

An aerial night photograph of Brampton, Ontario, Canada. The sky is a vibrant mix of orange, pink, and purple from a recent sunset. In the center, a tall, modern glass skyscraper stands out. To its left is a large, modern building with a grid-like facade. In the foreground, a large, multi-story brick building with a clock tower is visible. A wide street runs through the center, with light trails from cars. A park area with a monument is in the lower left. The overall scene is a mix of modern and traditional architecture.

City of Brampton: LRT Extension Study Council Workshop

2021/03/05

Agenda

	Item	Presenter	Time Allotted
1	Introduction	Alex Milojevic	5 min
2	Hurontario LRT Update	Doug Rieger	5 min
3	LRT Extension Update	Compton Bobb/Nico Malfara	30 min
4	Questions		20 min

Hurontario LRT Update

Key Brampton Features

- Three LRT stops, including Ray Lawson, County Court and Brampton Gateway Terminal.
- The Operations, Maintenance and Storage Facility will be located within Brampton, on Kennedy Rd. south of Highway 407 ETR.



Background

The Hurontario LRT will bring 18 kilometres of fast, reliable, rapid transit between the Brampton Gateway Terminal and the Port Credit GO Station in Mississauga.



19
Stops



18
Kilometers



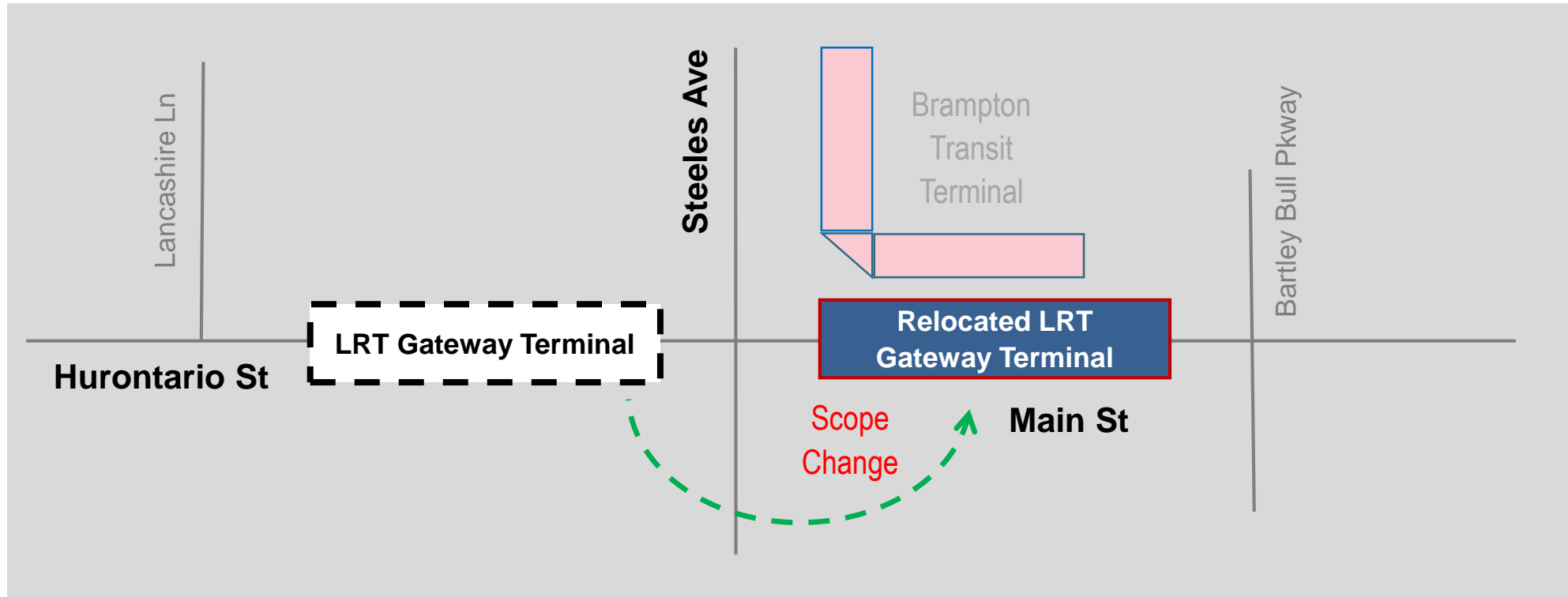
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Cities

Current Status

- The design is in progress at various stages and some early works construction activities, such as utility relocations are in progress within the City.
- A tentative completion and commissioning of the system by fall of 2024.

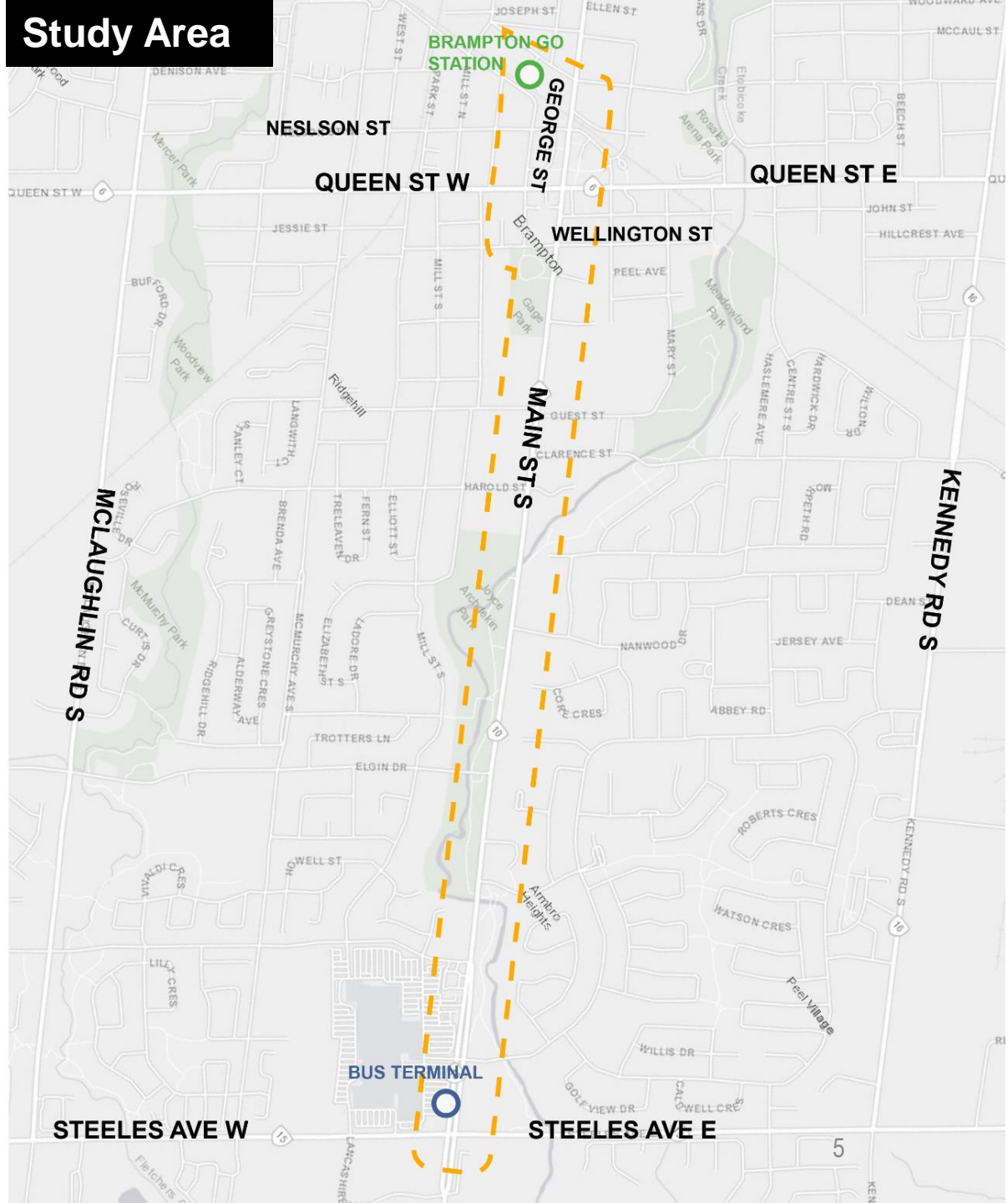
Hurontario LRT Update

- Brampton Gateway Hurontario LRT Stop Advocacy



LRT Extension Project Overview

Extending the planned Hurontario LRT from the Brampton Gateway Terminal at Steeles Avenue to the Brampton GO station at Steeles Avenue is a key transit priority and city-building project for the City of Brampton.



Vision and Goals

Vision Statement

The LRT Extension will contribute to a safer and more integrated transportation system to serve the City of Brampton, encouraging civic sustainability, emphasizing transit use and other modes of transportation over traditional automobiles, and supporting the revitalization of Downtown Brampton into an aesthetically beautiful, place-making destination. The vision for the LRT Extension reflects the transportation vision and actions set out in the Brampton 2040 Vision (2018).

Goals



Strong Connections



Complete Travel
Experiences



Sustainable and
Healthy Communities

Problem Statement

The extension of the Hurontario LRT from Steeles Avenue to Brampton GO is intended to address the growth-related transportation needs in the study area and the City of Brampton.

In the Study Area...



Population is expected to increase by over **26,000** by 2041



Employment is expected to increase by over **13,000** by 2041



To meet the City's growing transportation needs, transit service along Main Street would need to increase by **40%**



If no improvements are made, average trip times will increase by **5%**

What We Heard from the Public and Stakeholders

Expedite the project

Minimize impacts to Main Street South and Downtown

Provide express service with fewer stops

Create a transit hub at Brampton GO Station

Support businesses and revitalize Downtown

Retain heritage character and mature tree canopy on Main Street South

Provide a pedestrian friendly environment and ease of transfer between travel modes

Calm traffic along surrounding residential streets

Protect for future northward extension

Secure Provincial funding for the project

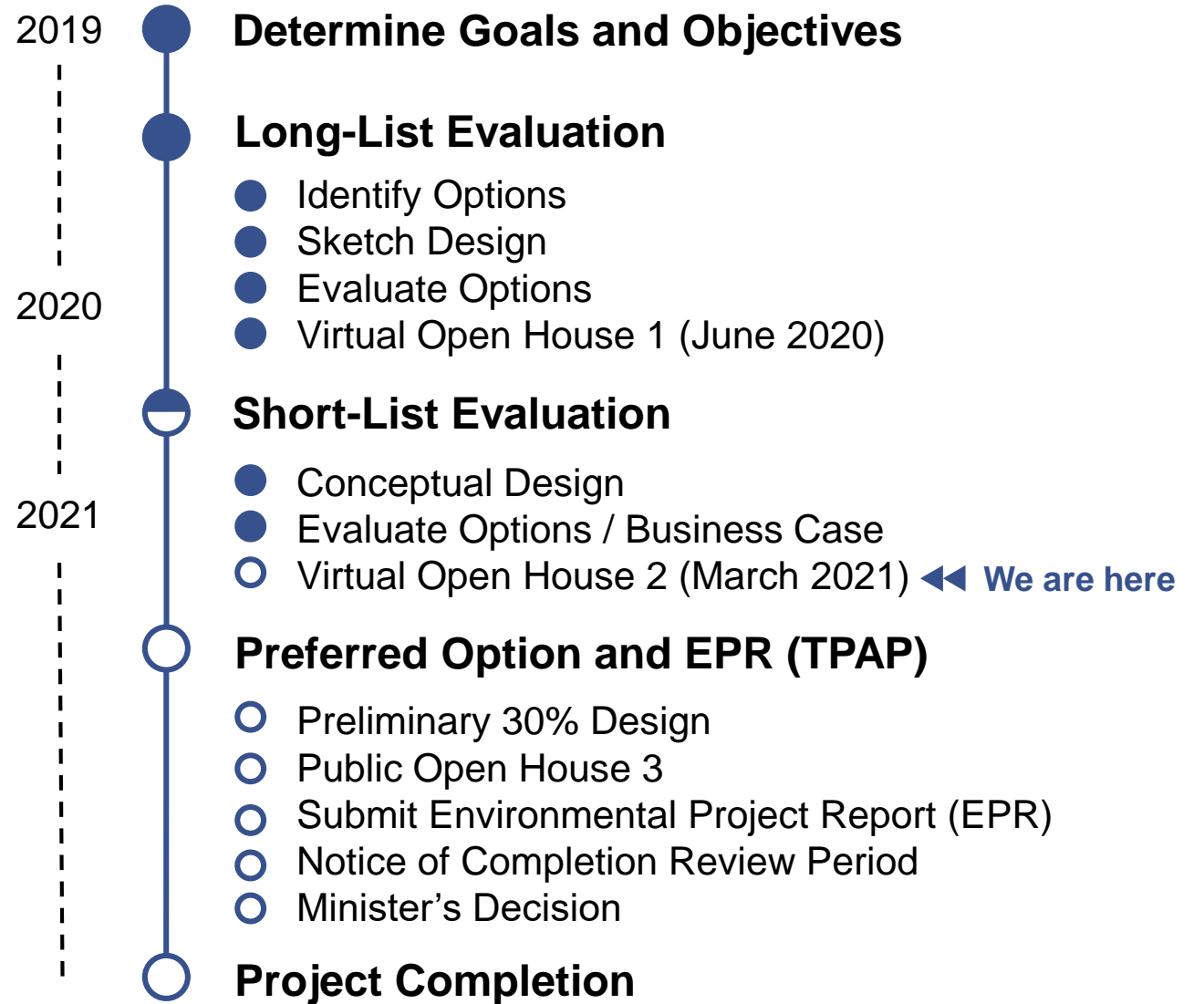
Study Process

The evaluation of options is a multi-level process that has occurred over the course of the study.

Through the three-level process, the long list of LRT options was evaluated and narrowed down to a short list. The short list was evaluated and is being presented at Virtual Open House 2.

The Transit Project Assessment Process (TPAP) is a provincial environmental assessment process developed specifically for the approval of public transit projects.

Proponents must complete the prescribed steps of the process within specified time frames.



Preliminary Design Business Case

The City of Brampton evaluated the short list options using the Metrolinx Business Case framework. A preliminary design business case (PDBC) was used to assess the short-listed options.

The analysis included four (4) business cases: Strategic, Economic, Financial, and Deliverability and Operations.

Strategic Case



How and why should the investment be pursued; based on goals, plans and policies

Economic Case



What is the investment's overall value to society?

Financial Case



What are the financial implications of delivering the investment?

Deliverability and Operations Case



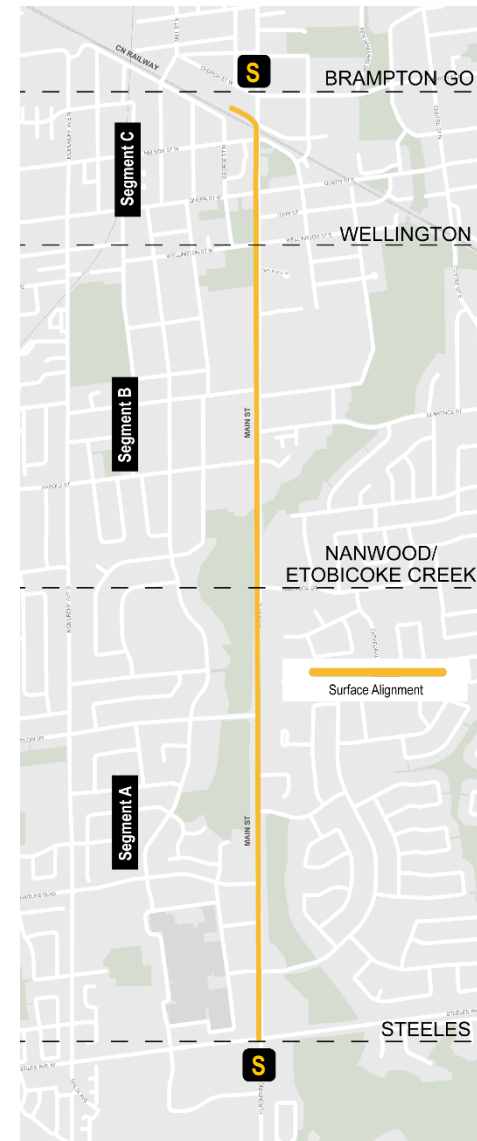
What are the risks and requirement to consider to deliver and operate the investment?

Short List of Options

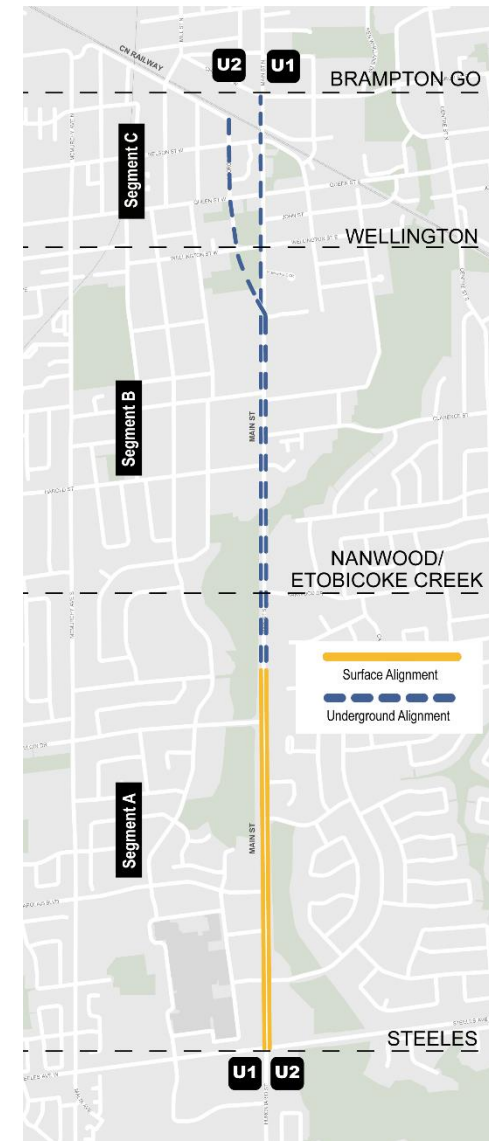
Since the last virtual open house in Summer 2020, we've evaluated the short list options (four surface and two underground).

Note: The loop options presented in the previous open house were not advanced to the short list for further assessment due to physical constraints (i.e. issues accommodating longer LRVs / impacts to property).

4 Surface Options



2 Underground Options

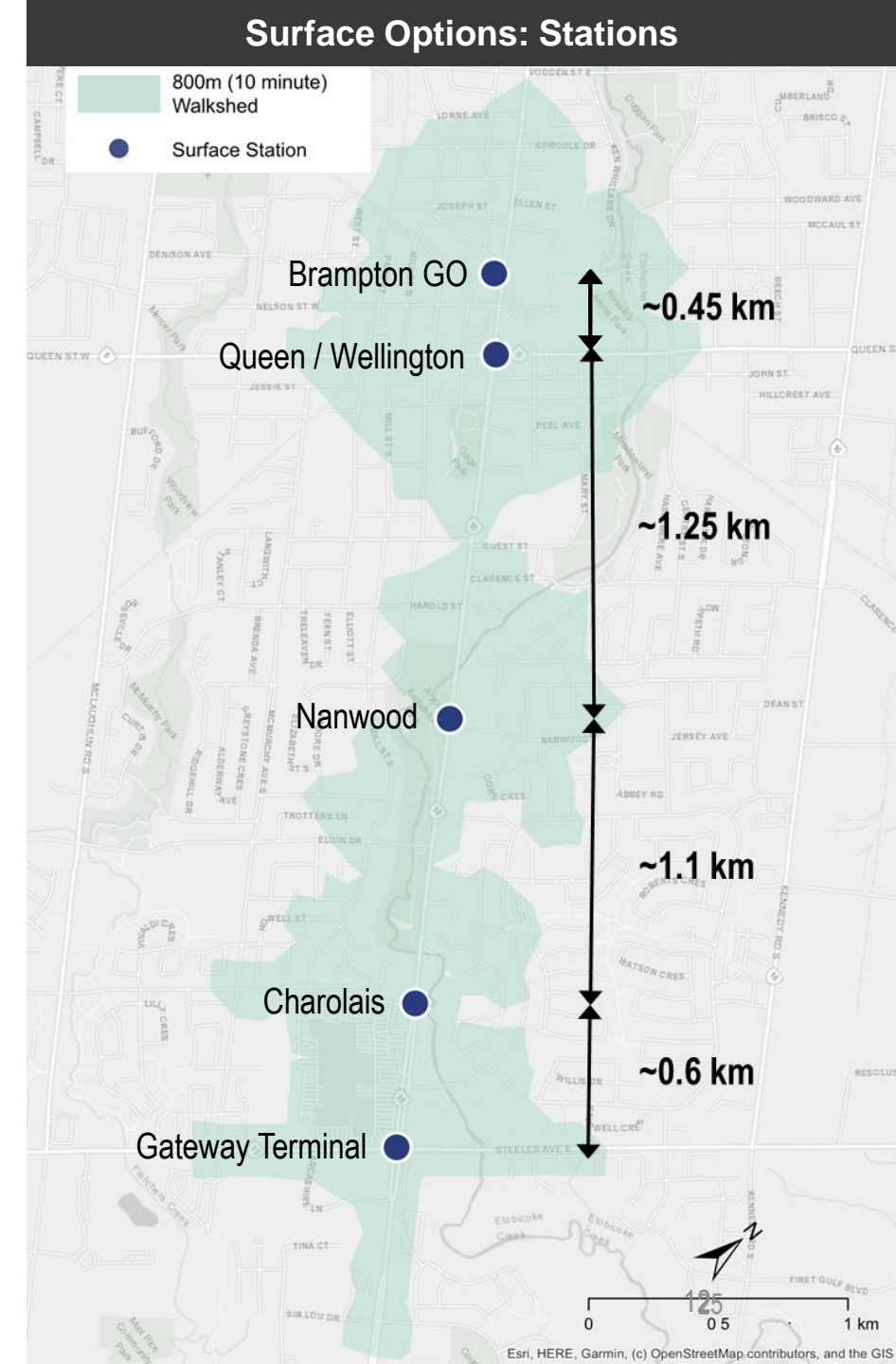


Proposed Station Locations

For surface options, stations are proposed at:

- Brampton GO
- Downtown (split platform)
 - Queen (Northbound)
 - Wellington (Southbound)
- Nanwood
- Charolais
- Gateway Terminal

Note: Station locations for surface options are consistent with 2014 TPAP recommendations.



Proposed Station Locations

For underground options, stations are proposed at:

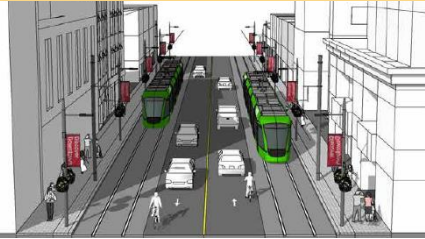
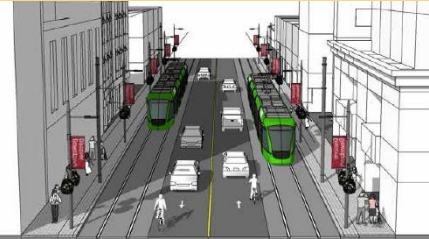
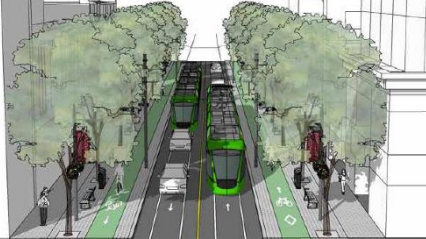
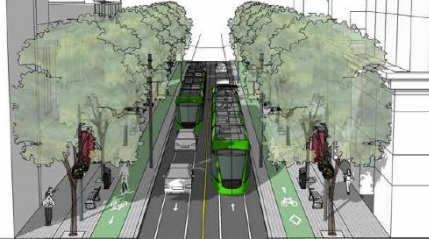
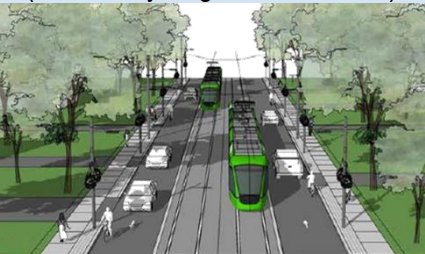
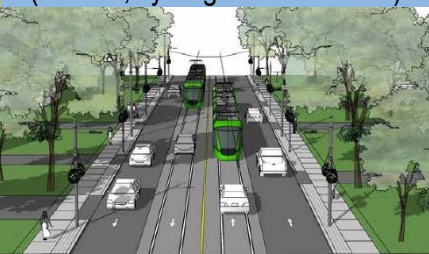
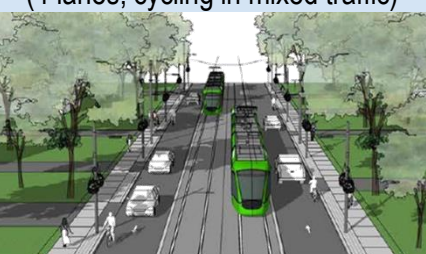
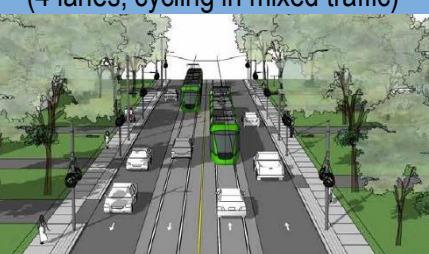
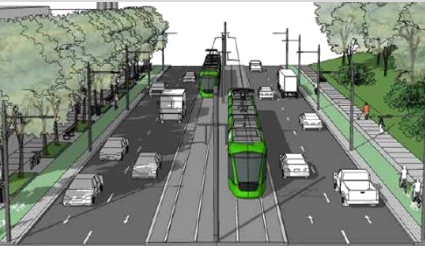
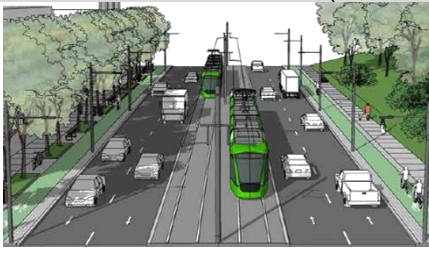
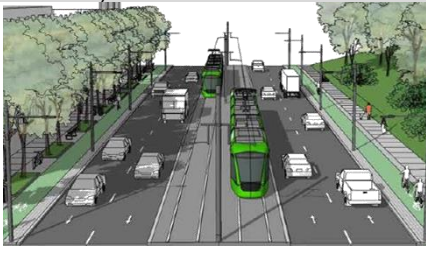
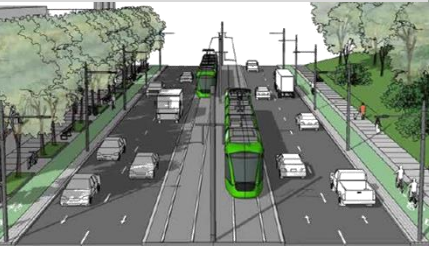
- Brampton GO
- Nanwood
- Charolais (surface stop)
- Gateway Terminal (surface stop)

Note: A station at Wellington Street was screened out during short list phase due its proximity to Brampton GO Station and high cost.



Short List: Surface Options







	Option S1	Option S2	Option S3	Option S4
Segment C	LRT in Dedicated Curbside Lanes (4 lanes, cycling in mixed traffic) 		LRT in Mixed Traffic (2 lanes, cycle tracks) 	
Segment B	LRT in Dedicated Lanes (4 lanes, cycling in mixed traffic) 	LRT in Mixed Traffic (4 lanes, cycling in mixed traffic) 	LRT in Dedicated Lanes (4 lanes, cycling in mixed traffic) 	LRT in Mixed Traffic (4 lanes, cycling in mixed traffic) 
Segment A	LRT in Dedicated Lanes (6 lanes, cycle tracks)    			

Surface Options: Evaluation Summary

Comparison of how each option performs relative to the rest.

The evaluation summarizes key performance measures to help compare the surface options.

		<div><div>Worst</div><div></div><div>Comparable</div><div></div><div>Best</div></div>			
		Option S1	Option S2	Option S3	Option S4
Strategic Case How and why should the investment be pursued; based on regional goals, plans and policies? 	Transit Travel Time*	8 minutes	11 minutes	9 minutes	12 minutes
	Auto Travel Time*	6 minutes	6 minutes	7 minutes	6 minutes
	Cycling Conditions	Cycle Tracks in Segment A, Discontinuous network on Main St	Cycle Tracks in Segment A, Discontinuous network on Main St	Cycle Tracks in Segment A and C, Discontinuous network on Main St	Cycle Tracks in Segment A and C, Discontinuous network on Main St
Economic Case What is the investment value to society? 	Value for Money	Highest	Lowest	Higher	Lower
	Total Costs	Comparable Total Costs			
Financial Case What are the financial implications of delivering the investment? 	Driveway Access Impacts	77 driveways converted to right-in, right-out	19 driveways converted to right-in, right-out	73 driveways converted to right-in, right-out	15 driveways converted to right-in, right-out
	Utility Conflicts	24 utility conflicts to be relocated			
	Property Requirements	Up to 5,100 m ² of property required			
Deliverability and Operations Case What are the risks and requirement to consider to deliver and operate the investment? 					

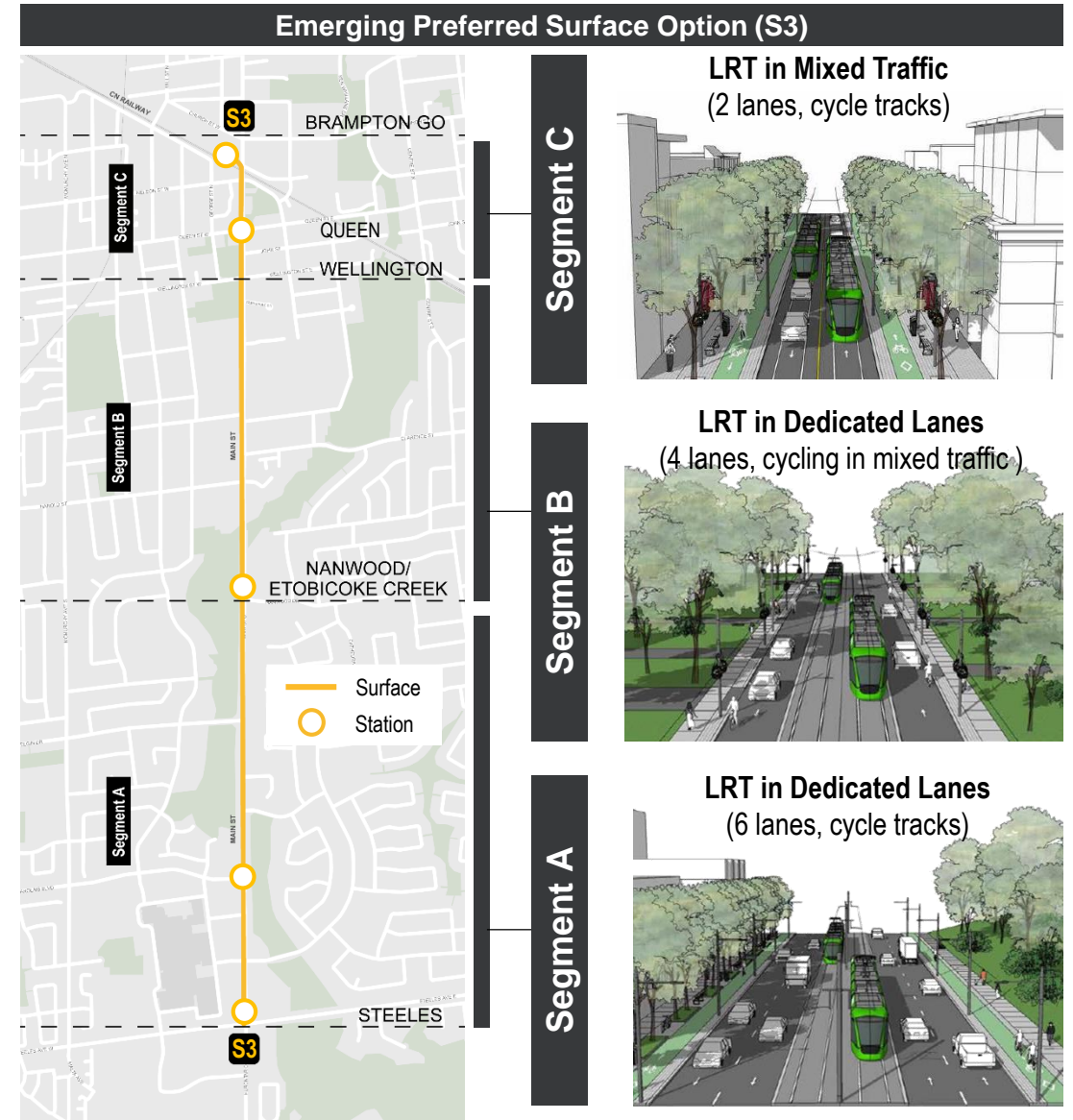
* Travel time between Steeles Avenue and Church Street

Surface Options: Evaluation Summary

All surface options perform relatively similar; however, Option S3 provides the opportunity to revitalize Downtown Brampton into an aesthetically beautiful, place-making destination with wider sidewalks, streetscaping, and cycle tracks (consistent with Downtown Reimagined Vision) while minimizing overall transit travel time.

Driveway accesses will be modified as a result of the dedicated LRT right-of-way, but this will ensure safe and efficient travel for all users of the street.

Therefore, Option S3 is the emerging preferred surface option.



All boulevard configurations shown are subject to change.

Short List: Underground Options 1 (Main St) & 2 (George St)



Segment C

LRT Underground
(2 lanes, cycle tracks)

Note: Cross section is consistent with Downtown Reimagined Vision



Segment B

LRT Underground
(3 lanes, cycle tracks)



Segment A

LRT in Dedicated Median Lanes
(6 lanes, cycle tracks)







All boulevard configurations shown are subject to change.

Underground Options: Evaluation Summary

Comparison of how each option performs relative to the rest.

The evaluation summarizes key performance measures to help compare the underground options.

Strategic Case How and why should the investment be pursued; based on regional goals, plans and policies? 	Transit Travel Time*	7 minutes	8 minutes
	Auto Travel Time*	6 minutes	
	Cycling Conditions	Cycle Tracks in all Segments. Continuous Cycling Network.	
Economic Case What is the investment value to society? 	Value for Money	Comparable Value for Money	
Financial Case What are the financial implications of delivering the investment? 	Total Costs	Lower	Higher
Deliverability and Operations Case What are the risks and requirement to consider to deliver and operate the investment? 	Driveway Access Impacts	All driveways in Segment A converted to right-in, right-out access (9 driveways)	
	Utility Conflicts	Minor utility conflicts	Minor utility conflicts at Brampton GO station
	Property Requirements	Up to 2,700 m ² of property required	Up to 5,300 m ² of property required
	Potential to Extend	Able to extend north in the future along Main Street	More difficult to extend north in the future from George Street

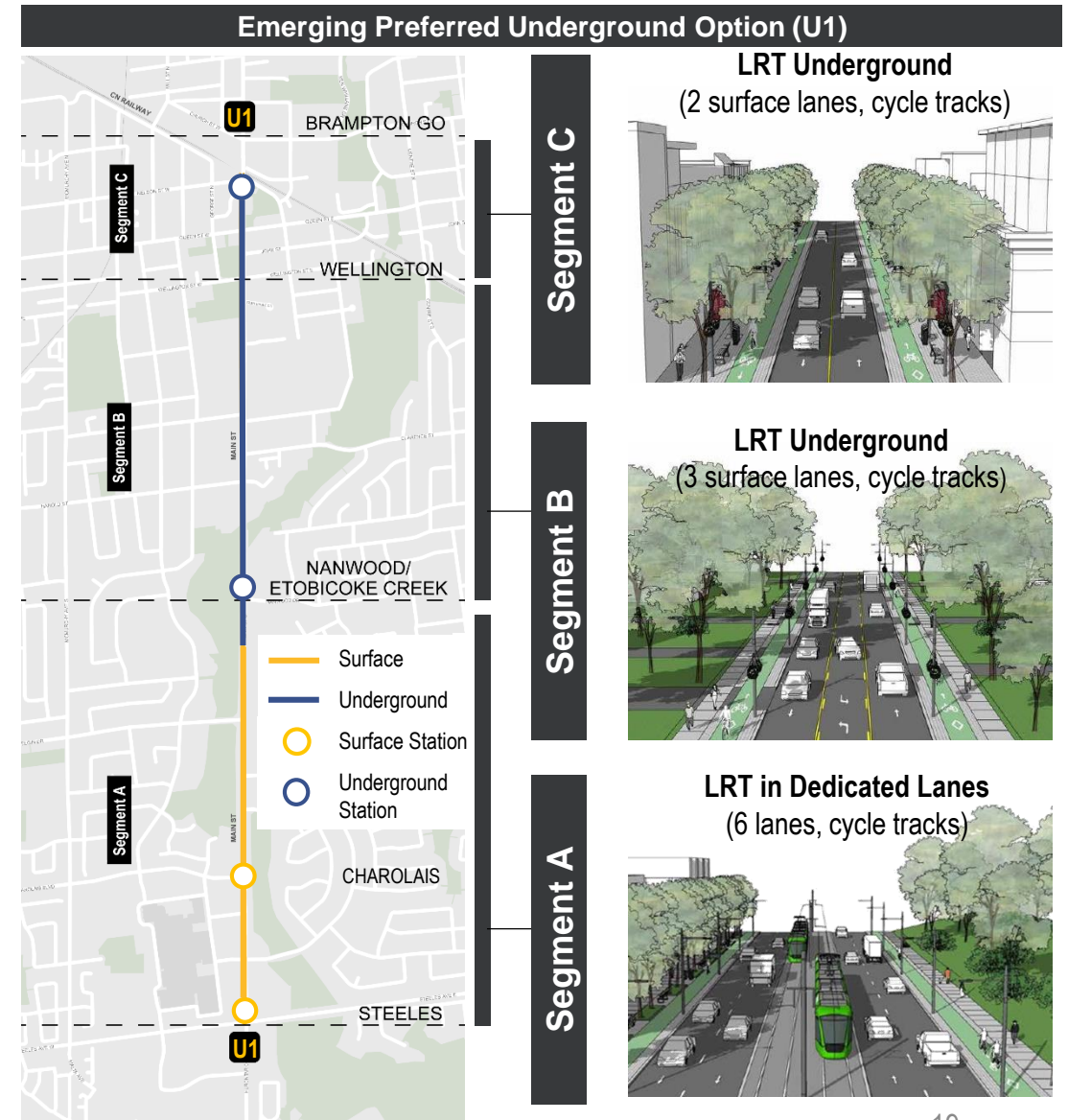
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* Travel time between Steeles Avenue and Church Street

Underground Options: Evaluation Summary

Option U1 (via Main Street) and U2 (via George Street) perform similarly from a strategic perspective. However, Option U1 is more preferred than U2 as it is less costly, located closer to the heart of Downtown Brampton, requires less property takings and is more easily extended north in the future.

Therefore, Option U1 is the emerging preferred underground option.

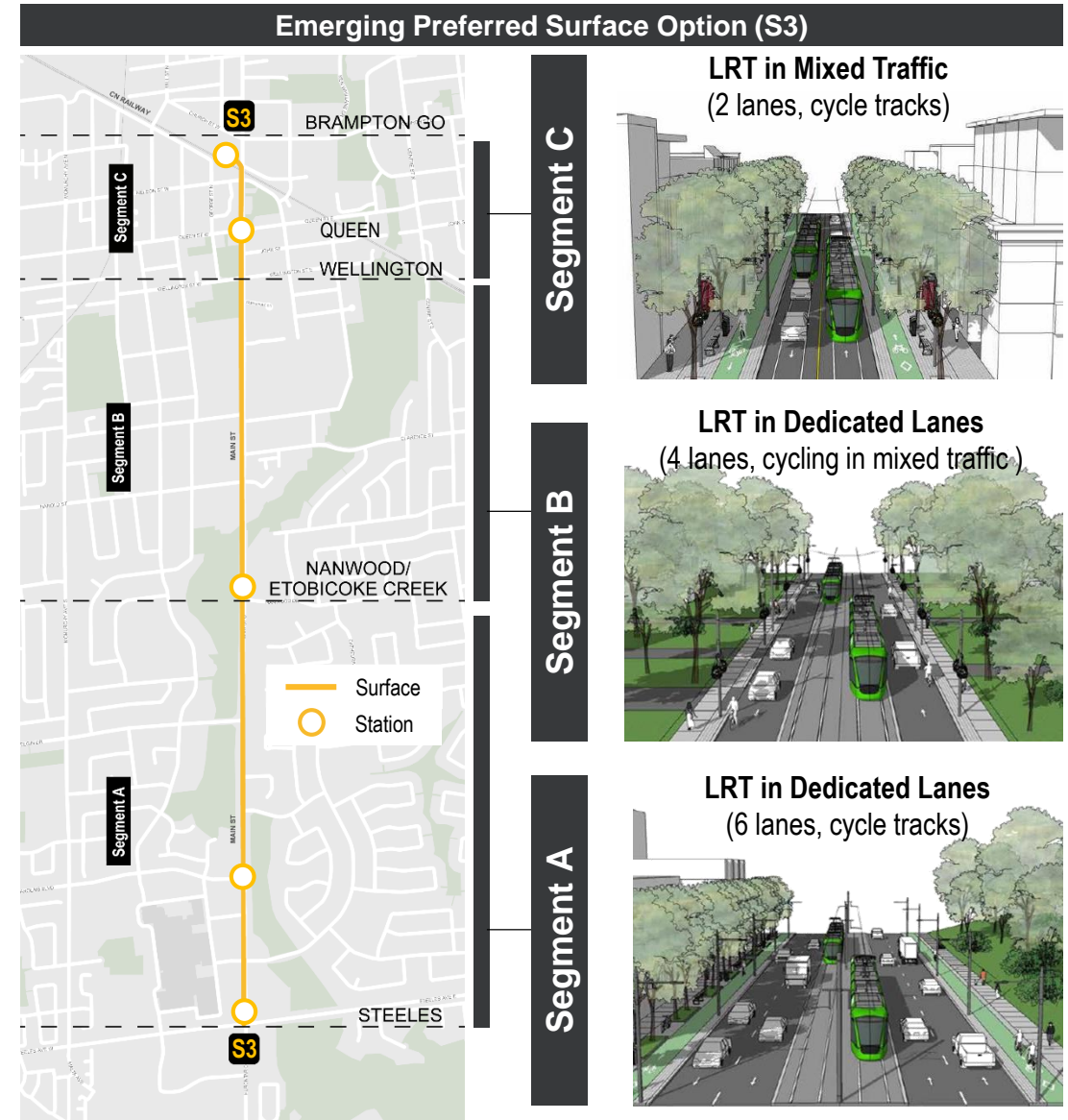


All boulevard configurations shown are subject to change.

Emerging Preferred Options

Surface Option S3

- The LRT will run in dedicated lanes between Steeles Avenue and Wellington Street and in shared lanes from Wellington Street to the Brampton GO Station.
- Option S3 allows for an enhanced streetscape in Segments A and C, including: cycle tracks, widened sidewalks, and a planting and furnishing zone. Cyclists must ride in mixed traffic in Segment B or use parallel routes.
- Driveways in Segment B will be modified to right-in, right out access.
- Overhead catenary systems and traction power substations (TPSS) will be located above ground in the study area.

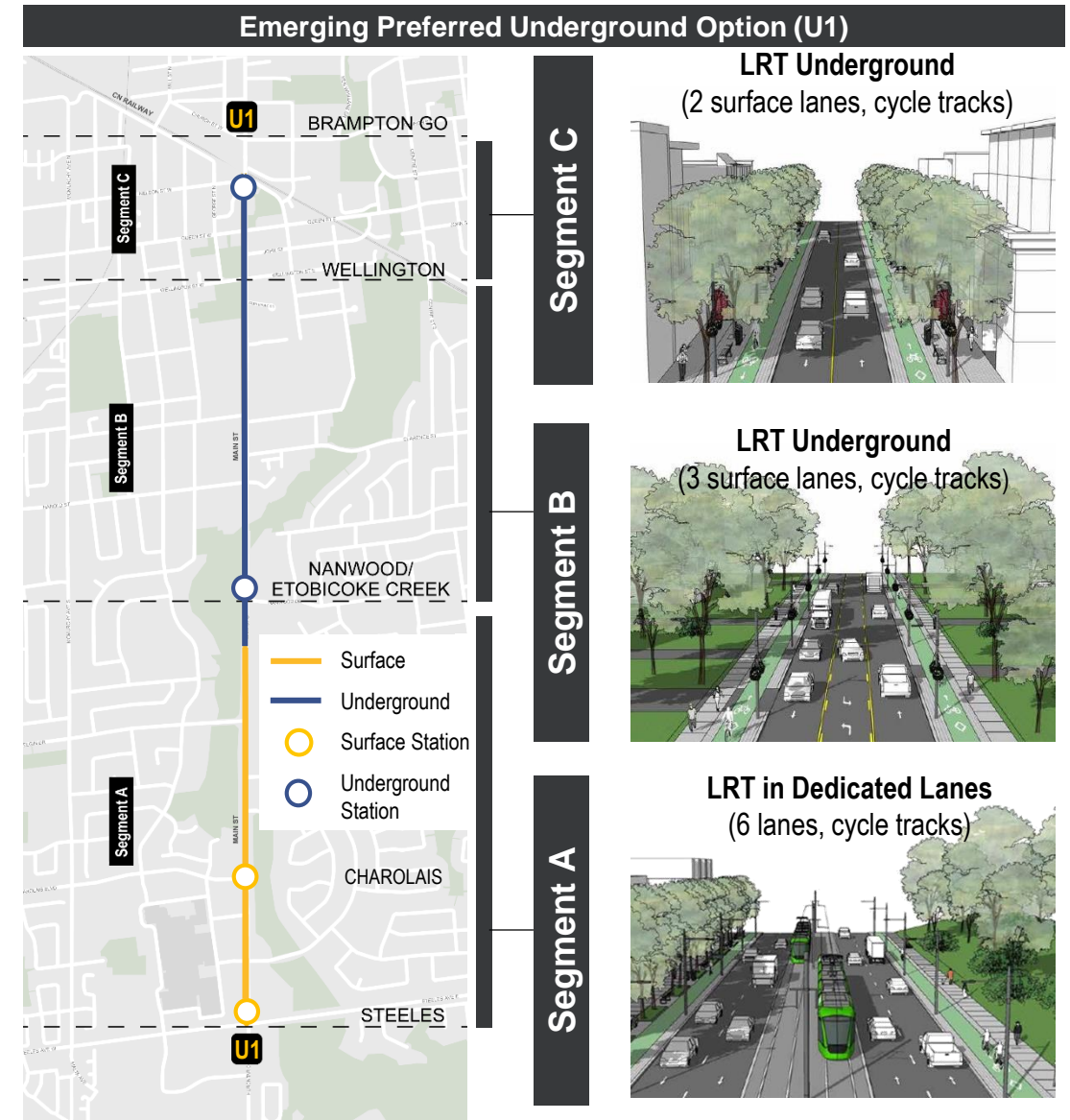


All boulevard configurations shown are subject to change.

Emerging Preferred Options

Underground Option U1





- The LRT will run in dedicated lanes north of Steeles Avenue to Elgin Drive then run underground from just south of Nanwood Drive to the Brampton GO Station along Main Street.
- Option U1 allows for an enhanced streetscape in Segments A, B, and C, including: cycle tracks, widened sidewalks, and a planting and furnishing zone. Option U1 allows for a continuous cycling network along Main Street.
- No access modifications are required in Segment B. Traction Power Substations (TPSS) will be located within underground stations.
- The portal and the two underground stations are located in the floodplain. Potential impacts to be mitigated.



All boulevard configurations shown are subject to change.

PDBC SUMMARY

Comparison of how each option performs relative to the rest.

		Worst		Comparable		Best
		Option S3		Option U1 (via Main St)		
Strategic Case 	Transit Travel Time	9 minutes from Steeles Ave to Church St		7 minutes from Steeles Ave to Church St		
	Auto Travel Time	7 minutes from Steeles Ave to Church St		6 minutes from Steeles Ave to Church St		
	Cycling Conditions	Discontinuous Cycling Network along Main Street Cycle tracks in Segments A and C and cycling in mixed traffic in Segment B		Continuous Cycling Network along Main Street Cycle tracks in all Segments		
	Pedestrian Conditions	Enhanced Streetscape Features in Segments A and C, including: widened sidewalks and furnishing zones.		Enhanced Streetscape Features in Segments A,B and C, including: widened sidewalks and furnishing zones.		
	Civic Events	Limits Opportunity to Close Downtown Streets for Civic Events		Provides Opportunity to Close Downtown Streets for Civic Events		
	Cultural & Natural Heritage impacts	Greater Impacts		Lower Impacts		
Economic Case 	Value for Money	Higher		Lower		
Financial Case 	Total Costs	Lower		Higher		
Deliverability and Operations Case 	Access Impacts	73 driveways converted to right-in, right-out access Potential for impact to emergency / service vehicle operations		9 driveways converted to right-in, right-out access Minimal impact to emergency / service vehicle operations		
	Utility Conflicts	24 utility conflicts to be relocated		Minor utility conflicts to be relocated		
	Property Requirements	Up to 5,100 m ² of property required		Up to 2,700 m ² of property required		

Next Steps

Following virtual Open House 2 (March 25th to April 15th), the project team will review and summarize feedback provided by the public and stakeholders.

Staff will prepare a Council Report to update Council on the Public Feedback Report and recommendation for next steps.

