

# Niagara to GTA Corridor Planning and Environmental Assessment Study

## EXECUTIVE SUMMARY Draft for Consultation

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# EXECUTIVE SUMMARY

## 1. The Challenges and Opportunities of Growth

The *Growth Plan for the Greater Golden Horseshoe (The Growth Plan)* characterizes the Greater Golden Horseshoe as follows:

*“The Greater Golden Horseshoe (GGH) is one of the fastest growing regions in North America. It is also the destination of choice for many people and businesses relocating from other parts of Canada and around the world. They settle here because of the high quality of life and the economic opportunities.”*

Within the Niagara to Greater Toronto Area study area (NGTA study area), significant growth is anticipated in *The Growth Plan* for the municipalities of Hamilton, Halton and Niagara. Over 620,000 new residents are expected to move into these regions by 2031, and this growth is expected to generate upwards of 320,000 new jobs within this timeframe.

While this rapid growth creates extraordinary opportunities and economic potential, it is not without challenges. It is critically important that this growth is supported and planned for through wise land use and transportation planning that recognizes and seeks to address fundamental questions such as: Where will people live, work and play? How will we protect our important natural, social and cultural features? And how will we maintain a high level of mobility for the residents within the region, goods movement through the region, as well as visitors to the region?

From a transportation planning perspective, this growth poses a significant challenge, as many of our existing facilities are already operating at or near capacity during peak periods. By 2031, the existing transportation network within the NGTA study area will not be able to support the additional commuter, tourist and goods movement that corresponds with the projected growth.

To address these issues, the Ontario government has begun the process of planning for the future. *The Growth Plan* and *The Greenbelt Plan* provide an important policy context and foundation. Through these policies, municipalities and the Ontario government can plan for communities with land use that is supportive of a more balanced transportation system that in turn makes best use of the existing infrastructure, and prioritizes the use of transit and other non-roadway modes of transportation for people and goods movement.

In addition to providing a sustainable policy framework, a *Regional Transportation Plan (RTP)* for the Greater Toronto and Hamilton Area (GTHA) has been completed by Metrolinx (including GO Transit). This plan includes a number of initiatives referred to as “Quick Wins” to be in service within five years or less. These include:

- Hamilton A and B Line Bus Rapid Transit (BRT) improvements;
- Hamilton James Street North GO / VIA Station – gateway to Niagara; and
- Halton Region BRT.

In addition, the Ontario Ministry of Transportation (MTO) has also developed a *High Occupancy Vehicle (HOV) Lane Network Plan (2007-2011)*. Several elements of this

plan have already been constructed, including new HOV lanes on Highway 404 between Highway 407 and Highway 401, and Highway 403 through Mississauga. Construction is also underway on sections of other provincial facilities such as Highway 400 and the Queen Elizabeth Way (QEW), and studies have been initiated for Highway 427.

In addition to these initiatives, the MTO's *2008-2012 Southern Ontario Highways Program* has invested more than \$2 billion to repair and expand highways, roads and bridges across the province, with \$927 million designated for Southern Ontario highway construction.

At a municipal level, all municipalities within the GGH are working on their Official Plan updates to align with *The Growth Plan*, which promotes more compact, transit-supportive development.

While all of these initiatives will help to address the future travel demand that is anticipated by 2031, more is needed. This study, the Niagara to GTA Corridor Planning and Environmental Assessment (EA) Study (NGTA Study), has been initiated to explore all modes of transportation, including transit, freight rail, marine, air, freight inter-modal, and roads and highways. The objective of this study is to develop a broad level Transportation Development Strategy (TDS) for the NGTA study area that builds upon all of the Ontario government's current plans and identifies additional multi-modal transportation improvements to address the future needs.

A key step in this process is the development of the multi-modal Area Transportation System Alternatives. The purpose of this report is to summarize the process and methodology that was used to develop a broad range of the Area Transportation System Alternatives and to document the key findings of this work.

The *Area Transportation System Alternatives Report* will serve as a critical stage in the study providing a foundation for the further assessment, evaluation, and selection of Preliminary Planning Alternatives that will be incorporated in the ultimate Transportation Development Strategy for this phase of the NGTA Study.

## 2. The Creative Process

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

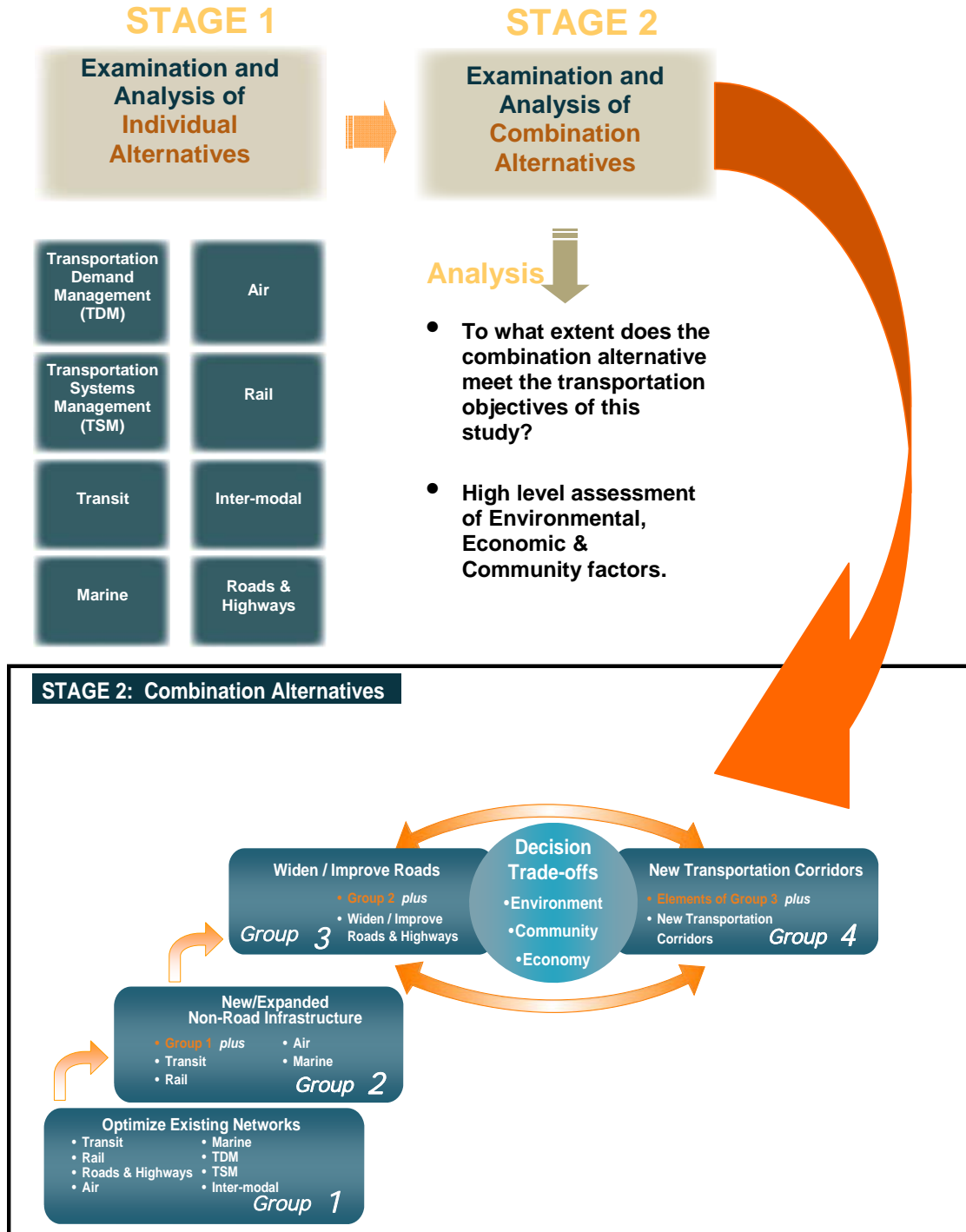
This process is documented in **Section 1.6** of this report and is illustrated schematically in **Exhibit E-1**. As seen in the exhibit the process has followed a two-stage approach which begins with a comprehensive assessment of the individual transportation alternatives to assess their ability to address the future inter-regional transportation problems and opportunities identified by the study team during the previous phase of work, (refer to **Section 1.5** of this report, as well as the *Area Transportation System Problems and Opportunities Report (July 2009)* which is available under separate cover).

Based on this assessment, multi-modal alternatives considered capable of substantively contributing to addressing these problems and opportunities are carried forward to the second stage of the process, which involves assembling the multi-modal individual alternatives into group alternatives.

A "building block" approach is used to assemble the group alternatives based on the principle of first optimizing the existing transportation network, and then if necessary,

incorporating non-roadway infrastructure improvements and expansion before considering the provision of new roads and / or highways. This approach has been developed to align with the underlying principles of *The Growth Plan* and *The Greenbelt Plan*.

**Exhibit E-1: Two-Stage Process for Developing and Assessing Area Transportation System Alternatives**



The study team's objectives throughout the process have been to fully explore the potential of all transportation modes, as well as the potential of optimization techniques aimed at managing transportation demand (Transportation Demand Management) and enhancing and improving the existing transportation system using emerging technologies (Transportation Systems Management). The study team's findings with regard to each of the individual alternatives are described briefly in the next section, and in more detail in **Chapter 2** of this report.

As part of this exercise, study team specialists for each of the modes of transportation were tasked with reviewing transportation practices in other jurisdictions around the world to determine which elements of these practices can be readily applied to the unique set of circumstances presented by the transportation, environmental, economic and social features and conditions within the Niagara to GTA study area.

In addition, they have conducted numerous meetings with other transportation service providers such as Metrolinx (including GO Transit), VIA Rail, CN Rail, CP Rail, the Ontario Motor Coach Association, the St. Lawrence Seaway Authority, the Hamilton Port Authority, and the Hamilton International Airport. The goal of these meetings has been to discuss with these agencies the potential to increase the utilization of their respective mode of transportation for the movement of people and goods, and to gain valuable insight with regard to the specific policy issues and constraints that govern their ability to provide transportation services.

The findings of our specialists are documented in **Chapter 2** of this report. These findings have been used by the broader study team through numerous workshops, as well as through meetings with municipalities, government agencies, members of the public and First Nations, to inform the development of an innovative and creative 'long-list' of multi-modal transportation alternatives. The 'long list' of alternatives for each mode of transportation is documented in each of the corresponding sections of **Chapter 2** of this report.

In developing the initial 'long-list', the study team removed perceived barriers from consideration, such as policy constraints and / or pre-conceived notions based on past experience. This fostered the development of a truly creative set of alternatives. This list was subsequently analyzed and refined by the study team's specialists. Each alternative was examined on the basis of its ability to substantively contribute to addressing the transportation problems and opportunities that had been identified by the study team during the previous phase of work. Concepts that were not considered capable of addressing the inter-regional transportation problems and opportunities were not carried forward for further consideration. The remaining concepts were categorized as worthy of pursuit as part of subsequent stages of this study or by other studies and initiatives.

The study team's assessment of the 'long list' of individual transportation alternatives, as well as the generation and assessment of the group alternatives is documented in **Chapter 3** of this report.

### **3. Assessment of the Individual Transportation Alternatives**

The assessment of the 'long list' of alternatives involved assessing the degree to which each alternative could meaningfully contribute to addressing the inter-regional

transportation problems and opportunities that have been identified by the study team. The assessment of the individual transportation alternatives is summarized in **Exhibit E-2** below.

**Exhibit E-2: Assessment of Individual Transportation Alternatives**

MODE	CARRIED FORWARD	RATIONALE
Transportation Demand Management (TDM)	✓	Is recognized as an important component of transportation networks. On its own it does not provide a significant improvement to transportation problems in the NGTA study area.
Transportation Systems Management (TSM)	✓	Is recognized as an important component of transportation networks. On its own it does not provide a significant improvement to transportation problems in the NGTA study area.
Transit	✓	Improved transit is recognized as an important component of a transportation network for the movement of people. On its own it does not fully address the full range of transportation problems in the NGTA study area.
Air	✓	Improved multi-modal connections to Hamilton International Airport have some potential to reduce dependence on the road network in the NGTA study area.
Marine	✓	Improved multi-modal connections to Hamilton Harbour have some potential to reduce congestion on the road network in the NGTA study area.
Rail	✓	Rail will continue to be an important aspect of goods movement in the NGTA study area. A number of recommendations are to be pursued by others or are already being pursued by others.
Freight Inter-Modal	✓	Improved freight inter-modal facilities have some potential to address transportation problems in the NGTA study area.
Road and Highways	✓	Improved roadway facilities have the potential to reduce congestion on the road network and to address some opportunities in the NGTA study area.

The findings of this assessment identified numerous alternatives representing all transportation modes. One of the key findings, however, was that no single mode of transportation is capable of fully addressing all of the transportation problems and opportunities. As such, all of the individual transportation alternatives were carried forward for further consideration to the second stage of the process – the assembly of the group alternatives.

## 4. Group Transportation Alternatives

The primary focus of the second stage of the process was to assemble the group alternatives based on the ‘long list’ of alternatives that was generated initially by the study team and supplemented based on consultation with municipalities, agencies, members of the public, transportation service providers, and other stakeholders. Each of the four group alternatives are described briefly below:

- **Group #1: Optimize Existing Networks**

Transportation initiatives that focus on improving the performance of the existing transportation system for all modes of travel and transport through strategies designed to reduce auto and truck demand and improve system operating efficiency.

- **Group #2: New / Expanded Non-Road Infrastructure**

This alternative builds upon the transportation system performance enhancements provided by Group #1 through provision of additional “non-road-based” capacity such as new air, marine, transit, and freight rail infrastructure to address potential shortfalls in addressing the transportation problems and opportunities inherent in Group #1.

- **Group #3: Widen / Improve Roads**

This alternative builds upon the transportation system enhancements and non-road capacity improvements provided by Group #2 and adds new capacity by widening existing roads or highways beyond that which is currently planned or contemplated by municipalities and the Province.

- **Group #4: New Transportation Corridors**

This alternative builds upon the transportation system enhancements and both road and non-road capacity improvements provided by Group #1 and #2, as well as some existing road widening from Group #3, and adds new road and / or highway capacity on a new corridor to address identified transportation problems and opportunities.

Based on the study team's assessment of the 'long list' of alternatives, the alternatives considered worthy of pursuing as part of the current study were grouped into each of the above categories. The following sections provide an overview of each of the group alternatives.

#### 4.1 Overview of Group #1

Group #1 builds upon comprehensive optimization strategies embodied in the *RTP, GO 2020 strategic plan, MTOs High Occupancy Vehicle Lane Network Plan* and *Carpool Lot Program* and municipal transportation plans. These strategies aim at:

- improving access to transit stations for pedestrians and motorists and advancing the concept of mobility hubs;
- making active transportation a viable choice – secure storage at transit terminals, bicycles on transit vehicles, etc.;
- expanding the use of bus bypass shoulders during peak periods;
- improving schedule and fare integration between transit providers;
- providing drivers with real time trip planning information;
- providing real time information to transit riders in stations and vehicles along with remote access via telephone and the internet;
- optimizing use of commuter rail system through the use of longer trains, comprising of 12 cars for example; and,
- more aggressive use of TDM / TSM.

In addition to these strategies, the study team identified a number of complementary strategies, which may be further supplemented and refined. These strategies are described in further detail below:

### ***Speed Harmonization***

The concept of speed harmonization is used widely in numerous European jurisdictions and essentially involves adjusting the speed limit on inter-regional facilities based on prevailing congestion levels. Changeable message speed signs which are connected through an electronic system to sensors in the pavement are used to reduce the speed limit during times of congestion. The reduced speeds promote a more even traffic flow which increases throughput and improves safety.

### ***Provincial / Employer Led TDM Programs***

TDM programs (as described in **Section 2**) could be improved upon by expanding the Smart Commute program beyond the Greater Toronto and Hamilton Area (GTHA).

In addition to providing broader coverage, this concept would also involve introducing an inter-regional organization which would reach out to employers and would potentially be managed on a regional level by the provincial government. Other potential initiatives to support TDM include marketing of carpooling using overhead signage in the corridor or at carpool lots in the area, and providing support for municipalities along the corridor to implement TDM measures.

Experience in other jurisdictions has shown that regional organization of TDM initiatives leads to operational and economic efficiencies that translate into increased awareness of the programs, a greater variety of services and higher utilization. This concept may also involve providing additional Park 'n Ride lots at key locations.

### ***Long Combination Vehicles (LCV's)***

Long Combination Vehicles (LCVs) feature a single tractor with two 53 foot trailers. Increased use of these types of vehicles is anticipated to reduce the number of trucks on provincial facilities, thereby improving traffic operations. MTO recently initiated a pilot project to allow up to 100 LCV's on the provincial highway network.

### ***Ramp Metering***

Ramp metering involves the implementation of signal control measures on a freeway on-ramp to control the traffic entering the highway in order to ensure a smooth downstream traffic flow. Ramp metering is already in existence on portions of the QEW. It may be beneficial to recommend expanding the ramp metering program to other sections of QEW, Highway 403 and Highway 407 through Hamilton, Halton and Niagara.

### ***HOV / Transit Bypass at Key Locations***

This concept involves providing bypass lanes on metered ramps, ramps accessing transit stations, and ramps in vicinity of carpool lots for HOV and transit vehicles that would allow HOV and transit vehicles to bypass traffic queues on these ramps and access the corresponding facilities more efficiently.

### ***Improved Incident Management***

This concept involves increased utilization of emerging technologies to improve detection of incidents, improve EMS response times, and as a result reduce the amount of congestion and delays resulting from traffic incidents.

### ***Better Integration between Inter-Regional Transit Providers***

This concept involves creating better integration between GO Transit and other inter-regional carriers such as Greyhound and Coach Canada by providing access to GO Transit stations for pick up and drop off of passengers.

#### ***Assessment***

The Group #1 strategies represent innovative and effective ways of improving and getting the most out of what already exists. While these strategies provide an important foundation for improving the transportation system and helping to manage future congestion in a relatively cost effective and low impact manner, they will not address all of the identified transportation problems and opportunities. Some form of new infrastructure investment is required.

## **4.2 Overview of Group #2**

The extensive transit recommendations embodied in the *RTP* as well as GO Transit's *GO 2020 strategic plan* demonstrate the Ontario government's commitment to making transit a viable alternative to the automobile. The concepts proposed by this study build upon the recommendations of the *RTP* and *GO 2020*.

Group #2 includes significant transit, marine and air service expansion initiatives envisioned by the *RTP*, *GO 2020*, Hamilton International Airport (HIA) and Port of Hamilton that serve the study area. These include:

- Express rail service along GO Transit Lakeshore Corridor;
- GO Transit Lakeshore extension to downtown Hamilton;
- Rapid transit in Hamilton area;
- Rapid transit along Highway 5;
- Rapid transit along Trafalgar Road;
- Rapid transit along Brant Street;
- Bus Rapid Transit and Transitway along Highway 407 / 403;
- GO Transit expanded service to Niagara Falls;
- Port of Hamilton Infrastructure Development Strategy;
- Sea3 – container feeder service between Hamilton and Montreal;
- Hamilton International Airport – expansion of existing taxiways and terminal;
- Expanded and improved parking facilities at some transit stations.

In addition to these strategies, the study team identified a number of complementary strategies, which may be further supplemented and refined. These strategies are described in further detail below:

### ***Hamilton-Focused Inter-Regional Transit Service***

Currently inter-regional service is focused on the Toronto area and particularly on Union Station. As such, the scheduling of these services is based on arrival and departure from Union Station during peak commuter times.

The concept of a Hamilton-focused inter-regional transit service is based on Hamilton's increasing stature as a significant employment area, which is anticipated to continue to increase over the coming decades. A transit service that is focused on Hamilton would therefore offer scheduling that would allow commuters to access the employment districts within Hamilton during peak periods.

### ***Transit Supportive Corridors***

This concept involves introducing reserved bus lanes, HOV lanes, bus bypass shoulders and other transit supportive measures within existing provincial facilities such as the QEW, Highway 403, Highway 401, etc. that would serve to make bus transit a more reliable and viable service.

### ***Bus Transit Service between Hamilton International Airport (HIA) and Niagara Tourist Destinations***

Through consultation with the Hamilton International Airport, it is understood that a significant portion of tourists that arrive at the airport are destined to the Niagara tourist areas. While the airport offers limited shuttle services to Niagara, these services are not well utilized due to their limited frequency and availability. The airport has suggested that there is a latent demand for a dedicated bus transit service that provides services to Niagara Falls and other tourist areas.

### ***New inter-regional rail transit links between Urban Growth Centres***

This concept involves providing a western 'web' of rail passenger services which would provide coverage to the Kitchener-Waterloo, Guelph, Cambridge, Hamilton and Brantford areas. This concept could be combined with the Hamilton-focused inter-regional transit service described previously. The concept would provide for new passenger rail lines on existing rail corridors to link urban growth centres. Given that these are smaller growth centres and the potential ridership may not be significant, an opportunity exists to use smaller train systems or even self-propelled railcars, which can be individual or clustered. Rail stations would comprise multi-modal facilities to provide for a well-connected and integrated transportation system.

## **4.3 The Need for Roadway-Based Solutions**

By 2031, the population in the Greater Golden Horseshoe is expected to increase by almost 4 million people. To accommodate this growth, the study team anticipates that by 2031:

- the 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 healthy mix of land uses;
- the development of compact, vibrant and complete communities will be fostered in which people will live, work, and play;

- an additional 700 million transit trips within the Greater Toronto and Hamilton Area will be accommodated;
- all current provincial transportation plans (e.g. the *RTP*, *GO 2020*) will be implemented;
- 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 the Group #1 type initiatives; and
- more non-road based infrastructure such as the Group #2 initiatives will be implemented, along with additional related actions.

Based on the above, the potential of all transportation modes have been explored and together with the *RTP* and GO Transit's *GO 2020 strategic plan*, the province is seeking to maximize the potential of existing infrastructure.

Notwithstanding these positive improvements, by the year 2031, roadway congestion will still exist, particularly at the Burlington Skyway, St. Catharines Garden City Skyway and the Freeman Interchange (where QEW / Highway 403 / Highway 407 meet).

To realize the vision of a functional transportation network that provides user choice and balance, additional roadway capacity will be required: either by widening existing highways (Group #3) and / or protecting for new transportation corridors (Group #4). While the overall Transportation Development Strategy will include recommendations for Group #3 and/or Group #4, it is envisioned that the government's "transit first" priority will be reflected in the implementation of the Transportation Development Strategy.

#### **4.4 Overview of Group #3**

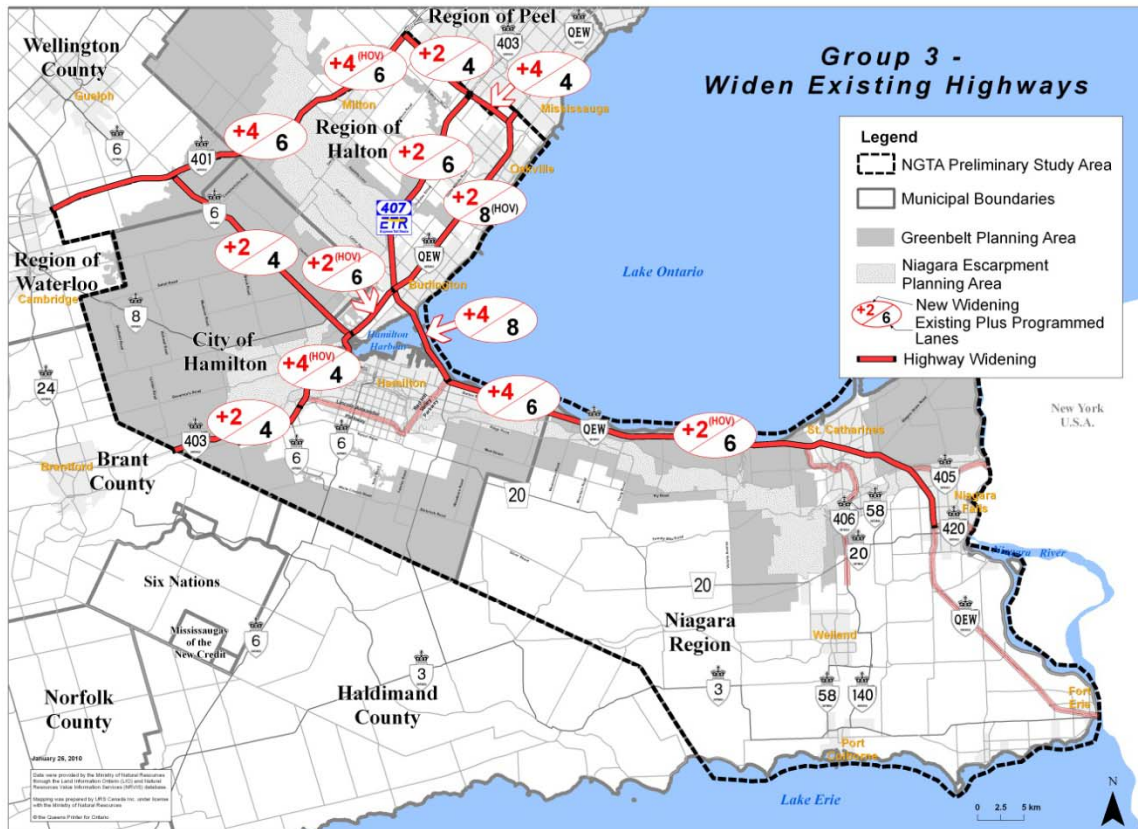
The Group #3 alternative has been developed to address the future transportation problems that have been identified within the study area. As such, the additional roadway widenings described in the following section are based on providing adequate traffic capacity, operations and safety conditions on existing provincial facilities to the year 2031.

Group #3 includes all of the elements from Group #1 and Group #2 as well as the widening of the following existing provincial inter-regional transportation facilities:

- QEW;
- Highway 403;
- Highway 6;
- Highway 407; and,
- Highway 401.

The degree of widening that would be required to address the future transportation needs is illustrated on **Exhibit E-3**. Within the 'bubbles' on this exhibit, the lower (black) number indicates the number of lanes that are existing as well as any planned widening. The upper number (red) indicates the number of lanes that will be required over and above the existing and planned lanes. This incremental widening is the basis for comparing the Group #3 alternative to the Group #4 alternative.

Exhibit E-3: Group #3 Alternative



#### 4.5 Overview of Group #4

Group #4 includes all of the elements from Group #1 and Group #2 and potentially some of the highway widening identified in Group #3, as well as the following new corridor alternatives:

- New corridor connecting either:
  - QEW in Fort Erie / Niagara Falls area to Highway 403;
  - QEW in Fort Erie / Niagara Falls area to Highway 401;
  - QEW in Fort Erie / Niagara Falls area to Highway 407; or,
  - QEW in Fort Erie / Niagara Falls area to Highway 6.
- Upgrade or widening of Regional Road 20 with potential bypasses of settlement areas such as Smithville, Fonthill, etc.
- Combination of new and existing corridors to provide bypass around urban core of the City of Hamilton.
- Upgrade or widening of Highway 406 connecting to a new corridor between Highway 406 and QEW south of Niagara Falls.

#### 4.6 Assessment of Group #3 vs. Group #4

Widening of the existing provincial inter-regional facilities within the study area as described previously will provide both benefits and challenges. Serious engineering and construction issues, major impacts to adjacent residences and businesses, and significant costs are associated with the widening of these corridors at the following locations:

- QEW / Highway 403 / Highway 407 (Freeman) interchange;
- Burlington Skyway Bridge;
- QEW / Red Hill Valley Parkway Interchange;
- Highway 403 through Hamilton;
- Garden City Skyway Bridge;
- Widening QEW through St. Catharines;
- Widening through the Niagara Escarpment; and,
- Widening QEW through Halton.









In addition, the Group #3 alternative would not fully address many of the transportation opportunities that have been identified. In contrast, the provision of a new transportation corridor presents the opportunity to:

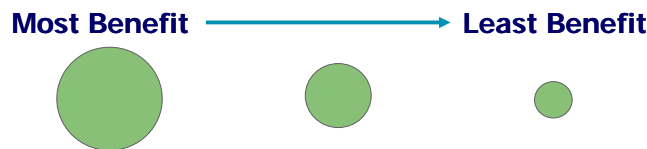
- Support Niagara's "Grow South" plans and relieve development pressures on the tender fruit & grape lands.
- Support Hamilton's plans to develop employment lands around Hamilton International Airport.
- Provide increased security and dependability for trade and promote increased tourism by providing a high quality alternate route to the Niagara border and tourist areas.

The trade-offs between widening and new corridors are challenging and complex. Widening the existing highways can have an impact on neighbouring communities; however, impacts are focused in existing corridors. New corridors will have a larger footprint impact on the undisturbed environment, but effects can be mitigated through careful environmental planning and can provide new economic development opportunities.

The high level assessment of the Group #3 and Group #4 alternatives on the basis of potential community, economic, environmental impacts as well as transportation considerations and costs is described in the following sections and summarized in **Exhibit E-4**.

**Exhibit E-4: High-Level Assessment of Group #3 vs. Group #4 Alternatives**

CRITERIA	GROUP 3	GROUP 4	COMMENTS
COMMUNITY			<ul style="list-style-type: none"> <li>◆ Both alternatives will result in impacts adjacent to existing corridors.</li> <li>◆ Community impacts for Group 3 are limited to existing corridors.</li> <li>◆ Group 4 may better facilitate growth.</li> </ul>
ECONOMY			<ul style="list-style-type: none"> <li>◆ Both alternatives facilitate goods movement.</li> <li>◆ Both alternatives will result in impacts adjacent to existing corridors.</li> <li>◆ Group 4 provides system redundancy for economic trade and tourism.</li> </ul>
ENVIRONMENT			<ul style="list-style-type: none"> <li>◆ Both alternatives will result in impacts adjacent to existing corridors.</li> <li>◆ Group 3 impacts are limited to previously disturbed lands.</li> <li>◆ Group 4 will result in additional impacts to undisturbed lands.</li> </ul>
TRANSPORTATION			<ul style="list-style-type: none"> <li>◆ Both alternatives can address travel demand to 2031.</li> <li>◆ Both alternatives result in similar constructability issues along existing corridors.</li> <li>◆ Group 4 may alleviate some of these issues by providing an alternate route during construction.</li> <li>◆ Group 4 is generally more costly.</li> <li>◆ Group 4 offers reserve capacity and system redundancy.</li> </ul>



#### 4.7 Summary of Key Trade-Offs

Additional roadway capacity is required to realize the vision and transportation needs of the Niagara to GTA Corridor. The Ontario government faces the challenging task of deciding whether to widen the existing highways and / or protect for new transportation corridors. Each option presents challenging and complex trade-offs:

- Alternatives for widening existing highways:
  - Make good use of existing transportation infrastructure and maintain origin and destination patterns.
  - Provide the capacity to accommodate long-term inter-regional transportation needs to 2031.
  - Provide limited flexibility to accommodate growth beyond the planned and projected future.
  - Limited system redundancy in the highway network.
  - Require significant expansion to the Burlington Skyway, Garden City Skyway and Freeman interchange.
  - Would result in unavoidable impacts to adjacent natural and community features, including significant displacements along the QEW through St. Catharines and along Highway 403 through Hamilton.

- Result in widening of existing corridors through the Niagara Escarpment.
- Alternatives for new transportation corridors may still require widening of some provincial facilities and would therefore result in some of the impacts associated with Group #3. In addition, new transportation corridors:
  - Provide the capacity and flexibility to accommodate the long-term inter-regional transportation needs to 2031 and beyond.
  - Provide enhanced system redundancy and choice in the transportation network.
  - Provide superior economic growth and development opportunities through an enhanced trade corridor connecting the GTA to the Niagara Frontier and markets in the United States.
  - Result in potentially extensive impacts to greenfield areas, including significant changes to the character and use of undisturbed rural areas, as well as displacement and severance of agricultural lands.
  - Potentially impact undisturbed natural habitats, but also provides the opportunity to minimize and avoid important natural and built features through route planning.
  - Would potentially require a new crossing of the Niagara Escarpment.
  - Are generally more costly alternatives to construct.

The right solution will provide the best balance between benefits and impacts.

#### **4.8 Next Steps**

The next steps for this study will involve further refining each of the group alternatives described in previous sections of this report, and will ultimately culminate in the development of the Transportation Development Strategy, which will be presented in draft form to members of the public and other stakeholders at the fourth and final round of Public Information Centres (PIC #4).

In further refining the Group #1 and Group #2 alternatives, the study team will consult with Metrolinx (including GO Transit), Transportation Demand Management / Transportation Systems Management (TDM / TSM) specialists within the MTO and other relevant agencies and ministries. Through this consultation exercise, the study team will seek endorsement and a commitment to further explore the recommendations embodied in the Transportation Development Strategy.

In addition, the study team will further refine the Group #3 and Group #4 alternatives to a preliminary planning level of detail. A more comprehensive assessment and evaluation of these alternatives will be completed, using the broad range of approved Environmental Assessment criteria from the *Niagara to GTA Environmental Assessment Terms of Reference (NGTA ToR)*, June 2006 as well as the Study Plan that was prepared at the outset of this phase of the study.