

Calgary



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JUN 01 2020

ITEM: 7.1 GC 2020-0583

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CITY CLERK'S DEPARTMENT

Green Line Committee June 1, 2020





Three Reports

- **Green Line Update Stage 1**
GC2020-0583
Public Presentations
- **Green Line Program Governance**
GC2020-0582
No Public Presentations
- **Green Line Budget and Financing Approval**
GC2020-0616
No Public Presentations

Calgary



Green Line Committee

Green Line Update Stage 1

GC2020-0583

2020 June 1

Making a decision today when it seems that **the world has such great uncertainty?**

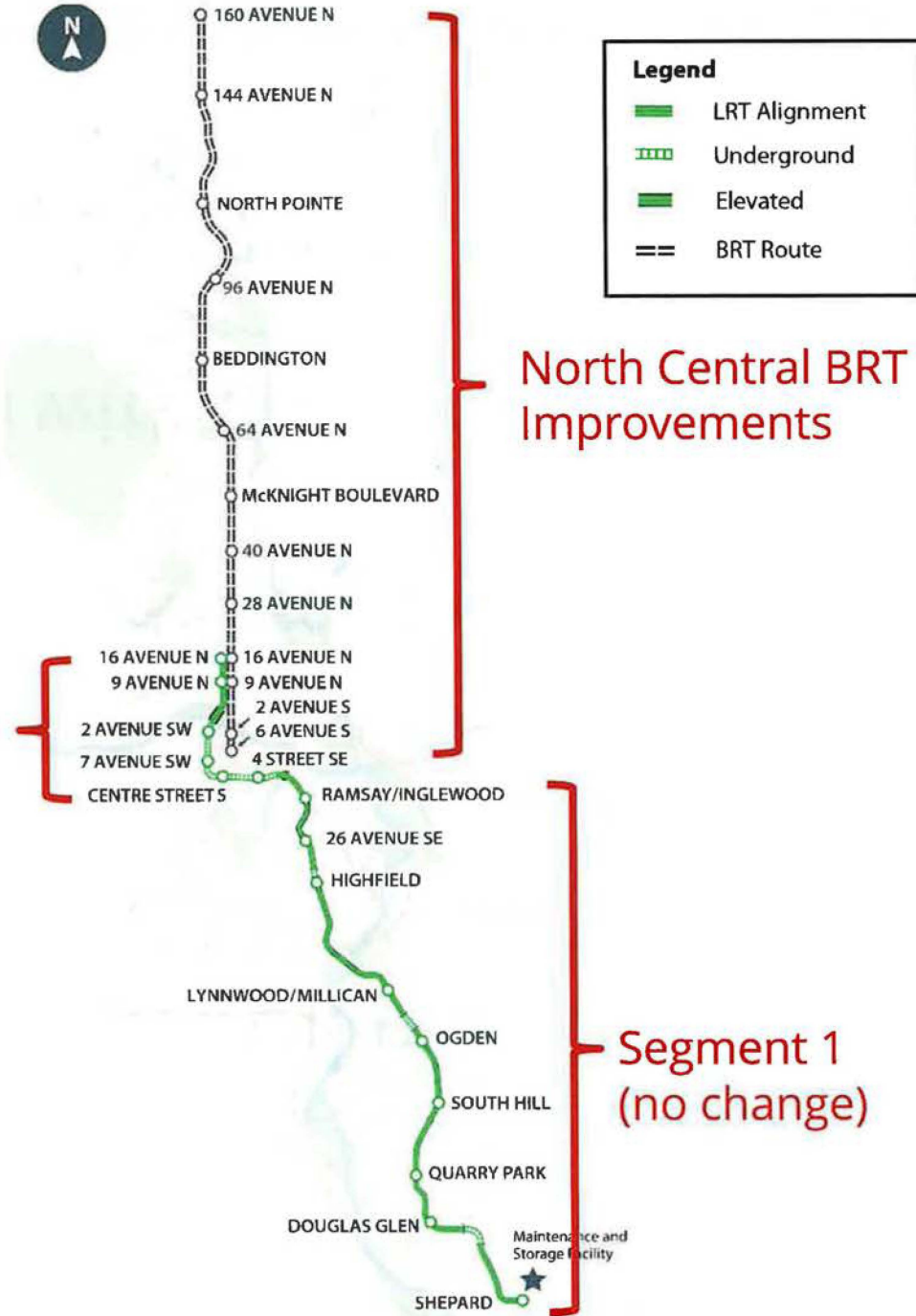
Should the North and South Connect?



How do you know that you can afford this project? **How can you be certain that it will not go over budget?**

Updated Stage 1 Alignment & Stations

Segment 2
(revised alignment & new station)



Report confirms: updated Green Line Stage 1 alignment

- ☑ **Right project** for Calgary
- ☑ **Right alignment** for today and the future
- ☑ Delivered with the **right approach**



Calgary



Right Project



Green Line Vision

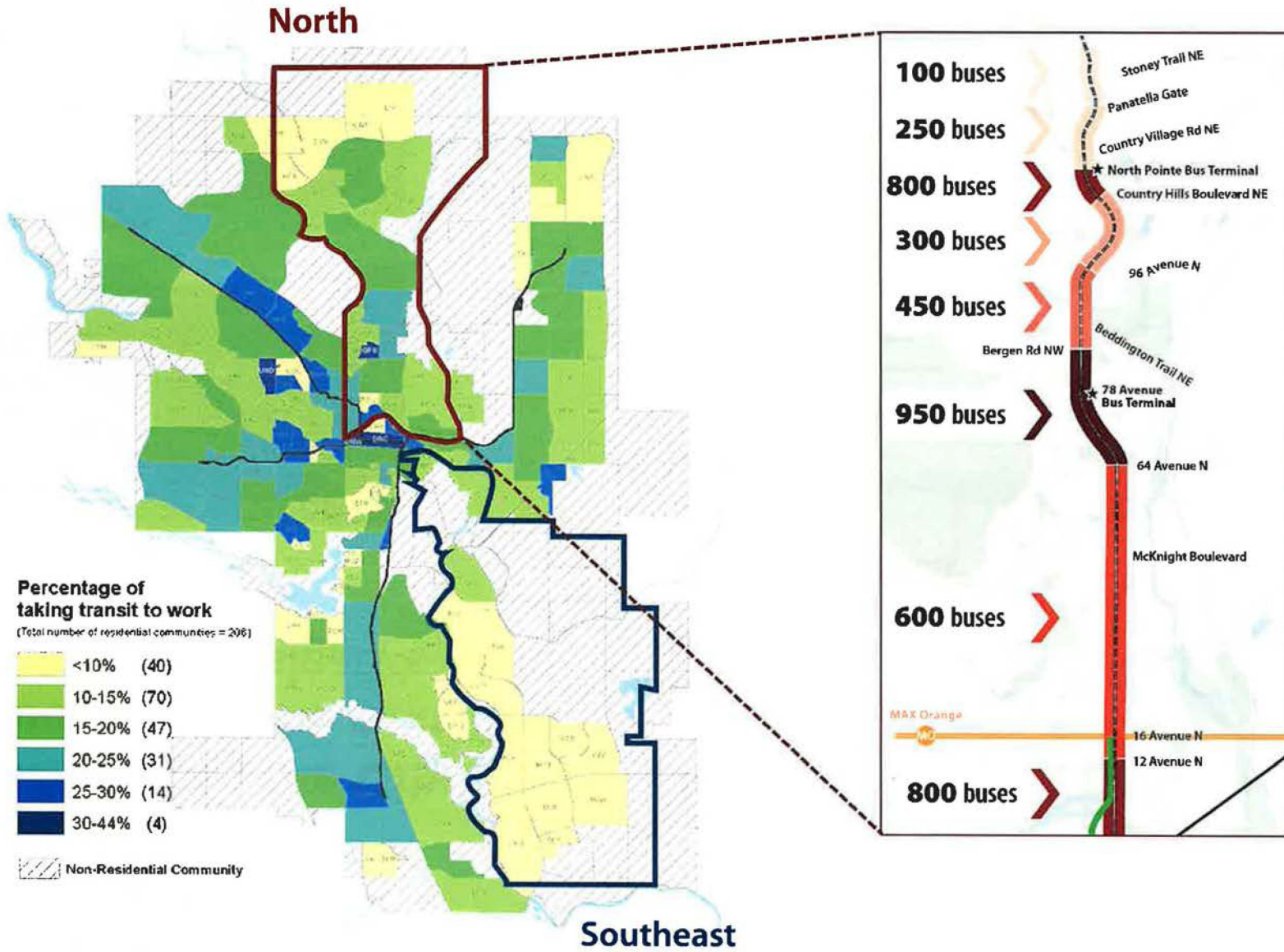
A city-shaping transit service that improves mobility in communities in north and southeast Calgary, connecting people and places, and enhancing the quality of life in the city.

Updated by Council on 2020 January 13





Green Line Stage 1 will **serve**
the mobility needs of our city



Connecting the City

Green Line is the next step for building Calgary's rapid transit network



Stage 1 will generate
over **\$2.2 billion in
benefits to Calgary**



Stage 1 will be a catalyst for development



Example developments currently being considered



Centre Street N & 16 Avenue N



Eau Claire Redevelopment / 2 Avenue Integrated Station

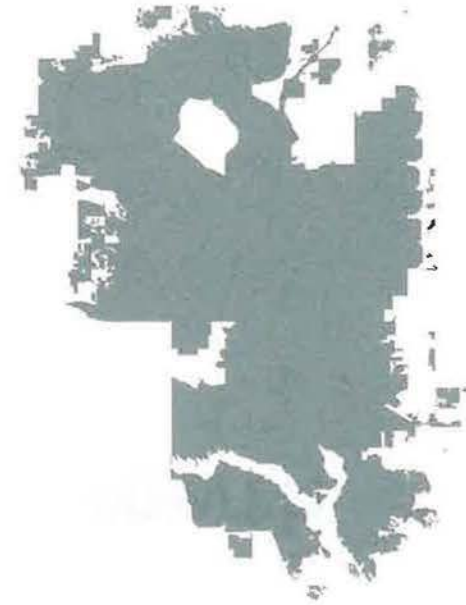
Stage 1 is a **long-term investment** in Calgary's growth and development




 **1981**
592,000 residents
273 km² of developed land



 **2001**
875,000 residents
400 km² of developed land



 **2015**
1.23 million residents
496 km² of developed land

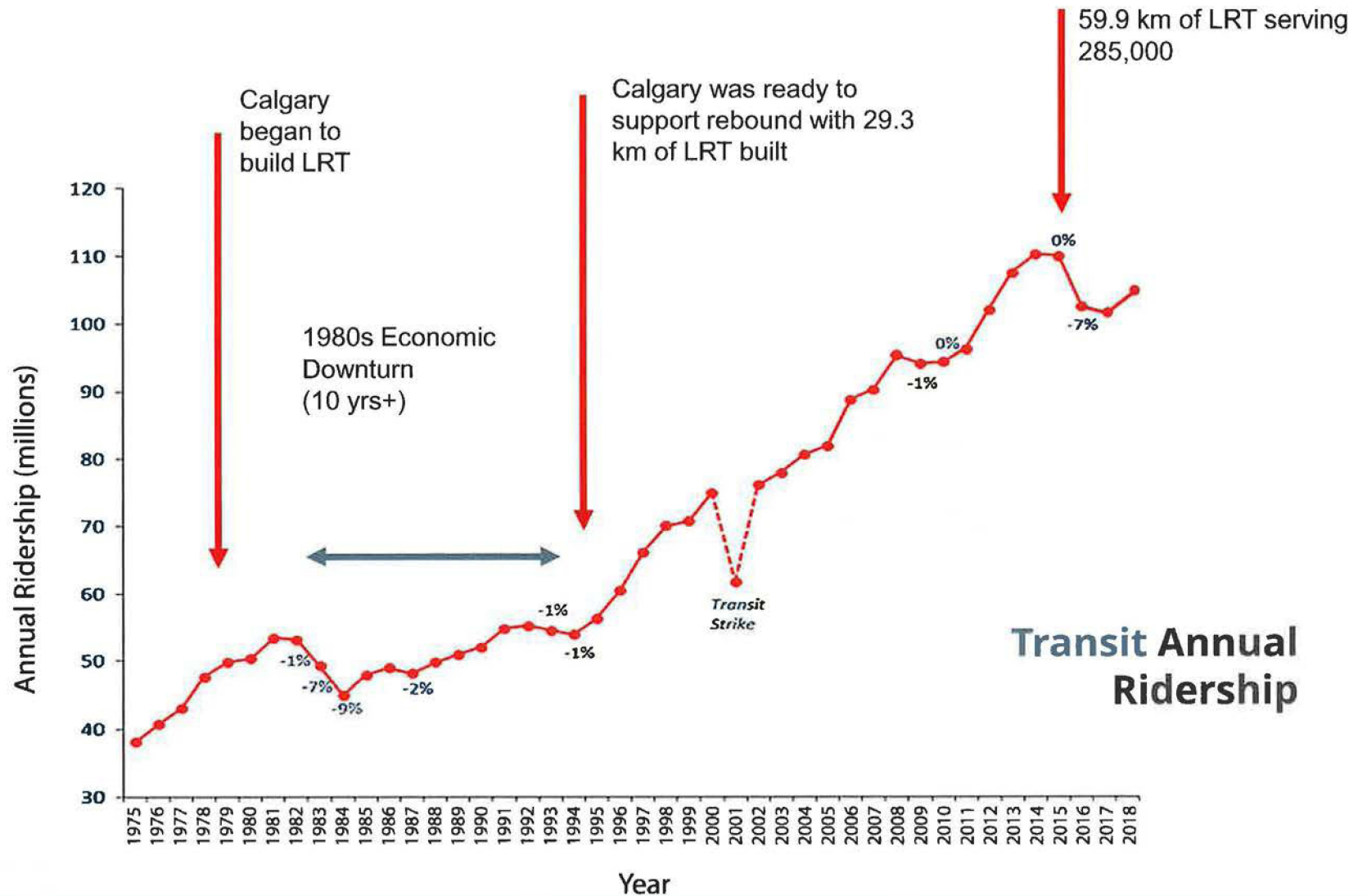
Calgary's population and land area growth 1981-2015



Moving forward with Green Line today **readies Calgary for tomorrow's recovery**



Investing for the future

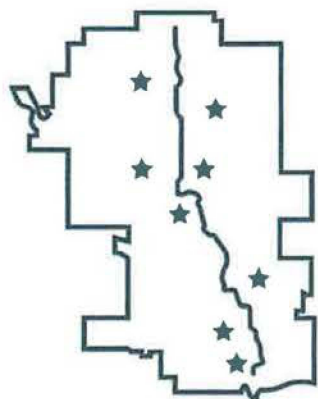




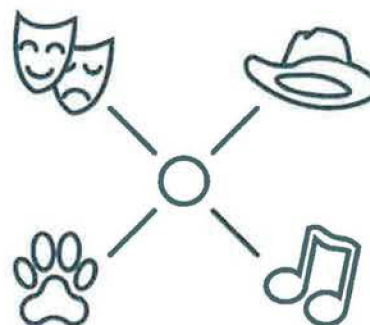
**Green Line will be an important
part of Calgary's economic
recovery**



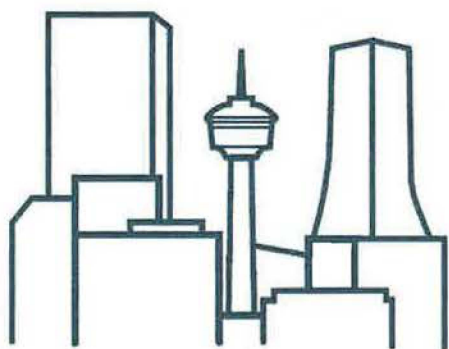
Stage 1 will benefit **all** Calgarians



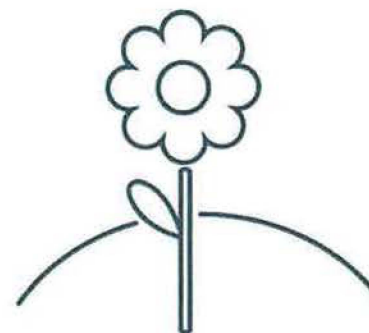
Improves mobility



Connects people to places



Connects people to jobs



Reduces environmental impact



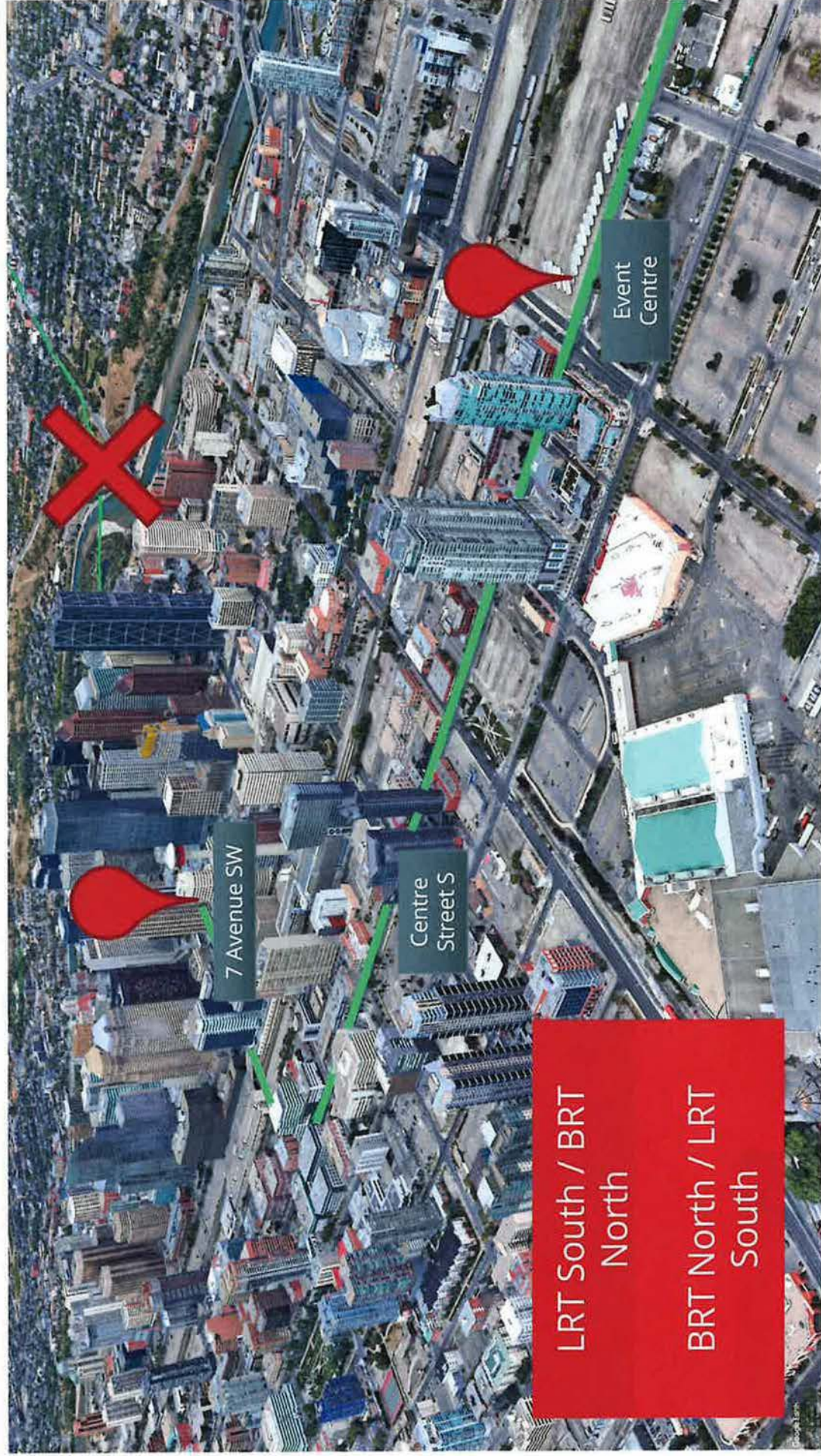
Calgary



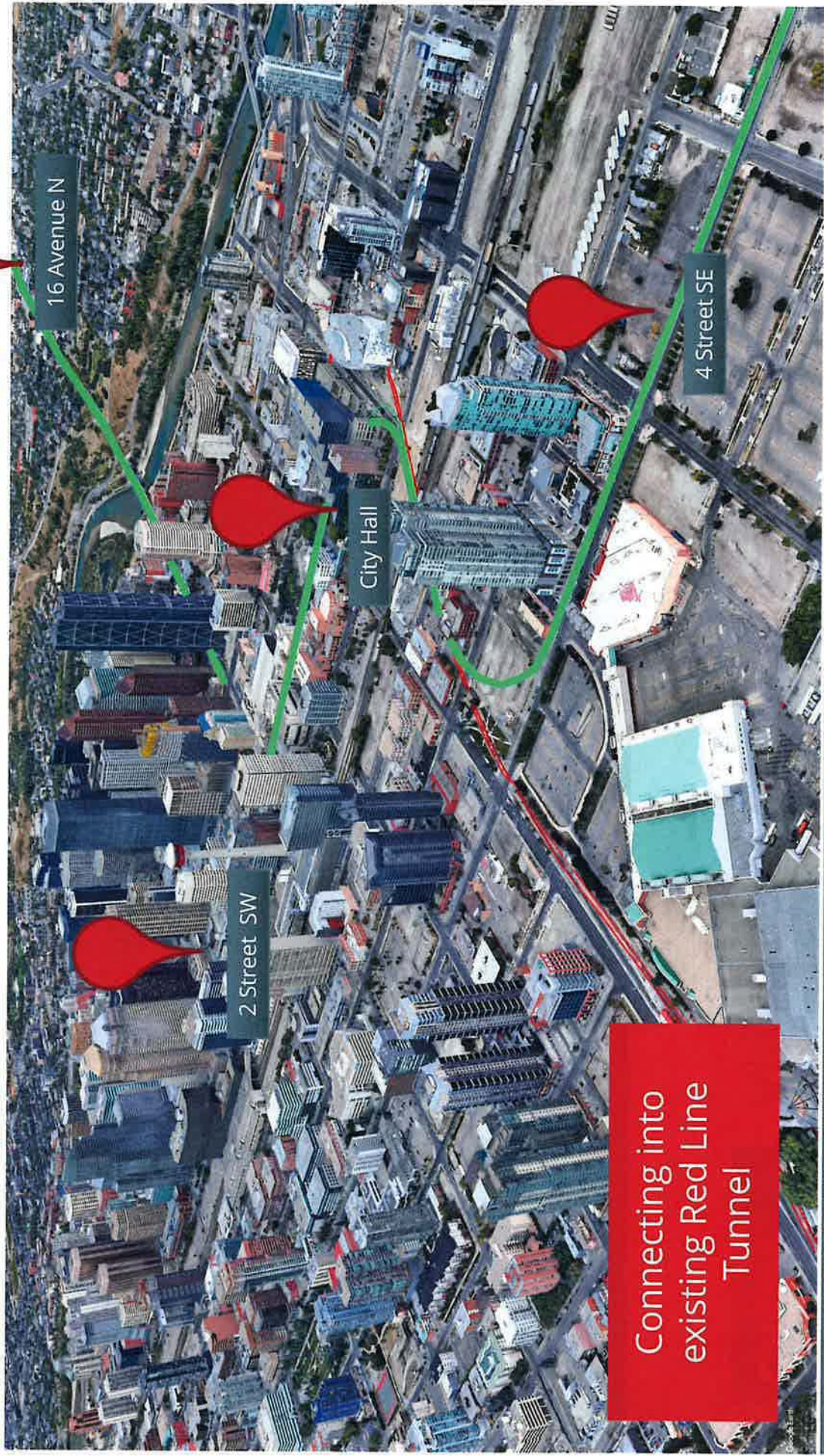
Right Alignment



The City is **committed to delivering Stage 1** of the Green Line within our approved capital budget of **\$4.9 billion**

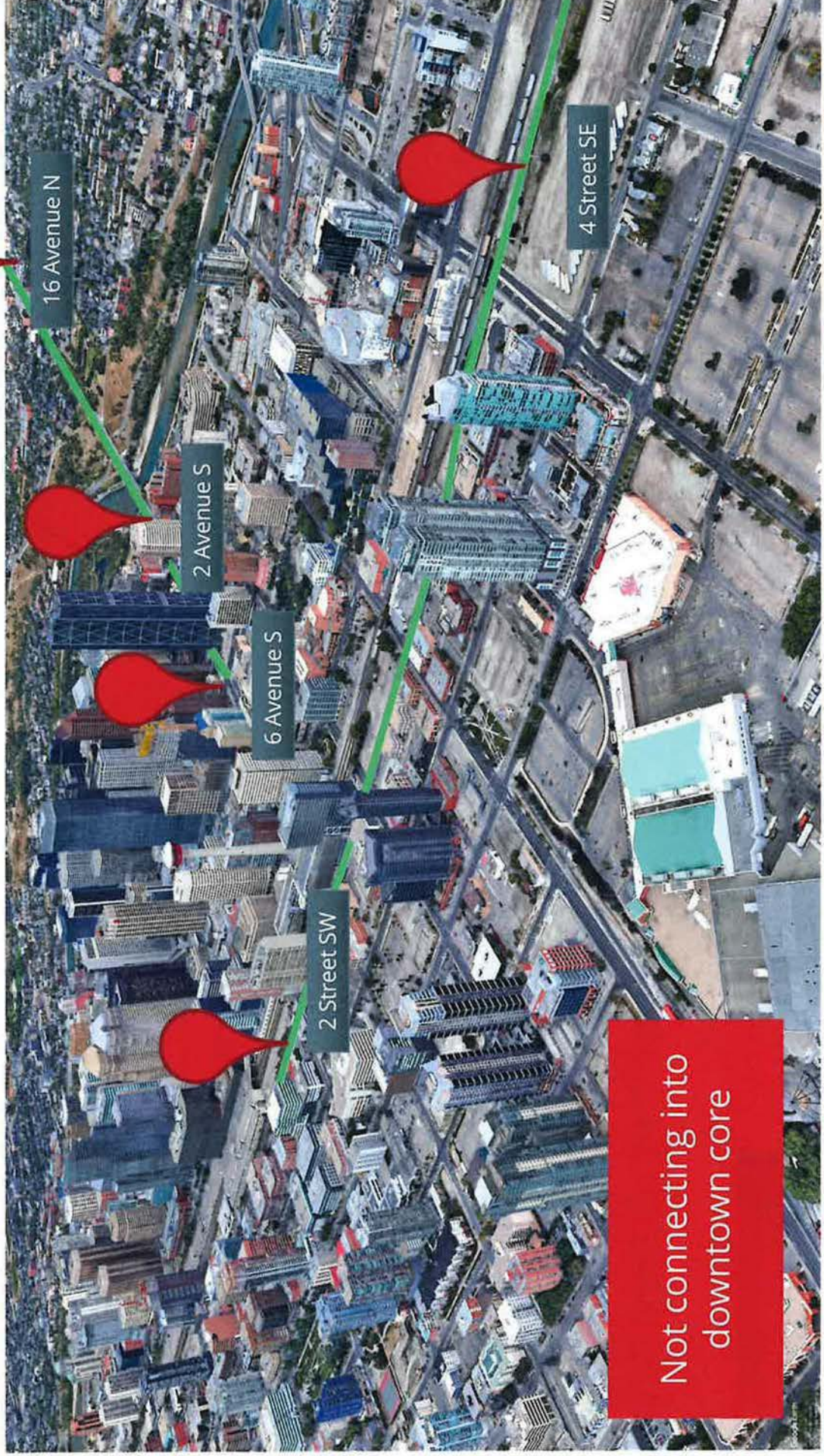


Alignment Options Evaluated



Connecting into existing Red Line Tunnel

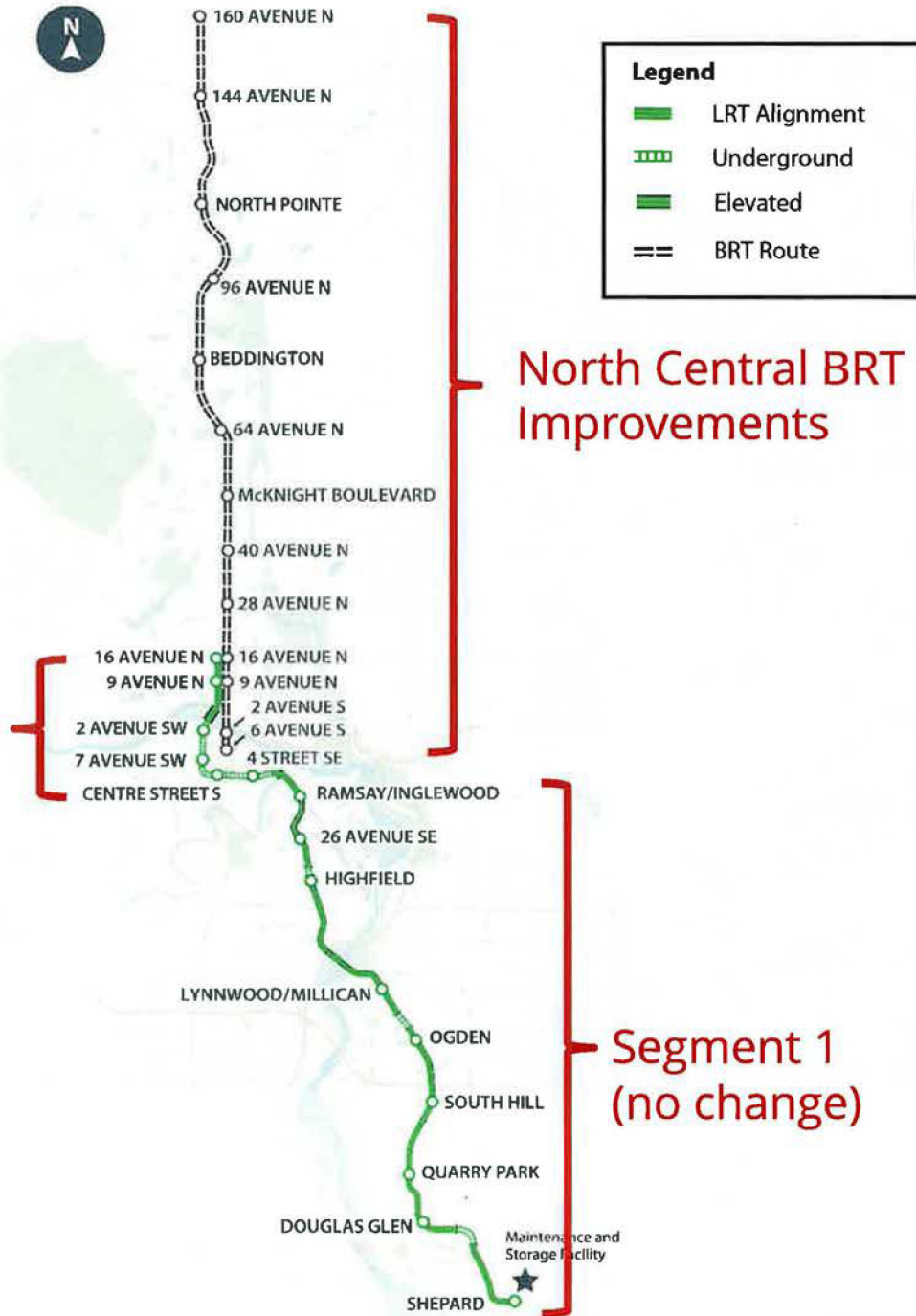
Alignment Options Evaluated



Not connecting into downtown core

Updated Stage 1 Alignment & Stations

Segment 2
(revised alignment & new station)





Updated Stage 1 Alignment

Stage 1 will deliver the best value for Calgarians

- Moves 55,000 – 65,000 LRT riders
- Strategic rapid transit network connections
- Greatest opportunity for incremental LRT expansions to both north central and southeast communities
- Improved ride time, reliability and customer service for north central BRT



Segment 1

Elbow River to Shepard
(126 AV SE)

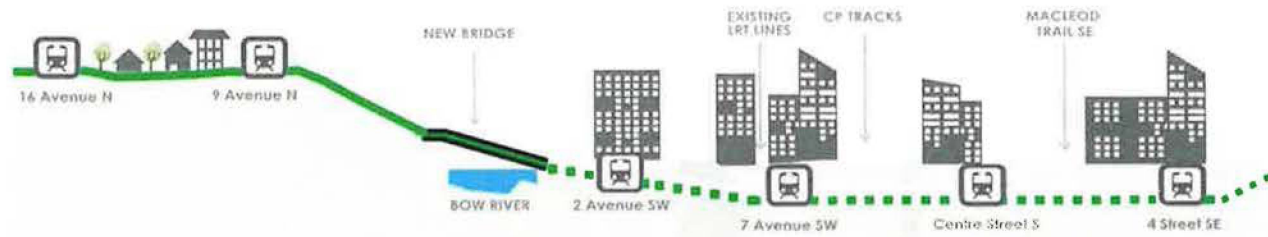
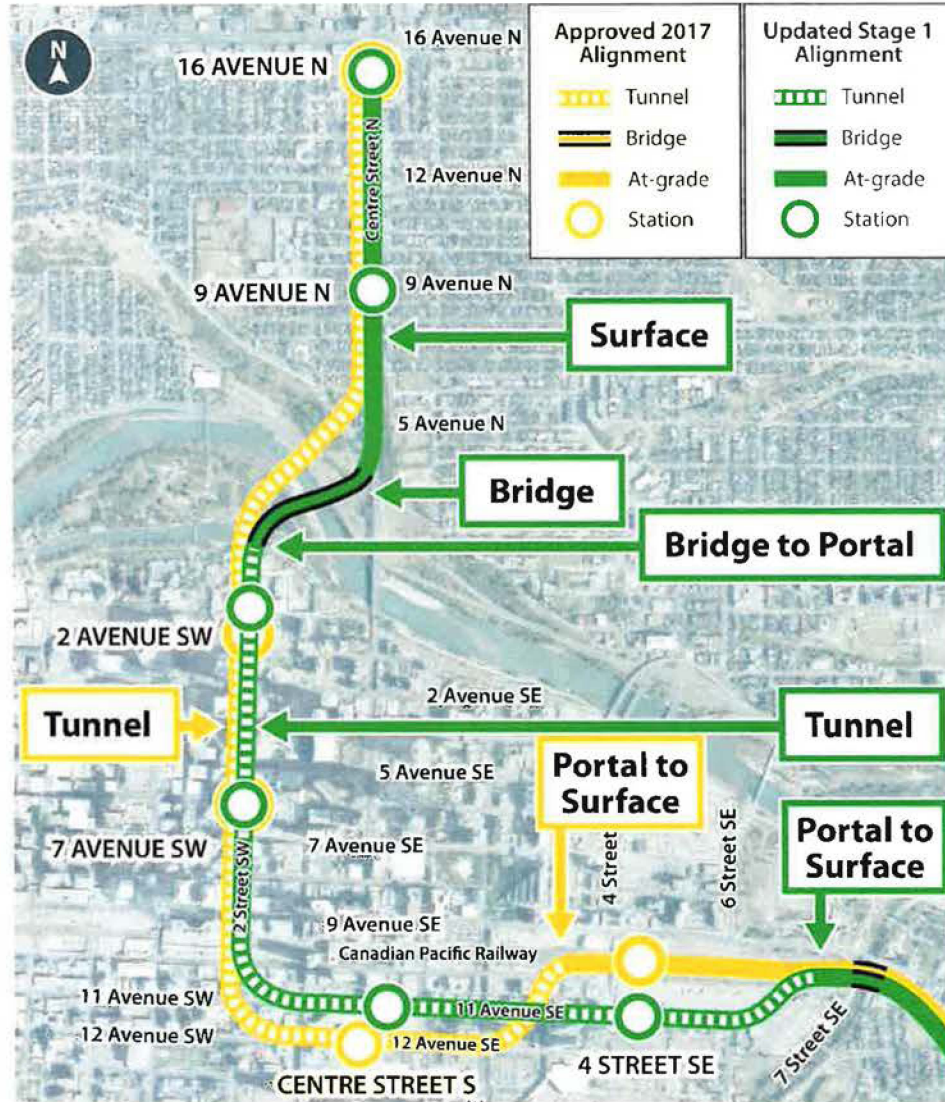
Value Engineering & Managing Risk

- Replaced parkade with surface parking lot at the Shepard LRT station
- Raised track through Lynnwood Ridge and former Imperial Oil Refinery lands
- Optimized size and scale of the LRT maintenance and storage facility



Segment 2 16 Avenue N to Elbow River

2017 Council
Approved and
Updated Stage 1
Alignments



North Central BRT Improvements

Customer Service

- Increase the clarity and comfort of the system

Transit Priority

- Measures that improve ride time and reliability



Centre Street N Alignment



Centre Street N

16 Avenue N Station & Wide Public Realm



Centre Street N

Narrow Public Realm



Centre Street N 9 Avenue N Station

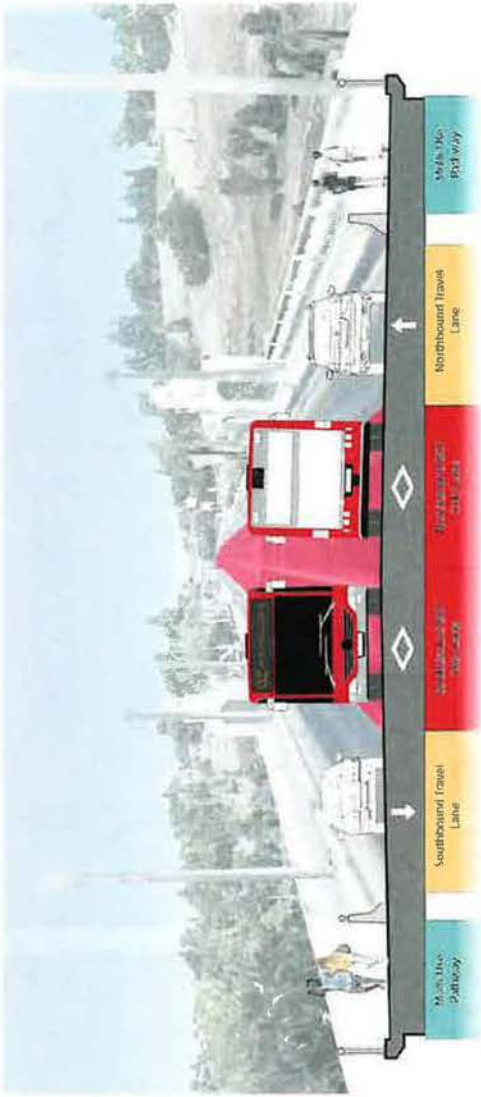


Centre Street N

BRT Priority & Centre Street Bridge



BRT to operate within LRT guideway & dedicated lanes on Centre Street Bridge





Bow River Crossing

Bridge types being explored



Constant Depth Viaduct



Trestle Bridge

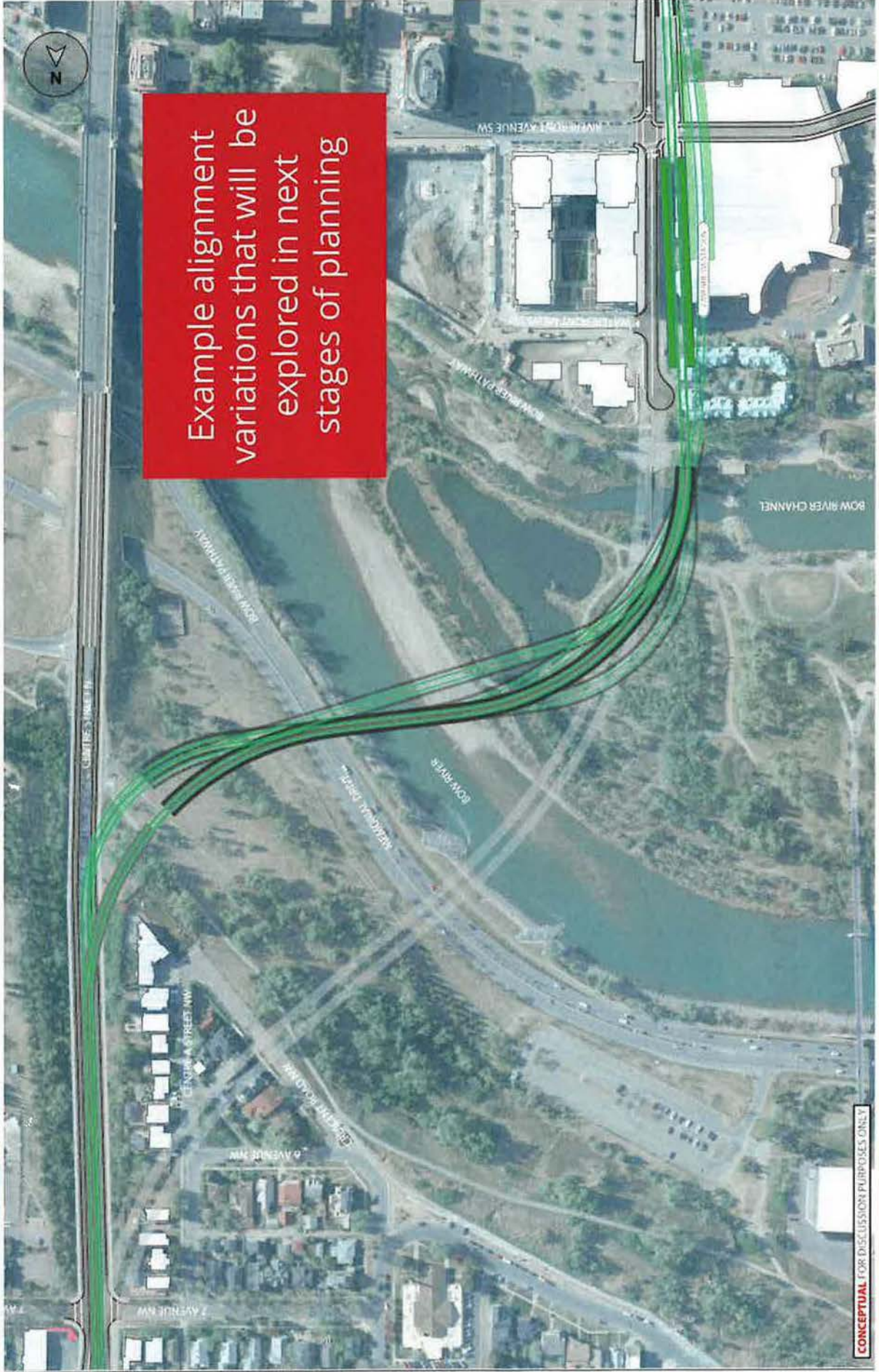


Tied Arch Bridge



Cable Stayed Bridge

Bow River Crossing Alignment Variations



Bow River Crossing

Multi-use pathway



LRT Bridge to
include Multi-Use
Pathway



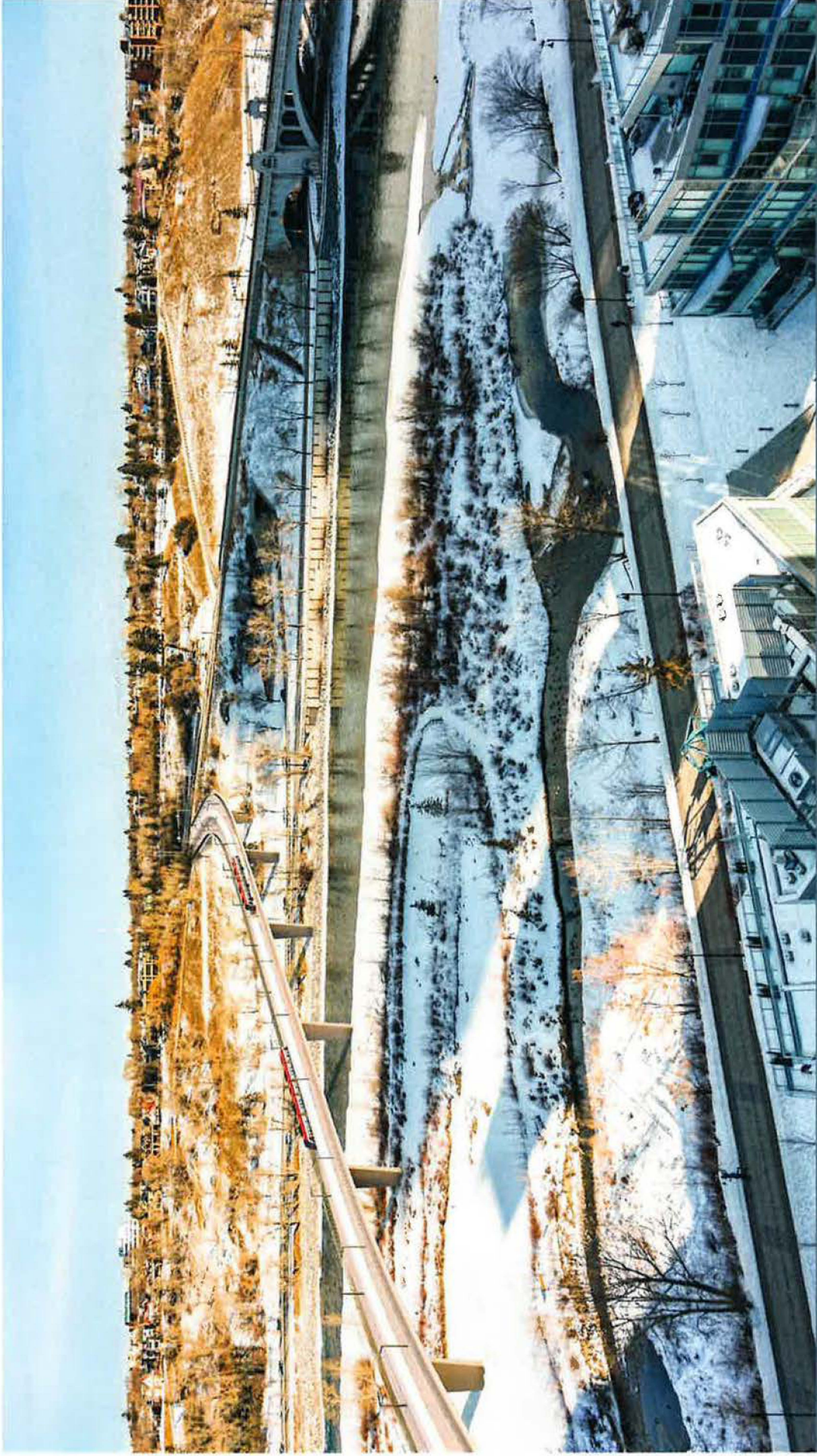
Bow River Crossing

Views - Crescent Heights





Bow River Crossing Views – Waterfront Condo



Bow River Crossing Views - Prince's Island Park



Bow River Crossing

Views - Prince's Island Park



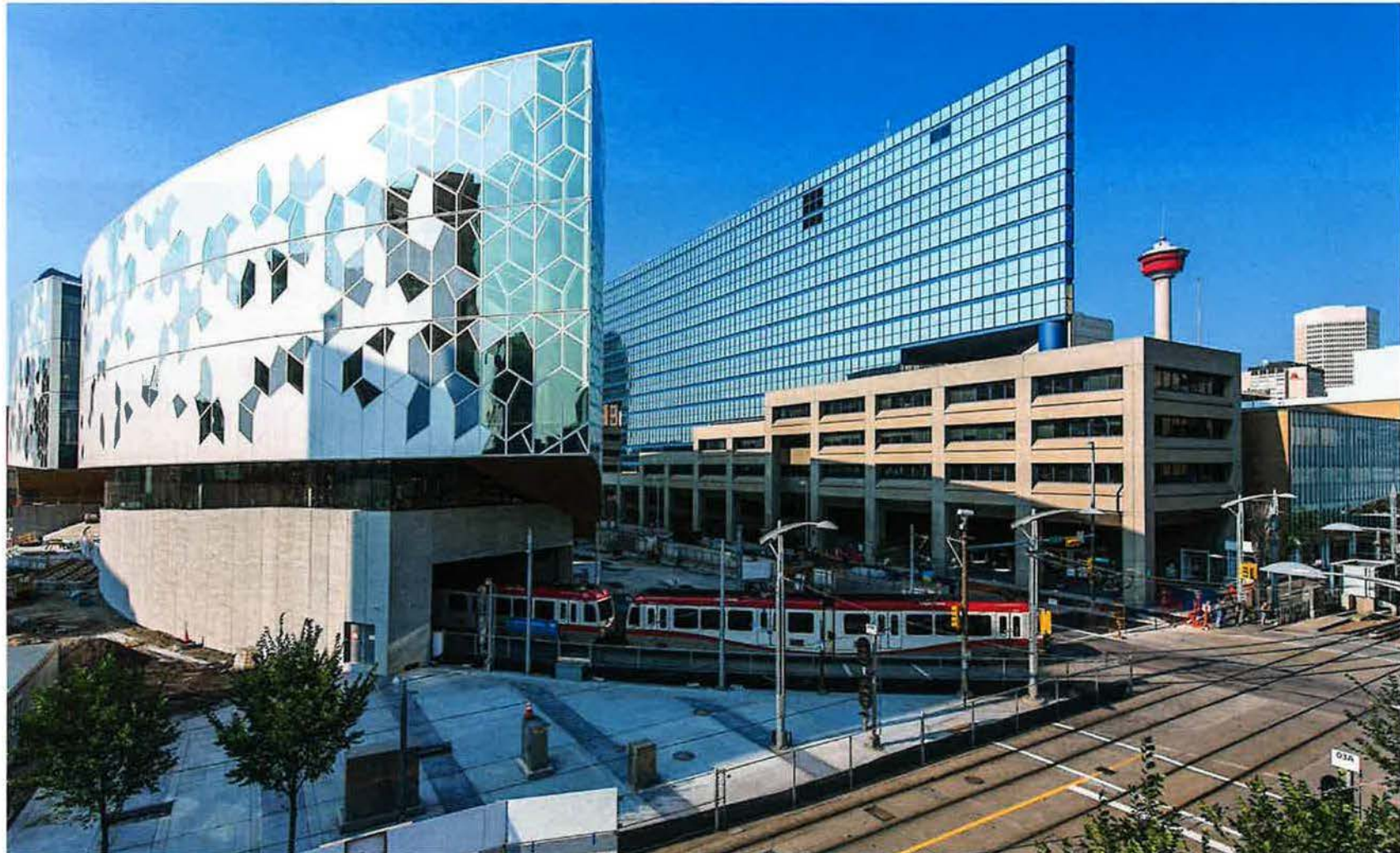
Downtown Alignment





2 Avenue Integrated Station Concept

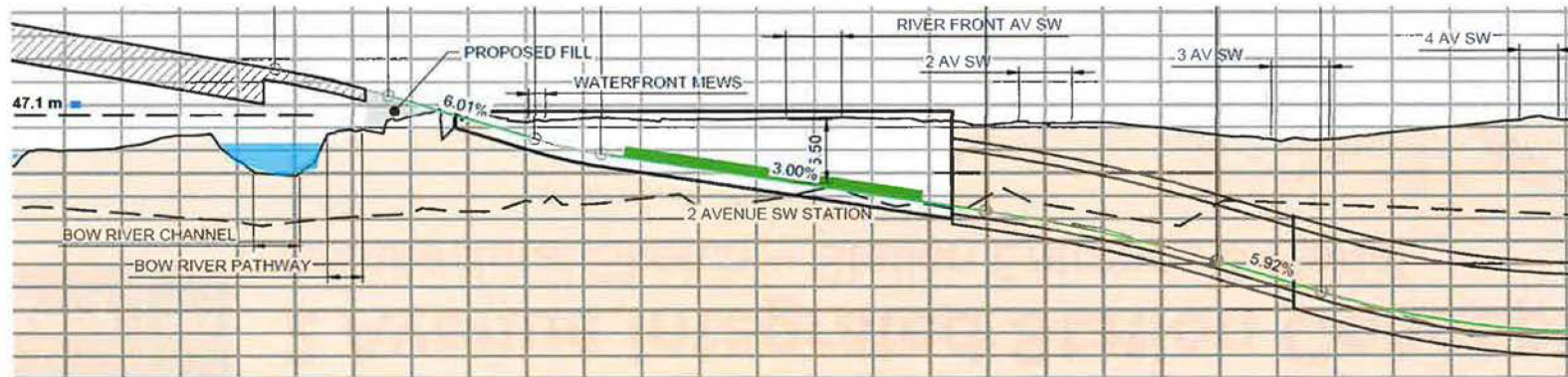
Inspiration New Central Library





2 Avenue Integrated Station Concept

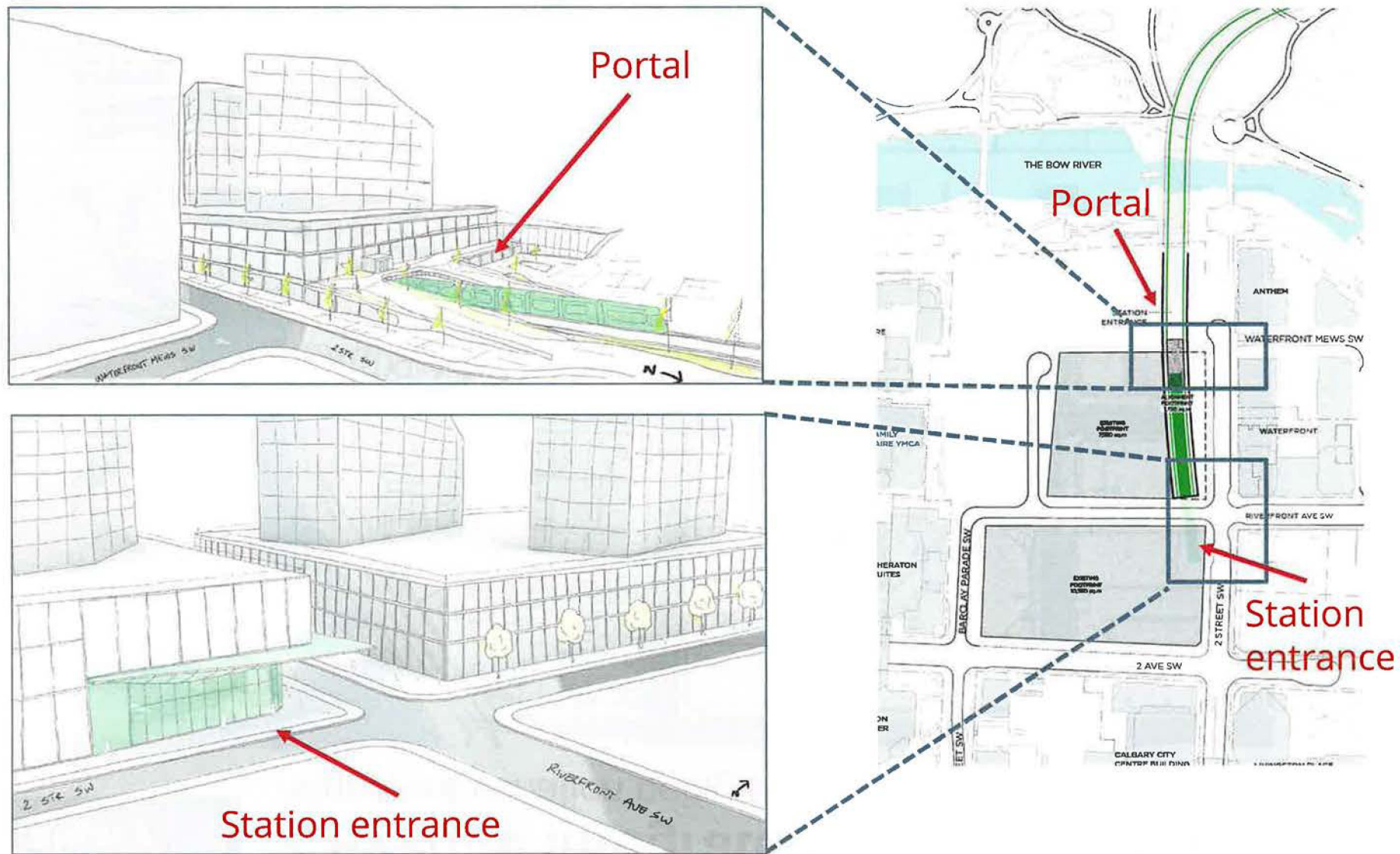
Alignment variation being explored





2 Avenue Integrated Station Concept











Architectural Sketch – Station Entrance & Portal



7 Avenue SW Station Integrated Station Concept



Beltline Alignment Comparison

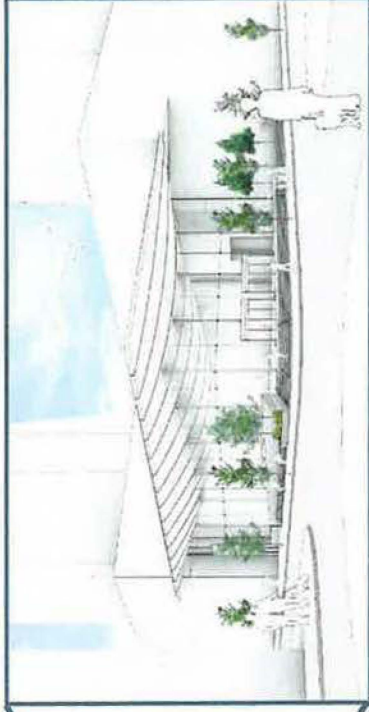
Updated Stage 1 Alignment	Approved 2017 Alignment
 Tunnel	 Tunnel
 Bridge	 Bridge
 At-grade	 At-grade
 Station	 Station
 Portal	 Portal





Radius of curve to be finalized in next stages of planning

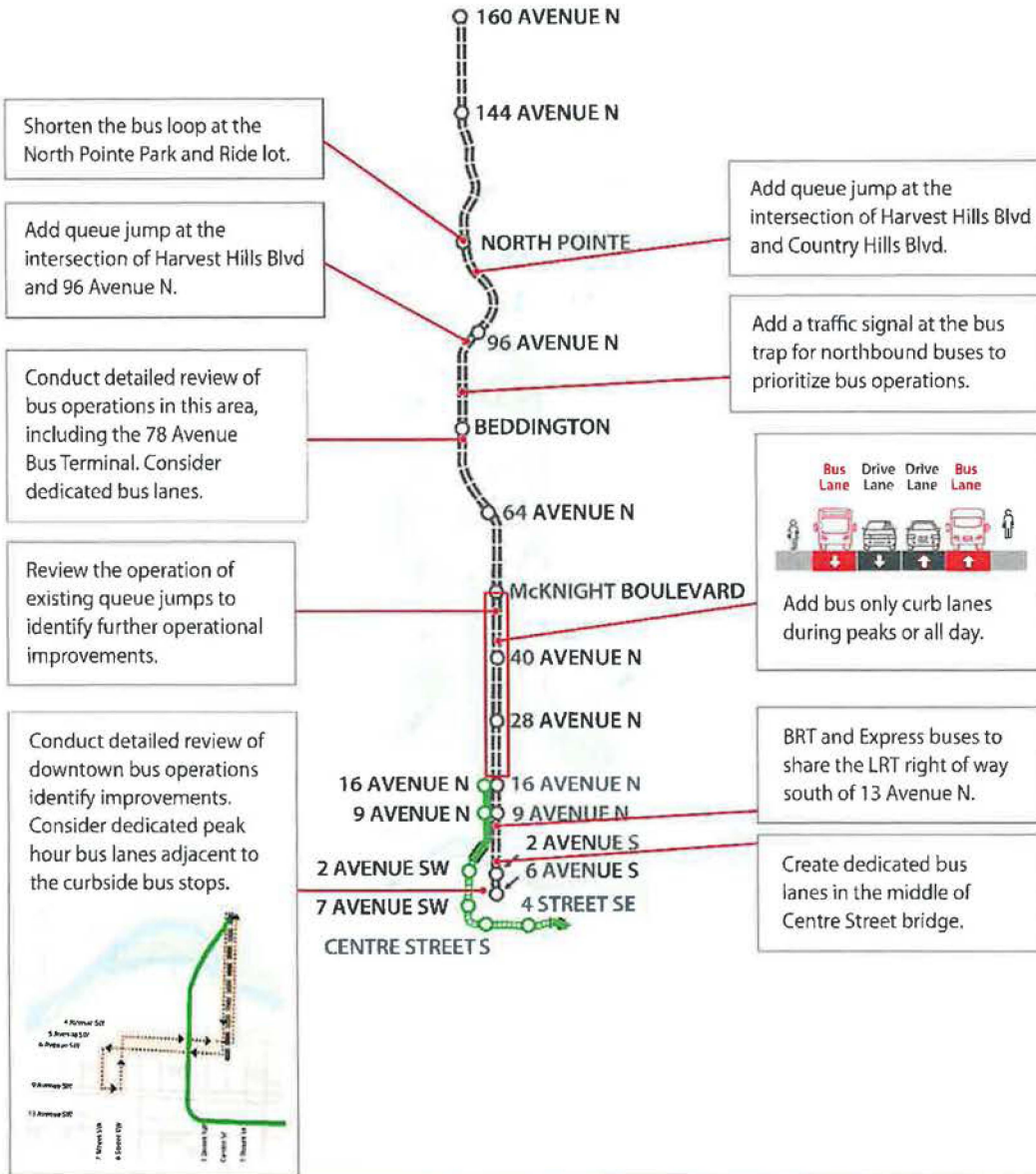
Integrated Station Concept



Beltline Rivers District Portal



North Central BRT Improvements



Recommended general BRT improvements

- Provide improved customer amenities, including MAX BRT shelters
- Provide transit signal priority (TSP) at all signals along the route (currently just over 60% have TSP).
- Evaluate opportunities for on-board fare payment and all-door boarding.



Centre Street Bridge - BRT Lanes



- Public engaged January 29 to April 30 2020
- Online
 - 17,000 views of the engage portal
 - 7,500 visitors
 - 2,850 contributions
- In-person
 - 4 open houses attended by 780
 - 6 pop-up events attended by 400
 - 5 drop-in events attended by 115
 - Over 2,300 pieces of feedback received
- Key Stakeholder meetings
 - Special interest groups, business improvement areas, community associations, downtown property owners





Stakeholder Engagement Common Themes



Bridge
Design



Environment



Noise &
Vibration



Community
Traffic



Mobility
Network



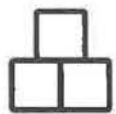
Parking

Calgary



Right Approach

Readiness Plan



Structure

How the program will mature over time



Confidence

Confirm expertise to deliver



Focus

Sequence and division of work



Discipline

Proactively support the program



Accountability

Transparency and ownership across the team



Work Streams

Governance
and Program
Set-Up

Planning

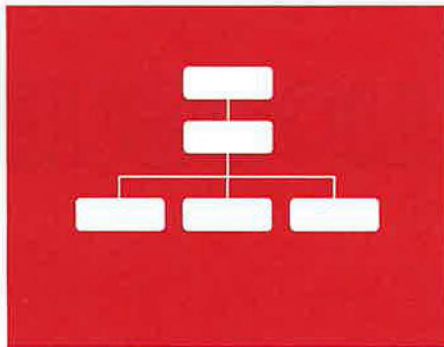
Commercial

Technical and
Delivery



2020 Goals

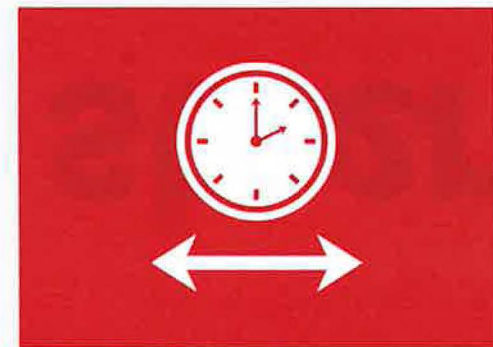
Governance and staffing



Planning



Delivery

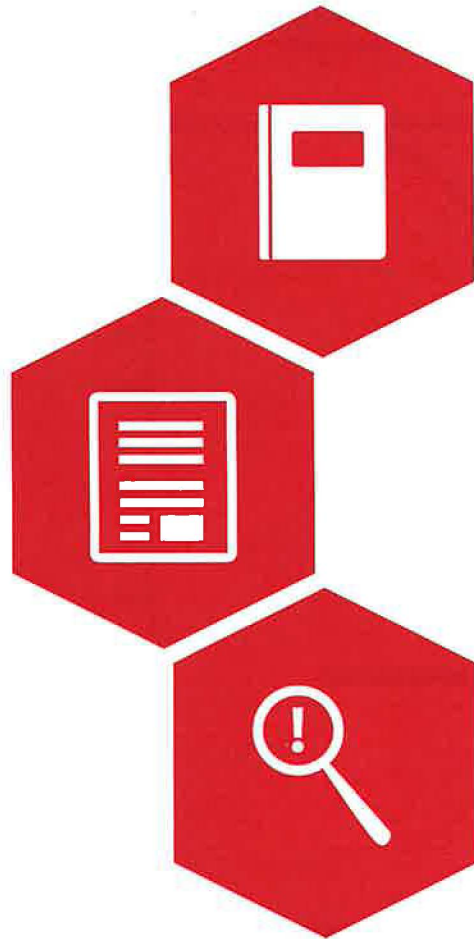




Due Diligence



Risk



Risk Management Plan

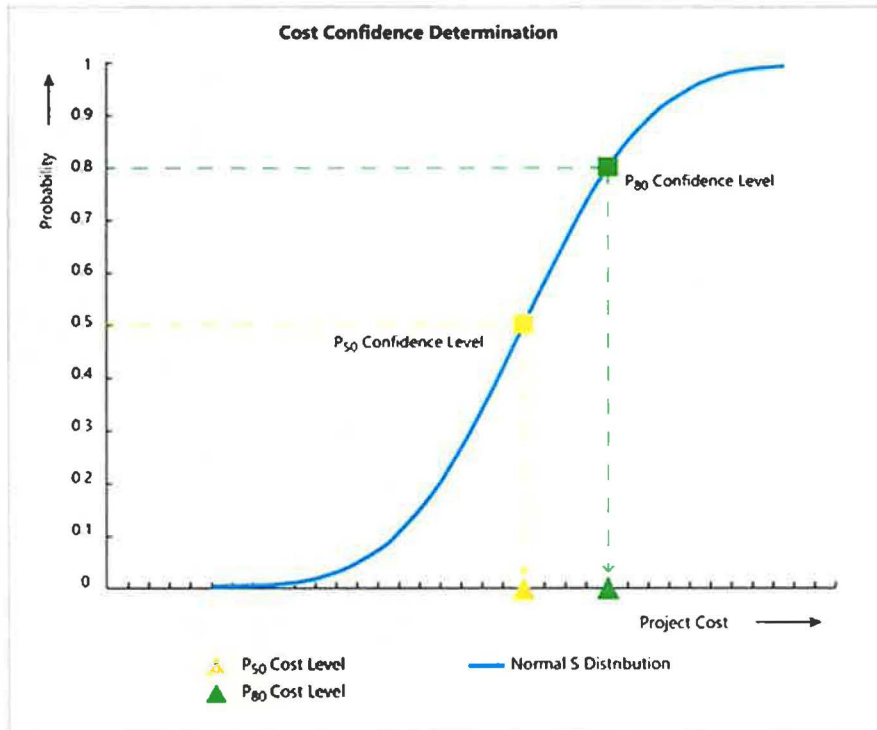
A clear plan for identifying, assessing, and managing risks as well as communicating status and potential implications.

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.



3rd Party Cost Review

- Green Line Estimate was within industry Standards compared to other LRT lines across Canada
- Green Line Estimate was 2% more conservative than 3rd Party review
- P value now at a P81 – meaning there is an 81% likelihood our project will be completed within budget – industry best practice is P80-P90



Conclusion



Right Alignment

The updated Stage 1 alignment provides the best value for Calgarians

- Within \$4.9 billion budget
- Reduced construction risk
- Improved customer experience





Right Project

The Green Line LRT project is a long-term investment in the growth and development of our city

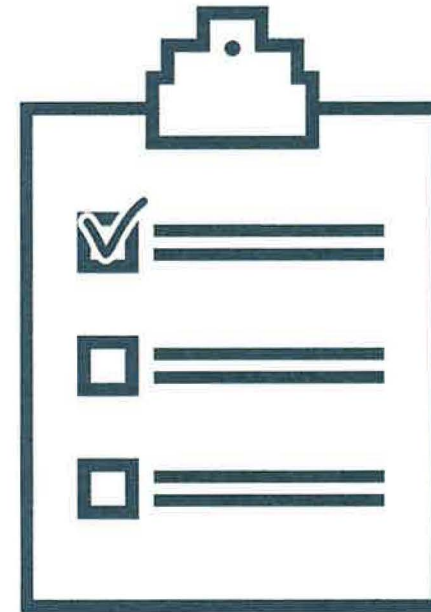
- Maximizes the investment in Calgary today
- Builds the core of Calgary's next LRT, allowing strategic expansion in the future to communities in the North & South
- Creates 20,000 direct and indirect construction jobs



Right Approach

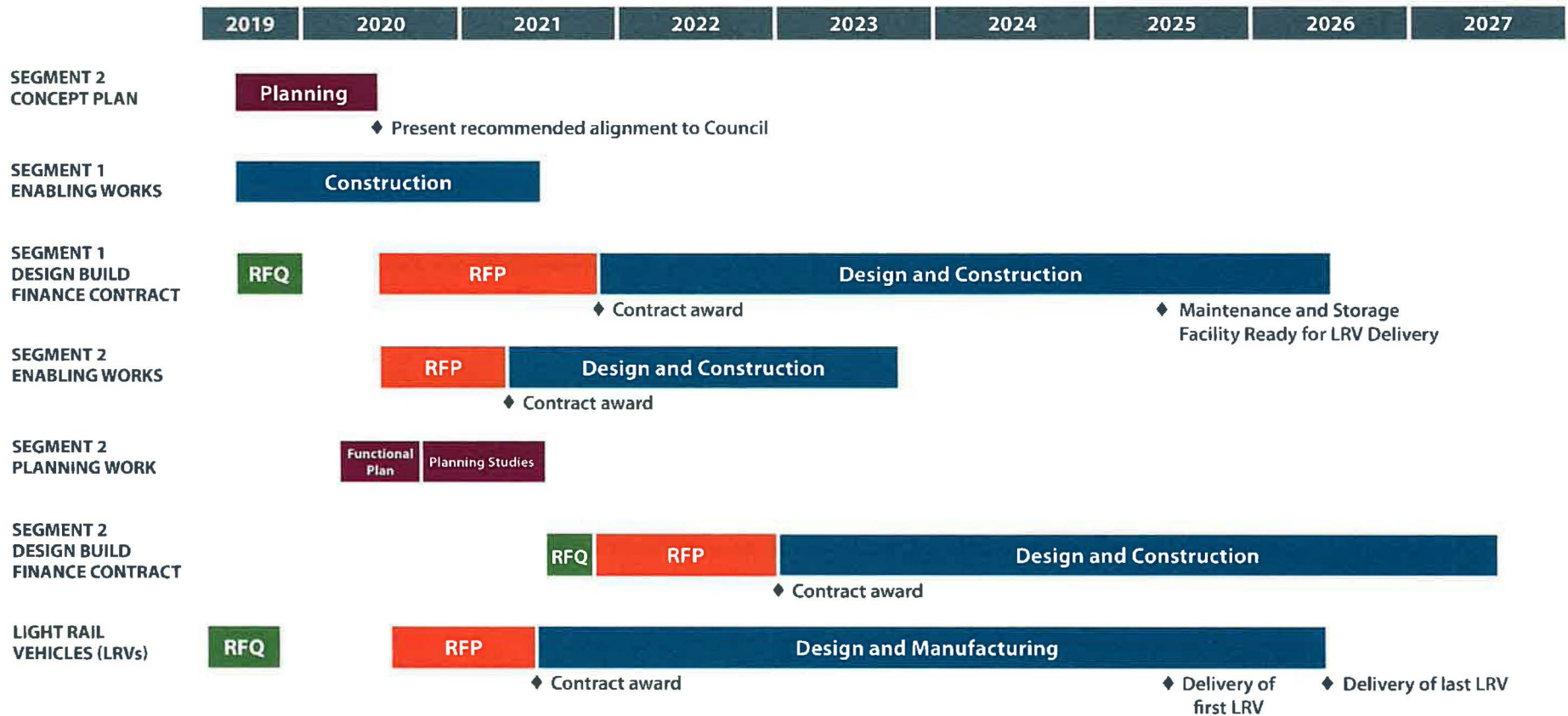
We're confident that we have the right plans in place to move forward

- Technical Risk Committee
- Readiness Plan
- Due Diligence reviews
- Program Governance Board





Next Steps





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 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;



Administration Recommendations – Cont'd

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.

Questions

