

Engagement process

Public engagement on the updated Stage 1 alignment, with a focus on Segment 2 – Elbow River to 16 Avenue N, took place January 29 to April 30, 2020. The engagement included a series of in-person and online opportunities to learn about the updated Stage 1 alignment.

The engagement process focused on gathering public feedback to give City Councilors an understanding of public sentiment towards the recommended updated Stage 1 alignment when making their decision.

In-person events included:

- Four open house events held in March in communities where changes to the alignment are being proposed, including Beltline, Eau Claire, Chinatown and Crescent Heights
- Six pop-up information sessions held in various locations along the entire Green Line route from North Pointe to Seton
- Five drop-in storefronts held in Crescent Heights

Online engagement was hosted on The City of Calgary engage portal (engage.calgary.ca/greenline) and via The City of Calgary's Citizen View Panel survey. Feedback was also collected via email and 311.

In total, in-person engagement events were attended by nearly 1,300 Calgarians and over 5,000 online comments were received.

Engagement summary

Of the over 5,000 comments received, numerous perspectives, positions, and interests were represented.

The Green Line team will present a "What We Heard Report" to City Council's Green Line Committee in June to help inform their decision. The What We Heard Report will include verbatim comments received through all engagement opportunities, including online engagement, open houses and pop-up events.

What we were exploring: Centre Street N

	What we explored	What we found
Side-running versus middle-running LRT	We reviewed running the LRT along the curbside lanes of the roadway versus the middle of Centre Street.	<p>The City is recommending a middle-running alignment on Centre Street N to best balance:</p> <ul style="list-style-type: none">community desire for pedestrian realm improvements, such as comfortable sidewalks and opportunities to plant treessafe movement of pedestrians, vehicles and LRTaccess and circulation to businesses and into the communityefficient LRT operations, with the top LRT speed matching the speed of traffic (50 km/hour)
Turn movements	We reviewed different options to accommodate left and right turn movements onto and off of Centre Street N for people who drive.	<p>Surface-running LRT in the middle of Centre Street N provides dedicated left turn bays at:</p> <ul style="list-style-type: none">16 Avenue N in both the southbound and northbound directions12 Avenue N in both the southbound and northbound directions10 Avenue N in the northbound direction9 Avenue N in the southbound direction7 Avenue N in the northbound direction
9 Avenue N Station	We reviewed adding a station at 9 Avenue N as part of the updated Stage 1 alignment.	<p>The City is recommending a station at 9 Avenue N as part of Green Line Stage 1. Benefits of adding this station include:</p> <ul style="list-style-type: none">better connects the Crescent Heights community and area businesses with Green Line and the broader rapid transit networkenables more opportunities for transit-oriented development in Crescent Heightsthe smaller community sized station that will be constructed at 9 Avenue N will help manage project costs and fit into the context of the neighborhood

What we were exploring: Centre Street N

Renderings that depict what the middle-running LRT configuration on Centre Street N and the 9 Avenue N station might look like:



Cross-section showing layout of the 9 Avenue N

Rendering showing what 9 Avenue N station might look like



Rendering that demonstrates how the roadway might feel to a motorist



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

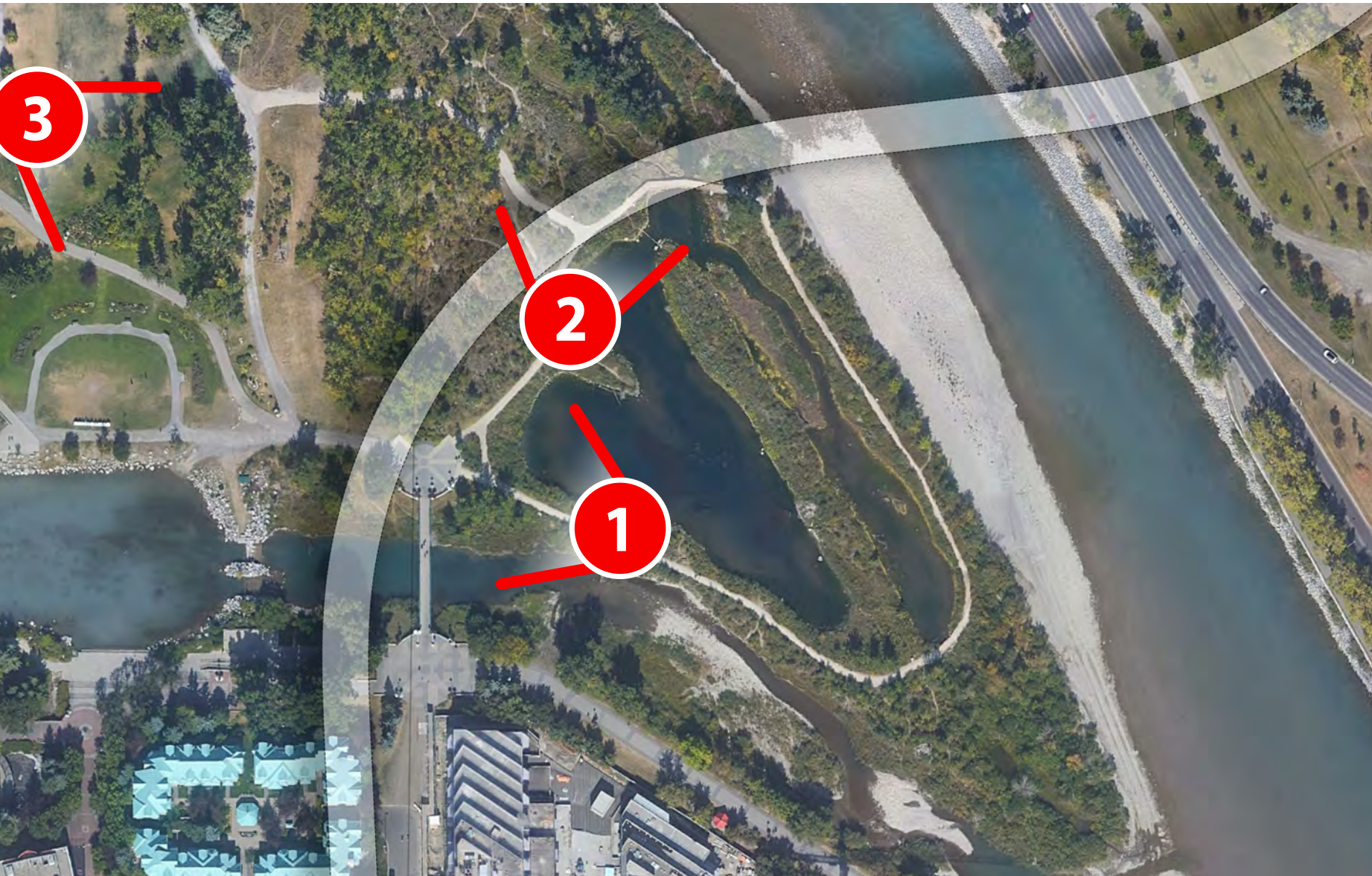
Stakeholder interests we heard and our response: Centre Street N

 <div>Desire to include a station at 9 Avenue N as part of the updated Stage 1 Alignment</div>	 <div><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></div>
 <div>Movement of local traffic and increased short cutting through the community</div>	 <div><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></div>
 <div>Loss of roadway capacity on Centre Street and impacts to surrounding mobility network</div>	 <div><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></div>
 <div>Desire for improved pedestrian safety & more comfortable pedestrian environment</div>	 <div><p>Streetscape improvements will be included as part of Green Line and will include new sidewalks up to building face (pending agreements with private land owners), pedestrian oriented street lighting, opportunities for tree planting, and new furniture such as benches, bike racks and waste & recycling bins. Pedestrian safety and connectivity across the corridor will be improved by providing signals at all pedestrian crosswalks.</p></div>
 <div>Impacts to businesses from surface-running LRT and Green Line construction activities</div>	 <div><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 Business Support Program to help businesses plan for and manage the potential impacts of construction.</p></div>
 <div>Increased noise, crime and social disorder due to the LRT</div>	 <div><p>Public safety and security is 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></div>
 <div>Desire for increased capacity and frequent, reliable transit service to communities further north</div>	 <div><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></div>

What we were exploring: Bow River Crossing

How might the bridge look and where might it land?

We are continuing to refine how the bridge will connect on the north and south sides of the Bow River and how it will integrate within the surrounding natural and built environment.



As requested by citizens during public engagement, we have developed additional renderings to better understand how the bridge might look within Prince's Island Park from different viewpoints.

Note, the renderings below are concepts only – we are currently in the initial bridge planning phase and do not have a design for the bridge.



This image shows what the bridge might look like when viewed from the Chevron Learning Pathway, and demonstrates a potential design idea that makes the bridge piers function as gateway features.



This image shows what the bridge might look like traveling north on the Chevron Learning Pathway beside the bridge.



This image demonstrates how the bridge will be screened by the existing tree canopy when looking east from the centre of Prince's Island Park.



Through the next stage of planning, The City will conduct detailed technical investigations and studies to refine the bridge alignment and configuration, including the shape of the curve.

This plan (left) demonstrates a few of the different bridge alignment variations that will be explored in the next stage of planning.

What we were exploring: Bow River Crossing

Will there be a pathway on the new Green Line Bow River Bridge?

The City is recommending that the new LRT bridge include a multi-use pathway for pedestrians and cyclists. The details of how this pathway will be incorporated into the structure will be determined through the next stage of bridge planning.



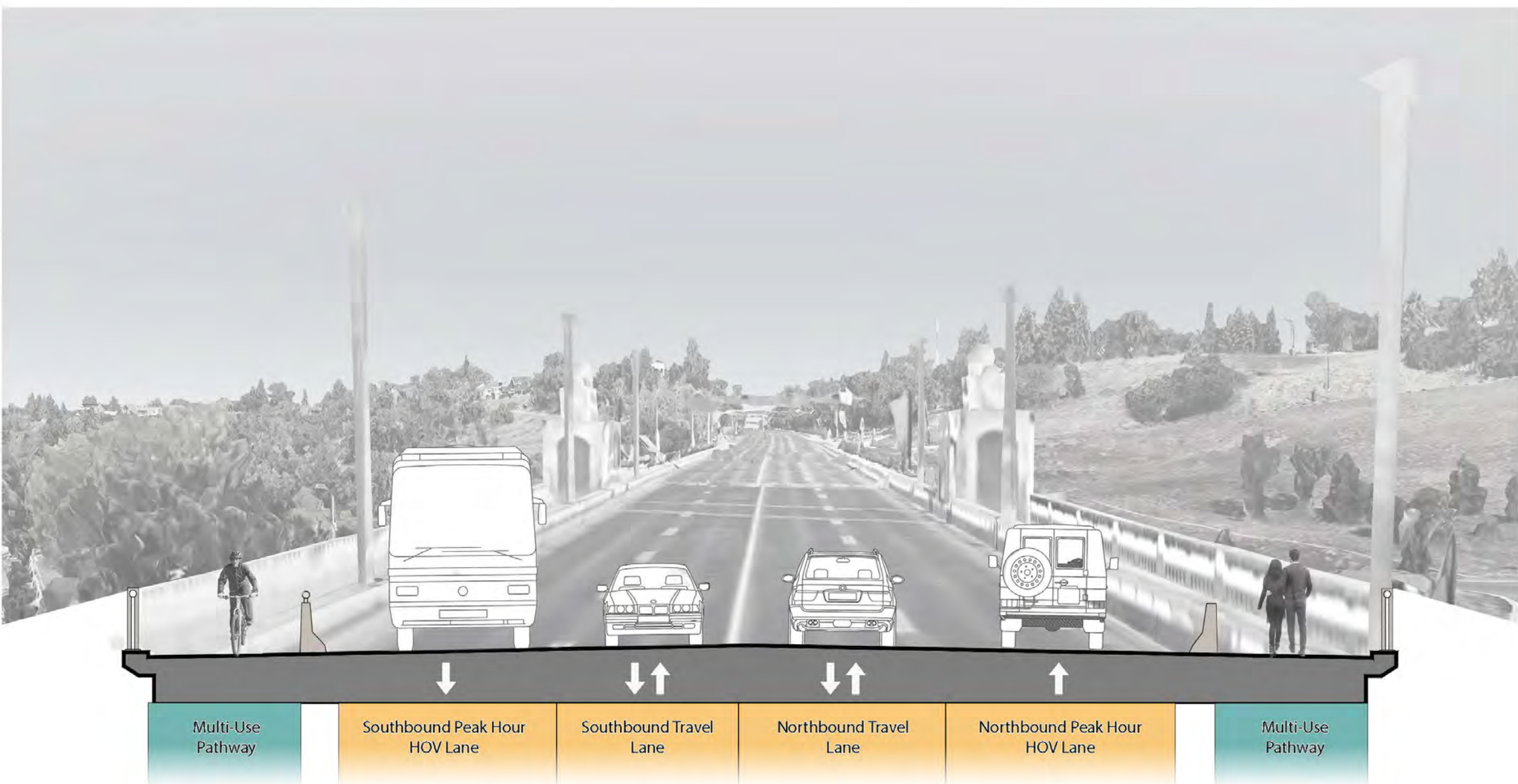
Rendering showing what a multi-use pathway might look like on the new LRT bridge

What happens to the existing Centre Street Bridge?

To support improved travel time reliability for BRT users in north Calgary, the two centre vehicle lanes on the Centre Street bridge will be re-purposed as permanent dedicated BRT lanes.

The outer lanes will remain useable for vehicle traffic.

Centre Street Bridge - Existing Conditions



Centre Street Bridge - Proposed BRT



Stakeholder interests we heard and our response: Bow River Crossing



Environmental impacts on Prince’s Island Park and the constructed wetland and lagoon



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.

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.

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.



Bridge impacts on river pathway users



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.

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.

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.



Bridge alignment and geotechnical considerations



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.

Through the next stage 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



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.



LRT operation on the bridge creating noise that affects park and pathway users and adjacent residents



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.

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.

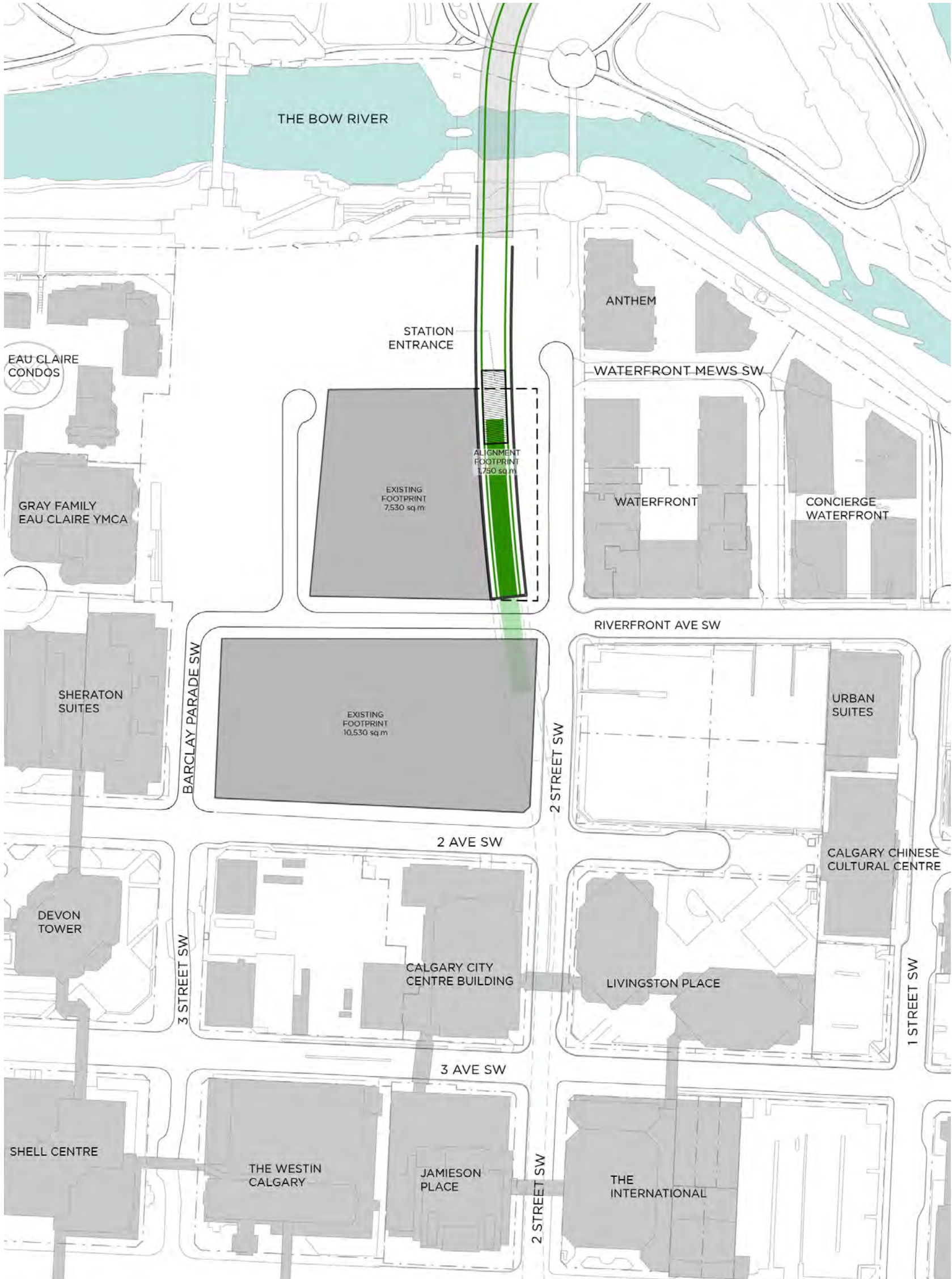
What we were exploring: Downtown

Integration of the 2 Avenue S.W. Station and portal into the Eau Claire Market redevelopment site

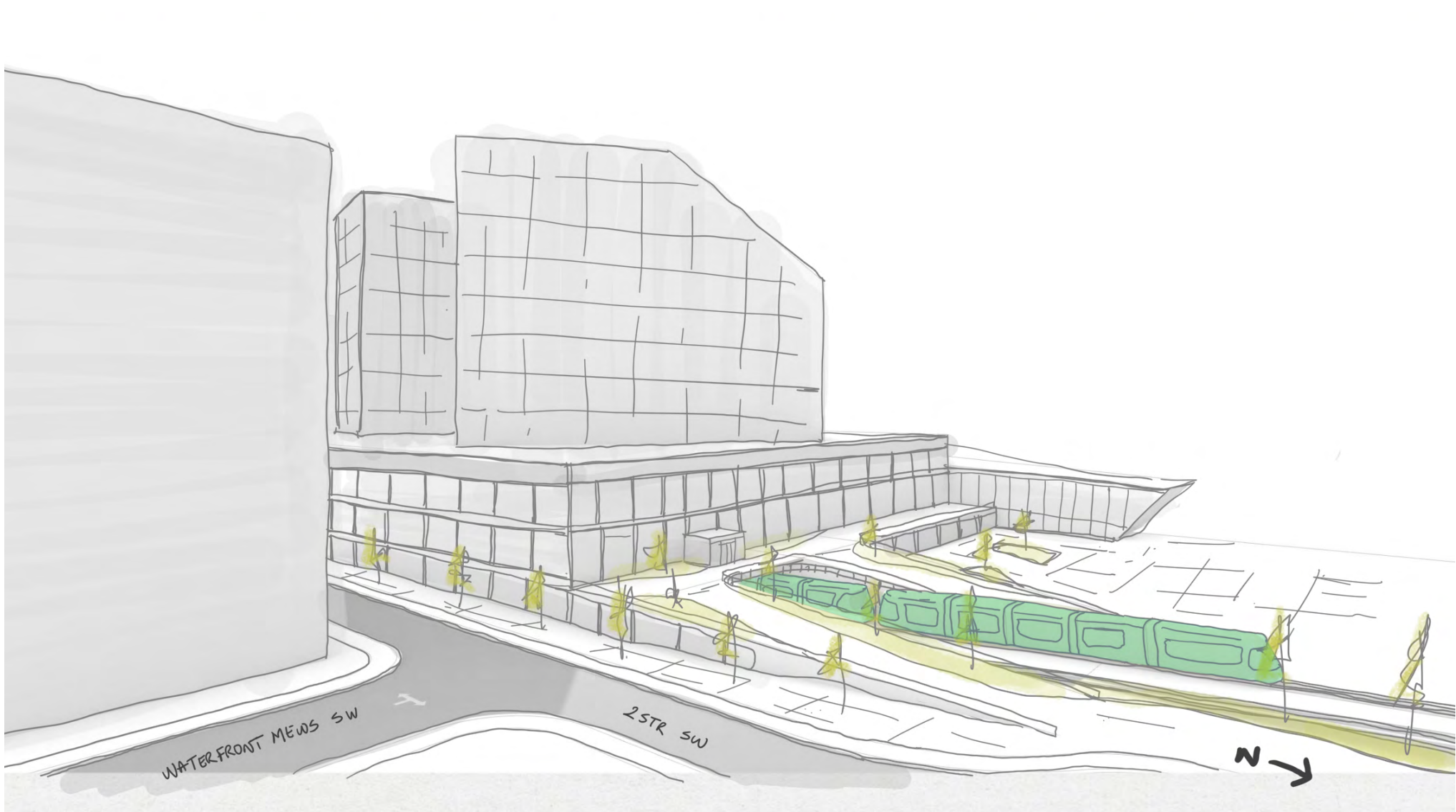
The Green Line team has responded to concerns expressed by area businesses and property owners by revising the plan of the 2 Avenue S.W. station area by moving the portal and station out of the road right-of-way and integrating the LRT infrastructure directly into the future Eau Claire Market redevelopment site.

The City and Harvard Development Inc. have begun exploring a collaborative plan that could encapsulate the LRT station and portal into the future development. An example we’re taking inspiration from is the way the new Central Library encapsulated Calgary Transit’s Red Line portal.

By integrating the portal and 2 Avenue S.W. station into the redevelopment site, the LRT alignment will remain partially underground until the train exits through a portal at the north end of the property, in the vicinity of Waterfront Mews S.W. This new station layout could mean that Green Line will not impact the existing public road network in the area.



Site plan that shows a potential layout of the 2 Avenue S.W. partially underground station and portal within the future redevelopment of the Eau Claire Market site.



Architectural sketch commissioned by The City that 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 S.W. and Riverfront Avenue S.W. might look like once integrated into the future redevelopment of the Eau Claire Market site.

Note: Updated plans for the Eau Claire Market site have not been developed by Harvard Developments Inc., as such, this graphic shows a possible design and is for illustration purposes only.

Stakeholder interests we heard and our response: Downtown



Impacts on local traffic, access and circulation



The Green Line team responded to concerns expressed by area businesses and property owners by revising the plan of the 2 Avenue SW 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.

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.



Reduced quality of life due to safety, privacy and visual impacts of LRT



Public safety and security is 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.

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.



Impacts due to noise & vibration from LRT operations



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.

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.



Residential property values decreasing due to proximity to station



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.

Opportunities for integrated stations: Downtown and Beltline

Exploring opportunities to integrate underground stations into adjacent developments

The City is continuing to work on the planning of underground stations at 7 Avenue S.W., Centre Street S, and 4 Street S.E. to determine exactly where stations and their entrances will be located.

Over the next few months, the Green Line team will be meeting with developers and landowners in station areas to explore potential opportunities to collaborate on integrating station entrances into existing or future private developments.



Architectural sketch that depicts what an underground station entrance might look like when integrated within an existing or future development.

Stakeholder interests we heard and our response: Beltline



Interest in improved public realm & the roadway and sidewalks



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 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.



Underground station design, safety and security



Public safety and security is 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.

Stations will be appropriately sized to accommodate peak passenger volumes and event loading requirements.



Negative impacts during construction



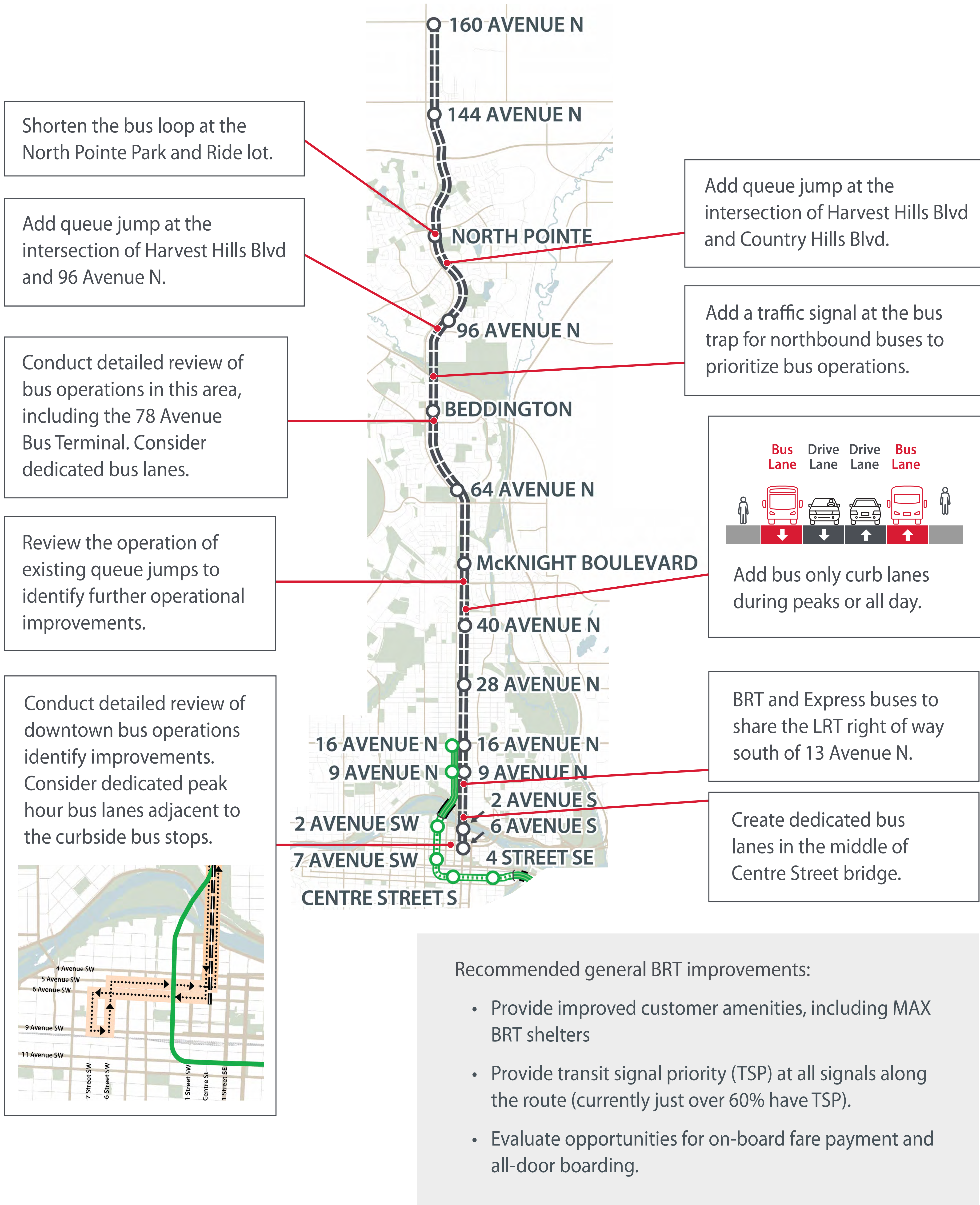
Our contractors will be required to manage construction dust, noise and debris, similar to other City of Calgary construction projects.

The City will be developing a Business Support Program to help businesses plan for and manage the potential impacts of construction.

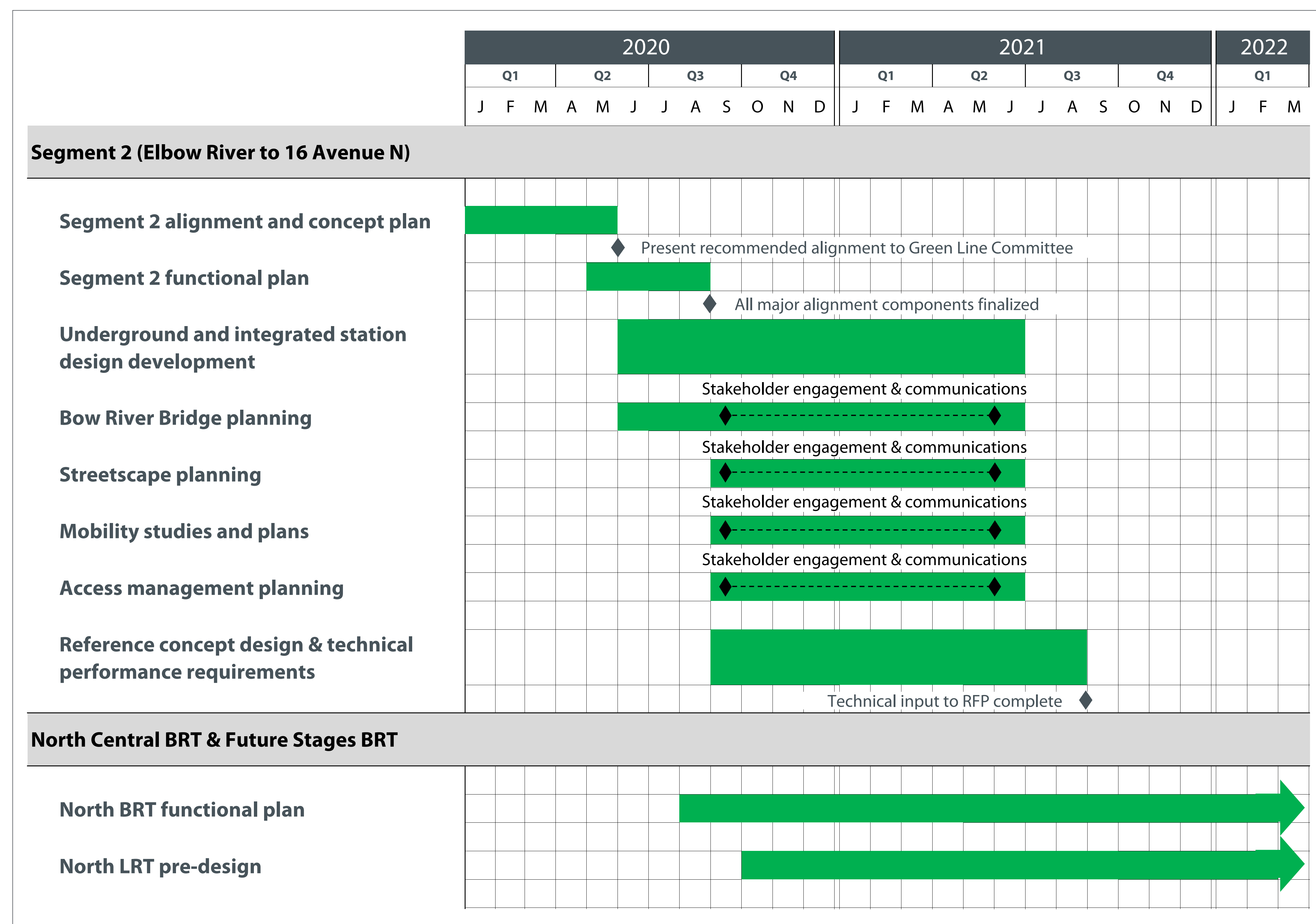
The Green Line project team will be working with Calgary Municipal Land Corporation (CMLC) and other area stakeholders to manage the potential impacts of concurrent construction projects in the Beltline, such as the Event Centre and BMO expansion, among others.

Potential North Central BRT improvements

Bus rapid transit (BRT) improvements on Centre Street N are being recommended as part of the proposed updated Stage 1 alignment. These improvements were identified following an evaluation of existing bus service on the Centre Street N and Harvest Hills Boulevard N corridor. As a next step, The City is recommending that a functional plan be undertaken to further investigate BRT improvements to implement.



This chart (right) summarizes the 2020-2021 planning work program and identifies anticipated opportunities for stakeholder engagement and communications.



How to stay involved

As we continue with the planning process there will be additional opportunities for Calgarians to stay involved in the Green Line project.

Online Presentations – May 20 & 21, 2020

We will also be hosting a virtual presentation on the updated Stage 1 alignment. Mark your calendars for:

- Wednesday, May 20 - 12 p.m. to 1:30 p.m.
- Thursday, May 21 - 7 p.m. to 8:30 p.m.

Green Line Committee – June 1, 2020

The Green Line Committee meeting on June 1 will have a public feedback component. To limit the spread of COVID-19 and to avoid mass gatherings, people can participate in the meeting virtually and by telephone.

How to provide a public submission:

- Written public submissions are due at 12 p.m. on May 25.
Use the [online form](#) to provide a written public submission.
- Members of the public can sign up to speak at the meeting until June 1, just so long as the item they want to speak to hasn't already passed.
- 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.