



# Welcome

Public Information Centre

## City of Brampton TRANSPORTATION & TRANSIT MASTER PLAN

Road and Transit Network  
Draft Recommendations



Wednesday, April 28, 2004



# Purpose of this Public Information Centre

TTMP

- ❖ **We will present analysis completed for roads and transit:**
  - Existing Conditions;
  - Key Challenges;
  - 10-Year Capital Plan Improvements.
- ❖ **We will present future strategic plans recommended for Brampton.**
- ❖ **We will present preliminary costs associated with recommended improvements.**
- ❖ **We will present the short-term action plan.**





# Purpose of the TTMP

TTMP

**The Transportation and Transit Master Plan (TTMP) will:**

- ❖ **Define a long-term multi-modal transportation strategy to manage the City's growth over the next 30 years;**
- ❖ **Establish a framework for guiding all future transportation decisions;**
- ❖ **Set out policies and programs to support the long-term transportation vision for the City;**
- ❖ **Include an implementation strategy based on targets established for 10-year horizon intervals;**
- ❖ **Set out a Short-Term Action Plan for the next five years, to address current needs and deficiencies, and to begin to work towards the long-term vision;**
- ❖ **Plan for a balanced road and transit system.**



# Planning Process

## Regard for Other Studies

- ❖ The Officials Plans of the city and Region provide the primary context for this project
- ❖ Brampton's Growth Management Program is a key consideration
- ❖ Greater Toronto Services Board's Strategic Transportation Plan
- ❖ Series of Background reports, inputs from GO Transit, and adjacent Municipalities

## Master Plan Process

- ❖ TTMP has followed the Ontario Municipal Environmental Assessments (EA) Act and the Planning Act. This plan will define needs and alternatives for future EAs

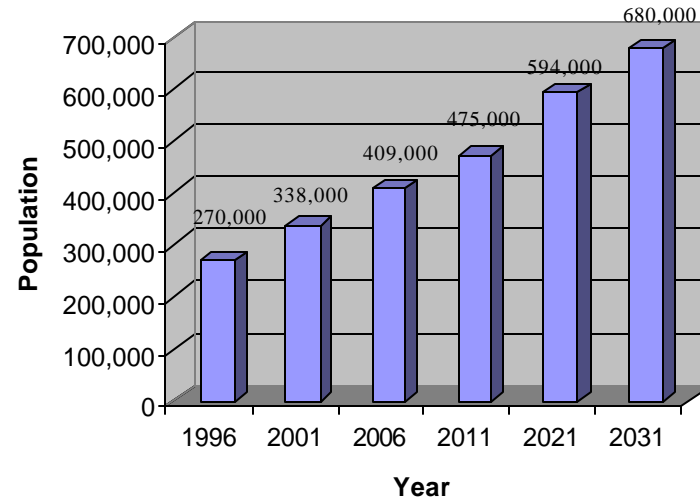
## Consultation Results

- ❖ As part of the EA Master Plan process two public consultation sessions have been held: the comments have been

**Planning for transportation and transit is based on the principle of "Universal Accessibility"**

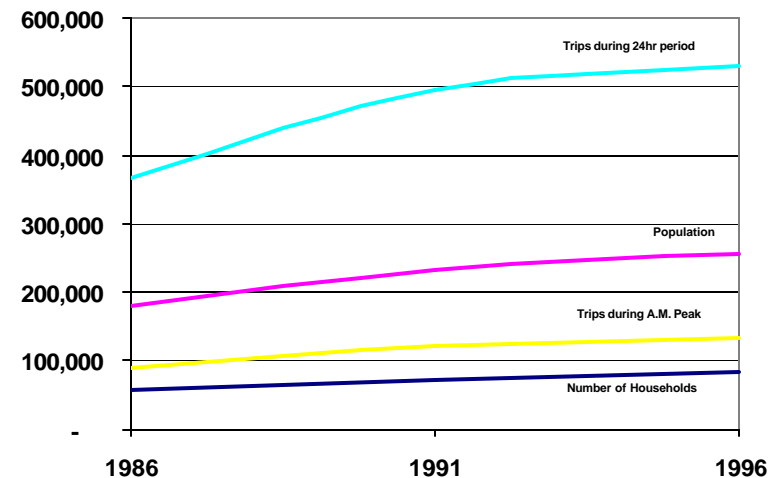
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# Demographics



- ❖ Brampton is growing!
- ❖ Jobs per capita ratio in the City is lower than the GTA average

- ❖ Traffic is growing faster than the population; commercial traffic has also been growing...



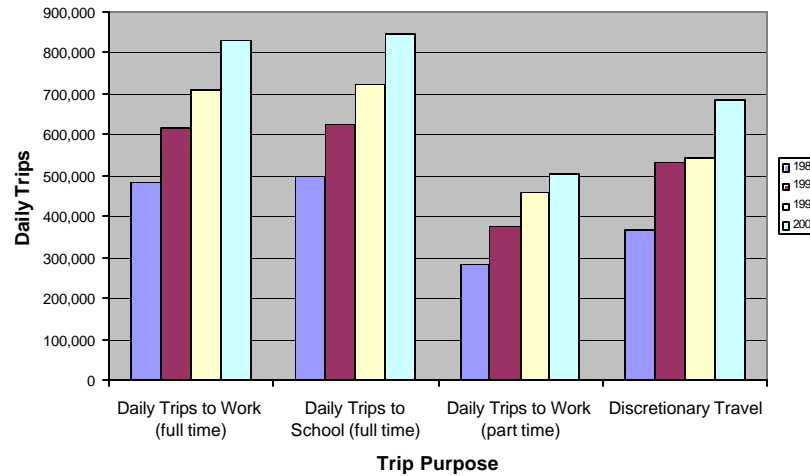
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# Current Transportation System

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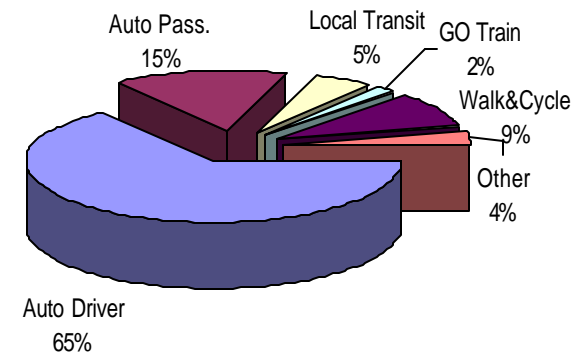
Daily Trips in the Region of Peel



❖ Travel demand in the Region of Peel and City of Brampton has been growing substantially.

- ❖ Residents of Brampton are highly dependent on the automobile for travel.
- ❖ 80% of trips during the morning peak period are made by car.

Trips Made by Residents of Brampton (a.m. peak period)



# Current Road System

TEMP

## Major Concerns

- ❖ The rapid pace of growth in the City has left gaps in road infrastructure in many locations;
- ❖ Some provincial highway initiatives have not materialized;
- ❖ Natural physical constraints pose a challenge for road network connections;
- ❖ Several intersections have major jogs, due to the presence of natural or man-made obstructions;
- ❖ Intersections of Brampton/Peel roads with Highway 50 and roads in the Regional Municipality of York occur at highly skewed angles.

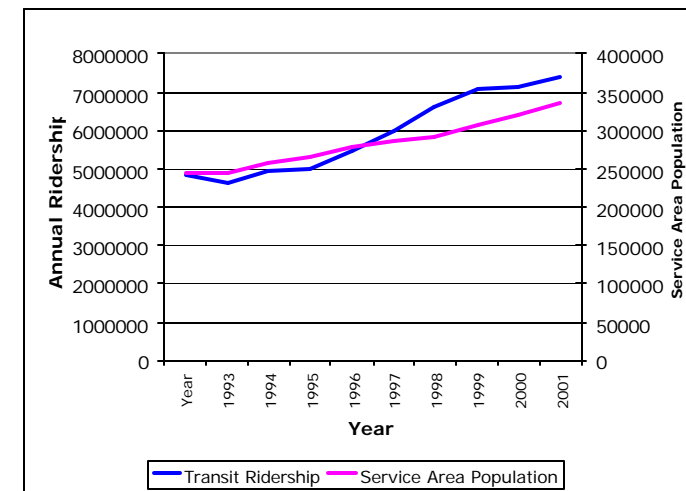
# Current Transit System

## Concerns

- ❖ Brampton's local transit system is circuitous to some extent;
- ❖ Transit system has been under-funded compared to other similar Municipalities;
- ❖ Transit shares are lower than the GTA average, in its peer range;
- ❖ Constraints to introducing effective transit in established areas (due to road network, density, mix of uses);
- ❖ The key deficiencies of the existing system lie in service coverage in developing areas

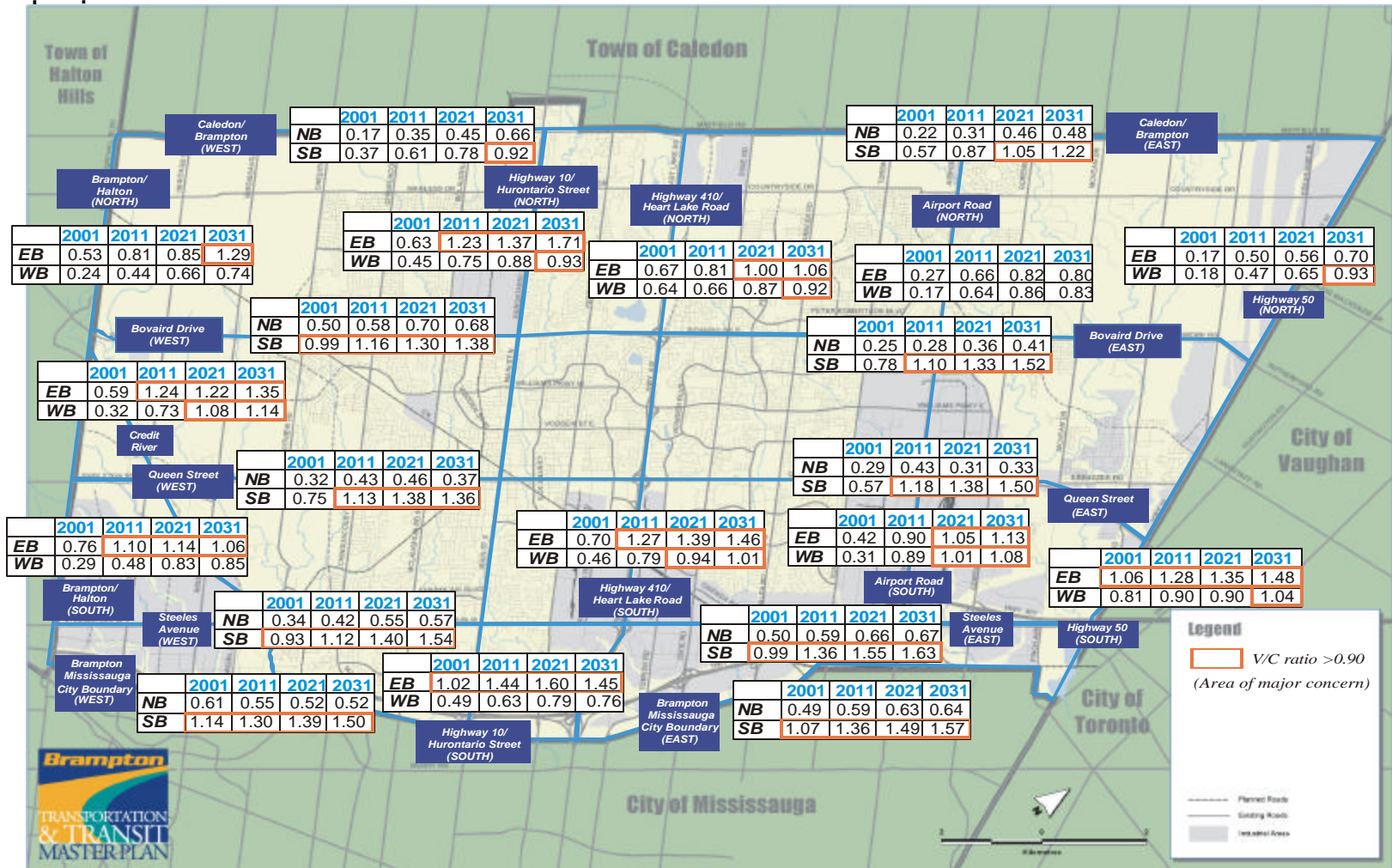
## Positive Signs

- ❖ Ridership has grown steadily;
- ❖ Most of Brampton Transit's routes have been performing effectively and efficiently in serving its current customers



# Current and Projected Road Conditions

This figure shows volume to capacity ratios (v/c) at screenlines throughout the city. The v/c ratio represents the operational system performance along the screenline (imaginary line to define a boundary). Ratios were calculated for base year (2001) and future

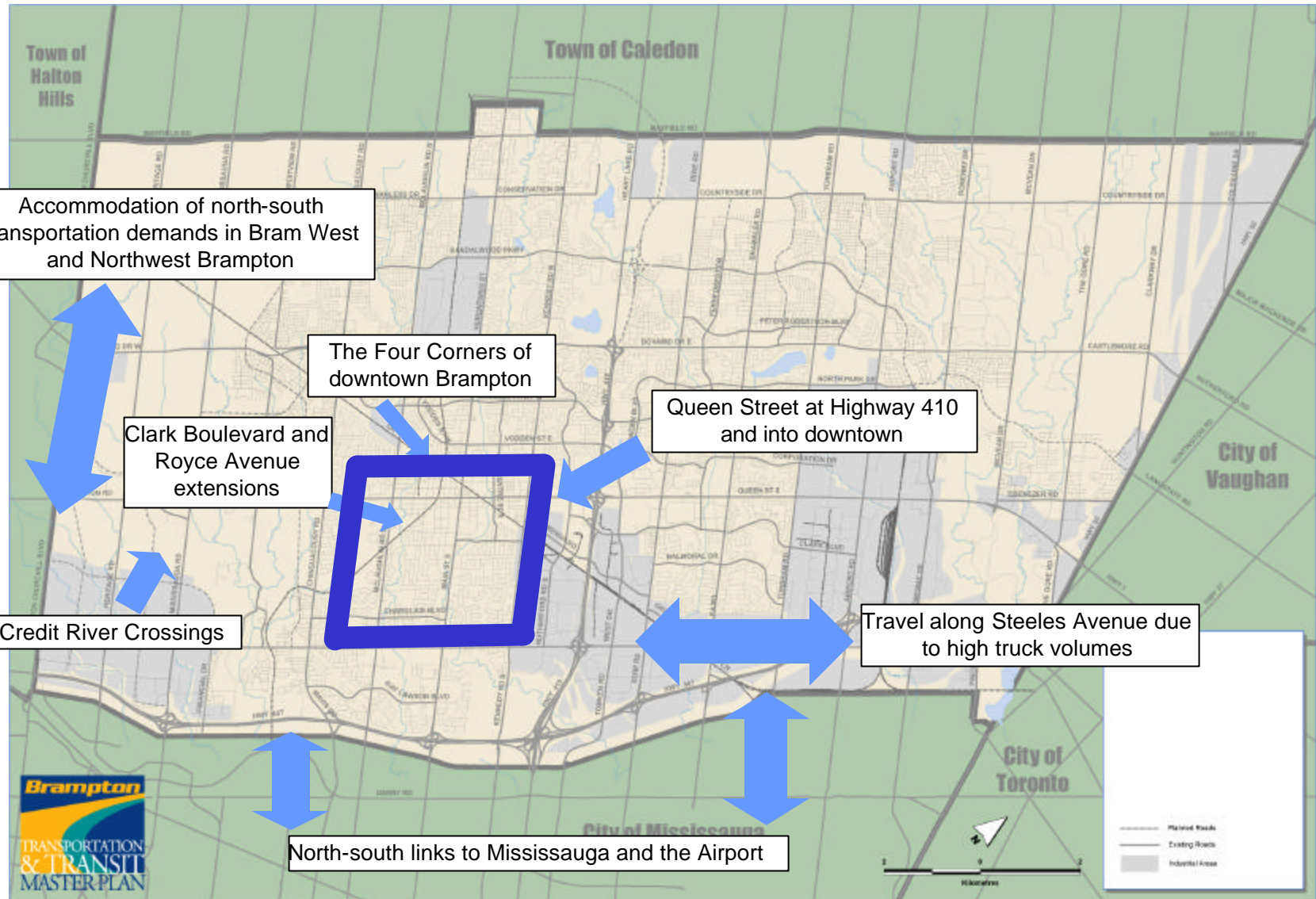


V/C Ratios with 10-Year Capital Plan (both the City & the Region) Improvements Only (Based on A.M. Peak Hour Model Results)

# Future Challenges for the Road Network

**Coping with projected growth is key...**

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# Future Challenges for Transit

## Immediate Challenges:

- ❖ Expanding service to newly developing areas, particularly in the southwest, north and north-east sections of the city;
- ❖ Improving service levels on key routes to accommodate peak demands;
- ❖ Improving service levels in off-peak service, particularly evening service, to continue to promote ridership growth;
- ❖ Improving transit service levels on a road network that is increasingly congested; and
- ❖ Ensuring adequate funding and procurement to accomplish these changes

## Long-term Challenges:

- ❖ More direct corridor routings, supported by transit priority infrastructure;
- ❖ Expanded services, with higher levels of service; and
- ❖ Supportive policies and land uses

# Brampton's Transportation Vision

**Previous Public Consultation has confirmed:**



***A Balanced Road and Transit System is preferred***

**A balanced roads and transit approach is preferred because it:**

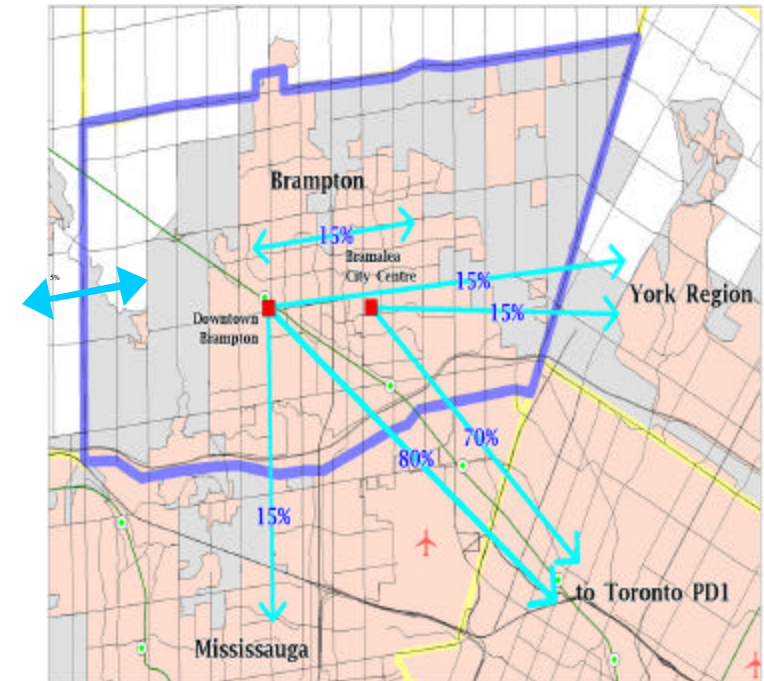
- ❖ Maintains needed accessibility for commercial, transit and other essential vehicular trips;
- ❖ Provides enhanced transit accessibility for all residents and workers in Brampton;
- ❖ Provides improved air quality; and
- ❖ Provides a healthier, more active and involved community.

# A Prime Component of the Balanced System: Realistic Planning for Transit

## Key Actions

- ❖ Focus on realistically achievable goals for transit networks and loadings within the City;
- ❖ Monitoring the system performance and planning for improvements;
- ❖ Provision of a rapid transit system east/west and north/south into Mississauga and York Region, linking into the GTA rapid transit network;
- ❖ Re-focusing land use intensity along transit corridors; creation of mixed-use corridors and nodes to generate the all-day, two-way ridership needed for transit to be cost-effective;
- ❖ Design of supportive streets and development, and transit-oriented policies and programs.

A.M. Peak Hour Projected Transit Shares

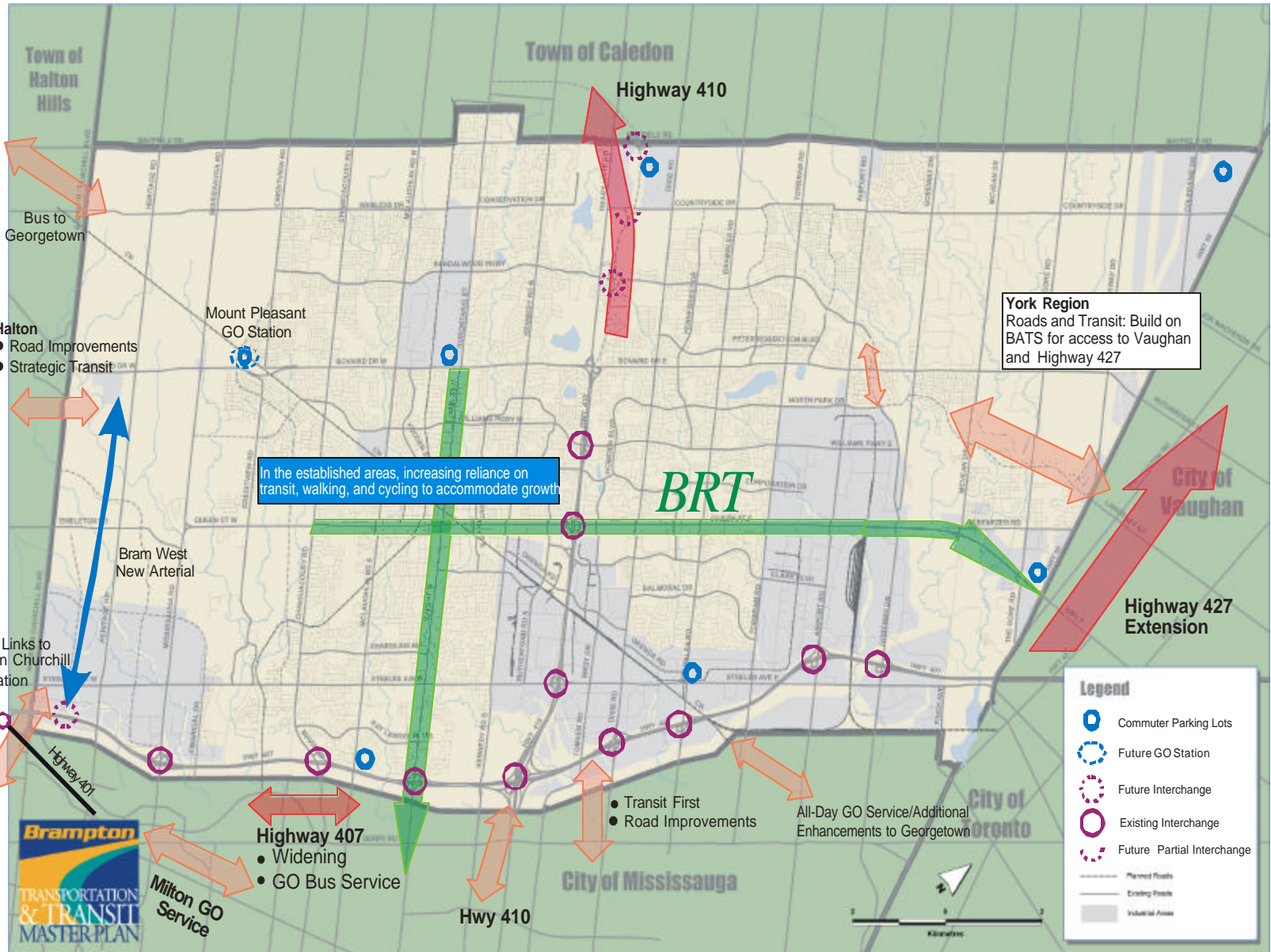


We have planned the system looking at comparable origin-destination pairs. For example, the existing connection between Port Credit and downtown Toronto is a possible vision for the level of transit ridership Bramalea City Centre and downtown Toronto

# Strategic Framework

## Short-Term Elements

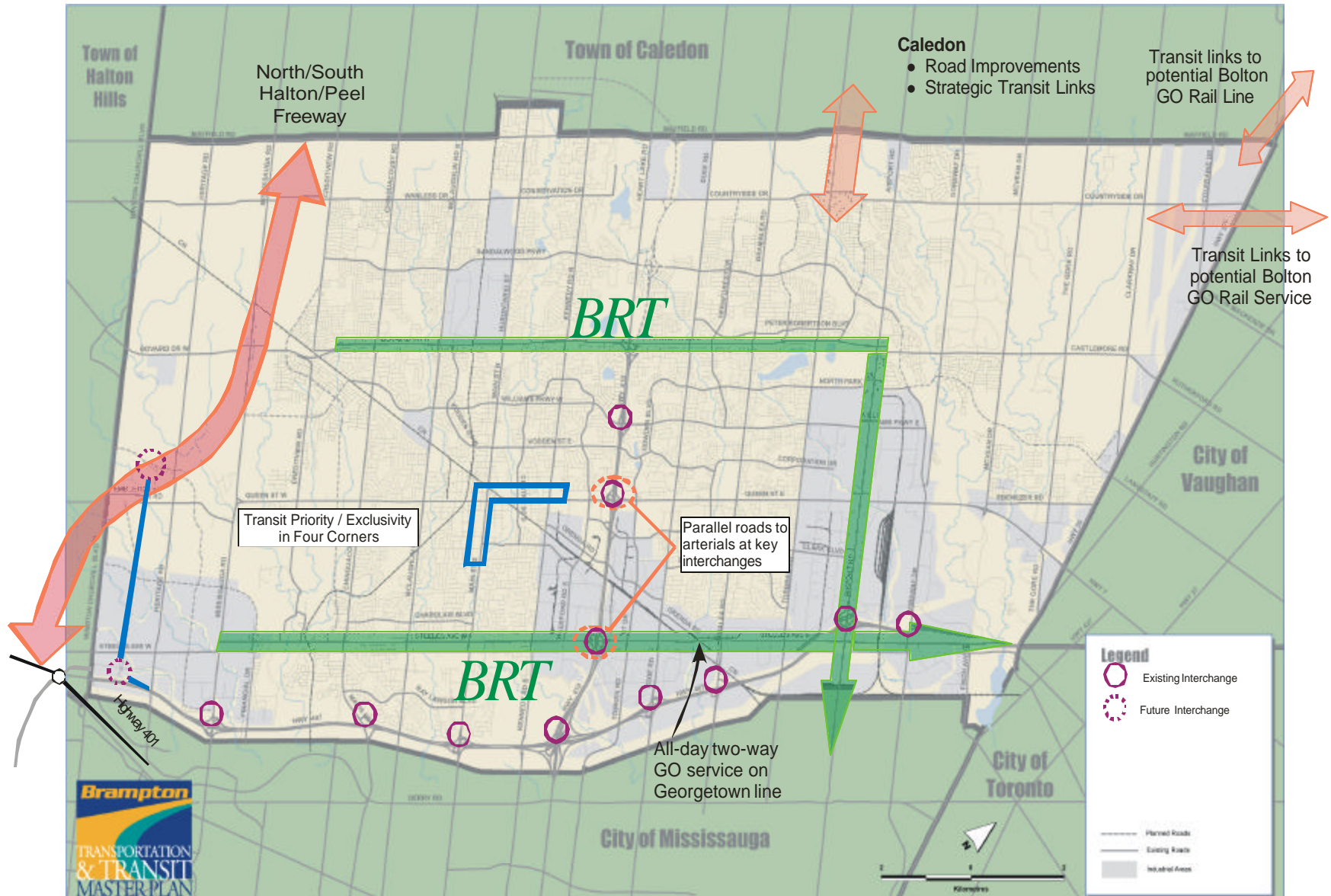
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# Strategic Framework

## Long-Term Elements

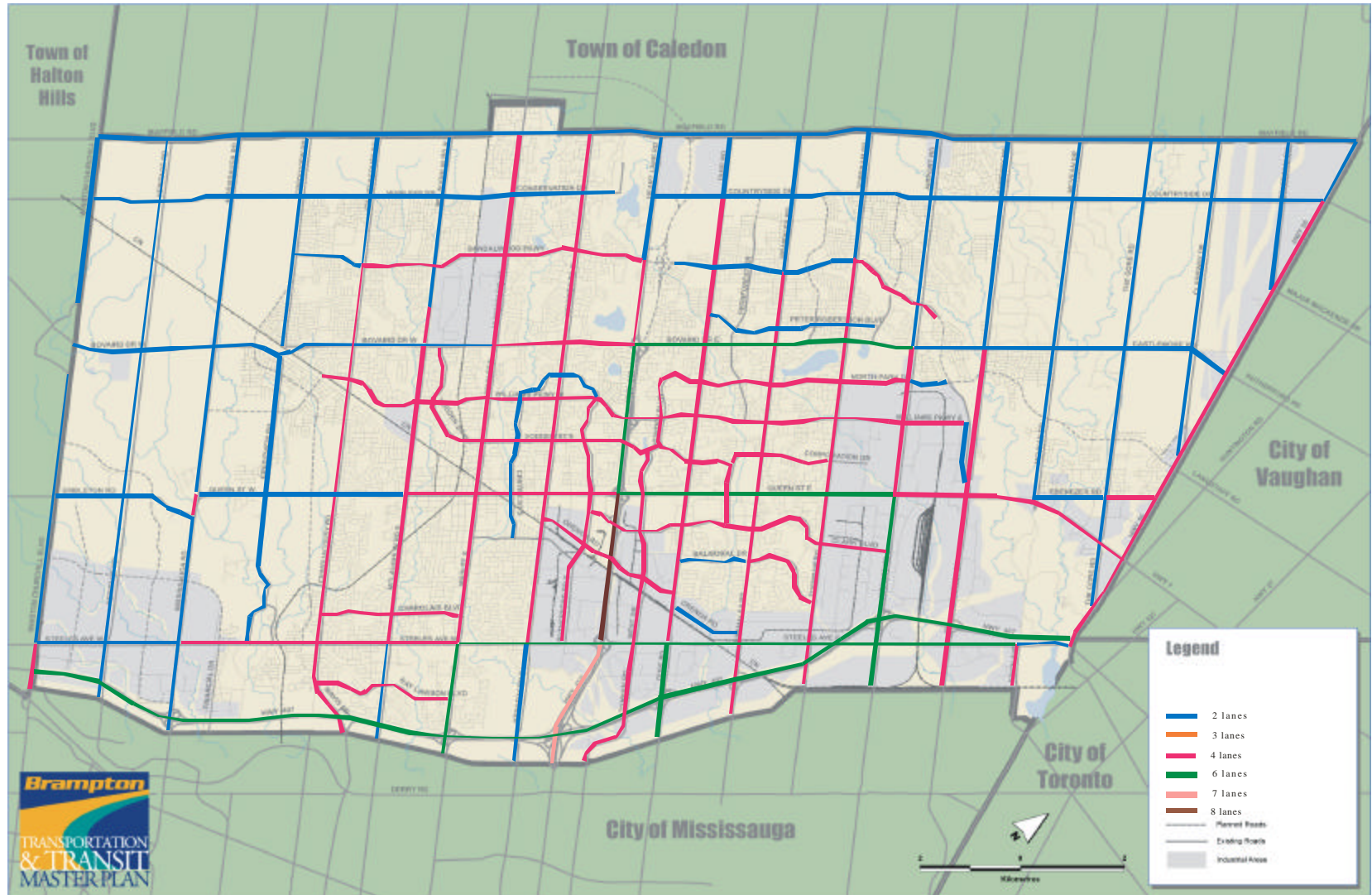
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# Expanding The Road System

## Brampton Major Road Network - 2003

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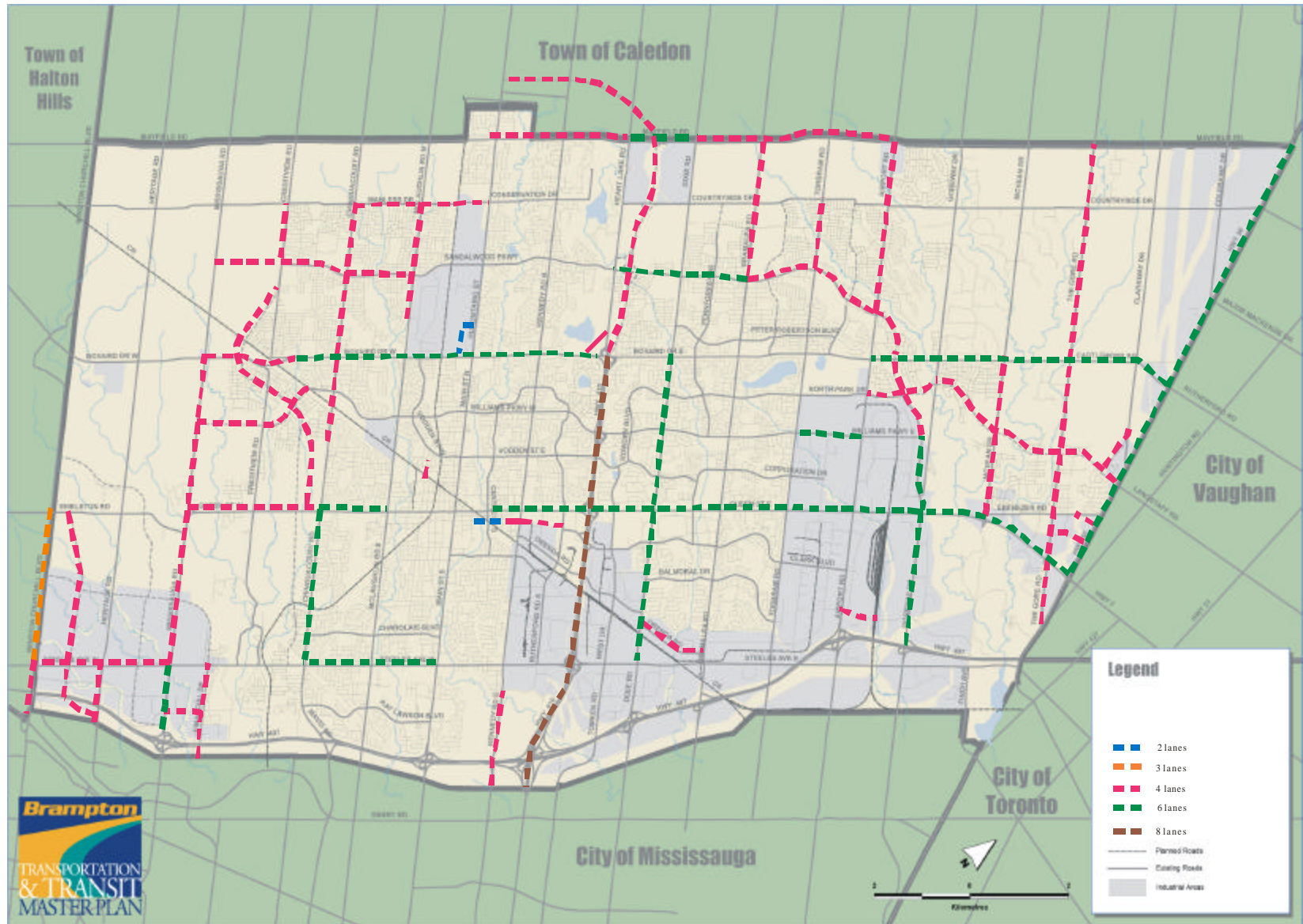


\* The transportation demand model was validated based on the 2001 network.

# Expanding The Road System

## 10-Year Capital Plan Programmed Improvements

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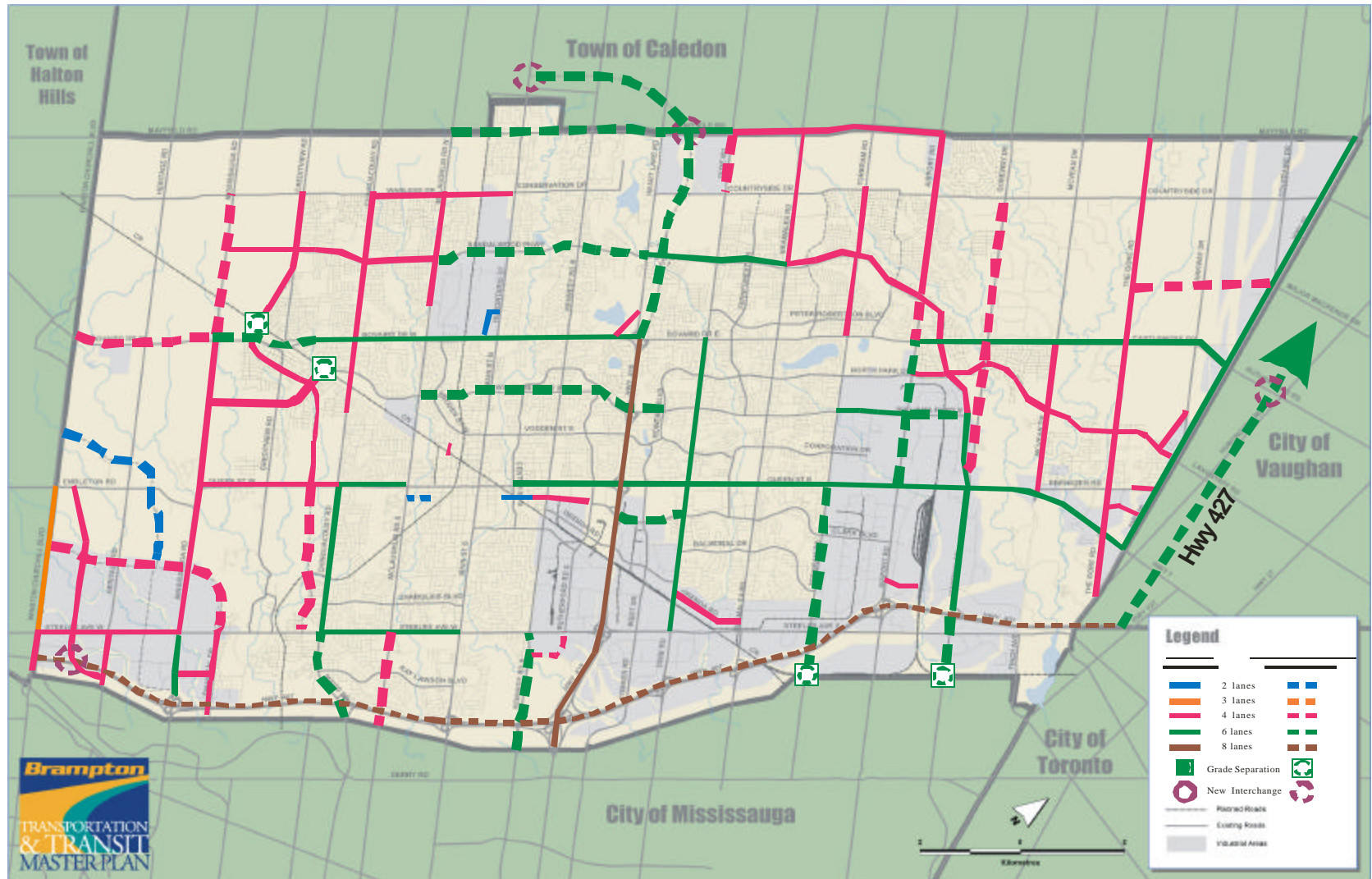


Dashed lines represent additional road improvements. They become solid in the next horizon year to represent that the improvements are in place

# Expanding The Road System

## 2011 Road Network

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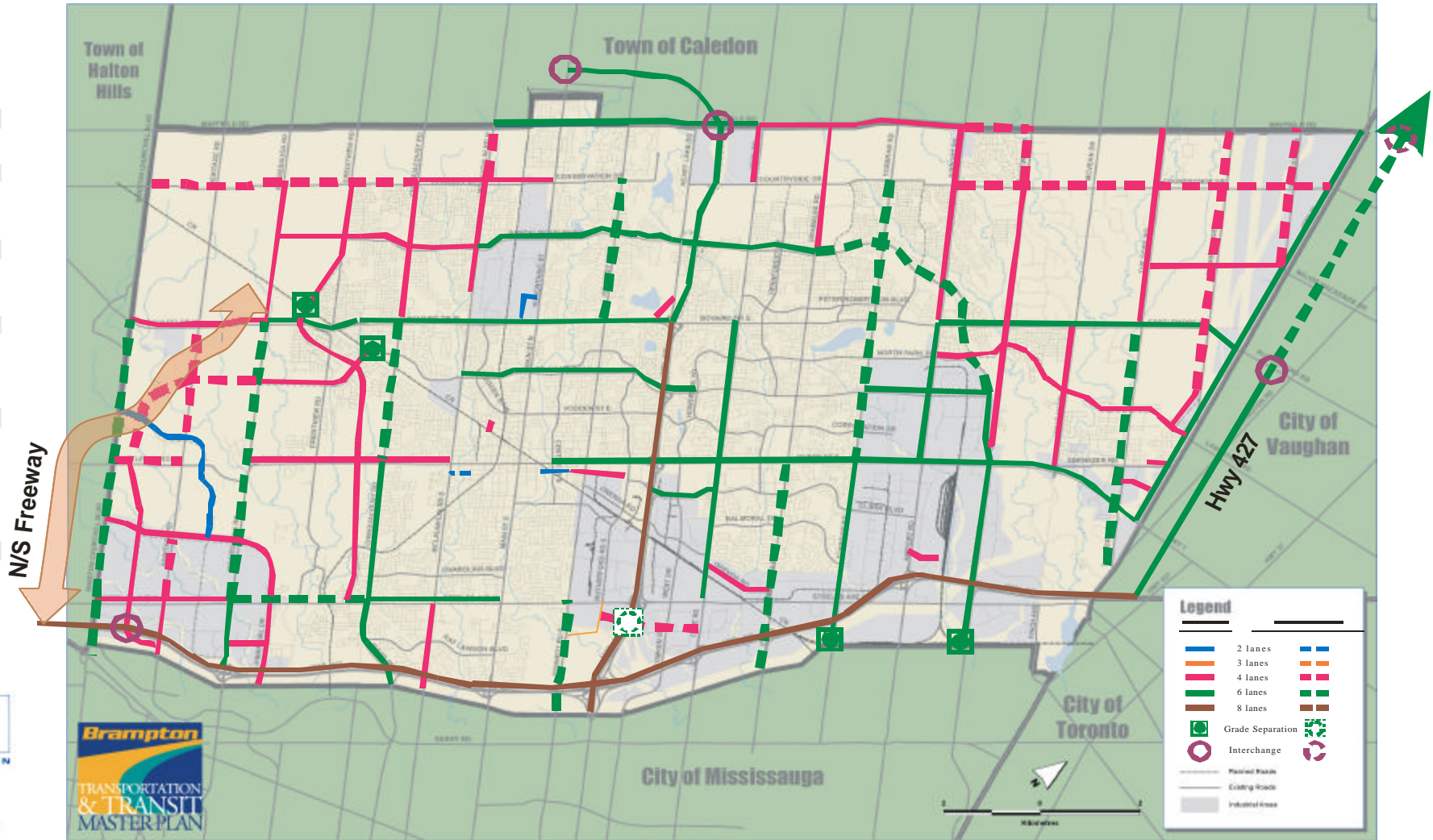


Dashed lines represent additional road improvements. They become solid in the next horizon year to represent that the improvements are in place.

# Expanding The Road System

## 2021 Road Network

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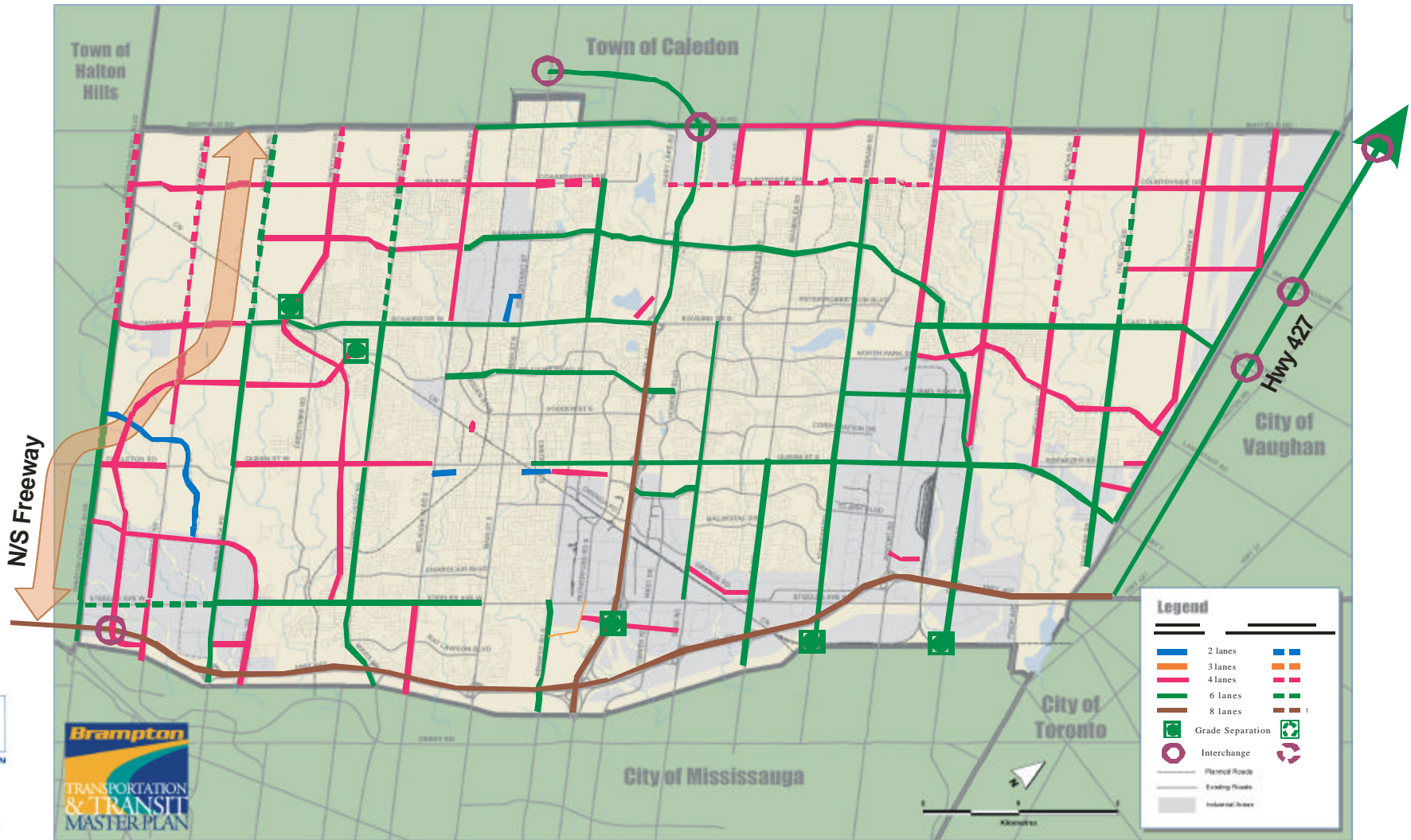


Dashed lines represent additional road improvements. They become solid in the next horizon year to represent that the improvements are in place.

# Expanding The Road System

## 2031 Road Network

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Dashed lines represent additional road improvements.



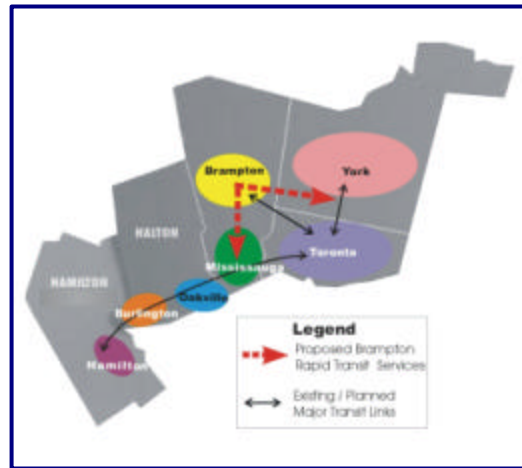
# Transit System Objectives

The key to transit's success in managing the growth of Brampton through 2021 and beyond is providing fast, reliable service directly to key destinations. The objective in the development of the long-term plans for Brampton Transit was to provide a real and attractive alternative to the auto for trips within Brampton and linking to external destinations.

## Key elements:

- ❖ Create strategic links to adjacent municipalities (and working effectively to share costs of these services);
- ❖ Establish grid-based services in Brampton corridors to provide direct and effective access within the City;
- ❖ Enhance grid services by local feeder routes to ensure good local access;
- ❖ Provide network growth into new development areas in the north and west areas of the city will continue based on these principles.

# Overview of Options for Rapid Transit in Brampton



The first initiative under this program is to implement Bus Rapid Transit (BRT) service on two corridors:

- **The BY Line:** Queen Street, linking into York Region and the TTC network;
- **The Main Line:** Main Street/Hurontario Street, linking to the Mississauga City Centre Transit Terminal.

Bus Rapid Transit (BRT) involves a combination of measures intended to give buses priority over other vehicles in terms of travel time and through traffic signal priority.

BRT may be an initial stage towards implementation of a higher order rapid transit system, like Light Rail Transit (LRT) in the longer term.



# Bus Rapid Transit

Bus Rapid Transit (BRT) is the preferred technology/service delivery mechanism for rapid transit. Bus Rapid Transit is the umbrella name for a range of bus service concepts.



Key advantages of BRT: its **flexibility** in terms of service routes, and the **ability to stage service improvements** as funds permit. Fixed route technology such as light rail or subway do not offer these advantages.

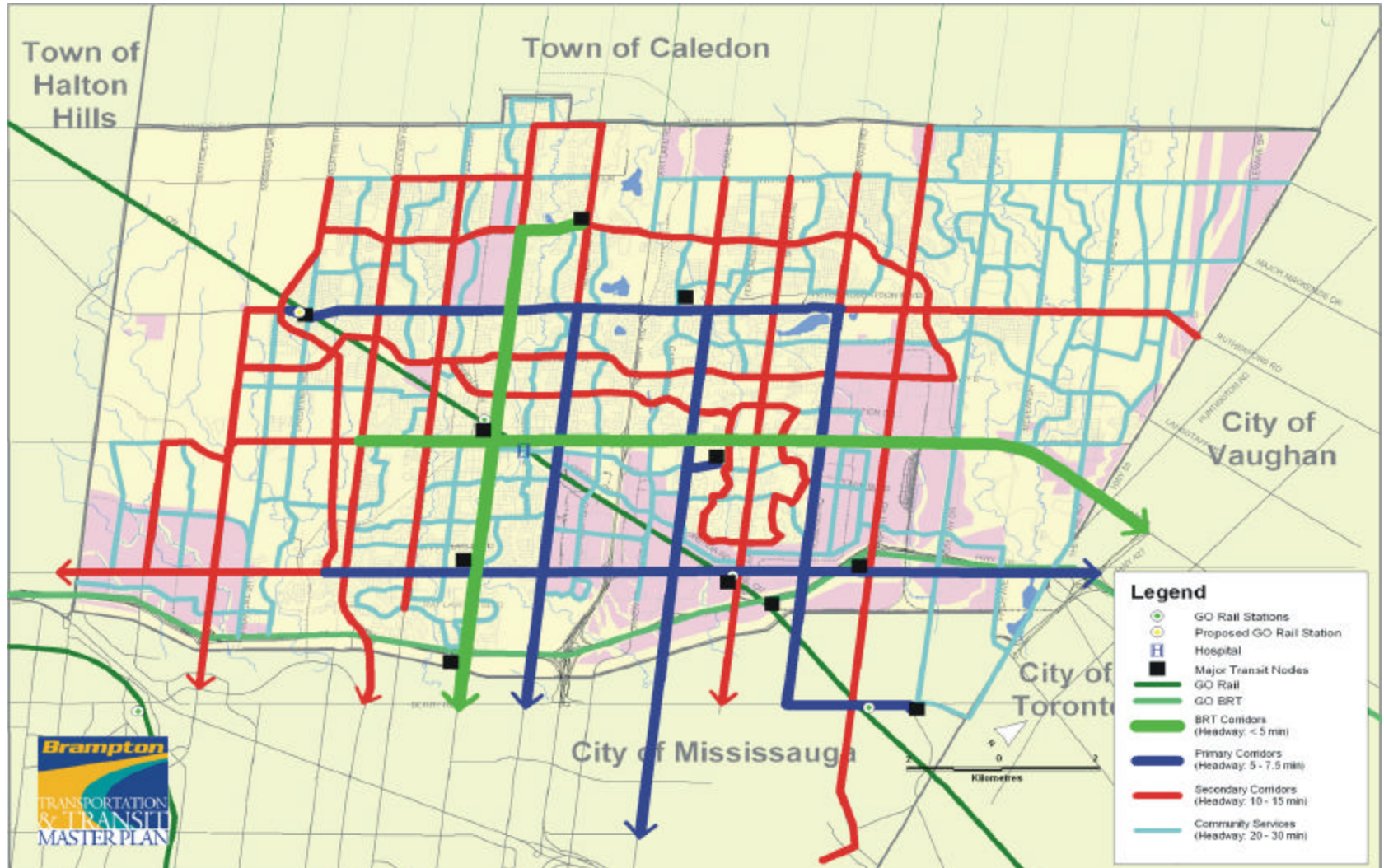
BRT services can operate in high occupancy vehicle lanes, reserved bus lanes or on reserved rights-of-way.

**BRT can be regarded as a precursor to light rail.**

# Transit System

## 2011 Strategic Transit Framework

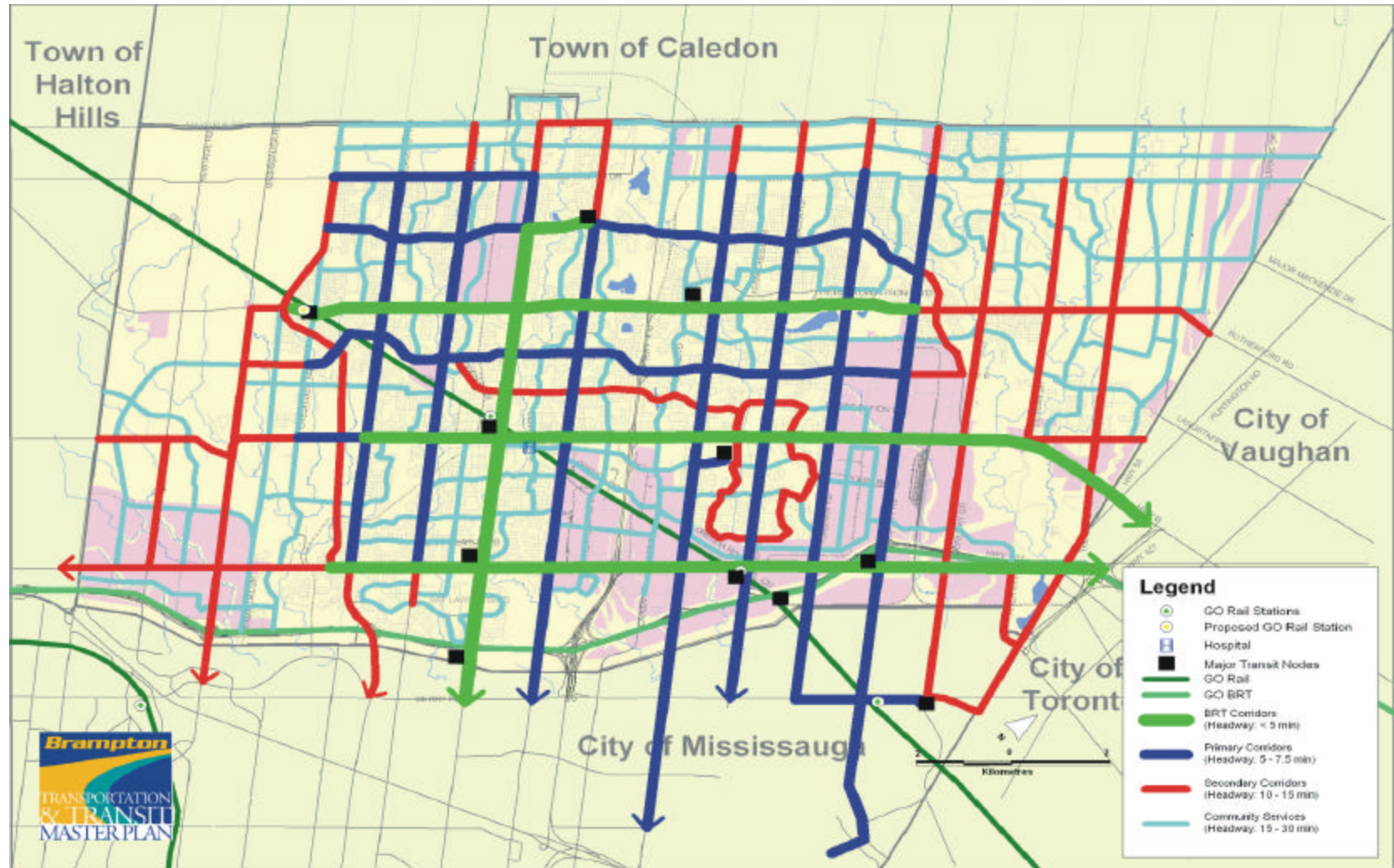
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# Transit System

## 2021 Strategic Transit Framework

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# Costs

## Projected Road Improvements Costs

	<b>Infrastructure Costs</b>
10-Year Capital Works Program <sup>(1)</sup>	\$ 500 millions
Improvements Recommended by 2011	\$ 282 millions
Improvements Recommended by 2021	\$ 268 millions
Improvements Recommended by 2031	\$ 101 millions
<b>TOTAL</b>	<b>\$1,151 millions</b>

- (1) Costs associated with AcceleRide infrastructure are included. The cost of rolling stocks and contingencies are excluded. By 2011 other than the AcceleRide, HOV lanes, transit signal priority, and queue jump lanes are assumed on Kennedy Road, Dixie Road, Torbram Road, Bovaird Drive, and Steeles Avenue. By 2021, McLaughlin Road and Airport Road are added as HOV corridors
- (2) The total includes also the expenditures forecasted by the City for 2012 and 2013
- (3) All figures are rounded to the nearest thousand and include 3% GST

## Projected Transit Improvements Costs

10-Year Capital Plan	\$142 million
Improvements to 2011	\$ 18 million
Improvements to 2021	\$100 million

**TOTAL** **\$260 million**

\* Includes vehicles and non-vehicle system-support costs

# Short-Term Action Plan

**Development of the 5-year plan means specific progress is made towards the 2011 objectives.**

## Roads

- ❖ Provision of increased capacity across Highway 410, Steeles Avenue, Brampton/Vaughan and Brampton/Halton Hills screenlines.
- ❖ Priority consideration of Highway 410 extension.
- ❖ Provision of an effective secondary arterial / collector network at the western edge of the City.

## Transit

- ❖ AcceleRide transit priority bus services on Main St and Queen St.
- ❖ North-south extensions of primary grid services to serve new developing areas north of Bovaird Dr.
- ❖ Expansion of services west of Chinguacousy Rd.
- ❖ Higher service frequencies on primary east-west and north-south grid services.
- ❖ Completion of missing grid elements on Rutherford, Torbram,

# Short-Term Action Plan

## AcceleRIDE: Proposed Rapid Transit links to fit into the GTA Network

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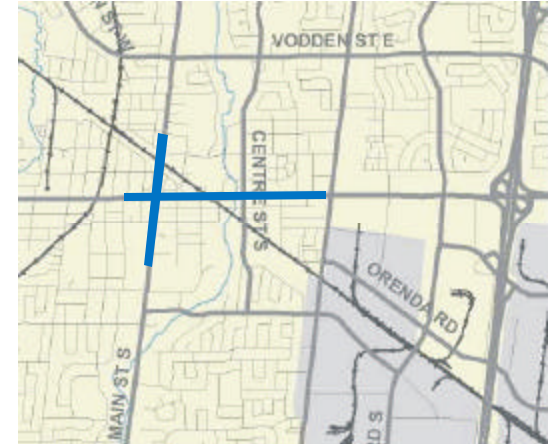


This map shows the conceptual GTA rapid transit network. Brampton can create important linkages in this network through the Main Line on Hurontario Street, the BY Line on Queen Street and other routes.

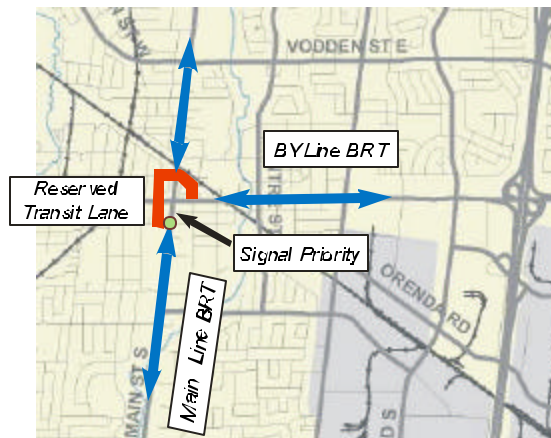
# Evolution of Downtown Brampton

**A proposed evolution of the Four Corners is described below:**

1. The City's proposed expansion of off-street parking is an opportunity. By eliminating on-street parking on either the minor or major streets (weekdays 7 a.m. to 7 p.m.), transit priority can be provided in the areas highlighted.



**Timing = Now**



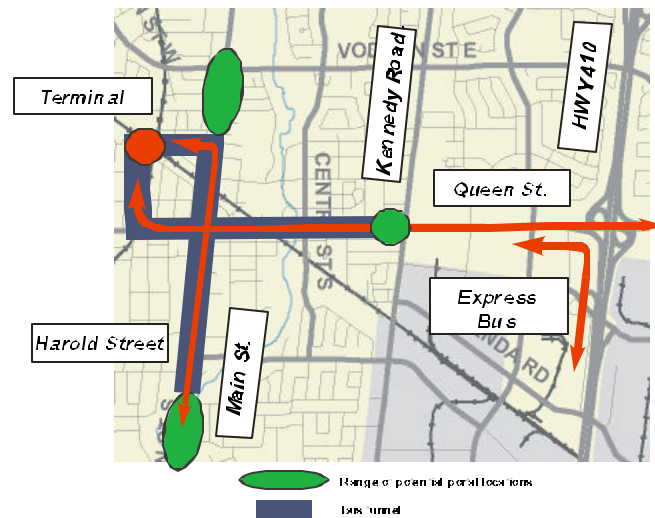
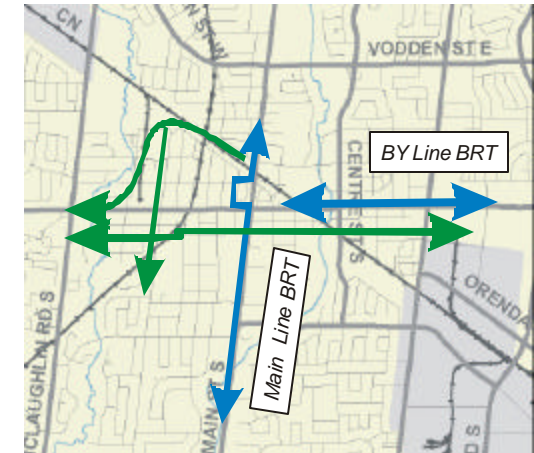
2. Transit Priority is expanded within the Four Corners, together with implementation of BRT. Alternatives could include a one-way street system on George and Nelson which would facilitate circulation of traffic and buses around the Four Corners with more capacity (in a clockwise orientation), or reserved transit lanes on Queen and Main.

**Timing = 5 Years**

# Evolution of Downtown Brampton

TEMP

- Transit Priority continues to be enhanced, with a ring road around the Four Corners, to divert auto traffic. Due to the limited lane widths and difficult turning radii in this area, early consideration of on-street transit terminal expansion on Main Street at Queen Street may be considered. A combination of the traffic ring road through the downtown core for regular vehicle movements and the closure of Main Street between Nelson Street and Queen Street as a combined pedestrian/transit area may be beneficial to the increased movement of people and transit vehicles on the Main Line



- In the long-term, an underground bus tunnel is introduced, to provide the ultimate degree of transit priority (via grade separation). Options need to be considered for the portal locations. The terminal would be expanded underground. Bus tunnels have been introduced as positive network components in Seattle and other cities



Seattle Bus Tunnel

# Recommended Actions for Key Issues

TTMP

Issues	Actions
Highway 410 Extension	<ul style="list-style-type: none"> <li>Extension of Highway 410 by 2006/2007 from Bovaird Drive to the City boundary, has been addressed in the EMME/2 model</li> <li>Recommended to be built with a six-lane cross-section</li> <li>Further delay would result in the need to expand Heart Lake Road and numerous parallel roads</li> <li>The major issue of inter-municipal through traffic needs to be accommodated by Highway 410, to avoid overloading the City's arterials</li> <li>Utility of parallel roads: Kennedy road is projected to approach capacity in the peak direction; Dixie Road's capacity will be constrained as it is being considered as one of the primary transit corridors that should have reserved bus lanes (RBL)</li> </ul>
Highway 427 Extension	<ul style="list-style-type: none"> <li>Not included in the model due to uncertainty regarding timing and location</li> <li>Screenline analysis shows that the demand on Highway 50 is over capacity; the extension of Highway 427 is expected to relieve the burden by providing the additional capacity needed</li> <li>The absence of the extension would result in overloading first Highway 50, then The Gore Road and Clarkway Drive as development proceeds</li> <li>Screenline analysis outlines that even the six-lane cross-section of Highway 50 will not be able to accommodate the demand by 2011 and 2021 if the extension is not provided</li> <li>The extension could be in two stages; first being to Rutherford Road as soon as possible, second to Major Mackenzie Drive by 2021. This was also recommended previously in the York-Peel Boundary Area Transportation Study (BATS)</li> <li>The extension of Highway 427 can also facilitate transit either on the highway itself or on Highway 50</li> </ul>
Potential New East-West Highway North of Brampton	<ul style="list-style-type: none"> <li>The planned improvements on Mayfield Road / Wanless Drive and the additional recommended improvements for 2021 and 2031 provide enough east-west capacity for municipal demands in the corridor at the northern edge of the City</li> <li>The conceptual "Highway 413" multi-modal transportation corridor does not appear to be needed to meet local traffic demands by 2031</li> <li>To address inter-regional or province-wide demands, which were not investigated in this study, a provincial modeling study is expected to be undertaken</li> </ul>

Issues	Actions
New Peel / Halton North-South Freeway	<ul style="list-style-type: none"> <li>The north / south demand in the westerly part of the City could warrant the Peel/Halton Freeway in two stages: first, by 2021, being the section between Highway 407 and Bovaird Drive crossing Winston Churchill Boulevard and Heritage Road, and the second being the northern extension to Town of Caledon after 2021, following the development of Northwest Brampton</li> <li>In case of the freeway can not be achieved, other parallel road improvements need to be implemented: expansion of Winston Churchill Boulevard to six lanes, Heritage Road to four lanes (except the segment between future Financial Drive and Road "A", due to the physical environmental constraints), and Mississauga Road to six lanes. The new Bram West Parkway as a four-lane facility was also included in the analysis, along with Financial Drive as a four-lane arterial</li> </ul>
Trinity Common	<ul style="list-style-type: none"> <li>Road Network improvements are expected to diminish congestion issues. The Highway 410 extension and the Sandalwood Parkway extension would provide a better distribution of the traffic around Trinity Common and Bovaird Drive</li> <li>Role as a transit hub will begin to diminish in the short-term, as grid services are established. In longer term, the recommended BRT services on Bovaird Drive would make transit a more feasible means of transportation to reach Trinity Common; this would assist the transition of the facility</li> <li>Future land use adjustment in the north end of the City would assist in managing congestion (i.e. more dispersed commercial uses)</li> </ul>
Norval By-pass	<ul style="list-style-type: none"> <li>Since the TTMP was focused within the City boundaries, the Norval by-pass was not examined in detail</li> <li>The potential Peel/ Halton north-south freeway would act as a by-pass of Norval crossing the Credit River providing much expected infrastructure. An environmental Assessment (EA) would be needed to focus specifically on this corridor and alternatives</li> </ul>
Clark / Eastern / Wellington / Royce Connections	<ul style="list-style-type: none"> <li>Since Queen Street is already heavily loaded, and the proposal for Bus Rapid Transit on Queen Street is under consideration, this connection is one alternative which could accommodate local traffic on a parallel route</li> <li>If Clark / Eastern / Wellington / Royce connection is not feasible, other alternatives should be planned (e.g. improved Clarence / Harold connection across Main Street)</li> <li>It is recognized that there are extenuating circumstances regarding property, costs and potential community effects; the final decision and protection of the corridor is subject to more micro-level review and comprehensive cost/benefit analysis. Costs may be very high for some elements; if this is the case, the cost/benefit analysis may show that investment in other TTMP projects should have a higher priority</li> </ul>

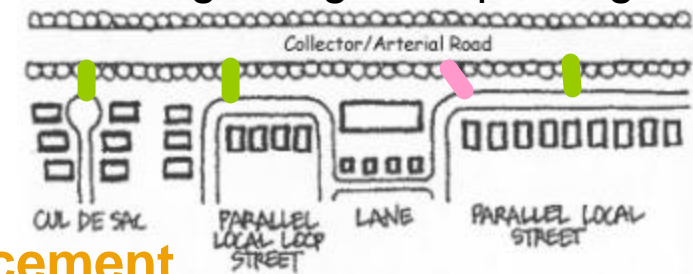


# Policies & Programs

## Transit Supportive Policies in Downtown

The transit priority initiatives in the Four Corners must be supported by a strong policy/program framework:

- ❖ A review of parking policies in the downtown (both on and off-street).
- ❖ Definition of a staged plan for the adjustment of rates and rate structures to encourage transit use and discourage long-term parking on-street will be needed.
- ❖ Promoting shared-use of parking.



## Principles for Road Network Enhancement

- ❖ Continuous network of arterial and collector roads which can provide improved accessibility.
- ❖ Additional road connections across freeways and for creating "bypasses" of key nodal intersections should be explored.
- ❖ Continuous collectors at (a preferred) 500 to (maximum) 1,000-m spacing should be reflected in Secondary Plans.
- ❖ The design of access and frontage also plays a role in community development to support transit-supportive, involved, active and participatory communities, with "eyes on the street".



# Policies & Programs

TEMP

- ❖ Implement the City's Pathways Master Plan for cycling
- ❖ Support Travel Management Associations (TMA) in areas of high commercial/industrial activity (e.g. Highway 410/Steeles Avenue); the City can facilitate setting up these associations and assist in program development
- ❖ Support car-sharing programs; the City could offer space to get a private car-sharing program started, to help increase mobility for Brampton residents
- ❖ Implement Travel Demand Management (TDM) programs; parking pricing, vehicle restrictions, walking, promotion of transit, etc.



# Thank You for Attending!



**The success of the study depends on your participation: Please fill in the questionnaire...**

**The Road & Transit Summary Report and other TTMP information can be found on the City's web site: [www.brampton.ca](http://www.brampton.ca)**

(scroll down to the TTMP icon on the main page)

**The concluding step in the project will be to seek Council approval of a Final Recommendation, scheduled for May/June 2004.**

TTMP