

City of Brampton

**City of Brampton
Transportation and Transit
Master Plan Sustainable Update
2009 Start-Up Report
Appendix E**

Brampton

November 2009

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Project # 4587

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1. INTRODUCTION

1.1 Context

The City of Brampton is home to over 430,000 people and is one of Canada's fastest growing municipalities. It has a strategic location in the GTA, northwest of the City of Toronto and directly north of the City of Mississauga and Canada's busiest airport (Lester B. Pearson International Airport).

As part of Peel Region, the City of Brampton forms a major economic hub, along with the City of Mississauga, directly west of Toronto. It is home to a number of major corporations and industries and a major CN intermodal terminal.

North of Brampton is the Town of Caledon, which has resisted the development pressures faced in Brampton and maintained a primarily rural nature. Similarly, to the west is the town of Halton Hills which is mostly rural but with growing urbanized areas.

1.2 Study Purpose

The purpose of the study is to update the 2004 Transportation and Transit Master Plan (TTMP) in order to expedite the implementation of the transportation vision defined by the 2004 TTMP. Key goals of the TTMP Sustainable Update 2009 include:

- Embracing compact communities
- Sustainable development
- Protecting the natural environment
- Economic vitality
- Healthy communities
- Providing safe, affordable, and efficient transportation for people and goods

Building on the main findings of the 2004 Brampton TTMP the current study will further enhance the integrated and balanced transportation system incorporating all travel modes; will focus on enhancing transit accessibility for residents and workers in Brampton; will address transportation based air quality issues; and, will support a healthy active community.

The TTMP Sustainable Update 2009 will comply with the Provincial Places to Grow Act, will link to transportation initiatives from other jurisdictions that may affect Brampton, and will provide technical background for the upcoming DC By-law update.

The final product will be a practical guide for implementing transportation investments, policies and actions to the year 2031.

The key objectives of the Brampton Transportation and Transit Master Plan Update Study are to:

- Evaluate transportation implications of potential land use concepts developed under the umbrella of the City's Growth Management Plan
- Assess the need and provide a basis for updating the transportation components of the Official Plan in the context of recent provincial policy initiatives including Places to Grow and Greenbelt Plan
- Review, assess and validate the overall transportation strategy and transportation network for all modes of travel based on the updated directives streaming from the Growth Management Plan and “Made in Brampton” solutions
- Develop a framework for future transportation decisions and investment for an integrated transportation network throughout the City integrated with transportation systems of the neighbouring municipalities
- Establish the City's updated long-term transportation needs for roads, transit, pedestrian, cycling and goods movement
- Provide the basis for supporting the City's 2009 Development Charges By-law Update
- Devise an optimal road network to determine the potential role and function of the North-South Corridor and Bramwest Parkway
- Develop at a strategic level, an air quality management strategy to address air quality impacts from transportation including policies and practices to reduce air pollution

1.3 Study Area

The primary study area encompasses the urban boundaries of the City of Brampton. The study will also evaluate transportation needs identified for the area of influence located in Halton Region and Peel Region, and is roughly bounded by Trafalgar Road to the west, King Street to the north, Highway 401 to the south and Hwy 27 to the east. **Exhibit 1-1** below illustrates the study area.

City of Brampton



Not To Scale

November 2009



Primary Study Area (City of Brampton)



Secondary Study Area

Exhibit 1-1 Study Area

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1.4 Study Organization

Project Core Technical Committee

The Project Steering Committee consists of those in attendance at the Start-Up meeting or their designate. Approximately 10 meetings were held throughout the course of the study.

Technical Agencies Committee

The Technical Agencies Committee consists of members from the Project Team Steering Committee as well as other agencies such as Conservation Authorities, other Municipal departments, GO Transit, and MTO.

Senior Management Committee

The Project Steering Committee consists of City staff and regional and local area councillors, who provide direction during the Study.

HDR | iTRANS proposed that the first meeting of the Steering Committee be held as an interactive **workshop**, facilitated by the Consultant. The purpose of the workshop was to solicit comments on current transportation issues, the magnitude of these issues, potential transportation solutions, and alternative strategies.

Stakeholders Group

This group will consist of property owners, interest groups, other formalized special interest groups, and ratepayers groups. The Notice of Study Commencement will include an invitation to participate in the Group.

1.5 Consultations

The study commencement, public information centres notices, and study completion notices were placed in Brampton Guardian. The draft notices were prepared by HDR | iTRANS and circulated to City's Project manager for approval. The advertising was arranged by the City. The study commencement notice was printed on July 6th. The notice is presented in **Exhibit 1-2**. The notice of PIC #1 is presented in **Exhibit 1-3**, and the notice of PIC #2 is presented in **Exhibit 1-4**. PIC #1 took place on Thursday, September 25, 2009 and PIC #2 took place on Wednesday, February 4, 2009.



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PUBLIC NOTICE

**BRAMPTON TRANSPORTATION AND TRANSIT MASTER PLAN SUSTAINABLE UPDATE
NOTICE OF STUDY COMMENCEMENT**

The City of Brampton has initiated the Brampton Transportation and Transit Master Plan Sustainable Update Study. The City approved its Transportation and Transit Master Plan (TTMP) in the fall of 2004, which envisioned the integration of all modes and elements of transportation to provide a "Balanced Transportation System". Building on the transportation vision and strategy that was developed in the 2004 TTMP, this study will update and prepare recommendations in keeping with the sustainable transportation principles and develop an integrated transportation network required to support Brampton's growth up to 2031 as well as accommodate provincial and regional planning goals. The TTMP Sustainable Update will form a part of the overall Growth Plan conformity exercise and provide the basis for revisions/input to the transportation components of the Brampton Official Plan in the context of recent provincial policies.

This notice signals the commencement of the TTMP Sustainable Update Study. This study will be carried out as a Transportation Master Plan study through an open public process in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process (MEA, October 2000 as amended in 2007) which is an approved process under the Environmental Assessment Act. The TTMP Sustainable Update study will be carried out by adopting a "Two- Stage" approach by considering the most up to date 'sustainable transportation best practices':

- Stage 1 will assess the current TTMP and update the assumptions and information to address new transportation issues and to generate a revised TTMP document. The updated information, analysis and recommendations will provide the need and background for the transportation component of the City's Development Charges (DC) By-Law Update.
- Stage 2 will provide the necessary transportation infrastructure timing and DC methodology for the purposes of DC By-law update.

A key component of the study will be consultation with stakeholders, regulatory agencies and the general public. Anyone with an interest in this study has the opportunity to get involved and provide input. Two Public Information Centres (PIC's) will be held during the study to present findings and receive public input. Notices providing the time and location of these meetings will be published in local newspapers.

If you require additional information, would like to be placed on the project mailing list, or if you represent an agency, organization, ratepayers group, or special interest group and would like to be added to the Stakeholders Group list, please visit our website at www.brampton.ca/growthplanresponse or contact one of the individuals below:

<p>Kant Chawla, MCIP, RPP Policy Planner (Transportation) Planning, Design and Development 2 Wellington Street West, Brampton Ontario L6Y 4R2 Phone: 905-874-2410/ Fax: 905-874-2099 Email: kant.chawla@brampton.ca</p>	<p>Tyrone Gan, P. Eng. iTRANS Consulting Inc. 100 York Boulevard, Suite 300 Richmond Hill, Ontario L4B 1J8 Phone: 905-882-4100 / Fax: 905-882-1557 Email: tgan@itransconsulting.com</p>
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This Notice first issued on July 6, 2008

Exhibit 1-2: Study Commencement Notice, June 6th, 2008



Brampton Transportation and Transit Master Plan Sustainable Update

NOTICE OF PUBLIC INFORMATION CENTRE # 1

The Study

The City of Brampton is undertaking the Brampton Transportation and Transit Master Plan Sustainable Update Study. The City approved its Transportation and Transit Master Plan (TTMP) in the fall of 2004, which envisioned the integration of all modes and elements of transportation to provide a "Balanced Transportation System". Building on the transportation vision and strategy that was developed in the 2004 TTMP, this study will update and prepare recommendations in keeping with the sustainable transportation principles and develop an integrated transportation network required to support Brampton's growth up to 2031 as well as accommodate provincial and regional planning goals. The study will also provide the necessary transportation infrastructure timing for the purposes of the City's DC By-law update. The TTMP Sustainable Update will form a part of the overall Growth Plan conformity exercise and provide the basis for revisions/input to the transportation components of the Brampton Official Plan in the context of recent provincial policies.

As a part of the development of an overall transportation system, the study will consider and evaluate alternative solutions and identify an optimum transportation system in North west/Bram west Brampton including the need and justification and the potential role of the North-South Corridor/Bramwest Parkway.

The Process

This study will be carried out as a Transportation Master Plan study through an open public process in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process (MEA, October 2000 as amended in 2007) which is an approved process under the Environmental Assessment Act.

Public Consultation

Consultation with stakeholders, regulatory agencies and the general public is vital to this study. Anyone with an interest in this study has the opportunity to get involved and provide input. Opportunities for providing input will include two Public Information Centres (PIC's) and direct consultation. Members of the public are invited to attend the first PIC, for an introduction to the project and to give input for consideration in the project's planning and the next steps in the process. The first Public Information Centre will be conducted as an open house format and is scheduled for:

Date: Thursday, September 25, 2008

Time: 4:00 to 7:00 PM

Location: City Hall Atrium, 2 Wellington Street West, Brampton, Ontario L6Y 4R2

Comments Invited

If you cannot attend and would like to provide comments, please forward them by October 8, 2008 to either of the project team members below. If you have any questions or wish to be added to the study mailing list, please visit our website at www.brampton.ca/growthplanresponse or contact one of the project team members below:

Kant Chawla, MCIP, RPP
Policy Planner (Transportation)
Planning, Design and Development
2 Wellington Street West, Brampton
Ontario L6Y 4R2
Phone: 905-874-2410/ Fax: 905-874-2099
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Tyrone Gan, P. Eng.
iTRANS Consulting Inc.
100 York Boulevard, Suite 300
Richmond Hill, Ontario L4B 1J8
Phone: 905-882-4100 / Fax: 905-882-1557
Email: tgan@itransconsulting.com

This Notice first issued on September 14, 2008

Information will be collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record.

Exhibit 1-3: Notice for PIC #1



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NOTICE OF PUBLIC INFORMATION CENTRE #2

Brampton Transportation & Transit Master Plan (TTMP) Sustainable Update

The Provincial Growth Plan, "Places to Grow," guides growth over the next 25 years for all municipalities within the Greater Golden Horseshoe. In this regard, the Growth Plan also guides infrastructure planning - including transportation systems - to accommodate forecasted population and economic growth. The City of Brampton is hosting a series of workshops and public information centres (PICs) to inform Brampton residents of the preliminary findings of the background studies being undertaken as part of the Growth Plan conformity exercise. This PIC is to seek public input on the "Transportation & Transit Master Plan Sustainable Update Study", which will provide the basis for revisions and input to the transportation components of the City's Official Plan, to conform to the Provincial Growth Plan policies.



The TTMP Sustainable Update Study

This study builds on the transportation vision and strategy that was developed in the 2004 TTMP. It will update and prepare recommendations that are consistent with sustainable transportation principles for an integrated transportation network that is required to support Brampton's growth up to 2031, and that conform to and support provincial and regional planning goals. The study will also provide the necessary transportation infrastructure timing for the purposes of the City's 2009 Development Charges By-law update.

As a part of an overall transportation system, the study will also consider and evaluate alternative strategies and identify an optimum transportation system in North West Brampton/Bram West, including the need and justification and the potential role of a North-South Transportation Corridor.

The TTMP Sustainable Update is being carried out as a Transportation Master Plan study through an open public process in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process (MEA, October 2000 as amended in 2007) which is an approved process under the Environmental Assessment Act.

Public Information Centre

Public consultation is vital to the success of this study, and the City of Brampton appreciates your input and ideas. This Public Information Centre will present preliminary study findings and recommendations, and is intended to facilitate discussion and solicit feedback for input to the TTMP. The PIC will display information panels in an "open house" format followed by a presentation from ITRANS Consulting Inc., with follow-up discussion. Please take this opportunity to make comments, identify issues and provide additional information:

Date: **Wednesday, February 4, 2009**
Place: **Brampton City Hall, 2 Wellington Street W, Brampton, ON L6Y 4R2**
Time: **5:30 pm – 7 pm Public Open House (City Hall Atrium)**
7 pm – 8:30 pm Presentation and discussion (Council Chambers)

Comments and Information

Following the Public Information Centre, further comments are invited for consideration and incorporation into the TTMP Update. Comments will be received until February 20, 2009, and can be sent to the project team members listed below, along with any other information requests or questions:

Mr. Kant Chawla, MCIP, RPP
Policy Planner (Transportation)
City of Brampton
2 Wellington Street West
Brampton, Ontario, L6Y 4R2
Tel: 905-874-2410
Fax: 905-874-2099
E-mail: kant.chawla@brampton.ca

Mr. Tyrone Gan, P.Eng
President
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Fax: 905-882-1557
E-mail: tgan@itransconsulting.com

Planning our future together... Make sure your voice is heard!

For ongoing information on Brampton's Response to the Growth Plan, please visit our website at www.brampton.ca/GrowthPlanResponse or call 905-874-2050 and ask to speak to a Growth Management Policy Planner.

Information will be collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice first issued on January 18, 2009.

Exhibit 1-4: Notice for PIC #2

1.6 Study Schedule

The study commenced in June 2008 and terminated in November 2009. There were two Public Information Centres (PICs) throughout the study process. The first PIC took place on Thursday, September 25, 2008 and the second PIC took place on Wednesday, February 4, 2009.

2. BACKGROUND DOCUMENTS

This Chapter provides a brief summary of the key background documents that have shaped and influenced the development of the current transportation system in Brampton. This section is organized by agency. The following agencies prepared reports that influenced the development of the transportation:

- Province of Ontario
- Metrolinx
- City of Brampton
- Region of Peel
- Region of Halton
- Region of York
- Town of Caledon
- City of Mississauga, and
- Town of Halton Hills

2.1 Province of Ontario

2.1.1 “Places to Grow” Plan, 2006

The Ontario Ministry of Public Infrastructure Renewal’s (MPIR) *Places to Grow Act* was adopted by the Provincial Parliament in 2006. The focus of the Act is on overcoming the problems of urban sprawl and gridlock in the Greater Golden Horseshoe (GGH) area by making communities more liveable with a greater mix of housing, parks and employment opportunities. This is to ensure the economic future and quality of life of the GGH to 2031 when an additional 3.7 million people are expected to be living in the area.

The final *Growth Plan for the Greater Golden Horseshoe* was released in June 2006. The following objectives for municipal planning were highlighted in the press announcement – many of which will affect the Brampton TTMP:

- Stimulate economic prosperity
- Encourage more compact communities, with services, shops and businesses close to home
- Preserve green space and agricultural lands that are under pressure in the GGH
- Curb urban sprawl and cut down on car dependency
- Contribute to better air quality
- Spur transit investment and create conditions favourable to public transit use
- Promote a culture of conservation

The Places to Grow – Growth Plan for the Greater Golden Horseshoe document shows that the 401 / 407 area will be well connected to transit in 2031. Schedule 2 illustrates proposed Higher Order Transit between Oakville Centre and 401 / 407, and between Downtown Brampton and 401 / 407.

A future transportation corridor north of Highway 407 that connects to Guelph is planned. This corridor passes through the Halton-Peel study area.

2.1.2 Greenbelt Plan 2005, February 2005

The Greenbelt plan identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological features and functions occurring on this landscape. It includes lands within the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan in addition to other initiatives. The northern part of the study area has been identified as protected greenbelt area. This greenbelt area stretches further south along the Credit Valley and Halton-Peel border, to just south of Highway 7. This protected area presents a significant constraint in the development of a future transportation network.

2.1.3 Strategic Transportation Directions Study (Draft), 2002 - Update

The report identified strategic directions for the development of the provincial transportation system for Central Ontario, including building system capacity to meet future travel demands. This strategy includes undertaking a preliminary needs assessment for a new GTA east-west, multi-modal transportation corridor between the Guelph area and Highway 400, north of Highway 401 / 407.

To provide connectivity with the provincial transportation network, the new east-west corridor would require north-south links with other 400-series corridors such as Highways 401 and 407. Therefore, as part of the east-west corridor, the Strategic Directions study identified a possible north-south, multi-modal transportation corridor in the west Brampton / east Halton area, linking the proposed GTA east-west corridor with Highways 401 and 407.

The Final Report of the Central Ontario Smart Growth Panel, *Shape the Future* (April 2003), recommended the east-west, multi-modal corridor between the Guelph area and Highway 400, with a north-south connection to Highway 401 / 407.

2.1.4 MoveOntario 2020 – Review

MoveOntario 2020 is a transportation initiative that was announced by the Ontario provincial government in June 2007. This plan will provide \$17.5 billion worth of funding for 52 rapid transit projects (covering 902 km), including commuter rail, bus rapid transit, light rail transit and subway technologies, across the GTA and Hamilton. The Metrolinx White Papers focus on the particular details of individual projects in addition to individual municipal plans.

The following initiatives form part of the plan (numbered to match the corresponding diagram). Particularly significant to Brampton are (highlighted in the list) the funding for the Acceleride and Main Street light rail projects, the expansion of the Highway 407 GO Bus service, and the improvements to the Georgetown GO Rail line. These will facilitate transit use both within Brampton and in connecting it to Mississauga and Toronto. Improved connections to the east with the development of York Region’s “Viva” rapid transit network will also be implemented.

Other initiatives include:

- GO Georgetown rail line capacity expansion from Union Station to Georgetown
- New GO rail line from Union Station to Bolton
- GO Bus Rapid Transit along Highway 403 from Oakville GO rail station to Mississauga
- Mississauga Transitway west of Mississauga City Centre to Winston Churchill Boulevard
- Mississauga Transitway east of Mississauga City Centre to Renforth Drive
- GO Bus Rapid Transit along Highway 407 from Burlington to Highway 401
- GO Bus Rapid Transit along Highway 407 from Highway 401 to Highway 427
- GO Bus Rapid Transit along Highway 407 from Highway 427 to York University
- Yonge subway line extension north from Finch station to Highway 7 (Langstaff)
- Pearson Air-Rail link to Union Station
- Brampton Acceleride on Queen Street from Main Street to Highway 50
- Hurontario Light Rail Transit from Queen Street in Brampton to Lakeshore Road in Mississauga



Exhibit 2-1: Improvements under the Moving Ontario Initiative

2.1.5 GO Transit 10-year Capital Plan

GO Transit has developed a \$1.7 billion capital plan to deal with growth on the GO rail and bus system up until 2016. This plan, developed in conjunction with the area municipalities, and dependent on one-third funding from each of the federal, provincial and municipal sectors, includes components on improvements for each corridor, bus and train upgrades, and extra-GTA expansion. Particular emphasis is given to implementation of the GO TRIP (Transit Rail Improvement Program), which increases capacity of existing rail lines through methods such as grade separation, additional tracks and layover spaces, and improvements to the hub at Union Station to enable it to cope with up to 80 million passengers (twice the existing capacity). Acquiring new rail equipment and implementing bus rapid transit programs are also focuses of the ten year plan.

Brampton related initiatives

The plan features the following initiatives:

- \$580 million for GO TRIP (rail) expansion, which includes
 - Track improvements on Georgetown line to allow for more frequent service, increased reliability and extension of service hours to include midday trains, through separation from freight trains on parallel tracks and grade separation at crossovers
 - Improved train storage facility on Milton line

-
- \$35 million expansion of parking capacity
 - \$500 million investment in new rail equipment, including coaches, locomotives and maintenance facilities
 - \$165 million for bus rapid transit routes
 - \$37 million for new buses

The improvement of the service on the Georgetown GO line, in particular, featuring extended service hours, faster travel and the introduction of Mount Pleasant Station between Bramalea and Brampton, aims to provide a more convenient and reliable link between Brampton and Toronto.

2.2 Metrolinx RTP

In November of 2008, Metrolinx adopted a Regional Transportation Plan for the GTHA, entitled *The Big Move: Transforming Transportation in the Greater Toronto Area and Hamilton*. The Plan calls for an integrated, multi-modal transportation system that:

- Takes into account all modes of transportation
- Makes use of intelligent transportation systems
- Promotes the integration of local transit systems with each other and with GO Transit
- Works toward easing congestion and commute times, and reducing transportation-related emissions of smog precursors and greenhouse gases
- Promotes transit-supportive development and the viability and optimization of transit infrastructure

The RTP developed by Metrolinx is the third piece of the three-part approach by the Province of Ontario to prepare the GTHA for growth and sustainability, the first two of which are the *2005 Greenbelt Plan*, and the aforementioned *2006 Growth Plan for the Greater Golden Horseshoe*. Nine priority actions or Big Moves are identified in the Plan – concrete actions that comprise a “to-do” list needed to implement the overall strategy. The nine Big Moves are:

1. A fast, frequent and expanded region rapid transit network
2. High-order transit connectivity to the Pearson Airport district from all directions
3. An expanded Union Station – the heart of the GTHA’s transportation system
4. Complete walking and cycling networks with bike-sharing programs
5. An information system for travellers, where and when they need it
6. A region-wide integrated transit fare system
7. A system of connected mobility hubs
8. A comprehensive strategy for goods movement
9. An investment strategy to provide immediate, stable, and predictable funding

A number of key policies based upon these Big Moves are set forth in the Plan and are considered in the development of Brampton TTMP Sustainable Update 2009 recommendations. **Exhibit 2-2** below shows the City of Brampton in the context of the Metrolinx 25-year plan.

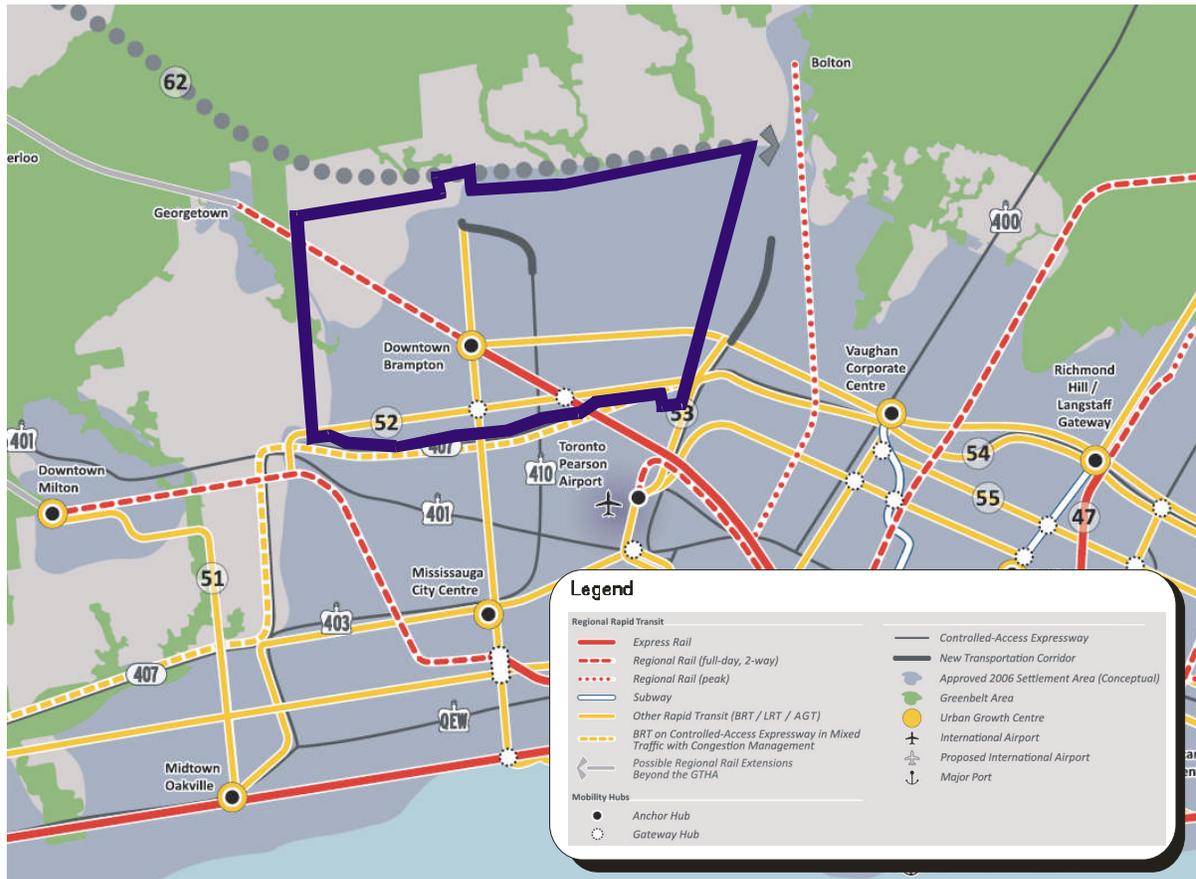


Exhibit 2-2: Metrolinx RTP 25-year Plan and the City of Brampton

2.3 City of Brampton

2.3.1 **City of Brampton Official Plan**

Published by the City of Brampton in October 2006, the plan contains a comprehensive series of objectives and policies covering a variety of areas of transportation (Section 4.4). The broad objectives for developing the transportation system in a manner consistent with the City's Strategic Plan are:

- To develop a balanced, integrated and accessible multi-modal transportation system which provides for the safe, economic and efficient movement of people, including persons with disabilities, as well as goods and services
- To ensure the provision of adequate and accessible road, transit, pedestrian and bicycle links between Brampton and adjacent municipalities
- To promote the development of an efficient transportation system and land use patterns that foster strong live-work relationships and encourage an enhanced public transit modal share

-
- To promote a high standard of environmental management and aesthetic quality in the routing, design and construction of transportation and associated structures
 - To work cooperatively with the neighbouring Municipalities and the Regions to develop an integrated transportation plan

Specific policies supported by the City for implementing these objectives are divided into nine categories as summarized below (with road and transit maps to illustrate the changes in those areas):

- Road Network (accommodate inter-regional travel on provincial highways, construct appropriate highways and interchanges, build sufficient local road crossings across highways, widen regional roads according to needs analyses, extend Highway 410 as six lane facility from Bovaird Drive to Highway 10 by 2008, widen Highway 410 (to eight lanes) from Bovaird Drive to south City limits by 2011, extend Highway 427 to near north Brampton boundary by 2011, widen Highway 407 to eight lanes between Highways 427 and 401 by 2011, build new 407 interchange near west edge of city, plan for a North-South transportation corridor or equivalent near Peel-Halton boundary to Bovaird Drive by 2021 and Mayfield Road by 2031, support long-term provincial higher-order road and transit improvements including GTA West Corridor, use senior government funding to implement elements of transportation system).
- Transportation System and Demand Management (improve traffic flow efficiency, minimize local street intersections with arterials, reduce arterial driveways and residential access roads, establish maximum spacing for pedestrian access points along transit routes of 400m, expand and improve transit systems, designate HOV lanes or Reserve Bus lanes where appropriate with supporting transit services, encourage strategically-placed park and ride lots, support transit signal priority, implement ridesharing incentives, develop a reduced parking strategy while encouraging multimodal and ridesharing alternatives, protect corridors for future transit and HOV routes, support creation of TDM associations, develop an ITS strategy including signal priority, support marketing campaign to promote SOV alternatives).

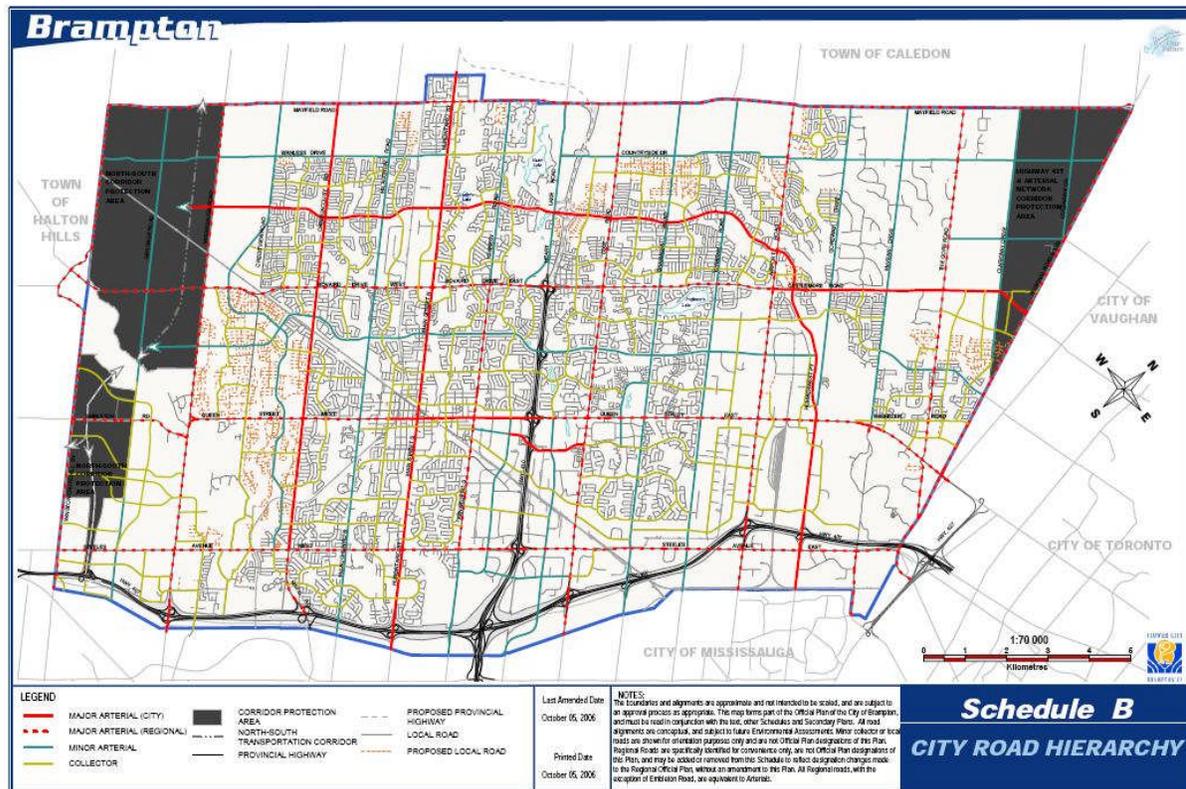


Exhibit 2-3: City of Brampton Official Plan Schedule B

- Public Transit (support full day two-way rail service to / from Brampton stations, implement Highway 407 transitway in stages, implement rapid transit airport connection along Airport Road, add transit nodes at Mount Pleasant GO, Mississauga Road / Steeles Avenue and Hurontario Street / Highway 407, work for introduction of GO Service to Bolton corridor, identify BRT, primary transit, secondary transit and community transit corridors (shown on figure below), promote transit priority measures, support alternative vehicle designs for technology and accessibility reasons, monitor land use designation to support transit, coordinate with other agencies / municipalities to provide seamless transit across municipal boundaries, provide local transit stops within 300 – 400 metres of all urban land uses, improve transit information and signage, provide continuous sidewalks along transit routes, consider feasibility of an Orangeville north-south rail line, consider feasibility of relocating Bramalea GO Station, improve pedestrian access to and bicycle facilities at stations).
- Parking Management (phase out parking on arterials, reduce parking in conjunction with enhanced transit service, provide adequate parking at intercity transit terminals and GO stations, encourage shared parking, ensure parking meets accessibility standards, limit office and retail-area parking to encourage transit use, review parking locations to avoid impeding traffic and BRTs, set rates to discourage long-term on-street parking in favour of transit, encourage private parking lot construction at major gateways).

- Pathways System (protect natural areas, improve accessibility, visibility and safety, link trail system with sidewalks and street network, require pathway construction as condition of development approval, ensure that shoulder lanes or cycling lanes accompany most arterials, collectors and parkways, coordinate pathways with Region of Peel and adjacent municipalities, publicize cycling events and awareness programs, ramp pathways at intersections, provide grade separated facilities at hazardous locations, encourage commercial and business communities to promote pathway use).
- Trucking and Goods Movement (work with other governments and stakeholders to support an integrated multimodal goods movement system and form a Strategic Goods Movement Network with truck routings, collect goods movement data for strategic planning, prohibit trucks on residential collector and local roads, encourage goods movement-generating activity to locate near arterials and highways, improve connections between intermodal facilities and highways).

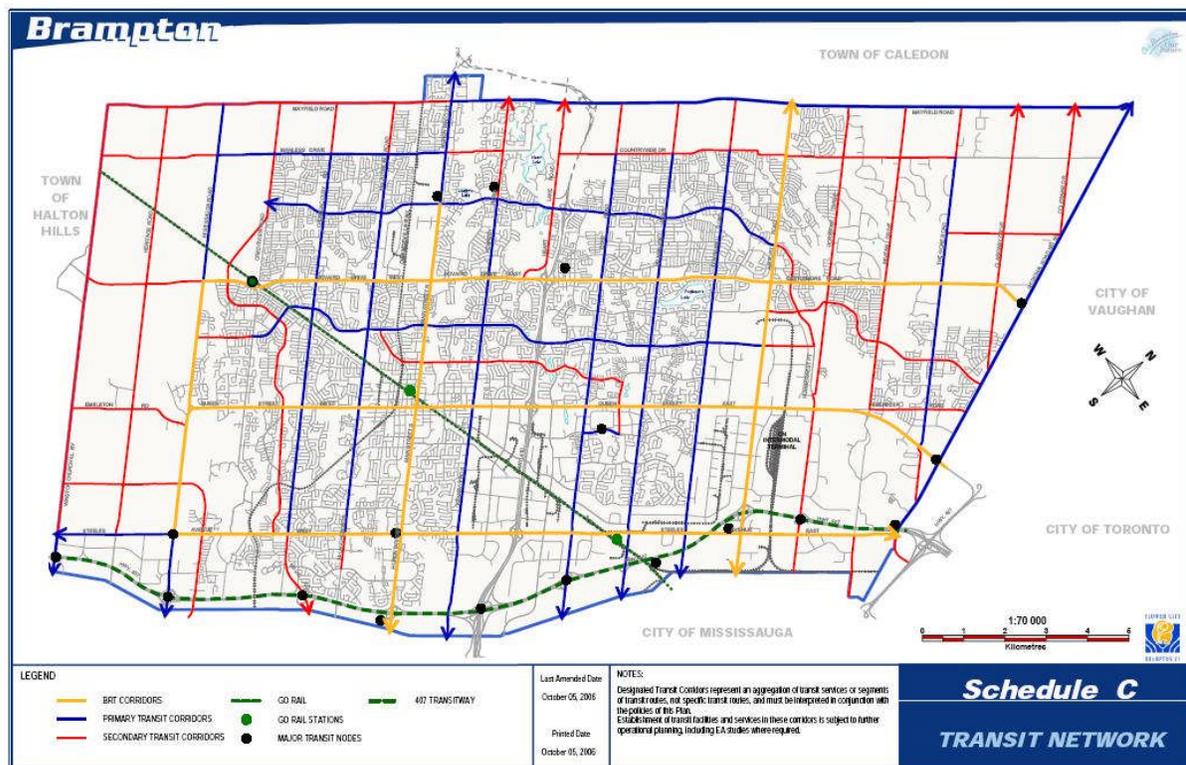


Exhibit 2-4: City of Brampton Official Plan Schedule C

- Adverse Impacts (plan, design and construct facilities to minimize effects of appearance, noise, vibration and fumes on residential areas or heritage features, make provisions for landscaping and barriers between roads / railways and residences, designate specific dangerous goods routes)
- Railways (seek assistance for grade separation at major road / rail intersections, cooperate in designing or expanding new terminals or lines)

- Airport (support expansion of Pearson Airport, encourage rapid transit link to airport from Brampton)
- Implementation and Monitoring (review timing and priority of improvements annually, ensure development charges reflect cost of improved transit service, conduct feasibility studies for rapid transit implementation, monitor efficiency and effectiveness of transportation facilities regularly, make ongoing implementation of changes to support mode balance, ensure transportation infrastructure to serve developments exists before developments proceed)

2.3.2 Brampton TTMP, September 2004

The final report on the Brampton Transportation and Transit Master Plan was issued in September 2004 and the contents were later incorporated into the City's Official Plan (relevant portions of which are summarized above at a more general level). Four horizons are identified: short term, 2011, 2021 and 2031.

Within each of these horizons, specific initiatives and actions recommended are as follows:

2009 Short-term initiatives

Transit Program: AcceleRide and Other Initiatives

1. Continue work to complete the design and approvals needed to implement transit priority and bus rapid transit in the Queen Street and Main Street corridors
2. Implement the first changes to traffic operations and on-street parking in the Four Corners, to provide the additional priority needed for improved bus service on Queen and Main Streets, prohibiting parking on Queen and Main from 7 a.m. to 7 p.m., on weekdays
3. Complete a study with other agency stakeholders to define an HOV/RBL network that connects Brampton and Mississauga
4. Work with GO Transit to upgrade to all-day service on the Georgetown line and enhance integration of Brampton Transit and GO rail services (including to Mount Pleasant station)
5. Protect for the network of commuter parking lots around the periphery of the City
6. Develop commuter parking facilities at Hurontario Street / Highway 407, Highway 50 / Queen Street, and Highway 10 at the north end of the City
7. Protect all rail corridors within the City for future use as either transit corridors or multi-use paths

Roads

8. Continue implementation of the 10-Year Capital Work Program for road links and intersections, as modified through the prioritization undertaken as part of the Development Charge Update
9. Focus on increasing capacity across the Highway 410, Steeles Avenue, Brampton/Vaughan and Brampton/Halton Hills screenlines
10. Work with the Province to advance implementation of the Highway 410 extension
11. Protect for the link of Westcreek Boulevard to Biscayne Crescent across Highway 410

Policies and Programs

12. Review intersection signal systems to ensure that they support transit priority requirements
13. Implement use of the Transit Supportive Development Checklist in the development application review
14. Undertake the urban design / parking / transit study needed for future development of the Four Corners
15. Work with the Region and other levels of government on goods movement initiatives
16. Develop an ITS strategy for the City
17. Work with the Province and Region to implement COMPASS on the freeway network
18. Develop a parking strategy for transit nodes within the City
19. Review and update zonings and urban design guidelines for development along transit corridors to ensure that development supports transit

20. Implement Travel Demand Management programs for City staff (e.g. guaranteed ride home, preferential parking for HOVs, subsidized transit passes)
21. Provide start-up support for a car-sharing initiative downtown. (potentially including bikes and motorcycles)
22. Create and support Travel Management Associations for key areas of high commercial/industrial activity
23. Develop and undertake a social marketing campaign for major employers and residents, to explain options and benefits of using alternatives to the private car
24. Continue implementing the PathWays Master Plan
25. Continue expanding the sidewalk network along transit routes and in communities
26. Begin monitoring program of the TTMP programs and results. Produce annual reports on progress.
27. Develop and refine 'in-house' modelling capabilities to test alternative growth scenarios
28. Feed results of the annual TTMP monitoring and modelling back into the Growth Management Program

2011 Horizon initiatives

Transit

1. Queen Street BRT (reserved bus lanes and five minute headways), interlined with York Region services and connecting to the TTC rapid transit network
2. Main Street / Hurontario Street BRT (mixed traffic with signal priority), interlined with Mississauga Transit and extending to Square One
3. Grid transit services on other corridors, extending to the airport and the Airport Corporate Centre
4. Service on Steeles Avenue (and potentially on other roads north of Queen Street) extending into York Region
5. Implementation of an inter-agency bus terminal and parking facility at Highway 407 and Hurontario Street
6. Transit links to Georgetown, Halton Hills, Caledon and Winston Churchill GO station (if developed)
7. Enhanced priority on AcceleRide lines within Four Corners area (dedicated lanes with a feasibility study for a bus tunnel along Queen Street and Main Street) with through traffic diverted to ring roads
8. Develop strong transit supportive policy framework inclusive of land use policies, parking and pedestrian support policies
9. Delete the proposed GO rail station at Rutherford Road from the Official Plan

Transit Corridors

10. Implement specific transit service frequencies by corridor type
11. Complete Environmental Assessment for:
 - HOV corridors - Torbram Road, Dixie Road and Kennedy Road (all extending south from Bovaird Drive to the Mississauga boundary), and Steeles Avenue from Chinguacousy Road to the York boundary
 - RBL corridors – Queen Street and Main Street
12. Implement the preferred alternatives for:
 - HOV corridors - Torbram Road, Dixie Road and Kennedy Road (all extending south from Bovaird Drive to the Mississauga boundary), and Steeles Avenue from Chinguacousy Road to the York boundary
 - RBL corridors – Queen Street and Main Street

Roads

13. Extension of Highway 410 to meet Highway 10 north of Brampton
14. Extension of Highway 427 to at least Rutherford Road
15. Development of the Bram West Arterial Road, together with a new interchange at Highway 407
16. Widening and completion of new roads in the west and east edges of the urbanized City, to accommodate new development areas
17. Completion of the Wellington/Royce connection
18. Road / rail grade separations on the York Subdivision at Goreway Drive and Torbram Road, and on the Georgetown GO Rail corridor at Williams Parkway and Creditview Road

2021 Horizon initiatives:

Transit

1. Extension of the Bus Rapid Transit service to Bovaird Drive BRT (between Mount Pleasant GO Station

and Airport Road)

2. Extension of the Bus Rapid Transit service to Steeles Avenue BRT (between Chinguacousy Road and the York boundary)
3. Transit service upgrades into Mississauga on Airport Road and Bramalea Road
4. Expanded transit service links to Caledon and connections to GO Bolton corridor (if implemented)
5. All-day two-way GO service on the Georgetown line and the Milton line
6. Additional priority enhancements for BRTs within the Four Corners area (extend transit lanes or develop bus tunnel)

Transit Corridors

7. Complete the Environmental Assessment and implement the preferred alternatives for HOV corridors:
 - Wanless Drive from Creditview Road to Main Street;
 - Sandalwood Parkway from Creditview Road to Airport Road;
 - Williams Parkway from Creditview Road to Airport Road;
 - Chinguacousy Road from Wanless Drive to Steeles Avenue;
 - McLaughlin Road from Wanless Drive to Steeles Avenue;
 - Bramalea Road from Countryside Drive to Steeles Avenue;
 - Airport Road from Countryside Drive to Steeles Avenue
8. Complete the Environmental Assessment and implement the preferred alternatives for RBL corridors – Bovaird Drive and Steeles Avenue

Roads

9. Extension of Highway 427 to beyond Major Mackenzie Drive
10. Construction of the Halton/Peel north/south freeway to Bovaird Drive or beyond
11. Completion of the major elements in the Bram West area
12. Connection of Westcreek Boulevard to Biscayne Crescent across Highway 410

2031 Horizon initiatives

Transit

1. Transit service intensification, potentially converting some BRT corridors to LRT

Roads

2. Continued widenings and completion of new roads in the northwest and northeast edges of the urbanized City, to accommodate new development areas
3. Extension of the Halton / Peel north / south freeway to Mayfield Road or beyond

The TTMP recommended 2031 road network is shown in **Exhibit 2-5** and the recommendations for the 2021 strategic transit network are illustrated in **Exhibit 2-6**.

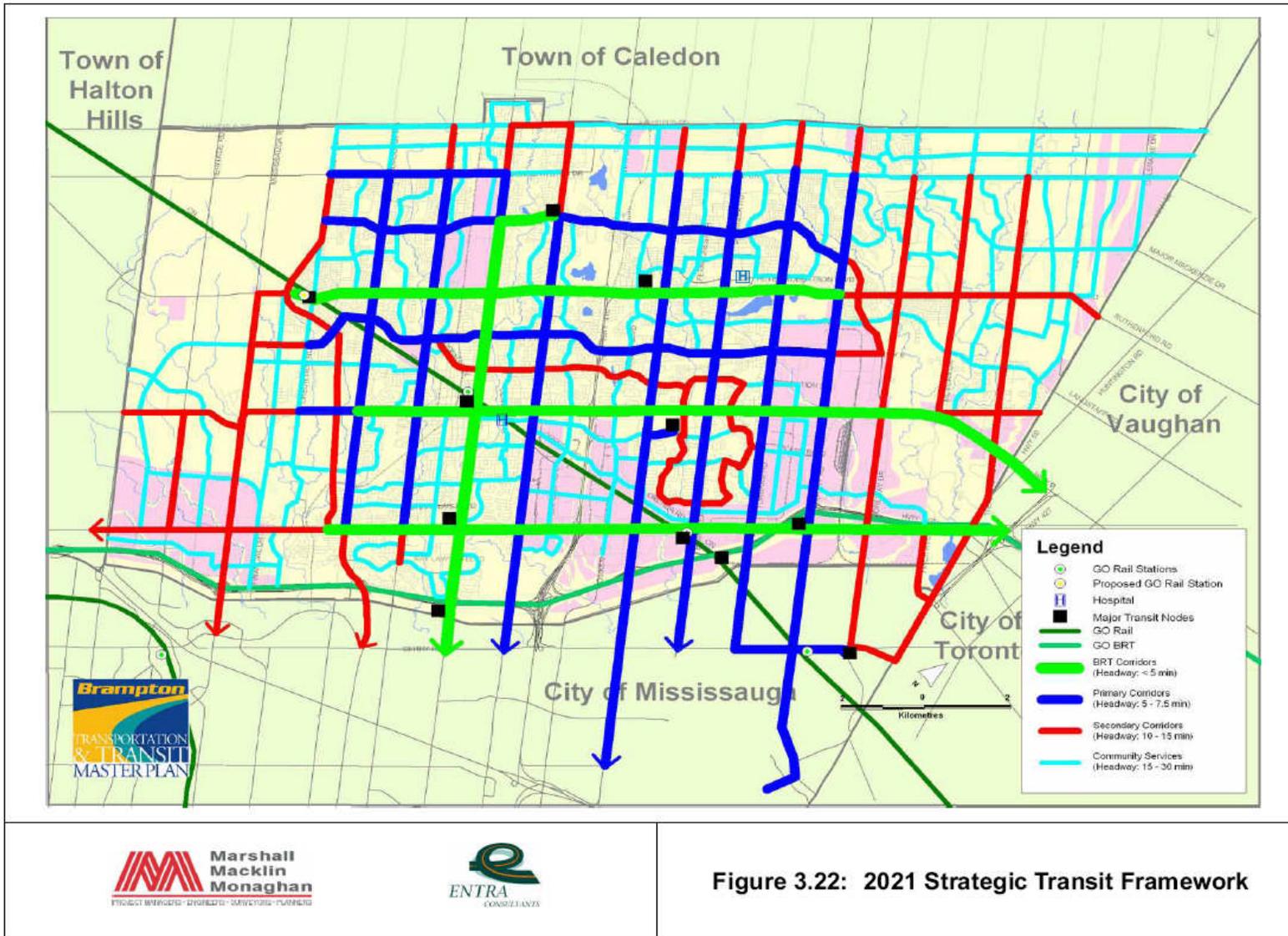


Figure 3.22: 2021 Strategic Transit Framework

Exhibit 2-6: 2004 Brampton TTMP 2021 Strategic Transit Network

2.3.3 Halton-Peel Boundary Area Transportation Master Plan Study

For this study a number of previous studies have been completed that have firstly helped to define and identify the transportation problems in the Halton Hills / West Brampton area, and secondly have helped to define the purpose of the study. One of the decisions made by the Ontario Municipal Board as part of Halton's Regional Official Plan Amendment 25 was that:

The Region of Halton, in consultation with the Town of Halton Hills, will participate with the Region of Peel, City of Brampton, and the Province where necessary, in a study to identify the long-term transportation solutions along the north Halton / Peel boundary.

In response to the above, Regions of Peel and Halton, City of Brampton and Town of Halton Hills initiated the Halton-Peel Area Transportation Master Plan Study. The objectives of this on-going study are to:

- Support current and future municipal planning objectives by providing transportation capacity to accommodate planned growth in west Brampton and Halton Hills
- Develop a coordinated interconnected roadway network system along the Halton / Peel boundary
- Identify opportunities for transportation mode choices, including public transit, carpooling / vanpooling, and HOV lanes across the study area
- Identify solutions to serve long-distance truck traffic travelling in the study area between Halton Region and Peel Region
- Identify improvements that will serve inter-regional traffic including longer-distance, cross-boundary traffic from Halton Region (and areas west of Halton Region), travelling through west Brampton to destinations to the south and east in Peel Region, York Region, and Toronto
- Review the possibility of improving connections with the existing provincial 400-series highway network and possible future Provincial transportation facilities
- Provide sufficient transportation capacity to meet future travel demands generated by planned growth in west Brampton and Halton Hills
- Review opportunities to reduce dependency on the automobile through TDM / transit supportive measures
- Provide input into the planning and environmental study process for the GTA West Corridor Planning and Environmental Assessment Study in support of the province's growth objectives as set out in the provincial Growth Plan for the Greater Golden Horseshoe

2.3.4 NW Brampton Transportation Infrastructure Review, April 2005

The **Northwest Brampton Transportation Infrastructure Study** was previously completed by HDR | iTRANS Consulting Inc. on behalf of the City of Brampton to

determine the transportation infrastructure and preliminary servicing needs required to support the development of the proposed urban expansion in the northwest part of Brampton. The study examined improvements to the arterial road network in Brampton and the eastern part of Halton Region, together with expansions of existing provincial freeways (401, 407, and 410) and improved public transportation. Although development in west Brampton is expected to generate high traffic growth, a large portion of total traffic growth will come from longer-distance, cross-boundary traffic from Halton Region (and areas west of Halton Region), travelling through west Brampton to destinations to the south and east in Brampton, Mississauga, York Region, and Toronto.

Part Two of the study reconfirmed the need for the proposed North-South Transportation Corridor. It also confirmed that the Norval Bypass does not need to cross the Credit River. A partial Bypass running north-south and east-west from Highway 7 to Winston Churchill Boulevard is recommended to divert traffic from Highway 7 south toward Highway 407 and 401.

2.3.5 NS Corridor and Bramwest Parkway – Existing Conditions Report, June 2006

This report summarizes the following existing environments in the study area:

- Socio-economic
- Archaeological, cultural, and heritage
- Natural environment
- Soils and agriculture
- Transportation
- Utilities

2.3.6 North-South Transportation Corridor Study, September 2003

This study looks at the need for a north-south multi-modal route firstly connecting the proposed GTA east-west corridor (identified in MTO's Strategic Transportation Directions Study) to the 401-407, and secondly to service the NW Brampton urban expansion area.

Conclusions – a new north-south multi-modal corridor is required to:

- Connect the 401 / 407 and the GTA east-west corridor
- Provide opportunities for mode choice – particularly HOV lanes and / or inter-regional transit services
- Serve inter-regional traffic, especially longer distance, cross-boundary traffic
- Serve long-distance truck traffic
- Provide sufficient transportation capacity for future travel demands (NW Brampton)

The recommended corridor for protection is identified.

2.3.7 Rapid Transit Corridor Opportunities – Acceleride, February 2003

Halton Region has identified a major transportation node opportunity at Highway 407 / 401 and the GO Transit Milton Rail Corridor, with bus transfer facilities and park n' ride lots. It also supports the longer term BRT network proposed by GO Transit that extends BRT along 407 corridor. *“Corridor connections from Brampton along the Main Line and the BY Line to Highway 407 / 401 node and the BRT inter-regional corridor will enhance travel to and from the west, including Halton, Hamilton and beyond.”*

2.3.8 AcceleRide Strategic Implementation Plan

This plan describes the steps to follow to implement each of the three phases of the AcceleRide program in the City of Brampton.

AcceleRide is a BRT service which, in its first phase (2008 to 2012), will include limited-stop express and local service running in mixed traffic (except for queue-jump lanes) with signal priority. In its second phase (2012 to 2021) it will expand coverage, and post-2021 it will progress to dedicated median lanes, mirroring the planned progress of YRT's Viva network (Section 2.6.2). The predicted effect is for a 30% increase in transit ridership across the full Brampton network in the first phase, and a 125% increase in the second.

AcceleRide will be implemented along the following corridors:

- Queen Street (from downtown Brampton to York Region and York University)
- Main / Hurontario Street (from downtown Brampton to Mississauga)

These routes will enable buses to connect downtown Brampton to other transit systems at regional terminals (Hurontario / 407, Highway 7 / 427 and York University). In phase 2, the Queen line will be extended west to Chinguacousy Road and the Main line will be extended north to Sandalwood Parkway, with new lines implemented on Bovaird Drive and Steeles Avenue. New loops will be required at Chinguacousy Road and Airport Road, and the York University terminal will be replaced by a Vaughan Corporate Centre terminal at the end of the TTC subway extension.

Attributes of the system distinguishing it from the existing bus service will be:

- Queue-jump curb lines at intersections with far-side stops
- Distinct and convenient stations with countdown schedules and variable message signs
- Unique vehicle premium branding with full accessibility
- High-frequency, all-day service integrating local and express routes to facilitate transfers and reduce travel times
- Automated fare collection
- ITS technologies to manage scheduling and provide user information

2.3.9 Bram West Secondary Plan Area (S.P. Area 40) Transportation Study, January 1997

The primary objective of the study was to develop a transportation plan for future development of this area. The transportation plan includes requirements for roads, public transit, pedestrian access, and bicycle lanes.

Transit

Proposed transit infrastructure from the 1993 Brampton Official Plan:

- HOV lanes on Queen west to Mississauga Road, and on Mississauga Road south of Queen Street
- HOV lanes on Steeles, west to Halton-Peel boundary
- HOV lanes on Chinguacousy Road, north to Highway 7

GO Transit plans include all day service on Milton and Georgetown lines, and two new stations:

- Winston Churchill GO (WCB-401)
- Pleasant GO (Highway 7-Creditview)

Bram West development will generate transit demand of 1,800 to 2,000 riders. This level of demand from within the Secondary Plan alone supports the need for HOV or reserved bus lanes on Steeles Avenue West and Queen Street West.

2.4 Region of Peel

2.4.1 Region of Peel Official Plan

The Region of Peel Official Plan (adopted in November of 2005 but subjected to later amendments in June 2007) covers coordinated planning of the transportation system in Peel Region focusing on protecting rights-of-way and ensuring integration between area municipalities. This planning is intended to adjust to projected travel demands for commuters and through-traffic. General transportation objectives, which affect the area municipalities within Peel as well, incorporated into this plan include:

- To achieve convenient and efficient movement of people and goods in the region and the GTA
- To ensure that an integrated transportation system in Peel balances travel demand with transportation capacity
- To plan and implement a transportation system in Peel that is safe and sensitive to the protection of the Greenlands System
- To encourage increased public transit modal share
- To encourage increased accessibility (road and transit) to Pearson Airport
- To integrate the Peel transportation system with the plans of area municipalities, neighbouring municipalities, and the Province
- To support the objectives and policies in this Plan and area municipal official plans

- To provide for bicycle and pedestrian opportunities in design of roadways
- To the end of fulfilling these objectives, the Plan includes the following specific initiatives:

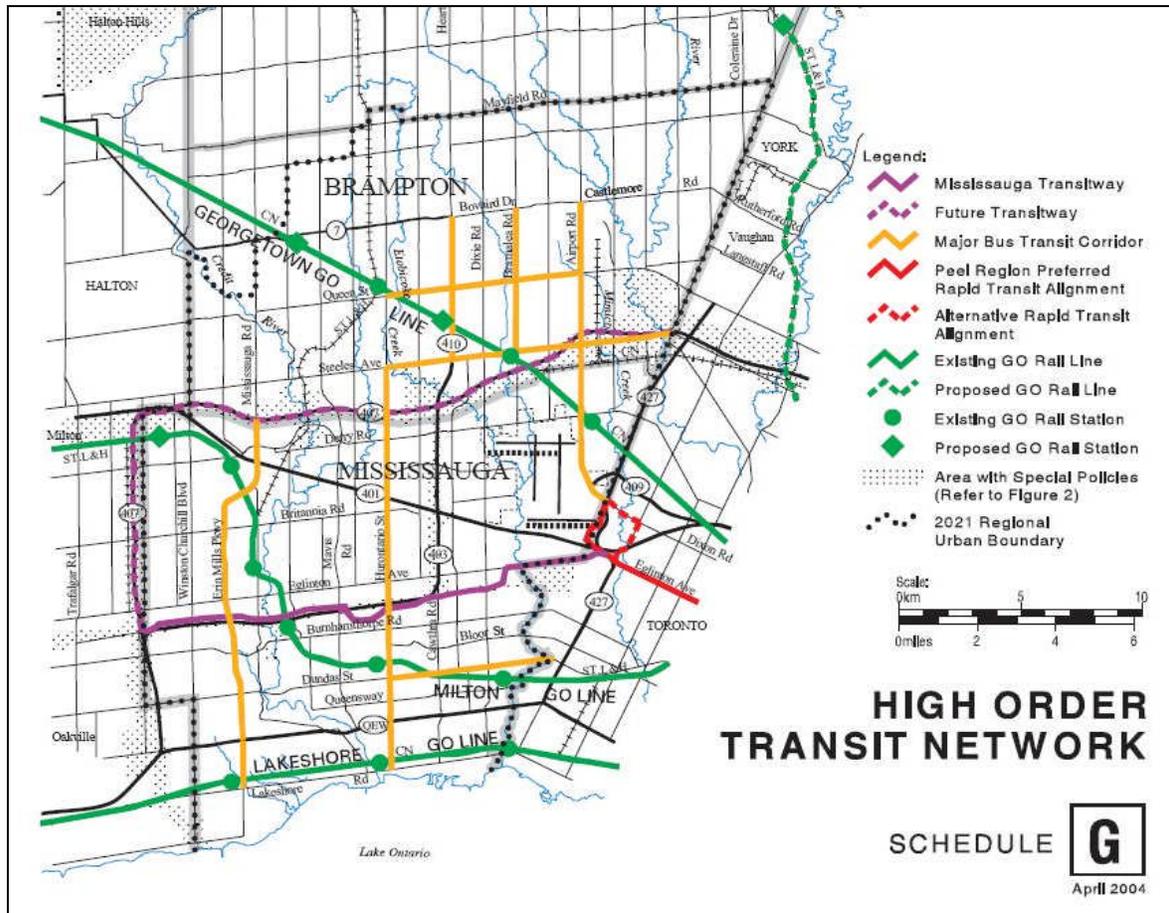


Exhibit 2-7: Region of Peel Official Plan, Map of Initiatives

The plan supports the creation of additional transit facilities, including, where appropriate, dedicated transit lanes, multimodal terminals and fare integration. Specifically, it promotes the establishment of all-day service on the Milton and Georgetown GO rail lines as soon as possible, together with improved service on the Lakeshore line and other services / corridors to be added where demand warrants. The plan also supports the development of an additional major road to run northward from the existing interchange of Highways 7 and 427, and the protection of a corridor for this road.

2.4.2 Long Range Transportation Plan (LRTP), September 2005

The Peel LRTP was created to identify and address the transportation challenges anticipated by the Region over the next 20 – 30 years and to develop appropriate policies, strategies, and a road improvement plan to address these challenges. This document acknowledges that there will be significant growth in travel demand to the Northwest Brampton Area and thus

identifies road improvements to the Northwest Brampton area by 2021 – including widening Winston Churchill Boulevard to 6 lanes between Highway 407 and Bovaird Drive, and four lanes between Bovaird Drive and Mayfield Road. Mayfield Road will be widened to four lanes between Winston Churchill Boulevard and Chinguacousy Road, and Bovaird Drive to six lanes between Winston Churchill Boulevard and Mississauga Road – it should be noted that some of these improvements are inconsistent with the City of Brampton TTMP (2004).

Travel trend data indicates that cross-boundary travel between Peel and Halton will increase steadily from four percent of all trips in 2001 to seven percent of all trips by 2031.

Overall, the report outlines general policy directions for future transportation vision, including areas like TDM and goods movement.

2.4.3 York-Peel Boundary Area Transportation Study

This study was conducted in 2001 and 2002 to identify and address transportation issues in the area of the southern end of the boundary between York and Peel Regions. It identified a long-term (2031) transportation plan as well as short-term road and transit network improvement suggestions. Brampton, Vaughan and the Town of Caledon were directly involved in the study. The issues addressed can be summarized as follows:

- Improving congestion on Highway 7 by providing a new north access to Highway 427
- Upgrading the short-term road network to deal with the pressure from new developments until the Highway 427 extension can be built
- Avoiding compromising the Highway 427 extension through short-term construction

The transit component of the study recommends long-term express bus routes along Highway 407, Highway 7, and Highway 427 (including the extension).

2.4.4 West-Central Peel Transportation Study, 2002

This study was undertaken to consolidate the findings of several transportation studies undertaken primarily as part of secondary plan studies. It will:

- Determine conflicting recommendations between the studies
- Determine if the recommendations resulting from these studies work on a system-wide basis
- Determine additional requirements

Future conditions were also analyzed with the following results for 2011:

- High V/C Ratio at the Credit River Screenline (EB, AM peak hour)
- Widening Steeles to six Lanes (WCB – Hwy 10), 407 to 6 Lanes (401 – Hwy 10) will result in congestion
- Widening the 401 to eight Lanes, as well as widening the 403 and the 407, will result in congestion

And for 2021:

-
- Credit River screenline, Highway 410 screenline, and Highway 401 screenline all have high V/C Ratios
 - Halton-Peel boundary exhibits reasonable screenline V/C ratios, but localized problems may exist at 401 / 407

Recommended improvements include:

- 407 to six lanes (401 - Hwy 10) – Before 2011
- 403 to eight lanes (Eglinton – 407) – Before 2011
- Steeles Avenue to 6 Lanes (Hwy 10 – WCB) – 2016-2019 (by 2011 depending on 407 widening)
- 401 to ultimate 12 lanes (410 - Mississauga Road) - 2011

At the Halton-Peel Boundary the study states that arterials should not be congested except for the 401 / 407 / Steeles area.

In addition to road network improvements, the study recommends:

- TDM Measures
 - **Peel HOV System Strategy Study** recommends HOV lanes on Steeles, 401 and 407
 - Increase transit speeds and auto occupancy
 - TDM measures can be implemented by a committee Region wide
 - **Peel's Carpool Lot study** has identified several carpool lots in the study area (check this study)
- Transit
- Land use planning – To help balance demand

Overall, road network improvements alone will not be sufficient to serve west Peel. Transit, TDM and effective land use planning are needed to create a balanced and effective transportation network.

2.5 Region of Halton

2.5.1 Halton TMP, June 2004 and March 2008 Update

The **Halton Region Transportation Master Plan Study** includes detailed screenline traffic projections. The Halton Region Transportation Master Plan Study assessed transportation in Halton up to the horizon year of 2021.

The conclusions of the Halton Region analysis identified neither the need for a freeway or higher-order multi-modal arterial link within the 2021 horizon year in the Halton Hills area, nor a need for six lanes on Trafalgar Road or Winston Churchill Boulevard. Furthermore, the protection of such a corridor through the Region of Halton would encumber lands contained in ROPA 25. It is difficult for Halton to support such an undertaking and protect or acquire the lands without the appropriate need and justification.

The Halton TMP identifies numerous key transportation corridors that are candidates for HOV / RBL in the long term. Some relevant ones are:

- Highway 407 (Mid-Halton) Corridor is a major inter-regional transit spine for the Golden Horseshoe
- Oakville / Brampton / South York Corridor links Oakville GO to 401 / 407 Gateway Business Park in Halton Hills to other key centres to the east
- Georgetown Corridor, linking Guelph in the west through Acton and Georgetown via Highway 7 to Bramalea GO Station on the Georgetown line
- Milton Corridor, linking Kitchener-Waterloo and Cambridge through Milton via Highway 401 to a proposed intermodal regional transfer centre near 401 / 407, and permitting a connection south to Oakville and east to Brampton and York Region

A summary of corridor improvements and their corresponding time frames is shown below.

Lane widenings, shown in **Exhibit 2.13** for 2021 are identified, and include widening to four lanes for Trafalgar Road north to Highway 7 by 2011, 9th Line from Steeles to 10 Sideroad by 2016, and Winston Churchill Blvd from Steeles to 10 Sideroad by 2021. The March 2008 update to the plan added the widening of Tremaine Road and James Snow Parkway to six lanes (from Highway 401 to Britannia Rd) and the widening of Tremaine Road to four lanes from Derry Road to Britannia Road.

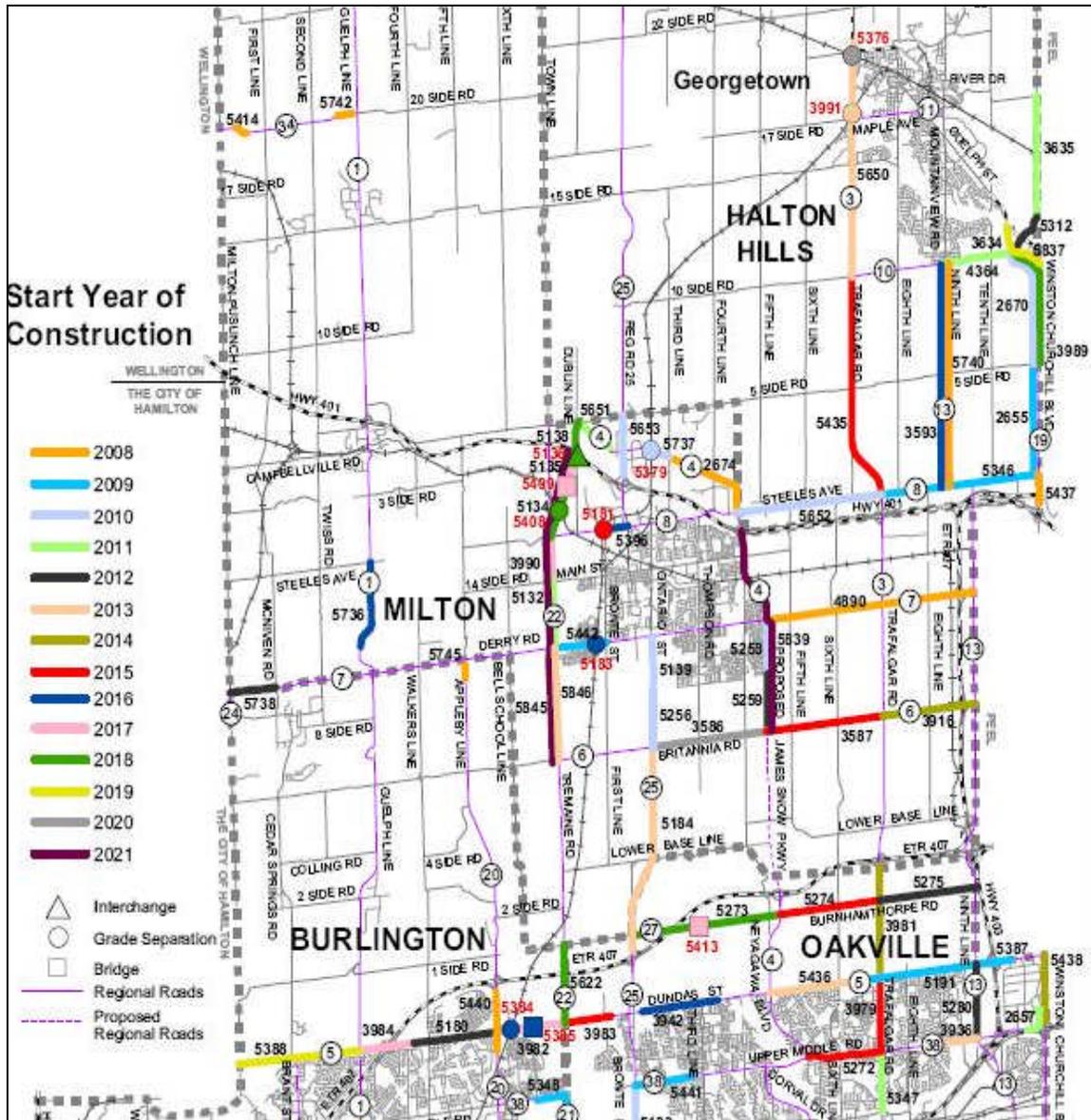


Exhibit 2-8: Region of Halton Road Network Improvements, 2004 TTMP

The proposed Regional Intermodal Transfer Centre at 407 and 401 is also described in greater detail in this appendix:

“The Highway 401 / 407 intermodal transfer centre is strategically located at the boundary with Peel Region and is in an area that is planned for considerable employment development over the next twenty years. This regional intermodal transfer centre is situated at the interchange of two major highways that connect the GTA to points west and south, and is in close proximity to a potential future station on the GO Milton line, adjacent to the planned Highway 407 Transitway. The centre provides an excellent location for transfers between

Milton and Georgetown and points west, as well as trips with origins or destinations further to the west or north.”

2.6 Region of York

2.6.1 York Region Transit Five-Year Service Plan

This York Region Transit plan covers service and upgrades between 2006 and 2010, including the Viva BRT network. Most of the report deals with technology and service improvements within York Region; however, it also discusses in the medium term (three to five years) service and fare integration with the neighbouring / overlapping services of Brampton Transit, Durham Region Transit and GO Transit. Route and level of service modifications are subject to the following aims:

- Extending service to new areas
- Completing the base grid of transit lines
- Improving service frequency and coverage to meet growth needs

The plan describes how YRT is planning to rationalize the Viva service in conjunction with the AcceleRide program in Brampton, which may require adjustment of the existing YRT / Brampton Route 77 (Highway 7 / Centre Street). In this case, YRT will work with Brampton Transit in determining what changes to make to its network and service. A GTA smartcard is scheduled to be introduced in the fifth year of the plan; however, paper transfers will still be required for transferring between Brampton and YRT routes.

2.6.2 York Region Rapid Transit Initiative

The York Region Rapid Transit Initiative is a multi-step process to introduce high-speed transit lines to York Region. The first phase has now been implemented and the second is forthcoming.

Phase 1:

In September 2005, YRT inaugurated its Viva rapid transit initiative featuring express bus lines along major arterials within York Region, connecting to the TTC subway system at Finch, Downsview and Don Mills stations. These buses differ from regular transit routes by using more comfortable and accessible vehicles, having less frequent stops, requiring prior acquisition of tickets (also transferable to regular routes) and using signal priority and queue jump lanes to cut down on congestion delays (similar to Phase 1 of Brampton’s AcceleRide). The time until the next bus arrives is displayed at each stop. Local bus routes have been reconfigured to integrate with the Viva network, which registered a 30% increase in ridership after the first two years of operation.

Phase 2:

The next phase of the Viva project is intended to add dedicated rights of way (separate lanes) to increase the speed and reliability of service. This phase (scheduled to begin in 2009,

subject to ridership) will be carried out considering future conversions to LRT or subway. Two subway extensions, from Downsview to Vaughan Corporate Centre and from Finch to Richmond Hill Centre, are also part of the rapid transit plans, as is integration with Brampton and Durham Region's rapid transit services.

2.7 Town of Caledon

2.7.1 Caledon Area Transportation Study

The Caledon Transportation Needs Study was conducted jointly by the Town of Caledon and the Region of Peel and is included as an Appendix (D) of the Peel Long Range Transportation Plan (September 2005). The objective of this study was to provide input for updating official plans and developing a framework for future transportation planning in Caledon.

The study identifies the following concerns:

- Peak-period congestion around Bolton, in the Highway 10 / 410 corridors, and along Mayfield Road
- Excess traffic on non-arterial roads creating concern for non-motorized users
- Excess through traffic between the GTA and new developments north and west of Caledon
- Excessive environmental impact and effect on rural lifestyles
- Over-dependence on single-occupancy-vehicles in the absence of a viable commuting alternative

To address these concerns satisfactorily, the study has determined that the following provincial initiatives are required (also shown in figure below):

- Widening Highway 10 to four lanes
- Extending Highway 410 from Bovaird Drive in Brampton to Highway 10 in Caledon
- Extending Highway 427 from Highway 7 to north of Highway 9, moving 3500 vehicles per hour off Caledon's road network

Additional transportation improvements recommended for Caledon to implement are as follows (also shown in figure below):

- Improving capacity on arterials where no diversion is possible and it is cost-effective to do so
- Developing public transit services (conceivably through arrangements with York Region Transit or Brampton Transit)
- Protecting the option to extend GO Rail service to Bolton (in consultation with GO Transit)
- Supporting and actively participating in Regional efforts to implement travel demand measures (Peel Regional TDM strategy to increase occupancy, vary departure times, reduce need to travel and promote use of different modes)
- Considering traffic calming measures on collectors to reduce through traffic;
- Setting a peak traffic volume target of maximum 90% of capacity on arterials

- Overall, developing greater travel choices for peak period commuters, and gradually reducing the percentage of trips made as automobile drivers by Caledon residents

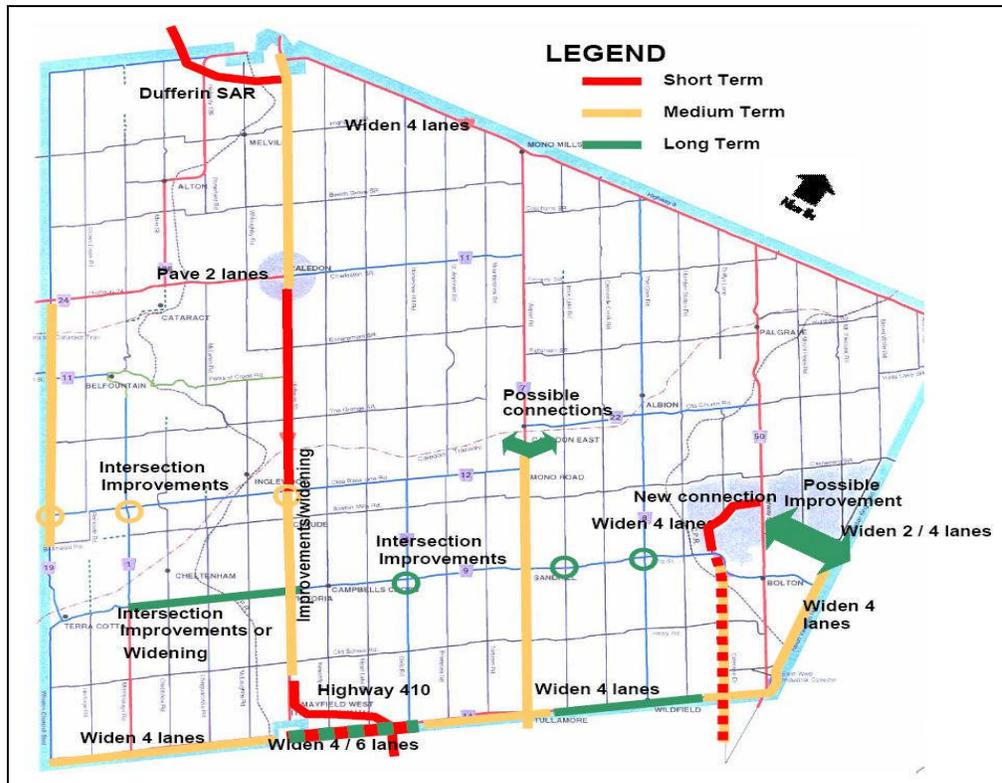


Exhibit 2-9: Town of Caledon Transportation Initiatives

2.8 City of Mississauga

2.8.1 Mississauga Transit Strategic Plan

The Mississauga Strategic Plan aims to:

“Encourage transit use through optimized route and system design and by pursuing a seamless transit system through improved service co-ordination and fare integration with GO Transit and the transit systems of neighbouring jurisdictions.”

The Mississauga long-term transit plan includes fifteen stops on a BRT transitway from Ninth Line on the Halton boundary to Renforth Drive on the Toronto boundary. The planned transit routes are shown in the figure below. Major transit corridors (with accompanying express transit lines) are identified on Hurontario Street, Dundas Street and Eglinton Avenue.

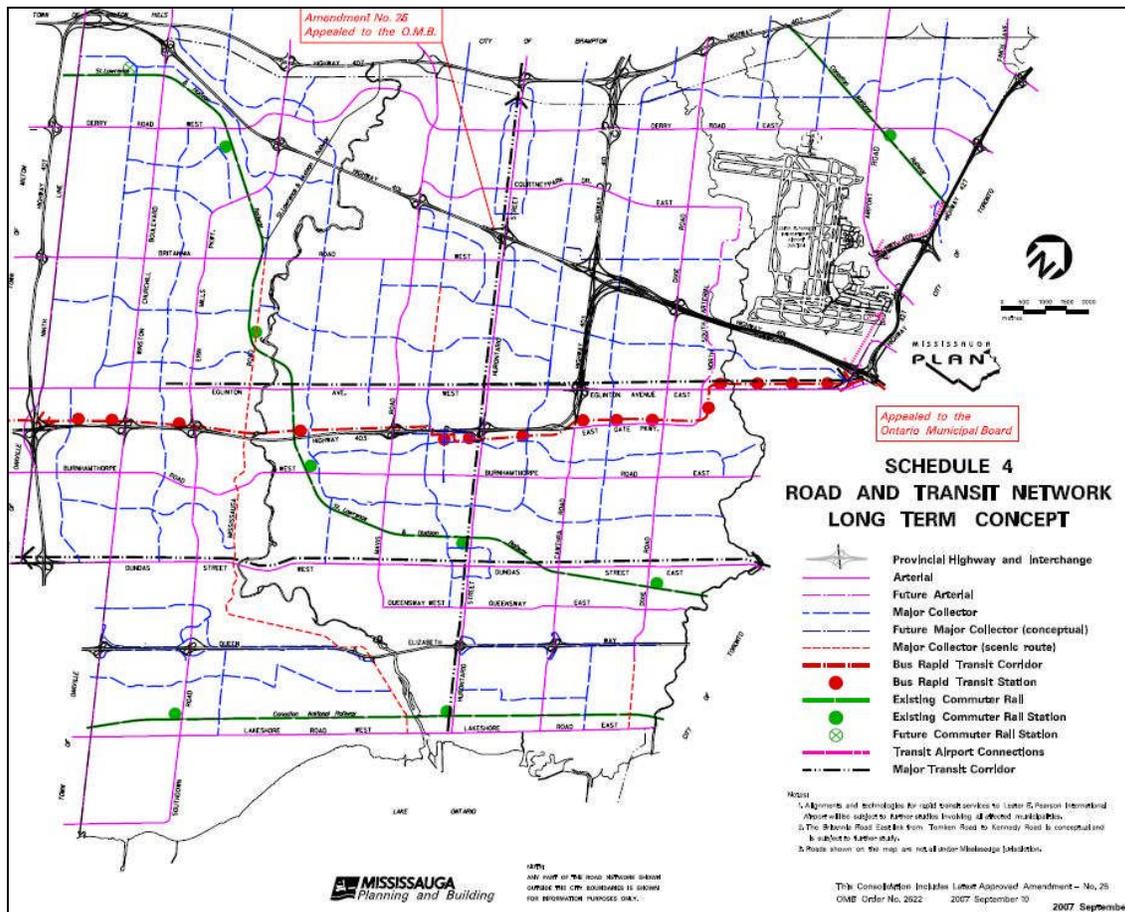


Exhibit 2-10: City of Mississauga Strategic Transit Plan

2.9 Town of Halton Hills

2.9.1 **Improvements to No. 10 Sideroad (Regional Road 10), June 2002**

Overall, no major capacity improvements are recommended in this study.

Study Conclusions:

The recommended plan generally remains same as the original ESR. The following changes were proposed by this study:

- Modifications to the Trafalgar Road intersection to meet current design standards, including a right-turn lane from No. 10 Sideroad (westbound) to Trafalgar Road (northbound)
- Extending the four-lane cross-section on No.10 Sideroad near Mountainview Road to the west by approximately 350m to address local access concerns

-
- A minor alignment shift on Main Street (8th line) to accommodate future reconstruction by the Town of Halton Hills
 - A larger radius curve east of 10th Line, to meet current design standards

2.9.2 Amendment No. 94 – To the Official Plan for the Town of Halton Hills (D08 - 401 Corridor), March 2000

The Purpose of the Amendment:

The purpose of this Amendment is to implement recommendations resulting from the 401 Corridor Industrial Area Study and the 401 Integrated Planning Study regarding the designations of , and policies for, lands within the 401 Corridor Industrial Area.

Details of the Amendment

Part of the OPA states that the Town will recognize the 401 Industrial Corridor as an important employment area within the Town of Halton Hills and to encourage high quality development which recognizes the area's strategic location within the Town of Halton Hills and the Regional Municipality of Halton.

Guidelines for the 401 Industrial Corridor regarding Transportation

- See Schedule 10 for the future road system anticipated with the full development of the corridor – outlining the existing intersections to be retained as well as possible intersection locations / improvements along Steeles Avenue
- Alternative intersections / subdivision designs are allowed if they do not cause congestion, create unsafe conditions, or limit ability for logical development of adjacent parcels
- No access from 5th Line except as identified in Schedule 10, without amendment to the plan

3. METHODOLOGY

The TTMP Sustainable Update 2009 study will be carried out as a Transportation Master Plan study through an open public process in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process (MEA, October 2000 as amended in 2007) which is an approved process under the Environmental Assessment Act and will build on the approaches and ideas conveyed in the *Sustainable Planning Guidelines* developed by Transport Canada and TAC and supported by the Province's *Growth Management Plan*.

The TTMP Sustainable Update study will be carried out by adopting a "Two-Stage" approach by considering the most up to date 'sustainable transportation best practices':

- Stage 1 will assess the current TTMP and update the assumptions and information to address new transportation issues and to generate a revised TTMP document. The updated information, analysis and recommendations will provide the need and background for the transportation component of the City's Development Charges (DC) By-Law Update.
- Stage 2 will provide the necessary transportation infrastructure timing and DC methodology for the purposes of DC By-law update.

The 2004 Brampton TTMP developed an integrated and balanced transportation system incorporating all travel modes. The plan focused on enhancing transit accessibility for residents and workers in Brampton, improved air quality, and a healthy active community. The City continues to strongly support the vision outlined in the 2004 TTMP. However, with the Provincial 'Places to Grow' plan, transportation initiatives from other jurisdictions that may affect Brampton, recent growth trends, and the need to update the DC By-law, the TTMP now needs to be updated. This update will build on the vision outlined in the 2004 TTMP.

The main goal of the TTMP Sustainable Update 2009 is to be a practical guide for implementing transportation investments, policies and actions to the year 2031. The document will build and expand on the transportation vision and support strategies developed in 2004 and from which all elements of the plan are springing. The plan is based upon the guiding principles which ensure consistency with other City's objectives and provide for clear monitoring.

Engagement of the public and key stakeholders is also essential for the success of the study. The TTMP Sustainable Update 2009 will be coordinated with the on-going Growth Management Plan for Brampton. The results of the TTMP Sustainable Update 2009 may result in updates to the City's Official Plan, such as amendments to specific transportation-related policies and to schedules in the OP.

3.1 **Key Study Issues**

There are number of issues affecting the future transportation system of the City of Brampton. The issues spring from Provincial legislation and programs, Metrolinx activates, general growth and transportation demand trends and planning activities at the local and regional level.

The Growth Plan for the Greater Golden Horseshoe has been prepared by the Ontario Government as a framework for implementing the Government's vision over the next 30 years for building strong and prosperous communities by managing growth. It identifies Brampton City Centre as one the GGH Urban Growth Centres. Key transit corridors in the Growth Plan include the Milton GO line, Georgetown GO line, Acceleride, and Hurontario rapid transit – all key components of an inter-regional transit network. A future goods movement corridor has also been identified along the northern border of the City.

Move Ontario 2020 has identified a number of transit initiatives in Brampton, including the Queen Street Acceleride program, Hurontario rapid transit, the 407 Transitway, and the Georgetown GO line. All these initiatives and others arising from the upcoming **Metrolinx Regional Transportation Plan** will need to be addressed in this study, from the perspective of Brampton's needs and concerns.

Metrolinx is in the midst of preparing its Regional Transportation Plan (RTP). The TTMP Sustainable Update 2009 will allow Brampton to be well-positioned and ready to respond to Metrolinx.

The **City of Mississauga** is carrying out an update of its OP and its overall transportation network requirements. Close coordination will be required with Mississauga to ensure integration of road and transit networks.

The proposed **North-South Transportation Corridor** in west Brampton is the largest unresolved transportation initiative in Brampton. It has huge implications on the development of **Northwest Brampton** and the **Bram West Secondary Plan Area**. The TTMP Sustainable Update will need to consider where the corridor should be located. Are there solutions contained entirely within Brampton? How will the North-South Corridor connect with the 401 and the 407? What is the transit role of the Corridor? HDR | iTRANS will be able to bring our extensive experience with Northwest Brampton, the North-South Corridor, and Bram West into the TTMP Update to help resolve the need and location for the North-South Corridor in coordination with HP BATS.

The HP BATS is examining cross-boundary transportation needs between Halton and Peel, and transportation requirements in the **Halton-Peel boundary area**, including the need for a new north-south transportation corridor.

The TTMP Sustainable Update 2009 will require updated land use forecasts for Halton Region, particularly for the 2031 horizon. However, these forecasts are not yet available from Halton. Brampton and Peel will need to develop a strategy on how to address **Halton land use forecasts**, for both the TTMP Sustainable Update 2009 and Halton-Peel Boundary Area Transportation Study.

Transit modal splits for trips from Brampton are much lower than in Toronto. Yet, the existing population and employment density in Brampton is comparable to areas in Toronto like Etobicoke, North York, and Scarborough where transit usage is high. What this illustrates, and has been confirmed by HDR | iTRANS's research in Ottawa and Toronto, is that relatively high transit modal splits can be attained for Brampton with the right combination of high transit service levels, competitive transit fares, and higher densities and mixed uses along transit corridors.

York Region is currently undertaking an update of its Transportation Master Plan. There is an opportunity for Brampton to ensure coordination and integration on transportation needs across the Brampton-York boundary. The on-going transportation planning work by HDR | iTRANS on the Peel-York boundary area will assist in this coordination.

There have been continuing delays on the **widening and extension of Highway 410**, and the Highway 427 extension, with significant implications on the arterial road network in Brampton and on growth management. The impacts of continuing delays will need to be assessed in this study.

MTO recently initiated the **GTA West Corridor Planning and Environmental Assessment** study to confirm the long-term provincial multi-modal transportation needs and recommend improvements in the corridor extending from the City of Vaughan to City of Guelph Kitchener-Waterloo area. The provincial GTA West Corridor study will have significant impacts on the transportation network in Brampton and Caledon. However, the slow pace of the study will not allow it to provide input to the TTMP Sustainable Update 2009. HDR | iTRANS will be able to build on our previous work examining the impacts of the GTA West corridor.

With respect to the **Acceleride Strategic Implementation Plan**, the TTMP Sustainable Update 2009 provides the opportunity to re-examine and confirm the future rapid transit (BRT) network in Brampton, and how it will be integrated with the City's urban structure and growth plans.

Future BRT corridors on Hurontario and Airport Road will need to be coordinated with Mississauga, while BRT corridors on Steeles Avenue and Queen Street will need coordination with York Region. In addition, the study will confirm the significance of the proposed inter-regional terminals at Highway 427 / 7, Hurontario / 407, and York University.

A significant proportion of traffic in Brampton is **external through traffic** originating from outside Brampton and having destinations outside Brampton. This is particularly evident for traffic from Halton Region destined to Mississauga, York, and Toronto. How this external traffic should be handled is a key issue for the TTMP Sustainable Update (as well as HP BATS).

What are the road investment requirements in the east-west travel corridor in the **Central Area / Queen Street Corridor**, with and without a **Clark / Eastern / Wellington connection**? HDR | iTRANS has conducted previous work in the Central Area / Queen Street Corridor with the Clark / Eastern Feasibility Study, John Street Feasibility study, and the Brampton Central Area Plan update. These studies assessed the Clark Boulevard-Eastern Avenue Connection (between Rutherford and Kennedy Road), John Street connection between James Street and Centre Street, Wellington Street connection between James Street and Trueman Street, and Royce Avenue-Wellington Street connection and jog realignment between McLaughlin Road and Mill Street through detailed traffic forecasting, benefit cost analysis, functional design, and operations analysis.

Effective freight and goods movement is essential to the economic development and vitality of Brampton. The review of provincial highway improvement needs will consider the role of the provincial highway network in fulfilling this role.

3.2 Approach

It is the objective of the study to establish a plan for a transportation system in Brampton that:

- Is consistent with the Provincial Growth Plan (density objectives)
- Is in keeping with and supportive of municipal growth objectives
- Minimizes and mitigates impact to natural environmental features and habitats
- Minimizes vehicle emissions including greenhouse gases as estimated through EMME/2 forecasts and cost of congestion methodology
- Minimizes and mitigates impact to the cultural environment
- Encourages economic development consistent with municipal objectives and minimizes and mitigates negative socio-economic impacts
- Provides cost effective transportation solutions allowing for logical and efficient staging of implementation

The study will be summarized in a problem and opportunities statement that will reflect the general transportation goals in keeping with the municipal and provincial policy and practices. The statement will identify the need for a transportation system that will:

- Support planned growth within Brampton and Peel as established by Places to Grow, current available land use forecasts and municipal official plans
- Serve the transportation needs to 2031 to an acceptable level of service
- Develop an implementation plan for maintaining level of service thresholds for interim horizon years (2011, 2016, 2021, and 2026)

-
- Develop a road hierarchy with continuous arterial road connections to allow for goods movement between major centres and from major centres to the expressway network
 - Encourage the concept of a balanced transportation system through multi-modal solutions and travel demand management initiatives
 - Make use of existing capacity and infrastructure for efficient transportation system management (TSM)
 - Provide for continuity of transportation service across the City
 - Recognize current transportation initiatives (provincial and municipal)

Transportation system analysis will proceed at the screenline level. The screenlines analyzed in the 2004 TTMP will be used again for the update and will include a number of north-south and east-west screenlines:

- North-South traffic screenlines:
 - Caledon-Brampton Boundary
 - North of Bovaird / Castlemore
 - North of Queen / Embleton
 - North of Steeles
 - Brampton-Mississauga Boundary
- East-West traffic screenlines:
 - Halton-Brampton Boundary
 - Credit River
 - East of Hurontario
 - East of Highway 410
 - East of Airport Road
 - West of Highway 50 (Brampton-York Boundary)

The level of service assessment will be based on current City and Regional policies and practices. They will be interpreted as follows:

- For road level of service, maintain a level of service 'D' or better. This will be interpreted based on model volume to capacity ratios of 0.9 or better for established screenlines and 1.0 or better for individual links
- Meet any established transit accessibility targets
- Meet or establish policies for implementation of pedestrian and cycling infrastructure consistent with urban expansion

3.3 Basis for Alternative Solution Evaluation

3.3.1 Modelling

The forecasting phase of the project will be undertaken using City of Brampton EMME/2 travel demand forecasting model. The model, recently recalibrated to 2006 TTS and validated to 2006 Cordon Counts will be updated to include road and transit networks reflective of the improvements planned for 2011, 2016, 2021, and 2031. The DC phase of the

study will see the expansion of the modelling framework to 2019 and 2029. The forecasting phase will provide:

- Estimates of vehicular travel demand at a screenline level for all functional road types except local roads (as coded to the modelling network) for the study area
- Estimates of transit demand at the study area level
- Estimates of vehicle emissions, including greenhouse gases and cost of congestion at the study area for all roads
- Estimates of person travel demand generated with a consideration given to TDM, support for multi-modal systems
- The above listed products will provide input to:
 - Problem and opportunities statement
 - The development and evaluation of the alternatives
 - Development Charge Background Study Report

3.3.2 Modelling Methodology and Processes

- The forecasting will follow the typical four stage approach: trip generation, distribution, modal split and trip assignment (not necessarily in this order)
- Fully functional, “ready to use” model will be provided by the City of Brampton. The model is a custom version of the GTA Simplified model, simulating PM peak hour traffic conditions
- Input to the problem and opportunity statement will be derived from the simulation of the 2031 land use on the 2031 planned road and transit network
- Evaluation of the alternatives will be derived from simulating the 2031 land use on 2031 alternative road network
- The preferred alternative will be evaluated for 2011, 2016, 2021, 2026 and 2031
- Development Charge transportation network needs assessment will be completed for 2011, 2016, 2019, 2021, 2026, 2029, and 2031

3.3.3 Input Data and Key Parameters

- Land use forecasts will be consistent with the Provincial Growth Plan (density objectives) and municipal growth objectives.
- The 2031 scenario will be assessed using the 2031 land use projections from Peel and Halton. HDR | iTRANS advised the group that the availability of 2031 Halton land use numbers expected for October 2007 will push back the initiation of the forecasting phase to the Fall and will cause delays to the Halton-Peel Study. The group reaffirmed their preference for the 2031 Halton land use forecast as a base for evaluating Needs and Justification, developing the alternatives and assessing the preferred alternative.
- Base year of 2006 will serve as a starting point to simulate future horizon years of 2011, 2016, 2021, 2026 and 2031; and 2019, 2029 for DC evaluation.
- Forecast generated for the PM peak hour of travel.

-
- Auto network – The City will provide up-to-date auto network coding with all relevant, planned road network improvements expected to be completed for each respective horizon year based on municipal capital plans.
 - Transit network – Up-to-date network coding with all area relevant, planned transit service improvements expected to be completed for each respective horizon year. If the transit network is not available, a documented method of accounting for transit service improvements should be in place.
 - Inclusion of aggressive transit modal split assumptions based on transit service improvements such as:
 - Milton and Georgetown GO Transit services (including service extension to Acton and the new station on the Milton Line).
 - Provision of Transit Service on 407 Transitway by 2031.
 - Brampton AcceleRide and Mississauga Transitway.
 - HDR | iTRANS will provide an independent assessment of modal splits and the ridership forecast using the actual, observed conditions reported in the 2006 TTS. HDR | iTRANS will develop the most probable target shares – and an accompanying understanding of the transit market – early on in the study, for the comparison to, and potential inclusion in the modelling process.

3.3.4 Evaluation Measures

The EMME/2 model will be used to provide reporting on the following evaluation measures:

- Road network parameters:
 - Auto travel volume-to-capacity ratio per screenline, PM peak hour
 - Vehicle kilometres of travel, PM peak hour
 - Percentage of roads congested in peak direction of travel, PM peak hour
- Travel demand performance parameters:
 - Total auto trips, PM peak period
 - Total transit trips PM peak period
 - Transit modal split during PM peak period
- Environmental impact parameters
 - Annual cost of congestion \$millions / year
 - Annual Green House Gas (GHG) emissions attributed to peak period travel in tonnes / year
- Transit performance measures:
 - Total and net daily and net annual ridership, measured both at the major corridor (e.g. Queen Street, Hurontario / Main Street, Bovaird Drive / Airport Road and Steeles Avenue) and the total system
 - Total daily and annual ridership per capita at the major corridors and the total system
 - Transit mode share generated at the major corridors and the total system.
 - Total travel time, measured in annual person-hours, for existing transit and auto users within the major corridors and the total system
 - Peak period transit system capacity

- Total transit system revenue service hours per capita
- Average transit system revenue vehicle hours / revenue kilometre
- DC specific measures:
 - Level of service
 - Uncommitted excess capacity
 - Benefit to existing development
 - Post period capacity
 - Grants, subsidies and other contributions
 - Reserve fund contributions
 - Residential vs. non-residential split

Evaluation criteria will be summarized for each alternative solution in terms of opportunities to address the problem and opportunity statement and potential impact for key criteria. Solutions will be evaluated (pie chart from zero to four). Evaluation of alternative solutions will be based on a consideration of all criteria. While tallies of evaluation scores will be considered, they will not be the sole basis for selection. Strong consideration will be given to very high scores (4) that meet certain objectives significantly more than others whereas very low scores (0) that have significant impacts or do not address the problem or opportunity statement will fare poorly.

3.4 **Land Use**

The TTMP Sustainable Update 2009 study will be using the following population and employment numbers provided to HDR | iTRANS by the City of Brampton, Region of Peel and Town of Caledon.

Table 3-1: Population Forecast

Municipality	2006	2011	2016	2021	2026	2031
Brampton	451,710	533,990	599,320	659,390	713,820	758,310
Mississauga	699,700	723,000	736,700	748,000	764,900	784,000
Caledon	57,050	75,000	81,500	88,000	100,500	113,000
Total:	1,208,460	1,331,990	1,417,520	1,495,390	1,579,220	1,655,310

Table 3-2: Employment Forecast

Municipality	2006	2011	2016	2021	2026	2031
Brampton	154,830	203,050	238,990	273,780	295,250	320,000
Mississauga	435,448	471,626	487,074	494,491	499,777	504,444
Caledon	25,340	27,960	32,965	37,970	43,295	48,620
Total:	615,620	702,640	759,025	806,250	838,325	873,060

The TTMP Sustainable Update will utilize Region of York population and employment estimates provided in the spring of 2007 for Halton-Peel BATS; HDR | iTRANS will gather the latest available land use forecast numbers for the City of Toronto, Region of Durham and the City of Hamilton.

Land use for the Region of Halton is driven by the Sustainable Halton process. The recently released five 2031 land use scenarios provide high-level 'visioning' of potential land use distribution. The evaluation of impacts of the high, medium and low land use scenarios (1, 2a and 3b) could be assessed through the Halton-Peel BATS and linked to the TTMP Sustainable Update process.

3.5 Public Consultation

During the study, stakeholder consultation will be crucial in establishing and identifying alternatives and deciding on the preferred strategy. Community input is essential as it will be the community who ultimately uses any transportation and transit programs that are implemented in the City. The consultation plan for this study includes:

- Advertisements – Four advertisements were prepared: the first announced Study Initiation and invited the public to participate, the second announced Public Information Centre (PIC) #1, the third announced PIC #2, and the fourth announced Study Completion.
- Public Information Centre #1 and #2 – The first PIC presented the transportation issues and deficiencies, study methodology, initial list of alternatives, evaluation methodology, and consultation process. The second PIC presented how public comments have been addressed, the evaluation of the alternatives, and the preliminary recommendations.
- Growth Plan Public Awareness and Education Strategy Town Hall Meetings – HDR | iTRANS worked with this team to prepare displays and handout materials.
- Study website – A study website was established to provide information to the public and opportunities for the public to give input. PIC Materials were made available on the site.
- Four Newsletters:
 - Introduction to the Study and soliciting input on what are the transportation priorities for the Region.
 - A preliminary overall transportation vision for the City.
 - Alternative transportation strategies and evaluation criteria.
 - A preliminary long-term transportation strategy for the City.
- On-going and prompt responses to public comments.
- Record of Public Comments (mailing list and on-going record of public comments and responses).

4. DATA SOURCES

4.1 Traffic Data

Observed data for screenline analysis is largely based on 2006 Peel Cordon Count Data. Where cordon counts were unavailable, the most recent Automatic Traffic Recorder (ATR) counts and Turning Movement Counts (TMC) were obtained from the City of Brampton or Region of Peel.

4.1.1 Cordon Counts

2006 Peel Cordon Count Data was downloaded from the Data Management Group website. **Table 4-1** below summarizes the Peel Cordon Count data used.

Table 4-1: Peel Region 2006 Cordon Count Stations

Station #	Location
61	Steeles Avenue East of Winston Churchill Blvd.
62	Embleton Road East of Winston Churchill Blvd.
63	Highway 7 at the Credit River (Norval)
65	Mayfield Road East of Winston Churchill Blvd.
66	Steeles Avenue East of Highway 10
67	Queen Street East of Highway 10
68	Winston Churchill Blvd North of Steeles Avenue
69	Mayfield Road East of Highway 10
75	Clarkway Drive West of Highway 50
77	Ebenezer Road West of Highway 50
78	Highway 7 West of Highway 50
79	The Gore Road North of Highway 50
80	Mayfield Road West of Highway 50
82	Highway 10 at Brampton / Mississauga Boundary
83	Dixie Road at Brampton / Mississauga Boundary
84	Torbram Road at Brampton / Mississauga Boundary
85	Airport Road at Brampton / Mississauga Boundary
89	Mavis Road at Brampton / Mississauga Boundary
134	Steeles Avenue West of Highway 50
148	Steeles Avenue at the Credit River

Station #	Location
151	Dixie Road South of Mayfield Road
160	Highway 410 at Brampton / Mississauga Boundary
161	Tomken Road at Brampton / Mississauga Boundary
162	Finch Avenue at Brampton / Mississauga Boundary
169	Centreville Creek (McVean Drive) South of Mayfield Road
170	Winston Churchill Blvd. South of Mayfield Road
171	Heritage Road South of Mayfield Road
172	Mississauga Road South of Mayfield Road
173	Creditview Road South of Mayfield Road
174	Chinguacousy Road South of Mayfield Road
175	McLaughlin Road South of Mayfield Road
176	Highway 10 South of Mayfield Road
177	Kennedy Road South of Mayfield Road
178	Heart Lake Road South of Mayfield Road
179	Bramalea Road South of Mayfield Road
180	Torbram Road South of Mayfield Road
181	Airport Road South of Mayfield Road
182	Goreway Drive South of Mayfield Road
184	The Gore Road South of Mayfield Road
185	Humber Station Rd (Clarkway Rd.)
186	Coleraine Drive South of Mayfield Road
187	Highway 50 South of Mayfield Road
188	Highway 7 East of Highway 10
189	Mississauga Road at Brampton / Mississauga Boundary
190	McLaughlin Road at Brampton / Mississauga Boundary
191	Kennedy Road at Brampton / Mississauga Boundary
192	Bramalea Road at Brampton / Mississauga Boundary
193	Goreway Drive at Brampton / Mississauga Boundary
194	Goreway Drive North of Steeles Avenue
208	Heritage Road at Brampton / Mississauga Boundary
209	Financial Drive (South of Highway 407)
290	Clarence Street East of Highway 10
291	Vodden Avenue East of Highway 10

Station #	Location
292	Williams Parkway East of Highway 10
293	Sandalwood Parkway East of Highway 10
318	Mayfield Road East of Heart Lake Road
320	Bovaird Drive East of Highway 410
321	Williams Parkway East of Highway 410
322	Vodden Avenue East of Highway 410
323	Queen Street East of Highway 410
324	Clark Blvd East of Highway 410
325	Orenda Rd East of Highway 410
326	Glidden Road at Highway 410
327	Steeles Avenue East of Highway 410
330	Winston Churchill Blvd. North of Highway 401
334	Castlemore Road West of Highway 50
336	Bovaird Drive / Castlemore Road
345	Sandalwood Parkway East of Highway 410
356	Queen Street / Highway 7 East of Airport Road
357	Steeles Avenue East of Airport Road
363	Countryside Drive West of Highway 50
364	Williams Parkway East of Airport Road
367	Countryside Drive East of Airport Road
368	Mayfield Road East of Airport Road
407	Highway 407 at Peel East Boundary
408	Highway 407 East of Highway 410
409	Highway 407 East of Highway 10
410	Highway 407 at the Credit River
411	Highway 407 East of Winston Churchill Blvd

4.1.2 ATR and TMC

ATR and TMC data were collected from both the City of Brampton and Peel Region. Data received from the City of Brampton is summarized in **Table 4-2** and **Table 4-3**; data received from Peel Region is summarized in **Table 4-4** and **Table 4-5**.

Table 4-2: City of Brampton ATR data

Location	Count Date
Van Kirk Drive north of Can-Am Cr. (north of Bovaird)	7-Jun-06
Bramalea Road north of Peter Robertson (north of Bovaird)	9-Jun-06
Bramalea Road north of Queen	9-Jun-06
Torbram Road north of Bovaird	28-Jun-06
Fernforest Drive north of Peter Robertson (north of Bovaird)	28-Jun-06
Bramalea Road north of Dearbourne (north of Steeles)	19-Jul-06
Intermodal Drive west of Goreway (east of Airport Road)	31-Aug-06
Conservation Drive east of Colonel Beltram (east of Highway 10)	9-Nov-06
Wanless Drive east of Winston Churchill Blvd	6-May-07
Laurelcrest Street north of Queen	30-May-07
Coleraine south of Countryside (west of Highway 50)	6-Jun-07
Heritage Road south of Wanless (north of Bovaird)	9-Jun-07
Heritage Road south of Bovaird (north of Embleton)	9-Jun-07
Heritage Road south of Embleton (north of Steeles)	9-Jun-07
Highway 10 north of Charolais (north of Steeles)	20-Jun-07
McVean Drive south of Countryside (north of Castlemore)	8-Aug-07
Rutherford Road north of Steeles	12-Sep-07
West Drive north of Steeles	12-Sep-07
McVean Drive north of Ebenezer (north of Queen)	19-Sep-07
McMurphy Ave north of Charolais (north of Steeles)	3-Oct-07

Table 4-3: City of Brampton TMC data

Intersection	Count Date
Winston Churchill Blvd @ Steeles	13-Apr-05
Steeles Avenue @ Winston Churchill Blvd	13-Apr-05
Winston Churchill Blvd @ Embleton	14-Apr-05
Mississauga Rd @ Queen Street	28-Apr-05
Airport Road @ Queen	1-Jun-05
The Gore Rd @ Castlemore	8-Jun-05
Highway 50 @ Castlemore	25-Oct-05
Airport Road @ Bovaird	3-Nov-05

Mississauga Road @ Mayfield Road	2-May-06
Intersection	Count Date
Kennedy Rd @ Queen	17-May-06
Mississauga Road @ 407 EB Off-ramp	20-Jun-06
The Gore Road @ Queen	21-Sep-06
Kennedy Road @ Scottsdale (north of Steeles)	7-Jun-07
Winston Churchill Boulevard @ Bovaird	7-Nov-07
Highway 7 @ Winston Churchill Blvd	7-Nov-07
Chinguacousy Road @ Steeles	4-Dec-07
Mississauga Road @ Queen	25-Oct-07
Mississauga Road @ Bovaird	30-Oct-07
Kennedy Rd @ Bovaird	6-Nov-07

Table 4-4: Peel Region ATR data

Location	Count Date
Highway 50 north of Castlemore	29-Oct-07
The Gore Road north of Queen	29-Oct-07
Highway 50 north of Queen	29-Oct-07
Highway 50 north of Steeles	30-Oct-07
Mississauga Road north of Queen	31-Oct-07
Mississauga Road north of Steeles	31-Oct-07
Dixie Road north of Bovaird	5-Nov-07
Dixie Road north of Queen	5-Nov-07
Dixie Road north of Steeles	5-Nov-07
Airport Road north of Bovaird	6-Nov-07
Airport Road north of Queen	6-Nov-07
Airport Road north of Steeles	7-Nov-07

Table 4-5: Peel Region TMC data

Intersection	Count Date
Winston Churchill Blvd @ Steeles	13-Apr-05
Steeles Avenue @ Winston Churchill Blvd	13-Apr-05
Winston Churchill Blvd @ Embleton	14-Apr-05

Mississauga Rd @ Queen Street	28-Apr-05
Airport Road @ Queen	1-Jun-05
Intersection	Count Date
The Gore Rd @ Castlemore	8-Jun-05
Highway 10 @ Bovaird	29-Sep-05
Highway 50 @ Castlemore	25-Oct-05
Airport Road @ Bovaird	3-Nov-05
McLaughlin Road @ Steeles	10-Nov-05
Mississauga Road @ Mayfield Road	2-May-06
Kennedy Rd @ Queen	17-May-06
Central Park Drive @ Queen	13-Jun-06
McLaughlin Rd @ Bovaird	14-Jun-06
Mississauga Road @ 407 EB Off-ramp	20-Jun-06
The Gore Road @ Queen	21-Sep-06
Financial Drive @ Steeles	7-Mar-07
Kennedy Road @ Scottsdale (north of Steeles)	7-Jun-07
Mississauga Road @ Queen	25-Oct-07
Mississauga Road @ Bovaird	30-Oct-07
Kennedy Rd @ Bovaird	6-Nov-07
Winston Churchill Boulevard @ Bovaird	7-Nov-07
Highway 7 @ Winston Churchill Blvd	7-Nov-07
Torbram Road @ Steeles	28-Nov-07
Chinguacousy Road @ Steeles	4-Dec-07

4.2 Transportation Tomorrow Survey

The 1999, 2001 and 2006 TTS was used to obtain data for the following evaluation categories:

- Auto and transit travel demand
- Population and employment estimates by traffic zone
- Trip generation
- Transportation mode share (auto driver, passenger, GO, local transit, park and ride, walk / cycle)
- Auto occupancy (cordon count) for
 - Brampton Residents
 - Trips to Brampton
 - Trips from Brampton
- O-D patterns for Brampton residents, trips to and trips from Brampton
- Modal split by municipality, traffic zone and transit corridor

4.3 Capital Plans

Ten year capital plans and other road construction programs have been received from various agencies, and are listed below:

- MTO-Peel Liason Meeting, April 2007
- GO 10 Year Growth Capital Plan (2006-2016)
- Region of Peel 2007-2031 Development Charges Road Program
- City of Brampton 2008-2017 Capital Programme
- Region of Halton Roads Capital Projects (2008-2017)
- Region of Halton Roads Capital Projects (2007-2021) – Intersections
- York Region 10 Year Capital Plan (2008-2017)
- City of Mississauga Capital Program (2008-2017)
- Town of Halton Hills Capital Budget and Forecast 2007-2016

4.4 Mapping

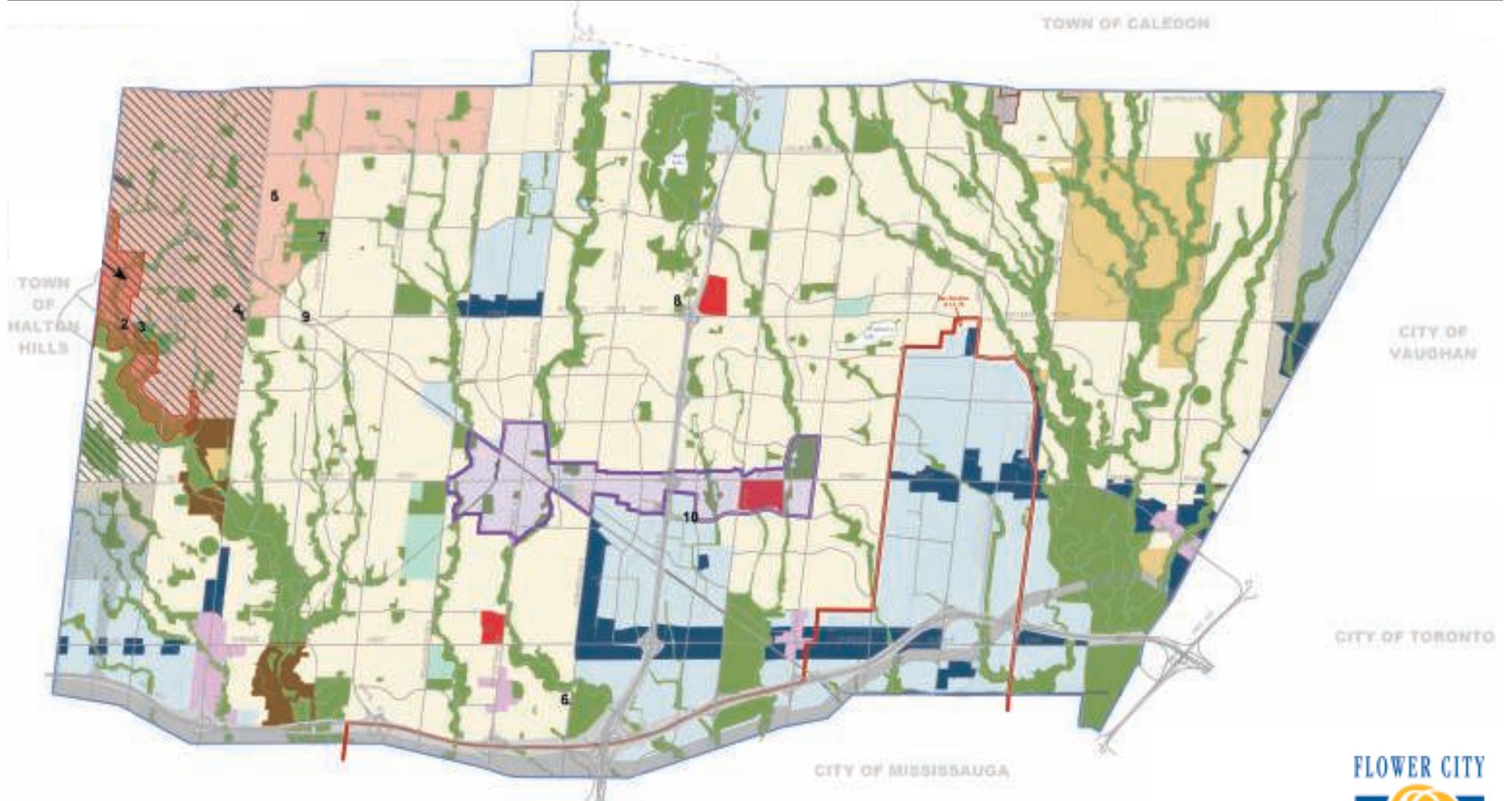
GIS files have been received from the City of Brampton.

	Description
1	City limit
2	PL_OP_Areas of Natural and Scientific Interest, Life Science
3	PL_OP_Areas of Natural and Scientific Interest, Earth Science
4	Hydrology
5	Railway

6	Traffic signal
7	GTTA_Pearson_Intern
8	PL_OP_Environmentally Sensitive Areas
9	Streets
10	Transit Routes
11	Watershed major
12	Watershed pond update
13	Wetland

Exhibit 4-1: City of Brampton GIS files

The information on transportation network, natural environment and socio-economic environment received from the City of Brampton and other sources are graphically presented in **Exhibits 4-2 to 4-9**.



Legend

Residential	Major Institutional	Corridor Protection Area
Village Residential	Open Space	Parkway Belt West
Estate Residential	Provincial Greenbelt Area	Provincial Highways
Regional Retail	Central Area Boundary	LBPIA Operating Areas
Office	Northwest Brampton Urban Development Area	Special Land Use Policy Area <small>(see Section 4.13 of Brampton OP 2006)</small>
Business Corridor	Special Study Area <small>(see Section 4.13 of Brampton OP 2006)</small>	
Industrial		

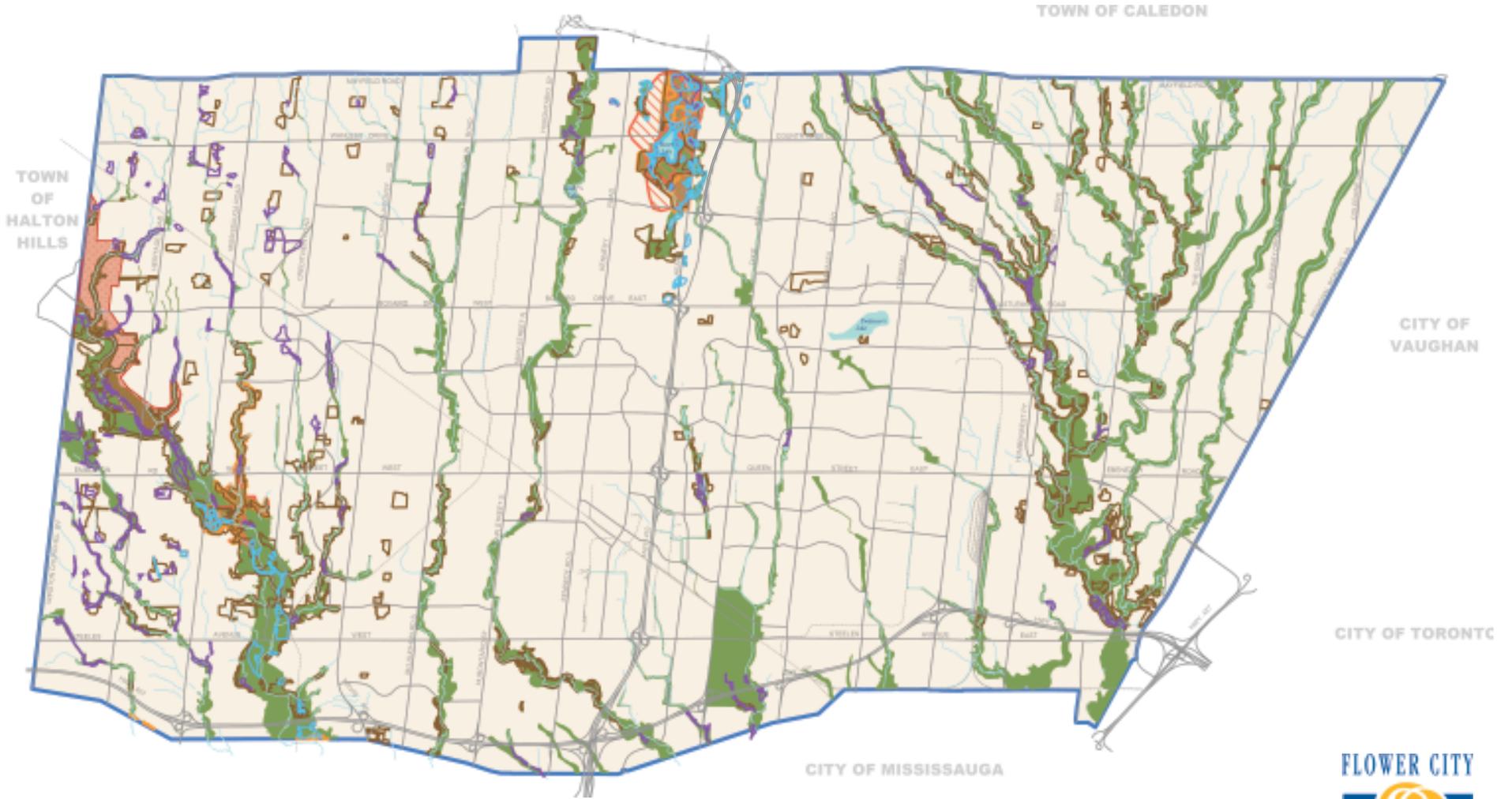
Source: Brampton OP 2006, Schedule A



Not To Scale
November 2009



Exhibit 4-2 General Land Use Designations



Source: Brampton
OP 2006,
Schedule D

Legend			
	Valleyland / Watercourse Corridor		Environmentally Sensitive/Significant Areas
	Woodland		Areas of Natural & Scientific Interest - Earth Science
	Provincially Significant Wetland		Areas of Natural & Scientific Interest - Life Science
	Other Wetlands		Provincial Greenbelt



Exhibit 4-3

Natural Heritage Features and Areas

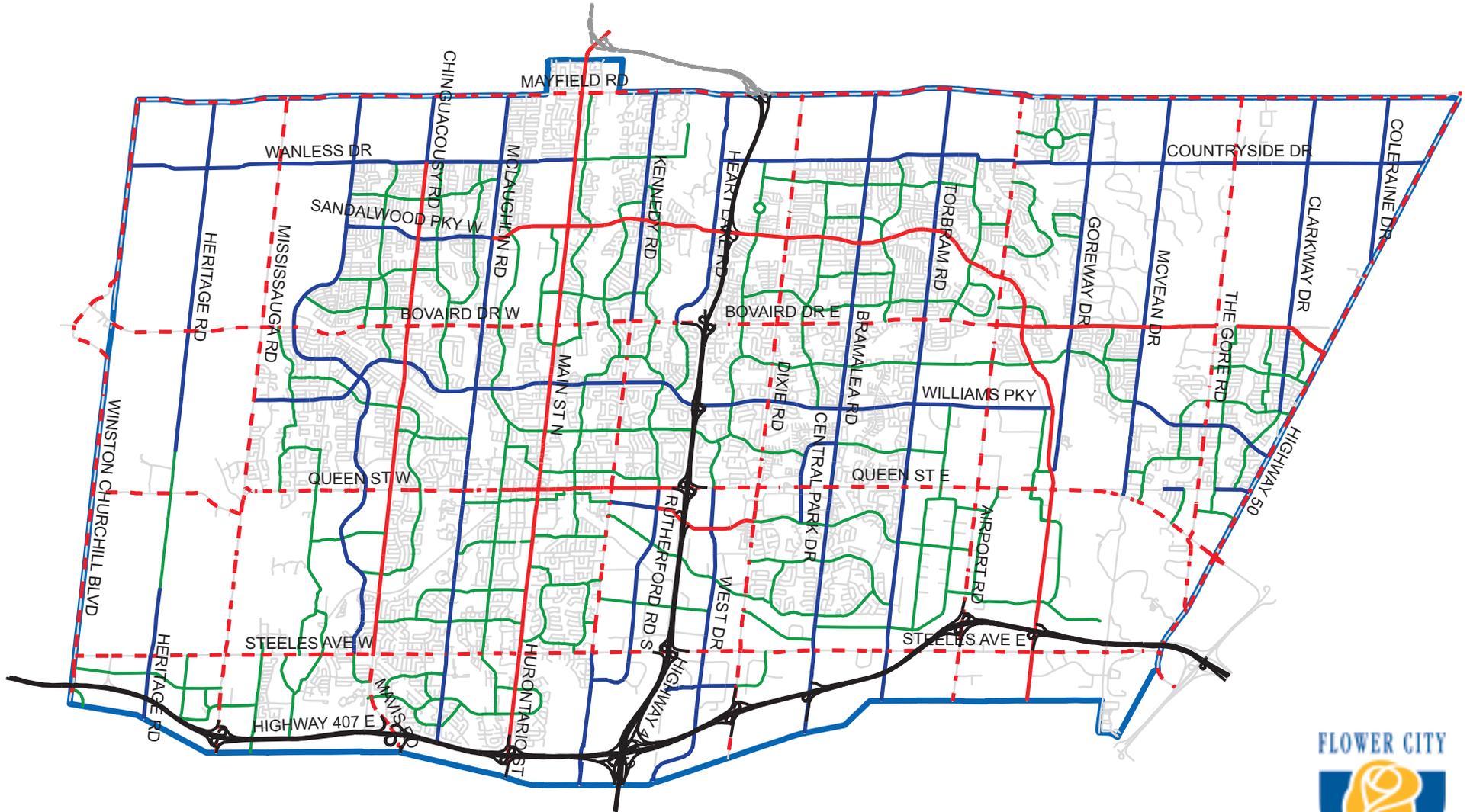


Exhibit 4-4

Road Hierarchy and Road Jurisdiction

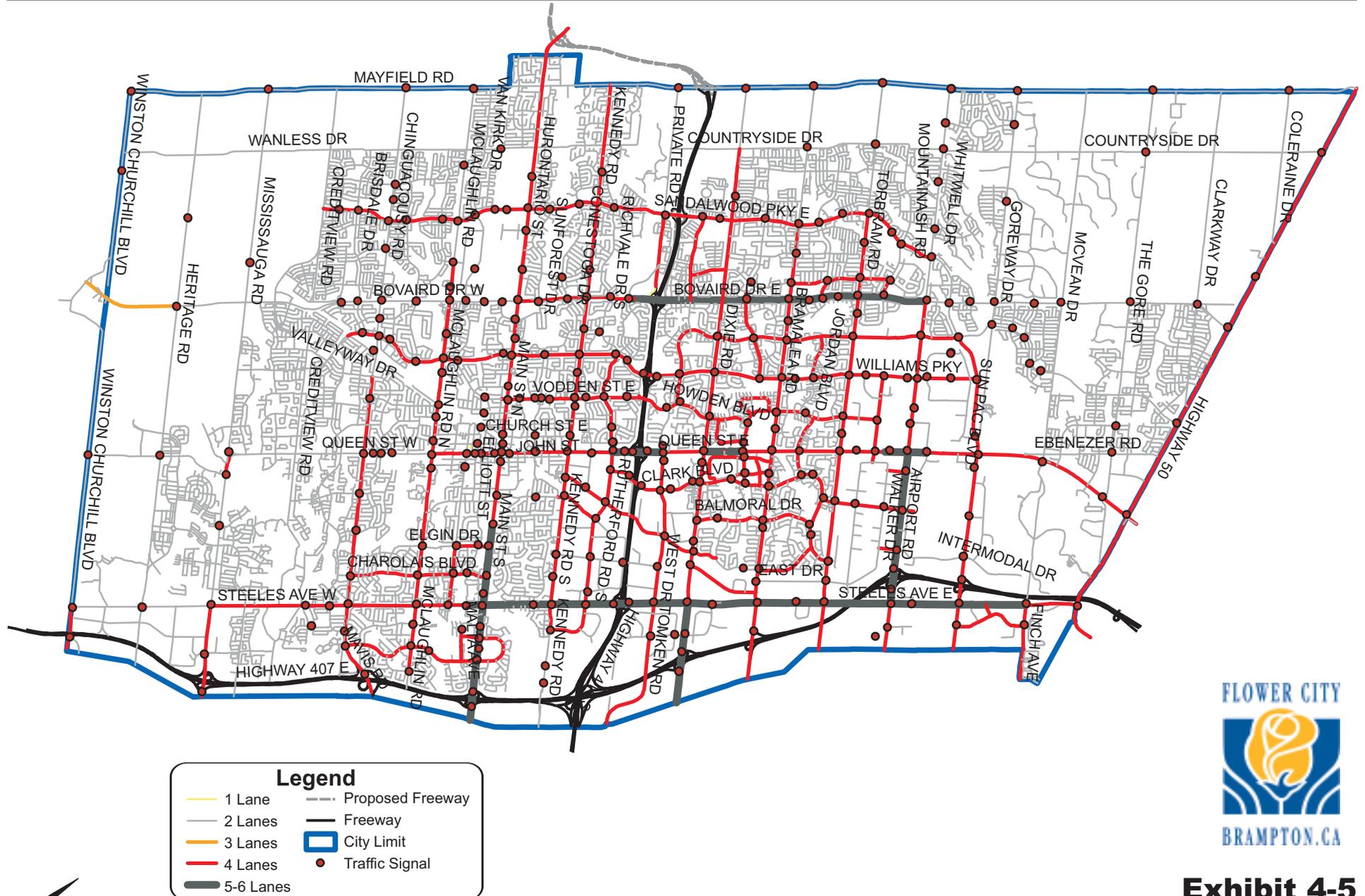
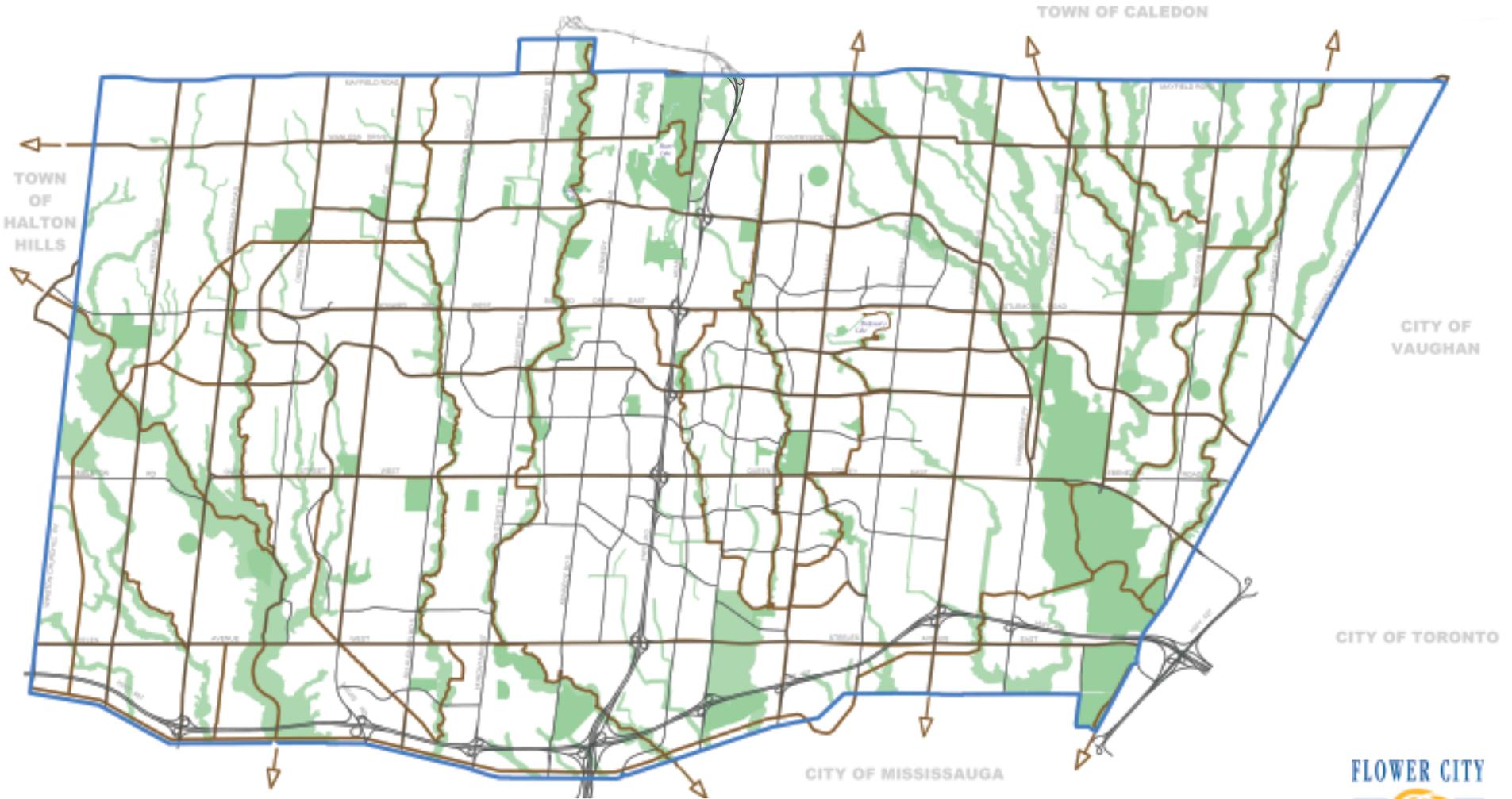


Exhibit 4-5

Number of Lanes and Signalized Intersections



Source: Brampton
OP 2006,
Schedule C1

Legend
— Citywide Pathway Network



Not To Scale
November 2009

Exhibit 4-6
Major Pathway Network

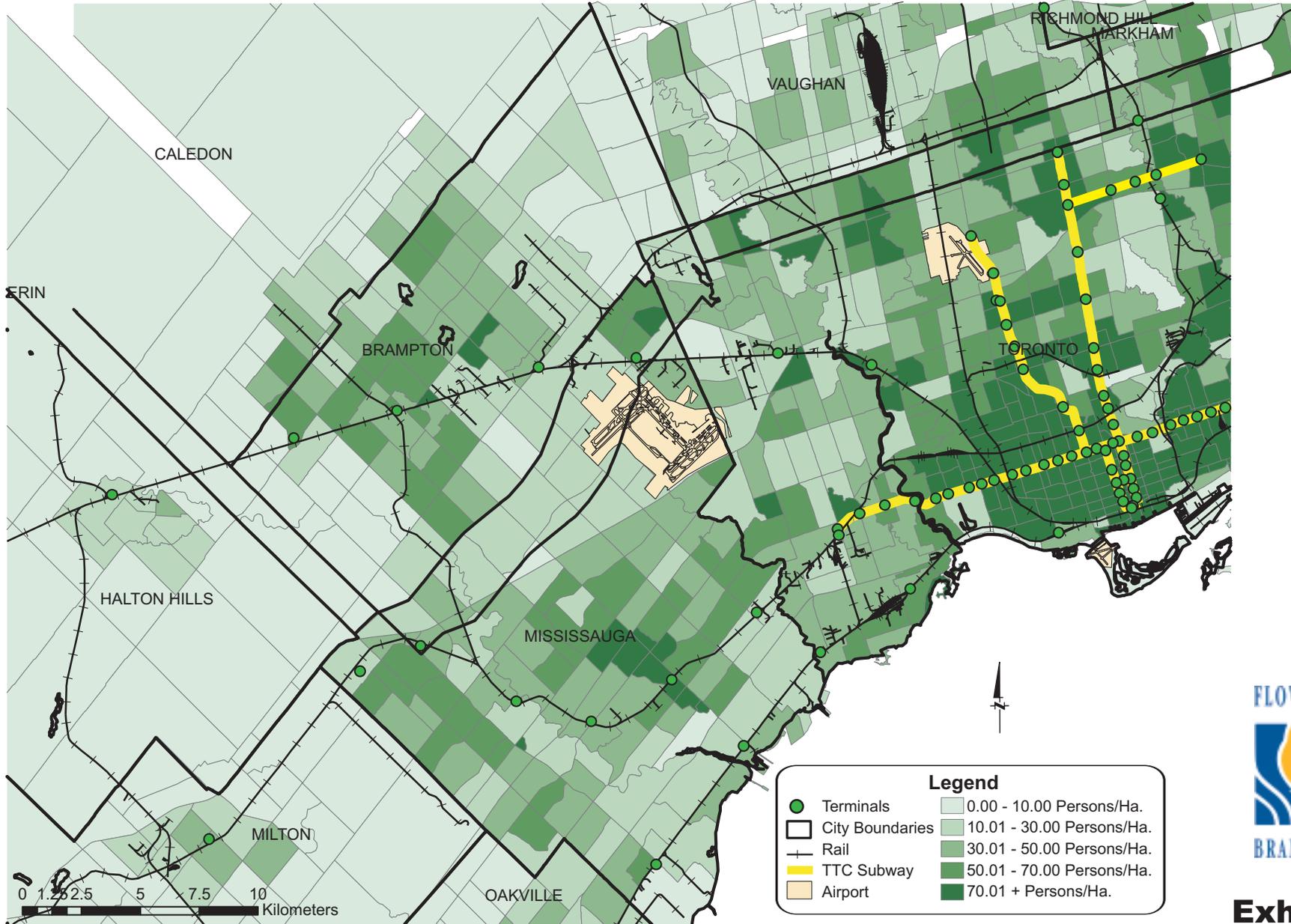


Exhibit 4-7

2006 Population and Employment Density

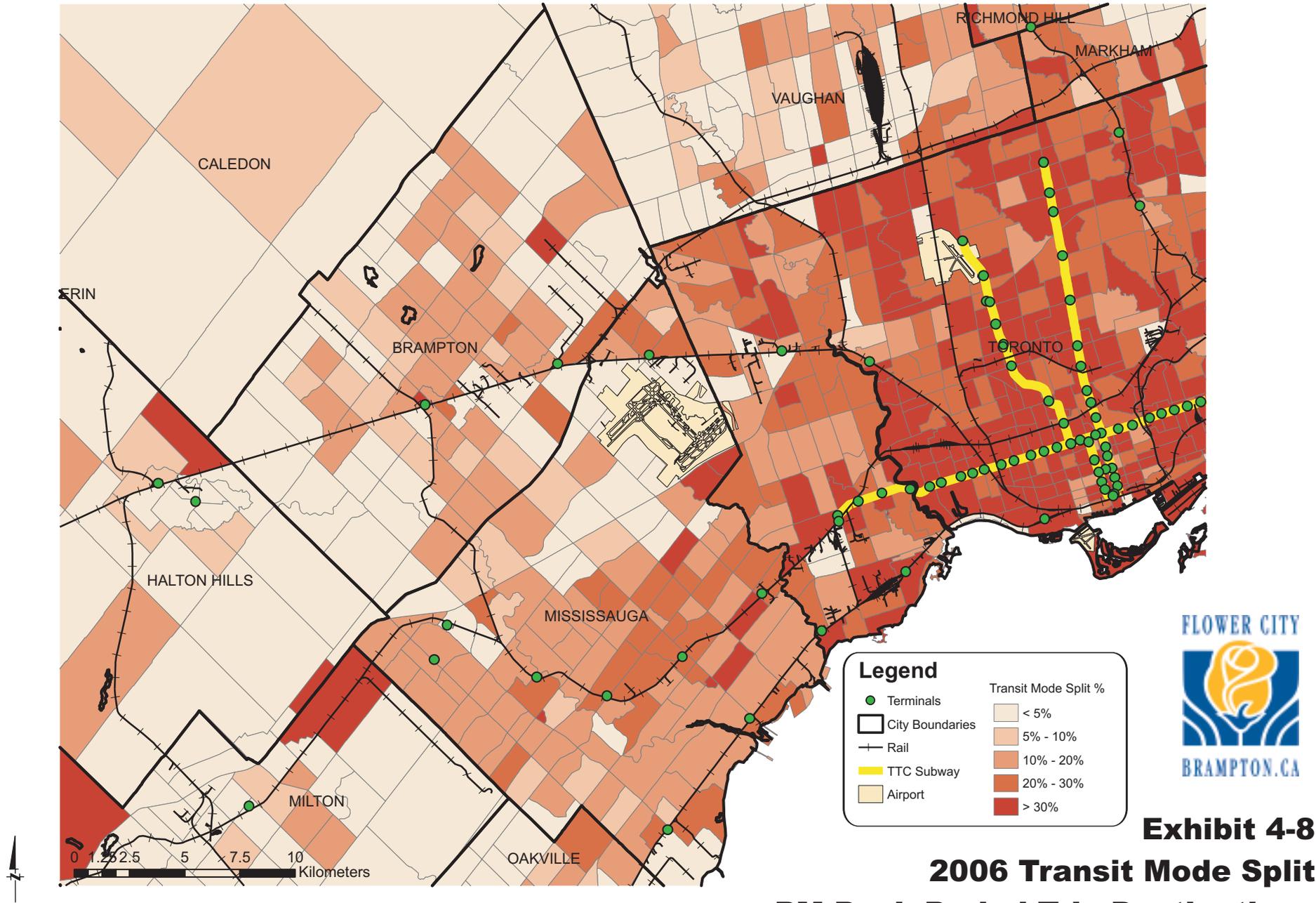


Exhibit 4-8
2006 Transit Mode Split
PM Peak Period Trip Destinations

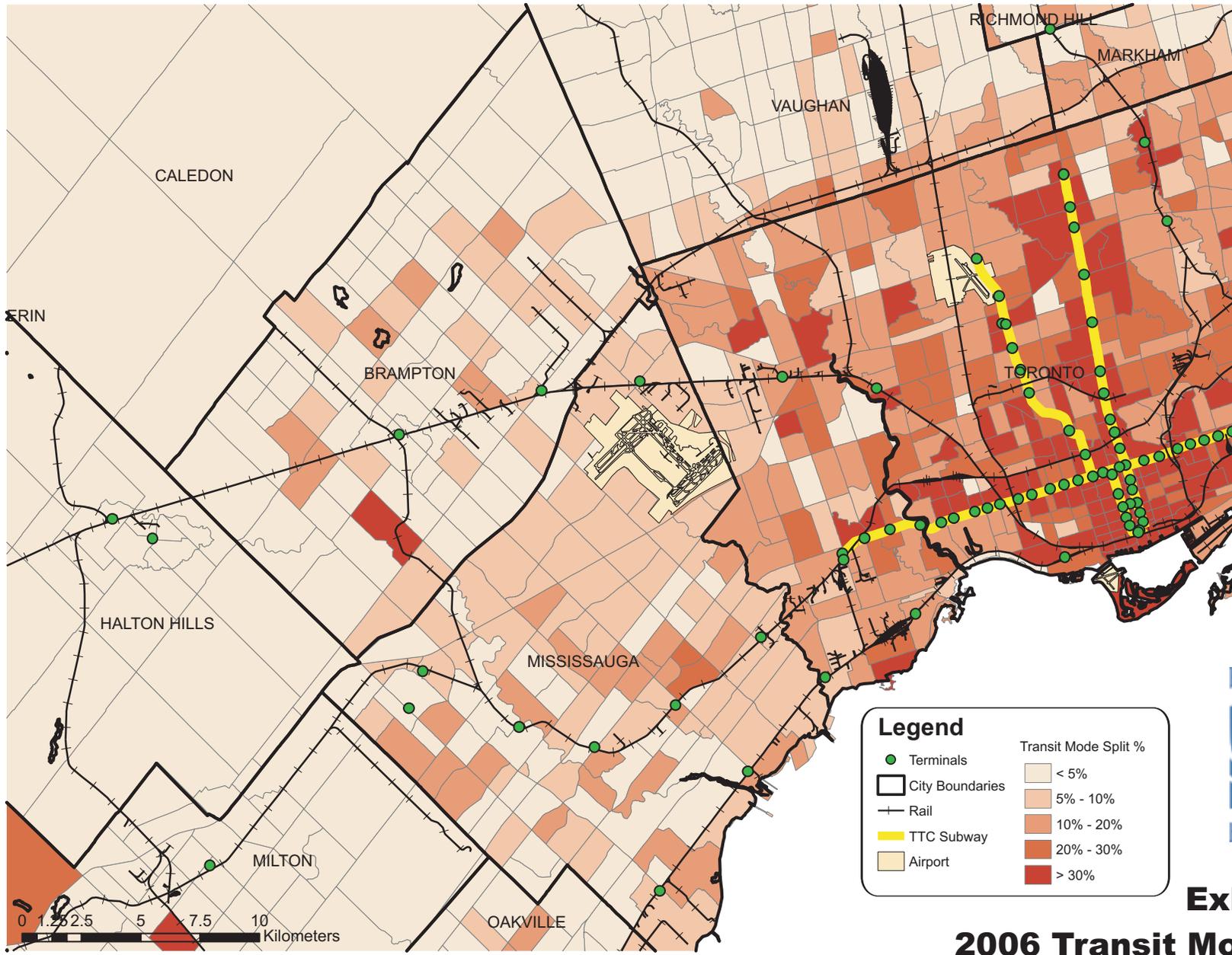


Exhibit 4-9
2006 Transit Mode Split
PM Peak Period Trip Origins

4.5 Transit Data

The following transit data have been gathered:

GO Transit data:

- Bus Routes OD Surveys: 2006
- Rail data - 2005
- Station data (parking data) 2006
- Bus Ops Ridership Data (for tables 31, 32, 34 and 37) 2002-Current

CUTA:

- Brampton's 1996-2007 Conventional Transit statistics
- Ridership per route July 2005-June 2008
- Ridership per peak period per route. Per weekday and weekend

Brampton Transit Service Statistics:

- Weekday and Saturday ridership per route 2005-2008
- Service maps
- Fleet data (current fleet roster plus any outstanding deliveries)