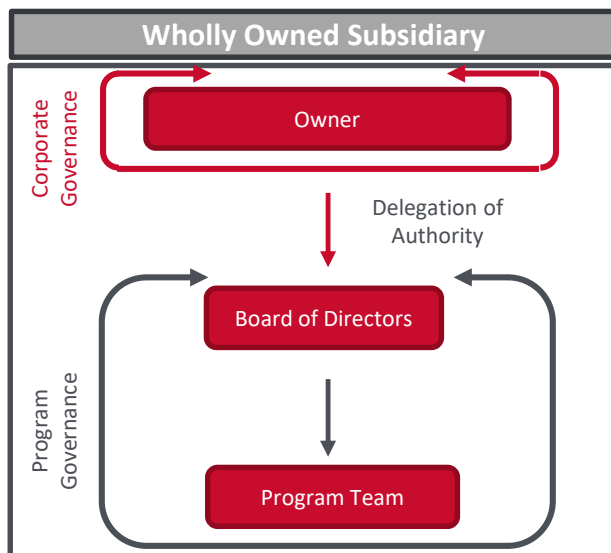
- Owner actively involved in framing scope and directing Program leadership throughout planning stage
- Owner typically is involved in construction/delivery stage
- Program steering committee comprised of internal corporate leadership
- Program delivered within existing corporate policy environment
- The existing Green Line Governance Framework is “Internal”

Program Governance Frameworks



Program Governance Board:

- Owner approves mandate and scope and is less active in procurement stage
- Owner becomes involved only when PGB declares, on a forecast basis, inability to achieve goals and objectives
- Program Governance Board, comprised of experienced and independent professionals, requires a clear mandate and delegated authority
- Corporate policy flexibility



Wholly Owned Subsidiary:

- Owner approves mandate and specifies measurable goals and objectives and Program performance
- Owner becomes involved only when WOS Board declares, on a forecast basis, inability to achieve goals and objectives
- Subsidiary board comprised of independent professionals
- Policies are established to support delivery of the Program

Mega-Program Precedents

- Large and mega programs within Canada are often delivered by public sector organizations with internal governance frameworks.
- In British Columbia, mega bridge and rapid transit projects are delivered externally through the Transportation and Investment Corporation (TI Corp).
- Also in British Columbia, the Capital Regional District is delivering a wastewater treatment program with a Program Governance Board
- Programs in Britain and Australia are often delivered with external, single purpose entities.

Internal	Program Governance Board	External
Canada: <ul style="list-style-type: none"> • Green Line • Evergreen Program • West Edmonton LRT • Eglington Crosstown • Confederation Line LRT • Hamilton LRT • Canadian Large Hydro Programs: Site C, Keeyask, Muskrat Falls 	Canada: <ul style="list-style-type: none"> • Capital Regional District (CRD) Wastewater Program • Valley Line Edmonton LRT (Procurement only) 	Canada: <ul style="list-style-type: none"> • TI Corp: Broadway Subway, Port Mann and Patullo Bridges • Canada Line ALRT • Montreal REM LRT International: <ul style="list-style-type: none"> • UK transit Programs: Crossrail, HS2, • Australia transit Programs: Canberra LRT



Assessment of Governance Frameworks

Governance Key Success Factors

Program governance effectiveness can be assessed around 4 key pillars*:

Accountability (Focus)	Accountability must be unambiguous and ensure there is absolute focus around managing Program risk and meeting Program objectives.
Authority (Autonomy)	Authority must be delegated to the Program leadership and they must have autonomy from public sector operating environment to make decisions.
Alignment (Culture & Policies)	Alignment of the culture and policies must be around the Program and not the operating environment. These needs will change through the Program lifecycle.
Disclosure (Transparent)	Disclosure of information must be transparent to meet the needs of the public whilst protecting the commercial confidentially required to manage risk. And the Program leadership must proactively and frequently disclose changes in major Program risks to the governing body.

* UK Department of Transport – Lessons from transport for the sponsorship of major Programs

Multi-criteria Analysis - details

	Internal City of Calgary	Program Governance Board CRD	External Wholly Owned Sub
Authority (Autonomy)	<p>Current</p> <ul style="list-style-type: none"> Authority is delegated to the administration however executing on this authority can be impacted by Council direction. Ability to attract and retain qualified management is limited by corporate HR policies. <p style="text-align: right;">✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> Difficult to change. Program managed within The City environment and under Council direction. <p style="text-align: right;">✓</p>	<p>Current:</p> <ul style="list-style-type: none"> Program Board has been delegated the authority to achieve the Program objectives and only return to CRD Board if the budget will be exceeded or schedule delayed. Program Board controls cost contingency CRD Board cannot interfere unless the Program Board fails to deliver within its mandate Program Board able to hire program executives and management at market compensation levels <p style="text-align: right;">✓✓✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> NA 	<p>Current:</p> <ul style="list-style-type: none"> Full authority is delegated to wholly owned subsidiary. Wholly owned subsidiary is able to hire executives at market compensation levels <p style="text-align: right;">✓✓✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> NA

- ✓ Needs improvement
 ✓✓ Acceptable
 ✓✓✓ Ideal

Multi-criteria Analysis - details

	Internal City of Calgary	Program Governance Board CRD	External Wholly Owned Sub
Account- ability (Focus)	<p>Current</p> <ul style="list-style-type: none"> • Lack of mega program experience at executive leadership level • Competing corporate and program priorities results in lack of focus. • Lack of clarity of role around management of Program risk • Ambiguity around vision and business case objectives • Desire for flexibility – decisions are often delayed and/or changed <p>✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> • City Manager to chair ESC • ESC has augmented skills with external advisors. • ESC members must dedicate significantly more time to oversee Program <p>✓✓</p>	<p>Current:</p> <ul style="list-style-type: none"> • The delegation of authority created through the CRD bylaws, ensured the Commission is highly accountable • Absolute clarity of role and singular focus to deliver established in the CRD bylaws • Independent, experienced professionals make up the majority of Program Board <p>✓✓✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> • NA 	<p>Current:</p> <ul style="list-style-type: none"> • Delegation of authority through shareholder letter ensures accountability • Board is independent from Council and The City operations • Board is populated primarily by private sector professionals • Absolute clarity of role and singular focus. <p>✓✓✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> • NA

- ✓ Needs improvement
- ✓✓ Acceptable
- ✓✓✓ Ideal

Multi-criteria Analysis - details

	Internal City of Calgary	Program Governance Board CRD	External Wholly Owned Sub
Alignment (Culture and Policy)	<p>Current</p> <ul style="list-style-type: none"> Corporate culture not aligned with Program culture Difficult to create a Program culture within the City corporate culture Certain policies not aligned with Program requirements i.e. HR <p>✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> Difficult to isolate and insulate the Program from the corporate culture. An inequitable culture could create tension with City staff Policies would need to be reviewed and revised to support the Program requirements <p>✓</p>	<p>Current:</p> <ul style="list-style-type: none"> Program environment isolated from corporate environment through delivery. Program commissioning phase demands collaboration between the Program team and Corporate operating team. Policies generally conform with CRD requirements but have been exempted as necessary Contract employees retained with market compensation <p>✓✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> Challenging to make improvements <p>✓✓</p>	<p>Current:</p> <ul style="list-style-type: none"> Full alignment internally around culture and policies <p>✓✓✓</p> <p>How to Improve:</p> <ul style="list-style-type: none"> NA

- ✓ Needs improvement
- ✓✓ Acceptable
- ✓✓✓ Ideal

Multi-criteria Analysis - details

	Internal City of Calgary	Program Governance Board CRD	External Wholly Owned Sub
Disclosure (Transparency)	<p>Current:</p> <ul style="list-style-type: none"> Reporting is improving in focus and detail yet requires continued improvement Too many problems get escalated due to lack of experience within Program team Difficulty balancing public disclosure requirements with sensitive commercial issues. <p style="text-align: right;">√√</p> <p>How to Improve:</p> <ul style="list-style-type: none"> Difficult to improve <p style="text-align: right;">√√</p>	<p>Current:</p> <ul style="list-style-type: none"> Structured and formalized public reporting Reporting transparent and aligned around Program objectives as well as cost and schedule. There are both public and closed meetings to balance the need for transparency and managing sensitive commercial issues. Reporting requirements established by the Program Board to test and confirm prudent oversight <p style="text-align: right;">√√√</p> <p>How to Improve:</p> <ul style="list-style-type: none"> NA 	<p>Current:</p> <ul style="list-style-type: none"> Full alignment around disclosure requirement. <p style="text-align: right;">√√√</p> <p>How to Improve:</p> <ul style="list-style-type: none"> NA

- √ Needs improvement
- √√ Acceptable
- √√√ Ideal

Assessment of Governance Frameworks

Multi-Criteria Analysis Table	Internal (City of Calgary)	Program Governance Board	Wholly Owned Subsidiary
Accountability	√√	√√√	√√√
Authority	√	√√√	√√√
Alignment	√	√√	√√√
Disclosure	√√	√√√	√√√

√ Needs improvement
 √√ Acceptable
 √√√ Ideal

Technical and Risk Committee Conclusions and Recommendation

Conclusions:

- **An improved internal governance framework** would be less likely than a Program Governance Board or wholly-owned subsidiary framework to result in a successfully delivered Program;
- **The PGB framework** was, in 2019, not eligible to be implemented as the Municipal Government Act (MGA) prohibited the required delegation of Council's authority. The MGA has since been revised to enable the required delegation of authorities by Council. The PGB is a proven framework that can be efficiently implemented;
- **A wholly-owned subsidiary framework** could be implemented, however, it is more difficult and time consuming to implement.
- **Recommendation:**

Seek Council direction to:

- Implement a Program Governance Board framework; and
- Give three readings to the Bylaw that enables the establishment of the PGB.

Improved Internal Governance

Existing Green Line governance **may** be improved by:

- Improving the capacity of ESC members by including third-party advisors;
- Establishing a strong and distinct Program delivery culture;
- Aligning compensation with market to attract and retain the leadership expertise required.

Given that it is likely that some changes are too difficult to implement, the internal governance framework **may not** deliver the advantages of an independent governance framework, including:

- Singular focus with unambiguous accountability and authority;
- High performance culture aligned with needs of the Program;
- HR policies that enable the attraction and retention of management expertise;
- Controls that align with the requirements of the Program; and
- Individuals experienced in Program governance.

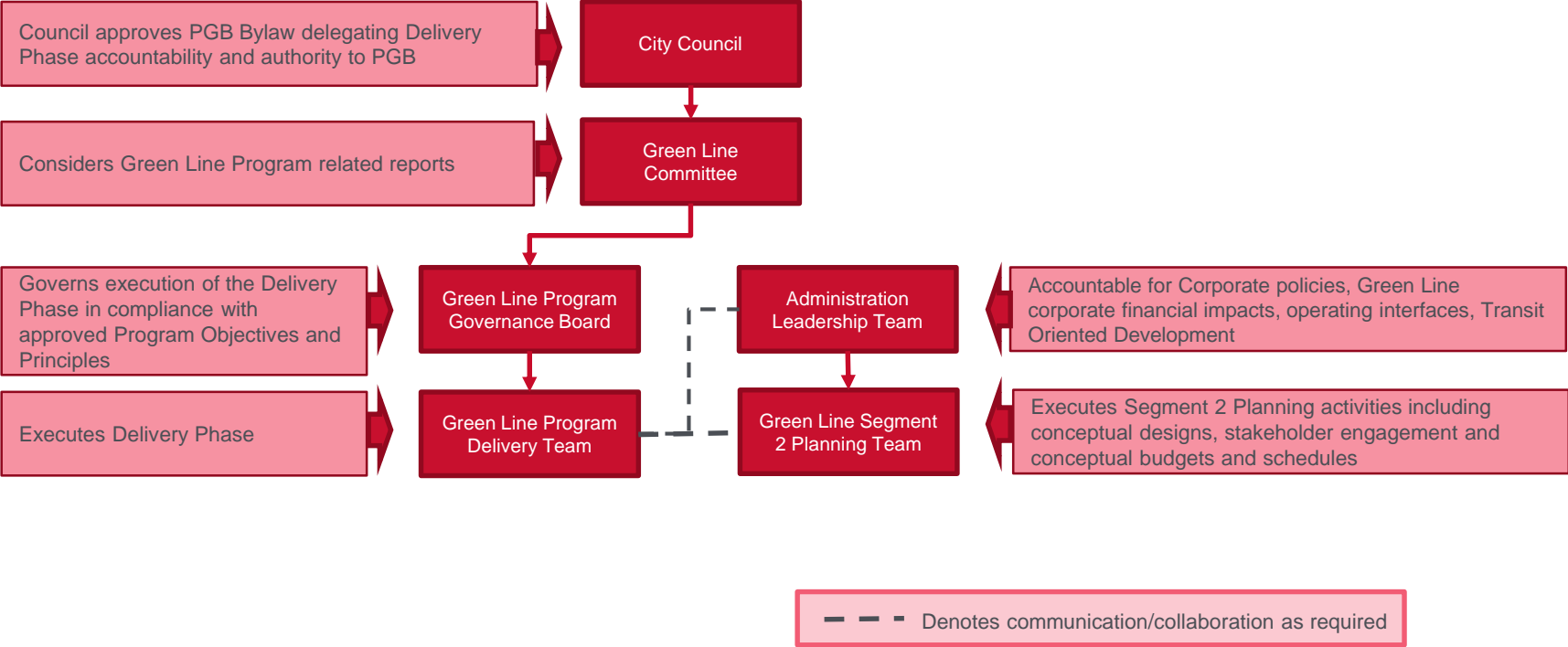


Program Governance Board

Program Governance Board Focus

- The PGB will deliver the Program in compliance with the overall objectives and principles established by Council.
- The PGB will be singularly focused on the delivery of Green Line Stage 1 for the duration of the Green Line delivery phase, with a planned handover to City transit operations within the first year of operations.
- The City will remain responsible for corporate policies, Bus Rapid Transit expansion, Transit Oriented Development and operating interfaces, and transit operations.

Green Line Governance Framework



Program Governance Board Risks

Transition Risks	Mitigation
<ul style="list-style-type: none"> Council does not approve PGB 	<ul style="list-style-type: none"> Seek input and identify the risk of continuing to proceed with the existing governance framework
<ul style="list-style-type: none"> External and internal stakeholders lose confidence due to lack of understanding of PGB framework 	<ul style="list-style-type: none"> Ensure merits of the PGB framework are clearly communicated including in the Bylaw
<ul style="list-style-type: none"> The transition to PGB delays Segment 1 RFP issuance 	<ul style="list-style-type: none"> Keep Program Delivery Team focused on RFP issuance deadline
Implementation Risks	Mitigation
<ul style="list-style-type: none"> PGB is unable to attract qualified members 	<ul style="list-style-type: none"> Engage a search firm
<ul style="list-style-type: none"> Program performance is inadequate under PGB 	<ul style="list-style-type: none"> Accountability and authority must be clear and focused and Program team must be motivated
<ul style="list-style-type: none"> Risk of non-compliance with procurement law and trade agreements 	<ul style="list-style-type: none"> PGB and Program Team subject to the same law and trade agreements
<ul style="list-style-type: none"> The PGB and City Administration required to coordinate interfaces: design, TOD, utilities relocation, commissioning 	<ul style="list-style-type: none"> Set up ALT to coordinate and manage the work between Program Team and The City
<ul style="list-style-type: none"> Unable to achieve the high level of collaboration required between PGB, ALT and Program Team 	<ul style="list-style-type: none"> Seek input from ALT early to address concerns



Next Steps (Transition Plan)

Next Steps

Upon approval of the governance framework, small working group led by the inaugural PGB chair and including the City Manager and the Program Director, will:

- Advise Provincial and Federal government of changes to governance framework;
- Develop a transition plan to concurrently implement PGB and Green Line activities; and
- Identify inaugural PGB members and develop PGB manual and structure of periodic reports.



Appendix A

Program Precedents

Program Precedents

Country	Program	Brief Description	Type of Contract	Internal /External	Structure Details
Canada	Eglinton Crosstown LRT	19km light rail transit (LRT) line being constructed from Kennedy Station to Mount Dennis (Weston Road) in Toronto, Canada. Approximately 10km of the line will be located underground and up to 26 stations will be built along the stretch	Design-Build-Finance-Maintain (DBFM)	Internal	Metrolinx is responsible for the planning and delivery of the Program and oversees its delivery through its Planning and Development Group and Capital Programs Group.
Canada	Confederation Line (Stage 2)	44km light rail transit (LRT) line being constructed from Bayshore to Place d'Orleans, and south to Bowesville (Ottawa, Canada). The Stage-2 Program will add 24 stations to the O-Train system.	Design Build Finance (DBF)	Internal	The City of Ottawa was responsible for the planning and implementation phases of the Program. Program implementation oversight was conducted by the City's Executive Steering Committee (comprised of City Manager, as well as Directors from the Transportation Services Department, Rail Construction Program, and Corporate Services).
Canada	Trillium Line South	16 kilometer extension of existing line, with an addition of 8 new stations and 3,000 new park-and-ride spaces.	DBFM	Internal	The City of Ottawa is responsible for the planning and implementation phases of the Program. Program implementation oversight is to be done by the City's Executive Steering Committee (comprised of City Manager, as well as Directors from the Transportation Services Department, Rail Construction Program, and Corporate Services).

Program Precedents

Country	Program	Brief Description	Type of Contract	Internal /External	Structure Details
Canada	CanadaLine LRT	Canada Line is a 19km rail rapid transit system connecting downtown Vancouver, the Vancouver International Airport and Central Richmond. It has 16 stations, two bridges and nine kilometers of tunnel.	Design-Build-Finance-Operate-Maintain (DBFOM)	External	Canada Line Rapid Transit Inc. (CLCO): a wholly-owned and independently governed subsidiary of GVTA, managed the final planning, procurement process, construction and overall implementation of the Program.
Canada	Edmonton Valley Line LRT	27 km (17 mi), low-floor urban light rail line in Edmonton, Alberta currently under construction. The line will be constructed in phases, with phase 1 being the 13.1 km (8.1 mi), 12-station portion between Mill Woods and Street (Downtown) allowing passengers to connect with the Capital Line and Metro Line at Churchill station	Design-Build-Operate-Maintain (DBOM)	Internal	The City of Edmonton's LRT Design and Construction Branch was responsible for delivering the Valley LRT Program.
Canada	Waterloo to Kitchener	Stage 1 of the rapid transit system includes 19 kilometres of tracks, 16 stations and 14 tram sets, on its route from Conestoga Mall in Waterloo to Fairview Park Mall. The Program scope also included 13 Traction Power Substations and the Operations and Maintenance Storage Facility.	DBFOM	Internal	Infrastructure Ontario acted as the P3 Commercial Procurement Advisor and was responsible for the planning and delivery of the Program.

Program Precedents

Country	Program	Brief Description	Type of Contract	Internal /External	Structure Details
Australia	CBD and South East LRT	<p>The Sydney Light Rail (SLR) network, commonly referred to as Sydney Light Rail is a LRT system serving the Australian city of Sydney, New South Wales. The network currently consists of a 12.8km LRT with 23 stations known as Dulwich Hill Line. The extension of existing inner west light rail to Dulwich hill was opened in 2014.</p> <p>The second line, called the CBD and South East Rail is under construction and is scheduled to be completed by 2020. The CBD south east LRT spans 12 kms from circular Quay to Sydney's south eastern suburbs.</p>	DBFOM	Hybrid	Transport for NSW established an SLR Program advisory board to provide assurance, strategic oversight and support throughout the delivery of the Program. Advisory board acted as an intermediary to the Premier, Minister for Transport, and Minister for Roads and Freight in the local government.
Australia	Canberra LRT	12-kilometre line links the northern town of Gungahlin to Canberra and comprising of 13 stops, 14 Light Rail	DBFOM	External	The government agreed to establish an independent, statutory authority to implement the light rail Program and associated development in the corridor. The Light Rail Program Board (LRPB) was an advisory board governed by the Light Rail Program Board Charter. It focused on high-level strategic decisions for the light rail Program.

Program Precedents

Country	Program	Brief Description	Type of Contract	Internal /External	Structure Details
USA	Eagle Commuter Line	30.2-mile Program that consists of two lines- Gold Line from DUS westward : the East Corridor from Denver International Airport (DIA) to Downtown Denver at Denver Union Station (DUS) and the Road in Wheat Ridge.	DBFOM	Internal	Denver's regional transportation authority was responsible for the delivery of the Program.
Australia	Gold Coast Rapid Transit	Rapid Transit Program is a 13 kilometer light rail system connecting Griffith University to Broadbeach and passing through the key activity centers of Southport and Surfers Paradise.	DBFOM	Internal	TransLink, the Regional Transit Authority, entered into an agreement with Gold Coast City Council for the funding and implementation of the Program. A Steering Committee was chaired by TransLink and was the decision making-body throughout the Program.



Program Precedents

Country	Program	Brief Description	Type of Contract	Internal /External	Structure Details
Canada	Broadway Subway	5.7 kilometer extension from existing SkyTrain system to a new station at Arbutus Street.	DBF	External	Program delivered by the Province of BC, through a wholly owned subsidiary with an independent, professional board
Canada	Surrey Langley SkyTrain Extension	16.5 kilometer rapid transit Program that will add 8 stations, 3 bus exchanges, park and ride spaces, 55 SkyTrain vehicles, and an operations and maintenance centre.	DBF	Internal	TransLink, the Regional Transportation Authority currently has the mandate to plan, secure funding and deliver this Program.
Canada	Evergreen Line	The Evergreen Line is an 11-kilometre extension to the existing SkyTrain system in Metro Vancouver, seamlessly integrating with the Millennium Line at Lougheed Town Centre Station.	DBF	Internal	Program Board was established to provide guidance and oversight for the implementation of the Program. Members included representatives from the Ministry of Transportation and Infrastructure, TransLink and Partnerships BC.

Major Program Precedents

Country	Program	Brief Description	Type of Contract	Internal /External	Structure Details
Canada	Hamilton LRT	14-kilometre LRT line that will run through downtown Hamilton, with an addition of 17 new stations.	DBFOM	Internal	Metrolinx is responsible for the planning and delivery of the Program and oversees its delivery through its Planning and Development Group and Capital Programs Group.
Canada	Hurontario LRT	18-kilometre rapid transit system extending into Brampton, with 19 new stations.	DBFOM	Internal	Metrolinx is responsible for the planning and delivery of the Program and oversees its delivery through its Planning and Development Group and Capital Programs Group.
Canada	Reseau Express Metropolitain LRT	Rapid transit system to add 67 kilometers. System will link several suburbs with Downtown Montreal via Central station.	DBFOM	External	CDPQ Infra is a wholly owned subsidiary of Caisse de dépôt et placement du Québec and is responsible for developing and operating the Réseau express métropolitain (REM).

Program Precedents

Country	Program	Brief Description	Type of Contract	Internal /External	Structure Details
UK	Crossrail	Crossrail has procured 116 major contracts, with a combined value of more than £8 billion. As well as the main works packages, this included enabling or advance works, various frameworks, the design contracts, many disparate services, and notably the contract to design, build and maintain the trains which was procured on behalf of Transport for London as the operator of Crossrail.	Multiple Contracts	External	Crossrail defined its governance at two levels: -Corporate Governance – established by the Crossrail Board which sets out delegated authority levels for the Board, its committees and subcommittees as well as the scheme of delegated authorities for the executive directors of Crossrail. -Program governance – which sits beneath this and constitutes all the forums which, in aggregate, control the Crossrail Program in accordance with the Delivery Strategy.
UK	Timetabling for Northern and Thameslink/Great Northern services	The Thameslink Program, originally Thameslink 2000, is a £6 billion Program in south-east England to upgrade and expand the Thameslink rail network to provide new and longer trains between a wider range of stations to the north and to the south of London.	Multiple Contracts	External	Thameslink Program was responsible for development and delivery of the new infrastructure, in accordance with the requirements of the client, Department for Transport, up to the point at which it is accepted by the long-term operators of the infrastructure.



Appendix B

Governance Pillars - Key Success Factor description

Accountability

Elements	Considerations	Attributes
Strategy/Policy	<ul style="list-style-type: none"> Is the accountability for setting and implementing the relevant policy and strategy clear? Is it clear in the governance framework who is the sponsor? Is sponsor clear about accountabilities over the lifetime of the Program? 	<ul style="list-style-type: none"> Unambiguous Clarity of role Set up to maintain stable scope and operating environment Defined values and desired behavior Objective Controls benefits and community impacts, as well as cost and schedule
Requirement setting (owner's requirements)	<ul style="list-style-type: none"> Does the governance framework clearly show who is accountable for setting requirements? Is it clearly shown how the sponsor's requirements are controlled through the Program lifecycle? 	
Execution strategy	<ul style="list-style-type: none"> Does the governance framework clearly show who is accountable for the execution strategy, and how it is controlled through the Program lifecycle? 	
Benefits realization	<ul style="list-style-type: none"> Does the governance framework define accountability for the delivery of benefits? 	
Risk management strategy	<ul style="list-style-type: none"> Does the governance framework define accountability for the management of risk? Is the risk allocation between stakeholders clearly specified? 	

Authority

Elements	Considerations	Attributes
Types of authority	<ul style="list-style-type: none"> Is there a clearly defined delegation of authority? Are critical decisions, reserved for higher-level decision-making, explicitly defined? 	<ul style="list-style-type: none"> Clarity of role and extent of autonomy Defined values and desired behavior Rigorous, objective decision making Must govern benefits and community impacts, as well as cost and schedule Capacity to be “commercial” and to manage with a risk aware culture in uncertain environments
Delegation	<ul style="list-style-type: none"> Does the governance framework set out limits of delegation? Is the delegation of authority appropriate, allowing timely decisions? 	
Decision-making bodies	<ul style="list-style-type: none"> Does the Program director have the ability to make timely decisions required to maintain Program schedule? Are decision-making bodies sufficiently resourced with experienced individuals? 	
Decision-gates	<ul style="list-style-type: none"> Does the execution strategy partition the Program into stages, punctuated by decision points where critical decisions are reserved for the appropriate levels of authority? 	
Decision-making routes	<ul style="list-style-type: none"> Are routine and escalated decision routes clear and efficient? Are approval bodies described in the overall governance framework? Is there an integrated approvals framework? 	
Intervention	<ul style="list-style-type: none"> Does the governance framework clearly identify the triggers for intervention by higher-level decision-makers? 	

Alignment

Elements	Considerations	Attributes
<p><i>Alignment with...</i></p> <p>Corporate governance and target operating model</p>	<ul style="list-style-type: none"> Is the decision on the Delivery Model based on a firm understanding of the target operating model for the asset once in operation? Does the governance framework explain whether the Program can be delivered within the existing corporate governance framework or outline what changes are required? 	<ul style="list-style-type: none"> Program success (meet all KPIs) is most important single objective Must govern benefits and community impacts, as well as cost and schedule Defined communication channels Relationship-building between Program and corporate staff Alignment with funders, stakeholders and the Program is critical
Legislation	<ul style="list-style-type: none"> Does the governance framework describe how alignment with legislation will be assessed? Does the governance framework describe the mechanisms to ensure Program objectives remain aligned with changing legislation? 	
Portfolio priorities	<ul style="list-style-type: none"> Does the governance framework describe how alignment with other Programs in the corporate Program portfolio will be assessed? 	
Stakeholders	<ul style="list-style-type: none"> Does the governance framework describe how alignment with stakeholder interests will be assessed and maintained? 	
Corporate culture and behaviors	<ul style="list-style-type: none"> Has the governance framework been developed in consideration of cultural characteristics of the organizations involved? 	
Funders	<p>Has the governance framework considered:</p> <ul style="list-style-type: none"> whether it is appropriate to include the funders in the governance system? whether funder governance arrangements are a constraint for decisions reserved to them? 	

Disclosure

Elements	Considerations	Attributes
Regular reporting	<ul style="list-style-type: none"> Define the information and reporting requirements for each governance body? 	<ul style="list-style-type: none"> Consistent Establish transparent culture Focused on values, cost and schedule variance Healthy skepticism Attentive to detail Communicate early and automatically
Exception reporting	<ul style="list-style-type: none"> Define the exception conditions and escalation routes? 	
Conflicts of interest	<ul style="list-style-type: none"> Describe how members resolve personal conflicts of interest? 	
Transparency	<ul style="list-style-type: none"> Describe requirements for transparency of how, when and by whom decisions are made? Describe assurance and record keeping requirements, for information upon which decisions are made, and disclosed? 	
Assurance	<ul style="list-style-type: none"> Include effective and independent challenge? Describe how the governance framework will be reviewed to make sure it remains fit for purpose throughout the Program delivery stages? Identify the triggers/conditions for consequential assurance? 	

Proposed Text of a Bylaw to Establish the Green Line Program Governance Board

SHORT TITLE

1. This Bylaw may be cited as the “Green Line Program Governance Board Bylaw”.

PURPOSE

2. The Purpose of this Bylaw is to establish the Green Line Program Governance Board as a Committee of Council.

DEFINITIONS

3. (1) In this Bylaw,
 - (a) “*Affordability*” means the sum of all capital costs compared to the sum of all available funding with respect to the Program, as approved by Council;
 - (b) “*Administrative Leadership Team*” means The City’s administrative leadership team as constituted by the City Manager which, for purposes of this Bylaw shall include The City’s Director of Supply Management and Director of Calgary Transit;
 - (c) “*Board*” means the Green Line Program Governance Board established by this Bylaw;
 - (d) “*Centre City Phase*” means the procurement and construction (through a design build finance delivery model) of Segment 2 which is an extension to the Shepard Phase through the downtown core to 16th Avenue North;
 - (e) “*City Manager*” means the individual appointed by Council as its chief administrative officer pursuant to Bylaw 8M2001;
 - (f) “*Confidential Information*” means information, whether oral, written or in electronic form and includes information that pertains to design, approvals, land acquisition, procurement, and construction, that is identified as confidential or would reasonably be considered as confidential but excluding any information:
 - i. possessed by a Board member prior to receipt from The City;
 - ii. published or available to the general public other than through a breach of this Bylaw;
 - iii. obtained from a third party with a valid right to disclose it, provided that the third party is not under a confidentiality obligation, directly, or indirectly, to The City;

- iv. independently developed by a Board member who had no knowledge of or access to Confidential Information;
 - v. disclosed by a Board member with the prior written approval of The City;
 - vi. required, in the reasonable opinion of the City Solicitor and General Counsel, to be disclosed by operation of law or requirement of a court, governmental agency, or administrative tribunal; or
 - vii. information disclosed by The City pursuant to a request to access records under Part 1 of FOIP;
- (g) “*Council*” means the municipal council of The City;
 - (h) “*The City*” means the municipal corporation of The City of Calgary;
 - (i) “*FOIP*” means the *Freedom of Information and Protection of Privacy Act*, RSA 2000 c F-25, as amended or any statute enacted in its place;
 - (j) “*Funding Agreements*” means agreements between The City and the federal and/or provincial governments that set out the terms and conditions of funding of the Program;
 - (k) “*LRV Purchase*” means the purchase of low-floor light rail transit vehicles for the Program;
 - (l) “*Green Line Program Team*” means the team of individuals required to complete the Program;
 - (m) “*Program*” means the Stage 1 Green Line Program which includes the Shepard Phase project (Segment 1), the Centre City Phase project (Segment 2), the LRV Purchase, the commissioning of the overall Green Line LRT system, including LRVs, and other construction projects, including utility relocations, that facilitate the development of the full Stage 1 Green Line Program as approved by Council;
 - (n) “*Project Agreements*” means the contracts entered into between Project Co and The City in respect of Segment 1 (the design, build and financing of the Shepard Phase) and Segment 2 (the design, build and financing of the Centre City Phase), and the contract for the LRV Purchase;
 - (o) “*Project Co*” means the special purpose vehicle that enters into a Project Agreement with The City;
 - (p) “*Shepard Phase*” means the procurement and construction (through a design build finance delivery model) of Segment 1 which includes a maintenance storage facility and a low-floor LRT line extending from the

proposed 4th Street station through the Inglewood/Ramsay community to 126th Avenue Southeast; and

(q) “*Substantial Completion*” shall have the same meaning as defined in the Project Agreement(s).

(2) Any schedules attached to this Bylaw form part of the Bylaw.

(3) If this Bylaw refers to any statute, regulation or bylaw, the reference is to the statute, regulation or bylaw as amended, whether amended before or after the commencement of this Bylaw, and includes reference to any statute, regulation or bylaw that may be substituted in its place.

ESTABLISHMENT AND TERM

4. The Board is hereby established as a Committee of Council. The Board shall exist until such time as this Bylaw is repealed by Council.

MANDATE

5. The mandate of the Board is to use its collective expertise to govern and oversee the successful delivery of the Program.

6. In delivering the Program, the Board shall not do anything, or fail to do anything, that would result in The City being in breach of any contracts or agreements associated with the Program.

DUTIES AND AUTHORITY

Program Implementation

7. The Board shall oversee and ensure best practices are implemented by the Green Line Program Team with respect to matters including:

- a. the development of all procurement documents, including the approval of modifications to the procurement documents, and coordination with business units of The City;
- b. the construction and implementation of the Program in a manner consistent with estimates, budgets and plans approved by Council;
- c. the management and execution of obligations arising under contracts associated with the Program;
- d. the protection of the integrity of the Program procurement processes in accordance with the applicable law and trade agreements to ensure a fair, open, and transparent competitive procurement process, including the avoidance of conflict of interest;

- e. the receipt and review of reports of an independent procurement fairness monitor;
 - f. the evaluation of submissions in response to the Requests for Qualifications and the Requests for Proposals issued for the Program, including development of the evaluation process and the recommended "short-list";
 - g. the management of scope changes to the Program as requested by The City, the Project Cos or contractors;
 - h. the management and oversight of the implementation of the Program and of The City's contractual obligations with regard to the Program;
 - i. the management of interfaces between The City and each Project Co;
 - j. the receipt, review, clarification and approval of invoices in respect of the Program;
 - k. the management of all delays and the project schedule of the Program;
 - l. the assessment of whether Substantial Completion(s) under the Project Agreement(s) have been achieved;
 - m. the assessment of whether Program contracts are being performed in accordance with the applicable contractual terms;
 - n. the management of communications and public relations (including as required by the Funding Agreements);
 - o. the Green Line Program Team's reporting relationship to the Administrative Leadership Team; and
 - p. the acquisition or disposition of land required for the Program.
8. The Board may approve any recommended "short-list" and shall be responsible for the award of the work to proponents or bidders that are successful in the competitive procurement processes.

Affordability and Allocation of Program Funds

- 9. The Board shall monitor the Affordability of the Program and advise Council if material changes to the scope, schedule, or funding are required.
- 10. The Board shall approve the allocation of Program funds made available by Council pursuant to the Program budget approved by Council.

Frequency of Reporting

11. The Board shall report on the Program to the Green Line Committee on a quarterly basis, and more frequently as required by extraordinary circumstances or at the discretion of the Board.

Green Line Program Team and Senior Executive

12. The Board shall review and approve:
 - a. the recruitment, hiring, compensation, supervision, management, and terms of employment of the Program's most senior executive responsible for managing the Program and Green Line Program Team; and
 - b. the structure and composition of the Green Line Program Team,and may establish a compensation structure, evaluation criteria, recruitment process, and related policies, specific to the Green Line Program Team that may be separate from comparable City compensation structures and policies, and, as appropriate, to recruit and/or retain skilled staff for the Green Line Program.

Information Technology

13. The Board shall oversee the implementation of information technology, project management and document management systems for the Program that are compatible with City systems and meet City requirements.

Execution of Contracts and Legal Matters

14. The Board shall approve the final Project Agreements and shall recommend execution of the Project Agreements to the City Manager if the funds required for the execution of the Project Agreements are included in an approved budget of Council for the Program. Notwithstanding the Execution of Contracts Bylaw 43M99, the Project Agreements shall be properly executed if signed by the City Manager and the City Clerk. Amended or additional Funding Agreements negotiated and agreed to by The City shall be properly executed if signed by the City Manager and the City Clerk.
15. Other than the Project Agreements and Funding Agreements, contracts required for implementation and completion of the Program shall be executed in accordance with a delegation of authority approved by the City Manager under Execution of Contracts Bylaw 43M99 for the Green Line Program, if the funds required for the execution of the contracts is included in an approved budget of Council.
16. The Board may approve the entering into contracts to retain the services of any individual or corporation, other than legal counsel, for purposes related to the Program provided that the required funds are included in an approved budget of Council.
17. The Board shall not have authority to settle actions, claims, litigation or demands by or against The City related to the Program, but may make recommendations regarding these issues to the City Manager and City Solicitor and General Counsel for their

consideration where funds that would be paid as part of any settlement would be drawn against a Program budget, and such funds are included in a Program budget approved by Council.

18. The Board shall advise the City Solicitor and General Counsel and The City's Manager of Litigation of any litigation or potential litigation related to the Program.
19. The Board shall not have the authority to retain external legal counsel but may make recommendations to the City Solicitor and General Counsel for the retention of external legal counsel to assist with disputes related to the Program and to otherwise support the Program. External counsel shall be retained by, and report to, the City Solicitor and General Counsel.

CONTRACTS AUTHORIZED BY THE BOARD

20. All contracts, including any amended or additional Funding Agreements, the Project Agreements approved and recommended for execution by the Board and executed by the City Manager and the City Clerk, and any other contracts executed in accordance with the delegation of authority approved by the City Manager under Execution of Contracts Bylaw 43M99 for the Green Line Program, are valid and binding on The City.

POLICIES AND DIRECTIVES

21. The Board shall review and comply with all relevant Council policies.
22. The City Manager may exercise discretion to determine the application and interpretation of administrative policies as these apply to the Program.

COMPOSITION OF THE BOARD

23. The Board shall consist of a minimum of three and a maximum of nine members.
24. The Board members shall have a range of expertise in areas such as governance, leadership, procurement, engineering design, construction, project management, and P3 transactions in respect of projects comparable to the Program.
25. Board members shall not be subject to the recruitment and appointment process specified in Council Policy CP2016-03 titled, "Governance and Appointments of Boards, Commissions and Committees". Board members do not have to be residents of Calgary. Notwithstanding the Procedure Bylaw 35M2017, Board membership shall not be reviewed annually at The City's Organizational Meeting.
26. The City Manager shall be a member of the Board at all times.
27. Notwithstanding section 154(2) of the *Municipal Government Act*, no member of Council shall be an ex-officio member of the Board or a member of the Board.
28. No member of the administration of The City, other than the City Manager, shall be a member of the Board.

29. Three members of the Board shall serve for an initial term of three years and the remaining Board members shall serve for an initial term of four years. Board members may be reappointed after serving their initial terms for additional terms of four years.
30. Initial members of the Board shall be recommended by the City Manager and appointed by Council, and subsequent Board members shall be recommended by the Board Chair and City Manager and appointed by Council. Initial Board members shall be appointed not later than 120 days after Council passes this Bylaw and, thereafter, Board members shall be named and appointed no later than 60 days after a Board member vacancy comes into effect.
31. The Chair of the Board shall be recommended by the City Manager and appointed by Council. The Board shall appoint the Vice-Chair on an annual basis from among the Board members. The initial Board Chair shall serve for a period ending no later than December 31, 2020.
32. A Board member may resign at any time by notice in writing to the Chair, and the Chair may resign at any time by notice in writing to the City Manager. The City Manager shall report Board member resignations to Council.
33. Prior to appointment as a Board member, each individual must sign an acknowledgement that the individual will adhere to the standards described in the Code of Conduct for Citizen Members Appointed to Council Established Boards, Commissions and Committees (CC045). Board members shall be required to execute a confidentiality agreement for the Green Line Program.
34. Board members are subject to the Code of Conduct for Citizen Members Appointed to Council Established Boards, Commissions and Committees (CC045) except as otherwise provided in this Bylaw, or where the Code of Conduct conflicts with this Bylaw in which case this Bylaw shall prevail.
35. Notwithstanding the provisions of the Code of Conduct for Citizen Members Appointed to Council Established Boards, Commissions and Committees (CC045), Board members shall have an obligation to keep all Confidential Information strictly confidential and not disclose Confidential Information outside of The City. Board members may share Confidential Information with Council and administration of The City as appropriate and in furtherance of the Board's mandate and duties.
36. Board members shall use due diligence and reasonable efforts to carry out the Board's duties and mandate as specified in this Bylaw.
37. Council may revoke the appointment of a Board member without cause.
38. Members of Council and of the administration of The City may attend closed sessions of Board meetings only on invitation from the Board Chair.

REMUNERATION

39. The City Manager shall set the remuneration for the Board Chair and Board members.

INDEMNIFICATION OF BOARD MEMBERS

40. The City shall indemnify citizen members of the Board pursuant to the Indemnification of Council Citizen Appointments to Council Established Municipal Boards, Commissions, Authorities and Committees (CC040) and, at the discretion of the City Manager and City Solicitor and General Counsel, The City may enter into indemnification agreements with, and provide supplemental insurance for, citizen members of the Board to address liability that may arise from their service as Board members.

BOARD MEETINGS

Regular Board Meetings

41. At its first meeting, the Board shall establish a schedule for meetings to include at least eight meetings for the first year of Board meetings. The Chair, in consultation with the City Clerk, shall establish the date and time of the first Board meeting.
42. At the last regular meeting of each calendar year, the Board shall adopt an annual schedule for the following year to include at least four meetings and the Board shall file the schedule with the City Clerk.
43. The Board may conduct meetings by means of telephone, electronic or other communication facilities according to procedures adopted by the Board and the Board shall file the schedule and communication procedures with the City Clerk.
44. The Board may implement procedural rules and processes for the Board, provided such rules and processes do not contravene this Bylaw.
45. The City Clerk, or a delegate of the City Clerk, shall deliver copies of the Board agenda and reports to Board members for regularly scheduled Board meetings at least three days before each regular Board meeting.

Special Board Meetings

46. The Board Chair may call additional meetings of the Board, change the time, date or location of any meeting, or cancel previously scheduled meetings of the Board by giving 14 days prior written notice to Board members.
47. The Board Chair may call additional meetings of the Board in accordance with Section 49.
48. The Board Chair shall call a special meeting of the Board if a majority of Board members request a special meeting, in writing.
49. Board meetings held in accordance with Section 47 or 48 shall be scheduled in accordance with the following:
 - a. The notice of the meeting shall include a description of the purpose of the meeting;

- b. A special meeting requested by Board members shall be held no later than 14 calendar days after the request is received by the Board Chair;
- c. If a matter is not specified in the notice of the special Board meeting, that matter shall not be dealt with unless all Board members are present and the Board passes a motion, by majority vote, to deal with the matter; and
- d. Notice of the meeting and notice of cancellation of a previously scheduled meeting shall be filed with the City Clerk a minimum of 48 hours prior to the meeting and shall:
 - i. be issued a minimum of 48 hours prior to the meeting date;
 - ii. be in writing and specify the time, date, location and purpose of the meeting; and
 - iii. be delivered, emailed, or faxed to each Board member.

QUORUM AND PROCEEDINGS

- 50. The quorum for a Board meeting shall be a majority of existing appointed Board members.
- 51. As soon as there is quorum after the time for commencement of a meeting:
 - a. the Chair shall call the meeting to order; or
 - b. if the Chair is absent, the Vice-Chair shall be the presiding officer; or
 - c. if both the Chair and Vice-Chair are absent, the Board members must elect a Board member to be presiding officer for that meeting.
- 52. If there is no quorum within half an hour after the time set for the meeting, the City Clerk shall record the names of the Board members present and the meeting shall be adjourned to the time of the next regular meeting. The agenda for the adjourned meeting shall be dealt with at the beginning of the next regular meeting, unless a special meeting is called before or after the next regular meeting to deal with the business of the adjourned meeting.
- 53. The Board shall follow the procedural rules for Committees of Council under the Procedure Bylaw, except as may be modified by this Bylaw. The Board may suspend the procedures for regular and special board meetings contained in this Bylaw or the Procedure Bylaw (35M2017).

PUBLIC MEETINGS

- 54. With respect to meetings of the Board, the following shall apply:
 - a. Meetings of the Board shall be open to the public. The Board may, but is not required to, permit members of the public to speak to specific items on the Board's agenda. The Chair of the Board shall determine, prior to the publication

of the agenda, which agenda items, if any, require public participation. The City Clerk will note this Board Chair determination in the public agenda. The Board may, by majority vote, require an item to have public participation at a following Board meeting.

- b. The Board shall have the authority to close portions of the meetings at its own motion in accordance with the provisions of section 197 of the *Municipal Government Act*.

FOIP

- 55. The City Clerk, or a delegate of the City Clerk, will act as the FOIP Head of the Board, and shall support the Board in responding to FOIP requests for records and compliance with FOIP.
- 56. The City's FOIP fee schedule will apply to FOIP requests for records of the Board in the custody or control of the Board.
- 57. Nothing in this Bylaw shall be interpreted as precluding The City from disclosing information that The City may be required or ordered to disclose under FOIP.

INSPECTION OF RECORDS

- 58. During normal office hours, the Board shall allow the City Manager or City Auditor, external auditor, funding auditor, or their respective designates, access to all books, records and accounts held by the Board.
- 59. The Board shall assist The City officials referred to in Section 58 to obtain and inspect any books, records, accounts or other financial information pertaining to the Board held by the Board.

COMING INTO FORCE

- 60. This Bylaw comes into force on the date it is passed.

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Chief Financial Officer's Report to
Green Line Committee
2020 June 01

ISC: UNRESTRICTED
GC2020-0616

Green Line Budget and Financing Approval

EXECUTIVE SUMMARY

This report provides an update and seeks approval on key capital budget and funding matters to enable procurement to commence to advance design and construction of the Green Line Light Rail Transit ("LRT") project from 16 Avenue North to 126 Avenue Southeast ("SE"), such project including land acquisition and construction of the Green Line Light Rail Transit line ("Stage 1 Project"), the purchase of light rail vehicles ("LRV Purchase"), as well as enabling construction projects that facilitate the development and construction of the Stage 1 Project (collectively, the "Stage 1 Program" or "Program"). The Green Line Update Stage 1 Report (GC2020-0583) also includes an approval request for Bus Rapid Transit ("BRT") enhancements from 144 Avenue North to 6 Avenue Southwest ("SW") as part of the Stage 1 Program scope.

From November 2014 through to January 2019, Administration received funding commitments and approved capital budget appropriation requests related to the Green Line Program. The existing capital budget appropriation for the Stage 1 Program is \$803.9 million (2015-2024) and \$5,543.8 million in total funding has been committed by funding partners (including The City) for the Program. Council also approved splitting the procurement of the Stage 1 Project into multiple contracts, including Segment 1, Segment 2 and the LRV Purchase.

Following approval of the Segment 1 updated alignment and station locations and Segment 2 alignment and station locations for the Stage 1 Program in Report GC2020-0583 (Green Line Update Stage 1 Report), Council approval of the incremental capital budget appropriation of \$4,739.9 million for the Stage 1 Program, including financing costs, and a bylaw to incur indebtedness of up to \$1,800 million for the Stage 1 Program is required to ensure the procurement of the Segment 1 contract can advance to the market and for the balance of the Program to continue further planning and design as well as construction work. Within the Administrative Leadership Team's authority, they have reviewed a request to approve the procurement process for the LRV Purchase initiating prior to Council approval of the borrowing bylaw for the Stage 1 Program. This incremental capital budget approval is recommended for approval at the 2020 June 15 Combined Council Meeting and is required in order to seek approval of the long-term borrowing bylaw for the Stage 1 Program.

Chief Financial Officer's Report to
Green Line Committee
2020 June 01

ISC: UNRESTRICTED
GC2020-0616

Green Line Budget and Financing Approval

ADMINISTRATION RECOMMENDATION:

That the Green Line Committee recommends that Council:

1. Approve an increase in Capital Budget ID 869-00 of \$4,739.9 million for the Green Line Stage 1 Program, as shown in Attachment 4, including all related capital and financing costs, as listed in Attachment 4, to be funded by:
 - a. \$1,530.0 million in federal funding for Green Line;
 - b. \$1,530.0 million in provincial funding for Green Line;
 - c. \$1,679.9 million in municipal funding consisting of:
 - i. \$52.0 million per annum for 20 years (2025-2044) from the 2013 tax room;
 - ii. \$23.7 million per annum for 27 years (2018-2044) for from the 2017 tax room.
2. Give first reading to Bylaw 5B2020, being a bylaw of The City authorizing The City to incur indebtedness for financing of capital costs associated with the Green Line Stage 1 program;
3. Direct that Attachment 2 of Report GC2020-0616 remain confidential pursuant to Exceptions to Disclosure Sections 23 (Local public body confidences), 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*, to be reviewed by 2027 December 31.

PREVIOUS COUNCIL DIRECTION / POLICY

A summary of prior Council direction for the Green Line Stage 1 Program relating to funding and financing approvals is included in Attachment 1.

BACKGROUND

Administration has been advancing the planning and design of the alignment, acquiring real estate, preparing the land for construction through the enabling works construction program, and preparing procurement documents for various aspects of the project since 2017. In 2018 April, the Government of Canada Treasury Board provided approval for the Project under the Canada-Alberta Integrated Bilateral Agreement ("IBA") for the Investing in Canada Infrastructure Program ("ICIP"). The IBA provides Alberta with the right to negotiate with The City, on behalf of both senior orders of government, by way of an Ultimate Recipient Agreement ("URA").

On 2019 January 30, the Government of Canada, Government of Alberta and The City of Calgary ("The City") signed the URA governing terms and conditions for the \$1,530 million federal contribution, as well as the \$1,530 million provincial contribution to the Stage 1 Program. This agreement marked a major milestone for the Program and finalized the joint investment in Calgary by all three orders of government. Following execution of the URA on 2019 January 30, total funding commitments of \$5,543.8 million have been secured for the Stage 1 Program.

The Request for Qualifications ("RFQ") for the Segment 1 contract and LRV Purchase were released to the market in 2019. On 2019 July 29, Council directed Administration to split the procurement of the Stage 1 Project, with the Segment 1 contract extending from east of the proposed 4th Street station through the Inglewood/Ramsay community to 126 Avenue SE and the Maintenance Storage Facility ("MSF") and the Segment 2 contract extending Segment 1 to 16 Avenue North. Council also directed Administration not to proceed with construction of the

**Chief Financial Officer's Report to
Green Line Committee
2020 June 01**

**ISC: UNRESTRICTED
GC2020-0616**

Green Line Budget and Financing Approval

Green Line Stage 1 Project until the alignment review from 16 Avenue North to 4 Street SE had been completed and any potential changes approved by Council.

On 2019 December 5, the Government of Alberta approved Alberta Regulation 189/2019, which utilizes the new Public Transit and Green Infrastructure Project Act to amend the grant agreement between the Government of Alberta and the City of Calgary, including the timing of its grant contribution to the Program.

On 2020 February 27 and 2019 October 24, the Government of Alberta released its Budget 2020 and Budget 2019, respectively. Although the updated provincial contributions for the Program are weighted towards the latter years of construction causing a mismatch of project expenditures and available funding, the Government of Alberta has reiterated its continued support for the Stage 1 Program and its \$1,530 million funding commitment following the release of its Budget 2019 and Budget 2020, including during the COVID-19 pandemic.

The updated recommended Stage 1 alignment including station locations and an updated Green Line Stage 1 Business Case to be considered at the 2020 June 15 Combined Council Meeting as part of Report GLC2020-0244.

The Request for Proposals ("RFP") for the LRV Purchase is anticipated to be released in 2020 June to the shortlisted proponents. The RFP for Segment 1 is anticipated to be released on 2020 July 24 to the shortlisted proponents. Before the RFP for Segment 1 is released, The City is seeking to obtain required capital budget approvals and bylaw approval authorizing The City to incur indebtedness associated with the Stage 1 Program.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Financial Strategy

The proposed financial strategy included in this report ensures the Stage 1 Program will be constructed with available funding, as approved by Council. It also aligns with the guiding principles Council approved on 28 January 2019 (Report C2019-0135) for the Stage 1 Program and the four major capital projects. Administration has continued to keep Council and various Council Committees apprised of The City's ongoing financial capacity to execute on the Program and other major capital projects over the medium term.

Integrated funding and financing analysis of the Stage 1 Program is further described in Attachment 2.

Incremental Capital Budget

The existing capital budget appropriation for the Stage 1 Program is \$803.9 million (2015-2024), meanwhile \$5,543.8 million in total funding has been committed by all funding partners for the Program to date. Approved funding of \$4,743.9 million (including financing cost funding) that is not currently allocated to a capital budget, requires Council approval in the form of an incremental capital budget appropriation request for the Stage 1 Program.

Chief Financial Officer's Report to
Green Line Committee
2020 June 01

ISC: UNRESTRICTED
GC2020-0616

Green Line Budget and Financing Approval

Table 1. Capital Budget Summary for Green Line Stage 1 Program

Stage 1 Capital Budget Summary			
Funding Source	Capital Funding (\$ M)	Financing Funding (\$ M)	Total Capital Budget (\$ M)
Federal: Public Transit Infrastructure Fund ("PTIF")	111.0		111.0
Provincial: GreenTRIP, Municipal Sustainability Initiative ("MSI") and Fuel Tax	172.9		172.9
City: 2013 Tax Room (2015-2024)	520.0		520.0
Previously Approved Capital Budget	803.9	0.0	803.9
Incremental Capital Funding for Capital Budget Approval			
Federal: Investing in Canada Infrastructure Program	1,530.0		1,530.0
Provincial: Ultimate Recipient Agreement	1,530.0		1,530.0
City: 2013 Tax Room (2025-2044)	1,040.0		1,040.0
Incremental Capital Budget (Capital Costs) – Requiring Approval	4,100.0	0.0	4,100.0
City: 2017 Tax Room (2018-2044)	0.0	640.0	640.0
Incremental Capital Budget (Capital and Financing Costs) – Requiring Approval	4,100.0	640.0	4,740.0
Total Stage 1 Program - Capital Budget	4,903.9	640.0	5,543.9

Source	Stage 1 Funding Summary (\$ M)	Percentage of Total Funding
Federal	1,640.0	29.6%
Provincial	1,702.9	30.7%
Municipal	2,199.9	39.7%
Totals	5,543.9	

A summary of the requested annual capital budget appropriation profile for approval for the Green Line Stage 1 Program is listed in Attachment 4. This capital budget profile is based on current estimates of project cost and schedule, funding and financing assumptions and are subject to change as noted in the Financial Strategy section above.

Program Funding

Total funding for the Stage 1 Program is \$5,544 million from all sources (2015-2044), including \$4,903 million for capital and \$639.9 million for financing costs, with contributions from The City (\$2,200 million), the Government of Alberta (\$1,702 million) and Government of Canada (\$1,640 million) across multiple grant programs. Total funding partner contributions for the Program are noted in Table 2 below.

Chief Financial Officer's Report to
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2020 June 01

ISC: UNRESTRICTED
GC2020-0616

Green Line Budget and Financing Approval

Table 2. Summary of Approved Funding for the Green Line Stage 1 Program

Source	Capital Funding (\$ M)	Financing Funding (\$ M)	Total Funding (\$ M)
Federal	1,640.0	-	1,640.0
Provincial	1,702.9	-	1,702.9
Municipal	1,560.0	639.9	2,199.9
Totals	4,903.9	639.9	5,543.9

The Project team is committed to delivering the Stage 1 capital program utilizing \$5,544 million of approved funding. The total funding allocation will be designated as a Stage 1 Program funding source following the incremental capital budget approval. A total capital budget of \$5,544 million is required in order to fund all capital expenditures and debt financing costs to deliver the Program. All Program debt will be paid in full by the end of 2044 (i.e. when The City's funding contribution concludes).

City of Calgary Contribution

The City of Calgary approved up to \$2,200 million (or up to \$75.7 million per year) of property tax dollars for funding the Stage 1 Program, including the:

1. 2013 tax room (2015-2044) - \$1,560 million (or \$52 million per year for 30 years)
2. 2017 tax room (2018-2044) - \$640 million (or \$23.7 million per year for 27 years)

The City is solely responsible for any financing costs associated with the Program. The 2017 tax room was initially approved and allocated to fund financing costs for the Program but, as a result of Council's decision after considering report PFC2019-0040 titled Green Line – Funding and Financing Update, is an unrestricted funding source to enable The City to optimize funding of either Program capital costs or financing costs during any given year.

Alberta Contribution

The Government of Alberta is contributing up to \$1,702 million for the Project, including \$1,530 million under the URA plus prior enabling works grant funding (under PTIF, GreenTRIP or prior grant programs).

Alberta will fund up to 40% of eligible expenditures of the Stage 1 Program, as per the contribution profile set out in the URA and updated through Alberta Regulation 189/2019. Eligible expenditures under the URA include all costs incurred after April 19, 2018 that are direct and necessary for the implementation of the Stage 1 Program. A breakdown of Alberta's Contribution listed in Attachments 2 and 3.

Canada Contribution

The Government of Canada is contributing up to \$1,641 million in funding for the Program, including \$1,530 million under the URA plus enabling works grant funding (under PTIF).

Canada will fund up to 40% of eligible expenditures for the Stage 1 Program, as per the IBA and URA. Eligible expenditures under the URA include all costs incurred after April 19, 2018 that are direct and necessary for the implementation of the Stage 1 Program and exclude land acquisition costs. Discussions are ongoing with the Government of Canada to mitigate the impact of Alberta Budget 2019 and consider alternate timing for its funding contributions.

**Chief Financial Officer's Report to
Green Line Committee
2020 June 01**

**ISC: UNRESTRICTED
GC2020-0616**

Green Line Budget and Financing Approval

Upon approval of the updated Stage 1 alignment by Council in 2020 June, the Government of Canada is expected to submit a disbursement request to its Treasury Board for the Stage 1 Program. It is anticipated that Treasury Board approval will be granted during 2020 Q4, and URA funding claims will be permitted to be submitted thereafter.

The Government of Canada also received a letter from the Government of Alberta in 2020 April requesting that the federal government assist in mitigating increased debt financing requirements and financing costs to The City by expediting the release of its funding contributions to offset the Government of Alberta's deferred contributions. Confirmation of the expedited federal funding schedule is expected in the near future.

Debt Financing

Cash Flow Mismatch

The total capital funding for this program is provided over a 30-year time period. The federal portion is scheduled to be received throughout the construction period, the provincial portion is also during the construction but weighted towards the latter years. The municipal portion is funded in equal annual installments over a 30-year period commencing in 2015. Approximately \$900 million of City funding for capital costs will be received in periods subsequent to construction.

As a result of the mismatch in Program expenditures and funding, the Program will require debt financing and incur financing costs to ensure the \$4,903 million capital cost of the Stage 1 Program can be delivered prior to the receipt of all capital funding contributions.

The debt financing program during the design and construction phase of the Program will optimize the use of available City funding and contemplates the issuance of a series of short-term and long-term debt instruments to ensure financing costs are minimized. A maximum approved amount of \$639.9 million of City funding is available to cover financing costs associated with the Program.

Project Company Debt Financing

To anchor the risk transfer within the Segment 1 and Segment 2 project agreements, the project companies that are successful will secure private financing to fund a portion of design and construction costs. This benefits The City by introducing third-party lender due diligence and oversight on the project which further incentivizes the project company to complete the project on time and on budget.

Any project company debt financing is non-recourse to The City and will be repaid prior to the operations and maintenance period; therefore, it is not anticipated to be recognized as long-term City debt. This private debt financing will be repaid through the project companies with milestone payments from The City late in the construction period once these contracts are substantially completed within specified timelines. The City milestone payments will be funded using available cash sources or City debt financing or a combination thereof.

City Debt Financing

The City anticipates executing a long-term debt financing program through the issuance of a series of debt issuances to ensure total financing costs are minimized over time.

The City currently sources all of its long-term debt financing through the municipal financing authority of the Province, Alberta Capital Finance Authority ("ACFA"), who offers local

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authorities in Alberta amortizing loans and structured loans (i.e. interest only for part of the term followed by amortizing for the remainder of the term, and loans with full repayment at maturity. The proposed borrowing bylaw provides flexibility for debt financing for the project from multiple sources, including ACFA, directly from the Province or other financial institutions or capital markets.

A bylaw to incur indebtedness up to \$1,800 million for the Stage 1 Program is anticipated to be required by The City to meet obligatory Program expenditures that cannot be funded using available cash sources due to the cash flow timing differences. This bylaw is recommended for first reading by Council and is listed in Attachment 5.

The peak debt level for the Program is anticipated to be reached late in construction for an interim period. A portion of the debt financing will be reduced upon receipt of all funding partner contributions, with the residual balance repaid over time with funding contributions from The City until 2044. Following receipt of all funding partner contributions in 2028, the debt level is anticipated to step down from the peak and the remaining amount of indebtedness will be repaid over the longer term with City funding. All Program indebtedness needs to be fully repaid by 2044 December 31 to align with the final year of City funding.

Financial analysis of the potential impact of the debt financing for the Program is further described in Attachment 2 and 3.

Stakeholder Engagement, Research and Communication

The City has frequent communications with the Government of Alberta and Government of Canada to ensure funding partner interests are aligned to advance funding requirements to enable construction of the Stage 1 Program.

Council Committees and the Administrative Leadership Team are periodically briefed on The City's financial capacity to pursue construction of the Green Line Stage 1 Program.

The City of Calgary has established a site, Engage Portal, to provide Calgarians with an online space to learn about and participate in City projects and initiatives that are open for public input. Recent public engagement for the Green Line LRT was conducted between 2020, January 29 and 2020, April 30 with input received summarized in a What We Heard Report. Additionally, The Green Line Committee meeting on 2020, June 1 will have a public feedback component.

Strategic Alignment

Advancing construction of the Green Line LRT is integral to the provision of transit services in The City's Municipal Development Plan and Calgary Transportation Plan. Construction of the Green Line is The City's next step in advancing Calgary's transit network as described in the Council-approved Route Ahead: A Strategic Plan for Transit in Calgary.

The Green Line LRT Program will generate jobs in the short term and long term. The Enabling Works program will continue to generate jobs between now and until the main construction which is scheduled to commence in 2021. In total, the construction of Stage 1 of the Green Line will create approximately 20,000 jobs (12,000 direct and 8,000 indirect).

The recommendations align with The City's commitment to citizens by investing in infrastructure and services in prudent ways and demonstrating value for the services The City offers.

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Social, Environmental, Economic (External)

Social

Over 250,000 Calgarians will live within a 15-minute bus trip of the Green Line, allowing them to access over 900 community, recreational, shopping, social service, or education destinations. The Green Line LRT will provide transit service for, families that cannot afford to purchase another vehicle for their driving-age children to get to school or their part-time job, low-income parents who cannot afford to pay for parking, seniors who live on a fixed income, whose health may not afford them the ability to drive and service up to 2,300 affordable housing units.

Environmental

The Green Line LRT can promote a more sustainable environment by reducing transportation related Greenhouse Gas emissions by nearly 30,000 tons per year. This benefit assesses how the Green Line can reduce the transportation network's impact on air quality and climate change. It is assessed by estimating the number of vehicles that will be taken off the road as more customers choose public transit after the Green Line is delivered. This in turn will reduce Greenhouse Gases (GHG), which contribute to climate change.

Economic

The Green Line LRT is a significant investment in the future of Calgary that will not only shape the southeast quadrant of the City, but will also generate 12,000 direct jobs and 8,000 supporting jobs during construction and operations. Once constructed the Green Line LRT will support economic productivity by providing access to nearly 360,000 (nearly 30% of all jobs) Calgarians within a fifteen-minute bus ride of a Green Line LRT station.

Financial Capacity

Current and Future Operating Budget:

Incremental operating and maintenance costs of approximately \$40 million per year (in 2016 dollars) have been estimated for the Project. Approximately half of the incremental operating and maintenance costs are associated with the Green Line LRT and the other half are required for the supporting bus network. Bus operating hours are required with or without the Green Line in the southeast to meet population growth and to ensure coverage and adequate service levels. With approval of the Stage 1 alignment the operating costs will be refined. Operating costs are dependent on a number of factors including: additional operating investments prior to LRT, LRV vehicle characteristics, operating speeds and actual ridership.

The Stage 1 Program operating and maintenance costs are currently not funded as they would reside in a future budget cycle. As a result, a future funding source from property tax dollars will need to be in place prior to the start of operations anticipated no earlier than 2027. Operating budget requirements will be reviewed during the current One Calgary cycle (2019 to 2022) with refinements and updates to be approved in a future business plan and budget cycle to align with the anticipated revenue service date.

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Current and Future Capital Budget:

Capital Expenditures and Commitments

As of 2020 April 30, the actual Program spend year-to-date is \$19.1 million and the cumulative Program spend is \$543.8 million. Total Program commitments as of 2020 April 30 are \$673.7 million. The budget currently approved is \$803.9 million.

Program Cost Estimate

The estimated capital cost is \$4,903 million for the Stage 1 LRT Program and includes all contingency and escalation costs but does not include any financing costs. The Stage 1 Program scope includes the design, construction, and implementation of twenty (20) kilometers of LRT track from 16th Avenue North to 126 Avenue SE. The updated recommended Stage 1 alignment anticipated to be approved at the 2020 June 15 Combined Council Meeting will also include BRT enhancements from 144 Avenue North to 6th Avenue SW as part of the Stage 1 Program scope.

Current Capital Budget

The previously approved Stage 1 capital budget appropriation of \$803.9 million (2015-2024), of which \$524.8 million has been spent through 2019 and budget of \$279.1 million remaining for 2020-2024 is funded by:

1. 2013 tax room - \$520.0 million (\$52 million per year for 10 years (2015-2024));
2. GreenTRIP - \$155.9 million;
3. PTIF - \$111.0 million;
4. Municipal Sustainability Initiative (MSI) - \$15.5 million; and
5. Provincial Fuel Tax - \$1.5 million.

Incremental Capital Budget Approval

An incremental Stage 1 capital budget appropriation request of \$4,740 million, including \$4,100 million for incremental capital costs and \$639.9 million for all related financing costs, is required to confirm the full capital budget appropriation and further enable advancement and execution of the Program.

Sources of funding to support this incremental capital budget appropriation request are comprised of the following funding currently allocated to the Green Line Stage 1 Program:

1. \$1,530 million in provincial funding;
2. \$1,530 million in federal funding;
3. \$1,680 million in municipal funding consisting of:
 - i. \$52.0 million per annum for 20 years (2025-2044) from 2013 tax room; and
 - ii. \$23.7 million per annum for 27 years (2018-2044) from the 2017 tax room.

Table 3 below outlines previous funding and capital budgets approvals and the approvals Administration is seeking in today's report.

Table 3. Summary of Capital Budget Approvals for the Green Line Stage 1 Program

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Green Line Budget and Financing Approval

Date	Capital Funding (\$M)	Financing Funding (\$M)	Description
Anticipated 2020 June 15	\$4,903	\$640	Total anticipated capital budget approval for Green Line Stage 1 Program
2019 January	\$3,060		Ultimate Recipient Agreement for Stage 1 signed by the Province and The City governing the Government of Canada's and Government of Alberta's \$1,530 million funding commitments to the Program Optimize the Green Line cash flow commitments over the term of the project
2017 November		\$640	Direct that the 2017 tax room (\$23.7 million) be retained in 2018 and future years and used to fund the financing costs for Green Line for 27 years until 2044
2017 May	\$258		Budget approval provided by Infrastructure Canada's Public Transit Infrastructure Fund Program for Green Line Transit Way. Proceed with Stage 1 Project, subject to Council final approval
2015 December	\$1,040		Current Green Line funding commitment of \$52 million annually for a ten-year period be extended to a period of thirty years (2025-2044) to create a total funding commitment of \$1,560 million
2014 November	\$520		City funding allocated for 10-years in annual \$52 million increments (2015 to 2024)
2014 September	\$13		City funding allocated to the Green Line Set Way Project
2013 September	\$12		City funding allocated to the Green Line Set Way Project

The incremental Stage 1 capital budget appropriation request and updated total capital budget profile for the Stage 1 Project can be found in Attachment 4.

As contracts are awarded and the Stage 1 Program implementation advances, the Program cost estimate, schedule and payment terms will be updated to reflect the final agreements and the capital budget profile will be adjusted in future budget cycles.

Future Capital Budget Approval

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The incremental capital budget appropriation for this Program is being recommended for approval in this report.

Major rehabilitation and renewal costs refer to all expenditures associated with future lifecycle improvements of the Green Line Stage 1 assets. A rehabilitation and renewal assessment will be made of program assets and could mean one or more major maintenance events or even replacement within the Program's lifecycle. This includes all expenditures associated with capital improvements that will increase the useful life of the infrastructure.

The current estimate for renewal costs is \$296.2 million (in 2016 dollars), which will be expended over a 30-year operations period for the Green Line. Future major rehabilitation and renewal costs do not have an identified funding source. These costs are anticipated to be included in future capital plans.

An updated major rehabilitation and renewal cost forecast will be required to be prepared in advance of the start of operations. Over a long-term operations period, infrastructure rehabilitation, renewal and upgrades will require future capital funding. Related funding sources will need to be identified in future business plans and budget cycles to fund these necessary costs to maintain the LRT system reliability and performance over the longer term, similar to the processes currently in place for the existing LRT systems.

Financing Cost

Financing costs associated with the Program will include those incurred by the project companies to privately finance a portion of the Segment 1 and Segment 2 DBF construction costs, as well as the residual City debt financing. All financing costs for the Program will be funded by The City and are not eligible for funding reimbursement from the provincial or federal government.

Administration received Council approval on 2019 January 22 (Report PFC2019-0040), allowing for The City's designated Green Line financing funding of \$639.9 million to be unrestricted and available to fund either capital costs and financing costs. This allows for maximum flexibility in dealing with the timing of both construction costs and debt servicing obligations in any particular year.

Analysis of financing costs for the Program is further described in Attachment 2 and 3.

Risk Assessment

The principle corporate financial risks for this Program are:

- Capital budget overruns;
- Capital funding timing and shortfalls;
- Financing cost funding;
- Operations and maintenance cost funding;
- Major maintenance and renewal cost funding;
- Financing availability; and
- The City's credit ratings.

Key corporate financial risks are discussed further in Attachment 6.

The principle project financial risks for this Program are:

- Affordability;

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- Governance and decision making;
- Procurement and market;
- Contract interfaces;
- Segment 2 Design and Constructability;
- Canadian National (CN) / Canadian Pacific Railway (CPR) coordination; and
- COVID-19 impacts.

Key project risks are discussed in the Green Line Update Stage 1 Report (GC2020-0583).

REASON(S) FOR RECOMMENDATION(S):

Council's approval of the capital budget appropriation recommended in this report will allow the overall Stage 1 Program execution and the Segment 1 procurement process to advance with the release of their RFP and avoid any delay in procurement timelines. Third reading and approval of Bylaw 5B2020 will provide Administration with the necessary financial authority to debt finance any capital expenditures or execute procurement contracts where debt financing will be required in future to meet payment obligations.

ATTACHMENT(S)

1. Attachment 1 – Prior Council Direction – Funding and Financing
2. Attachment 2 – Financial Analysis (Confidential)
3. Attachment 3 – Financial Analysis
4. Attachment 4 – Capital Budget Profile
5. Attachment 5 – Borrowing Bylaw 5B2020
6. Attachment 6 – Financial Risk Summary

Prior Council Direction – Funding and Financing

A **2019 July 29** Combined Meeting of Council, Council approved recommendations with respect to **Report TT2019-0811**: Green Line Q2 2019 Update, as follows:

“That Council:

- 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
- 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; and
- 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; and
- Direct Administration to have the Green Line Technical Risk Committee carry out an independent peer review of the following
 1. Overall project budget and scope;
 2. Sufficiency of funding for the Project;
 3. Suitability of the proposed technical solution with respect to Contract 2;
 4. Deliverability of the Project;
 5. Risk identification, quantification and mitigation process; and
 6. Suitability and adequacy of the governance and resourcing of the Project;
- 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;
- 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;
- 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;
- 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
- 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;
- Continue advocacy efforts with our funding partners to secure funding to complete the full Green Line LRT; and

- 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.”
-

At the **2019 January 28** Strategic Meeting of Council, that with respect to **Report C2019-0135**, the following Recommendation be adopted, as follows

That Council:

1. Direct Administration to return with an update to Council no later than April 2019 with further refined options to optimize funding, financing and schedules for all four Unfunded Long Term Projects, considering the following conditions but not limited to:

- Maximize uncommitted cash reserves available for project funding and financing
 - Minimize of financing costs
 - Prioritize the use of restricted funding sources where possible
 - Maximizing partner funding contributions
 - Maximizing the number of projects that can be completed
 - Minimizing the overall credit rating impact
 - Refine project scope to reduce project costs where possible
 - Sequencing the projects to reduce overall costs
 - Maximizing value from our asset portfolio
-

At the **2019 January 22** Priorities and Finance Committee meeting of Council approved recommendations in **Report PFC2019-0040**: Green Line – Funding and Financing Update, as follows:

“That the Priorities and Finance Committee recommend that Council:

- To optimize the Green Line cash flow commitments over the term of the project, reconsider, in part, its decision as contained in the minutes of the Regular Meeting of 2017 November 27 with respect to Recommendation 1 of Report C2017-1123 as follows: by deleting the words “the financing” after “fund” and before “costs” to result in the following motion: Direct that the 2017 tax room (\$23.7 million) be retained in 2018 and future years and used to fund costs for Green Line for 27 years until 2044.”
 - Direct that Attachment 1 and the closed meeting discussion remain confidential until construction completion of the Stage 1 Green Line project, pursuant to sections 23, 24, 25, and 27 of the Freedom of Information and Protection of Privacy Act (Alberta).
-

At the **2018 December 04** Priorities and Finance Committee meeting of Council, the Deferral request, Report **PFC2018-1105**: Green Line Budget and Funding Confirmation was moved by Councillor Keating and approved as follows:

“That with respect to Report PFC2018-1105, the following be approved:

That the Priorities and Finance Committee recommends that Council approve Administration's request to defer the report on the Green Line LRT – Budget and Funding Confirmation to a Priorities and Finance Committee meeting to occur by no later than the end of Q1 2019."

At the **2018 March 19** Combined meeting of Council, Report **PFC2018-0207**: Green Line Light Rail Transit Project Delivery Model Recommendation, was approved as follows:

"That Council:

- Approve Design-Build-Finance ("DBF") as the delivery model for the Green Line LRT project from 16 Avenue North to 126 Avenue Southeast;
 - Authorize the General Manager, Transportation, to negotiate all funding agreements with the federal and provincial governments, and the General Manager, Transportation, and the City Clerk to execute the funding agreements and any other agreements necessary to advance the procurement process. The General Manager, Transportation, and the City Solicitor will also sign off on the funding agreements as to content and form, respectively;
 - Direct that Attachment 4 and the Closed Meeting discussions remain confidential pursuant to section 23, 24, 25 and 27 of the *Freedom of Information and Protection of Privacy* (FOIP) Act (Alberta) until the agreements for the Project considered in this Report are awarded and financial close is achieved, with the exception, of information Administration needs to share with funding partners, which will be shared in confidence; and
 - Direct Administration to report back no later than Q4 2018 to the Priorities and Finance Committee of Council with the recommended budgets for approval including financing and confirmation of funding from the other orders of government for the Project."
-

At the **2017 November 27** Regular Meeting of Council, Report **C2017-1123** (Green Line LRT Council Presentation) was approved as follows:

REFER, Moved by Councillor Keating Seconded by Councillor Carra that with respect to Report C2017-1123 Recommendation 1, the following be adopted, after amendment:

"That Council: 1. Direct that the 2017 tax room (\$23.7 million) be retained in 2018 and future years and used to fund the financing costs for Green Line for 27 years until 2044."

At the **2017 May 15** Strategic Meeting of Council, Report **C2017-0467** (Green Line LRT: Building the Core) was approved as follows:

"ADOPT, AS AMENDED, Moved by Councillor Keating, Seconded by Councillor Stevenson, that Recommendation 1 be adopted, as amended, as follows:

That Council:

- Proceed with Stage 1 Project based on: 16 Avenue N (Crescent Heights) to 126 Avenue SE (Shepard) subject to Council's final approval of the alignment, station locations, and transit oriented development concept plans based on the Class 3 capital estimate of \$4.65 Billion construction cost contingent on securing funding as per #2 and #3 below;
- Prepare the required business case(s) for submission to the Government of Canada to support a request of \$1.53 Billion plus financing to support the Stage 1 Project;

- Prepare the required business case(s) for submission to the Government of Alberta to support a request of \$1.56 Billion plus financing to support the Stage 1 Project;
 - Request the Mayor to work with administration in the beginning making the case for funding of the rest of the line, beginning as soon as possible;
 - Direct Administration to bring a revised financial strategy, pending confirmation of federal and provincial funding, and including capital, financing and operating cost models, to Council as part of the 2018 Business Plan and Budget deliberations; and
 - Direct that Attachment 2 and Distribution #3 remain confidential pursuant to Sections 24(1)(a), 24(1)(b) and 25(1)(b) of the Freedom of Information and Protection of Privacy Act, until the Green Line construction has been completed.
-

At the **2017 May 08** Combined Meeting of Council, that the Priorities and Finance Committee Recommendations contained in Report **PFC2017-0354** be adopted as follows:

That Council:

- Approve Administration's 2017 capital budget recast, as identified in Attachment 1;
 - Approve 2017 January 1 to 2017 March 31 revisions exceeding \$200,000 to budget amounts in the current capital budget, as identified in Attachment 2;
 - Receive for information:
 - Attachment 3 - Capital Budget Revisions – Previously approved by Council or Administration;
 - Attachment 4 - Capital Budget Revision Summary;
 - Attachment 5 - 2016 Operating Net Budget Changes;
 - Attachment 6 - Council Decisions/Referrals Having Actual or Potential Future Year Budget Impacts; and
 - Attachment 7 – 2017
-

At the **2017 May 02** Priorities and Finance Committee, that the Administration Recommendations contained in Report **PFC2017-0354** be approved, after amendment, as follows:

That Council:

- Approve Administration's 2017 capital budget recast, as identified in Attachment 1;
- Approve 2017 January 1 to 2017 March 31 revisions exceeding \$200,000 to budget amounts in the current capital budget, as identified in Attachment 2;
- Receive for information:
 - a. Attachment 3 - Capital Budget Revisions – Previously approved by Council or Administration;
 - b. Attachment 4 - Capital Budget Revision Summary;
 - c. Attachment 5 - 2016 Operating Net Budget Changes;
 - d. Attachment 6 - Council Decisions/Referrals Having Actual or Potential Future Year Budget Impacts; and
 - e. Attachment 7 - 2017 and 2018 Operating Budget Revisions Approved by Administration.

And further, that Report PFC2017- 0354 be forwarded, as an item of Urgent Business, to the 2017 May 08 Combined Meeting of Council.

Approval of \$258,878 total per attachment 2 (2017 \$68,666; 2018 \$190,212) for Green Line Transitway

The **2015 December 02** Council **Notice of Motion 2015-33** stated:

ADOPT, Moved by Councillor Keating, Seconded by Councillor Carra, that Councillors Keating, Carra, Woolley, Farrell, Chu, Stevenson, Demong, Colley-Urquhart, Pincott and Mayor Nenshi's Motion, NM2015-33 be adopted, as follows:

NOW THEREFORE BE IT RESOLVED that Council's current Green Line funding commitment of \$52 million annually for a ten year period be extended to a period of thirty years to create a total funding commitment of \$1.56 billion;

AND FURTHER BE IT RESOLVED that the commitment of City of Calgary funding take effect once the Government of Alberta confirms their support for the Green Line LRT.

On **2014 December 17**, Report **TT2014-0917** it was stated that:

During budget deliberations in 2013 November Council approved \$520 million (over ten years) for the planning, design and construction of the Green Line Transitway. This funding will allow Calgary Transit to deliver faster and more reliable transit services to Calgarians in southeast and north central communities. An application for a Building Canada Fund (BCF) grant has been sent to the Federal government for extensions to the Green Line. This application was made possible by the use of the \$520 million as matching funds for this grant. In addition, Council approved Municipal Sustainability Initiative (MSI) funding be used as matching funds for a GreenTRIP proposal that includes the following projects:

- 17 Avenue Southeast Transitway
 - LRT Traction Power: Four-car Train Upgrades
 - North Crosstown BRT
 - South Crosstown BRT
 - Southwest Transitway
 - West LRT Land
-

At the **2014 November 24** Special Meeting of Council, that with respect to Recommendation 1 contained in **Report C2014-0863**, the Transportation Department: Transportation Infrastructure Business Unit 2015 – 2018 Capital Budget contained on Page 200 of Attachment 1, be adopted, as follows, subject to further amendments adopted by Council at this meeting:
Capital Budget: – Pages 190 - 199

Program 869: Green Line Transitway
Project 869-000: Green Line Transitway

New budget request of \$520 million. The Green Line Program combines the Centre Street Transitway and Southeast Transitway projects into a single transit corridor connecting through downtown Calgary. The program will include segments of dedicated bus-only lanes and transit priority between 78 Avenue N and Douglas Glen. This is the initial phase of the line with bus-based infrastructure which will be upgraded to provide LRT service when demand warrants and sufficient capital funding becomes available. Program funding from Lifecycle Maintenance and Upgrade Reserve. Additional funding has been requested from the Federal Building Canada Fund and status will be available for Council at budget hearings.

Operating impact of capital: This project requires \$24.5 million in operating costs for 2021-2024.

At the **2014 September 16** Priorities and Finance Committee that the Administration Recommendations contained in Report **PFC2014-0625, C2014-0774** be adopted, as follows:

That Council:

1. Approve a net \$117.247 million decrease to the currently approved 2012-2014 Capital Budget, as identified in Attachment 2, Schedules A & B - "Capital Budget Revisions Requiring Council Approval"; and
2. Receive for information Attachment 1 – "Summary of Capital and Operating Budget Revisions," and Attachment 3 - "Capital and Operating Budget Revisions Previously Approved by Council or Approved by Administration."
3. Approve all Provincial Disaster Recovery Program reimbursement of 2013 flood operating costs received, to be transferred into the Reserve for Future Capital. These funds will be used as the City's share in cost share resiliency funding programs to fund future resiliency capital projects

CAPITAL AND OPERATING BUDGET REVISIONS REPORT FOR THE PERIOD 2014 JANUARY 1 TO JUNE 30 (PFC2014-0625), C2014-0774

- \$13M Transfer to Program 869 from Program(s) 715, 681, and 830.

At the **2014 July 21** Combined Meeting of Council that Councillor Keating's Revised Motion, **NM2014-34**, be adopted, as amended and by friendly amendment, as follows:

WHEREAS Council accepted and passed report PFC2014-0509 at the 2014 June 23 Regular Meeting of Council where the Green Line Transitway Program ("Green Line Transitway") was identified as a priority capital infrastructure project for application to the Federal government's New Building Canada Fund;

AND WHEREAS at the 2014 January 31 Special Strategic Planning Meeting of Council, Council agreed to rank the Green Line Transitway as the highest transportation priority for potential Building Canada Fund funding;

AND WHEREAS the current direction from Council to Administration is to seek an additional \$150 million of Federal funding for the Green Line Transitway from the Federal government's National Infrastructure Component ("NIC") as this funding is needed to complete the Green Line Transitway from 78 Ave. N to Douglas Glen;

AND WHEREAS there is a potential for a future additional Provincial contribution to the Green Line Transitway, either matching an approved federal contribution or providing a similar funding arrangement that supported Edmonton's Southeast LRT project, funding not anticipated in the current Green Line Transitway application to the Building Canada Fund's NIC;

AND WHEREAS it would benefit the City of Calgary ("The City") and its citizens to extend the Green Line Transitway further north and south should additional resources become available;

AND WHEREAS it is in The City's interest to leverage as much as possible The City's \$520 million contribution to the Green Line Transitway and it would be valuable for Administration to prepare scenarios where the Province participates in funding the Green Line Transitway;

NOW THEREFORE BE IT RESOLVED THAT Administration develop a preliminary cost benefit analysis for the following three items:

- 1) Extend the Green Line Transitway from Douglas Glen to Mckenzie Towne,
- 2) Extend the Green Line Transitway from 78th Ave N to Northpoint,
- 3) Extend the Green Line Transitway from Mckenzie Towne to the South Seton Hospital.

AND FURTHER BE IT RESOLVED THAT in addition to the already approved Green Line Transitway application to the Federal Building Canada Fund's NIC, that the following four items be packaged to the Building Canada Fund's NIC as additional options for funding should the Province decide to make a matching contribution towards the Green Line Transitway:

- 1) Extend the Green Line Transitway from Douglas Glen to Mckenzie Towne,
- 2) Extend the Green Line Transitway from 78th Ave N to Northpoint,
- 3) Extend the Green Line Transitway from Mckenzie Towne to the South Seton Hospital,
- 4) Construction of the Green Line Transitway Bus Maintenance Facility,

AND FURTHER BE IT RESOLVED THAT the Mayor be requested to write a letter to the Province asking for their financial support towards the Green Line Transitway.

AND FURTHER BE IT RESOLVED THAT the cost benefit analysis come forward to the SPC on Transportation and Transit as soon as possible.

At the **2013 September 3** Priorities and Finance Committee that Administration Recommendations 1, 2, 4 and 5 contained in Report **PFC2013-0634** be approved, after amendment, as follows:

1. Approve a net \$41.749 million decrease to the currently approved 2013-2014 Capital Budget as identified in Attachment 1 - Capital Budget Revisions Requiring Council Approval (excludes flood related revisions);
2. Receive for information Attachment 2 – Capital and Operating Budget Revisions Previously Approved by Council or Approved by Administration (excludes flood related revisions);

4. Receive for information the non-highlighted information in Revised Attachment 3 – Capital Budget Revisions Approved by Calgary Emergency Management Agency (CEMA) during the State of Local Emergency (SOLE) or approved by administration under The City's Municipal Emergency Plan (flood related revisions), Columns 'A', 'B' and 'D'.

5. Approve \$650 thousand in one-time operating expenditure budget for City Manager's Office (Program 775) for 2013 and \$1.3 million for 2014 to be funded by the Fiscal Stability Reserve via General Revenue (Program 860) to support the Flood Recovery Task Force.

That the Administration Recommendation 3 contained in Report PFC2013-0634 be approved, after amendment, as follows:

That the Priorities and Finance Committee recommend that Council:

3. Approve a net \$95.6 million increase to the currently approved 2013-2014 Capital Budget, as highlighted in Revised Attachment 3 - Capital Budget Revisions Requiring Council Approval (flood related revisions), Column 'C'.

**CAPITAL AND OPERATING BUDGET REVISIONS REPORT FOR THE PERIOD 2013
JANUARY 1 TO JUNE 30 PFC2013-0634**

- \$12M Transfer to Program 869 from Program 832.

Financial Analysis

INTRODUCTION

Financial analysis has been completed on the Green Line Stage 1 Program. This attachment has been written to be a stand-alone, full summary of material information included in the financial analysis.

EXECUTIVE SUMMARY

The financial strategy principles approved by Council on 2019 January 28 (Report C2019-0135) for pursuit of the Green Line Stage 1 Program plus the four major capital projects are foundational to the financial analysis of the Green Line Stage 1 capital program. In particular to optimize funding, financing and schedules, in order to deliver these major capital projects, considering, but not limited to the following objectives:

- Minimizing financing costs;
- Maximizing partner funding contributions;
- Maximizing the number of projects that can be completed;
- Minimizing the overall credit rating impact; and
- Sequencing the projects to reduce overall costs.

The financial strategy for delivering on the Stage 1 capital program is based on detailed financial analysis using a series of assumptions, which will evolve over time and are subject to change through various stages of delivering and executing the Program. The assumptions include, but are not limited to the following:

- Estimated cash flow profiles of forecast Program expenditures, which will be updated periodically over the procurement, design and construction phases of the Stage 1 Program as a result of refined design and engineering estimates, final contract pricing, and material change orders arising during construction;
- Overall Program schedule including estimated procurement timelines and individual project schedules for multiple contracts, and key milestones to execute a complex phased multi-party contracting strategy;
- Procurement is not complete for the three major contracts; therefore, cash flows are based on estimates rather than final contract pricing and schedules;
- Receipt of provincial contributions are based on fixed payment schedule that does not align with Program expenditures;
- Confirmation of eligible federal expenditures to be claimed in each fiscal year, including federal approval to front-end load their contribution to offset provincial contributions that have been deferred due to budgetary constraints; and
- Execution of a debt program with exposure to debt market conditions over time, including the level of interest rates and available financing structures.

The impacts of COVID-19 on delivery and financing of the Program are closely monitored by the project team and Finance and will be factored into future assumptions.

FINANCIAL CAPACITY

Capital Cost

The capital cost estimate of \$4,903 million for the Stage 1 LRT Project includes all contingency and escalation costs before consideration of any financing costs. The Stage 1 Project scope includes the design, construction, and implementation of twenty (20) kilometers of LRT track from 16th Avenue North to 126 Avenue SE. The updated recommended Stage 1 alignment anticipated to be approved at the 2020 June 15 Combined Council Meeting will also include BRT enhancements from 144 Avenue North to 6th Avenue SW as part of the Stage 1 Program scope.

The financial analysis utilizes the base Stage 1 LRT Program estimate profiled over the term of construction. Individual cost categories in this estimate are aggregated across major cost categories and contracts.

Contract Payment Mechanisms

These major contracts, including the Segment 1, Segment 2 and LRV contract, have specified payment mechanisms that define how contractors or suppliers will be compensated for the work performed on the Program. Forecasts of these key contract payment mechanisms and other Program expenditures are the basis on which the updated capital budget profile for the Program has been derived. Contract payment mechanisms are customized to allow The City flexibility in structuring the terms of the contracts to ensure payments match the timing of contributions from the funding partners and The City. Table 1 summarizes the capital budget profile for the Green Line Stage 1 Program.

Table 1. Green Line Stage 1 Capital Budget Profile

Description	Spend to 2020	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Capital Budget Profile	525	167	355	271	403	796	774	860	718	34	4,903

Refer to Attachment 4 for a summary of the previously approved capital budget and incremental capital budget appropriation request.

Capital Funding

The City's contribution for Stage 1 Program costs will be up to \$1,560 million plus financing costs of up to \$639.9 million, for a total City funding contribution of \$2,200 million. This amount is exclusive of any operations and maintenance costs once revenue service commences or future major rehabilitation and renewals costs for the Program.

The Government of Canada's capital contribution will be up to \$1,641 million, including \$1,530 million under the Ultimate Recipient Agreement (URA) plus enabling works grant funding (under Public Transit Infrastructure Fund (PTIF)) and the Government of Alberta is contributing up to \$1,702 million for the Project, including \$1,530 million under the URA plus prior enabling works grant funding (under PTIF, GreenTRIP or prior grant programs)..

Alberta will fund up to 40% of eligible expenditures of the Stage 1 Program, as per the contribution profile set out in the URA and updated through Alberta Regulation 189/2019 and Canada will fund up to 40% of eligible expenditures for the Stage 1 Program. Not all costs in these major cost categories eligible for funding from the Alberta or Canada; therefore, the financial analysis accounts for ineligible costs that The City would be liable to fund.

The estimated Canada Contribution and Alberta Contribution are further adjusted in the financial analysis to account for the claims submission process, holdbacks and the Government of Alberta administration fee. Table 3 summarizes estimated eligible expenditures and adjusted contribution profiles for each of these funding partners. All outputs are stated in millions of dollars unless otherwise stated.

Table 3. Estimated Canada Contribution and Alberta Contribution

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Canada Contribution	-	121	80	81	225	317	253	361	93	1,530
Alberta Contribution	-	-	25	50	291	291	291	291	291	1,530

Cash Flow Waterfall

The financial analysis integrates several financial and commercial components of the Program together into an integrated financial model. The resulting cash flows are the basis to the debt financing program.

DEBT AND DEBT SERVICING IMPACT

The Program will require debt financing due to the timing differences between expenditures and funding. The timing of expenditures is dependent upon, but not limited to the contract payment mechanisms which comprise majority of the spend for the Green Line Stage 1 Program and the contribution profiles each funding partner.

Debt Issuance

The City anticipates executing a long-term debt financing program through a series of debt issuances to ensure total financing costs are minimized over time. The cumulative amount debt issuance is anticipated is approximately \$1,509 million, with the peak amount of outstanding debt anticipated in 2027.

Following receipt of all funding partner contributions in 2028, the debt level is anticipated to step down from the peak and the remaining amount of indebtedness will be repaid over the longer term with City funding. All Program indebtedness needs to be fully repaid by 2044 December 31 to align with the final year of City funding.

Financing Cost

The Green Line Stage 1 program does not include any contingency for financing costs in the base contingency; therefore, The City must structure its debt financing program to ensure the financing

costs remain within the budgeted amount funding. The estimated interest during construction is \$301 million and \$339 million during the operations period.

Operations and Maintenance Costs

Incremental operating and maintenance costs of approximately \$40 million per year (in 2016 dollars) have been estimated for the Program. Approximately half of the incremental operating and maintenance costs are associated with the Green Line LRT and the other half are required for the supporting bus network. Bus operating hours are required with or without the Green Line in the southeast to meet population growth and to ensure coverage and adequate service levels. With approval of the Stage 1 alignment the operating costs will be refined. Operating costs are dependent on a number of factors including: additional operating investments prior to LRT, LRV vehicle characteristics, operating speeds and actual ridership.

Lifecycle Costs

Major rehabilitation and renewal costs refer to all expenditures associated with future lifecycle improvements of the Green Line Stage 1 assets. A rehabilitation and renewal assessment will be made of program assets and could mean one or more major maintenance events or even replacement within the Program's lifecycle. This includes all expenditures associated with capital improvements that will increase the useful life of the infrastructure.

The current estimate for renewal costs is \$296.2 million (in 2016 dollars), which will be expended over a 30-year operations period for the Green Line. Future major rehabilitation and renewal costs do not have an identified funding source. These costs are anticipated to be included in future capital plans.

An updated major rehabilitation and renewal cost forecast will be required to be prepared in advance of the start of operations. Over a long-term operations period, infrastructure rehabilitation, renewal and upgrades will require future capital funding. Related funding sources will need to be identified in future business plans and budget cycles to fund these necessary costs to maintain the LRT system reliability and performance over the longer term, similar to the processes currently in place for the existing LRT systems.

Current and Incremental Capital Budget

As the Project moves toward implementation and contracts are awarded, the Project cost estimate, schedule and payment terms will be updated to reflect the final agreements and the capital budget profile will be adjusted.

Current and Future Operating Budget

The Stage 1 Program operations and maintenance costs are currently not funded as they would reside in a future budget cycle. As a result, a future funding source from property tax dollars will need to be in place prior to the start of operations anticipated no earlier than 2027. Operating budget requirements will be reviewed during the current One Calgary cycle (2019 to 2022) with refinements and updates to be approved in a future business plan and budget cycle to align with the anticipated revenue service date.

FINANCIAL ASSUMPTIONS OVERVIEW

Funding and Financing Cash Flow Assumptions

There are a number of current key financial assumptions that guide The City financial analysis. These assumptions were developed with guidance and close integration with various members of Green Line project team and others providing advisory services in order to understand the Program cost estimate and schedule and develop an advanced understanding of the financial and commercial principles to guide with this due diligence analysis.

Sensitivity Analysis

A sensitivity analysis has been performed relative to the base case City debt financing estimate, to assess the impact of the Canada Contribution equal to 100% of eligible expenditures, up to \$1,560 million which has not been confirmed at the timing of writing, as well as the impact of deviations to the major assumptions in the financial analysis.

GREEN LINE STAGE 1 CAPITAL BUDGET PROFILE

Table 1 below summarizes the approval of the incremental Capital Budget appropriation of \$4,739.9 million for the Green Line Stage 1 Program. This is identified in Administration Recommendations #1 (Report GC2020-0616).

Table 1. Summary of Incremental Capital Budget Appropriation for the Green Line Stage 1 Program

Administration Recommendation Reference (Report GC2020-0616)	Funding Source	Incremental Capital Funding (\$ M)
1(a)	Federal	1,530.0
1(b)	Provincial	1,530.0
1(c)	Municipal:	
1(c)(i)	LMUR – 2013 Tax Room (2025-2028)	208.0
1(c)(i)	LMUR – 2013 Tax Room (2029-2044)	832.0
1(c)(ii)	LMUR – 2017 Tax Room (2020-2028)	260.7
1(c)(ii)	LMUR – 2017 Tax Room (2029-2044)	379.2
	Totals⁽¹⁾	4,739.9
Note (1): Total funding for the Stage 1 Program is \$5.54 billion from all sources (2015-2044).		

Table 2 below identifies the incremental capital budget appropriation request (from 2020 to 2044) following this approval request for the Green Line Stage 1 Program.

Table 2. Incremental Capital Budget Appropriation Request – Program 869 Capital Budget (2020 – 2044)

Incremental Approval (\$ M)	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total (2020- 2028)	2029- 2044	Total
Remaining Capital Expenditures	167.1	355.2	271.4	403.0	796.1	773.8	859.8	717.9	34.8	4,379.1		4,379.1
Previously Approved Budget	(71.1)	(52.0)	(52.0)	(52.0)	(52.0)					(279.1)		(279.1)
Financing Costs	0.2	9.7	18.7	31.4	49.9	59.4	63.1	57.0	11.3	300.7	339.2	639.9
Total Incremental Capital Budget for Approval	96.2	312.9	238.1	382.4	794.0	833.2	922.9	774.9	46.1	4,400.7	339.2	4,739.9

Table 3 below identifies the funding sources and incremental debt (from 2020 to 2044) for the Green Line Stage 1 Program.

Table 3. Funding Sources and Incremental Debt for Green Line Stage 1 Program (from 2020 – 2044)

Funding Sources (\$ M)	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total (2020- 2028)	2029- 2044	Total
ICIP – Federal ⁽¹⁾		120.5	80.0	80.6	225.4	316.6	252.9	361.1	92.9	1,530.0		1,530.0
URA - Provincial			25.0	50.0	291.0	291.0	291.0	291.0	291.0	1,530.0		1,530.0
LMUR – Municipal 2013 Tax Room ⁽²⁾						52.0	52.0	52.0	52.0	208.0	832.0	1,040.0
LMUR – Municipal 2017 Tax Room ⁽³⁾	71.1	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	260.7	379.2	639.9
Total Funding Sources	71.1	144.2	128.7	154.3	540.1	683.3	619.6	727.8	459.6	3,528.7	1,211.2	4,739.9
Incremental Debt (Net of Repayment) ⁽⁴⁾	25.0	180.9	102.4	223.5	307.8	188.8	281.1	(85.6)	(230.5)	993.5	(993.5)	
<i>Debt Outstanding at Year-End</i>	25.0	206.0	308.4	531.9	839.7	1,028.5	1,309.6	1,224.0	993.5	993.5		

Notes:

- (1) LMUR – Municipal funding noted above includes the 2013 Tax Room (\$52 million per year) in a specified year.
- (2) LMUR – Municipal funding noted above includes the 2017 Tax Room (\$23.7 million per year) in a specified year.
- (3) Based on Administration's estimate on Federal contributions. Federal front load funding yet to be finalized.
- (4) Actual debt issuance may vary depending on cash flow within individual years.

Table 4 below identifies the funding sources from the previously approved Capital Budget (from 2020 to 2024) for the Green Line Stage 1 Program.

Table 4. Funding Sources from the Previously Approved Capital Budget

Currently Approved ⁽¹⁾ (\$ M)	Pre-2020	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
PTIF - Federal	96.9	14.1									111.0
GreenTRIP – Provincial	165.8	7.1									172.9
LMUR – Municipal	262.1	49.9	52.0	52.0	52.0	52.0					520.0
Previously Approved	524.8	71.1	52.0	52.0	52.0	52.0	0.0	0.0	0.0	0.0	803.9

Note:

(1) As at 2019 December 31, \$524.8 million has been spent from the total previously approved Capital Budget of \$803.9 million (2015-2024).

BYLAW NUMBER 5B2020

**BEING A BYLAW TO AUTHORIZE THE CITY OF
CALGARY TO INCUR INDEBTEDNESS IN THE
TOTAL AMOUNT OF UP TO \$1,800 MILLION TO
FINANCE THE CONSTRUCTION OF THE FIRST
STAGE OF THE GREEN LINE LRT PROGRAM**

WHEREAS on 2017 May 15 Council of The City of Calgary ("**Council**") considered Report C2017-0467 in relation to the construction of the Green Line Light Rail Transit project from 16 Avenue North to 126 Avenue Southeast, such project including construction of the Green Line Light Rail Transit line (the "Stage 1 Project"), the purchase of light rail vehicles (the "LRV Purchase"), as well as enabling construction projects that facilitate the development and construction of the Stage 1 Project (the "Enabling Works") (collectively, the "**Stage 1 Program**");

AND WHEREAS on 2018 March 19 after considering Report PFC2018-0207, Council approved the design-build-finance delivery model for the construction of the Stage 1 Project;

AND WHEREAS on 2019 July 29 after considering Report TT2019-0811, Council approved the procurement of the Stage 1 Project to be split into multiple contracts, including Segment 1 (Shepard Phase) and Segment 2 (Centre City Phase);

AND WHEREAS The City of Calgary ("**The City**") seeks to enter into multiple agreements to complete the Stage 1 Program, including two design-build-finance agreements for construction of the Stage 1 Project, an agreement for the LRV Purchase, and one or more agreements for Enabling Works (collectively, the "Stage 1 Program Agreements");

AND WHEREAS the Stage 1 Program has a cost of \$4,903 million;

AND WHEREAS at least \$3,103 million of the cost of the Stage 1 Program will be funded through sources other than borrowing, including funding by The City, the federal and provincial governments;

AND WHEREAS Council has deemed it advisable to pass a bylaw pursuant to Sections 251 and 258 of the *Municipal Government Act* (R.S.A. 2000 c. M-26) to borrow an amount not exceeding \$1,800 million from Alberta Capital Finance Authority, Her Majesty the Queen in Right of the Province of Alberta or other financial institutions or capital markets;

AND WHEREAS the lifetime of the Stage 1 Program is equal to, or in excess of, twenty-five (25) years;

AND WHEREAS the amount of the long term debt of The City as at 2019 December 31 is \$2,883 million with \$441 million being tax supported debt, \$210 million being self-sufficient tax supported debt and \$2,232 million being self-supported debt and no part of the principal or interest is in arrears;

NOW THEREFORE THE COUNCIL OF THE CITY OF CALGARY ENACTS AS FOLLOWS:

1. The City is hereby authorized to borrow up to \$1,800 million to finance the Stage 1 Program.
2. The City will borrow funds as and when required to carry out all activities for the completion of the Stage 1 Program, including to satisfy financing charges and to meet its obligations from time to time under the Stage 1 Program Agreements.
3. The term of the Stage 1 Program financing will not exceed a period of 25 years, terminating on or before December 31, 2044.
4. The City will repay all indebtedness, including principal and all accrued interest, in full and in accordance with one or more of the following repayment structures:
 - (a) in one installment of principal on the maturity date of the borrowing, and a series of installments of interest as and when due throughout the term of the borrowing (such installments being no less often than semi-annual);
 - (b) in installments of principal and interest, as and when due, throughout the term of the borrowing (such installments being no less often than semi-annual); and
 - (c) Interest only installment payments followed by installments of principal and interest, as and when due under the terms of the borrowing (such installments being no less often than semi-annual).
5. The City will pay interest as and when required (but no less often than in semi-annual instalments), at an interest rate not exceeding 6.00% per annum.
6. The City shall levy and raise in each year an amount by way of municipal taxes sufficient to pay the interest, principal, fees and deposits when due and as required on the indebtedness.
7. The net amount borrowed under this Bylaw shall be applied only to the Stage 1 Program.
8. The indebtedness shall be contracted on the credit and security of The City.

The Bylaw comes into force on the date it is passed.

READ A FIRST TIME ON THE _____ DAY OF JUNE, 2020.

READ A SECOND TIME ON THIS _____ DAY OF _____, 2020.

READ A THIRD TIME ON THIS _____ DAY OF _____, 2020.

MAYOR

SIGNED THIS ____ DAY OF _____, 2020.

CITY CLERK

SIGNED THIS ____ DAY OF _____, 2020.

Financial Risk Summary

May 2020

Top Areas of Financial Risk

The following corporate financial risk areas represent **current** and **important** key risks to Program success that have been identified in the current financial risk assessment. This reflects a financial risk assessment at a point in time and will evolve as risk mitigation strategies are employed and certain risks may evolve, emerge or be eliminated.

Each financial risk area includes related risks that will be assessed for likelihood, impact, and severity. Risks with higher potential likelihood and severity require monitoring in order to drive responses; and development of financial and commercial risk mitigation strategies with the project team.

Some risks may require escalation, including potential review by the City Treasurer, Chief Financial Officer, Administrative Leadership Team and City Manager. The Green Line management team will be engaged to discuss corporate risks that may impact delivery of the Program.

Risk Area	Risk Area Description	Key Current Risk Response(s)
Capital Budget Overruns	<p>Affordability of the Program could be impacted by scope and schedule changes and cost uncertainty by sequentially executing large contracts before the full Program cost is known.</p> <p>The Program budget is based on a fixed amount of funding from the Government of Canada and Government of Alberta to deliver a defined project scope. The City is liable for funding any capital budget overruns or costs associated with material changes to project scope.</p>	<ul style="list-style-type: none"> Detailed financial assessment of cost estimation forecasts and project schedule Integration of key financial stakeholders into funding partner discussions, budget development and financial/commercial decisions, including affordability limits and scope ladders for major contracts and analysis of spend profiles Continue to evaluate market capacity and contract affordability mitigation strategies for major contracts Financing funding is an unrestricted funding source and could be utilized to fund capital overruns if financing cost forecasts are below budget

Risk Area	Risk Area Description	Key Current Risk Response(s)
Capital Funding Timing and Shortfalls	<p>The affordability of the Program will depend on the timing and amount of federal, provincial and City of Calgary contributions, which may be inherently linked to the project expenditure profile and schedule. Delays from current expectations in timing or amount of committed funding received by The City may impact the affordability of the Program and likely result in additional City of Calgary debt financing.</p> <p>If funding is not forthcoming when anticipated, The City could experience project schedule delays and impact the revenue service date or Program scope.</p> <p>The City of Calgary may be unable to secure front-loaded funding from the Government of Canada to offset the impact of the Government of Alberta's delayed contributions.</p> <p>The Government of Alberta can terminate their Ultimate Recipient Agreement (URA) funding commitment with The City of Calgary at any time without cause with a minimum of 90 days' notice.</p> <p>Funding partner commitments may be at risk if substantial completion of the Program is not achieved by October 31, 2027 as per the URA or the deadline cannot be extended.</p> <p>Additional financial guarantees or assurance from The City may be sought by proponents due to uncertainty around funding partner commitments and limited financial capacity may be available.</p> <p>Underestimation of ineligible costs may result in less federal and provincial funding and require a Program scope reduction or addition City funding.</p>	<ul style="list-style-type: none"> • Routine assessments of the impact of changes to the funding profile • Adhering to the terms of the funding agreements (e.g. reporting requirements and conditions) • Frequent engagement with the funding partners to ensure all parties are aligned with objectives of the Program • Work collaboratively with the funding partners to ensure terms and commitments of the funding agreements are met and final federal Treasury Board approval is received to release funding commitments • Ongoing engagement with the funding partners to ensure the terms do not inhibit The City from delivering the Program and attracting quality proponents • Discuss the potential extension of the substantial completion deadline with funding partners. • Proactive discussions with funding partners to maximize eligible expenditures categories for the Program (e.g. BRT costs) and monitor ineligible costs forecast and incurred with Project Controls and Accounting
Financing Cost Funding	<p>City debt issuance over an extended design and construction period to align with the overall contracting strategy and the amount of financing funding available, may impact the affordability of the Program given the exposure to interest rate fluctuations.</p> <p>The proponents Design-Build-Finance (DBF) financings may also be impacted by changes in interest rates.</p> <p>Uncertainty in the project schedule and DBF proponents' achievement of related milestones, and receipt of a</p>	<ul style="list-style-type: none"> • Maintain and update detailed forecasts of The City and third-party debt issuance through the planning and execution process • Structure the DBF contract to minimize third-party financing • Monitor market interest rates, market conditions and available financing structures

Risk Area	Risk Area Description	Key Current Risk Response(s)
	<p>significant of funding partner contributions late in the construction period may contribute to higher refinancing risk. Long-term structured loans with a fixed interest rate may not be utilized. Short-term debt may be issued in its place and refinanced with longer term debt at a future date and unknown interest rate.</p>	<ul style="list-style-type: none"> • Maximize the use of available fixed rate financing structures where possible • Capital funding is an unrestricted funding source and could also be utilized to fund financing costs if capital costs for the Program are lower than anticipated
Operations and Maintenance Cost Funding	<p>Operations and maintenance ("O&M") costs for the Program are material recurring expenditures and are currently not funded. They will require a recurring funding source from The City such as property taxes and reside in a future budget cycle.</p> <p>Incremental O&M costs have been estimated in 2016 dollars for the Program. Cost estimation and escalation risk related to forecasting long-term annual operating expenditures in advance of the revenue service date.</p>	<ul style="list-style-type: none"> • Refinement of the O&M cost estimate with design and delivery of the Program • Determination of the O&M funding source during 2023-2026 business planning and budget cycle • Ongoing assessment of potential funding sources during the construction period • Offset by incremental fare revenue from the Project
Major Maintenance and Renewal Cost Funding	<p>Major rehabilitation and renewal ("R&R") costs for the Program are material expenditures required over a long-term operations period and are currently not funded as they reside in a future budget cycle and will require funding sources to be identified.</p> <p>R&R costs are quoted in 2016 dollars with uncertainty over the impact of inflation. Cost estimation and escalation risk related to forecasting long-term renewal expenditures.</p>	<ul style="list-style-type: none"> • Refinement of the R&R cost and schedule estimate with design and delivery of the Program • Ongoing assessment through construction of the current and future funding sources from The City that are available to fund R&R expenditures
Financing Availability	<p>The City's ability to borrow from the Province and access its available financing structures could change during the design and construction period of the Program.</p> <p>The City does not have its own long-term debt issuance program and if one is implemented, financing costs will increase.</p>	<ul style="list-style-type: none"> • Engagement with financial stakeholders from the Province of Alberta • Evaluation of direct debt issuance requirements and additional costs

Risk Area	Risk Area Description	Key Current Risk Response(s)
The City's Credit Ratings	The quantum of debt financing issued for the Program could affect The City's credit rating or rating outlook and increase future borrowing costs for The City and its subsidiaries.	<ul style="list-style-type: none">• Ongoing assessment of The City's credit rating and engagement with credit rating agencies, including for Program indebtedness