



GTA West Corridor
Environmental Assessment

Transportation Development Strategy Report

Executive Summary - November 2012



Table of Contents

- 1. Challenges and Opportunities of Growth..... I
- 2. Creative Approach to Problems and Opportunities..... III
- 3. Transportation Improvement Alternatives IV
- 4. GTA West Transportation Development Strategy VI
- 5. Optimize Existing Transportation Networks VII
- 6. Improve Non-Road Infrastructure XI
- 7. New/Expanded Roadway Infrastructure XVII
- 8. Preliminary Route Planning Study Area XXI
- 9. GTA West Transportation Development Strategy SummaryXXIII



1

Challenges and Opportunities for Growth



Planning for future transportation in the GTA West preliminary study area is of strategic importance in maintaining and enhancing the economic competitiveness of the Greater Golden Horseshoe (GGH) and Ontario. Transportation improvements will improve linkages between key economic areas including parts of the regions of York, Peel and Halton, the County of Wellington and the City of Guelph. The transportation improvements will also play an important role in building a more efficient goods movement network connecting the GGH region to the rest of Ontario and to the US market.

The GGH stretches from Niagara Region in the south, to Waterloo Region to the west, Simcoe County to the north, and Northumberland County to the east. It is one of the fastest growing regions in North America. Its population is expected to increase to 11.5 million people and 5.6 million jobs by 2031. The municipalities situated within the GTA West study area – York Region, Peel Region, Halton Region, Wellington County and the City of Guelph – expect over one million new residents and about 480,000 new jobs by 2031 as compared to 2006.

The GGH will continue to experience the benefits that come from this growth, with vibrant, diversified communities and economies, new and expanded community services, and arts, culture and recreation facilities. However, without properly managing growth, communities will experience the negative aspects associated with rapid growth, such as inefficient land use, increased transportation demand and traffic congestion, and the disappearance of agricultural lands and natural resources. From a transportation planning perspective, the forecasted growth poses a significant challenge as many of the existing facilities are already operating at or near capacity during peak periods. Based on the analysis, the existing transportation network within the GTA West

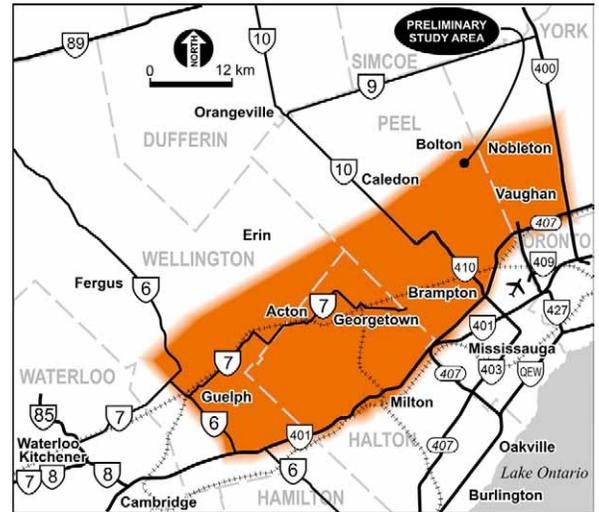
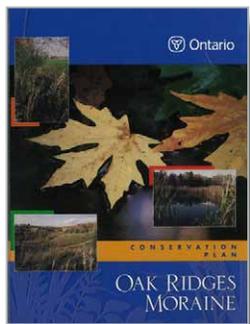
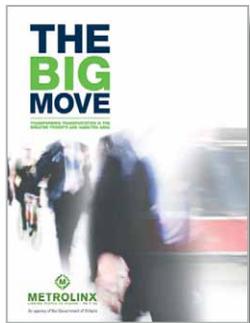
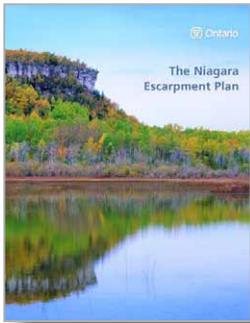
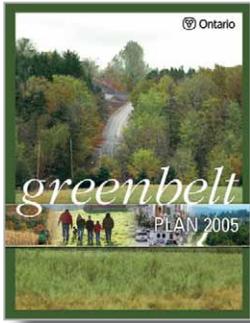
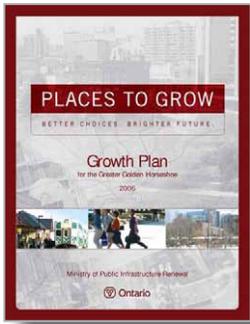


Exhibit E-1: GTA West Preliminary Study Area

preliminary study area will not be able to support the additional transportation demands that correspond with the projected growth to 2031.

The Ontario government released the Growth Plan for the Greater Golden Horseshoe in 2006, which provides a framework for implementing its vision for building strong, prosperous communities by managing growth in this region to the year 2031 and beyond. The Growth Plan builds on key government initiatives including the Greenbelt Plan and the Provincial Policy Statement, 2005. The Growth Plan also provides the strategic policy framework for the transportation system in the GGH that provides more transportation choices, promotes public transit and active transportation, and gives priority to goods movement on our highway corridors. Under this policy framework, the GTA West Corridor Planning and EA Study is designed to explore all modes of transportation options for facilitating efficient movement of people and goods based on projected growth to 2031 per the Growth Plan.



The Ontario Ministry of Transportation (MTO) initiated Stage 1 of a formal Environmental Assessment (EA) Study for the GTA West Corridor in 2007. The purpose of the study is to proactively plan for future infrastructure needs by examining long-term transportation problems and opportunities to the year 2031 and consider options to provide better movement of both people and goods between urban areas in the GTA West Corridor preliminary study area, including designated Urban Growth Centres. An important policy context and foundation for future growth is provided in policy documents including the Provincial Policy Statement, Growth Plan, Greenbelt Plan, Niagara Escarpment Plan and Oak Ridges Moraine Conservation Plan. These policies and plans provide a basis for municipalities and the Ontario government to plan for land use that is supportive of a more balanced transportation system that makes best use of existing infrastructure, and prioritizes the use of transit and other non-roadway modes of transportation for people and goods movement.

In addition, an integrated multi-modal transportation plan for the Greater Toronto and Hamilton Area (GTHA) was developed by Metrolinx. Metrolinx's Regional Transportation Plan (RTP) - The Big Move, includes a vision of a comprehensive, integrated transportation system that enhances quality of life, environment and prosperity. The Big Move addresses all forms of transportation: transit, cycling, walking and roads, including a proposal to build 1,200 kilometres of rapid transit, resulting in an extensive system with connected mobility hubs. In addition to improvements planned for the future in the GTHA, several are currently being provided to address today's transportation challenges.

Transportation in the GTA West preliminary study area is characterized by a high degree of reliance on the road network. The vast majority of inter-regional trips in the preliminary study area are made by automobile and truck. Analysis and stakeholder consultation



Exhibit E-2: Places to Grow (2006), Schedule 4 Urban Growth Centres

confirm that the road network is of paramount importance to the operation of all travel modes including transit and rail, and connecting to air and marine. All of these modes rely upon and connect to the road network.

Transportation service providers for rail, air and marine indicate that their systems have sufficient capacity to accommodate future travel growth, and necessary enhancements to individual modes to accommodate growth and/or changing travel markets can generally be made within existing lands/corridors.

2

Creative Approach to Problems and Opportunities

The development of the Area Transportation System Alternatives for the GTA West corridor involved a unique and creative process, which built upon an extensive consultation program with a wide range of stakeholders and transportation service providers.

As shown in Exhibit E3a and E-3b, the process followed a two-stage approach that began with a comprehensive assessment of the individual modes of transportation alternatives (i.e. Transportation Demand Management, Transportation System Management, Transit, Freight Rail, Inter-modal, Air, Marine, as well as Roads and Highways) to assess their

ability to address the preliminary study area’s future inter-regional transportation problems and opportunities. Based on this assessment, the alternatives capable of substantively contributing to addressing these problems and opportunities were carried forward to the second stage of the process, which involved assembling the individual alternatives into multi-modal groups.

A “building block” approach, where each type of improvement builds on others, was used to assemble the group alternatives, based on the philosophy of first optimizing the existing transportation network, and then if necessary incorporating non-roadway infrastructure improvements and expansions before considering the provision of new roads and/or highways. This approach was developed in line with the principles of the Growth Plan and Greenbelt Plan. Both the Growth Plan and Greenbelt Plan build on the Provincial Policy Statement (2005), and are to be read in conjunction with the Provincial Policy Statement (2005). The Growth Plan, in conjunction with other provincial plans and the Provincial Policy Statement (2005), express the government’s interests and directions regarding growth management in the GGH.

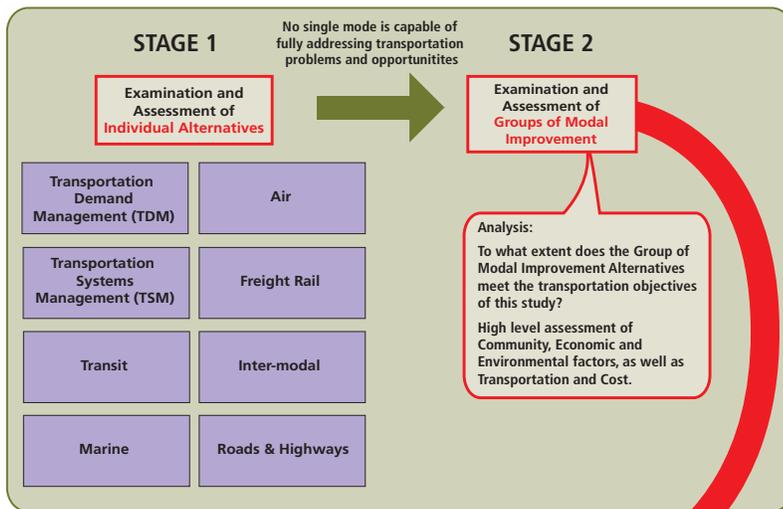


Exhibit E-3a: Assessment of Individual Modes

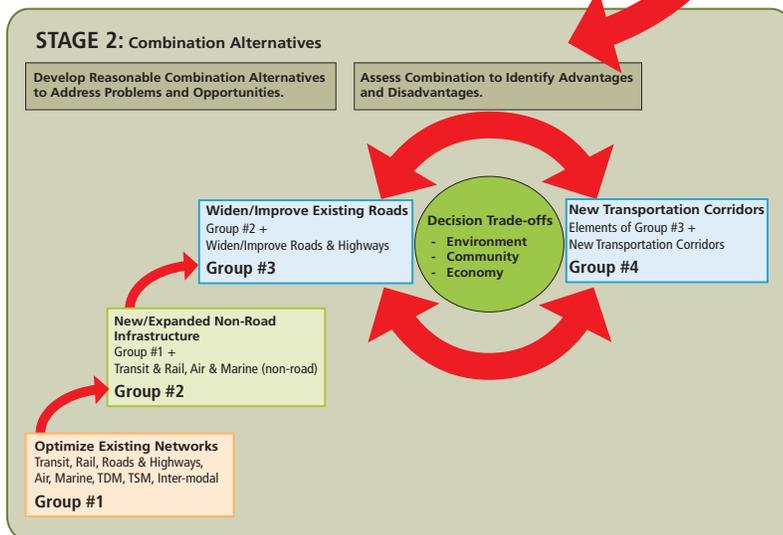


Exhibit E-3b: Building Block Approach to Groups of Alternatives

Transportation Improvement Alternatives

The four Groups of transportation alternatives that have been considered in the building block approach include:

Group #1 - Optimize Existing Networks

Builds upon the comprehensive strategies of the Metrolinx RTP, GO Transit 2020 Strategic Plan, MTO's High Occupancy Vehicle Lane Network Plan and Carpool Lot Program, Transportation System Management (TSM) measures, Transportation Demand Management (TDM) initiatives and municipal transportation plans.

Group #2 - New/Expanded Non-Road Infrastructure

Builds upon the significant transit, rail, marine and air service expansion initiatives, as envisioned by agencies, industry, Metrolinx and GO Transit.

Group #3 - Widen/Improve Existing Roadways

Roadway widenings were selected to provide adequate traffic capacity, operations and road safety conditions on existing provincial facilities to 2031. Group #3 includes widening of a number of existing provincial inter-regional transportation facilities, beyond the currently planned improvement program building on the elements in Groups #1 and #2.

Group #4 - New Transportation Corridor

It includes all of the elements in Optimize Existing Networks (Group #1) and New/Expanded Non-Road Infrastructure (Group #2), some of the highway widenings and improvements identified in Group #3, and five corridor connection alternatives that could include freeway and transit elements.

Note: The above colours correspond to the initiatives in the subsequent sections of the Executive Summary.

Assessment of Alternatives

Based on overall preliminary planning alternative assessment, it was determined that while providing important enhancement and some capacity relief, Groups #1 and #2 were not fully capable of addressing the study area's future transportation needs. New inter-regional roadway capacity alternatives will be needed to fully realize the vision of a functional and efficient multi-modal transportation network.

The study's comprehensive evaluation of the Group #3 and Group #4 alternatives considered the environmental "triple bottom line" (including environment, community and economy) as well as transportation and engineering considerations. Of the Group #3 and Group #4 alternatives considered (eight alternatives in total), Alternatives 4-2 and 4-3 were carried forward for further consideration before a decision was made. This additional analysis carried out at a great level of detail prior to release of the draft Transportation Development Strategy and then again at an even greater level of detail following the release of the Draft Transportation Development Strategy dated February 2011. A new transportation corridor between Highway 400 and the Highway 401/407 ETR interchange together with the widening of existing provincial facilities (i.e. Alternative 4-2) was identified as providing the best balance of benefits and impact. Various proposed widenings of existing 400-series highways and the new transportation corridor between Highway 400 and Highway 401/407 ETR are recommended as part of the "Widen/Improve Existing Roadways" and "New Transportation Corridor" strategy. The complete description of the alternatives, evaluation and selection of the preferred alternative are presented in **Chapters 4 and 5**.

The recommended GTA West Transportation Development Strategy is graphically shown on Exhibit E-4 and is summarized in the following sections.



By 2031, the population in the Greater Golden Horseshoe is expected to increase by almost four million people. In forecasting for the transportation system that will serve this growth, the following is assumed in the transportation model:

- Land use intensification targets prescribed in the Growth Plan will be fully achieved;
- Urban Growth Centres will be built with transit-supportive densities and a mix of compatible land uses;
- Development of compact, vibrant and complete communities will be fostered in which people will live, work and play;
- An additional 700 million trips within the GTHA will be accommodated on transit;
- All current provincial transportation plans will be in place, including transit improvements that are consistent with Metrolinx RTP and GO 2020;
- More commuters will switch from single occupant cars to transit and carpools;
- A significant share of goods transport will be diverted from long distance trucks to other modes;
- The existing transportation infrastructure will be optimized through implementation of Group #1 initiatives (optimize existing transportation network); and
- More non-road based transportation improvements, including the Group #2 initiatives (improve non-road infrastructure), will be implemented.

Even with these positive improvements, by the year 2031, the modeling shows that significant roadway congestion will occur, particularly on inter-regional connections serving all types of travel, namely Highways 401, 400, 427 and 410. To realize the vision of a functional transportation network that provides user choice and balance, additional inter-regional roadway capacity will be required by widening existing highways and protecting for new transportation corridors.

The recommended approach to addressing current and future transportation problems and opportunities features the following:

- A “transit first” approach – supporting existing long-range transit plans with the need to explore further enhancements;
- Making better use of transportation infrastructure that is already in place – through optimization including use of advanced technologies;
- Providing more and better choices for people and shippers making trip decisions – with more effective transit and rail infrastructure and services;
- Pursuing means to reduce travel demands – through building on current TDM programs such as Smart Commute, and increased self-containment (jobs and homes in the same community);
- Introducing timely transportation improvements – to influence decisions on mode choice and to accommodate projected growth; and
- Shaping growth through provision of transportation services – thereby meeting government objectives.



Optimize Existing Transportation Networks

Optimize Existing Transportation Networks (from Group #1)

This group of alternatives includes transportation initiatives that focus on improving the performance of the existing transportation system for all modes of travel and freight transport through strategies designed to reduce automobile and truck demand and improve system operating efficiency.

These optimization measures are most effective when applied in a combined and coordinated manner. One of the key outcomes of this study, and one of the founding elements of the proposed strategy, will be the development of an Active Traffic Management Plan that encompasses many ways of optimizing existing transportation networks, as described below. The Active Traffic Management Plan will consider optimization measures including the following key elements.

Expanded Use of Ramp Metering

Ramp metering regulates vehicle access to the freeway through the use of traffic signals on interchange entrance ramps. These computer-controlled signals allow vehicles onto the freeway at a specified rate to maintain optimum highway traffic flows. At the same time, end-of-queue detectors prevent excessive backups on the entrance ramps.



Ramp metering and HOV/Transit Bypass

Timeframes are defined as follows:

- Near Term: 0-5 years
- Medium Term: 5-15 years
- Long Term: 15+ years

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO	Active Traffic Management Study to identify areas where ramp metering could be installed at interchanges along existing provincial facilities.

High Occupancy Vehicle (HOV)/Transit Bypass at Key Locations

This concept involves providing bypass lanes on metered highway entrance ramps, ramps accessing transit stations and ramps in the vicinity of carpool lots for HOV and transit vehicles. These ramps would allow HOV and transit vehicles to bypass traffic queues and provide more efficient access.

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO	Active Traffic Management Study to identify locations where bus bypass ramp provisions could be provided along existing and planned provincial facilities.

Transit Supportive Highway Corridors

This concept involves introducing reserved bus lanes, HOV lanes, bus bypass shoulders and other transit supportive measures within provincial facilities including Highways 400, 410, 427 and 401 that would serve to make bus transit a more reliable and viable service (see following map). These would integrate with the above-noted HOV/ Transit Bypass provisions.



Bus bypass shoulders

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO	Active Traffic Management Study to identify locations where transit supportive highway corridors should be provided along existing and planned provincial facilities.

Enhanced Incident/Congestion Management



MTO's COMPASS system uses sensors along a highway to transmit traffic data to the MTO Traffic Operations Centre and performs both incident management and congestion management functions. For incident management, the system reviews the traffic data and sends a warning to the traffic operator requesting confirmation of an incident when one is detected. Once detected, emergency services are dispatched immediately, as appropriate. For congestion management, the COMPASS signs provide real time information to motorists about prevailing traffic operations, thereby providing opportunities to seek alternate routes or anticipating slowdowns ahead.

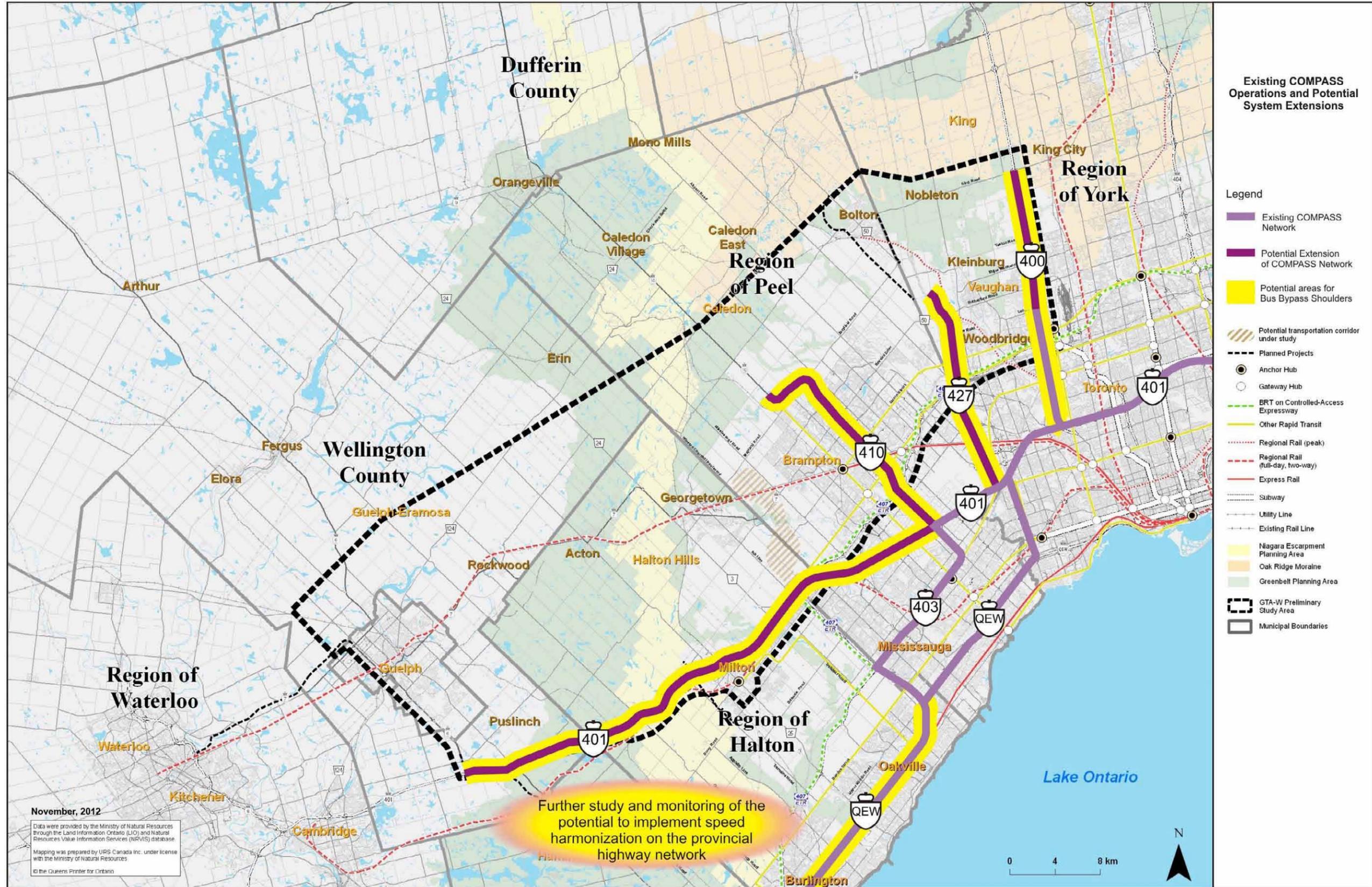


COMPASS sign on Highway 401

The COMPASS system currently extends on Highway 401 from the Highway 403/410 interchange east to Westney Road, and Highway 400 from Langstaff Road to Highway 401. The proposed strategy recommends that an Active Traffic Management Study by MTO include an assessment of the potential for further expansion of the COMPASS System beyond the current service area (on the following page). The potential extensions include:

- Highway 400, north from Langstaff Road to King Road;
- Highway 427, north from Highway 401 to the proposed terminus at Major Mackenzie Drive;
- Highway 410, north from Highway 401 to the junction of Highway 10; and
- Highway 401, west from the Highway 403 / 410 interchange west to Highway 6.

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO	Active Traffic Management Study to assess the potential for further expansion of the COMPASS System beyond the current service area.



Use of Speed Harmonization

Speed harmonization requires the use of a traffic management technique similar to the MTO COMPASS System that currently monitors travel data. Cameras or sensors in the roadway are used to detect vehicle presence to measure traffic flow, and posted speed limits are automatically adjusted when congestion thresholds are exceeded using variable speed limit signs mounted above each travel lane (see UK example shown). Throughput is therefore maximized by maintaining a constant flow (versus typical stop and go conditions).



Speed Harmonization in the UK

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO	Active Traffic Management Study monitoring experience elsewhere to determine viability of speed harmonization in the study area.

Provincial/Employer Led Transportation Demand Management (TDM) Programs



Currently operating TDM programs could be improved by expanding the Metrolinx Smart Commute program beyond the GTHA into the Guelph and Wellington County area and into Waterloo Region. In addition to providing broader coverage, this concept would also involve introducing a regional organization that would provide strategic direction and/or potentially reach out to employers. The program could be managed on a regional level.

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO/ Metrolinx	MTO and Metrolinx will explore opportunities to provide additional support as well as the potential for legislative changes to address current jurisdictional policy barriers.

Long Combination Vehicles

Long Combination Vehicles (LCVs) feature a single tractor with two 16m (53ft) trailers. MTO initiated a pilot program to allow up to 100 LCVs on the provincial highway network. This program improves fuel efficiency and traffic operations for goods movement. According to MTO, in 2011, LCVs eliminated 3.9 million tonnes of greenhouse gas emissions compared to the two-tractor trailers they replaced (www.mto.gov.on.ca).

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO	MTO will continue to monitor the LCV program based on the review of recent experience.

6

Improve Non-Road Infrastructure

New/Expanded Non-Road Infrastructure (from Group #2)

This group of alternatives includes the optimization initiatives (Group #1), and builds upon the transit initiatives in the Metrolinx RTP and includes initiatives to develop a comprehensive transit network across the GTA West study area.

The following are initiatives from the 2008 Metrolinx RTP within the GTA West preliminary study area (see map on following page):

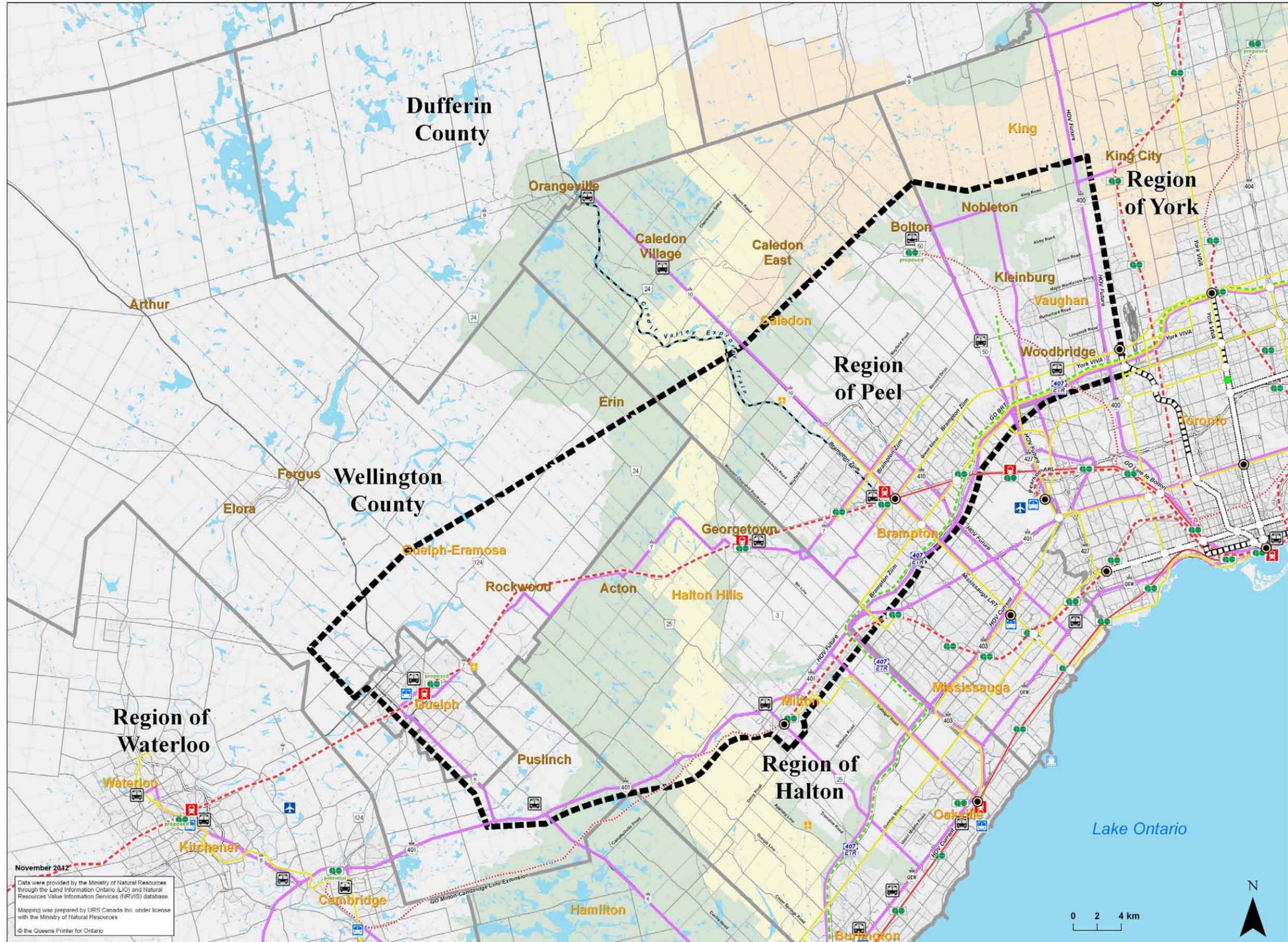
15-Year Plan from the Metrolinx RTP:

- Rapid transit line on Highway 10 from Mayfield West to Downtown Brampton;
- Hurontario Street / Main Street Rapid Transit from Downtown Brampton to 407 ETR (Brampton's Züm service);
- Hurontario Street Rapid Transit from Port Credit to Mayfield Road;
- Brampton's Queen Street Züm from Downtown Brampton to the Peel-York boundary;
- VIVA BRT Highway 7 from the Peel-York boundary to Locust Hill in Markham;
- Spadina Subway extension from Downsview Station to Vaughan Corporate Centre (known as Vaughan Metropolitan Centre);
- BRT on 407 ETR from Halton to Durham;
- Jane Street Rapid Transit from Vaughan Metropolitan Centre to Bloor Street;
- Rail service between Union Station and Lester Pearson International Airport;
- Expansion on Milton and Georgetown corridors to all-day bi-directional rail service;
- Possible rail service extensions to Cambridge;
- Peak period rail service to Bolton from Union Station;
- Express Rail from Union Station to Downtown Brampton; and
- Numerous improvements to GO Transit service.

25-Year Plan from the Metrolinx RTP:

- Additional Rapid Transit services in Halton connecting Downtown Milton to the Rapid Transit service on Dundas Street and 407 ETR;
- Brampton's Züm Rapid Transit service on Steeles Avenue connecting the Lisgar GO Station to Highway 427;
- Rapid Transit along Highway 427 connecting Toronto Pearson International Airport to Queen Street;
- The first component of the dedicated 407 Transitway providing Rapid Transit service through York Region, continuing as high speed bus service to the east and west along the 407 ETR, and connecting to Toronto Pearson International Airport via Highway 427;
- Necessary transit improvements along arterial road networks to service new growth that will continue to take place in accordance with municipal transportation master plans;
- Walking and cycling infrastructure; and
- Opportunities for upgrading Bus Rapid Transit services to Light Rail Transit.

On an ongoing basis, Metrolinx continues to provide transit improvements along the arterial road network, as well as pedestrian and cycling improvements.



**Group 2
New/Improved
Non Roadway
Infrastructure**

Legend

- Anchor Hub
- Gateway Hub
- BRT on Controlled-Access Expressway (proposed)
- Other Rapid Transit (proposed)
- Regional Rail (proposed), future GO station locations to be determined
- Regional Rail (existing) GO, VIA
- Express Rail (proposed) GO
- Subway
- Subway (proposed)
- Regional Bus Transportation Routes
- Local Airport
- International Airport
- Go Station
- VIA Station
- Greyhound Terminal
- CoachCanada Terminal
- Transportation Ports
- Rail Intermodal Facility
- Utility Line
- Existing Rail Line
- Niagara Escarpment Planning Area
- Oak Ridges Moraine
- Greenbelt Planning Area
- GTA-W Preliminary Study Area
- Municipal Boundaries

November 2012
 Data were provided by the Ministry of Natural Resources through the Land Information Ontario (LIO) and Natural Resources Value Information Services (NRVIS) database.
 Mapping was prepared by URS Canada Inc. under license with the Ministry of Natural Resources.
 © the Queen's Printer for Ontario



New Plans and Initiatives

Expanded Inter-regional GO Bus Routes

GO Transit has recently begun operating bus services in the western part of the GTA West study area. The services have been well-received and ridership has grown significantly since the services have been introduced. This suggests that there are opportunities to attract riders to regional transit routes in this area. GO Transit has provided rail services between Kitchener-Waterloo and Union Station during AM and PM peak periods, since late 2011.



Improvements to the current inter-regional GO Bus service are being seamlessly integrated with the Toronto-centric services to provide expanded coverage from Toronto to areas west of Georgetown such as Guelph, Hamilton and Kitchener-Waterloo. Existing bus services to these areas would be improved by more frequent buses and better coordination with local services.



Inter-regional Transit Hubs Where Local Transit and GO Transit Connect

This initiative involves the introduction of transit hubs in Downtown Guelph, Vaughan Metropolitan Centre, Toronto Pearson International Airport, Downtown Milton and Downtown Brampton. Transit hubs can result in land use intensification as they tend to attract development patterns that encourage use of transit, cycling and walking. This would be consistent with the intent of Urban Growth Centres.



New Bus Rapid Transit Links between Urban Growth Centres

This concept involves providing better transit connections between Urban Growth Centres in the GTA West preliminary study area including Downtown Brampton, Downtown Milton, Vaughan Metropolitan Centre and Downtown Guelph. Transit systems may use Bus Rapid Transit (BRT), Light Rail Transit (LRT) or in the longer term small train systems such as self-propelled railcars (individual or clustered). Stations would be multi-modal facilities to provide for a well-connected and integrated transportation system.

Connection beyond the GTA West Study Area

The Metrolinx RTP plans to implement inter-regional transit across the GTHA with strategically-located “mobility hubs.” Similarly, the GTA West Transportation Development Strategy envisages better inter-regional transit services connecting the westerly Urban Growth Centres identified in the Growth Plan: Downtown Kitchener, Uptown Waterloo, Downtown Cambridge, Downtown Guelph, Downtown Milton, Downtown Brampton, Downtown Hamilton, and Downtown Brantford. This recommended strategy recognizes three elements of a future transit network connecting urban and rural centres west of the GTHA with one another and with Toronto.

1st Element – Inter-regional Transit Links to Toronto

Currently, the GTHA inter-regional rail network is primarily Toronto-centric. GO Rail lines from Union Station connect to some outlying communities directly with Toronto’s city centre, for example, Guelph and Kitchener. However, not all communities in the western parts of the study area are connected to Toronto through rail services. It will be important in the future to enhance the “spoke” transit network to connect Urban Growth Centres (UGCs) located in the west with goods, services, and employment opportunities in the rest of the GTHA. GO bus services are filling some of this immediate need for inter-regional travel. Consideration should be given to further study.

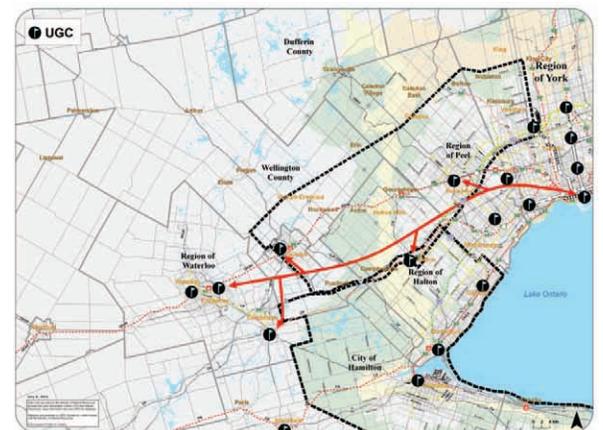


Exhibit E-7: Connecting Western Urban Growth Centres to Toronto

2nd Element – Linking Urban Growth Centres by Transit

Connecting the western Urban Growth Centres with one another would help to build a comprehensive transit network that extends to the west of the GTHA. Providing connections between these centres coupled with services to the downtown Toronto area (shown schematically below) would provide a stronger transit network and offer choices for many people to travel by transit. Consideration should be given to further study.

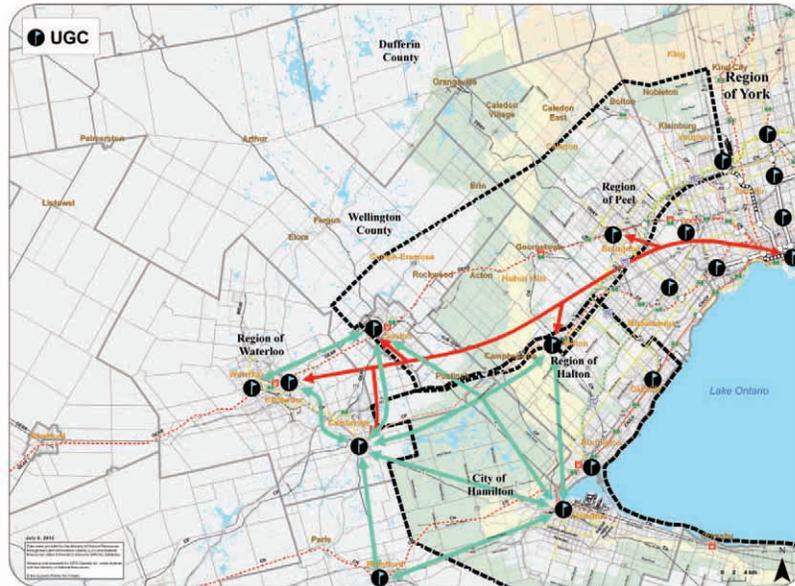


Exhibit E-8: Linking Western Urban Growth Centres with Transit

3rd Element – Urban Growth Centres as Transit Gateways

In order to complete a comprehensive transit web network to the west of the GTA West preliminary study area, consideration should be given to connectivity from the smaller outlying communities to Toronto and other urban centres by way of transit links with nearby areas (shown schematically below). Consideration should be given to further study.

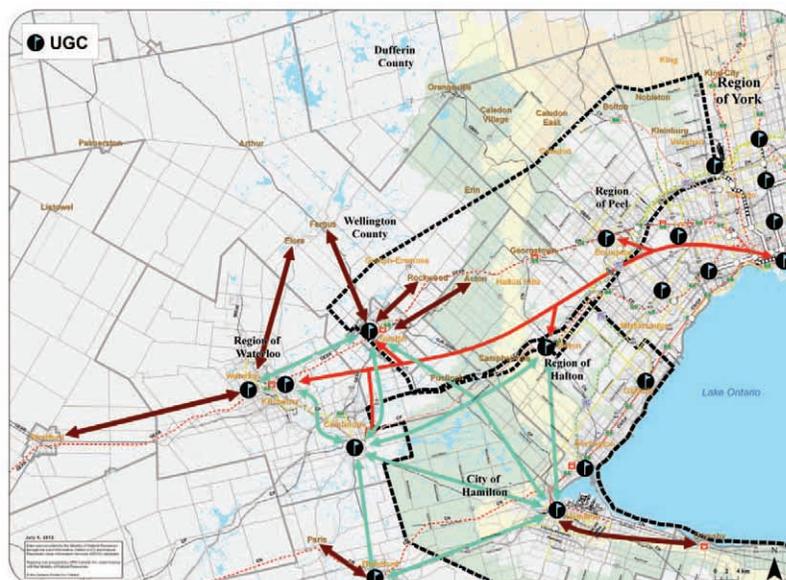


Exhibit E-9: Western Urban Growth Centres as Transit Gateways

Mobility Hubs

The idea of mobility hubs could be expanded to the west of the GTHA in order to identify areas where it is especially important to promote community self-containment. Building on the two westerly mobility hubs identified by Metrolinx located in Milton and in Hamilton – with strong inter-regional transit links to Toronto including efficient regional rail services – five new mobility hubs should be considered in the following locations, all of which contain an Urban Growth Centre as defined in the Growth Plan:

- Brantford
- Cambridge
- Guelph
- Kitchener
- Waterloo

The Metrolinx RTP includes two types of mobility hubs:

- Gateway Hubs are located at the interchange between two or more current or planned regional rapid transit lines.
- Anchor Hubs are the primary major transit station areas in an Urban Growth Centre.

In addition, there may be a potential need for connecting other communities where multiple transit services may meet in the future.

These hubs are illustrated on the map following this page.

Timeframes are defined as follows:

- Near Term: 0-5 years
- Medium Term: 5-15 years
- Long Term: 15+ years

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO Metrolinx Municipalities	Initiate a multi-modal area-wide study in the Waterloo/Wellington/Brantford area to explore potential for inter-regional transit service improvements west of the GTA.

Goods Movement and Freight

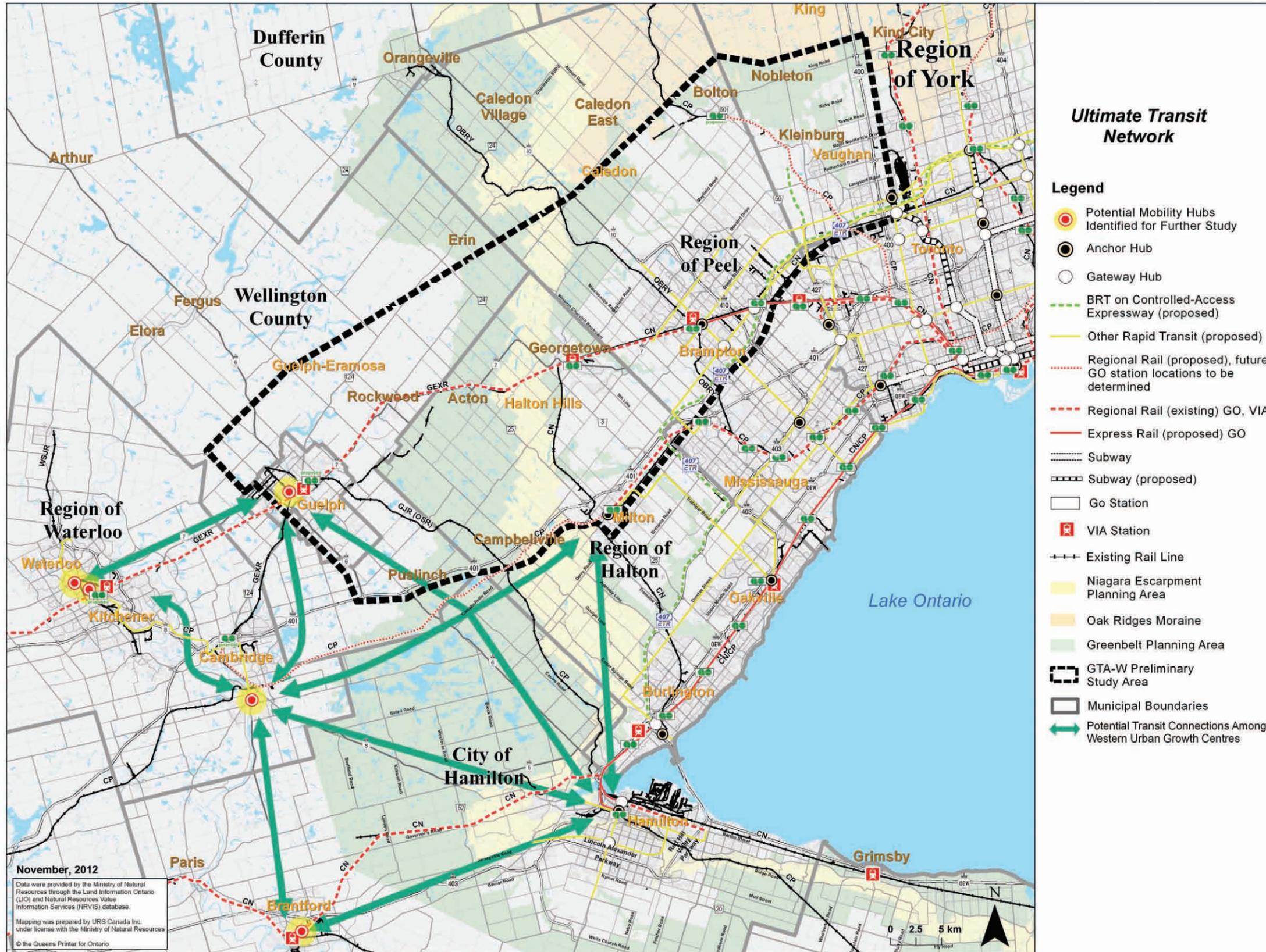
While the existing freight rail network has sufficient capacity to address future growth, there are numerous locations where conflicts exist between passenger rail and freight rail services, when both services have demands for the same tracks at the same time, as well as conflicts at level road/rail crossings.

Removal of these constraints will have an overall positive effect on freight and passenger rail operations, allowing people and goods to move more efficiently, which may result in a higher efficiency of this mode to attract commuters and shippers.

To support increased utilization of freight rail, MTO will coordinate with Canadian National Railway, Canadian Pacific Railway and Metrolinx in the near term to identify key conflict points, and will support potential future initiatives, such as the Ontario Goods Movement Strategy, aimed at removing freight rail/ passenger rail conflicts and providing grade separations at major road/rail crossings. Opportunities for transit and high-speed rail on separate tracks will also be considered.



Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
✓			MTO CN/CP GO Transit Municipalities	Feasibility review of potential future initiatives aimed at removing freight rail/passenger rail conflicts and providing grade separations at road/rail crossings.



7

New/Expanded Roadway Infrastructure

New/Expanded Roadway Infrastructure (from Groups #3 & #4)

To fully realize the vision of a functional and efficient multi-modal transportation network that provides user choice and balance, planning for additional roadway capacity is required for the long term in addition to improvements from Groups #1 and #2. This includes widening and improving existing highways at several locations, as well as a new transportation corridor.

During the fourth round of consultation sessions in June 2010, two new corridor alternatives were recommended to be carried forward for more detailed analysis as they resulted in similar sets of benefits and negative effects. Both alternatives included a new transportation corridor between Highway 400 and Highway 401 east of the Niagara Escarpment. Specifically, Alternative 4-2 terminates at Highway 401/407 ETR and Alternative 4-3 terminates at Highway 401 west of the Milton urban area. Both alternatives featured strong transportation benefits to area communities and the regional economy while avoiding significant effects to the Greenbelt and the Niagara Escarpment. The other four corridor alternatives from Groups #3 and #4 were eliminated as they were clearly inferior when compared to these two alternatives on the basis of forecasted conditions to 2031.

The initial analysis, carried out and documented in the draft Transportation Development Strategy Report (February 2011), indicated that *elements from both Alternative 4-2 and Alternative 4-3 would be required*, which included a new transportation corridor from Highway 400 with a terminus at Highway 401 west of the Milton urban area and a north-south provincial link that would connect to Highway 401/407 ETR.

The main comments received on the draft Transportation Development Strategy Report (February 2011), were concerns expressed by Halton Region citizens about the impact of the proposed new corridor on agriculture, the natural environment and the rural character of the community of Halton Hills. Some stakeholders indicated that additional widening of Highway 401 (beyond the MTO planned program) through the Town of Milton would be preferable to a new corridor.



As a result, additional analysis was carried out for the Halton area.

The additional analysis was carried out in the Fall 2011 and Winter 2012 to further evaluate the earlier recommendation in the draft Transportation Development Strategy Report (i.e., elements of Alternatives 4-2 and 4-3 which included a new transportation corridor from Highway 400 with a terminus at Highway 401 west of the Milton urban area and a north-south provincial link that would connect to Highway 401/407 ETR), and Alternative 4-2 (i.e. a new transportation corridor between Highway 400 to Highway 401/407 ETR together with the widening of Highway 401 to 12 lanes west to Regional Road 25).

The additional analysis carried out in the Halton area focused on social environment (community, agriculture), cultural environment, natural environment, land use planning, transportation, economy and road design/constructability/costs. These factors were the same as those used in the original assessment and consistent with those identified in the Terms of Reference approved by the Ministry of the Environment in March 2008.

The approach to the additional analysis included:

- Collection of updated background information, such as business and residential land uses, agricultural uses, built heritage and archaeology features, natural environment features, as well as traffic data and forecasts (see details in Chapter 5);
- Identification of a range of potential benefits and impacts both quantitatively (where possible) and qualitatively (see details in Chapter 5);
- Consultation with municipalities, agencies, community and stakeholder groups (see details in Chapter 7).

Based on the additional analysis carried out in the Halton area, it was concluded that while a new corridor through Halton Hills together with a north-south link to Highway 401/407 ETR would provide better transportation and long term economic benefits, its construction would have a higher impact on the natural environment, agriculture and rural communities. The alternative of a new corridor connecting to Highway 401/407 ETR together with the widening of Highway 401 to 12 lanes westerly to Regional Road 25 would accommodate transportation forecast demand to 2031, and would better reflect the current land use planning and policies in local municipalities as established in their respective Official Plans. This alternative would also have less impact to the agricultural lands and agricultural economy as well as cultural heritage and rural character of the community. The widening of Highway 401 to 12 lanes could be designed to provincial design standards, with retaining walls proposed to mitigate property impact, although this would limit flexibility to further expand Highway 401 in the future.

It is anticipated that considerably more social and environmental impacts would be expected with a new corridor through Halton Hills and that the alternative where the new corridor is to connect to Highway 401/407 ETR together with the widening of Highway 401 to 12 lanes westerly to Regional Road 25 would accommodate forecast demands to 2031. It is also recognized that the widening of Highway 401 to 12 lanes through Milton together with a new corridor connecting to Highway 401/407 ETR would provide the best balance of benefits and impacts and is therefore preferred based on the additional analysis. Findings of the additional analysis and the recommendations were presented at Public Information Centre #5 which took place in June 2012 with a focus on the Halton area.

Overall, the new transportation corridor will extend from Highway 400 westerly in York Region, and then southerly to Highway 401/407 ETR in Halton Region as a provincial facility. Future HOV lanes, a transitway and truck priority features could be accommodated where warranted. The right-of-way of the transportation corridor may range between 110 m (highway/truckway without transitway) and 170 m (with transitway). The new transportation corridor could accommodate a transitway and / or priority truck features; and will include a north-south connection to Highway 427 and connection to Highway 410. Some preliminary analysis was carried out to assess the benefits of a truckway. This will be carried forward for further consideration and analysis during Stage 2 of the GTA West EA Study.

The proposed new transportation corridor will be pursued in combination with widening of existing highway facilities as shown graphically on the Transportation Development Strategy Map and illustrated in Exhibit E-4.

It is proposed that a new transportation corridor should be protected in the near term and that designation of lands for the corridor will be pursued by MTO immediately following the completion and approval of the Individual EA. The recommended widening of existing highways is listed in Exhibit E-11. This timing will ensure the best outcome and opportunity for transit and rail uptake as an

alternative to road use. The extent of widening existing highways will be subject to MTO's Class Environmental Assessment and/or feasibility studies.

These recommendations are integrated with other transportation initiatives that will give priority to transit and optimization of existing infrastructure.

Exhibit E-11: Recommended Widening of Existing Highways and Recommended New Transportation Corridor

Road Section	2031 Basic Number of Lanes (2-way)	
	Existing No. of Lanes	Ultimate No. of Lanes
Highway 401		
Highway 6 to Regional Road 25	6	10
Regional Road 25 to 407 ETR	6	12
407 ETR to Winston Churchill Boulevard	6	10
Winston Churchill Boulevard to Highway 410	6	12
407 ETR		
Highway 401 to Highway 410	8	10
Highway 410 to Highway 427	8	10
Highway 427 to Highway 400	10	10
Highway 410*		
Highway 401 to 407 ETR	7	9
407 ETR to Steeles Avenue	6	8
Steeles Avenue to Queen Street	8	10
Queen Street to Mayfield Road	8	8
Highway 427*		
407 ETR to Highway 7	6	8
Highway 7 to Major Mackenzie Drive (EA approved)	0	8
Highway 400		
407 ETR to Major Mackenzie Drive	8	12
Major Mackenzie Drive to King Road	6	10
King Road to Highway 9	6	10
New Transportation Corridor		
Highway 401/407 ETR to approximately Mayfield Road (north-south portion)	0	6
Approximately Mayfield Road (north-south portion) to Highway 427	0	4
Highway 427 to Highway 400	0	6

HOV lanes assumed as part of total lanes.

*Number of lanes linking to New Transportation Corridor not included.



Countryside Drive at Highway 410



Highway 401 / 407 ETR

Timeframes are defined as follows:

- Near Term: 0-5 years
- Medium Term: 5-15 years
- Long Term: 15+ years

Timeframe			Jurisdiction	Recommended Action
Near	Medium	Long		
	✓		MTO/ 407 ETR	Widening of highways (EA studies, etc.)
✓			MTO	Route planning and preliminary design of new transportation corridor and connecting links (Stage 2 of EA Study) and protection of required lands.
		✓	MTO	Design and construction of new transportation corridor and connecting links.

Addressing the Environment through Mitigation

There are several key natural environmental features and systems within the GTA West study area, including the Humber River, Credit River, and designated areas such as the Greenbelt Plan area and the Niagara Escarpment. Mitigation measures will be explored during Stage 2 of the GTA West EA Study to minimize impacts to the natural environmental features, and MTO will work closely with Conservation Authorities, the Ontario Ministry of Natural Resources, the Department of Fisheries and Oceans, and other regulatory agencies to ensure compliance with policies and guidelines. As part of any related roadway design, consideration of roadway drainage, stormwater management and other technical investigations will also be pursued. It is recognized that the natural features of this area are important and must be protected.

The area also includes significant prime agricultural lands that support Ontario’s agricultural industry, which is important to the population in the area and Ontario. A new transportation corridor will impact these lands and industry. As such, the Province must work with area municipalities to minimize impacts, provide appropriate mitigation and protect remaining lands against urban development.



Humber River East of Bolton



Heritage Road at Credit River



Underpasses for animals and agricultural equipment



Preliminary Route Planning Study Area

Study Area Refinements and Land Development Pressures

Development within the GTA West preliminary study area is occurring at a very fast pace. It has been important, therefore, to develop an approach to review development issues in order to protect new corridor opportunities. Documentation and progress on land use designations, development applications and planning studies has been collected from upper-tier regions, counties and lower-tier municipalities throughout the study process. MTO, together with other provincial agencies, has continued to actively monitor and comment on development applications in the area. In order to protect the transportation corridor opportunities as the EA study process moves forward, the study team has developed a Preliminary Route Planning Study Area, defined as a geographic area within which a reasonable range of route alternatives can be generated. This study area will be applied to the upcoming Stage 2 of the EA process.

The Preliminary Route Planning Study Area is intended to be large enough to accommodate several route alternatives for new highway/transitway facilities, including interchanges to connecting freeways and major arterials, sideroad connections or realignments, transit stations and rail connections, as well as other related facilities such as stormwater management ponds, areas for environmental mitigation and transit station parking. **It is noted that this area is preliminary and is subject to refinement during Stage 2 of the EA.**

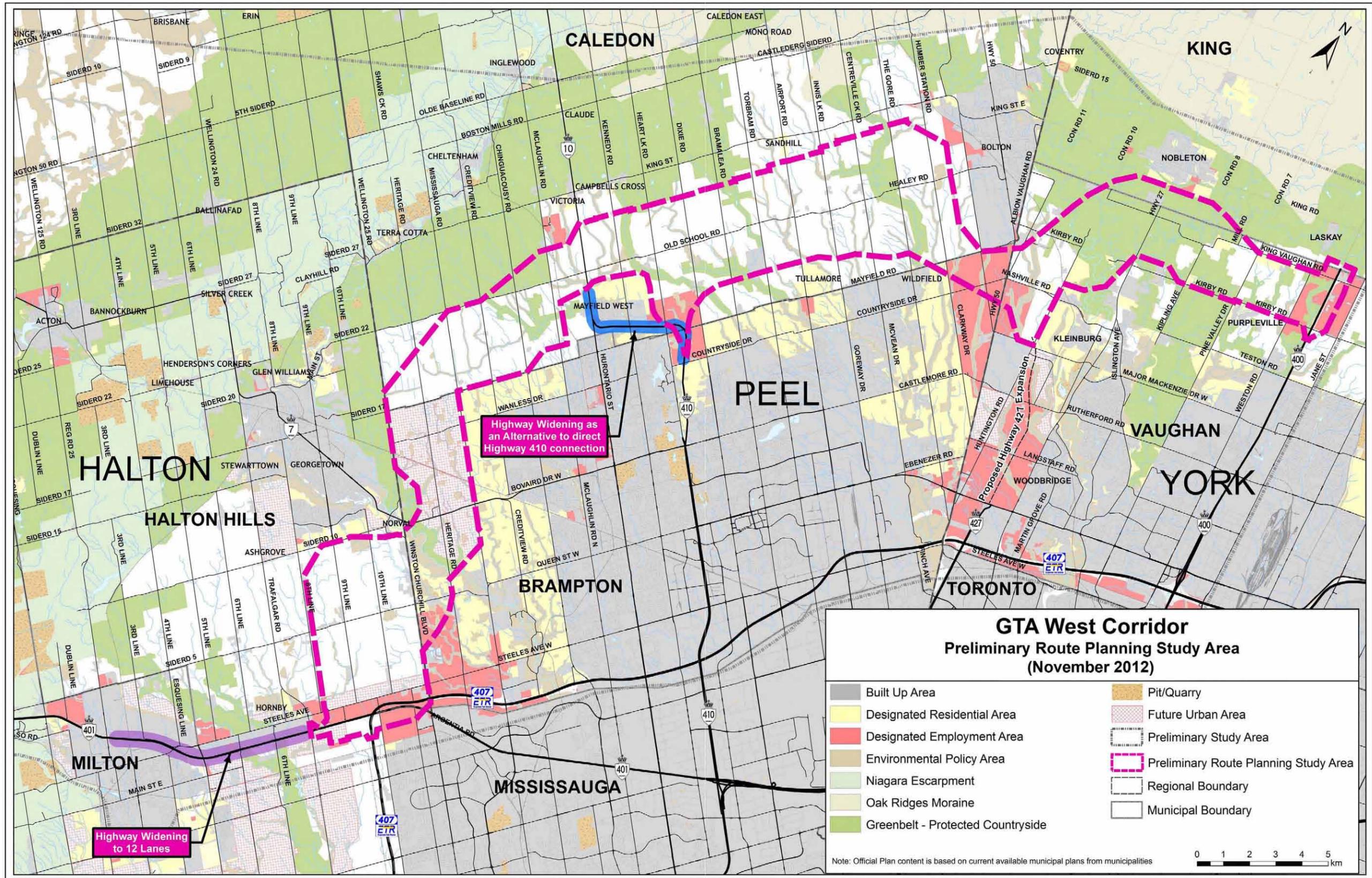
Principles for generating the Preliminary Route Planning Study Area have been identified to meet the specific local requirements of the GTA West study. The overarching principle is to maximize the opportunities for route generation while attempting to achieve the following:

- Meet desirable MTO Geometric Design Standards, including interchange and ramp distance spacing criteria, horizontal radius, and protect for a minimum right-of-way of 170 m;
- Produce an efficient design which considers crossing angles of roads, railways, rivers, etc., and directness of route;

- Minimize impacts to the Greenbelt, Oak Ridges Moraine and Niagara Escarpment wherever possible;
- Provide maximum areas, based on MTO Geometrics and/or other constraints, at locations where crossing of key natural features cannot be avoided (i.e. major valleys and rivers) so that numerous crossing locations can be examined;
- Avoid built up areas;
- Minimize impacts to approved municipal urban expansion areas and approved secondary plans; and
- Integrate with existing transportation infrastructure where possible, or be at an appropriate distance to it and to offer flexibility to connect to existing and planned transportation facilities in the study area.

The map on the following page (Exhibit E-12) presents the updated Preliminary Route Planning Study Area as it will be adopted at the start of Stage 2 of the GTA West EA Study for the route planning of the new transportation corridor. Based on input and consultation with municipalities, technical agencies, stakeholders and members of the public, the boundary of the Preliminary Route Planning Study Area has been updated from its initial release in the draft Transportation Development Strategy Report (February 2011). Refinements are included in York Region, Peel Region and most notably in Halton Region where the new corridor is proposed to connect and terminate at the Highway 401/407 ETR interchange – see Chapter 6 for details.

The updated Preliminary Route Planning Study Area has been developed with due consideration to the principles noted previously and has been discussed at the provincial level and with all area municipalities in the development process. Given that further development and change will occur as Stage 1 is completed and Stage 2 is initiated, the limits of this area can be revisited and refined as appropriate.



Highway Widening as an Alternative to direct Highway 410 connection

Highway Widening to 12 Lanes

GTA West Transportation Development Strategy Summary

Transportation Development Strategy - Near Term Elements (0-5 years)		
Element	Description	Jurisdiction
Expanded Use of Ramp Metering	Active Traffic Management Study to identify areas where ramp metering could be installed at interchanges along existing and planned provincial facilities.	MTO
High Occupancy Vehicle (HOV)/ Transit Bypass at Key Locations	Active Traffic Management Study to identify locations where bus bypass ramp provisions could be provided along existing and planned provincial facilities.	MTO
Transit Supportive Highway Corridors	Active Traffic Management Study to identify locations where transit supportive highway corridors should be provided along existing and planned provincial facilities.	MTO
Enhanced Incident/Congestion Management	Active Traffic Management Study to assess the potential for further expansion of the COMPASS System beyond the current service area.	MTO
Use of Speed Harmonization	Active Traffic Management Study and monitoring experience elsewhere to determine viability of speed harmonization in the study area.	MTO
Provincial/Employer Led TDM Programs	MTO and Metrolinx will explore opportunities to provide additional support as well as the potential for legislative changes to address jurisdictional policy barriers.	MTO/Metrolinx
Long Combination Vehicles	MTO will continue to monitor the LCV program based on the review of recent experience.	MTO
Mobility Hubs	Initiate a multi-modal area-wide study in the Waterloo/Wellington/Brantford area to explore potential for inter-regional transit service improvements west of the GTA.	MTO/Metrolinx/ Municipalities
Goods Movement and Freight	Feasibility review of potential future initiatives aimed at removing freight rail/passenger rail conflicts and providing grade separations at road/rail crossings.	MTO/CN/CP/ GO Transit/ Municipalities
Route Planning and Preliminary Design of New Transportation Corridor and Connecting Links (Stage 2 of EA Study) and Protection of Required Lands	Route Planning and Preliminary Design, as well as protection of required lands: between Highway 400 and the Highway 427 Extension, and between Highway 427 Extension and its connection with Highway 401/407 ETR near the Halton/Peel boundary, with possible transitway and/or truckway facilities.	MTO

Transportation Development Strategy - Medium Term Elements (5-15 years)		
Element	Description	Jurisdiction
<p>Widening of Highways</p> <p>* Includes HOV lanes</p> <p>Note: The number of lanes proposed as shown reflects the Transportation Development Strategy per the GTA West Study and may differ from current MTO programs</p>	<p>MTO to undertake Class Environmental Assessment studies (as required) to investigate and confirm the need, timing and the lane requirement for widening of the following provincial facilities within the GTA West study area (timing and lane requirement also subject to availability of funding):</p> <p>Highway 401</p> <ul style="list-style-type: none"> • Highway 6 to Regional Road 25 – widen to 10 lanes • Regional Road 25 to 407 ETR – widen to 12 lanes* • 407 ETR to Winston Churchill Boulevard – widen to 10 lanes* • Winston Churchill Boulevard to Highway 410 – widen to 12 lanes* 	MTO
	<p>407 ETR (no EA required – previously approved)</p> <ul style="list-style-type: none"> • Highway 401 to Highway 410 – widen to 10 lanes • Highway 410 to Highway 427 – widen to 10 lanes • Highway 427 to Highway 400 – widen to 10 lanes 	407 ETR
	<p>Highway 410</p> <ul style="list-style-type: none"> • Highway 401 to 407 ETR – widen to 9 lanes* • 407 ETR to Steeles Avenue – widen to 8 lanes* • Steeles Avenue to Queen Street – widen to 10 lanes* • Queen Street to Mayfield Road – widen to 8 lanes 	MTO
	<p>Highway 427</p> <ul style="list-style-type: none"> • 407 ETR to Highway 7 – widen to 8 lanes • Highway 7 to Major Mackenzie Drive – 8 lanes (EA approved) 	MTO
	<p>Highway 400</p> <ul style="list-style-type: none"> • 407 ETR to Major Mackenzie Drive – widen to 12 lanes* • Major Mackenzie Drive to King Road – widen to 10 lanes * • King Road to Highway 9 – widen to 10 lanes* 	MTO

Transportation Development Strategy - Long Term Elements (15+ years)		
Element	Description	Jurisdiction
<p>Design and Construction of New Transportation Corridor</p>	<ul style="list-style-type: none"> • New corridor Highway 400 to Highway 427 Extension • New corridor Highway 427 Extension to Highway 401/407 ETR near the Halton/Peel boundary • Extension of Highway 427 to new corridor • Highway 410 connection to new corridor 	MTO