Purpose

- Identify a preferred transit solution to upgrade Züm Priority Bus service and **introduce transit-only lanes** on Queen Street
- Transform Queen Street into a **multimodal corridor** that moves the most people and provides sustainable choices for travel
- Create a new design vision for Queen Street that **improves the look and feel** of the street
- Propose a **new planning framework** for transit-supportive development
- Develop an **integrated transportation and land use plan** for the area surrounding the Brampton GO Station to support a future Mobility Hub Study for Downtown Brampton

Process

The Queen Street Study was initiated under the Municipal Class Environmental Assessment (Class EA) process for Transportation Master Plans, which is the traditional approach for municipal infrastructure projects. Following the last Committee report, it was determined that the Class EA was not the best approach to complete the study in view of Metrolinx's current practice in planning, developing, and delivering rapid transit projects with municipalities.

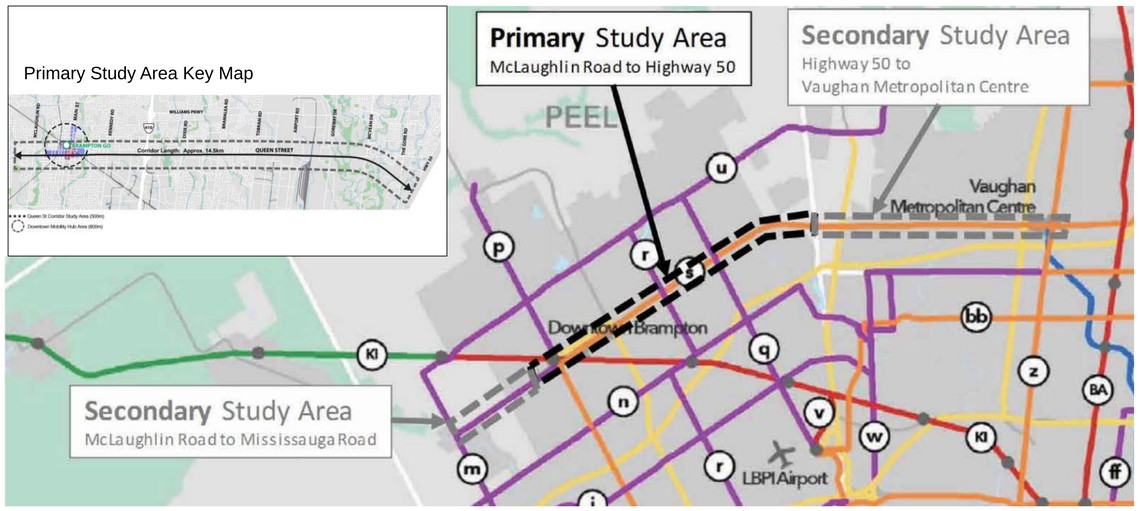
Given the inter-regional significance of Queen Street Rapid Transit, the recent involvement of external stakeholders, and in anticipation of Metrolinx's forthcoming guidance on its business case requirements for transit projects, it was determined that the best approach for completing the Queen Street Study was to focus on feasibility analyses, support the development of an Initial Business Case (IBC), and defer environmental assessment to a later date. The business case will compare investment options for the Queen Street project and select a preferred option for further refinement, to help secure funding from the Province for planning, preliminary design, and environmental assessment.

Develop transportation needs and justification → **Develop alternative solutions** → **Evaluate alternative solutions** → **Select a preferred solution**

May 2017 Public Meeting — **Today's Meeting**

We are here

Study Area



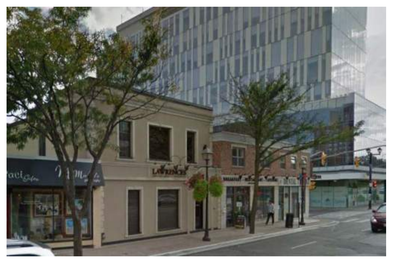
Metrolinx 2041 Frequent Rapid Transit Network – Brampton Context (Source: Metrolinx 2041 Regional Transportation Plan)

The **primary study area** is 14.5 km in length, spanning from McLaughlin Road in the west to Highway 50 in the east.

The **primary study area** was expanded to also include an urban design and planning review of the Downtown Brampton Mobility Hub Area (an 800 m radius surrounding the Brampton GO Station).

Vision

Create vibrant public spaces for all ages and abilities



Integrate transportation and land use

Promote prosperity for local businesses

Move people safely and efficiently

Enhance main street features

Support the corridor's goods movement role

BRAMPTON

Planning Context

The following planning context is being taken into consideration when developing the proposed planning approaches for Queen Street as well as the potential street design options.

Brampton AcceleRide Initiative Business Case (2007)

Recommended an initial network of six routes with limited-stop, express bus services operating in mixed-traffic. It further recommended that, by 2021 and beyond, the initial network should be upgraded from mixed-traffic to either Bus Rapid Transit (BRT) or Light Rail Transit (LRT) operating in exclusive median lanes.

Züm BRT Rendering (Source: City of Brampton / CICADA Design)

Queen Street Rapid Transit Benefits Case (2013)

The study evaluated BRT and LRT options and reaffirmed that there is high ridership potential in the Queen Street corridor to support upgrading the existing Züm service with dedicated transit lanes, providing a faster and more frequent service.

Transportation Master Plan (2015)

Queen Street is one of the top transit priorities in the City as identified by Council. It is also identified as "new rapid transit" by 2031 in the City's Transportation Master Plan.

Metrolinx 2041 Regional Transportation Plan* (2018)

Queen Street is identified as an "in development" rapid transit project by Metrolinx and is a key component of their 2041 Frequent Rapid Transit Network.

Brampton 2040 Vision* (2018)

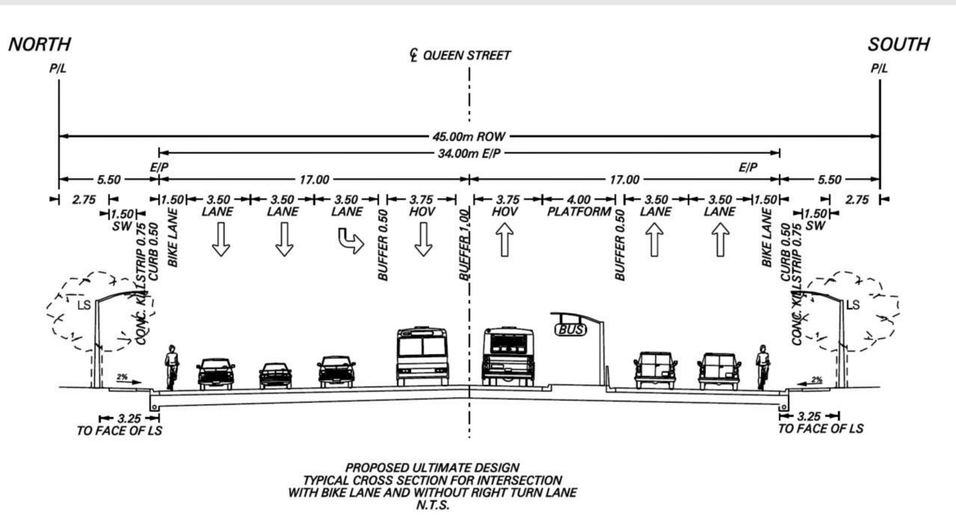
By 2040, Queen Street is envisioned to:

- Become a rapid transit spine
- Support a higher density and scale
- Be a destination for living, working and playing

The Queen Street study will set the stage for the implementation of the vision as it relates to Queen Street.

Queen Street East Improvements Environment Assessment (2008)

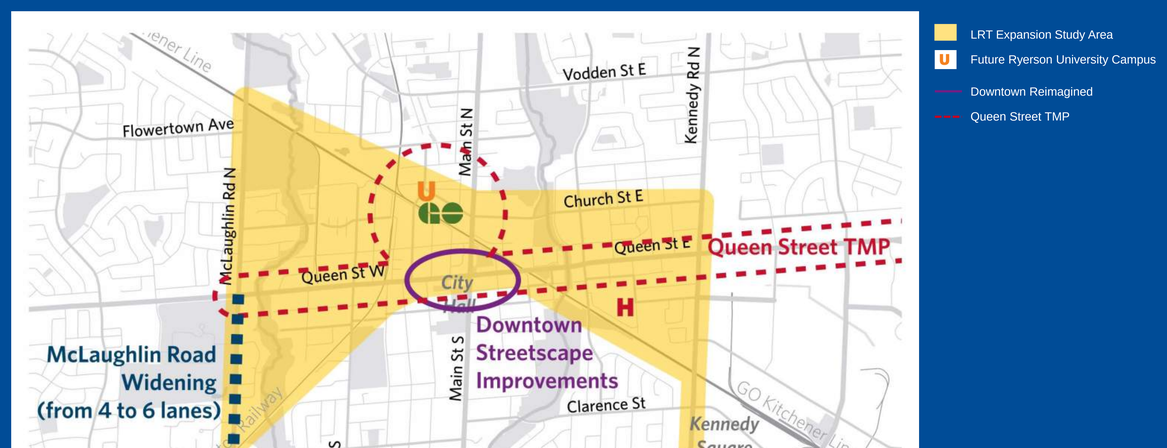
Recommended that the widening of Queen Street to 6 lanes – between Centre Street and Highway 410 – should accommodate future Züm service operating in the centre median in reserved bus lanes



Ultimate Typical Intersection Cross Section Without Right-Turn Lane (Source: Queen Street East Improvements EA)

Other Studies

There are 3 projects which overlap with this study: the **LRT Extension Study*, Ryerson University Campus*, and Downtown Reimagined**. These projects are being undertaken in coordination with one another.



* Denotes new study/project since the May 2017 Public Meeting

What We've Heard

We reached out to residents and stakeholders through a Public Meeting in May 2017 and an Online Survey. The following is a summary of what was heard.

Open House #1

Public Open House #1 was held on May 18, 2017. Comments frequently noted include:

- **Address the look**, appearance and feel of the public realm in the downtown
- **Mitigate congestion** on Queen Street, particularly downtown, at major intersections, and at the Highway 410 interchange
- **The heavy truck traffic** travelling east from Highway 410, towards Highway 50
- A strong support for **roadway and operational improvements** such as signal timing and right or left-turn restrictions.

Online Survey

More than 300 people participated in the online survey.

Best part of the Queen Street corridor

Availability of transit service

Top concerns for travelling in the corridor

Walking
Conflict with cyclists and vehicles

Cycling
Conflict with high speed vehicles

Transit
Poor connections to other transit services

Driving
Traffic delays and congestion

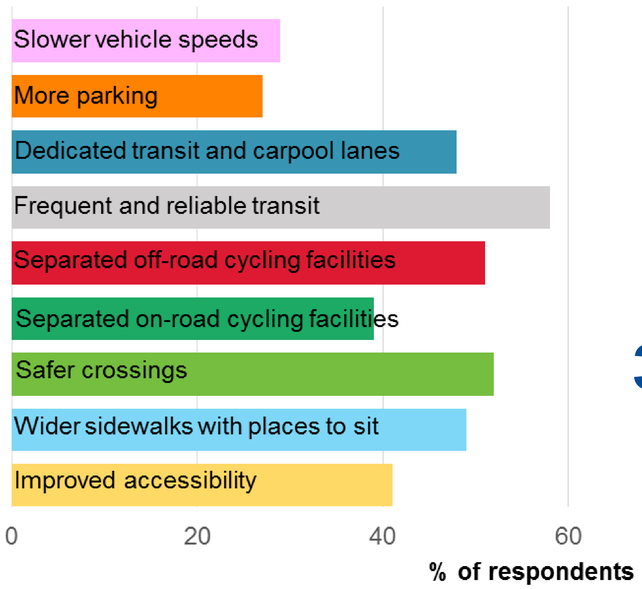
Three most important factors to make transit the likely choice for travel

80% said reliable service that arrives on time

69% said ease of transfer to other transit services

65% said shorter travel time with higher travel speeds and fewer stops

Factors most likely to improve travelling experience



Proposed Planning Approaches

The following planning approaches have been identified as potential ways to address the transportation needs in the study area. An assessment of needs and transportation modelling is underway to evaluate the approaches and aide in the selection of a preferred approach.

1.

Zūm BRT Rendering (Source: City of Brampton / CICADA Design)

Convert two general-purpose lanes into dedicated transit lanes, reallocating some of the auto-vehicular capacity into capacity for rapid transit, requiring minimal widening of the roadway. There would likely be limited widening of the right-of-way to accommodate boulevard improvements and other roadway improvements.

2.

Highway 7 Rapidway, Markham, Ontario (Source: York Region Rapid Transit Corporation)

Widen the roadway and the right-of-way to introduce dedicated transit lanes and maintain the existing number of general-purpose lanes, resulting in an overall increase in transportation capacity, but will likely have major property impacts along the corridor where right-of-way is insufficient. The width of the roadway at intersections would also be widened as a result.

3.

1st Avenue, New York, New York (Source: National Association of Transportation Officials)

Convert curb lanes into reserved lanes for buses and HOVs, requiring no widening of the roadway, but it has less capacity to accommodate rapid transit and will be less effective in achieving transit-priority compared with dedicated transit lanes. There would still likely be limited widening of the right-of-way to accommodate boulevard improvements and other roadway improvements.

Complete Streets

Approach and Elements

The goal for Queen Street builds upon policy direction for streets in the Greater Golden Horseshoe Growth Plan, the Region of Peel's Official Plan, Brampton's Official Plan and Transportation Master Plan, the recent **Brampton 2040 Vision** and the ongoing Brampton Complete Streets Study. All speak to the inclusion of Complete Streets: an approach to street planning and design that considers the needs of all street users.

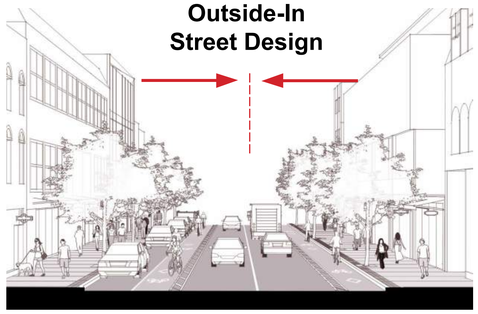
Context Sensitive Design

Fundamental to Complete Streets is that streets are places that exist for all street users; moving beyond designing streets to satisfy only an auto-centric transportation role and function.

Centre Line Out Street Design

Focus of Traditional Approaches:
Auto Mobility
Automobile Safety

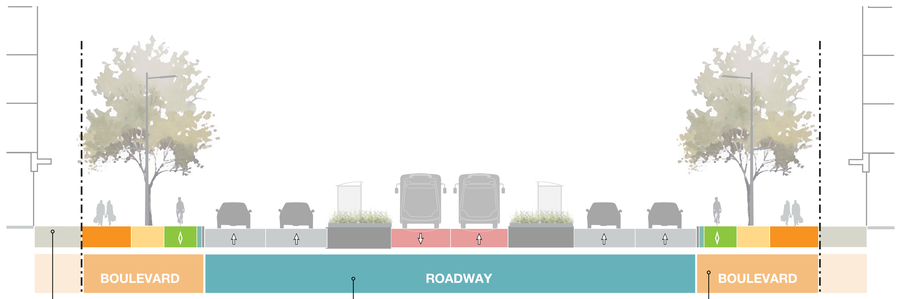
Outside-In Street Design



Complete Street Approach:
Multi-modal Mobility + Access
Public Health & Safety
Economic Development
Environmental Quality
Livability / Quality of Life
Equity

A Proportional and Equitable Street

Having adequate space for non-vehicular users is important to create inviting and vibrant city streets that are places as well as corridors for movement. Working from the Outside-In, the street can provide a comfortable proportion that can support and encourage public life.



Setbacks appropriate to planned context

Target 60% of total ROW

Target 40% of total ROW

Elements of a Complete Street

Boulevards
- Design accessible sidewalks with clear, unobstructed continuous paths
- Design safe crossings
- Design sidewalks as a public space to be inhabited

Bike Facilities
- Context-appropriate design
- Design for the present and future
- Visible, intuitive cycling facilities
- Supply adequate bike parking
- Design bike-friendly curbside conditions

Transit
- Make connections safe, convenient and seamless
- Contribute to overall transit network and designing visible, safe and convenient stops
- Design a universally accessible system

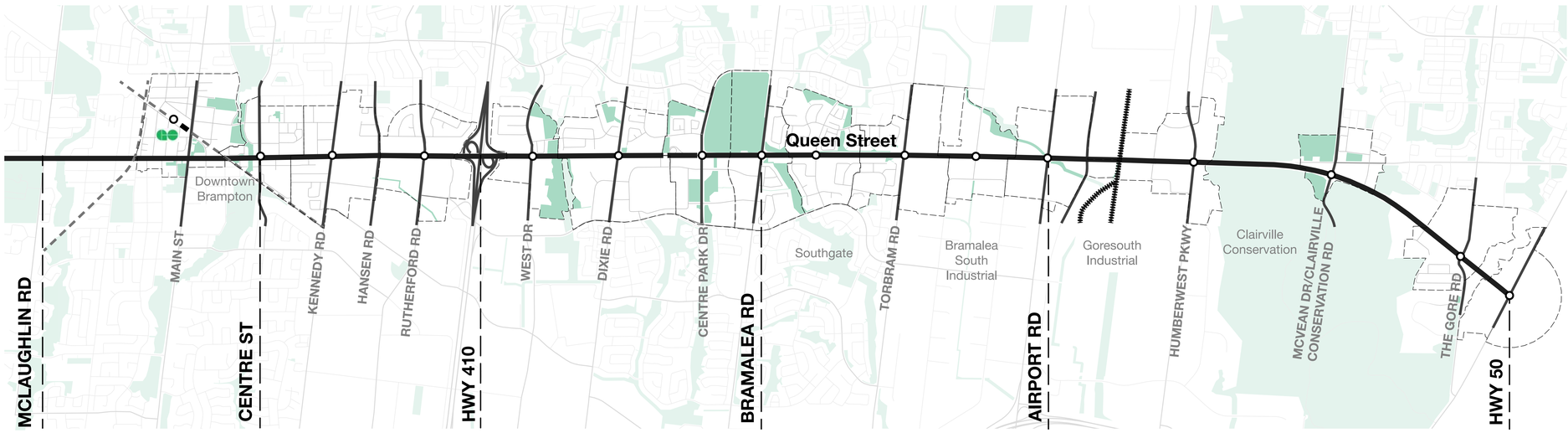
Roadway
- Design streets to accommodate multi-modal transportation
- Consider the safety of all road users
- Design for context appropriate target speed and reliable travel

Street Trees & Site Furnishings
- Dedicate space for street trees, landscaping and furnishings
- Design the street for visibility and safety

Complete Streets

Functional Role + Context

The Queen Street corridor has areas of varied character defined by available space within the public right-of-way, transportation function, and adjacent largely auto-oriented land use context. Enhanced transit on Queen Street will play a key role in advancing city building aspirations.



Character Area	1		2		3		4		5	
Jurisdiction	*	City of Brampton			Region of Peel*					
Existing ROW (m)	20-25		34-36	46-45	45	50	46	54-55	50-52	42	46
Designated ROW (m)	26-30		40-45		45					
Ex. Number of Through Lanes	4		6							

Potential Street Design Options

Approach

A series of typical street design options were developed for the Queen Street corridor. The options test a range of transit, roadway and boulevard configurations within a 40, 45 and 50m Right-of-Way (ROW), which is reflective of the narrower sections of the corridor. The next phase will examine how the preferred street design option can be applied to the varied contexts along the corridor. One or several cross-sections are possible for the length of the Queen Street corridor.

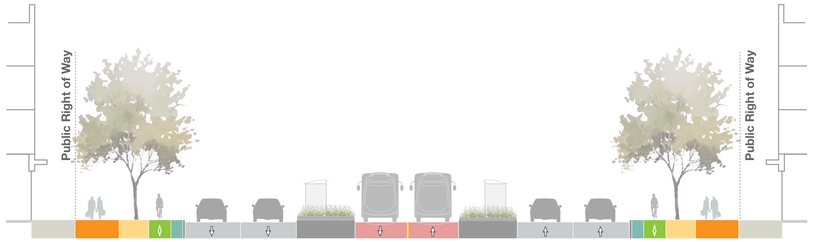
Each of the options presents a change to the design of the street from the existing condition. The images and tables present the functional elements within each option as well as a list of the pros and cons. Please note that a detailed transportation analysis (forthcoming) and a detailed assessment of each street design option will inform the evaluation of the design options.

Cross-Section Elements

Each of the street design options include a number of elements that are required to satisfy official policy direction and project objectives. The dimensions and locations for each element may vary within the cross section, but all are included in each option.

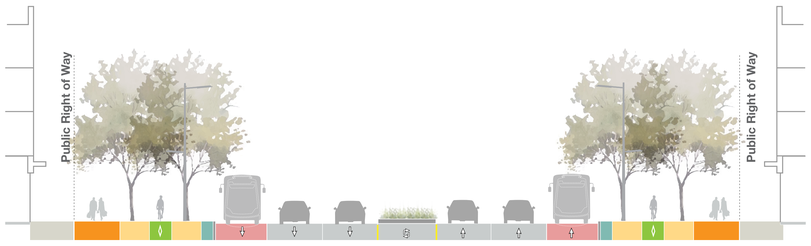
- Available Right-of-Way (40m, 45m or 50m)
- Number of Travel Lanes (four or six)
- Location and Number of Turning Lanes (Left or Right Turns)
- Transit Stop Locations (Median or Boulevard)
- Boulevard Width (Minimum width: 6.5m)
- Boulevard to Roadway Ratio (Target Ratio: 40:60)

a Median Transit



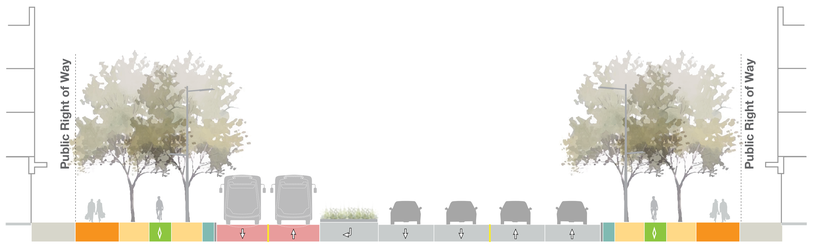
+	-
Consistent section mid-block and intersection	4 lanes only; cannot accommodate 6 lanes without ROW widening
No right turn lanes	If right turn added, will negatively impact boulevards
Pedestrian refuge crossing wide roadway. Reduced scale of street.	
Left turns in shadow of platforms; no impact on boulevards	
Dedicated cycling facilities	
Potential curbside activities/lay-bys	
Additional greening opportunity within roadway	

b Curbside Transit



+	-
Potential pedestrian refuge crossing wide roadway	6 lanes with ROW widening or boulevard impacts
Consistent section mid-block and intersection	No potential curbside activities/lay-bys
Dedicated cycling facilities	Crossing of transit lanes to access properties/turns
Transit stops at curbside	If right turn added, will negatively impact boulevards
No right turn lanes	
Additional greening opportunities on boulevards	
Potential median greening between left hand turns	

c One-Side Transit



+	-
Pedestrian refuge crossing wide roadway	4 lanes only; cannot accommodate 6 lanes without ROW widening
Dedicated cycling facilities	Inconsistent section mid-block and intersection
Transit stops at curbside and in median	Will require right turn lanes at every crossing of the transit lanes
Crossing of transit lanes to access properties/turns	Additional left and right turn lanes will negatively impact boulevards
Additional greening opportunities on boulevards and median	No potential curbside activities/lay-bys
	Loss of greening at intersections for right turns

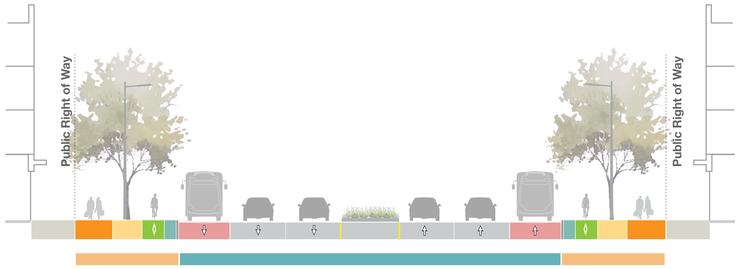
Potential Street Design Options

Alternatives (1/2)

c 1. 40m ROW, Four Travel Lanes
Curbside Transit

This option includes four travel lanes (two in each direction) and fits within a 40m right-of-way. The boulevards in this option will remain the same width at the mid-block location and at intersections.

Typical Midblock



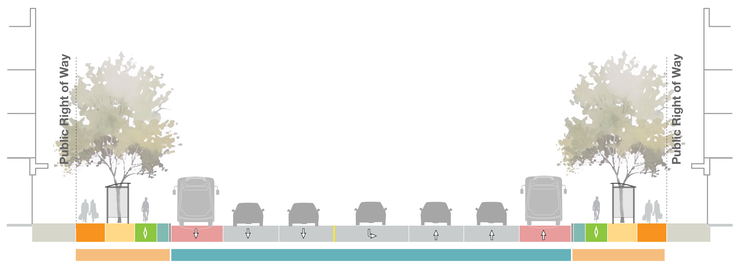
Boulevard
7.0m
2.5m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
26m
15.0m 4 Travel Lanes/ 3.75m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m Median

Boulevard
7.0m
2.5m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

35% **65%**
Boulevard to Roadway Ratio

Typical Intersection



Boulevard
6.5m
2.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
27m
15.0m 4 Travel Lanes/ 3.75m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m Median

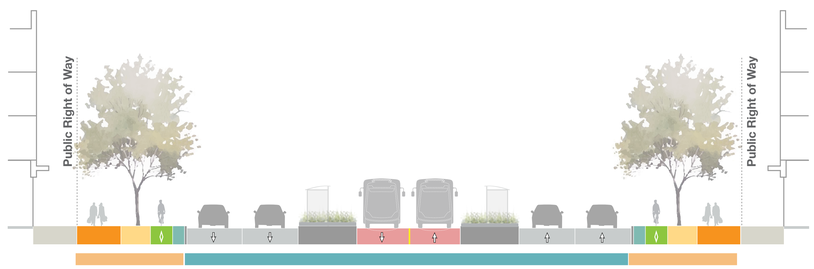
Boulevard
6.5m
2.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

35% **65%**
Boulevard to Roadway Ratio

a 2. 45m ROW, Four Travel Lanes
Median Transit

Transit in a dedicated centre median is the most common arrangement for corridors like Queen Street. This option can only accommodate four travel lanes (two in each direction) and fit within a 45m right-of-way. The boulevards in this option will remain the same width at the mid-block location and at intersections.

Typical Midblock



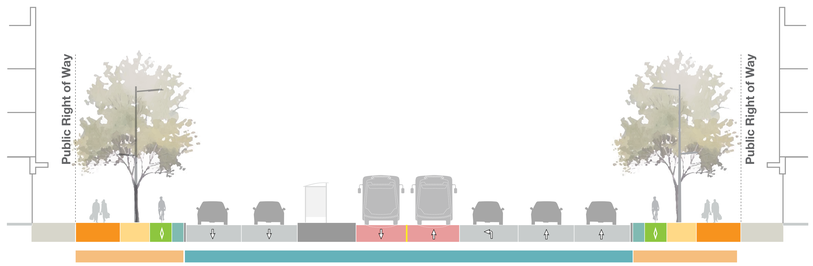
Boulevard
7.5m
3.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
30m
15.0m 4 Travel Lanes/ 3.75m each
7.0m 2 Transit Lanes/ 3.5m each
8.0m 2 Transit Median

Boulevard
7.5m
3.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

33% **67%**
Boulevard to Roadway Ratio

Typical Intersection



Boulevard
7.5m
3.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
30m
15.0m 4 Travel Lanes/ 3.75m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m Transit Median
4.0m Left Turn lane

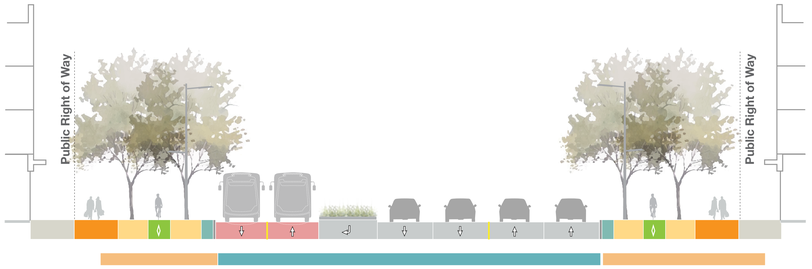
Boulevard
7.5m
3.0m Pedestrian Clearway
2.0 m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0 m Edge Zone

33% **67%**
Boulevard to Roadway Ratio

b 3. 45m ROW, Four Travel Lanes
One-Side Transit

Transit in a dedicated corridor to one-side is not a typical arrangement. Any crossings on the transit corridor would require a signalized intersection. Similar to median transit, this option can only accommodate four travel lanes (two in each direction) and fit within a 45m right-of-way. The boulevard width mid-block and at intersection vary significantly.

Typical Midblock



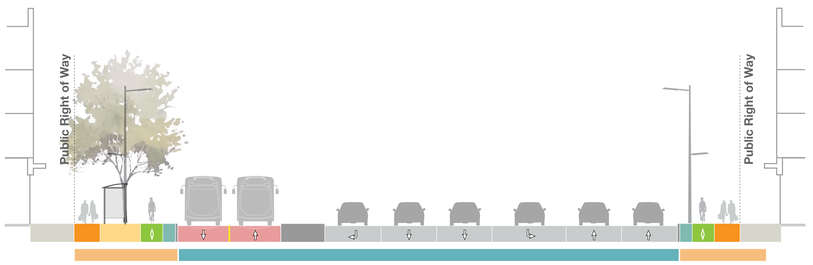
Boulevard
9.0m
3.0m Pedestrian Clearway
3.5m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
26m
15.0m 4 Travel Lanes/ 3.75m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m 1 Transit Median

Boulevard
9.0m
3.0m Pedestrian Clearway
3.5m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

40% **60%**
Boulevard to Roadway Ratio

Typical Intersection



Boulevard
7.0m
1.8m Pedestrian Clearway
2.7m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
33.7m
15.0m 4 Travel Lanes/ 3.75m each
7.0m 2 Transit Lanes/ 3.5m each
3.75m Right Turn Lane
5.0m Left Turn Lane
4.0m Median

Boulevard
4.3m
1.8m Pedestrian Clearway
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

25% **75%**
Boulevard to Roadway Ratio

Pedestrian Clearway
Planting and Furnishing
Bike Lane/ Cycle Track
Edge Zone

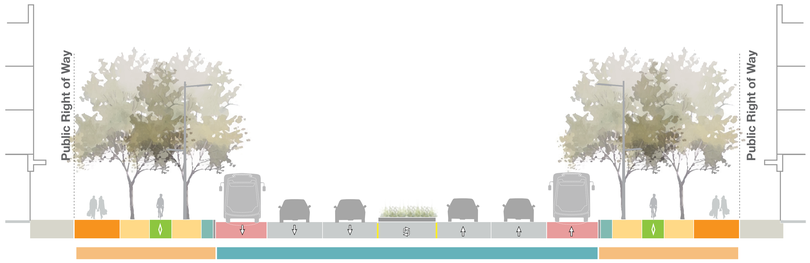
Potential Street Design Options

Alternatives (2/2)

c 4. 45m ROW, Four Travel Lanes

Transit operating in the lane adjacent to the curb is a common arrangement for corridors like Queen Street. This option includes four travel lanes (two in each direction) and fits within a 45m right-of-way. The boulevards in this option can accommodate a double row of trees on each side, and will remain the same width at the mid-block location and at intersections.

Typical Midblock



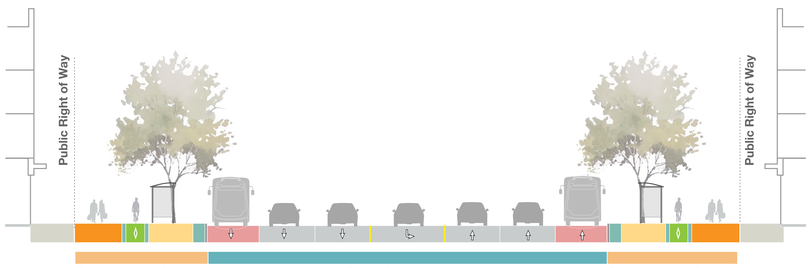
Boulevard
10.75m
4.25m Pedestrian Clearway
4.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
23.5m
15.0m 4 Travel Lanes/ 3.75m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m Median

Boulevard
10.75m
4.25m Pedestrian Clearway
4.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

48% **52%**
Boulevard to Roadway Ratio

Typical Intersection



Boulevard
10.75m
4.25m Pedestrian Clearway
4.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
23.5m
15.0m 4 Travel Lanes/ 3.75m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m Median

Boulevard
10.75m
4.25m Pedestrian Clearway
4.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

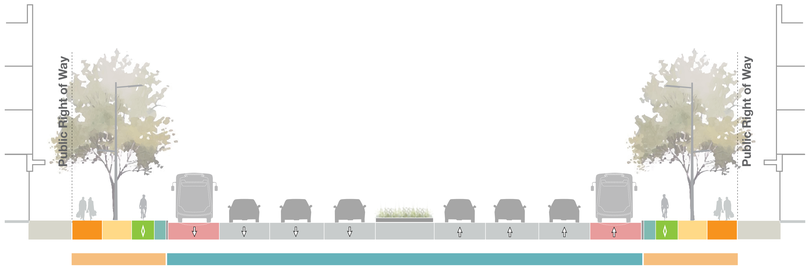
48% **52%**
Boulevard to Roadway Ratio

Pedestrian Clearway
Planting and Furnishing
Bike Lane/ Cycle Track
Edge Zone

c 5. 45m ROW, Six Travel Lanes
Curbside Transit

Similar to Option 4, this option includes six travel lanes (three in each direction) and fits within a 45m right-of-way. The boulevards in this option will remain the same width at the mid-block location and at intersections.

Typical Midblock



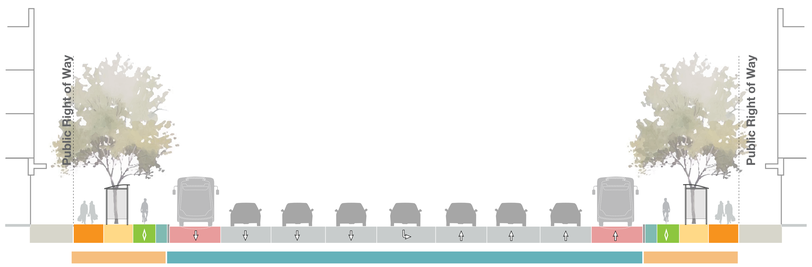
Boulevard
6.5m
2.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
32m
21.0m 6 Travel Lanes/ 3.5 m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m Median

Boulevard
6.5m
2.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

29% **71%**
Boulevard to Roadway Ratio

Typical Intersection



Boulevard
6.5m
2.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
32m
21.0m 6 Travel Lanes/ 3.5 m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m Median

Boulevard
6.5m
2.0m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

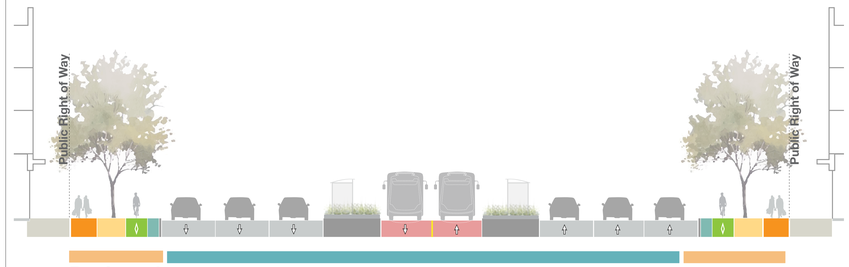
29% **71%**
Boulevard to Roadway Ratio

Pedestrian Clearway
Planting and Furnishing
Bike Lane/ Cycle Track
Edge Zone

a 6. 50m ROW, Six Travel Lanes
Median Transit

This option includes six travel lanes (three in each direction) and fits within a 50m right-of-way. This option is only applicable to existing ROWs that are 50m or greater. The boulevards in this option will remain the same width at the mid-block location and at intersections.

Typical Midblock



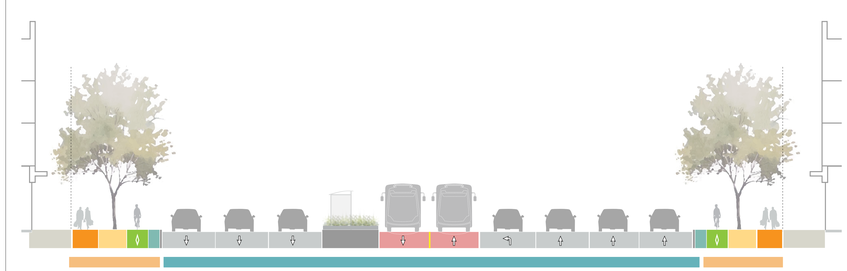
Boulevard
6.75m
1.8m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
36.5m
22.5m 6 Travel Lanes/ 3.75 m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m 2 Transit Median

Boulevard
6.75m
1.8m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

27% **73%**
Boulevard to Roadway Ratio

Typical Intersection



Boulevard
6.75m
1.8m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

Roadway
36.5m
22.5m 6 Travel Lanes/ 3.75 m each
7.0m 2 Transit Lanes/ 3.5m each
4.0m Transit Median
4.0m Left Turn Lane

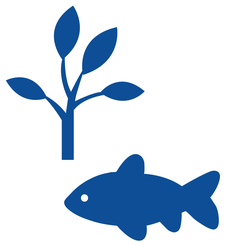
Boulevard
6.75m
1.8m Pedestrian Clearway
2.0m Planting and Furnishing
1.5m Bike Lane/ Cycle Track
1.0m Edge Zone

27% **73%**
Boulevard to Roadway Ratio

Pedestrian Clearway
Planting and Furnishing
Bike Lane/ Cycle Track
Edge Zone

Proposed Evaluation Criteria

Proposed evaluation criteria across four categories will be used to determine the best option among the identified alternatives.



Natural Environment

Does the option support and enhance natural areas and avoid or mitigate negative impacts?

Example Criteria:

- Compatibility with the natural environment
- Compatibility with parks and public spaces

Social Environment

Does the option strengthen existing neighbourhoods, enhance access to work, school and other activities, and support growth?

Example Criteria:

- Urban design
- Impacts on cultural heritage/archaeological potential
- Property impacts
- Development potential and intensification

Transportation & Technical

Does the option integrate with the existing transportation network to provide more choice, help reduce congestion and travel times and make travel more reliable; and contribute to the development of a resilient transportation system?

Example Criteria:

- Transit and traffic level of service
- Connectivity to higher order transit services
- Improvement to pedestrian and cycling experience
- Engineering feasibility

Financial & Economic

Does the option support economic development and allow workers to get to jobs more easily?

Example Criteria:

- High level cost estimate
- Overall economic benefits to Brampton

Proposed Transit Solution

Bus Rapid Transit (BRT) in dedicated lanes is the first step for implementing rapid transit on Queen Street. Target for implementation is 5 to 10 years – subject to funding availability and the necessary approvals in place.

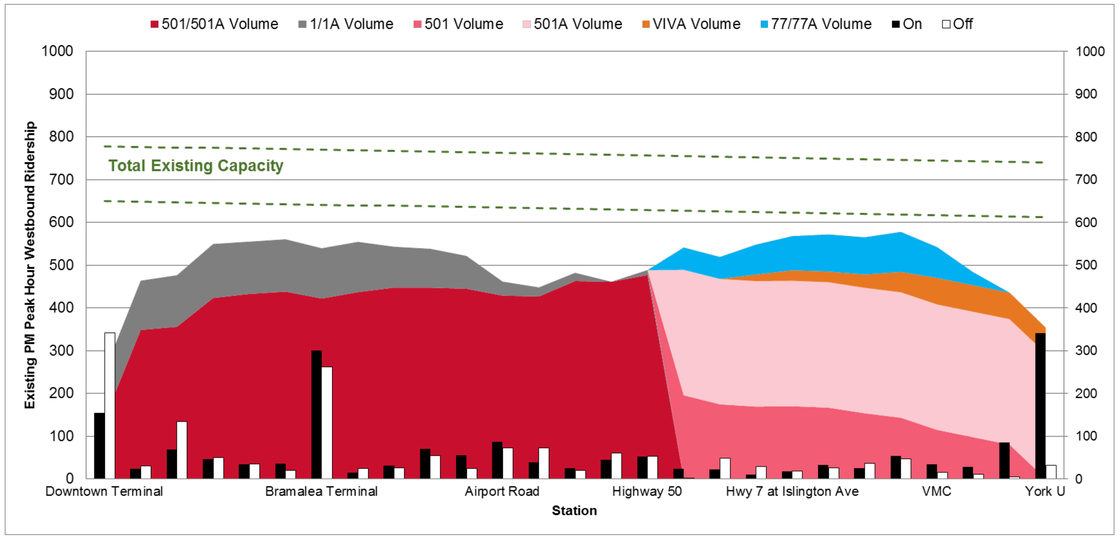
The current Züm "Priority Bus" service in the Queen Street-Highway 7 corridor offers a continuous, inter-regional connection between Downtown Brampton, Vaughan Metropolitan Centre Subway Station, and York University.

The most popular service operated by Brampton Transit

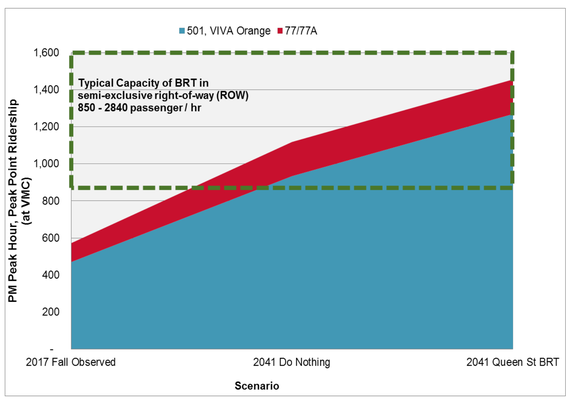
~19,000 boardings on a typical weekday (Fall 2017)

Weekday ridership grew on average 7% per year between 2011 and 2017.

Existing Transit Ridership



Estimated Transit Ridership Potential (preliminary, subject to refinements)



The inter-regional destinations, the one-seat ride, and the value of the service are the key factors behind this success. Based on the planned service increase in the corridor over the next five years, there will be an emerging need to further expand capacity with dedicated lanes between the next 5 to 10 years.

Why BRT?

Continuous

The 2013 Benefits Case Analysis (BCA), found that the most important outcome of a Queen Street-Highway 7 rapid transit corridor is to provide a **continuous service**. Forcing customers to transfer from a Brampton light rail vehicle to a York Region bus midpoint in their journey will make the rapid transit unattractive to riders, potentially worse than the status quo Züm service in mixed traffic, and will result in less ridership potential for the corridor (a finding reaffirmed by this study).

Coordinated

Metrolinx and York Region have expressed the importance for Queen Street Rapid Transit to share a **common transit mode** with Viva BRT, and a desire for Brampton to coordinate with the Rapidway program in York Region.

Flexible

BRT accounts for physical constraints within the Downtown Brampton area. With major transformations underway in the downtown area (Ryerson University campus, the future Centre for Innovation and Education, and the potential future expansion of the Downtown Transit Terminal), the preferred solution for Queen Street Rapid Transit would need to be operationally flexible to respond to the changing landscape within the downtown area. **BRT is advantageous because it is operationally flexible, less infrastructure-intensive, and less costly to implement.**

Future Ready

While BRT is the proposed starting point for Queen Street Rapid Transit, an important requirement for the project will be that the design of the corridor allows for future upgrades in capacity, infrastructure, technology (e.g. electric propulsion, vehicular automation, autonomous vehicles, Smart Lanes), or conversion to light rail if warranted. Recognizing the emergence of new and evolving transit technologies in the industry, **the proposed transit solution is flexible enough to adapt to the changing technological environment**.

Electric Bus with End-of-Line Charging, Montreal, Quebec


Catenary-Free LRT with Onboard Energy Storage and In-Station Charging, Kaohsiung, Taiwan

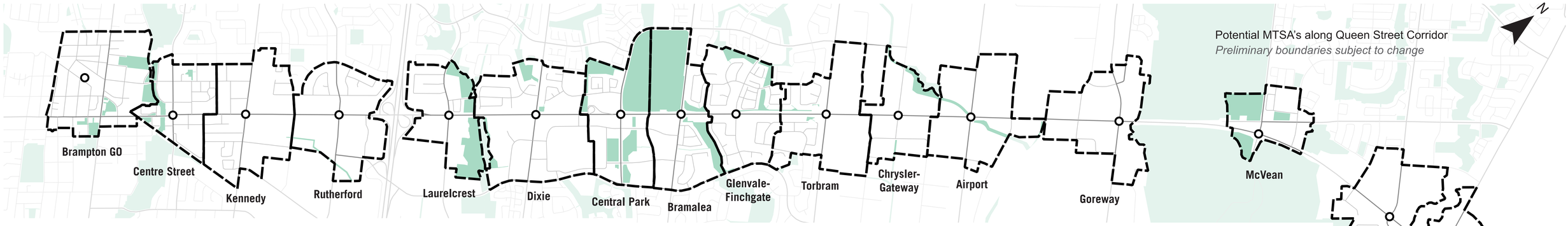

© Imaginechina/REX/Shutterstock
High Capacity Vehicle, Battery Electric Propulsion, Trackless Guideway, Vehicular Automation Zhuzhou, China


© Arnliwebmovie
Wikimedia Commons / CC-BY-SA-3.0
Higher Capacity Bus in BRT Application, Malmo, Sweden


Catenary-Free LRT with Onboard Energy Storage and In-Station Charging, Kaohsiung, Taiwan


© 视觉中国
High Capacity Vehicle, Battery Electric Propulsion, Trackless Guideway, Vehicular Automation Zhuzhou, China

Potential Major Transit Station Areas (MTSA)



What is a Major Transit Station Area?

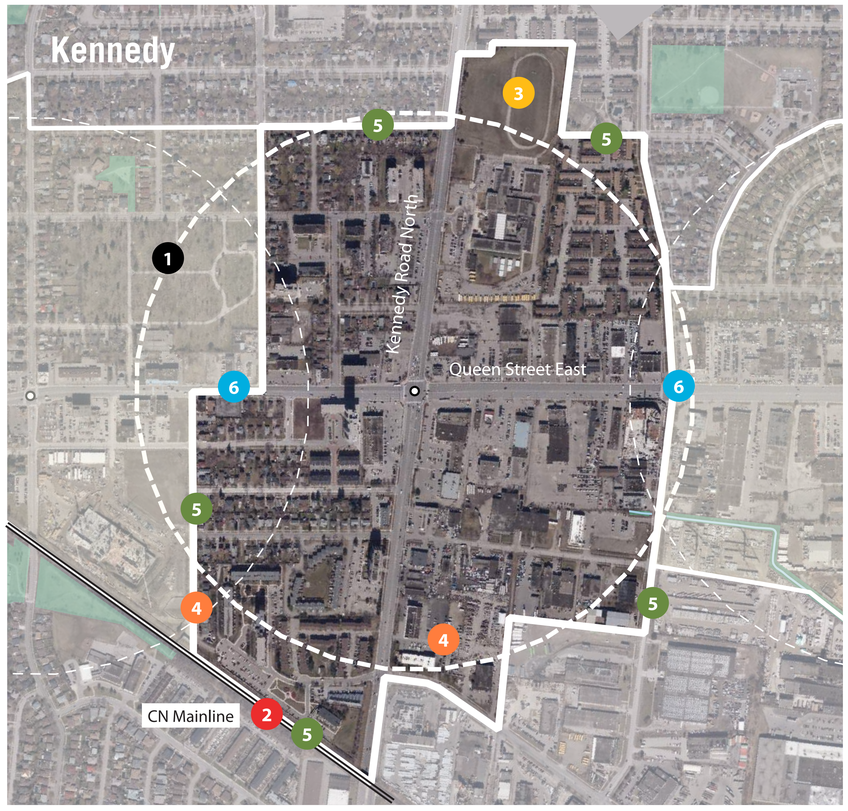
Major Transit Station Areas (MTSAs) are the areas around existing or planned higher order transit stations or stops. Provincial policies require these areas, generally within 500m or a 10-minute walk of a transit stop, to be planned and designed to support transit use through improved multimodal transportation connections, planning for a diverse mix of uses, and minimum targets for population and employment densities. MTSAs on Priority Transit Corridors served by bus rapid transit or light rail transit should achieve an average density of 160 residents and jobs per hectare.

Developing the MTSA Boundaries

With rapid transit planned on Queen Street, the area around each stop will be considered an MTSA. To help identify where and how these areas can grow in a way that supports transit use, this study is developing potential station area boundaries.

Defining MTSA boundaries considers:

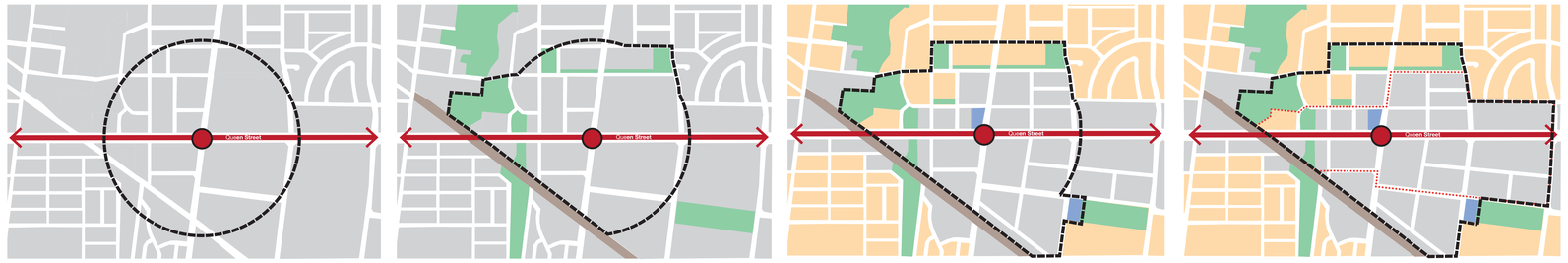
- Connectivity and proximity to transit stops
- Existing destinations and development potential
- Existing population and employment density
- Land use patterns and planning policy



Example Potential Major Transit Station Area - Kennedy

Steps to Developing the MTSA Boundaries

Diagram for illustrative purposes; refer to Kennedy Potential MTSA for an example of a potential boundary



1 500m Radius

Base Case. Start with the area within 500m of each rapid transit stop.

Legend

- Blocks
- Transit Station
- Revised MTSA boundary after Context Analysis
- Transit Street
- Parks / Open Space / Natural Heritage Areas
- Rail or Infrastructure Corridor
- Stable / established neighbourhoods
- Community / Institutional destination
- Development Potential
- Secondary Plan Area or Special Policy Area

2 Pedestrian Barriers

Barriers and Edges. Adjust the boundary where barriers that are hard to cross such as highways, rail corridors or waterways form an edge.

3 Destinations

4 Development Opportunities

Destinations and Development. To maximize the area and number of potential transit users within walking distance, adjust the boundary to include nearby destinations such as schools, parks and public facilities as well as sites with existing or potential for higher density development.

5 Planning Context

6 Eliminate Overlap

Policy and Planning. Refine the boundary to reflect current planning policy, such as official plan land use designations which already allow higher density development. Finally, eliminate any overlap with other nearby MTSA boundaries.

Focus Areas

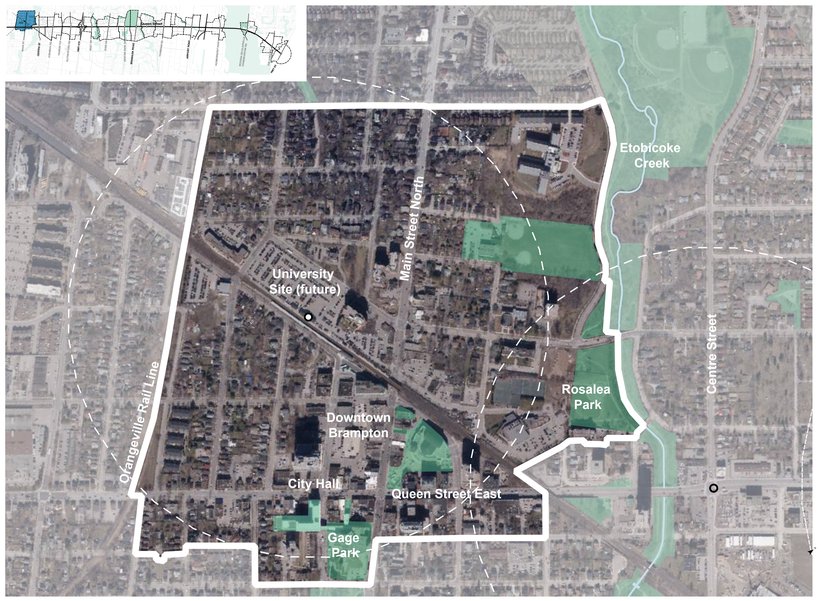
Opportunities and Constraints (1/2)

Eight of the potential MTSAs have been identified as Focus Areas. These are areas that have a capacity to accommodate future residential, mixed-use or employment growth and where transit converges.

Each Focus Area has a different land use context and planning priorities. The next phase of the study will develop planning priorities and urban design guidelines to support the selected transit.

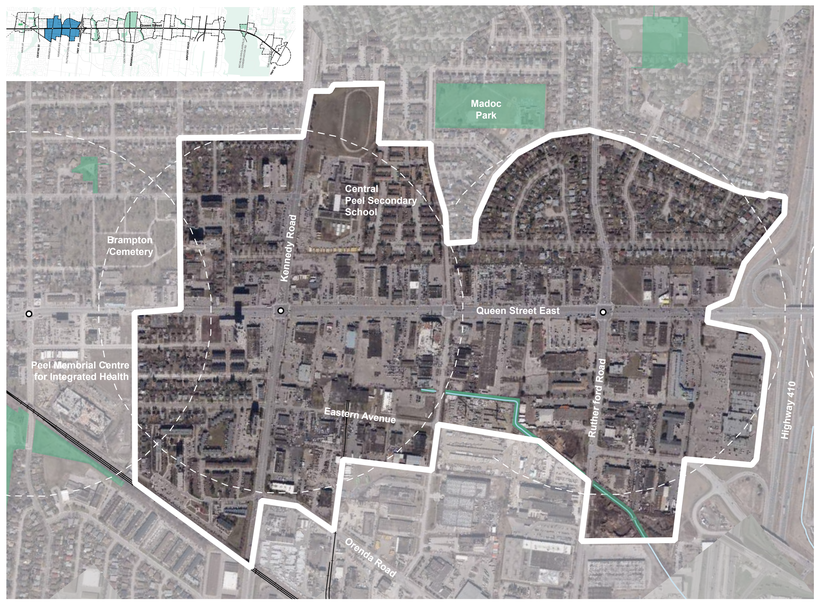
The Queen Street design within each Focus Area will contribute to the establishment of a strong sense of place and the increasing sustainability in terms of creating neighbourhoods that are compact, transit-oriented and pedestrian friendly.

1. Brampton GO Station Area



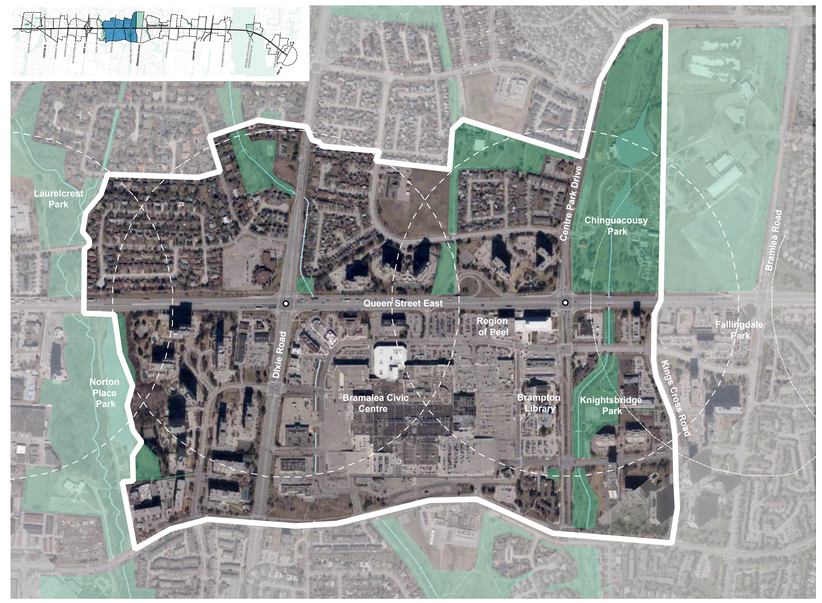
Opportunities	Challenges
Provincial Urban Growth Centre, part of the Central Area of a rapidly and extensively developing city	Flood risk (limits on development)
Mobility Hub: potential for infill and intensification contributing to a walkable, mixed-use, transit oriented centre	Heritage resources (requires sensitive urban design approach)
Major existing and planned green spaces and destinations (city hall, university, cultural destinations)	Constrained access, incomplete street network, underpasses
Existing heritage character	Heritage resources (requires sensitive urban design approach)
Excess parking capacity	Narrow streets (limited opportunity for dedicated transit)
Convergence of local and regional transit (bus and rail) at Brampton GO Station	High peak-direction auto volumes along parts of Queen Street, and Main Street (north of Theatre Lane)
Two-way all day GO service	
Moderate transit ridership along the corridor	

2. Queen Street Central Area



Opportunities	Challenges
Within provincial Urban Growth Centre (opportunity for higher density)	Some lower-intensity industrial uses within area (not a major constraint)
Queen-fronting properties designated for growth (Central Area mixed-use)	Coarse grain of north-south streets connected to Queen Street East
Proximity to Peel Memorial Centre as potential major employment node	Highway 410 is a barrier (on/off ramps create conflicts for cyclists/pedestrians)
Recent mixed use developments are redefining the character of Queen Street	High peak-direction auto volumes along corridor and at intersecting streets (Kennedy Road and Rutherford Road)
Potential alternative east-west connections, including Clark-Eastern	Several mid-block driveway accesses
Moderate transit ridership along the corridor	
Significant transfer point at Kennedy Road	

3. Bramalea

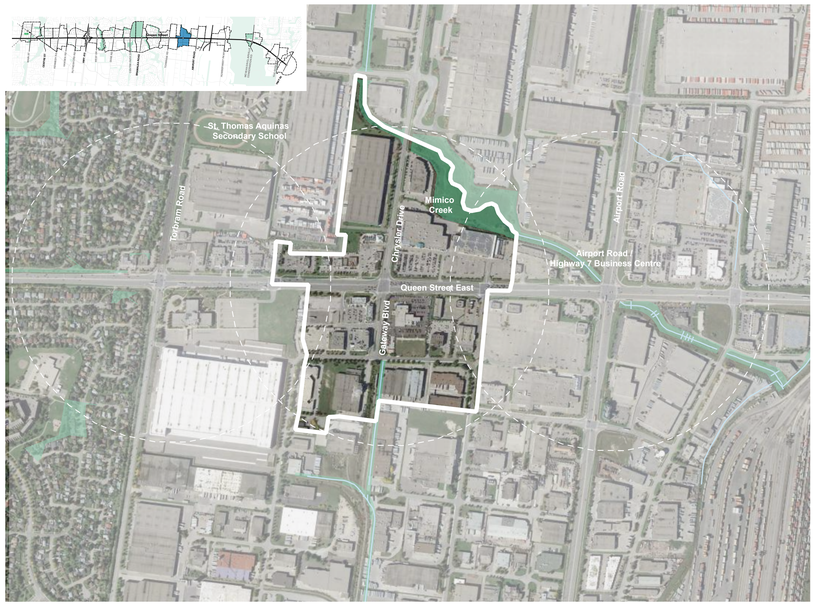


Opportunities	Challenges
Existing high density residential areas	Low density residential areas north of Queen
Infill/mall redevelopment: refreshed Bramalea 'new town' showpiece	Coarse grain of north-south streets connected to Queen Street East
Opportunity to improve street network	Primary truck route
Connections to Chinguacousy Park: a major landmark and recreation destination	High auto volumes in some areas, partially due to access to Highway 410
Existing services: i.e. Library, Region of Peel	
Regional GO Bus Service Connections	
Convergence of local and regional (bus) transit at Bramalea Terminal	
High ridership along the corridor	

Focus Areas

Opportunities and Constraints (2/2)

4. Gateway Boulevard Node



Opportunities	Challenges
Employment led intensification on Queen street frontage parcels.	Entirely designated employment lands.
Ecological and habitat connections along Mimico Creek corridor	Large industrial properties (e.g. large inter-modal facilities) protected and unlikely to redevelop under current planning horizon.
Moderate auto volumes throughout the focus area	Lester B Pearson International Airport Operating Area limits introduction of sensitive land uses.
Limited existing connectivity to other transit routes	Mimico Creek is a barrier to pedestrian movement
Moderate ridership along the corridor	Utilities north side of Queen Street

5. The Goreway

Opportunities	Challenges
Large, low-intensity sites fronting on Queen (redevelopment potential)	Primarily designated employment lands
Connections to Claireville Conservation Area	Limited intensification on industrial-designated properties
Moderate auto volumes along the corridor.	Lester B Pearson International Airport Operating Area limits introduction of sensitive land uses (East of Humberwest Parkway)
High transit ridership along the corridor	Utilities north side of Queen Street
Significant transfer point to existing transit routes at Goreway Drive	

6. The Gore

Opportunities	Challenges
Large sites with redevelopment potential (low-intensity uses)	Existing low-density residential areas
Opportunity to improve street network.	Impermeable street network
Designated for mix of residential and employment uses	Valley-lands act as pedestrian barrier
Connections to Claireville Conservation Area, parks and valley-lands	Limited intensification potential on designated employment lands
Congested transit ridership in peak direction	Primary truck route
	High level of peak-direction auto volumes due to access to Highway 427
	Utilities north side of Queen Street