Sustainable Halton ___



Transportation Infrastructure

May 2007





Sustainable Halton

This is a draft final background report for the Sustainable Halton planning process. As the project continues and as we receive public feedback, there may be slight adjustments made to the content of this report.

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EXECUTIVE SUMMARY

Objective

The objective of this report is to identify a preliminary foundation for discussion in the approach to the development of the Region's transportation system to 2031. It is recognized that the status quo to addressing transportation deficiencies needs to change in order to address the issues of importance to the Region including air quality, personal health/physical activity, built environment, healthy communities, active transportation and modal changes.

A further objective of this report is to provide an overview of transportation improvements, both current and planned for Halton Region and the surrounding municipalities. A review process compiled committed and planned transportation projects having a principal target of increasing roadway capacity. These projects included roadway improvements, transit initiatives, transportation supply management and transportation demand management. Relevant agency documents were also reviewed and improvements concerning Halton Region and the surrounding municipalities were mapped.

Context

The Halton Transportation Master Plan (HTMP), completed in 2004, outlined the strategic direction for development of the Region's transportation network, policies and priorities up to 2021. The strategic direction developed by the HTMP influenced transportation systems to adhere to the preferences of the community. This included minimizing environmental impacts, making efficient use of existing infrastructure, and promoting non-auto modes of transportation such as walking, cycling and transit. The HTMP was driven by goals, constraints and consequences and thereby will encourage people to change their travel characteristics. The Region must take action to implement sustainable practices within development, as continued urban sprawl will only increase congestion and land consumption. The HTMP recognizes that a full range of transportation solutions must be utilized for a successful change in travel habits. This requires substantiation in terms of policy and development decisions supporting nonauto travel modes and higher density, pedestrian friendly communities. An HTMP update is currently in progress to reflect an additional 36,600 population and 32.290 employment base resulting from the implementation of to 2021 Places to Grow in 2006. A full HTMP update will be undertaken as part of the Sustainable Halton Plan process to reflect Halton Region's transportation "system" to 2031.

The 2004 HTMP description of the 'State of the Region' emphasizes the need to break the traditional cycle of urban sprawl, building new roads, providing less transit and increasing single occupant vehicle (SOV) travel. It indicates that a new approach must be taken to promote smart growth and growth management including pedestrian friendly developments, improved transit services and more transportation choices. It is declared that with the anticipated growth of population and employment, Halton cannot continue to rely on single occupant auto travel as the dominant transportation mode.

Findings

Halton Region Capital Programme 2021 proposes a new full interchange at Highway 401 and Tremaine Road, Region wide road widening and improvements to Trafalgar Road, Bronte Road and Dundas Street, and a proposed extension of James Snow Parkway to Highway 407 (beyond 2021). As part of the HTMP update (2006), new projects addressing the proposed growth in Halton Region will be identified where required.

As goods movement is essential to the economic competitiveness of a municipality, Halton Region realizes the importance of developing transportation plans for the movement of its manufacturing, resource and agricultural goods. The Region's goods movement infrastructure includes Milton and Brampton inter-modal facilities, two International Airports (Mississauga & Hamilton), several Provincial Highways (401, QEW/403 & 407), two ports (Toronto/Hamilton), two CN Rail Subdivisions (Halton & Guelph) and two CP Rail Subdivisions (Galt & Oakville). Halton Region can sustain a capable multi-modal network and provide efficient goods movement.

The "Transportation Infrastructure" component is but one of a series of discussion papers documenting the context and background of the Sustainable Halton Plan exercise. Other technical area discussion papers have identified we generally live in a society where people are less active, air pollution is of concern and health concerns are increasing. The reliance on the automobile and the prominence of the single occupant vehicle in peak period travel is one of the contributing factors to the deterioration of the noted quality of life measures. Some of these papers recommend that within the context of community development, there be a variety of options to the general public to encourage a more active lifestyle and decrease the reliance upon the automobile. "Active Transportation" infrastructure should be a component of the design criteria to be considered in the next phases of the Sustainable Halton Plan.

It is critical to recognize that the transportation system is usually derived from the land use and built form of the community — it is a responsive process. Therefore, to achieve the common objectives of the Technical Topics of the Plan there needs to be a transportation "system" that is supported by the appropriate mix and density of land use (transit supportive development), community build form (street types, connections), transit service commitment by the various transit providers in the Region, and financial commitment to implement alternative modes.

1.0 INTRODUCTION

On June 16, 2006, the Ontario Ministry of Public Infrastructure Renewal released the Growth Plan for the Greater Golden Horseshoe. Also called "Places to Grow", this document provides the framework for implementing the Province's vision for managing population and employment growth to 2031. It expresses the Province's interests and direction about how and where municipalities will grow, the type of infrastructure required to support growth, and the heritage and natural resources to be protected. Halton Region is required to fulfil the requirements of this policy document.

In response to this provincial initiative, Halton Region has launched a comprehensive review of the Region's urban boundary to address growth to the year 2031 — "The Sustainable Halton Plan". The Plan is Halton's long-term growth management strategy which will address the requirements of Provincial plans, such as the Proposed Provincial Places to Grow Plan, the Greenbelt Plan, and the 2005 Provincial Policy Statement. These plans require that Halton double its existing population and employment by 2031.

This report is one of a series documenting the context and background of the "Sustainable Halton" exercise. Sustainable Halton is the process that will conform to Provincial Growth Plan and Policy Statements and will also meet current Regional Official Plan directions.

The key consideration of the exercise is that Halton's future to 2021 is already "committed". The Sustainable Halton Plan will evaluate how to grow to an additional 180,000 new residents between 2021 and 2031.

2.0 OBJECTIVE AND NATURE OF REVIEW

The objective of this deliverable is to provide an overview of current, planned and potential transportation improvements in Halton Region and surrounding regional municipalities.

The review followed the process outlined below:

- Obtained and reviewed relevant documentation to compile committed and planned transportation projects. In this context, Transportation projects were defined to be projects to improve/make more efficient the movement of goods and people. Hence, projects considered included those that will increase capacity via roadway improvements (widenings), transit service, transportation supply management, and transportation demand management.
- Agency documents reviewed are presented in Table 1.

Table 1 – Agency Program Review								
	Document							
Agency	TMP	Capital Programme	DC	OP	Studies			
MTO		X			X			
GO		X			X			
Halton	X	X	Х	X	X			
Hamilton	X	X	Х	X	X			
Peel	X	X	Х	X	X			
York	X	X	Х	X	X			
Toronto (incl. TTC)		Х		Х	Х			
Durham	X	X	Χ	Χ	X			

 The transportation "system" improvements identified were mapped focussing on the Region of Halton and its immediate neighbours.

3.0 STATE OF THE REGION

3.0 The Region of Halton Transportation Master Plan (2004)

In June 2004, Halton Region completed the Halton Transportation Master Plan (HTMP). The purpose of this plan was to outline the Region's strategic direction for the development of its transportation network, programs, policies and priorities. The HTMP is a critical policy document to influence every trip taken by residents and non-residents over the next 20 year period (to 2021). Within the Region's boundaries, the HTMP policies determine the convenience and attractiveness of the different travel modes as manifested by regional/local government cooperation, municipal investment priorities, system performance targets, and supporting programs and infrastructure.

The HTMP developed a strategic direction for the transportation system to guide the development of networks, policies, programs and priorities that adhered to the stated preferences of the community. The strategic direction focused on minimizing impacts on the environment and satisfying travel demand by making efficient use of the existing infrastructure and by providing the facilities and services to encourage non-auto modes such as walking, cycling and transit, as priority modes. Encouraging multi-occupant use of the auto is a positive measure, as is facilitating commercial travel particularly in the off peak.

In terms of a "vision", the HTMP was different from traditional master plan studies and encouraged people to change their travel characteristics and be aware of the consequences if they do not change. The HTMP was driven by Goals, Constraints, and Consequences. On the development and policy side, the Region is in a position to influence development and services to development. It must recognize that although "sprawl" development has been the norm to-date, this cannot continue — it is not sustainable. Halton has recognized that this continued type of development will drive higher levels of congestion and a consumption of our landscape. The plan recognizes that changes in the way in which we travel cannot be successful if the full range of

transportation solutions is not utilized. Policy and development decisions must support non-auto modes and must withstand the "not-in-my-backyard" concerns from the existing community about higher density and pedestrian friendly developments. Major employers and commercial nodes need to be concentrated and easily accessible to transit and other alternatives to the single occupant auto.

3.1 The Region of Halton Transportation Master Plan Update (2006)

The HTMP was originally based on approved population and employment growth as of 2003. Subsequently to the HTMP's completion in 2004, the provincial government brought forward new legislation — *Places to Grow, impacting population and employment forecasts for the Region through increased intensification.*

The Best Planning Estimates (BPE) for 2003 (used in the HTMP 2004) and the current BPE for population and employment to 2021 (under Places to Grow) differ in that Halton Region has approximately an additional 36,500 population and an additional 32,010 employment base.

Therefore there was a need to update the HTMP to reflect these changes. This study is currently underway and will be reported under separate cover. It is undertaking sensitivity testing of the 2004 Halton Transportation Master Plan (HTMP) to review the impacts that revised road network improvement phasing, newly released employment and population estimates for the Region, and revised infrastructure cost estimates will have on the current Halton transportation plan.

3.2 Regional Transportation Policies

Official Plan Amendment No. 25 (ROPA 25) is the amendment to the Region of Halton Official Plan that incorporates changes resulting from a review of the Regional Plan (1995). The review has involved extensive public and agency consultation and a number of directions/ recommendations have been approved by Regional Council on June 25, 2003, as the basis for amending the Regional Plan (1995). The directions encompass a number of matters in the existing plan, including urban issues, agricultural/rural issues, greenlands issues, environmental quality, healthy communities, and transportation. Some of the more pertinent directions that influence the Halton Transportation "System" include:

- A Transit Vision that supports:
- a high-service level local transit system;
- continuous enhancements on the GO Transit system;
- new GTA/Hamilton wide inter-municipal rapid transit network; and
- promote public transit in Halton by advocating:
- standardized high level of service for local transit;
- introduction of new transit services at first occupancy of new development areas; and
- measurement of effectiveness of transit system based on ridership per capita;

- Revise, in consultation with the Area Municipalities, the Functional Plan of Major Transportation Facilities in the Official Plan to take into consideration the Inter-Regional Transit Network recommended by the "Making Connections— Transit for Halton (October 2002)" report;
- Establish, in consultation with the Area Municipalities, a hierarchy of Nodes—consisting of Primary Transit Nodes, Secondary Transit Nodes, Transit Transfer Centres, and Local Nodes—and Corridors;
- Expand the Nodes section of the Official Plan to include Corridors; and
- Require the Area Municipalities to:
- include a Transit Service Plan as a study component in the preparation of secondary plans to demonstrate the integration of local transit services into the transportation network; and
- adopt urban design guidelines to promote transit supportive land uses in Nodes and Corridor;
- Amend the Functional Plan of Major Transportation Facilities, the Rights-of-Way Plan of Major Highways and relevant policies in accordance with the Council-endorsed recommendations of the North Halton Transportation Study, corridor strategies and Environmental Assessment studies (in ROPA 23); and
- Adopt alternative design standards for major roads through Nodes and along Corridors to support the development and function of the Nodes and Corridors in accordance with adopted design guidelines. These guidelines will promote pedestrian and cycling oriented development and transit friendly facilities.

3.3 Region of Halton Characteristics

The HTMP 2004 discussed in detail the "State of the Region" with regards to transportation — both from a system's and user's perspective. This section of the final document is reprinted in **Exhibit A** of this report.

Although the document is two years old, the observations made at the time are still relevant today. Following is an excerpt of the document highlighting the "vicious cycle":

"Development in the Greater Toronto Area (GTA) has traditionally followed a predictable cycle. Acres and acres of uniform lower density housing is developed further and further away from where residents work; leading to more dependence on auto use and low efficiencies of transit services. This leads to congestion, which leads to building and maintaining more roads, which leads to extending development — accommodating more auto use, and so on. This "Traditional approach" (building more roads and providing less transit) encourages low transit use and single occupant vehicle (SOV) travel.

We need to break this "Vicious Cycle".

A new Growth Management transportation approach, which encourages and supports pedestrian-friendly developments, provides more cost-efficient service and higher transit usage, and provides transportation choices, is required. Alternative non-auto travel choices, such as transit and cycling, need to be made more competitive (i.e. convenient, cost effective) with the automobile.

We need to change (or evolve) the current thinking. To some degree this is happening through the Growth Management/Smart Growth initiatives, which encourage pedestrian friendly developments, which provide more cost efficient services and provide more transportation choices. Alternative non-auto travel choices, such as transit, are made competitive (i.e. convenient, cost effective) with the automobile. The Smart Growth approach does not look only at transit revenue-to-cost ratios. It provides for improved transit service, which leads to higher usage, which results in increased ridership per capita.

In reality, while the automobile is here to stay, for ride sharing and commercial activity, with the anticipated residential and employment growth, the transportation system in Halton cannot continue to rely on single occupant auto travel as the dominant transportation choice, especially in the peak periods. Halton residents and the community at-large need to recognize they are part of the vicious cycle and the key to the solution."

4.0 THE STATE OF THE GREATER GOLDEN HORSESHOE

As presented in the introduction, the objective of this activity is to provide an overview of current, planned and potential transportation improvements in Halton Region and surrounding regional municipalities — "the Greater Golden Horseshoe (GGH)". The identification of improvements in infrastructure would provide an understanding of potential capacity to address growth.

- The review was undertaken and is presented in three forms:
- Greater Golden Horseshoe roads improvements;
- Greater Golden Horseshoe transit improvements; and
- Halton Region Capital Programme to 2021.

4.1 Greater Golden Horseshoe Road Improvements

The "greater golden horseshoe" roadway improvements identified through the documentation reviewed, as well as through ongoing announcements includes major projects, even if there is no direct "benefit" from this project to Halton Region, being undertaken by other road jurisdictions. These projects are presented in *Exhibit B.*

Of importance to Halton Region are projects that increase east/west flow as most major east/west corridors through the region are operating at capacity. Specific road projects of interest include:

Niagara-GTA Corridor

The Ministry of Transportation – Ontario (MTO) has completed the Niagara Peninsula Transportation Needs Assessment Study, which recommended a new Mid-Peninsula Highway. The study is a component of the MTO's long range planning program to improve transportation through Ontario's international

gateways and highway corridors. This is a proposed facility linking Fort Erie with Hamilton. The proposed highway has the potential to undermine the well-defined urban boundaries that the Region and its area municipalities have adopted and confirmed through the Halton Urban Structure Plan and Official Plan processes. The Ministry of Transportation has commenced a new "Full Environmental Assessment" for the Niagara-GTA Corridor and details are provided in the following web site: http://www.niagara-qta.com/index.asp. The EA Terms of Reference was approved by the Minister of the Environment in June 2006, the Notice of Study Commencement for the EA Study was issued in late December 2006.

The Northwest Brampton Transportation Infrastructure

This study was undertaken to determine the transportation infrastructure required to support the proposed urban expansion in the northwest part of Brampton. After evaluating a wide range of transportation network options, the final April 2005 study report concluded that a fully-expanded 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, would not provide sufficient capacity to accommodate the combined growth in cross-boundary through traffic and new traffic generated by future development in west Brampton (including the Northwest Brampton Expansion Area).

Halton-Peel Transportation Network Review — Transportation Master Plan Study

To be commenced in the Spring 2007, this study will address various existing and future transportation challenges particularly Halton Hills and West Brampton. The study will identify and develop a long term transportation network to support inter-municipal planning goals as well as serve future transportation demands across the northern Halton-Peel boundary area. The study will also provide input into the planning and EA 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.

GTA-West Corridor

The Ministry of Transportation's (MTO) long term vision for Central Ontario has identified the need for additional east-west highway capacity north of Highway 7 — the "GTA-West Corridor", which runs from Highway 400 in the east to Guelph in the west. This facility would likely attract traffic from Highway 7 and provide for alternate routing for truck traffic in the north part of the Region. However, the timing of implementation of this facility is currently unknown. A Notice of Study Commencement was issued for the EA Terms of Reference in early-2007. The draft Terms of Reference for the study have been released and are available for review until May 18, 2007.

QEW/Highway 403 Widenings

Improvements along the QEW/Highway 403 corridor through Halton Region are imperative to maintain the heavy east/west flow demand — much of which is external to the Region, but is often found by-passing on Regional roadways due to freeway congestion. The MTO is currently undertaking various studies and construction projects to address corridor demands.

Highway 401 Improvements

Improvements along the Highway 401 corridor through Halton Region are imperative to maintain the heavy east/west flow demand — much of which is external to the Region, but is often found by-passing on Regional roadways due to freeway congestion or, as in the case of commercial traffic, to avoid inspection stations. Steeles Avenue is often the recipient of much of this traffic.

4.2 Greater Golden Horseshoe Transit Improvements

The "greater golden horseshoe" transit improvements identified through the documentation reviewed as well as through ongoing announcements include major projects, even if there is no direct "benefit" from this project to Halton Region, being undertaken by other road jurisdictions. These projects are presented in *Exhibit C*.

4.3 Halton Region Capital Programme to 2021

Exhibit D presents some of the major MTO and Halton Region projects that are currently planned or are just outside the current planning horizons of the Region. These major projects include:

- New full interchange on Highway 403 at Waterdown Road (City of Burlington);
- New full interchange at Highway 401 and Tremaine Road;
- QEW widening through Oakville and Burlington;
- Widening and improvements to Trafalgar Road region wide;
- Widening and improvements to Bronte Road region wide;
- Widening and improvements to Dundas Street region wide; and
- Extension of James Snow Parkway to Highway 407.

As part of the HTMP 2004, the Region developed a road project capital programme to 2021. This programme addressed the capacity requirements to support the anticipated growth based on the 2003 BPE. The programme is presented in *Exhibit E*.

As part of the HTMP Update that is currently underway, it is expected that some additional projects will be required in the Milton area, given that the bulk of the Places to Grow estimates to 2021 were allocated to this municipality. A better definition of the infrastructure needs will be reported as part of the ongoing HTMP 2006 update.

Within its roadways, the Region has also made allowances to accommodate transit services, which in the Region are a local municipality responsibility. Only Milton, Burlington and Oakville offer local transit service.

Exhibit F presents the strategic transit opportunities in the Region of Halton, including Highway 407 transitway and QEW/403 HOV/RBL initiatives.

5.0 GOODS MOVEMENT

The accommodation of "goods movement" is often not a key, or specific, consideration in the development of transportation plans as these plans address peak period demand of traffic; and commercial vehicle traffic is often converted to "vehicle equivalents". The operational considerations and specific requirements of goods movement are not captured in these types of analyses.

Goods movement however, is imperative to the economic competitiveness of a municipality.

In the context of Halton Region, goods movement can be categorized as the transportation needs of the following industry sectors:

- Manufacturing shipping of goods to wholesale/retail, "just in time" delivery;
- Resource shipping of aggregates from source; and
- Agriculture shipping of produce, movement of equipment between farms.
- The Region has significant goods movement infrastructure (road, marine, rails, air) either within the Region's boundaries or close by, including:
- Milton and Brampton inter-modal (rail/road) facilities;
- John Munro International Airport (Hamilton);
- Lester B. Pearson International Airport (Mississauga);
- Provincial Highways 401, QEW/403 and 407;
- Port of Hamilton;
- Port of Toronto:
- CN Halton Subdivision;
- CN Guelph Subdivision;
- CP Galt Subdivision; and
- CP Oakville Subdivision.

In terms of current need, The Greater Toronto Services Board Goods and Movement Strategy — Phase 1 (January 2001) lists goods movement modes in the GGH in order (by tonnes transported) as: trucking (70%), Marine (15%), Rail (14%) and air (1%).

The economic viability of the Region is dependent on an efficient goods movement network. The Region of Halton has the ability to provide an efficient <u>multi-modal</u> network.

The key industry locations and goods movement infrastructure are presented in **Exhibit G.**

6.0 OTHER CONSIDERATIONS

It is always important to keep an open mind on other potential means by which to provide for the transport of goods and people. In past reports to the Region, mention has been made of ideas/proposals on the horizon that may influence/affect transportation services. Two current events of interest to the Region are:

Greater Toronto Transportation Authority

The Province has identified the establishment of a Greater Toronto Transportation Authority (GTTA) as an important part of their transportation vision. The GTTA will play an important part in providing a balanced, effective, sustainable regional transportation framework in the GTA that will implement the Provincial vision for a stronger Ontario built around stronger communities, a vibrant economy, a healthy environment and a high quality of life.

"The GTTA will develop a seamless and integrated transportation plan for road, rail and transit...in the GTA and Hamilton."

The GTTA will:

- Implement the GTA Fare Card System, which would enable commuters to travel on public transit from Durham Region to Hamilton using a single card;
- Integrate municipal and regional transit planning, and co-ordinate fares and transit service delivery to improve convenience for commuters;
- Coordinate the purchase of transit vehicles on behalf of municipalities; and
- Manage GO Transit.

GTA Ferry Services

A service being promoted in the GTA which is of greater importance to Halton, is a Hover Craft service proposed to connect St. Catharines, Hamilton, Mississauga, Pickering and Oshawa. U.S. sites are also proposed. This service plans a 25 minute trip between Hamilton and Toronto. The implementation date has not been determined and this concept is in very preliminary stages. The benefits to the Region of Halton from services that remove "through" traffic are obvious. The Region should monitor and support, in principle, initiatives that remove vehicular trips from the Halton roadway network.

7.0 CO-ORDINATION WITH OTHER SUSTAINABLE HALTON PLAN TECHNICAL TOPICS

As noted in the introduction of this report, the "Transportation Infrastructure" component is but one of a series of discussion papers documenting the context and background of the Sustainable Halton Plan exercise and its objectives. Specifically, the additional technical topic areas making up this exercise include:

- Options for a Natural Heritage System in Halton;
- Agriculture/Countryside Vision;
- Community Food Security;
- An Aggregate Resources Strategy for Halton Region;
- An Archaeology Resources Study Update for Halton Region;
- Land Supply Analysis in Halton;
- Urban Structure: Potential Long-Term Growth Areas;
- Housing Directions for Halton Region;
- Towards An Intensification Strategy for Halton Region;
- The Effect of Demographic Changes on Halton Region;
- Air Quality, Built Environment, & Human Health;
- Physical Activity, the Built Environment, & Human Health;
- Health and Social/Human Services:
- Energy Demand and Supply for Halton;
- Waste Management
- Water and Waste Water Infrastructure;
- Density Choices Study;
- Explaining Density;
- Regional Land Analysis; and
- Climate Change

Some of these have a direct relationship to transportation, others indirect. The more "obvious" direct relationships among the above technical areas include:

- An Aggregate Strategy for Halton Region and Economic Strategy for Sustainable Halton — here there needs to be the necessary infrastructure identified to support goods movement;
- Accommodating Growth in Halton; Urban Structure: Land Use Information and Potential Long-Term Growth Areas; Housing Directions for Halton Region; An Intensification Strategy for Halton Region — where the Transportation Infrastructure, or perhaps better stated, the Transportation System, is defined in response to the new population and employment distribution within the region; and

■ Air Quality, Built Environment, & Human Health; Physical Activity, the Built Environment, & Human Health; Community — which are affected by the land use and form, which in turn define the type of Transportation System required to service the Region.

Active Transportation

A term at the forefront of community development is "Active Transportation". By definition, active transportation is transportation by "self-propelled modes" which utilize on- and off-road facilities (i.e. in-line skating, walking, jogging, cycling and skateboarding, manual wheelchairs). Active Transportation is being promoted as a year-round travel mode option that should be available for all members of the community.

The other technical area discussion papers have identified/confirmed that we generally live in a society where people are less active, air pollution is of concern and health concerns are increasing. The reliance on the automobile and the prominence of the single occupant vehicle in peak period travel is one of the contributing factors to the deterioration of the noted quality of life measures.

These papers recommend that within the context of community development, there be a variety of options to the general public to encourage a more active lifestyle and decrease the reliance upon the automobile — mainly the single occupant automobile, as discussed in the HTMP 2004. These options, however, must be "competitive" to the automobile not just during peak period travel but at all times through the day. For example, a "one-hour" transit service with multiple transfers before reaching a destination/terminal will not be a viable option to the automobile during the peak or off-peak. Therefore, a well-connected, safe and functional "active transportation network", should continue to form part of the future transportation system for the Region.

In defining the "mobility" needs for the Region, it is important to note that the HTMP 2004 identified roadway improvements as a secondary priority to transit, cycling, walking, transportation demand management and transportation system management measures. The Study identified means or tools available to meet these objectives to include:

- Travel Demand Management Initiatives;
- Convenient and accessible transit;
- Transit Signal Priority Installation;
- Reserved Bus Lanes;
- Car sharing;
- Promotion of energy-efficient transportation;
- Education and Promotion Programs to change travel behaviour;
- Land Use policies that support high-order transit, cycling and walking;
- Appropriate Pedestrian and Cycling Infrastructure;
- Efficient Movement of commercial goods;
- Viable options to the automobile;

- Implementation of ITS initiatives:
- Ongoing monitoring and periodic updates of transportation plans/ strategies;
- Transportation Supply Management Plans;
- Policies on the protection of the environment; and
- Provision for adequate roadway capacity.

The Region has already acted to implement some of the non-SOV travel objectives by forming a Transportation Management Association (TMA) at the Regional Complex and providing secure bicycle storage facilities. The Halton TMA is continuing to expand and will be implemented at the local municipal offices including the City of Burlington, Town of Milton and the Town of Oakville.

It is critical to recognize that the transportation system is usually derived from the land use and built form of the community — it is a responsive process. The transportation system derived from the Sustainable Halton Plan process will be a reflection of what will be developed. Therefore, to achieve the common objectives of the Technical Topics of the Plan there needs to be a transportation system that is supported by the appropriate:

- Mix and density of land use (transit supportive development);
- Community build form (street types, connections);
- Transit service commitment by the various transit providers in the Region; and
- Financial commitment to implement alternative modes.

Therefore, in the next Phases of the Sustainable Halton Plan, there needs to be an iterative design process among the various technical areas to find a balance among the varying topics and within the transportation system proper.

8.0 NEXT STEPS

The transportation "system" required for the Sustainable Halton Plan will depend on the final derivation of the population and employment forecasts – the absolute number and location within Halton. An iterative process will then commence between the system demand analysis and land use scenarios with the final objective being the development of a balance system.

In the development of the DHP, consideration should be given to the following:

- Respect the goals and objectives of the HTMP 2004, as approved by the Regional Council. Specifically, ensure the capacity to address estimated demand is provided through transit TDM/TSM and other non-sov means, and through infrastructure widening as a secondary priority;
- Ensure there is efficient connectivity between source and destination of goods movement; and

•	Coordinate where for other technical topic evaluation/analysis	s of the Sustainable	e Halton Plan, once	