

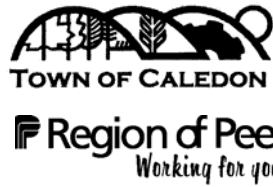


**CALEDON  
TRANSPORTATION  
NEEDS STUDY  
  
STUDY REPORT**

**Prepared For:**  
**The Town of Caledon**  
*and*  
**The Region of Peel**

**Prepared By:**  
**Paradigm Transportation Solutions Ltd**  
*in association with*  
**Philips Engineering Ltd**

**September 20, 2004**



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## EXECUTIVE SUMMARY

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The Caledon Transportation Needs Study has been undertaken as a joint project by the Town of Caledon and the Region of Peel to determine the existing and future travel demands within Caledon and the general nature of transportation improvements required to accommodate these travel demands. The study is intended to provide input to the updating of Official Plans at the municipal and regional level, as required, as well as to provide a framework for the ongoing planning and provision of future transportation facilities in Caledon.

The study is a broad area study looking at the overall traffic patterns across the full municipality and projecting travel demands to year 2031. The Region of Peel travel forecasting model was used as a primary tool in this analysis. It is anticipated that this study will be updated or reviewed at regular intervals of at least every 10 years to ensure it fully reflects current conditions and experience.

### *Current Transportation Conditions*

Travel in Caledon is heavily automobile-oriented with over 80% of residents' trips during the morning peak period being made as an automobile driver or automobile passenger<sup>1</sup>. As a result, the roadway network in Caledon is the primary component of the current transportation system. This network consists of a hierarchical system of roadways with different functions designated in the Town's Official Plan. The key components of the roadway network, as defined in the Official Plan, are:

- ▲ High capacity arterials such as Highway 10, Airport Road and Mayfield Road are intended to serve high volumes of medium to long distance inter and intra regional traffic.
- ▲ Medium capacity arterials such as King Street, Old Church Road and The Gore Road are intended to serve moderate volumes of medium distance traffic.
- ▲ Low capacity arterials such as Forks of the Credit Road are special cases of roadways where physical or environmental barriers restrict the right of way or design speed and they are intended to serve low to moderate volumes of short distance traffic.
- ▲ Collectors such as Old School Road, Castlederg Sideroad and Innis Lake Road are intended to serve low to moderate volumes of traffic between local and arterial roads.
- ▲ Local roads are intended to provide direct property access and to serve local traffic only.

The current transportation concerns in Caledon focus on several key issues, as follows:

- ▲ Peak period traffic congestion on the roadway network is a primary concern. This problem has been noted largely in the southern area of Caledon and includes the roads in the immediate area of Bolton, the south-central routes oriented towards the Highway 410 corridor, the Mississauga Road – Highway 10 corridor crossing the Niagara Escarpment and east-west traffic along

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<sup>1</sup> The Transportation Tomorrow Survey 2001, University of Toronto Joint Program in Transportation, Data Management Group.

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Mayfield Road.

- ▲ Excess traffic on non-arterial roads is a second area of concern. Peak traffic volumes on the collector roads have been increasing in recent years and create concerns associated with speeding traffic, conflicts with farm equipment, cyclists and pedestrians who are also using these roads.
- ▲ Through traffic is a significant concern in Caledon. Growth to the west and north of the municipality has created increased traffic crossing Caledon to reach employment and other activities within larger centres of the Greater Toronto Area.
- ▲ The impact of traffic on the local environment within villages and hamlets in Caledon is a significant concern. Through traffic creates safety concerns for pedestrian activity within the villages and hamlets. Also, traffic creates problems related to noise, dust and general intrusion.
- ▲ Caledon commuters are heavily dependant on private automobile travel. Currently, there are only limited opportunities to utilize public transit as an alternative to the automobile. Car pool lots that could encourage less single occupant automobile travel are also limited.

***Future Travel Demands***

The anticipated growth of population and employment within Caledon and in the neighbouring municipalities is the primary factor effecting future travel demands within Caledon. Table ES.1 below summarizes the anticipated population growth in Caledon and neighbouring areas over the next 25 years.

**TABLE ES.1: PROJECTED POPULATION GROWTH**

	Year 2001	Year 2011	Year 2021	Year 2031	% Growth (2001 – 2031)
<b>Caledon</b>	<b>50,595</b>	<b>65,848</b>	<b>84,444</b>	<b>84,444</b>	<b>67%</b>
City of Brampton	325,000	475,000	594,000	678,000	108%
Halton Region	375,000	530,000	650,000	750,000	100%
Wellington County	187,000	224,000	253,000	292,000	56%
Dufferin County	51,000	65,000	79,000	92,000	81%
Simcoe County (west)	78,000	95,000	114,000	133,000	69%
York Region	729,000	970,000	1,140,000	1,270,000	74%

Based on the forecast population and employment within Caledon and the neighbouring municipalities, the study developed forecasts of the future AM peak hour traffic volumes. A summary of the forecast traffic volumes on the existing roadway network is provided in Table ES.2 below. As indicated in this table, the peak hour traffic is expected to increase significantly in most areas of the municipality over the study period. The overall average growth in traffic volumes from year 2001 to year 2031 is approximately 110%. The existing transportation system within Caledon is not capable of accommodating this level of traffic growth and will require significant changes and improvements to maintain acceptable operating conditions.

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**TABLE ES.2: FORECASTS OF AM PEAK HOUR TRAFFIC AT SELECTED SCREENLINES**

Screenline (traffic direction crossing screenline)	2001 AM Peak Hour Observed Volume (vph)	2011 AM Peak Hour Forecast Volume (vph)	2021 AM Peak Hour Forecast Volume (vph)	2031 AM Peak Hour Forecast Volume (vph)	Traffic Growth from 2001 to 2031
1 - North Caledon Boundary (southbound)	3,265	5,200	5,682	6,687	105%
2 - Charleston Sideroad (southbound)	1,911	3,159	3,806	4,301	125%
3 - Old Base Line Rd. (southbound)	3,909	6,209	7,117	7,718	97%
4 - King St. (southbound)	7,475	11,491	13,396	14,824	98%
5 - Mayfield Rd. (southbound)	9,164	13,785	17,231	19,282	110%
6 - Townline Rd. (eastbound)	1,535	2,431	2,792	2,887	88%
7 - Winston Churchill Blvd. (eastbound)	1,095	1,969	2,449	3,076	181%
8 - Highway 10 (eastbound)	3,397	5,588	6,162	7,277	114%
9 - Airport Rd. (eastbound)	2,121	3,438	4,040	4,057	91%
10 - Regional Rd. 50 (eastbound)	1,681	2,844	2,783	2,854	70%
11 - Forks of Credit Rd. (southbound)	1,735	3,217	3,737	3,983	130%

An assessment of year 2001 travel patterns found that 42% of the peak period automobile trips on Caledon’s roads are long distance trips that pass through Caledon without having an origin or destination within the municipality. The high level of growth forecast in the surrounding municipalities and regions is a clear indication that through traffic demand in the future will increase relative to the local traffic demand. It is essential that this high volume and anticipated growth of through traffic is matched with improvements to the Provincial highway system. The key Provincial highway projects are:

- ▲ Widening of Highway 10 to four lanes is needed to accommodate future growth in north-south traffic through the central area of Caledon.
- ▲ The planned extension of Highway 410 from Bovaird Drive in Brampton to connect directly to Highway 10 in Caledon is a critical improvement to relieve existing congestion and accommodate traffic growth in the very short term.
- ▲ The proposed extension of Highway 427 from Highway 7 to north of Highway 9 is also a critical highway link to relieve north-south through traffic in the eastern areas of Caledon. The study found that Highway 427 will accommodate about 3,500 vehicles per hour (vph) that otherwise will be forced to utilize the roadway network through Caledon.

If these Provincial highway improvements are not carried out in a timely manner, the congestion related to through traffic and the spillover of traffic to the rural collector roads will become an intolerable situation for motorists and residents alike.

***Future Transportation Improvement Needs***

Accommodation of the future travel demands within Caledon is expected to require a range of options, including the following:

- ▲ Capacity improvements to arterial roadways where peak traffic demands exceed the existing capacity and congestion can not be alleviated through other more acceptable measures.
- ▲ Development of public transit services in the larger urban areas to attract peak commuter trips.
- ▲ Supporting Regional efforts to implement travel demand measures throughout Peel Region.
- ▲ Consideration of traffic calming measures on collector roadways experiencing excess through



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Detailed plans for specific projects will need to be developed through an EA process in consultation with stakeholders as well as agencies such as adjacent municipalities and Ministry of Transportation of Ontario (MTO). The general priorities for implementation of these improvements are summarized in Table ES.3 below.

**TABLE ES.3: POTENTIAL ROADWAY IMPROVEMENT PRIORITIES**

Corridor	Short Term	Medium Term	Long Term
Winston Churchill Blvd. – Mississauga Rd. Corridor	<ul style="list-style-type: none"> <li>• Monitor traffic diversion to Hwy 10</li> </ul>	<ul style="list-style-type: none"> <li>• Pave Winston Churchill Blvd.</li> <li>• Intersection improvements on Olde Base Line (WCB – Hwy 10)</li> </ul>	
Airport Road Corridor		<ul style="list-style-type: none"> <li>• Airport Rd widening to 4 lanes (Mayfield Rd. - Caledon East)</li> </ul>	<ul style="list-style-type: none"> <li>• Possible connections of Airport Rd to east and west, south of Caledon East</li> </ul>
R.R. 50 – Albion Vaughan Road Corridor	<ul style="list-style-type: none"> <li>• Coleraine Drive reconstruction to 2 lanes (King St. – R.R. 50 south)</li> <li>• Coleraine Dr. extension (King St. – R.R. 50 north)</li> </ul>	<ul style="list-style-type: none"> <li>• Coleraine Dr widened to 4 lanes (King St – R.R. 50 south)</li> <li>• Albion - Vaughan Road widened to 4 lanes (King St – R.R. 50 south)</li> </ul>	<ul style="list-style-type: none"> <li>• Possible improvements to Columbia Way</li> </ul>
Mayfield Road Corridor	<ul style="list-style-type: none"> <li>• Mayfield Rd. widened to 4 lanes (Hurontario St. - Hwy 410)</li> </ul>	<ul style="list-style-type: none"> <li>• Mayfield Rd. widened to 4 lanes (Hwy 410 – Airport Rd.)</li> <li>• Mayfield Rd widened to 4 lanes (Winston Churchill Blvd. – Hurontario St.)</li> </ul>	<ul style="list-style-type: none"> <li>• Mayfield Rd. widened to 4 lanes (Airport Rd. – R.R. 50)</li> <li>• Mayfield Rd widened to 6 lanes (Hurontario St. – Hwy 410)</li> </ul>
King St – Olde Base Line Corridor		<ul style="list-style-type: none"> <li>• Intersection improvements on Olde Base Line (WCB – Hwy 10)</li> </ul>	<ul style="list-style-type: none"> <li>• King St. improvements or widening (Mississauga Rd. – Hwy 10) &amp; intersection improvements (Hwy 10 – Coleraine)</li> </ul>

In addition to arterial roadway improvements, other measures will be required to accommodate future growth in travel demand. Travel demand management (TDM) is a strategy that focuses on increasing automobile occupancy, shifting trips to non-auto modes, shifting trips away from peak hour time periods and reducing the amount of travel. The Region of Peel is developing a Region-wide TDM strategy. The Town of Caledon should actively participate in this strategy to help manage peak vehicular traffic demand within the municipality.

Public transit services are currently very limited within the Town of Caledon. The study recommends that consideration be given in the short term to a regular local public transit service within the Bolton urban area, in conjunction with improved GO Transit bus service to Bolton. In the longer term, local public transit services should also be considered in Mayfield West. Consideration should be given to providing these public transit services through arrangements with



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existing services such as Brampton Transit or York Region Transit. There is potential for provision of GO Train service to the Bolton urban area in the long term and steps should be taken, in consultation with GO Transit, to protect this future option.

The foregoing improvements and measures are intended to accommodate the anticipated growth in peak period travel demand within Caledon. However, one of the significant areas of concern is the impact of excess volumes of traffic on the rural collector roadways in the municipality. The study suggests a strategy to address this concern that consists of:

- ▲ Maintaining reasonable levels of service on the high capacity and medium capacity arterial roadways in the network, with a volume to capacity ratio of 0.9 or less to minimize spillover of through traffic to non-arterial roads. The anticipated scope of roadway improvements has been noted above.
- ▲ Where problems of excess traffic continue to occur on the rural collector roads, particularly in villages/hamlets or at safety problem areas, the Town should investigate traffic calming measures to reduce through traffic volumes, reduce traffic speed and increase driver awareness.

A range of traffic calming measures has been identified for general consideration. The selection of specific traffic calming measures will need to recognize the local conditions and should also have a high level of support by the various stakeholders.

The study proposes that the key objectives of the strategy should be monitored on an ongoing basis, as follows:

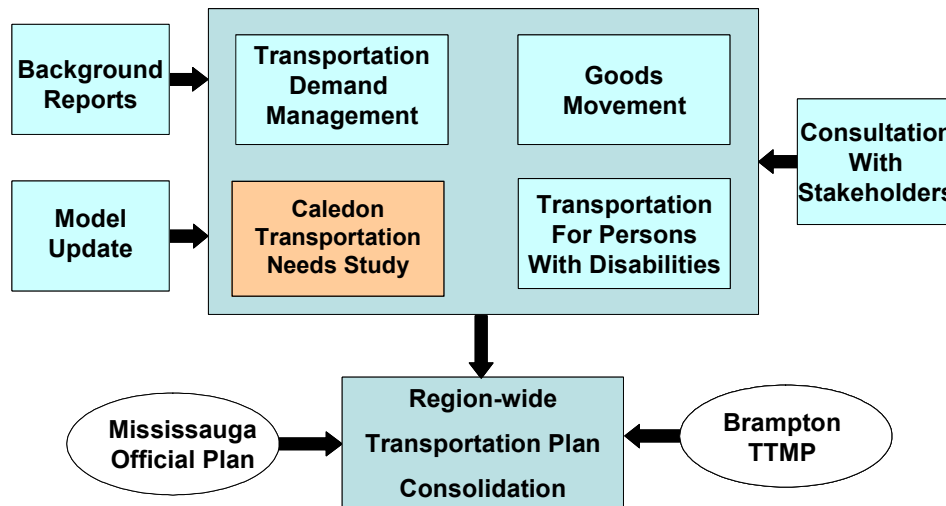
- ▲ The plan should develop greater travel choices for peak period commuters and gradually reduce the percentage of trips made by Caledon residents as automobile drivers. This can be monitored every five years through the Transportation Tomorrow Survey.
- ▲ Peak period traffic congestion on the road network should be maintained within acceptable limits. As a target, traffic volumes should not exceed 90% of roadway capacity on individual arterial roads.
- ▲ The number of rural collector road segments with daily traffic volumes exceeding recognized guidelines should be reduced over the next several years. This can be monitored every one to two years using the Town's established traffic counting program.

## 1.0 INTRODUCTION

The Caledon Transportation Needs Study has been initiated and carried out as a joint undertaking of the Town of Caledon and Region of Peel. The Town last conducted an area-wide transportation study in 1991. Since that time there has been significant growth both within and outside the Town that has created increases and changes in traffic using the transportation network in Caledon. In recognition of these changing traffic conditions, Town Council directed staff to undertake the Caledon Transportation Needs Study as one component of the five year review of the Town's Official Plan.

In 2002, Peel Regional Council directed Peel Region staff to undertake a strategic update of four focus areas related to the Region's Official Plan, namely environment, human services planning, regional structure and transportation. The scope of the Region's transportation planning review is illustrated in Figure 1.1 below. Recognizing the traffic changes in Caledon and the significant role of the Regional roadway network, the Caledon Transportation Needs Study has been included as one of the key components of the long range transportation planning program.

**FIGURE 1.1: PEEL REGION LONG RANGE TRANSPORTATION PLANNING PROGRAM**



The goal of this assignment is to develop an effective, efficient and coordinated transportation network that will serve the demands of existing and future residents, businesses and visitors, and to facilitate the safe and efficient passage of people and goods within and through the Town of Caledon while being supportive of the Region of Peel and Town of Caledon Official Plan goals with respect to healthy communities, economic growth and ecosystem protection. The following objectives were established by the Town and Region for the study:

- ▲ To determine the existing and future (2031) local, intra-regional and inter-regional traffic characteristics, including traffic composition and volumes and travel patterns.
- ▲ To determine the existing and future (2031) capacity, right-of-way width needs of the provincial, regional and local road network corridors that are required to serve the demands of the existing and future residents and businesses in Caledon, visitors to the region and to serve the projected growth in intra-regional and inter-regional traffic.
- ▲ To provide an assessment of the opportunities that exist to establish east-west and north-south road network connectivity and continuity to neighbouring municipalities.

- ▲ To evaluate and recommend, in a general sense, appropriate techniques and methods to manage the volume and pattern of traffic movement on the road network in Caledon.
- ▲ To determine likely timing of the future transportation infrastructure improvements.
- ▲ To provide an assessment of the opportunities for public / private transit service in Caledon.

The study was initiated in August 2003 and has been carried out over a period of approximately ten months. The study management was the responsibility of two staff representatives of the Town and Region:

- ▲ Mr. Tim Manley, Town of Caledon
- ▲ Mr. Murray McLeod, Region of Peel

Overall direction of the study was provided by a Project Team consisting of representatives of Caledon Planning Department, Caledon Public Works and Engineering Department, Peel Transportation Planning Office and Peel Traffic and Transportation Engineering Office. Representatives of other key agencies, such as the Ministry of Transportation (MTO) also attended meetings of the Project Team. The consulting team of Paradigm Transportation Solutions Ltd in association with Philips Engineering Ltd was retained by the Town and the Region to carry out the technical aspects of the study under the direction of the Project Team.

The study work program was organized and carried out in a systematic manner that covered the following activities:

- ▲ Data collection and review tasks that included a review of land use and transportation policies, a review of related transportation studies, an inventory of the transportation system and establishment of a traffic data base.
- ▲ Travel forecasting and analysis tasks that included a review of the Peel Region model, establishing a base scenario, forecasts for years 2011, 2021 and 2031 and the analyses of network alternatives.
- ▲ Development and selection of most likely transportation improvements including the assessment of strategic options, detailed analysis of local area issues, and evaluation of network alternatives.
- ▲ Development of a public transit strategy including the assessment of existing services, review of transit service feasibility.
- ▲ Identification of performance targets including the identification of key indicators and suggested monitoring requirements.

The work was reviewed at each stage of the study by the Project Team to ensure the study objectives were being met and to provide direction for further study tasks.

This report provides the documentation of the study investigations and findings. Section 2.0 provides an overview of the existing transportation system and traffic conditions. It also provides a summary of the current transportation deficiencies. The basis for forecasting future traffic conditions and the resulting forecasts are provided in Section 3.0. Section 4.0 of the report discusses the future transportation needs and the nature of the measures required to meet these needs. The summary conclusions and recommendations of the study are provided in Section 5.0. The transportation reports and related documents used for this study are provided as References at the end of the report.

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## 2.0 EXISTING CONDITIONS

### 2.1 Official Plan Policies

The relevant Official Plan policies of Peel Region and Caledon were reviewed to identify and assess planning objectives related to this study. The relevant policies are summarized below.

#### ***Region of Peel Official Plan Policies***

The Region of Peel Official Plan (Office Consolidation, May 2001) provides a regional strategic policy framework for guiding growth and development in Peel. The Plan contains goals and objectives that promote sustainable development and healthy communities.

Transportation-related goals in the Peel Regional Official Plan include:

- 5.6.1.6 To integrate the transportation system in Peel with the transportation plans of the area municipalities, neighbouring municipalities and the Province.
- 5.6.2.11 Coordinate planning with adjacent regions and municipalities, to establish a planned transportation network that considers and coordinates the road linkages across municipal boundaries that will accommodate cross-boundary traffic.
- 5.6.4.2.4 Ensure that adequate transportation capacity on Regional roads is based on a “Level of Service Policy” adopted and periodically reviewed by Regional Council.
- 5.6.4.2.7 Protect and preserve the natural environment, consistent with the objectives and policies in this Plan, the area municipal official plans, the Environmental Assessment procedures, and if applicable, the Niagara Escarpment Plan where Regional roads are proposed to be widened, reconstructed or improved. Where portions of Regional roads have scenic, environmental, or cultural heritage characteristics, it is intended to retain and protect the unique features of the road section.

The Regional Official Plan supports the planning, corridor protection and the early construction of the following facilities:

- 5.6.3.2.2 d) The extension of Highway 410 north-westward to join with Highway 10.
- 5.6.3.2.2 f) Widening and other improvements of Highway 10 through the Town of Caledon, consistent with the policies of the Niagara Escarpment Plan, the Town of Caledon Official Plan and Caledon Community Resource Study (CCRS) were applicable.

The aforementioned policies represent a selection of policies relevant to the transportation system in Caledon. It is important to note that an interrelationship exists between all of the Region of Peel Official Plan policies and, as such, the policies described above should not be read in isolation.

### *Town of Caledon Official Plan Policies*

The Town of Caledon Official Plan (Office Consolidation, December 31, 2002) is a statement of principles, goals and objectives intended to guide future land use, physical development and change, and the effects on the social, economic, and natural environment within the Town of Caledon.

The Caledon Official Plan identifies goals which provide the context within which the policies of the Plan should be interpreted. The goals include the following:

- 2.2.3 To plan and support a transportation system that provides for both inter and intra Town traffic movements, balances demand with capacity, protects and stewards ecosystems, and protects heritage sites and sensitive human environments.

Transportation-related policies in Caledon's Official Plan include:

- 5.9.3.4 The Town will coordinate local road improvements, as appropriate, with the Region and the Province, and will encourage these authorities to maintain and improve roads within Caledon, as appropriate.

- 5.9.5.4 The road network will be based on the following functional classification system as shown on Schedule J (Town of Caledon Official Plan):

- a) Freeways
  - i. Are roadways under Provincial jurisdiction.
  - ii. Are roadways intended to serve large volumes of inter-regional and long distance traffic at high speeds.
  - iii. Are roadways of high speed design with uninterrupted flow, with access only achieved through grade separated interchanges, designated by the Ministry of Transportation as Controlled Access Highways.
  
- b) High Capacity Arterials
  - i. Are roadways under Provincial or Regional jurisdiction.
  - ii. Serve high volumes of medium to long distance inter and intra regional traffic at moderate speeds and will provide access to major attraction centres.
  - iii. Will generally have a 30 to 50 metre road allowance width with 2 to 6 lane capability and limited property access.
  - iv. On-street parking will be discouraged.
  
- c) Medium Capacity Arterials
  - i. Are roadways under Regional or Town jurisdiction.
  - ii. Serve moderate volumes of medium distance traffic at moderate speeds with limited property access.
  - iii. Will have a 20 to 36 metre road allowance with 2 to 4 lane capability.
  - iv. On-street parking will be discouraged.

- d) Low Capacity Arterials
  - i. Are roadways under Regional jurisdiction.
  - ii. Serve low to moderate volumes of short distance traffic at relatively low speeds and are sections of medium capacity arterial roadways where physical or environmental barriers restrict rights-of-way width or design speed.
  - iii. Will have a 20 metre road allowance with 2 lane capability.
  - iv. On-street parking will be discouraged.
  
- e) Collectors
  - i. Are roadways under the Town's jurisdiction.
  - ii. Serve low to moderate volumes of short distance traffic between local and arterial roads.
  - iii. Provide individual property access with some limitations.
  - iv. Will generally have a 20 to 26 metre road allowance with 2 to 4 lane capability.
  - v. On-street parking may be permitted.
  
- f) Local Roads
  - i. Are roadways under the Town's jurisdiction.
  - ii. Serve local traffic only and provide connections to collector roadways.
  - iii. Provide direct property access.
  - iv. Will have a 17 to 20 metre road allowance with 2 lane capability.
  - v. On-street parking may be permitted.

To provide for the safe efficient movement of trucks through and within the Town and to minimize the impact of heavy trucks on residential areas, the Town's Official Plan policies include the following:

- 5.9.1.2.1 a) Will generally encourage the primary through truck traffic onto high capacity arterial roadways, where road pavement structure is deemed structurally adequate. The Town will endeavour to keep the arterial roads open to truck traffic throughout the year.
- 5.9.1.2.1 b) Will permit truck use on medium capacity arterials and collector roadways only as connectors to service high capacity arterial routes, pending structural suitability.

The aforementioned policies represent a selection of policies relevant to the transportation system in Caledon. It is important to note that an interrelationship exists between all of the Town of Caledon Official Plan policies and, as such, the policies described above should not be read in isolation.

## *2.2 Caledon Transportation System*

### *Roadway Network*

The primary component of the transportation system in Caledon is the roadway network shown in Figure 2.1 below. The different types of roadways as identified in the Caledon Official Plan are as follows:

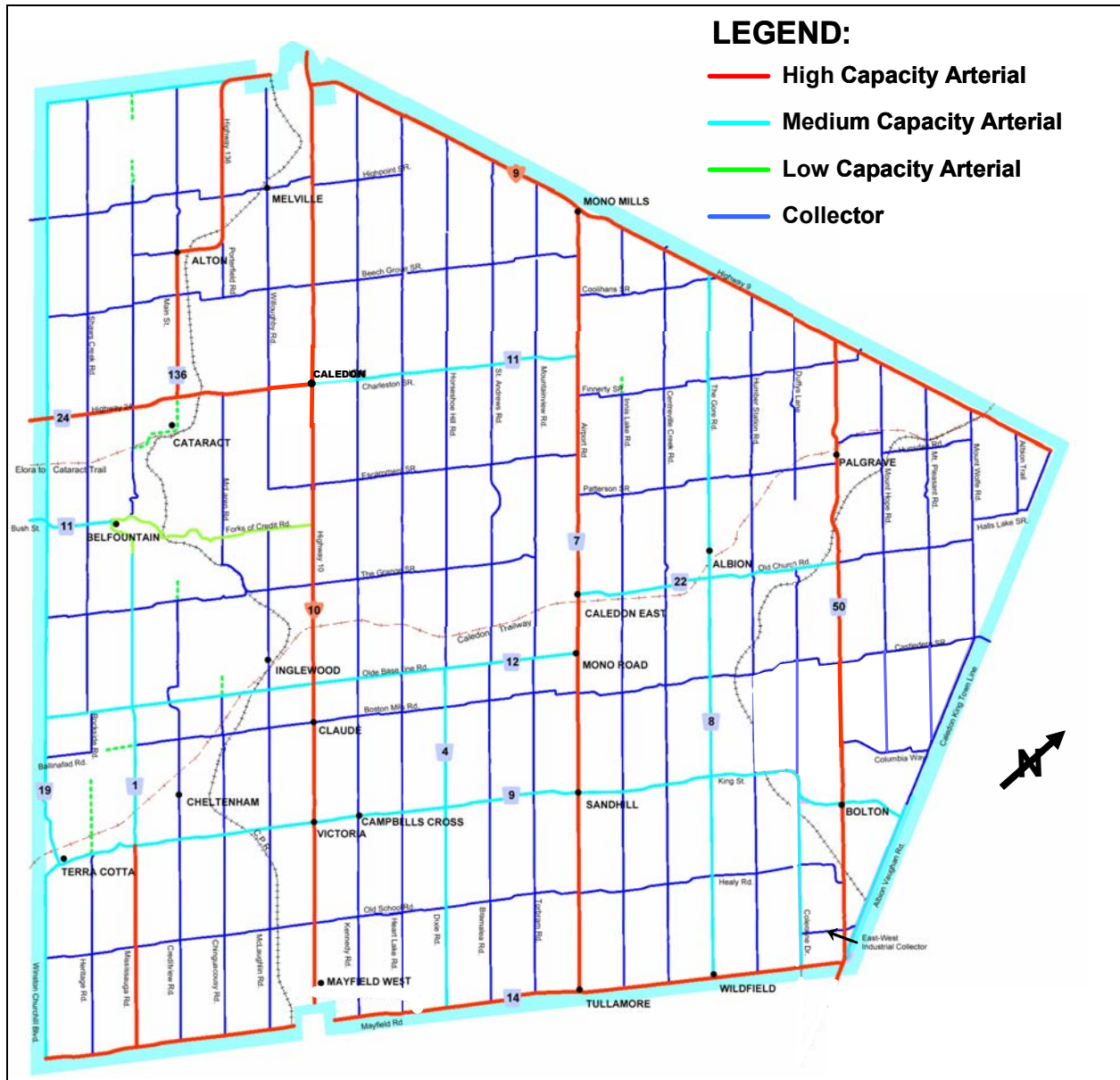
- ▲ Freeway (future)
- ▲ High capacity arterial roadway
- ▲ Medium capacity arterial roadway
- ▲ Low capacity arterial roadway
- ▲ Collector roadway
- ▲ Local roadway

There are no freeway standard facilities in Caledon at present. The Official Plan identifies the future Highway 410 as a proposed freeway connecting the existing Highway 410 in Brampton to the existing Highway 10 in the Mayfield West area.

The designated high capacity arterials in Caledon are as follows:

- ▲ Highway 10 (MTO)
- ▲ Highway 9 (MTO)
- ▲ Mayfield Road (Regional Road 14)
- ▲ Airport Road (Regional Road 7)
- ▲ Former Highway 50 (Regional Road 50)
- ▲ Former Highway 24 / Charleston Sideroad (Regional Road 24)
- ▲ Former Highway 136 / Main Street (Regional Road 136)
- ▲ Mississauga Road (Mayfield to King) (Regional Road 1)

**FIGURE 2.1: CALEDON ROADWAY NETWORK**





The designated medium capacity arterial roadways in Caledon are as follows:

- ▲ Winston Churchill Boulevard (Regional Road 19 – Mayfield Rd. to Beech Grove Side Road, (Town road north of Beech Grove Side Road))
- ▲ Mississauga Road (Regional Road 1 – King Street to Bush St., Town road north of Bush St.)
- ▲ Dixie Road (Regional Road 4 – Mayfield Rd. to Olde Base Line Rd.)
- ▲ The Gore Road (Regional Road 8 – Mayfield Rd. to Hwy 9)
- ▲ Coleraine Drive (Mayfield Rd. to King St.)
- ▲ Albion Vaughan Road (Mayfield Rd. to north of King St.)
- ▲ King Street (Regional Road 9 – Winston Churchill Blvd. to Townline)
- ▲ Olde Base Line Road (Regional Road 12 – Winston Churchill Blvd. to Airport Rd.)
- ▲ Old Church Road (Regional Road 22 – Airport Rd. to RR 50)
- ▲ Charleston Sideroad (Regional Road 11 – Hwy 10 to Airport Rd.)

The medium capacity arterial roads are all Regional roads at present except Coleraine Drive and Albion Vaughan Road. The only designated low capacity arterial is Forks of the Credit Road/Bush Street (Regional Road 11 – Winston Churchill Blvd. to Hwy 10).

Almost the entire balance of the east-west, north south grid of roadways within Caledon is designated as collector roads. These roads are generally continuous roadways, evenly spaced at intervals of 3 km between the east-west roadways and 1.4 km between the north south roadways. There are some discontinuities in these roadways due to geographic constraints such as the Niagara Escarpment. Also, the east-west roadways are not continuous across Airport Road in several areas. Local roadways are generally located in the settlements.

### ***Truck Routes***

The provision of safe and efficient heavy truck operation in Caledon is an important consideration to support economic activities within and surrounding the municipality as indicated in the policies of the Official Plan. Heavy truck traffic is generally related to the aggregate mining activities, farming operations and industrial activity within the Town as well as truck travel through the municipality. While truck travel is important to the economic health of the Town, it is necessary to restrict truck traffic in sensitive areas. Truck traffic within Caledon is managed by each of the roadway agencies through restrictions on heavy truck operation on their respective roadways.

Heavy trucks are allowed to travel on Highways 10 and 9 without specific restrictions, except under unusual conditions that may require special load or other restrictions. Heavy trucks are allowed to use Regional roads except where specifically restricted by Regional by-law. Regional by-law 41-2001 does restrict heavy truck operation on specific segments of Regional roads in Caledon, as noted in Table 2.1 below. Also, Regional by-law 41-2001 places axle load restrictions on specific Regional roads, usually during the months of March and April, to reduce damage to the roadway structure.

Heavy truck operation is restricted (i.e., No Heavy Trucks) on all roads under the Town of Caledon's jurisdiction, except:

- ▲ Coleraine Drive (Mayfield Rd. to King St.)

- ▲ Albion Vaughan Road (Mayfield Rd. to King St.)
- ▲ All industrial subdivision roads.

There are no axle load restrictions on roadways under the Town’s jurisdiction.

The Town also provides some longer term management of truck traffic through land use planning policies and practices. Land uses that tend to generate higher volumes of truck traffic are located adjacent to high capacity arterials where possible to minimize truck traffic on more sensitive roads.

**TABLE 2.1: HEAVY TRUCK RESTRICTIONS ON REGIONAL ROADS IN CALEDON**

<b>Regional Road</b>	<b>Area of Restriction</b>	<b>Heavy Trucks Prohibited</b>
1 (Mississauga Road)	King St. – Bush St.	Anytime
8 (The Gore Road)	King St. - Highway 9	Anytime
9 (King Street)	Winston Churchill Blvd – Mississauga Rd.	Anytime
11 (Bush /Forks of the Credit)	Highway 10 and the boundary between the Region of Peel and the County of Wellington	Anytime
12 (Olde Base Line)	Winston Churchill Blvd. – Airport Rd.	Anytime

***Other Transportation System Components***

Public transit services within Caledon are limited at present. The current services include:

- ▲ Caledon Community Services provides a community transit service for elderly and disabled persons. This is a door-to-door prebooked service. While a valuable social service, it has no impact on peak period traffic demand.
- ▲ GO Transit operates weekday peak period bus service in Caledon as follows:
  - Along Hwy 10 from Orangeville (2 AM trips to Brampton GO, 1 mid-day trip to Bramalea GO, 3 PM trips from Brampton GO). The major bus stops / timing points in Caledon are at Hwy 10 and Charleston Side Road, Hwy 10 and King St., and Snelgrove and Mayfield Rd.
  - Bolton via King St. and Hwy 27 (2 AM trips to Etobicoke North GO and 2 PM trips from Etobicoke North GO). The major bus stops / timing points in Caledon are at Albion Vaughan Rd. and Industrial Rd., Queen St. and Queensgate Blvd., and King St. and Humberlea Rd.

In addition to the GO Transit bus services within Caledon, GO provides peak period commuter rail service on the Georgetown Line with stations at Brampton and Bramalea that offer rail service to downtown Toronto. These stations have parking facilities to accommodate park-and-ride trips originating as vehicle trips from Caledon.

- ▲ PMCL & Greyhound operate services along Hwy 10 and Regional Rd 50 connecting to Brampton and Toronto. Services are limited to 1 trip each way daily on each route and are

generally outside peak periods. Fares are competitive with GO Transit fares. However, these services are unlikely to have any significant impact on peak period traffic demand.

- ▲ Brampton Transit operates local bus services on Collingwood Ave and Mayfield Rd near the south Caledon boundary. At present it is not expected that these services attract significant numbers of trips from Caledon due to lack of adjacent development and any park-and-ride provisions. However, future development in the Mayfield West area, near the Brampton boundary, could make some use of these existing Brampton Transit services.

Caledon has several major trailways through the municipality that accommodates recreational hiking and cycling for residents and visitors. There are also bikeway/walkway paths that have been developed and pedestrian circulation is provided through sidewalks in urban areas of the Town. These facilities provide recreational travel as well as local circulation within communities. In future, the pedestrian facilities will also facilitate access to public transit services in the urban areas. In general, the trailway, bikeway and pedestrian facilities are outside the scope of this study but they are important components of local community circulation.

### **2.3 Traffic Conditions**

The existing traffic conditions in Caledon have been established largely through traffic data provided by the Ministry of Transportation, Peel Region and the Town of Caledon. This data indicates the considerable range of traffic conditions using the network of roadways within Caledon.

Table 2.2 below provides examples of the range of current weekday traffic volumes on the different classifications of roadways in Caledon. The daily traffic volumes on high capacity arterials range from about 5,000 vehicles per day up to about 30,000 vehicles per day. The highest daily volumes are noted on Regional Road 50, south of the Bolton area, and on Highway 10 north of Brampton. The daily traffic volumes on medium capacity arterials are considerably lower, typically in the range of 3,000 to 8,000 vehicles per day. Traffic volumes on the collector roadways tend to vary considerably, from volumes in the order of 100 to 200 vehicles per day on the very low volumes roads up to about 8,500 vehicles per day in the highest volume case. The high volume of 8,500 vehicles per day on Heart Lake Road, north of Mayfield Road is a special case related to the current temporary terminus of Highway 410 in Brampton being connected directly to Heart Lake Road. In the absence of the Highway 410 extension, collector roads such as Heart Lake Road and Kennedy Road are functioning like arterial routes, particularly on the roadway section south of Olde Base Line Road in the case of Heart Lake Road and the section south of King Street in the case of Kennedy Road.

The weekday traffic on the roadway network in Caledon has distinct peaking characteristics. This is illustrated by the data in Figure 2.2 that shows the pattern of northbound and southbound traffic on Highway 10, south of Caledon Village. In this particular case, the observed total daily traffic was 20,300 vehicles (both directions). The morning peak hour traffic volume was 1,260 vehicles per hour in the southbound direction, occurring between 6:30 AM and 7:30 AM. The afternoon peak hour traffic volume was 970 vehicles per hour in the northbound direction, occurring between 4:45 PM and 5:45 PM. The mid-day traffic volumes are about 500 vehicles per hour in each direction. This example demonstrates the significant impact commuter traffic has on capacity requirements of the roadway network.

For analysis purposes in this study, the focus has been on existing and future weekday morning peak hour traffic volumes. While the relative morning and afternoon peak hour volumes vary somewhat from location to location, the data in Figure 2.2 illustrates that the importance of the morning peak

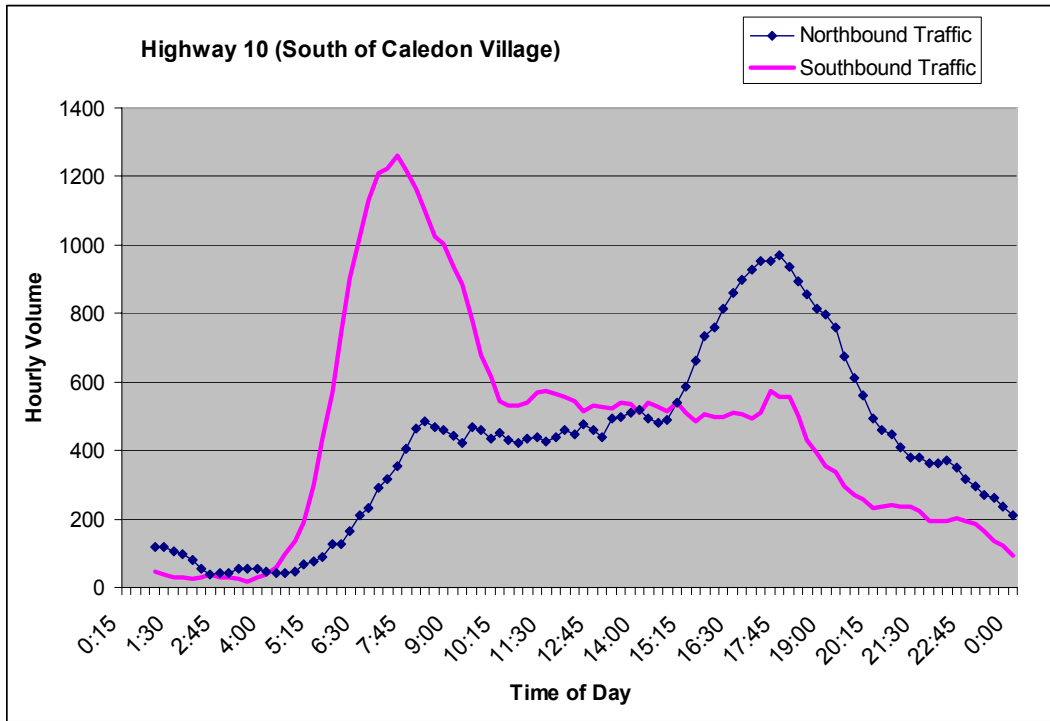
traffic in determining the “worse case” traffic volume. Further, the Region’s travel forecasting model has been designed to analyze the morning peak hour condition so the focus on morning conditions ensures greater consistency in the analysis.

**TABLE 2.2: TYPICAL DAILY TRAFFIC VOLUMES (2001 – 2003)**

<b>High Capacity Arterials</b>		
<b>Roadway</b>	<b>Location</b>	<b>Daily Traffic Volume (2 way)</b>
Hwy 10	King St	21,700
Hwy 9	Airport Rd	11,500
1 - Mississauga Rd	North of Mayfield	4,700
7 - Airport Rd	North of Olde Baseline	11,500
14 - Mayfield	West of Hwy 10	14,600
24 - Hwy 24	West of Hwy 10	7,300
50 - Hwy 50	North of Mayfield	30,000
<b>Medium Capacity Arterials</b>		
<b>Roadway</b>	<b>Location</b>	<b>Daily Traffic Volume (2 way)</b>
4 - Dixie Rd	North of Mayfield	3,900
9 - King St	West of Airport	7,800
8 - Gore Rd	North of Patterson	3,200
11 - Bush St	West of Mississauga	4,100
12 - Olde Baseline	West of Hwy 10	2,700
22 - Old Church	East of Airport	4,400
24 - Charleston	West of Airport	3,500
<b>Collectors</b>		
<b>Roadway</b>	<b>Location</b>	<b>Daily Traffic Volume (2 way)</b>
Heart Lake Rd	North of Mayfield	8,500
Heart Lake Rd	Beech Grove	300
Healey Rd	Coleraine	5,100
Old Scool Rd	Kennedy	1,200
Mount Wolfe Rd	Old Church	3,100
Patterson Srd	Gore Rd	800
Horseshoe Hills Rd	Charleston	200

A second characteristic of Caledon traffic patterns is the amount of recreational traffic, primarily during summer weekend periods. Detailed counts of the summer traffic were limited. However, MTO data indicated that SADT (summer average daily volumes) on Highways 10 and 9 was typically 6 % to 30 % higher than the AADT (annual average daily traffic). Typically, this traffic is related to Friday evening and Sunday evening travel to and from cottage country traveling through Caledon. The primary routes tend to be Highway 10, Highway 9, Airport Road and Regional Road 50. Since this traffic occurs much less frequently over a full year than the weekday peak traffic, it has less of an impact on the Town’s road network. However, it does add to traffic congestion at specific times and locations.

**FIGURE 2.2: WEEKDAY PEAKING CHARACTERISTICS OF CALEDON TRAFFIC (2003)**



The primary arterial routes in Caledon handle relatively high volumes of heavy truck traffic. Table 2.3 below provides a summary of the current eight hour truck volumes on the primary routes. The highest daily truck volumes occur on Highway 50, Highway 10 and Highway 9 with volumes of about 900 to 1300 trucks in an eight hour period. The volumes on the other routes are generally less, in the order of 200 to 600 trucks over eight hours. On average, on these routes, the heavy trucks constitute about 10% of the total traffic. This high truck percent reflects the importance of these routes in accommodating the Town’s truck traffic.

**TABLE 2.3: CURRENT TRUCK VOLUMES (2001 – 2003)**

<b>Truck Counts - 8 Hour Daily Truck Volumes</b>			
<b>Roadway</b>	<b>Count Location</b>	<b>2-way truck volume</b>	<b>% of total 2-way traffic volume</b>
<b>Hwy 10</b>	north of Caledon Village	679	8%
	south of King Street	1075	11%
<b>Hwy 9</b>	west of Mono Mills	674	12%
	east of Regional Road 50	904	15%
<b>Airport Road</b>	north of Caledon East	463	11%
	south of Caledon East	626	11%
	south of King Street	754	18%
<b>Regional Road 50</b>	north of Bolton	669	9%
	south of Bolton	1326	8%
<b>Charleston Sideroad</b>	west of Main Street	661	16%
	east of Main Street	656	16%
<b>Old Church Road</b>	west of The Gore Road	223	9%
	east of The Gore Road	207	11%
<b>King Street</b>	west of Hwy 10	382	10%
	east of Hwy 10	561	11%
	east of Townline	528	11%
<b>Mayfield Road</b>	west of Hwy 10	607	13%
	west of Airport Road	482	7%
	east of Airport Road	555	8%

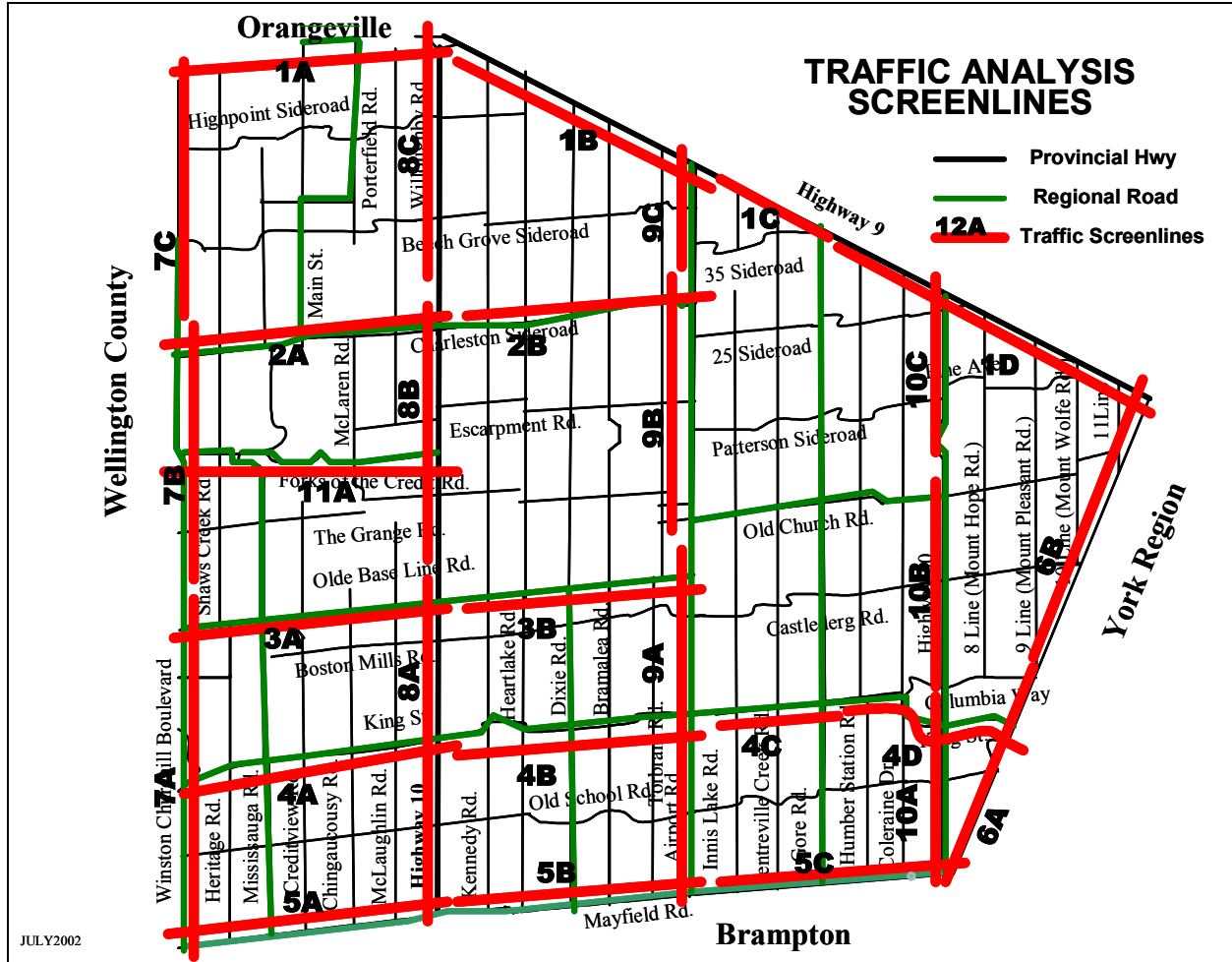
To provide a more comprehensive overview of traffic patterns in Caledon, a number of screenlines have been identified at selected locations in the Town. A screenline is an imaginary line crossing a number of roads, such as the roads linking the Town of Caledon and the City of Brampton, which is used to assess the need for additional transportation capacity across that boundary. A screenline comparison of volume to capacity is a basic transportation planning tool, used to address the performance of the routes which link major destinations, and to define the need for additional capacity. The screenlines utilized for this study are illustrated in Figure 2.3 below and are as follows:

1. North Caledon Boundary (south side)
2. Charleston Sideroad (north side)
3. Olde Base Line Road (south side)
4. King Street (south side)
5. Mayfield Road (north side)
6. Townline Road (west side)
7. Winston Churchill Blvd (east side)
8. Hwy 10 (west side)

- 9. Airport Road (west side)
- 10. Regional Road 50 (west side)
- 11. Forks of the Credit Road (south side)

In most cases, the screenlines have been further divided to enable more detailed analysis of traffic conditions as indicated in Figure 2.3.

**FIGURE 2.3: TRAFFIC ANALYSIS SCREENLINES**



A full summary of the current AM and PM peak hour, peak direction traffic volumes at the screenline segments is provided in Appendix A of the report. The analysis focused on the total peak hour, peak direction traffic in each location. Generally, the peak direction traffic was found to be oriented in the southbound and eastbound directions at all screenlines in the morning. The exception was the screenline on the east side of Bolton (Albion Vaughan Road) where the peak direction in the morning is westbound.

At a broad level, some of the main characteristics of the existing travel patterns in Caledon during the AM peak hour are as follows:

- ▲ 3,265 vehicles per hour southbound crossing the north Caledon boundary
- ▲ 7,475 vehicles per hour southbound crossing King Street
- ▲ 9,164 vehicles per hour southbound crossing Mayfield Road
- ▲ 1,095 vehicles per hour eastbound crossing the west Caledon boundary
- ▲ 3,397 vehicles per hour eastbound approaching Highway 10
- ▲ 2,121 vehicles per hour eastbound approaching Airport Road
- ▲ 1,681 vehicles per hour eastbound approaching Regional Road 50

As indicated in this data, there is a considerable volume of traffic crossing into Caledon on the north and west boundaries from neighbouring municipalities. However, the increasing volume of southbound traffic across the north Caledon boundary, King Street and Mayfield Road, respectively, also indicates that significant volumes of traffic originate within Caledon. It is also clear that the primary direction of traffic in the morning peak hour is southbound towards the major activity areas of the Greater Toronto Area (GTA).

The Region of Peel Transportation Planning Office has provided a detailed analysis of commuting patterns in Caledon, based on the 2001 Transportation Tomorrow Survey (TTS) data. Appendix B provides an overview of this analysis. During the weekday morning peak period (i.e., 6:00 AM to 9:00 AM) there are approximately 40,500 automobile trips using some portion of the roadway network within Caledon. The analysis found that 42% (or 17,100) of these trips are through traffic that does not have a trip origin or destination within the municipality. This through traffic forms a major component of the traffic on the roadway network.

## ***2.4 Review of Existing Deficiencies***

### ***Stakeholder Concerns***

The transportation concerns in Caledon have been identified through discussions with Caledon Council, Town and Regional staff, meetings with various community stakeholder groups, and direct observations of conditions by the Project Team. Sixteen community stakeholder groups were invited to participate in the study. The names of these community stakeholder groups and meeting notes have been included as Appendix C of the report.

The transportation concerns in Caledon generally focus on several broad areas of concern, as follows:

- ▲ Peak period traffic congestion on the roadway network is a primary concern. This problem generally has been noted in the Bolton area, on the north-south routes approaching the Highway 410 route to the south, and on Mississauga Road.
- ▲ Excess traffic, particularly on the non-arterial roads is a second area of concern. Peak traffic volumes on the collector roads have been increasing in recent years and create concerns associated with speeding traffic, conflicts with farm equipment, cyclists and pedestrians who are also using these roads.
- ▲ Through traffic has been identified as a significant concern in Caledon. Traffic generated by growth to the west and north of the municipality has created increased traffic that is generally



traveling across Caledon to reach employment and other opportunities within larger activity centres of the GTA.

- ▲ The impact of traffic on the local environment within the various villages and hamlets in Caledon is a significant concern. Through traffic creates safety concerns for pedestrian activity within the villages and hamlets. Also, in some cases the volume of traffic creates problems related to noise, dust and general intrusion.
- ▲ Caledon commuters are heavily dependant on private automobile travel. There are very limited opportunities to utilize public transit as an alternative to the automobile. Other facilities, such as car pool lots that could encourage less single occupant automobile travel are also very limited.

### ***Peak Period Congestion Areas***

Capacity is a term used to describe the maximum volume of traffic that can be accommodated on a particular roadway. The existing capacity of the roadways in Caledon varies considerably, depending on the number of lanes available, the intersection control, the competing traffic volumes and the roadway surface. Estimates of the roadway capacity have been developed at each of the analysis screenlines to enable roadway deficiencies to be identified. The estimated existing roadway capacity at each screenline is shown in Appendix A. The values of “capacity” used in this study are equivalent to a level of service “D” condition as defined in the Highway Capacity Manual. This is less than the full capacity of a roadway facility (i.e., the maximum number of vehicles that can be accommodated in a specified period of time). Rather, a level of service “D” condition is approximately 90 % of the full capacity of a facility. This is consistent with Peel Region’s current level of service policy that suggests roadway facilities should not have a volume to capacity ratio exceeding 0.9.

The volume to capacity ratio is a means of identifying areas of congestion on the roadway network. At the various screenlines used in the analysis of existing conditions, the volume to capacity ratio ranges from 0.10 (i.e., peak hour traffic volume is about 10% of roadway capacity) to 1.05 (i.e., peak hour traffic volumes is exceeding roadway capacity). In the latter case, as the traffic demand approaches capacity, congestion increases significantly, traffic queues form at intersections and the level of service deteriorates.

A summary of the primary areas of morning peak hour congestion in Caledon is provided in Table 2.4 below. These areas are related to the following:

- ▲ The traffic demand in the Bolton area is generally reaching or exceeding the available roadway capacity on all screenlines. This issue has been investigated through the Bolton Arterial Roads (BAR) Environmental Assessment Study carried out by the Town and plans have been developed and are being implemented.
- ▲ The southbound traffic in the south-central area of Caledon is heavily focused on the Highway 410 corridor to the south and is approaching the available capacity in this area. The MTO are currently widening Highway 10 and have approved plans to extend Highway 410 from its current terminus in Brampton to connect to Highway 10 in Caledon.
- ▲ The southbound traffic in the Mississauga Road – Highway 10 corridor is approaching the available capacity in the area of the Forks of the Credit Road. North-south capacity is reduced in this area due to geographic and other constraints.
- ▲ The eastbound traffic along the Mayfield Road corridor towards the Highway 410 corridor to the south due to residential growth west of Peel Region and in Brampton.

It should be noted that the volume to capacity summaries shown in Table 2.4 represent average conditions over a screenline and may not fully reflect the actual congestions at critical points in the network. For example, the volume to capacity ratio along Mayfield Road is greater than along King Street or Olde Base Line Road, which are also in the same north-south screenlines. For this reason, the investigation will consider more specific corridors in the analyses of future conditions.

**TABLE 2.4: AREAS OF EXISTING CONGESTION**

Screenline Location	Direction of Peak Travel (AM peak hour)	Volume to Capacity Ratio	General Situation
Crossing King St (Kennedy Rd – Airport Rd)	Southbound	<b>0.9</b>	Traffic orientation towards Hwy 410 corridor in Brampton
Crossing King St (Humber Station Rd. – Town Line)	Southbound	<b>1.1</b>	R.R. 50 corridor traffic, capacity constraint through Bolton
Crossing Mayfield Rd. (Innis Lake Rd. – Albion Vaughan Rd.)	Southbound	<b>1.0</b>	Hwy 50 plus Bolton traffic oriented towards R.R. 50 corridor
Crossing Albion Vaughan Road (Columbia Way – Mayfield Rd.)	Westbound	<b>0.9</b>	Limited capacity for traffic oriented to R.R. 50 corridor and Brampton
Crossing Forks of the Credit (Mississauga Rd. – Hwy 10)	Southbound	<b>0.9</b>	Limited capacity for southbound volume in Hwy 10 – Mississauga Rd corridor.
Crossing Highway 10 (Mayfield Rd. – Olde Base Line Rd.)	Eastbound	<b>0.8</b>	High demand and limited capacity along Mayfield Road corridor.

***Areas of Excess Traffic***

In general terms, the situation of excess traffic on non-arterial roadways is related to the continuous nature of many of the north-south and east-west rural collector roadways in Caledon and the fact that these roadways provide relatively attractive routes for non-local traffic. To better understand the extent of this problem, a review of the traffic levels on the collector roadways outside the urban areas of the Town was conducted. This review was based on 2001 traffic volumes as far as possible.

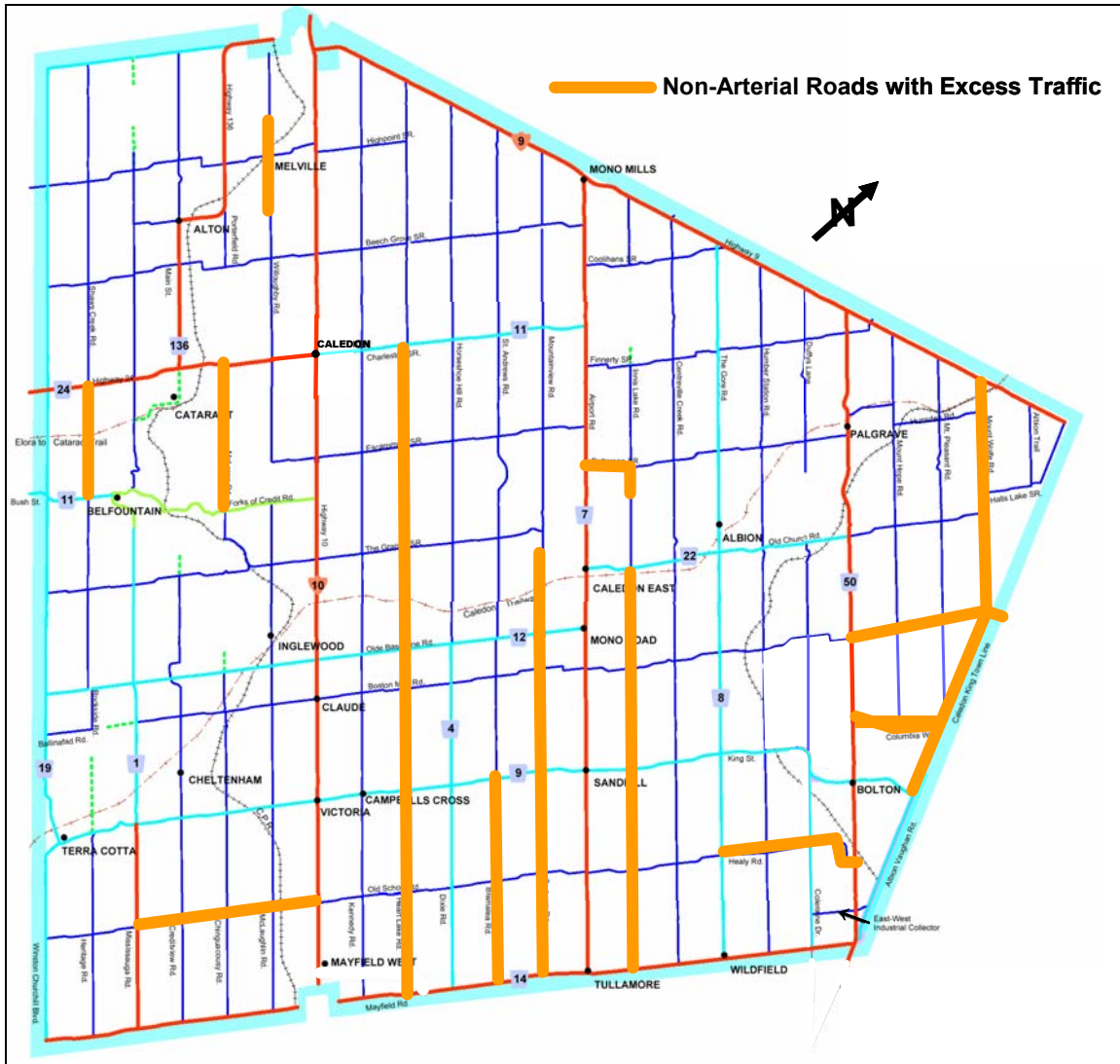
To identify problem areas, the following thresholds were used:

- ▲ The desired maximum volume on a gravel surface roadway is 400 vehicles per day.
- ▲ The desired maximum volume on a collector roadway in an area with significant environmental (including rolling, hilly terrain) or heritage features is 1,000 vehicles per day.

- ▲ The desired maximum volume on a collector roadway through a hamlet or village area is 2,000 vehicles per day.
- ▲ The desired maximum volume on a collector roadway in other areas is 3,000 vehicles per day.

These thresholds are suggested values used to identify the general scope and area of the problem of excess traffic. Based on these thresholds, the locations of excess traffic on the non-arterial roadways in Caledon are shown in Figure 2.4 below. A more detailed description is provided in Appendix D.

**FIGURE 2.4: AREAS OF EXCESS TRAFFIC ON NON-ARTERIAL ROADS**



In reviewing the areas of excess traffic on non-arterial roadways, there are several general areas of concern. One area is the north-south collector roads in the south central area of Caledon (i.e., Heart Lake Road, Bramalea Road, Torbram Road and Innis Lake Road). The problem of excess traffic on these roadways is generally related to traffic connecting to the Highway 410 corridor further south in Brampton. There would also appear to be some traffic spillover from Airport Road to Torbram and

Innis Lake Roads.

A second major area of excess traffic is collector roads in the general vicinity of Bolton. This is due to traffic growth and spillover from congested arterials. The Bolton Arterial Roads Study (BAR) plan has identified improvements to address this problem.

There are a number of other specific areas of excess traffic on collector roads that are related to the roadway condition (e.g., rolling terrain, gravel surface) and traffic through villages and hamlets. One other situation that warrants note is the excess traffic volumes along the Caledon King Town Line – Mount Wolfe Road corridor. In this case, the traffic demand in this corridor, combined with congestion through Bolton on Regional Road 50 and the lack of a continuous north-south arterial route on the east side of Caledon has resulted in the high volumes of traffic this corridor. Since the geometric standards along this route (i.e., sight distances, cross-section) are below arterial standards this is a safety concern as well as a concern related to traffic volume.



**TABLE 3.1: FORECASTS OF CALEDON POPULATION AND EMPLOYMENT**

<b>Caledon Land Use Forecasts</b>								
Traffic Zone	2001		2011		2021		2031	
	population	employment	population	employment	population	employment	population	employment
188	500	245	425	245	751	422	751	422
189	3,835	1,801	5,985	2,636	6,690	3,134	6,690	3,134
190	3,548	1,039	3,485	1,530	3,610	1,719	3,610	1,719
191	103	5,532	140	7,475	140	8,922	140	8,922
192	5,981	1,214	5,660	1,285	5,895	1,341	5,895	1,341
193	6,118	820	5,300	910	7,155	1,254	7,155	1,254
194	4,518	2,845	5,625	3,028	6,095	3,138	6,095	3,138
195	1,106	134	2,450	329	2,995	459	2,995	459
196	4,304	1,148	4,910	1,461	5,365	1,659	5,365	1,659
197	2,829	1,040	5,425	1,540	8,475	2,123	8,475	2,123
198	822	88	700	107	760	114	760	114
199	2,263	159	4,865	528	6,090	806	6,090	806
200	2,321	265	2,570	160	3,185	196	3,185	196
201	102	189	315	206	310	265	310	265
202	1,319	475	1,880	555	1,940	557	1,940	557
203	1,516	219	1,860	313	2,275	380	2,275	380
204	1,443	119	1,670	177	1,910	209	1,910	209
205	1,094	116	1,895	231	2,305	294	2,305	294
206	621	48	595	48	620	48	620	48
207	697	42	610	50	635	51	635	51
208	2,254	702	3,190	845	3,660	905	3,660	905
246	3,301	760	7,420	2,574	13,589	4,418	13,589	4,418
<b>Total</b>	<b>50,595</b>	<b>19,000</b>	<b>66,975</b>	<b>26,231</b>	<b>84,450</b>	<b>32,412</b>	<b>84,450</b>	<b>32,412</b>

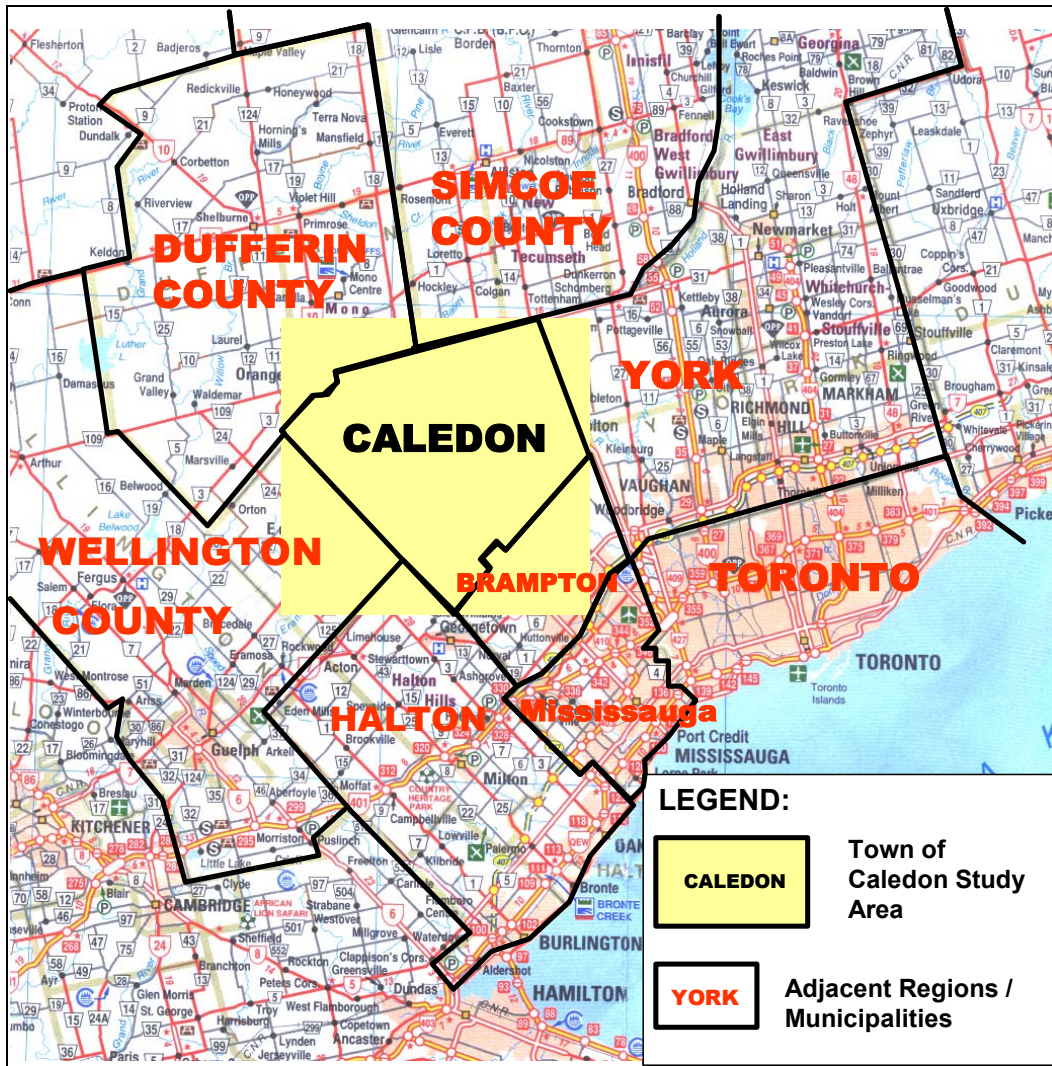
*Source: Region of Peel Planning Department*

As noted earlier, the transportation system within Caledon is heavily impacted by traffic generated by development outside the municipality. Figure 3.2 below illustrates the strategic geographic position of Caledon on the outer limit of the Greater Toronto Area. Existing and future development in the areas to the north and west of Caledon, such as the western section of Simcoe County, Dufferin County, Wellington County and the northern section of Halton Region create traffic demands that can be expected to have a significant impact on the Town of Caledon.

Estimates of the population and employment were obtained for the neighbouring municipalities to provide a basis to estimate future traffic growth. A summary of the population and employment growth forecasts for neighbouring municipalities is provided in Table 3.2 below. As indicated in Table 3.2, the neighbouring municipalities of Brampton and Dufferin County are anticipating higher rates of growth than Caledon. Also, the growth rates in Wellington County and Simcoe (west) are similar to the expected growth in Caledon. The effect of this strong growth in population and employment in the neighbouring municipalities will be significant increases in external traffic on the Town’s transportation system.

Furthermore, the recently proposed new provincial legislation to restrict development within ‘green belt areas’ may have the effect of shifting more growth to the north and west, further increasing the potential for increased through traffic in future.

**FIGURE 3.2: CALEDON GEOGRAPHIC PERSPECTIVE**



**TABLE 3.2: FORECASTS OF SURROUNDING AREA POPULATION AND EMPLOYMENT**

Land Use Forecasts for Municipalities Neighbouring Caledon								
Municipality	2001		2011		2021		2031	
	population	employment	population	employment	population	employment	population	employment
<b>Brampton</b>	325,428	142,595	474,684	204,509	593,983	255,621	678,435	290,239
<b>Mississauga</b>	612,925	380,100	681,325	438,776	716,488	473,356	750,483	496,956
<b>Halton</b>	375,230	159,188	530,000	270,000	650,000	330,000	750,000	360,000
<b>Wellington</b>	187,313	77,175	224,100	94,647	252,250	109,850	292,369	125,325
<b>Dufferin</b>	51,013	15,942	65,117	19,700	79,008	22,500	92,208	26,700
<b>Simcoe West*</b>	78,477	n.a.	95,200	n.a.	113,600	n.a.	132,600	n.a.
<b>York</b>	729,250	345,434	970,000	530,000	1,140,000	630,000	1,270,000	720,000

\* Simcoe West includes the communities of Adjala-Tosorontio, New Tecumseth/Alliston, Clearview, Collingwood, and Wasaga Beach  
Source: Region of Peel Planning Department, Municipal Official Plans and Municipal Contacts

### ***3.2 Other Transportation Plans***

There are a number of transportation projects and plans that are relevant to Caledon's transportation system and should be recognized in determining future transportation needs. The key projects and studies are outlined below.

#### ***Highway 10 Widening***

The widening of Highway 10 from north of Olde Base Line Road to Orangeville is being carried out by the MTO in several phases. The section from north of Olde Base Line to south of Caledon Village is currently under construction and consists of widening to four basic lanes (two lanes each direction) with additional climbing and auxiliary turning lanes. This section is expected to be completed in year 2004. The widening to four basic lanes through Caledon Village is tentatively planned for year 2005. Detailed design of the section from north of Caledon Village to Orangeville is currently underway and construction is expected in the short term. The full Highway 10 widening project is expected to be completed prior to year 2011 and will increase traffic capacity significantly in this corridor. Completion of these changes is recognized in this study as a significant short term improvement.

#### ***Highway 410 Extension***

Provincial Highway 410 currently terminates at Bovaird Drive in Brampton with continuous through lane connections north to Heart Lake Road. Plans have been completed and approved by MTO for Highway 410 to be extended north on a new right-of-way located east of Heart Lake Road to north of Mayfield Road. The planned alignment would then swing west and north to form a continuous connection with Highway 10 north of the Brampton boundary. Interchanges are planned at Sandalwood Parkway, Mayfield Road and Hurontario Street (Highway 10). The initial facility will be constructed as a basic four lane freeway with provision to widen it to six lanes in future.

Property acquisition for the facility is currently underway and it is anticipated that construction will proceed in the short term.

#### ***Dufferin South Arterial Route***

Dufferin County is developing a new arterial route (Dufferin SAR) to bypass the Orangeville core area in the east-west direction. The planned route will connect to Dufferin County Road 109 (former Highway 9) on the west side of Orangeville and is located around the south side of the main urban area of Orangeville, crossing Peel Regional Road 136 (Porterfield Road) and connecting to Highway 10 south of the existing intersection of Highway 10 and Highway 9 (east).

This road is planned as a basic two lane rural arterial standard facility with auxiliary turn lanes where warranted. The initial phase of the road is under construction from Dufferin Road 109 to Highway 10.

#### ***Bolton Arterial Roads Plan***

The Bolton Arterial Roads (BAR) plan was undertaken by the Town of Caledon in the late 1990's as an individual environmental assessment of the transportation network required to support planned growth in the Bolton community. Following the Ontario Municipal Board (OMB) decision in 1997 in support of the Town's growth strategy through to year 2021, the BAR plan was further reviewed and updated. The key components of the BAR are as follows:

- ▲ Traffic operational improvements in the Bolton core area.



- ▲ Reconstruction of Coleraine Drive from King Street (south leg) south into Brampton to become a continuous arterial roadway connection to Major Mackenzie Drive in the vicinity of Regional Road 50. Coleraine Drive would have two basic lanes initially with provision to develop a basic four lane section throughout.
- ▲ Reconstruction and new construction of Albion Vaughan / Caledon King Townline (Townline Road) to a two lane arterial standard road from Queensgate Boulevard to 1.0 km north of King Street.
- ▲ Protection of a future roadway corridor connecting from the Coleraine Drive / King St. intersection (south leg) north to connect with Duffy's Lane and easterly to connect with Regional Road 50 (between Columbia Way and Castlederg Sideroad). This would accommodate a new two lane arterial standard road.

A proposed property protection corridor to accommodate a future arterial standard roadway connecting Regional Road 50 to Caledon King Town Line on the north east quadrant was removed as the planned Bolton growth did not appear to substantiate the need for this corridor. The need to upgrade the existing Columbia Way – 10 Sideroad route would be considered in a subsequent class environmental assessment study.

The BAR has formed the basis for the ongoing planning and development approval by the Town for several years. Construction of the new section of Albion Vaughan Road (Queensgate Blvd. to King St) was completed in 2003. The Coleraine Drive construction is expected to proceed in the next couple of years. For purposes of this study, the completion of the two lane section to Major Mackenzie Drive is assumed by year 2011. The completion of the new section of Coleraine Drive north and easterly to Regional Road 50 is uncertain, but is assumed to be completed before year 2021. The BAR plan should be fully integrated into this study.

### ***Mayfield Road Environmental Assessment Studies***

The Region of Peel has recently completed an environmental assessment study for Mayfield Road (Hurontario St. to Heart Lake Rd.). The plan provides for widening the road to four basic lanes plus auxiliary turning lanes and with provision at the key structures to widen to six basic lanes in future. A second environmental assessment study is currently underway for Mayfield Road (Heart Lake Rd. to Airport Rd.) and anticipates widening the road to four basic lanes plus auxiliary turning lanes. The widening of the section from Hurontario St. to Heart Lake Rd. is expected in the next few years. The timing of the widening from Heart Lake Rd. to Airport Rd. is not specified at this time.

### ***York Peel Boundary Area Transportation Study***

The York Peel Boundary Area Transportation Study (BATS) was a joint undertaking of the Regional Municipalities of York and Peel to develop a long term plan for transportation improvements in eastern Brampton and western Vaughan, generally between Highway 407 and Mayfield Road. The study prepared forecasts of peak travel demands to year 2031 and determined the transportation system improvements required to accommodate this demand in the short, medium and long term. The recommended improvements included widening of Regional Road 50 along the regional boundaries, the upgrading and extension of Coleraine Drive to form a continuous arterial route with Major Mackenzie Drive, and a number of other roadway improvements. The study recommendations have been endorsed by the Regional Councils of York and Peel, as well as the municipal councils of Vaughan, Brampton and Caledon. In the Caledon Transportation Needs Study has assumed that the various improvements recommended in the BATS will generally be implemented over the identified time periods.

### ***Highway 427 Extension***

The Ministry of Transportation has completed a needs assessment study for the extension of Highway 427 from its current terminus at Highway 7 in Vaughan to serve traffic growth in a corridor generally between Highway 10 and Highway 400 and extending north through York Region and Simcoe County. The study concludes that a major new freeway facility is needed in this corridor with an east-west connection to the Bradford bypass and a northerly extension to the west and north of Barrie. The study recommends that the MTO conduct an individual environmental assessment to define an alignment and to enable the right-of-way for the corridor to be protected. At the present time, this next planning study has not been completed so the alignment and interchange locations have not been defined. However, the work to date generally indicates that the most likely alignment for the future Highway 427 would be located east of Caledon, between Bolton and Nobleton. This highway extension will be a major project involving considerable planning and design work as well as having a significant funding requirement. For this study, it is assumed that Highway 427 will be in place as far north as Highway 9 beyond year 2021. It will be demonstrated later in the study that this is a critical requirement in relation to transportation needs in Caledon.

### ***Brampton Transportation Plans***

The City of Brampton is a rapidly growing urban area immediately south of Caledon. The City has recently initiated the Brampton Transportation & Transit Master Plan (TTMP) to provide an overall strategy and plan that will accommodate planned growth within Brampton to year 2031. It is anticipated that this plan will incorporate and build upon major Provincial and Regional transportation plans in the area as well as the established Caledon transportation plans noted previously. The findings and recommendations from the TTMP should be reviewed to ensure that there is consistency with this study. A primary area of concern is the continuity of the transportation network across the boundary between Caledon and Brampton. At this time all Regional roadways provide continuous roads across the Caledon – Brampton Boundary and the north-south Town collector roads form continuous routes with roadway facilities in Brampton.

Brampton is currently undertaking several planning and resource studies to inform a potential major expansion of the urban area in the northwest section of the municipality. While this expansion and the related transportation requirements are still under consideration, the planning work to date has indicated that the required transportation improvements are likely to include both the upgrading of the existing north-south roadways to major arterial status and the development of a new north-south Brampton freeway facility, located roughly east and west of Winston Churchill Blvd. from Mayfield Road to Highway 407. While the primary function of such a facility would be to accommodate the traffic demands generated by urban growth within Brampton, it is likely to have a significant impact on traffic patterns within Caledon in the longer term. Currently, the orientation of the morning peak hour traffic in the southwest area of Caledon is easterly towards the Highway 410 and Airport Road corridors. However, with a new north-south Brampton freeway, it is likely that some of this traffic would shift towards that facility. The status and timing of development in the northwest area of Brampton and the related transportation plans are currently under consideration. For purposes of this study it is assumed that a major new freeway facility would be a long term project, probably beyond year 2031.

Through the Region's long range transportation planning program, ongoing coordination of the transportation plans in Caledon and Brampton will be important to identify areas where further refinement may be required.

### ***GTA East-West Economic Corridor***

In January 2002, MTO released a draft study entitled “Strategic Transportation Directions” that outlined a long term transportation strategy that would support Smart Growth initiatives in the Central Ontario area to year 2031. This study includes the identification of a new “GTA east-west economic corridor” that is described as a long term highway corridor connecting the Highway 400 corridor in north York Region to the Guelph – Waterloo area west of the GTA. The MTO study recommended that a preliminary needs assessment should be undertaken for this future corridor as a next step in the planning process.

At this time, MTO has not initiated a needs assessment for this project. The potential timing and the location of the corridor are not established and would be subject to further planning work, following the needs assessment. Recognizing the constraints of the Niagara Escarpment and the Oak Ridges Moraine in the north area of Caledon and the level of established urban development south of Caledon, the most likely route for such a facility would be through the southern section of Caledon. This would have a significant impact on traffic patterns in Caledon. Assuming that the facility would have connections to a future Highway 427, the Highway 410 extension and a possible west Brampton freeway facility, it would attract and accommodate inter-municipal and inter-regional traffic that would otherwise utilize the roadway network through this general area. It would also accommodate longer distance traffic that is likely to otherwise use other portions of the Provincial highway network.

At this time it is clear that this corridor is a very long term project, potentially beyond the year 2031 time frame considered in this study. Also, while it would have an impact on the very long term traffic patterns and transportation plans for Caledon, its primary function is to accommodate inter-regional and provincial level transportation demands. The local traffic demands within and around Caledon will still be heavily dependant on the local and regional transportation system. For this study, the GTA east-west corridor has not been included in the detailed analysis, but it is recognized as a possible longer term project that would require further consideration in relation to Caledon’s transportation plans.

### ***Bolton GO Rail Service***

GO Transit is a Provincial agency with a mandate to provide inter-regional public transit services within the Greater Toronto and Hamilton Areas, including commuter bus and rail services. As noted earlier, GO currently provides commuter bus services in Caledon and commuter rail services in Brampton, providing connections to the rest of the GO service area. A recent long term strategic planning report (Route Map to the Future, GO Transit, August, 2000), identifies a possible long term rail service to Bolton. Peel Region has subsequently conducted the Bolton GO Station Needs and Feasibility Study in consultation with the Town of Caledon and GO Transit to identify the requirements for a GO rail station in Bolton and the preferred location for this station. Steps are being taken to protect property for a future Bolton GO rail station. The timing of this project is unknown at this time but it is likely to be a longer term project. However, the possibility of future GO rail service does offer some potential to accommodate peak hour travel demands by means other than roadway improvements in the Bolton area.

### **3.3 Future Traffic Forecasts**

Future travel forecasts were developed for horizon years of 2011, 2021 and 2031 using the Region of Peel's EMME/2 transportation model. The EMME/2 model generates future travel estimates using the standard four-stage methodology of trip generation, trip distribution, modal split and traffic assignment. The Region's network models the AM peak hour. This model's primary inputs are land use data, including population and employment data, and the transportation network. The model is maintained by the Region, including calibration of the model, updating it with the most current land use descriptions and maintaining transportation networks for analysis. Calibration of the model is carried out by comparing with Transportation Tomorrow Survey (TTS) data.

The Region is currently revising the trip generation rates that are used in their model, however, for consistency in this report, all trip projections are based on the trip rates that were used by the Region before January 2004.

Assumptions in the Region's model, as stated in *Region of Peel Travel Demand Forecasting Model*<sup>2</sup>, include:

- Trip generation includes auto and transit modes.
- The Peel traffic zone system is the unit of analysis.
- Regression analysis was used where possible in calibration of the model.
- For trip production equation regression analysis, only traffic zones with over 1,000 population were used.
- The AM peak period consists of all trips starting between 6 AM and 9 AM. These volumes were adjusted to represent the AM peak hour.
- TTS data was the major source of demographic characteristics.
- Traffic zone employment was taken from Census Place of Work Survey.
- Trip purpose definitions include:
  - work trip – first trip of day with final destination as place of work
  - school trip - first trip of day with final destination as school
  - other trip – any other trips

Since Caledon is on the periphery of the GTA, the model's network was found to lack roadway details to neighbouring municipalities north and west of Caledon. The model was therefore further developed to better connections northerly and westerly. An external link was added on the west side of Caledon. This link represents Wellington Road 124, formerly Highway 24, connecting northern Caledon to Erin and Guelph. The model was also recalibrated along the northerly and westerly borders to better reflect observed traffic volumes. This recalibration was done by revising the growth rates of trips from external nodes to correspond to population growth forecasts and by adjusting the link characteristics of these external links. Note that since the model is for the AM peak hour, the critical volumes along these borders are southbound and eastbound towards the GTA, so volumes to Caledon from these external locations were the primary focus of this calibration.

In order to minimize any inconsistency between EMME/2 volume projections and actual volumes

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<sup>2</sup> Transportation Planning Section, Planning Department. Region of Peel. April 1996.

on roadways, the methodology used in the analysis focused on the change in forecast volumes between the various horizon years. Therefore, projected volumes for future horizon years were determined by calculating the difference between the specific horizon year and the 2001 model volumes. This difference was then added to existing volumes observed at the same location. These observed volumes were actual count volumes provided by a variety of sources including the MTO, Peel Region, the Town of Caledon and counts arranged by Paradigm.

As stated previously, horizon years are 2011, 2021 and 2031. The initial network used for these horizon year assignments included a few revisions of the 2001 network, including the extension of Highway 410 northerly to Highway 10. This future network was provided by the Region of Peel. For the 2031 horizon year, additional scenarios were analyzed including the following modified networks:

- ▲ 2031 volumes assigned to a network that included planned roadway projects in the vicinity of Caledon – including Highway 427 extended northerly to Highway 9 with interchanges at Major Mackenzie Drive and King Road, Coleraine Drive connected to Regional Road 50 north of Bolton (the Bolton bypass), Major Mackenzie Drive revised to provide improved capacity from Coleraine Drive to Highway 427 and Highway 10 widened to a 4-lane cross-section from Highway 410 northerly to Highway 9.
- ▲ 2031 volumes assigned to a network that represented a future preferred roadway network. This network is described in a further section of the report.
- ▲ 2031 volumes revised to simulate zero growth of existing 2001 volumes from areas north and west of Caledon to determine the impact of external trips on the Caledon road network.

A comparison of traffic volumes for each of the horizon years at the various screenlines shows that there is a steady increase in volumes over time. The locations of the various screenlines are described in Section 2. From 2001 to 2031, traffic volumes appear to approximately double at each screenline. The screenlines that show the largest growth are:

- Mayfield Road – 10,118 volume increase southbound (210%)
- King Street – 7,349 volume increase southbound (198%)
- Highway 10 – 3,880 volume increase eastbound (214%)

Table 3.3 summarizes the AM peak hour demand projected at the various screenlines for each of the horizon years. The peak hour directional volumes are typically eastbound and southbound, however the westbound volumes are included for Screenline 6 (i.e., Townline Road) on the east side of Bolton from Mayfield Road north to Columbia Way. The traffic patterns in this area indicate heavy peak volumes in the westbound as well as southbound and eastbound directions during the AM peak hour.

**TABLE 3.3: TRAFFIC VOLUME GROWTH TO 2031 AT SCREENLINES**

Traffic Volume Projections						
Screenline	2001 AM Peak Hour Observed Volume (vph)	2011 AM Peak Hour Forecast Volume (vph)	2021 AM Peak Hour Forecast Volume (vph)	2031 AM Peak Hour Forecast Volume (vph)	Traffic Growth from 2001 to 2031 (vph)	Traffic Growth from 2021 to 2031 (vph)
1 - North Caledon Boundary (southbound)	3,265	5,200	5,682	6,687	3,422	1,005
2 - Charleston Sideroad (southbound)	1,911	3,159	3,806	4,301	2,390	495
3 - Old Base Line Rd. (southbound)	3,909	6,209	7,117	7,718	3,809	601
4 - King St. (southbound)	7,475	11,491	13,396	14,824	7,349	1,428
5 - Mayfield Rd. (southbound)	9,164	13,785	17,231	19,282	10,118	2,051
6 - Townline Rd.(eastbound)	1,535	2,431	2,792	2,887	1,352	95
6a) Townline Rd (Mayfield - Columbia) (westbound)	1,668	2,127	2,231	2,529	861	298
7 - Winston Churchill Blvd. (eastbound)	1,095	1,969	2,449	3,076	1,981	627
8 - Highway 10 (eastbound)	3,397	5,588	6,162	7,277	3,880	1,115
9 - Airport Rd. (eastbound)	2,121	3,438	4,040	4,057	1,936	17
10 - Regional Rd. 50 (eastbound)	1,681	2,844	2,783	2,854	1,173	71
11 - Forks of Credit Rd. (southbound)	1,735	3,217	3,737	3,983	2,248	246

The column on the right side of Table 3.3 demonstrates the influence of external traffic on Caledon roads. All analysis in this report is based on planned development in Caledon, which includes no major new development after 2021. However this column shows how volumes will continue to increase even with no development within Caledon from 2021 to 2031.

Screenline 1 (i.e., North Caledon Boundary) shows the southbound volumes during the AM peak hour. This volume generally represents trips generated north of Caledon and travelling to destinations within Caledon or through Caledon to destinations further into the GTA. The growth of this traffic from 2021 to 2031 reveals that a large portion of this traffic is through traffic.

Screenline 7 (i.e., Winston Churchill Boulevard) shows the contribution of traffic originating west of Caledon in Wellington County and Halton Region and travelling eastbound into Caledon. Much of this traffic is through traffic as well.

The volumes noted above describe the future traffic patterns with the existing road network plus committed improvements. The most notable difference is Highway 410 extends north to Highway 10 north of Mayfield Road in all horizon years. Figure 3.3 shows the distribution of 2031 AM peak hour traffic; the wider the red band, the larger the traffic volumes. The image shows how significant the Highway 10 corridor is and the major contribution of traffic from the Orangeville area. Also noted are the volumes from the Georgetown area travelling eastbound on Old School Road and Mayfield Road.

FIGURE 3.3: 2031 TRAFFIC VOLUMES



### Impact of External Traffic Growth

The contribution of through traffic on the Caledon road network was further investigated by analyzing a 2031 scenario where all internal traffic is projected to 2031 levels, but trips generated north and west of Caledon are fixed at 2001 levels. Therefore, the only external trips originating north and west of Caledon assigned in this 2031 scenario are those trips that already exist on the network in 2001. The forecast of traffic volumes at the screenlines, with and without the external trips is summarized in Table 3.4 below.

The results of that analysis show that the growth of these external trips is a significant contribution of trips in the study area. This additional volume is approximately 1,800 southbound trips from the north (i.e., the Dufferin County area). Note that the difference in trips from the west is not as significant, only 320 additional trips crossing the Winston Churchill Boulevard screenline from Wellington County. The EMME/2 network connections to the west in this analysis still include trips generated by Halton Region, typically travelling in the east-west direction across only the southern section of Caledon.

**TABLE 3.4: IMPACT OF EXTERNAL TRIPS FROM THE NORTH AND WEST**

2031 Traffic Volume Projections			
Screenline	AM Peak Hour Volume with No Growth of External Traffic after 2001 (vph)	AM Peak Hour Base Case Forecast Volume (vph)	Change in Volume with No Growth of External Traffic (vph)
1 - North Caledon Boundary (southbound)	4,822	6,687	-1,865
2 - Charleston Sideroad (southbound)	3,022	4,301	-1,279
3 - Old Base Line Rd. (southbound)	6,584	7,718	-1,134
4 - King St. (southbound)	13,171	14,824	-1,653
5 - Mayfield Rd. (southbound)	17,513	19,282	-1,769
6 - Townline Rd.(eastbound)	2,588	2,887	-299
6a) Townline Rd (Mayfield - Columbia) (westbound)	2,694	2,529	165
7 - Winston Churchill Blvd. (eastbound)	2,755	3,076	-321
8 - Highway 10 (eastbound)	6,627	7,277	-650
9 - Airport Rd. (eastbound)	4,213	4,057	156
10 - Regional Rd. 50 (eastbound)	2,707	2,854	-147
11 - Forks of Credit Rd. (southbound)	3,245	3,983	-738

***Impact of Planned Major Roadways***

The effect of the proposed Highway 427 extension east of Caledon and the improvements to the Highway 10/Highway 410 corridor through Caledon were investigated using 2031 traffic forecasts. This scenario included projected growth of external traffic.

In this scenario:

- Highway 427 was included as a 6-lane expressway to Highway 9. Interchanges were included at Major Mackenzie Drive and King Road. Major Mackenzie Drive is continuous with Coleraine Drive and Coleraine Drive included a bypass of Bolton providing a direct connection to Regional Road 50 north of Bolton.
- Highway 410 was included as a four lane freeway connecting directly into Highway 10 north of Mayfield Road.
- Highway 10 was widened to four basic lanes through Caledon to Highway 9.

The results of this analysis demonstrate the significant impact that the extension of Highway 427 has on the Caledon road network. This expressway is expected to reduce volumes entering Caledon from the north by approximately 3,500 vehicles per hour. Table 3.5 shows how these trips are evident at all of the screenlines that span the full width of Caledon from the western border to the eastern border (i.e., screenlines 1, 4 and 5). Note that screenlines that compare volumes travelling east-west have only minor changes in traffic volumes.



**TABLE 3.5: 2031 TRAFFIC VOLUME COMPARISON WITH PLANNED ROADWAYS**

2031 Traffic Volume Projections			
Screenline	AM Peak Hour Volume with Planned Roads (vph)	AM Peak Hour Base Case Forecast Volume (vph)	Change in Volume with Planned Roads (vph)
1 - North Caledon Boundary (southbound)	3,165	6,687	-3,522
2 - Charleston Sideroad (southbound)	2,673	4,301	-1,628
3 - Old Base Line Rd. (southbound)	6,074	7,718	-1,644
4 - King St. (southbound)	11,202	14,824	-3,622
5 - Mayfield Rd. (southbound)	15,741	19,282	-3,541
6 - Townline Rd.(eastbound)	2,348	2,887	-539
6a) Townline Rd (Mayfield - Columbia) (westbound)	2,106	2,529	-423
7 - Winston Churchill Blvd. (eastbound)	2,793	3,076	-283
8 - Highway 10 (eastbound)	6,771	7,277	-506
9 - Airport Rd. (eastbound)	4,304	4,057	247
10 - Regional Rd. 50 (eastbound)	2,868	2,854	14
11 - Forks of Credit Rd. (southbound)	2,982	3,983	-1,001

### 3.4 Review of Future Deficiencies

The traffic forecasts prepared to year 2031 indicate that a substantial growth in peak hour traffic volumes can be expected across Caledon. A detailed analysis of the future AM peak hour traffic volumes as compared to the existing roadway capacity is provided in Appendix A of the report.

A summary overview of the general nature of deficiencies resulting from a comparison of future traffic volumes to existing roadway capacity across the screenlines identified earlier is provided in Table 3.6 below.

**TABLE 3.6: FUTURE TRAFFIC DEFICIENCIES CROSSING STUDY SCREENLINES**

Screenline	Future Roadway Deficiencies
1. North Caledon Boundary (Southbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies occurring in east section by 2011 and increasing to about 490 vph by 2031 without Highway 427.</li> <li>▫ Capacity deficiency addressed in year 2031 with Highway 427.</li> </ul>
2. Charleston Sideroad (Southbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies occurring in Highway 10 corridor by 2031 without Highway 427.</li> <li>▫ Capacity deficiency alleviated by Highway 427 in year 2031.</li> </ul>
3. Olde Base Line Road (Southbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies occurring by 2011 and increasing to about 2,600 vph by 2031.</li> <li>▫ Capacity deficiencies reduced to about 1,000 vph in year 2031 with Highway 427.</li> </ul>

4. King Street (Southbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies increasing and expanding to total of 4,400 vph by 2031.</li> <li>▫ Capacity deficiencies reduced to about 1,200 vph in year 2031 with Highway 427.</li> </ul>
5. Mayfield Road (Southbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies occurring by 2011 and increasing to about 6,700 vph by 2031.</li> <li>▫ Capacity deficiencies reduced to about 3,200 vph in year 2031 with Highway 427.</li> </ul>
6. Town Line (both directions)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies in south end, westbound direction by year 2011 and increasing to 600 vph by year 2031.</li> <li>▫ Capacity deficiencies reduced to about 200 vph with Highway 427</li> </ul>
7 Winston Churchill Blvd (Eastbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies in long term in south section of screenline.</li> </ul>
8. Highway 10 (Eastbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies of 1,200 vph by year 2011 and increasing to 2,500 vph by year 2031 in south section.</li> </ul>
9. Airport Road (Eastbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiencies of 150 vph by year 2011 and increasing to 700 vph by year 2031 in south section.</li> </ul>
10. Regional Road 50 (Eastbound)	<ul style="list-style-type: none"> <li>▫ No major deficiency identified</li> </ul>
11. Forks of Credit (Southbound)	<ul style="list-style-type: none"> <li>▫ Capacity deficiency of 1,200 vph in year 2011 increasing to 2,000 vph by 2031.</li> <li>▫ Capacity deficiency reduced to about 1,000 vph with Highway 427.</li> </ul>

The analysis of future traffic conditions indicates that there will be a relatively widespread lack of roadway capacity and resulting congestion on the Caledon roadway network by year 2031 if no improvements are carried out. These problems are generally prevalent in the southern areas of the municipality.

As noted earlier in Section 3.3, a substantial portion of the increased traffic contributing to the future capacity deficiencies is related to increased traffic entering Caledon across the northern and western municipal boundaries, resulting from growth in the neighbouring municipalities. The assessment also clearly indicates that implementation of the Highway 427 extension will significantly reduce traffic congestion in Caledon, particularly for the north-south oriented traffic in the eastern areas of Caledon. A number of planned transportation projects in Caledon will address some of the future deficiencies. The key projects are as follows:

- ▲ The Highway 10 widening project will increase the peak hour capacity in this corridor by 800 to 1,200 vph from Olde Base Line Road to Orangeville.
- ▲ The Dufferin SAR project will improve connections to the Highway 10 corridor, shifting north-south traffic from the roadway grid on the northwest area of Caledon to Highway 10.
- ▲ The extension of Highway 410 will provide additional capacity of approximately 3,600 vph in

the Highway 10 / Dixie Road corridor, across the critical Mayfield Road screenline. There will be some loss of the existing Highway 10 capacity due to roadway changes.

- ▲ The improvements to Albion Vaughan Road, Coleraine Drive and the extension of Coleraine Drive in the Bolton arterial roadway plan will increase the north-south capacity in the Bolton area, addressing the short term traffic congestion concerns in this area.

In the medium term, the importance of Highway 427 in accommodating the peak traffic demand that will otherwise tend to travel through Caledon can not be overstated. Overall, the peak hour north-south traffic that would otherwise travel through Caledon in year 2031 is reduced by approximately 3,500 vph (i.e., the equivalent of at least 4 lanes of arterial roadway capacity in each peak direction). The traffic reduction due to the extension of Highway 427 is most significant in the Regional Road 50 – Albion Vaughan Road corridor (an estimated reduction in year 2031 peak hour traffic demand of about 1,900 vph). However, the Highway 427 extension also reduces the peak hour traffic in the Airport Road and Highway 10 corridors (by about 800 vph and 750 vph, respectively).

## 4.0 ASSESSMENT OF TRANSPORTATION NEEDS

### 4.1 Overview of Strategic Options

The analysis of future traffic conditions indicates that Caledon will experience roadway capacity deficiencies and resulting congestion on portions of the existing network within ten years and that this congestion will increase significantly over the longer term period to year 2031. There is a range of potential transportation solutions that may be considered to respond to Caledon's transportation needs. A discussion of these different solutions is provided below.

#### ***Decreased Level of Service***

One alternative approach to traffic congestion is to accept reduced levels of service in the future. An extreme variation on this option is a so-called "do-nothing" plan. A more practical form of this option would be to tolerate slightly higher levels of congestion, particularly in areas where other transportation options may be costly or have significant impacts on the community or the environment.

The roadway network in Caledon currently has a relatively high level of service during weekday peak periods, with a few specific exception areas noted previously in Section 2.4. One undesirable side effect of this relatively high level of service is that it enables automobile-oriented suburban communities to develop further away from the supporting base employment centres (e.g., bedroom communities located north and west of Caledon). This suburban sprawl creates longer distance travel that "locks in" permanent higher transportation costs. Accepting higher levels of peak period congestion before undertaking major transportation system improvements is a potential strategy to discourage the tendency of suburban sprawl to outlying areas. However, one potential disadvantage of tolerating lower levels of service on the primary arterial roadways in an area such as Caledon is that there may be spillover of through traffic to collector roads that are not intended or designed to accommodate such traffic. Also, widespread congestion creates overall economic and environmental problems that impact the community at large.

Within the Caledon context, there is certainly flexibility in some areas of the municipality to tolerate increased levels of peak period congestion to avoid costly major roadway improvements and the associated impact of roadway improvements. However, this option has to be carefully considered within the context of each particular area to assess the possible negative impacts of traffic congestion and potential traffic spillover to alternative roadways that are not planned to accommodate excess traffic volumes.

In summary, this option may be acceptable and should be considered in those areas where the capacity deficiency is relatively minor, the costs and impacts of roadway improvements are extensive, the situation may be temporary, and a strategy has been developed to address excess traffic concerns on non-arterial roadways.

#### ***Improved Public Transit Services***

Shifting more travel demand to public transit is a strategy that may be used to address problems of future traffic growth. The current public transit services within Caledon are very limited and do not have a major impact on the level of vehicular traffic during weekday peak periods. However, over the entire Region of Peel, about 9% of the population use public transit (i.e., 6% local transit, 3% GO Transit) for peak period work trips and this level of transit use does help to reduce peak automobile traffic.

In Caledon's case, the primary challenges facing the development of a public transit service that could attract peak period commuter ridership are the distances involved and the relatively low population base in each urban centre. In general, a threshold population of 15,000 to 20,000 persons is required to support a reasonable level of transit service. In communities of this size, transit ridership of up to 5% to 10% of total peak trips could be achieved with a high quality service. Two areas within Caledon that could potentially support a local public transit service would be Bolton and the future Mayfield West community, due to the size of these communities, the closer proximity to major GTA activity areas, and available connections to GO commuter transit services. The development of a public transit service in Bolton could be further considered in the short term and public transit service should be considered for Mayfield West as development proceeds. In the case of a future service in Mayfield West, consideration should be given to coordinating the service with the Brampton Transit services in close proximity to this area. The longer term possibility of a new GO train line to Bolton would offer a significant potential to attract a greater share of peak commuter trips to transit, not only from the immediate Bolton area, but the larger Caledon commuter shed. The design of an initial local transit service in Bolton should be based on strong linkages with GO Transit services to develop a commuter transit pattern.

In summary, public transit services should be considered for Bolton in the near term and for Mayfield West in the medium to longer term, as development takes place. These services should be coordinated with GO Transit service and also Brampton Transit in the case of the Mayfield West service.

### ***Travel Demand Management***

Travel demand management (TDM) is a strategy that aims to improve the performance of the transportation system by modifying travel demand characteristics utilizing measures such as increased car-pooling, staggered work hours, encouraging use of alternate modes (e.g., public transit, cycling and walking) and different work arrangements such as home offices. It has been utilized in North America and around the world to help alleviate problems of excess traffic and congestion. Most applications have been in large urban areas and have been applied on a large scale basis or with selected large employers. The Region of Peel is currently developing a TDM plan as one component of its long range transportation planning program. Implementation of a Region-wide TDM plan could contribute to some reduction in the overall area growth in peak period traffic. While the benefit of TDM in specific corridors may not be significant, this strategy offers the potential to modify travel behaviour in a positive manner over the long term.

In summary, this option will not resolve the traffic deficiencies in specific corridors but it can contribute to an overall reduction of peak period vehicular traffic. The Town of Caledon should work with the Region in supporting the development and implementation of ongoing TDM measures across the entire Region.

### ***Traffic Calming on Collector Roadways***

The problem of excess traffic volumes and speeding on the rural collector roadway network in Caledon was discussed earlier. One of the factors contributing to this situation is peak congestion on the arterial roadways and resulting spillover of traffic to alternate routes. With forecast growth in peak period traffic demand in future and further deterioration of the level of service on the arterial roadways, the problems of excess traffic on the rural collector roadways can be expected to become substantially more acute than at present.

Traffic calming is a strategy that has been used successfully in urban areas but to a lesser extent in rural suburban areas to divert excess traffic volumes and to reduce speeding. There are many traffic calming measures and the determination of the appropriate measure requires consideration of the specific circumstances. It is recognized that traffic calming is most likely to be successful when the arterial roadways are operating efficiently. Also, there are specific circumstances where the local characteristics of the roadway network have created a situation under which excess traffic volumes may be very difficult to avoid in the short term. Therefore, while traffic calming appears to be a strategy that may help to alleviate problems of excess traffic on the rural collector roads in Caledon, each location will require specific investigation.

### ***Arterial Roadway Improvements***

Arterial roadway improvements include construction of new roadway segments, widening existing roadways, intersection upgrading (e.g., signals, turning lanes) and roadway surface improvements. These different types of arterial roadway improvements can provide significant improvements in the capability of the system to accommodate increased peak traffic demands. However, it is realized that roadway improvements may be costly and there are many undesirable impacts (e.g., property acquisition, community impact and environmental impact) associated with roadway improvements. Within the longer term, the increased traffic demands in Caledon would appear to make arterial roadway improvements unavoidable, recognizing the scale of the capacity deficiencies and the relatively minor contribution that can be realized through the other strategic options outlined above. Therefore, roadway improvements are likely to be one of the key strategic options that should be considered to address the transportation needs in specific corridors in Caledon.

### ***Transportation Strategy for Caledon***

The most likely approach to addressing the future transportation needs in Caledon is to utilize a broadly based transportation strategy consisting of:

- ▲ Capacity improvements to arterial roadways where peak traffic demands exceed the existing capacity and the congestion cannot be alleviated through other more acceptable measures.
- ▲ Development of public transit services in Bolton in the shorter term and Mayfield West in the longer term to attract peak commuter trips.
- ▲ Supporting Regional efforts to implement travel demand measures throughout Peel Region.
- ▲ Developing and implementing traffic calming plans on rural collector roadways experiencing excess volumes of through traffic.
- ▲ Accepting increased congestion in specific locations where the required roadway capacity improvements are costly or will create significant impacts on the community and the environment.

## ***4.2 Roadway Network Improvements***

Using the travel forecasts outlined previously, the specific transportation corridors identified as having deficiencies are further reviewed in this section to identify the general nature of roadway improvements required to address future transportation needs in Caledon. These corridors and local problem areas are discussed below. It should be noted that the roadway improvements will have social, environmental, and economic impacts that require further investigation through the Environmental Assessment process.

### ***Winston Churchill Boulevard – Mississauga Road Corridor***

This corridor generally includes the area of Winston Churchill Blvd to Mississauga Road from the south Caledon boundary north to the village of Belfountain. The AM peak traffic pattern in this area is generally southbound along Mississauga Road and easterly towards the Highway 10 corridor. The connection of Wellington County Road 52 to Bush Street at the boundary provides a direct route for commuter traffic generated by development in east Wellington County.

This corridor has a minor capacity deficiency of about 150 vph at present and this is expected to increase to about 300 to 800 vph by year 2031 in the Belfountain - Olde Base Line Rd. area, with Highway 427 in place by that year. Highway 427 appears to divert some traffic from this corridor and the current widening of Highway 10 is also expected to reduce the short term traffic demand in this corridor.

The potential requirements for future accommodation of truck traffic in this area have not been specifically addressed.

The range of options to address the capacity deficiencies in this corridor include:

- 1) Tolerating increased levels of congestion, particularly in the short term. With the planned widening of Highway 10 north through Caledon Village in the short term, traffic diversion to Regional Road 24 and Highway 10 could reduce the demand in this corridor by 200 to 300 vph.
- 2) Paving Winston Churchill Boulevard with related improvements to a medium capacity arterial standard with a basic two lane cross-section from Regional Road 24 to south of Olde Base Line Road.
- 3) In conjunction with the paving of Winston Churchill Blvd., upgrade key intersections along Olde Base Line Road from Winston Churchill Blvd. to Highway 10.
- 4) Constructing an alternate route around Belfountain, connecting Bush Street west of Belfountain to Mississauga Road south of Belfountain.
- 5) Signalize and upgrade the intersection of Bush Street and Old Main Street in Belfountain.

These options represent a wide range of alternatives in terms of the potential capital costs. It is also recognized that there will be a high level of sensitivity to each of these options by different community stakeholder groups. There is not a specific capital cost associated with Option 1 (i.e., tolerating increased congestion) although there will be ongoing higher costs related to road maintenance if no improvements are undertaken beyond the short term. The capital costs of Options 2 and 3 combined (i.e., pave Winston Churchill Blvd. and upgrade Olde Base Line Rd.) will consist primarily of civil works within the rights-of-way. The capital cost of Option 4 (i.e., Belfountain alternate route) will include extensive civil works as well as property acquisition and environmental mitigation measures. The capital cost of Option 5 (i.e., upgrading the Belfountain intersection) is relatively low but will have higher community impacts.

Requirements to accommodate future truck traffic in this corridor could require additional roadway structural or geometric improvements.

The most likely roadway improvement options for this corridor are shown in Figure 4.1 below and would consist of:

- ▲ In the short term, tolerating some congestion while taking advantage of traffic diversion to the

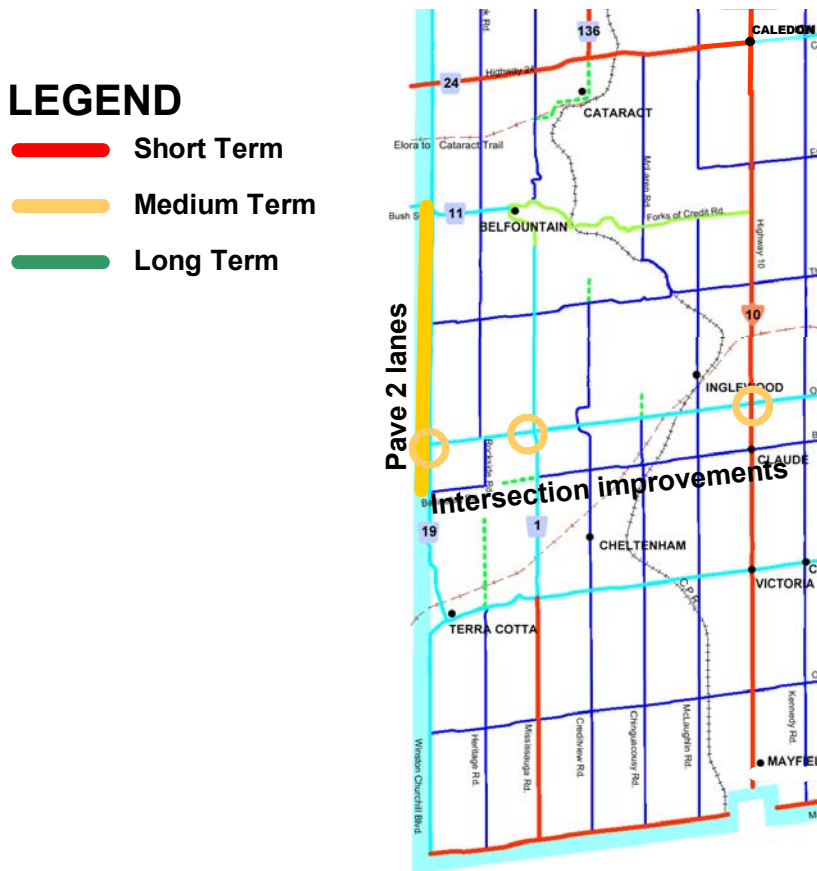
upgraded Highway 10 route. The traffic diversion to the Highway 10 route should be monitored to enable a further assessment of the needs in this corridor.

- ▲ In the medium term, paving of Winston Churchill Blvd. (Regional Road 24 to south of Olde Base Line Rd.) and intersections improvements along Olde Base Line Rd. (Winston Churchill Blvd. to Highway 10).

The future roadway improvements will increase the roadway capacity in the corridor up to about 600 vph, leaving a minor deficiency of about 200 vph that could be accommodated with diversion to Regional Road 24 and Highway 10. While there will be some impacts on the community and the environment, these are generally less than with the other options.

Inevitably, with most roadway improvements there are social, environmental, and economic impacts that must also be considered. Therefore, the evaluation and final selection of any preferred transportation solution will require completion of a Class Environmental Assessment study. Given that the EA study process will ultimately determine the preferred transportation solution for the Winston Churchill Blvd. – Mississauga Rd. corridor, it is also recommended that the Town should not consider new development proposals in the Belfountain area that would preclude an alternate route around the hamlet.

**FIGURE 4.1: POTENTIAL ROADWAY IMPROVEMENTS IN THE WINSTON CHURCHILL BOULEVARD – MISSISSAUGA ROAD CORRIDOR**



**Highway 10 Corridor**

This corridor includes Highway 10 and the parallel roads from Chingaucousy Rd. to Dixie Rd. This



corridor includes Heart Lake Road and adjacent heavily used collector roads. The traffic pattern is predominantly southbound in the AM peak period but the corridor also accommodates significant volumes of mid day and commercial truck traffic. The travel forecasts indicate that this corridor will be near, but not exceeding, capacity north of Caledon Village by years 2021 to 2031. South of Caledon Village a capacity deficiency of 500 vph is expected at Olde Base Line Rd. and increasing to about 3,200 vph at Mayfield Rd. However, if Highway 427 is not in place by year 2031, the peak traffic demands in this corridor are expected to be about 800 to 1,000 vph higher than these forecast volumes.

The planned upgrading of Highway 10 from Olde Base Line Rd. to Orangeville will meet the capacity needs in this corridor north of Caledon Village to year 2031. As noted previously, this corridor may also accommodate some peak traffic demand diverted from the Winston Churchill Blvd. – Mississauga Rd. corridor. The extension of Highway 410 north from the present terminus to connect into Highway 10 will increase the capacity in the south portion of this corridor by about 2,500 to 3,000 vph (net increase to Highway 410 and Hurontario). With the planned Highway 10 and Highway 410 improvements in place, the remaining capacity deficiency is approximately 1,200 vph in the section through King Street and about 200 to 700 vph in the Mayfield Rd. area. The provision of a continuous highway standard route on Highway 410 – Highway 10, along with the related roadway changes in Brampton, is expected to reduce current peak traffic volumes on Heart Lake Rd. This will contribute to further increased peak traffic demand on the Highway 410 – Highway 10 route.

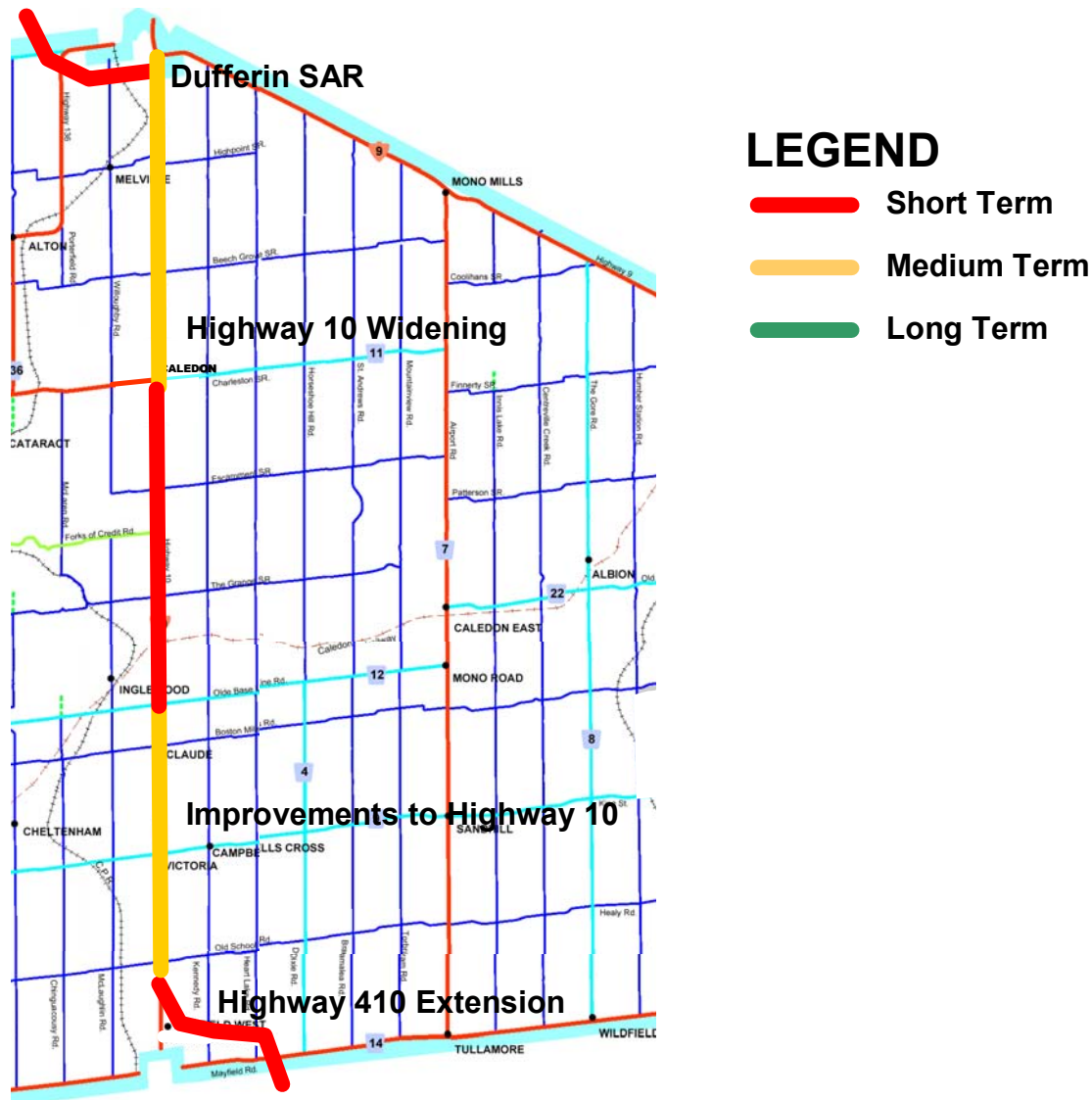
The range of options to address the remaining deficiencies in the Highway 10 corridor include:

- 1) Tolerating increased congestion levels in this corridor. While this could result in some traffic spillover to parallel collector roads, as at the present time, the direct connection of Highway 10 to Highway 410 will generally make this the more attractive route.
- 2) Shifting some demand to public transit and TDM (e.g., carpools). In this case, the development of a public transit service in Mayfield West and an active TDM program could reduce the corridor demand by about 5 %, or up to 300 to 500 vph.
- 3) Upgrading Highway 10 north of the planned connection to Highway 410 to Olde Base Line Road. This could consist of a centre median and intersection improvements to improve operations, grade separation at the key intersections or widening to a basic six lane section.

The most likely improvement options for this corridor are illustrated in Figure 4.2 below, and would consist of.

- ▲ Implement the planned improvements to Highway 10 and the extension of Highway 410 north to connect into Highway 10. The Dufferin SAR is also expected to be completed in the short term with connections to Highway 10.
- ▲ Upgrade Highway 10 north from the Highway 410 connection to Olde Base Line Rd. This could include a centre median, intersection upgrades, grade separations or widening of the highway.
- ▲ Reduce peak period demand through development of public transit services and Region-wide TDM measures.

**FIGURE 4.2: POTENTIAL ROADWAY IMPROVEMENTS IN THE HIGHWAY 10 CORRIDOR**



The identified improvements will enable the future traffic needs in this corridor to be accommodated until year 2031. However, it is noted that these improvements assume that Highway 427 will be in place by year 2031. Without Highway 427, additional roadway capacity of 800 to 1000 vph would be required in this corridor. This would be equivalent to at least an additional arterial roadway lane (e.g., further widening of Highway 10 or widening of a parallel arterial roadway such as Dixie Road).

***Caledon Village Bypass Route***

One specific area of concern in the Highway 10 corridor is Caledon Village and the possible need for an alternate route to Highway 10 through the village. The current plans for upgrading Highway 10 are to provide a basic four lane section through Caledon Village with auxiliary turning lanes at the intersection of Highway 10 and Regional Road 24. The analysis of future travel demand in this corridor indicates that this plan will accommodate the increased peak traffic demand through to year

2031. Based on this finding, there is not a need for an alternate bypass route to Highway 10 through the village to accommodate future traffic demand to year 2031. Rather, the need for an alternate bypass route would be related to reducing the impacts of traffic on the residents in the village along Highway 10.

It is recognized that Highway 10 carries heavy traffic volumes through the village, including significant heavy truck traffic, and the total traffic volume will increase significantly in future. However, the widening of Highway 10 will enable relative congestion levels to be maintained at similar levels to the existing conditions.

A major difficulty in providing an alternate route around Caledon Village is that there is not a readily available route. The village is developed east past Kennedy Road and to the west about half way to Willoughby Road. Particularly on the west side of the village, the terrain is rolling with various challenges in developing a new highway standard roadway facility. With these challenges and the resulting costs of a new highway route, a new bypass route around Caledon Village will be very costly and may not be economically feasible within the planning period. A short term strategy may be to manage development along the existing corridor to accommodate and mitigate the impacts of the highway.

However, notwithstanding the above, recognizing the planned widening of the Highway 10, the uncertainty associated with forecasting longer term traffic patterns, and that the need for an alternate route would be related to reducing the impacts of traffic on the residents in the village along Highway 10, it would be appropriate for the Town to ensure that any new development proposals in and around the village do not preclude a future Highway 10 bypass around Caledon Village.

### ***Airport Road Corridor***

This corridor consists of Airport Road and the immediate parallel roadways between Bramalea Road and The Gore Road. Both Airport Road and The Gore Road are continuous north-south arterial routes through Caledon. The predominant traffic pattern in the corridor is southbound in the AM peak and northbound in the PM peak. It is also noted that the north-south collector roads located on either side of the Airport Road arterial (i.e., Bramalea Road, Torbram Road and Innis Lake Road) have excess traffic volumes that ideally should be diverted to Airport Road. The traffic forecasts indicate capacity deficiencies in the corridor of about 200 to 300 vph south of Caledon East by year 2031 with Highway 427 in place. Without Highway 427, the capacity deficiency in this corridor is estimated to be approximately 1300 vph by year 2031. North of Caledon East, the corridor appears to have sufficient capacity to accommodate the traffic demand to year 2031 with or without Highway 427. However, without Highway 427 the traffic volumes north of Caledon East are approaching the available capacity by year 2031.

The range of options to address the future capacity deficiency in this corridor include:

- 1) Widening Airport Road to a basic four lane cross-section, with auxiliary turning lanes at intersections, from Mayfield Rd. to Caledon East. This option would also include some specific provisions to provide east-west connections to different areas of Caledon East.
- 2) Upgrade intersections (e.g., turning lanes, signals, etc) along several routes with good connections to Caledon East such as Airport Road, Innis Lake Road and Torbram Road.
- 3) Tolerating increased levels of congestion in this corridor.

The widening of Airport Road to provide increased capacity is consistent with Caledon's Official Plan that designates Airport Road as a high capacity arterial and also with the plans to upgrade

Airport Road within the City of Brampton. Since the roadway right-of-way is restricted by existing development at the south side of Caledon East, the widening would likely be limited to the section of the corridor south of Caledon East. Therefore, some additional connections to the Caledon East roadway network will likely be required to distribute traffic. This could include planned future east-west collector roads on the south side of Caledon East and possibly a connection between Airport Road and Innis Lake Road south of Caledon East (e.g., extension of Olde Base Line Rd).

The upgrading of several roadways in the corridor as indicated in Option 2 above would tend to distribute traffic over several routes. While this may be feasible, it is inconsistent with Caledon's Official Plan classification of roadways in this corridor. It would create additional traffic impacts on adjacent properties along each of these routes. For comparison purposes, the approximate capital cost of upgrading Airport Road, Torbram Road and Innis Lake Road from Mayfield Road to Olde Base Line Rd. are likely somewhat higher than the cost of widening Airport Road to 4 lanes.

The third option noted above of tolerating increased levels of congestion in this corridor would also tend to cause increased traffic to spread out over the different arterial and collector routes in the corridor. As with Option 2, this would create additional traffic impacts throughout the corridor.

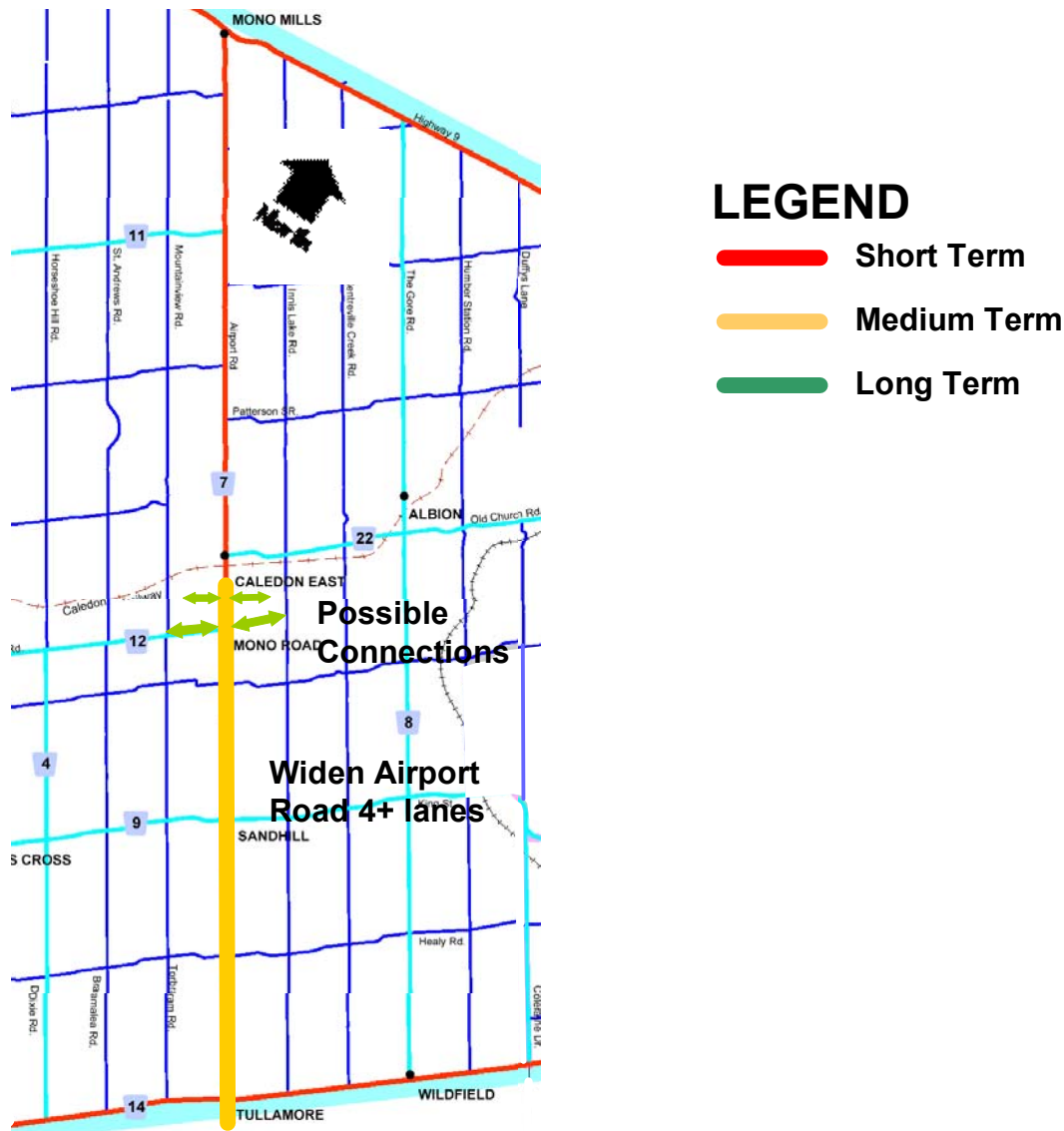
The most likely option to address both the future capacity deficiencies in this corridor, as well as to alleviate the current problems of excess traffic on non-arterial roadways, is the upgrading of Airport Road to four basic lanes plus turning lanes. It is also anticipated that east-west connections would be required on the south side of Caledon East to improve traffic distribution. These improvements are illustrated in Figure 4.3 below.

Inevitably, with most roadway improvements there are social, environmental, and economic impacts that must also be considered. Therefore, the evaluation and final selection of any preferred transportation solution will require the Town to complete a Class Environmental Assessment study.

The impact of through traffic on the Caledon East core area has been identified as a concern. The forecasts generally indicate that the traffic growth north of Caledon East can be accommodated on Airport Road north of the village without major capacity improvements. However, an improved roadway connection from Airport Road via Patterson Sideroad to Innis Lake Road could provide a minor alternate route in conjunction with a connection from Innis Lake Road to Airport Road south of Caledon East.

This connection does not appear to be needed for future traffic capacity if Highway 427 is in place in the long term. However, the connection could encourage some diversion of traffic away from the core area. Within Caledon East there are existing and planned development on either side of Innis Lake Road. This development would be impacted by additional through traffic using Innis Lake Road. Therefore, the acceptability of a northerly connection between Innis Lake Road and Airport Road north of Caledon East will need to consider the traffic implications for the Innis Lake Rd. corridor, as well as the Caledon East core area.

**FIGURE 4.3: POTENTIAL ROADWAY IMPROVEMENTS IN THE AIRPORT ROAD CORRIDOR**



***Regional Road 50 – Townline Corridor (North of Bolton Area)***

This corridor includes the north-south roadways from Humber Station Road to the Town Line in the area north of Castlederg Sideroad. It is useful to consider this corridor separately from the area around Bolton.

North of Bolton, the predominant traffic pattern is southbound in the AM and northbound in the PM peak periods. Traffic volumes in the east-west directions are relatively low. The primary traffic routes in this corridor are Regional Road 50 (a designated high capacity arterial road), Mount Wolfe Road, and Caledon King Town Line Road (designated collector roads). This corridor is heavily impacted by the future construction of Highway 427. Without Highway 427, capacity deficiencies of about 100 vph are forecast by year 2011, about 175 vph by year 2021 and increasing to almost 500 vph by year 2031. With Highway 427 in place, the peak demand is forecast to decrease below current levels and can be accommodated on the existing roadway facilities without improvements.

One related problem in this corridor is the relatively high traffic volumes currently using the Caledon King Town Line Road and Mount Wolfe Road route for north-south travel. This route consists of designated collector roads that have severely constrained geometry in terms of sight distances, roadway platform width and roadway alignment. The relatively high traffic volumes along this route, together with traffic speeds, present a situation where safety to vehicular traffic and other users of the roadway is a concern.

The range of options to address the deficiencies in this corridor include:

- 1) Tolerating increased congestion in the short to medium term. The level of congestion up to year 2021 is equivalent to a capacity deficiency of less than 200 vph.
- 2) Improvements to Regional Road 50 to provide more capacity. Regional Road 50 currently consists of two basic lanes south to Bolton with upgraded intersections at the major cross streets. Therefore improvements to provide additional capacity would likely involve additional lanes, at least in sections.
- 3) Improvements to the Mount Wolfe Road – Caledon King Town Line Road corridor to increase capacity and improve safety. It is likely that capacity could be increased with improvements to intersections (e.g., signals, turning lanes). However, to achieve improved safety standards along this road would likely involve major reconstruction of the alignment to arterial standards. With a collector road corridor of approximately 11 km, this would be a major and costly undertaking for civil works, right-of-way and environmental mitigation measures.
- 4) Introduction of traffic calming measures on Mount Wolfe Road – Caledon King Town Line Road corridor to reduce traffic speed and encourage through trips to use alternate routes.
- 5) Improvements to other designated arterial routes to accommodate through traffic. The most likely alternate arterial route would be The Gore Road. Assuming improvements will be made to the Airport Road corridor, this route is likely to have some spare capacity and further capacity could be provided through intersection improvements or even roadway widening.

As noted earlier, the future transportation needs in this corridor are heavily dependant on the future construction of Highway 427. If Highway 427 is in place in the medium to long term, further roadway improvements do not appear to be required in the corridor, and traffic volumes may even decline from current levels. In this case, the most likely option would appear to be Option 1 (tolerating some increased congestion in the short to medium term). Consideration of Option 4 is also warranted to address concerns of excess traffic and safety in the Mount Wolfe Road – Townline corridor. A strategy for traffic calming will be discussed further in the report.

Without Highway 427, the long term capacity deficiencies in this corridor are significant, with a capacity deficiency of about 500 vph by 2031. Addressing this deficiency would require widening of Regional Road 50 (i.e., Option 2 above) or major improvements to an alternate route such as The Gore Road or the Mount Wolfe Rd. – Caledon King Town Line Road corridor.

### ***Regional Road 50 – Townline Corridor (Bolton Area)***

The north-south roadway network in the Bolton area is a critical area in the Regional Road 50 – Townline corridor. The peak traffic is southbound in the morning and northbound in the afternoon on the north-south routes but there are also significant peak traffic volumes eastbound and westbound on this section of the roadway network. The traffic forecasts indicate capacity deficiencies in the north-south direction of up to 1,900 vph by year 2021, reduced to about 600 to 1,000 vph capacity deficiency in year 2031 with Highway 427 in place. Without Highway 427, the

year 2031 capacity deficiencies in the north-south direction are approximately 2,000 to 2,100 vph. In the east-west direction, the capacity deficiency is approximately 200 vph in year 2031 with Highway 427 in place. Without Highway 427, the east-west capacity deficiency is about 650 vph.

The range of options to address the future capacity deficiencies for this area, with Highway 427 in place in the medium term, include:

- 1) Implement the approved Bolton Arterial Roads (BAR) plan, including traffic improvements in the Bolton core area, Coleraine Dr. upgraded to 2 basic lanes (King Street to Regional Road 50 South), the Coleraine Dr. extension from King Street to Regional Road 50 North, improvements completed to Caledon King Town Line Road / Albion Vaughan Road from north of King Street to Queensgate Blvd. Some of this work has been already completed and the remaining improvements would provide additional capacity to address short term growth.
- 2) An expanded BAR plan with Coleraine Drive widened to 4 basic lanes plus turning lanes and intersection signalization from King Street (north leg) to connect with Regional Road 50 South, the two lane Coleraine Drive extension from King Street to Regional Road 50 North, Albion Vaughan Road upgraded to 4 lanes plus turning lanes from King Street connecting to Mayfield Road.
- 3) Option 2 with the provision of a new or improved roadway from Regional Road 50 North to Caledon King Town Line and King Street on the northeast quadrant of Bolton.

Option 2 would provide approximately 1,600 vph additional capacity (Coleraine Dr and Albion Vaughan Rd. widening to four basic lanes plus turning lanes) in the north-south direction south of King Street. The connection of Coleraine Dr. to Regional Road 50 north on the northwest quadrant will provide additional capacity north of King Street connecting Regional Road 50 to Coleraine Drive, accommodating traffic growth that would otherwise be forced through the Bolton core area. The widening of Albion Vaughan Road connecting to Mayfield Road will also provide additional east-west capacity through the Bolton area.

The forecast additional traffic volume on the northeast quadrant (i.e., Columbia Way) is approximately 200 to 300 vph over current volumes. This would indicate that there is likely to be some need for improvements in this area. It is anticipated that the most direct connection to the future Highway 427 from this area will be via King Road (King Street in Caledon) and this could potentially further increase the need for an improved road connection on the northeast quadrant. Therefore, the plan should recognize the likely need for longer term roadway improvements in this quadrant.

The roadway capacity deficiencies in the Bolton area are more acute in the short to medium term (i.e., 2011 to 2021) before Highway 427 is expected to be in place. Also, the traffic analysis indicates existing roadway capacity deficiencies in this area. Therefore, the roadway improvements to Coleraine Drive should be considered for implementation in the short term. Figure 4.4 below provides an illustration of the likely roadway improvements in this corridor.

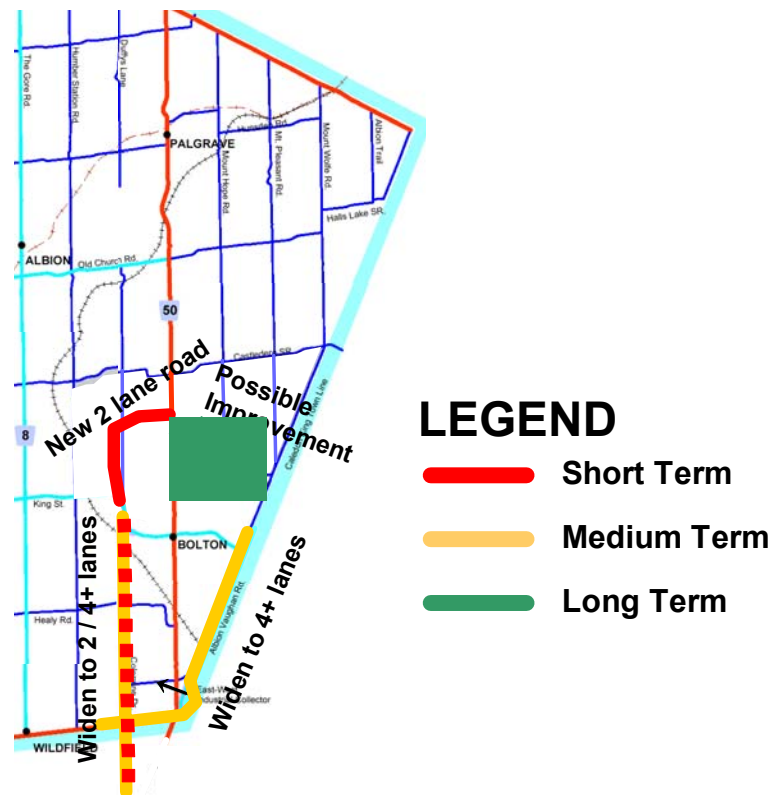
In this study, it has been assumed that the future roadway interchange connections to Highway 427 would include Major Mackenzie Drive, King Road and Highway 9. The Region of York Transportation Master Plan, 2031 Road Improvements, indicates that improvements are planned to King Road and Major MacKenzie Drive as far west as the Peel Region boundary and these roadways currently have interchanges with Highway 400 within York Region. Therefore, they appear to be reasonable candidates for future interchanges on Highway 427. However, it is recognized that alternate interchange locations are possible and additional interchange locations may also be

provided with Highway 427. The City of Brampton draft Transportation and Transit Master Plan, Road and Transit Summary 2004, has assumed that interchanges on the future Highway 427 would be located at Rutherford Road and an extension of Mayfield Road, rather than at Major MacKenzie Drive. An extension of Mayfield Road would require some modifications of the Mayfield Rd. – Albion Vaughan Road intersection with Regional Road 50 as well as possibly having some impacts on Region of York roadway network plans. However, Mayfield Road is currently designated as a high capacity arterial within Caledon and could provide a major east-west route connecting to Highway 427.

Recognizing that the MTO plans for Highway 427 and the interchange locations are important to Peel and York Regions as well as to the local municipalities in this area, discussions should be held with the MTO to further discuss the status of Highway 427. The uncertainty relating to these detailed aspects of Highway 427 underlies the importance of proceeding with a corridor planning study as soon as possible.

In addition to the roadway improvements noted for this area, it was suggested earlier that consideration be given to providing a local transit service in Bolton coordinated with GO Transit services. Provision of a public transit service along with Regional TDM measures offers reasonable potential to divert some peak vehicular trips in this corridor. With the extension of Hwy 427 in the medium term, express GO service could utilize that facility. In the longer term, improved commuter transit service could consist of a GO rail line to Bolton.

**FIGURE 4.4: POTENTIAL ROADWAY IMPROVEMENTS IN THE REGIONAL ROAD 50 – TOWN LINE CORRIDOR**



**Mayfield Road Corridor**

Mayfield Road is a designated high capacity arterial roadway across the entire southern boundary of



Caledon (excluding a small segment in Brampton at Hurontario Street). The dominant traffic pattern in the west area is eastbound in the morning and westbound in the afternoon, while the traffic pattern at the east end tends to be slightly higher westbound in the morning and eastbound in the afternoon. Old School Road may also be considered part of this corridor but it is a designated collector road, carrying relatively low traffic volumes in comparison to Mayfield Road. The exception to this is the section of Healey Road, east of the Gore Road, which has higher traffic volumes (but still lower than Mayfield Road volumes).

The analysis of future traffic conditions indicate that this corridor will experience long term capacity deficiencies of about 800 vph at the west end, about 1,600 vph in the vicinity of Highway 10, and about 900 vph at the east end. Highway 427 does not have a significant impact on the traffic deficiencies along Mayfield Road.

Since Mayfield Road is a designated high capacity arterial and plans have been developed by the Region of Peel for widening sections of this roadway, the most likely option to address capacity deficiencies in this corridor is the widening of Mayfield Road. In the long term, widening to six basic lanes in the section from Hurontario Street to Highway 410 is likely required to accommodate future traffic. The sections of Mayfield Rd. west and east of this area will need to be widened to four basic lanes plus turning lanes to accommodate the forecast future demand. The most critical sections in the short term are the Hurontario St. to Highway 410 section, followed by the Highway 410 to Airport Road section.

#### ***King Street – Olde Base Line Road Corridor***

This east-west corridor includes King Street and Olde Base Line Road, both of which are designated as medium capacity arterials. The traffic in this corridor tends to be focused towards major north-south routes (i.e., Highway 10, Airport Road, and Regional Road 50). The analysis of future traffic conditions indicates that the section of the corridor west of Highway 10 will experience capacity deficiencies of 250 to 350 vph in the short to medium term, and increasing to almost 1,000 vph by year 2031. The traffic volumes appear to be slightly higher with Highway 427 in place in year 2031.

In the discussion of traffic needs in the Winston Churchill Blvd. – Mississauga Road corridor it was suggested the likely improvement plan would include improvements to intersections along Olde Base Line Road in the medium term to improve access to and from Highway 10. The most likely further option to address the future traffic needs in this corridor would be improvements or widening of King Street between Mississauga Road and Highway 10. While a full widening of King Street to four basic lanes may not be required, it is likely that provision should be made for that level of improvement.

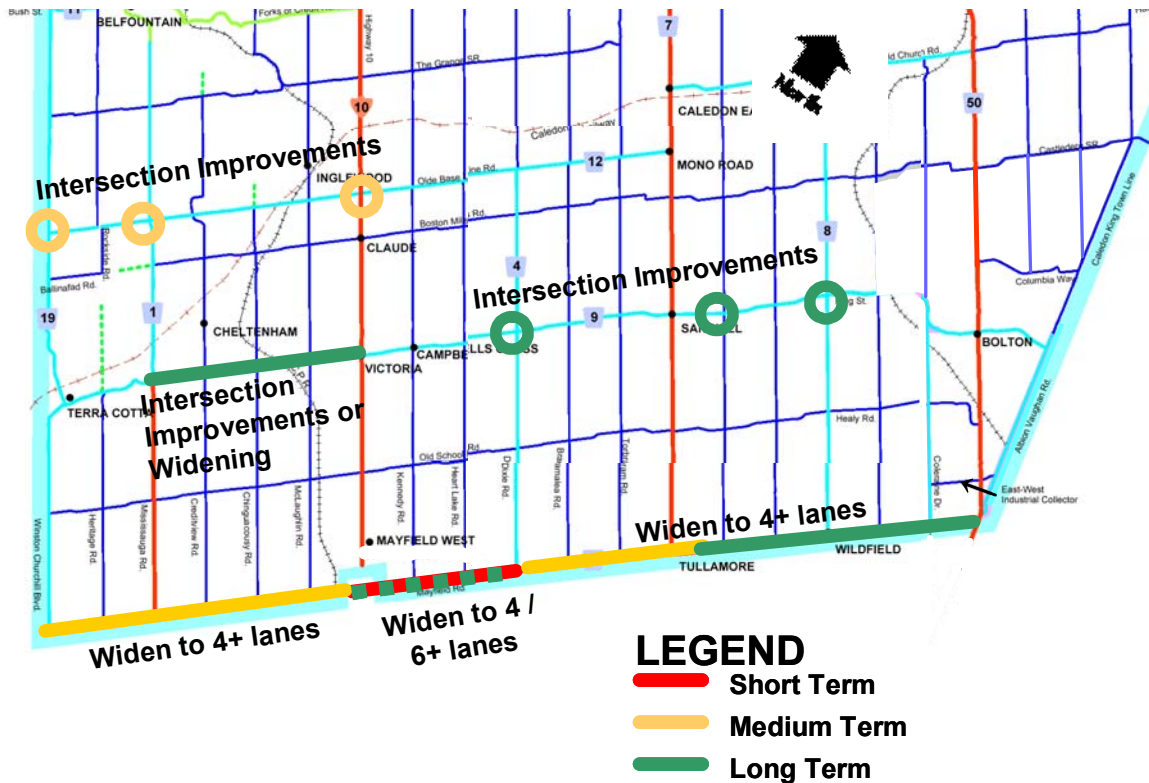
Between Highway 10 and Coleraine Dr., traffic demands will approach the available capacity along King Street in the medium to long term. It is expected that this will require some improvements such as signals, turning lanes or minor widening.

#### ***Old Church Road Corridor***

Old Church Road is a significant east-west link that was not specifically addressed by the analysis screenlines noted earlier. A further detailed analysis of this corridor was undertaken to determine the possible need for improvements to this designated medium capacity arterial route. The forecasts to year 2031 indicate increased peak hour demand on this corridor of about 200 vph as compared to existing conditions. This increase in traffic generally is within the existing capacity of the roadway and would not appear to require significant roadway improvements.

Based on the forgoing assessment, the most likely improvements to the east-west roadways in Caledon are as shown in Figure 4.5 below.

**FIGURE 4.5: POTENTIAL IMPROVEMENTS TO EAST-WEST ROADWAYS**



**Road Network Connectivity at Caledon’s Boundaries**

The road network connectivity at Caledon’s boundaries needs to be considered in conjunction with the forecast future traffic patterns and likely improvements to the roadway network within Caledon.

The existing and future Provincial highway connections are as follows:

- ▲ With the extension of Highway 410 from Bovaird Drive to Highway 10, and the planned upgrading of Highway 10 north to the intersection of Highway 9 at the north Caledon boundary, a primary continuous north-south corridor will be well established to accommodate provincial and inter-regional travel.
- ▲ Highway 9 forms a major east-west route to accommodate provincial and inter-regional travel along the north boundary of Caledon. The planned completion of the Dufferin SAR from Dufferin County Road 109 west of Orangeville to Highway 10 east of Orangeville will improve the connectivity of this route for through traffic in the east-west direction.

The connectivity of the arterial roadways at the north Caledon boundary is as follows:

- ▲ Regional Road 136 (Porterfield Road) currently provides a continuous route into the core area of Orangeville. The planned intersection with the Dufferin SAR will provide connections east and west of Orangeville. No further improvements appear necessary to provide reasonable continuity of this route.

- ▲ Airport Road currently is a continuous route with Dufferin County Road 18 through Dufferin County and continuing to the Wasaga Beach tourist area. No further improvements are required for route continuity.
- ▲ The Gore Road currently ends at Highway 9 with an offset intersection with Simcoe County Road 14 (3<sup>rd</sup> Line Road) to the north of Highway 9. Simcoe County Road 14 does not form a continuous major corridor north within Simcoe County; rather it connects to Regional Road 50 to the east. An intersection realignment to provide a continuous roadway corridor crossing Highway 9 could improve traffic operations and safety at this location. Also, it could potentially shift some through traffic from the Regional Road 50 route to The Gore Road, reducing traffic volumes through the Palgrave area. While this improvement does not appear to be a high priority, it is suggested that further consideration be given to this improvement in consultation with Simcoe County and MTO.
- ▲ Regional Road 50 currently forms a continuous roadway corridor through Caledon and continuing north to Highway 89 in Simcoe County. The intersection of Highway 9 and Regional Road 50 has been upgraded and provides excellent continuity of this route. No further improvements appear necessary.
- ▲ The north-south collector roadways east of Regional Road 50 are discontinuous with the roadways north of Highway 9. Recognizing the collector function of these roadways, there is not a significant need to provide continuity of these routes with the neighbouring jurisdictions.

The connectivity of the arterial roadways at the east Caledon boundary is as follows:

- ▲ The east-west collector roadways are generally discontinuous at the east boundary, with the exception of Castlederg Sideroad which connects to 17<sup>th</sup> Sideroad in King Township. Castlederg Sideroad is a collector standard roadway but 17<sup>th</sup> Sideroad provides a continuous route east to Highway 27 in King Township. This connection enables some traffic to bypass the congested Bolton area. Also, this roadway could also be considered for a future interchange location on Highway 427. Therefore, this connection should be maintained and may warrant consideration of improvements in future if it provides a connection to Highway 427.
- ▲ King Street is a major east-west arterial that forms a continuous route with York Region Road 11 (King Rd) in York Region. This roadway should be considered for an interchange with a future Highway 427 extension. The likely road improvements to Albion Vaughan Road and Mayfield Road will improve the east-west connections to this inter-regional route. It is likely that future traffic growth on this route together with a future Highway 427 connection will require the upgrading of King Road in York Region.
- ▲ The upgrading of Coleraine Drive to Major Mackenzie Drive (York Road 25) at Regional Road 50 forms an important connection to the south and east for the Bolton area. Major Mackenzie Drive is currently discontinuous within Vaughan but the future improvements identified in the York Peel Boundary Area Transportation Study indicate that it should be upgraded to a continuous four lane arterial. The development of this continuous major arterial route is important to meet future traffic needs in this area and should be coordinated with the City of Brampton and York Region.

Along the south boundary of Caledon with the City of Brampton, all collector and arterial roads form continuous routes into and through Brampton. The continuity of the Provincial highways and arterial roads is well established and will facilitate the accommodation of longer distance travel. The continuity of the collector roadway network forms a basic roadway grid structure for possible long

term urban development north of Mayfield Road. Therefore, the connectivity of these routes across the south boundary should be maintained.

The Town of Caledon is planning for additional growth in the Mayfield West area, north of Mayfield Road. As such, when approving new development proposals, the Town should protect sufficient right of way to accommodate a four lane cross-section on the roads through this area (i.e., Chinguacousy Rd., McLaughlin Rd., Kennedy Rd., Heart Lake Rd., and Dixie Rd.).

The connectivity of the roadway network across the western boundary is as follows:

- ▲ Mayfield Road currently forms a continuous route with River Drive connecting to the Georgetown area. No specific improvements are needed to improve this connectivity.
- ▲ Halton Regional Road 42 connects to Winston Churchill Blvd. south of Olde Base Line Road and is not continuous into Caledon. Recognizing the rural nature of this road and the relatively low traffic levels, improved connectivity does not appear necessary.
- ▲ Regional Road 11 (Bush Street) connects directly to Wellington County Road 52 and accommodates cross-boundary traffic generated by development in east Wellington County. As noted in the discussion of the Winston Churchill Blvd – Mississauga Rd corridor, this traffic currently tends to travel through the hamlet of Belfountain. The suggested most likely improvements in this corridor will maintain the connectivity but enable some traffic growth to be accommodated on Winston Churchill Blvd – Olde Base Line Road as well as the Highway 24 – Highway 10 routes. Recognizing the sensitivity of the Belfountain area to increased traffic, no other connectivity improvements appear to be required.
- ▲ Regional Road 24 (Highway 24) currently forms a continuous route with Wellington County Road 124 connecting west to Guelph and east to the Airport Road corridor. This route provides excellent continuity and no improvements appear necessary.
- ▲ North of Highway 24, two rural collector roadways form continuous routes with roadways in Wellington County. Traffic volumes are very low and recognizing the collector designation of these roadways, no improvements in connectivity appear necessary.

In summary, improvements that should be considered for improved roadway connectivity with adjacent municipalities are:

- ▲ Upgrading the connection of The Gore Road across Highway 9. This is not a high priority but could divert some through traffic from the Regional Road 50 corridor.
- ▲ Developing a continuous arterial roadway connection of Coleraine Drive through Brampton and connecting to Major Mackenzie Drive, with planned improvements to Major Mackenzie Drive in York Region.
- ▲ Capacity improvements on the King Street – King Road route in the long term with the development of the Highway 427 extension corridor.
- ▲ Maintaining sufficient right of way on the roadway grid north of Mayfield Road to accommodate future development in Mayfield West.

These connectivity improvements will require discussion with the respective neighbouring municipalities to reach agreement on provisions and further detailed planning for the connections.

### ***Staging of Roadway Improvements***

Recognizing the uncertainty of long range forecasts of development and traffic patterns, it is difficult

to identify the staging of roadway improvements with a high level of confidence. Also, roadway improvement priorities within Caledon are strongly related to plans by the MTO for projects such as Highway 410 extension, Highway 10 widening and the future Highway 427 extension. The foregoing forecasts and discussion of transportation needs in each of the corridors provides some basis to identify the likely priorities for roadway improvements for the short (to 2011), medium (to 2021) and long term (to 2031) time horizons.

The suggested improvement priorities for these time frames are summarized in Table 4.1 below. The roadway improvements staging priorities will need to be reviewed and updated on a regular basis to reflect changes in plans of different agencies as well as changing traffic conditions. This is particularly the case for medium and longer term improvements that may be impacted by changing development patterns, changes in the roadway plans of different agencies, changes in traffic patterns or other factors. Ongoing traffic monitoring is an important input to the review and updating of transportation plans.

**TABLE 4.1: ROADWAY IMPROVEMENT PRIORITIES**

<b>Corridor</b>	<b>Short Term</b>	<b>Medium Term</b>	<b>Long Term</b>
Winston Churchill Blvd. – Mississauga Rd. Corridor	<ul style="list-style-type: none"> <li>• Monitor traffic diversion to Hwy 10</li> </ul>	<ul style="list-style-type: none"> <li>• Pave Winston Churchill Blvd.</li> <li>• Intersection improvements on Olde Base Line (WCB – Hwy 10)</li> </ul>	
Airport Road Corridor		<ul style="list-style-type: none"> <li>• Airport Rd widening to 4 lanes (Mayfield Rd. - Caledon East)</li> </ul>	<ul style="list-style-type: none"> <li>• Possible connections of Airport Rd. to east and west</li> </ul>
R.R. 50 – Albion Vaughan Road Corridor	<ul style="list-style-type: none"> <li>• Coleraine Drive reconstruction to 2 lanes (King St. – R.R. 50 south)</li> <li>• Coleraine Dr. extension (King St. – R.R. 50 north)</li> </ul>	<ul style="list-style-type: none"> <li>• Coleraine Dr widened to 4 lanes (King St – R.R. 50 south)</li> <li>• Albion - Vaughan Road widened to 4 lanes (King St – R.R. 50 south)</li> </ul>	<ul style="list-style-type: none"> <li>• Possible improvements to Columbia Way</li> </ul>
Mayfield Road Corridor	<ul style="list-style-type: none"> <li>• Mayfield Rd. widened to 4 lanes (Hurontario St. - Hwy 410)</li> </ul>	<ul style="list-style-type: none"> <li>• Mayfield Rd. widened to 4 lanes (Hwy 410 – Airport Rd.)</li> <li>• Mayfield Rd widened to 4 lanes (Winston Churchill Blvd. – Hurontario St.)</li> </ul>	<ul style="list-style-type: none"> <li>• Mayfield Rd. widened to 4 lanes (Airport Rd. – R.R. 50)</li> <li>• Mayfield Rd widened to 6 lanes (Hurontario St. – Hwy 410)</li> </ul>
King St – Olde Base Line Corridor	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements on Olde Base Line (WCB – Hwy 10)</li> </ul>	<ul style="list-style-type: none"> <li>• King St. improvements or widening (Mississauga Rd. – Hwy 10) and intersection improvements (Hwy 10 – Coleraine)</li> </ul>

### **4.3 Other Transportation Improvements**

In the review of strategic transportation options to accommodate traffic growth in Caledon, it was

suggested that public transit services and travel demand management could help to reduce the future vehicular traffic growth. The development of these services is outlined below.

### ***Travel Demand Management (TDM)***

Travel demand management (TDM) has not been investigated in detail in this study as the Region of Peel is currently developing a Region-wide TDM plan. That approach recognizes that TDM measures are most effective when applied on a broad regional basis, rather than in specific corridors. However, Caledon's transportation system will benefit from a pro-active TDM plan that contributes to:

- ▲ Increased peak period automobile occupancy.
- ▲ Changes in peak period travel modes to increase the share of trips by alternate modes such as public transit, car pooling, cycling and walking.
- ▲ Shifts in trip-making away from the peak hour (e.g., staggered work hours).
- ▲ Reduced trip frequency and distance.

Identification of specific TDM measures will be included in the Regional TDM plan. Some of these measures may require actions by the Town of Caledon to facilitate implementation, and the Town should actively participate with the Region in the development and implementation of the TDM plan. The specific actions to be undertaken by the Town will need to be considered on an individual project basis in consultation with the Region.

### ***Public Transit Services***

The discussion of strategic options indicated that public transit services should be considered for Bolton and Mayfield West to encourage reduced vehicular travel. Potential public transit service improvements are outlined below for each of these areas.

The Bolton urban area currently has a population of about 23,500 persons, which is usually considered a sufficient size community to support a public transit service. Also, Bolton currently has GO Transit bus service, providing several weekday peak period trips connecting to Etobicoke North Station, Yorkdale Bus Terminal and York Mills Subway Station. The GO bus service currently operates as local service through Nobleton and Kleinburg, increasing the travel time for Bolton residents. The development of a public transit service for Bolton should incorporate the following features:

- ▲ Convenient connections to the GO bus service to better accommodate inter-regional commuter trips.
- ▲ Direct access to the major activity centres within Bolton such as the core area, secondary schools, major commercial areas and major employers.
- ▲ Reasonable coverage (e.g., within 400 metres of 95% of residences) of the residential areas of the community.

A fully developed local bus service in Bolton would likely have the following characteristics:

- ▲ Weekday service with 4 buses in the peak period, 2 in the mid-day period, and 2 buses for two evenings, operating about 11,000 revenue vehicle hours annually.
- ▲ Ridership would be in the order of 150,000 to 200,000 trips annually.
- ▲ Approximate annual operating costs would be in the order of \$600,000.

- ▲ Net operating costs to the municipality would be approximately \$400,000 annually.

A reduced level of service (e.g., 2 peak period buses, 4,500 vehicle hours, \$300,000 annual operating costs, \$175,000 net annual cost to municipality) would be a reasonable level of transit service to consider as an initial phase.

The second aspect of bus service improvements in Bolton would be upgraded GO service to major terminals in the GTA. The current GO bus service operates locally through Kleinburg and Nobleton. This probably adds at least 15 to 20 minutes to the trip time that could be avoided with a more direct express GO bus service along the Regional 50 corridor, particularly if some transit priority measures were included with the service. With the extension of Hwy 427, express GO bus service on that facility should be considered. In developing a detailed transit service plan for Bolton, improved GO bus services should be discussed with GO Transit. Consideration should also be given to enhancements such as a fare integration arrangement. Strong integration of a local transit service in Bolton with GO Transit will encourage a transit pattern that would support the longer term development of a GO train service to Bolton.

In summary, consideration should be given in the short term for a public transit service within Bolton combined with an improved express GO bus service. A local transit service could potentially be contracted to a private transit operator under agreement with the Town, or it could be procured through an established public transit operator (e.g., Brampton Transit, York Region Transit, GO Transit). Under a contract arrangement, the Town would maintain responsibility for service plans and policy, fare policy and establishing limits on the Town's financial contributions.

In Mayfield West, the current level of development would not provide sufficient ridership to warrant a separate public transit service. However, the availability of limited peak period GO bus service along Highway 10 – Hurontario St., and Brampton Transit local transit service at the Brampton – Caledon boundary currently provides some transit service. Since the planned development in this area will generally form a contiguous urban area with existing development in Brampton, the most likely approach to providing improved transit service in Mayfield West is to negotiate an arrangement with Brampton Transit to extend services north into Mayfield West. This service would likely consist of route extensions or new local routes serving Mayfield West neighbourhoods with connections to Brampton Transit at Heart Lake or downtown Brampton terminals. The local transit service could also have a connection with the Highway 10 GO bus service although this would be less important if it connects directly to the downtown Brampton terminal. A local bus service for the full development of about 13,100 people in Mayfield West (Town of Caledon Official Plan) would likely have the following general characteristics:

- ▲ Weekday service of 2 peak period buses and 1 mid-day bus, operating about 4,500 revenue vehicle hours annually.
- ▲ Ridership would be in the order of about 50,000 to 75,000 trips annually.
- ▲ Approximate annual operating costs would be about \$275,000.
- ▲ Net operating costs to the municipality would be approximately \$175,000 annually.

If the service can be integrated with Brampton Transit (e.g., extensions of existing routes) the costs to the Town will likely be lower. In the event that Brampton Transit is unable to provide the service, it could be contracted to a private operator. In this case, integration with Brampton Transit and GO transit might be more difficult to arrange.

The net cost of these public transit services would primarily benefit the service area residents and it

may be appropriate to consider an area rating approach for the municipal tax levy for transit. The level of funding from senior levels of government for public transit has been limited for a number of years although there have been recent indications that additional provincial funding may be available. Further investigation of the funding options and implications will be necessary in consideration of public transit services.

#### **4.4 Management of Excess Traffic**

One of the issues of significant concern in Caledon is excess traffic using rural collector roadways, as discussed in Section 2.3. Both the Town of Caledon and Region of Peel Official Plans indicate that the current policy is to provide adequate capacity on Regional roads (see Regional Official Plan policy 5.6.4.2.4) to accommodate traffic at acceptable levels of service, and that collector roads should serve low to moderate volumes of short distance traffic between local and arterial roads (see Caledon Official Plan policy 5.9.5.4). However, the continuous nature of many of the collector roads combined with areas of congestion on the arterial routes has resulted in “spillover” of longer distance through traffic to specific segments of the collector road network. This has resulted in problems of:

- ▲ Noise, dust and general intrusion on adjacent residents of higher volumes of traffic using sections of collector roadways.
- ▲ Increased risks to adjacent residents and activities in the vicinity of the roadways due to traffic volume and higher speeds.
- ▲ Conflicts with other users of the roadway such as pedestrians, cyclists, farm operations and local traffic.

Traffic calming<sup>3</sup> is a strategy that has been utilized in recent years to deal with these problems on residential local and collector streets, primarily within urban areas. In Caledon, the problem of excess traffic tends to be on collector roadways in the rural and village/hamlet areas. The principles of traffic calming, however, have been applied to these problems in rural areas<sup>4</sup> very similar to the Caledon context but there is limited experience within Canada. Based on the experience to date with traffic calming, this appears to be a potential strategy to help manage the problems of excess traffic on non-arterial roadways in Caledon. The strategy should include the following components:

- ▲ As a first priority, providing reasonable levels of service on the arterial road network. In this regard, the Region of Peel policy of maintaining a volume to capacity ratio of 0.9 or better serves as a reasonable guideline.
- ▲ Investigation of traffic calming measures on collector roads in specific locations where there is a reasonable likelihood of success, such as in village/hamlet areas or areas with serious safety problems.
- ▲ Follow an incremental approach to introducing traffic calming measures to gain experience and to monitor effectiveness.

Since the arterial roadways are generally under the jurisdiction of the MTO and Region, while collector roads are under the Town’s jurisdiction, consideration of traffic calming measures should

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<sup>3</sup> Canadian Guide to Neighbourhood Traffic Calming, Transportation Association of Canada, December, 1998.

<sup>4</sup> Traffic Calming in Practice, County Surveyors Society, U.K., November, 1994.



be coordinated closely with these agencies.

Development and implementation of a traffic calming plan to deal with traffic problems on collector roads should include the following steps:

- ▲ The **existing traffic problems should be clearly identified, quantified and understood** as an initial step. While the symptoms of a traffic problem may be readily apparent, the underlying cause of the undesirable traffic behaviour may not be as obvious. However, these underlying causes need to be clearly understood to develop potential solutions.
- ▲ **Establish and maintain consultation with stakeholders** throughout the development of a plan. The stakeholders generally include the local residents, emergency service agencies, area roadway agencies, traffic police and roadway users. The input of the stakeholders is important to understanding the nature of the traffic problems as well as to the development of potential solutions that will have a high level of acceptability.
- ▲ **Improvements to the arterial roadway system should be considered first.** The key function of the arterial roadways is to accommodate longer distance through traffic at reasonable levels of service. There are a variety of measures that may be considered for arterial roadways (e.g., geometric improvements, traffic signal control plans, turn prohibitions, parking restrictions) that might help to relieve traffic problems on adjacent collector streets. The arterial roadway improvements outlined in Section 4.2 indicate the improvements required to provide a reasonable level of service.
- ▲ Investigate and **consider the impacts of potential traffic calming measures on an area-wide basis.** It should be realized that changes in traffic due to a particular traffic calming measure in one area may have undesirable impacts in another location. The impact of traffic calming measures on local access and egress for residents, emergency services and other road users should also be identified and carefully considered in the evaluation of traffic calming alternatives.
- ▲ **Ensure that the proposed plan has a high level of consensus and support** among the stakeholders. Experience has demonstrated that traffic calming strategies must be well understood and supported by the community to achieve the intended changes in traffic behaviour.
- ▲ The **implementation program should consider phased or trial introduction** of traffic calming measures. While not always feasible, this approach provides some opportunity to evaluate the impact of the traffic calming measures before additional measures are introduced or the measures are made permanent.
- ▲ The **traffic changes should be monitored and assessed following the introduction of traffic calming measures** to determine if the intended effect is being achieved. This feedback is important to determine the need to refine the plan and as input to consideration of further applications in other locations.

There are a wide range of measures that have been used for traffic calming (refer to Canadian Guide to Neighbourhood Traffic Calming, Traffic Calming in Practice) but it is recognized that not all of these measures may be applicable to collector roads in rural areas such as Caledon. For example, speed humps are a common traffic calming measure in urban residential areas but are not suggested for areas with posted traffic speeds greater than 50 kph. This could limit the potential applicability to areas with an established reduced speed limit. Some potential traffic calming

measures are outlined in Table 4.2 below that could be considered to respond to specific traffic concerns in Caledon.

**TABLE 4.2: POTENTIAL TRAFFIC CALMING MEASURES FOR COLLECTOR ROADS IN CALEDON**

Traffic Calming Measure	Potential Application	Traffic Objectives
Raised median island	At gateway entrance to village/hamlet areas.	Increased driver awareness, reduced speed.
Centre pedestrian refuge	At busy pedestrian areas.	Increased driver awareness, reduced speed.
Raised pedestrian crossings, raised intersections.	Limited to high pedestrian activity areas in villages/hamlets.	Reduced speeds and traffic volumes, increased pedestrian priority.
Lower posted speed limits (with regular enforcement)	Areas where posted speeds are too high for actual geometric conditions.	Reduced traffic speed.
Pavement rumble strips	On approach to high risk areas, reinforcement of traffic signing.	Increased driver awareness.

In considering the implementation of traffic calming, it should be recognized that there are situations in Caledon where significant diversion of through traffic may not be possible without creating equivalent or worse problems on other areas of the roadway network. These situations are typically related to a lack of adequate capacity and mobility on the arterial routes. For example, this is currently the case on Heart Lake Road where the lack of a direct connection between Highway 10 and Highway 410 has caused traffic to use collector roadways to connect to Highway 410. Until the extension of Highway 410 to Highway 10 is completed, it is probably not possible to divert excess traffic from Heart Lake Road.

However, there are locations where the problems of excess traffic are related to sensitivity of traffic in village/hamlet areas, or environmentally unique areas and not strongly related to arterial roadway deficiencies. In these locations, traffic calming measures offer greater potential to alleviate the concerns of excess traffic and they are probably more appropriate locations to consider for initial projects in the short term.

## **5.0 A TRANSPORTATION STRATEGY FOR CALEDON**

This study has provided an assessment of transportation needs within Caledon through to year 2031 to accommodate the Town's plans for growth over this period. The assessment also incorporates estimates of the impact of external growth that will impact traffic patterns within Caledon and the most current assumptions of major transportation projects by external agencies such as the Ministry of Transportation of Ontario (MTO). Based on this assessment, the most likely improvements required to the transportation system have been identified.

The findings of this study should be viewed as an overall transportation strategy for the Town. This strategy provides a framework to proceed with the more detailed planning of specific improvements, particularly in the short and medium term. It provides a point of reference for future assessments of the impact of changes in growth plans for the Town and by external municipalities that contribute to traffic within Caledon. It also provides a framework for the Town and Region to evaluate the impacts of changes to transportation plans by external agencies such as MTO. The key elements of the strategy are summarized in this section of the report.

### ***Overview of Caledon Transportation Strategy***

The suggested strategy to accommodate existing and future transportation needs within Caledon includes three primary areas of improvement:

- ▲ Improvements to arterial roadways where peak period traffic demands exceed the available capacity and congestion can not be alleviated through other more acceptable measures,
- ▲ Development of local transit services in Bolton and Mayfield West to encourage public transit ridership.
- ▲ Traffic calming measures to respond to traffic problems on collector roadways related to village/hamlet areas or areas with safety issues.

The strategy also recognizes that increased levels of congestion may have to be tolerated in specific areas where roadway improvements are costly or will have an unacceptable impact on the community or the natural environment. Travel demand management measures will contribute to more efficient accommodation of future increased traffic demand. However, these measures are more effectively developed at a regional level and are being pursued by Peel Region outside the scope of this investigation.

The study has not specifically considered land use strategies to alleviate future transportation needs. Rather, the investigation is based on the most likely future land use development. However, it should also be recognized that land use development is directly related to future transportation growth and that efforts by the Town and the Region to encourage future development strategies and patterns that will encourage efficient more transportation activity is very important.

### ***Importance of Provincial Transportation Plans***

The study has clearly demonstrated the importance of two major provincial highway projects to the Caledon transportation system, as follows:

- ▲ The extension of Highway 410 from its current terminus at Bovaird Drive in Brampton to Highway 10 in Caledon is needed today to address problems of insufficient peak capacity in the south section of the Highway 10 – Hurontario St. corridor, and to relieve the traffic spillover to collector roadways. Without the completion of this facility, peak period congestion can be

expected to increase and spread to other roadways in the area. The project is also important to support current improvement plans for Highway 10 further north.

- ▲ The development of the Highway 427 freeway facility from the current terminus at Highway 7 to north of Highway 9 is critical in the medium term to accommodate north-south traffic growth, particularly on the eastern portion of the Caledon roadway network. The existing volumes of north-south through traffic in this area are contributing to existing congestion problems in Caledon and the anticipated external traffic growth will generate peak traffic volumes that cannot be reasonably accommodated on an arterial roadway network.

It is imperative that the Region of Peel and the Town of Caledon work closely with the MTO to ensure that all necessary steps are being pursued to implement these two highway projects within the time frames indicated.

Other Provincial plans are important to the achievement of the overall strategy, as follows:

- ▲ The completion of the planned widening of Highway 10 north to Highway 9 will provide a well defined corridor that can accommodate additional external traffic growth as well as offering the potential to reduce excess traffic on the collector roadway network.
- ▲ A future GO rail link to Bolton has been identified in GO Transit plans as a potential long term development. This would offer the potential of shifting peak commuter trips from automobile mode to public transit, reducing the vehicular traffic demands on the downstream roadway network. The timing of such an improvement is unknown but expected to be long term. In the shorter term, the development of local transit services in the Caledon urban areas in combination with improved GO bus service will help to develop increased utilization of public transit.
- ▲ A possible future GTA east-west Provincial freeway corridor has been identified as a possible long term project in MTO strategic planning documents. This corridor is recognized as a very long term project, likely beyond the 2031 time frame. However, if further studies demonstrate the need for this facility and the general timing, it should be further assessed in terms of the potential impacts on the Caledon transportation system.

### ***Arterial Roadway Improvements***

The arterial roadway needs and likely improvements are described in Section 4 of the report, based on the assessment of future traffic needs and the particular opportunities and constraints in each corridor. Figure 5.1 below provides an overview of the potential roadway improvements required to meet the long term traffic needs within Caledon. It should be noted that these improvements assume that Highway 427 will be extended north of Highway 9 with appropriate interchange connections in the medium term. Without the extension of Highway 427, the roadway improvements discussed in Section 4 and outlined in Figure 5.1 will not be adequate to meet long term traffic needs and additional improvements would be required.

**FIGURE 5.1: POTENTIAL IMPROVEMENT TO MEET 25 YEAR TRANSPORTATION NEEDS**



For improvements that have been identified as short and medium term needs, specific environmental assessment studies will be required to confirm the need and justification for the improvement and to finalize the details of the recommended improvement plan for each particular corridor or area. Environmental assessment studies have been completed for some of the major new roadway segments identified (i.e., Highway 410 extension to Highway 10, Coleraine Dr. extension to Regional Road 50) and provide a basis to protect the required rights-of-way for these improvements. For the other improvements that involve roadway widening, intersection improvements and other roadway improvements, an appropriate class environmental assessment will be required prior to proceeding with implementation. Environmental assessment studies have been completed or are underway for the following short to medium term projects:

- ▲ Bolton Arterial Roads plan (Coleraine Drive widening, Coleraine Drive extension, Townline Road widening) by Town of Caledon.
- ▲ Highway 10 widening (MTO).
- ▲ Mayfield Road widening (Peel Region).

The key areas where other improvements have been identified to meet medium term requirements are as follows:

- ▲ Widening of Airport Road (Mayfield Rd. to Caledon East) with new east-west connections.
- ▲ Winston Churchill Blvd – Mississauga Rd corridor improvements (e.g., paving Winston Churchill Blvd, improvements to intersections on Olde Base Line Road).

Appropriate environmental assessment studies should be initiated to identify and finalize roadway improvement plans in these two areas.

The Caledon Official Plan identifies the need to protect a designated right of way for Regional and Town roadways within the municipality. The intent of the Official Plan (Policy 5.9.5.5 and Schedule K) is to protect sufficient roadway rights-of-way to accommodate foreseeable future roadway requirements as well as other likely uses (i.e., pedestrians, landscaping, etc.) of the right of way. The current right of way designations are as follows:

- ▲ Mayfield Road (50 metres). This would accommodate widening to 6 basic lanes and additional provisions for other right of way uses.
- ▲ The high capacity and medium capacity arterial roads generally have designated right of ways of 30 to 45 metres, with some exceptions as noted below.
  - A right of way width has not been designated for Regional Road 24 (Highway 24) from Winston Churchill Blvd to Highway 10, for Regional Road 136 (Highway 136) from Highway 24 to Orangeville or for Regional Road 50 (Highway 50). These were formerly Provincial highways that have been transferred to Regional jurisdiction since the right of way schedule has been designated. The right of way designations for these roads should be reviewed and included in the Official Plan. Generally a right of way of 36 or 45 metres should be designated for these roads, subject to specific local conditions.
  - A section of King Street (Mississauga Road to Winston Churchill Blvd) has a designated 20 metre right of way. It is assumed this is related to a local condition and it is noted that the study has not identified a need for widening this section of roadway. Therefore, there does not appear to be a need to change this designation.
- ▲ The designated right of way for the rural collector roads is 26 metres. This right of way should provide flexibility for roadway surface or other modifications within the right of way, as well as for drainage and related requirements. No specific changes are suggested for this standard.

The functional classification of the roadways is defined in the Caledon Official Plan, as discussed previously in Section 2.1 of the report. The likely roadway improvements identified in this study are consistent with this current functional classification and significant changes are not recommended.

Two future roadways that have been completed and have approved environmental assessments are Highway 410 extension and the Coleraine Drive (King St. – Regional Road 50 north) extension. It would be appropriate to designate the Highway 410 extension as a “Freeway” in the Official Plan and to make related changes to the roadway designations in the immediate area of the Mayfield West

Rural Service Centre when plans are finalized for this area. Similarly, it would be appropriate to designate the Coleraine Drive extension as a medium capacity arterial. It would be appropriate to maintain the current classifications for high capacity arterials and medium capacity arterials as currently shown in the Official Plan. While the assessment of long term traffic needs may not demonstrate a need for improvements on many sections of these roadways, the forecasts generally indicate that traffic growth will occur in all areas of the Town over the next 25 years and the designated network of high and medium capacity roads will play an important function in accommodating these increased traffic demands.

The assessment of traffic needs also found that there is a high volume of through traffic using the Caledon King Townline – Mount Wolfe Road corridor although these roads are currently designated as collector roads. This traffic pressure might suggest consideration of a reclassification of this route to arterial status, along with traffic improvements, to accommodate the through traffic demand. However, such a reclassification would have many implications. The roadways are currently designated as collector roadways in the Official Plan and this forms a level of commitment by the Town to only utilize the roads for that function. Upgrading of this roadway corridor to arterial roadway standards would be costly and have some substantial impacts on the natural environment as well as the adjacent properties. The study found that with the extension of Highway 427 north of Highway 9 in the medium to long term, there was not a need to upgrade the arterial roadways in this corridor. However, one of the potential implications of Highway 427 not being extended within the time frame considered is that further consideration of the function and possible improvements to the Caledon King Townline – Mount Wolfe Road corridor may become necessary.

### ***Transit Service Improvements***

The study has identified the potential for short term transit service improvements in Bolton and medium to long term transit service improvements for Mayfield West.

The next steps for the development of transit service improvements in Bolton would involve developing more a detailed service plan in consultation with the community, GO Transit, other municipal transit operators in the area and with private operators. The transit service plan should consider the following:

- ▲ Development of a transit route plan that provides reasonable coverage (i.e., within 400 metres walking distance) of most of the Bolton area, utilizes collector and arterial roadways where possible, operates within close proximity to major activity centres and is well integrated with GO Transit services. Alternate service forms such as small buses, demand responsive operation and contracted taxi service should also be considered.
- ▲ Consultation with community stakeholders to identify concerns and to assess interest in transit service.
- ▲ The short term development of a more direct express GO bus service to the Bolton area. This improvement should be incorporated in the transit plan for Bolton.
- ▲ Connections to Brampton Transit and York Regional Transit where feasible.

Consideration should be given to phasing in the transit services over several years with the initial service provided during weekday peak periods in the initial phases. It is likely that the Town would contract with an appropriate contractor for operation of the service specified by the Town. The possibility of the service being operated by GO Transit, Brampton Transit or York Region Transit under contract should be considered as that arrangement may facilitate better integration with these

services. Alternatively, a qualified private operator could also be utilized to operate the service on behalf of the Town. It should be recognized that a reasonable quality transit service will require ongoing funding by the Town and also that transit ridership will develop slowly. Therefore, it will be necessary to fund services for a period of at least one to two years before the effectiveness of such services can be reasonably assessed.

The development of transit services in Mayfield West will need to be planned in conjunction with the land use development plans for this area. Recognizing the close proximity of this area to existing Brampton Transit services, the transit plan should consider the option of providing transit services through extensions of Brampton Transit routes as well as new routes. The land use plans for the area should recognize the need to provide reasonable coverage (i.e., most areas within 400 metres walking distance of a bus stop) with bus routes that can be operated on arterial and collector standard roadways as far as possible. Bus routes should be relatively direct to maintain efficient operations and to provide direct travel for customers. Also, the land use plans should recognize the need to phase bus service implementation in coordination with development staging and that bus services may consist of phased extensions of existing Brampton Transit service.

The planning of these transit services should include early consultation with Brampton Transit to discuss the feasibility of Brampton Transit service expansion and/or an integrated local transit services. The service plans should consider a high level of integration with Brampton Transit and also GO Transit. Connections with the existing Highway 10 GO bus service should be provided and longer term direct connections to the GO Train stations in Brampton should be provided.

### ***Management of Excess Traffic on Collector Roads***

A suggested strategy to respond to the problems of excess traffic using rural collector roadways in Caledon was outlined in Section 4.4 of the report. The strategy is based on utilizing traffic calming techniques to reduce through traffic volumes and speed in sensitive areas. It has been noted that there are specific problem areas where traffic calming may be ineffective until the required arterial roadway improvements have been implemented. Therefore, the traffic problems on arterial roadways should be recognized and addressed as a first step to responding to problems of excess traffic on collector roads.

The following key steps are suggested for the implementation of traffic calming to address the problems of excess traffic on rural collector roads in Caledon:

- ▲ A general policy direction should be established on the use of traffic calming strategies to respond to traffic volumes and speed problems on collector roads where:
  - The traffic and safety conditions exceed recognized guidelines for collector roads.
  - The situation has a high level of potential of improvement through traffic calming measures (e.g., village/hamlet areas, identified traffic hazard areas)
  - Consultation with property owners and other stakeholders will take place in the development of a plan.
  - Traffic calming will not be undertaken in situations where it may create or aggravate traffic problems in other areas.
- ▲ The preliminary guidelines identified in Section 2.3 should be refined as appropriate and endorsed as recognized guidelines to help in the identification and screening of potential problem areas.



- ▲ Some initial demonstration projects should be considered to enable experience to be gained with traffic calming in the Caledon context. The initial demonstration projects should be selected where there is a high likelihood of acceptance by the community and success in terms of reducing traffic volumes and speeds. Locations where there are recognized problems with through traffic in village and hamlet areas may be well suited for initial demonstration projects.
- ▲ The impacts of traffic calming measures should be monitored to facilitate evaluation and refinement of the strategy.

### ***Monitoring of Transportation System***

The suggested strategy for the ongoing development of the transportation system in Caledon seeks to:

- ▲ Develop greater travel choices for commuters (e.g., development of public transit services, encourage changes in traffic behaviour).
- ▲ Keep traffic congestion and delay within acceptable limits by providing sufficient capacity on the designated arterial roadway network.
- ▲ Alleviate the undesirable impacts of excess traffic on collector roads where feasible.

This strategy is based in part on forecasts of future land use, traffic conditions and actions of other agencies. These forecasts and assumptions have an inherent level of uncertainty that increases in the longer term. To assess the effectiveness of the strategy and to determine the need for future updates of the strategy, some basic transportation performance targets should be established and regular monitoring should be conducted to assess progress.

The suggested performance targets for Caledon should relate to the three key objectives of the plan as noted above. Preliminary performance targets and monitoring requirements are outlined below:

#### 1. Development of greater travel choices:

A performance indicator that may be used to assess the progress towards the development of greater travel choices for commuters would be **the percentage of trips by Caledon residents that are made as auto drivers during the 6:00 AM to 9:00 AM weekday peak period**. The 2001 Transportation Tomorrow Survey (TTS) reported that 72 % of AM peak period trips by Caledon residents were auto drivers. For comparison, TTS reported the auto drivers for Peel Region residents as 65 %, for Vaughan residents as 67 % and for Halton Hills residents as 71 %. Suggested preliminary targets for Caledon are as follows:

- ▲ 71 % of trips as auto drivers in year 2006.
- ▲ 70 % of trips as auto drivers in year 2011.
- ▲ 68 % of trips as auto drivers in year 2016.

These targets represent a reduction in auto reliance over the next few years, reversing the general trend in recent years towards increased auto driver mode share. Data to assess actual progress towards this particular objective is available through the Transportation Tomorrow Survey that is carried out every five years for all municipalities in the Greater Toronto Area with support by the MTO and Regional Municipalities.

#### 2. Keep traffic congestion and delay within acceptable limits:

A performance indicator to determine the level of congestion and delay on the arterial roadway

network would be **the ratio of peak hour traffic volume to available capacity on arterial roadways**. At the present time, the Region of Peel has a target of maintaining the volume to capacity conditions of 0.9 or better. This is equivalent to a level of service “D” or better<sup>5</sup>. The estimates of capacity used in this investigation are based on level of service “D” (i.e., 90% of capacity) and form the basis for identification of the need for future improvements.

At the present time, a limited number of locations have been identified in Section 2.3 where peak hour traffic demand is meeting or exceeding arterial roadway capacity (i.e., Bolton Arterial Roads) and steps are being taken to improve the key arterial roads to alleviate these deficiencies. The suggested target would be to maintain a volume to capacity ratio of 0.9 or less on designated arterial roads. This target is consistent with Peel Region level of service policy, it generally represents traffic congestion levels similar or slightly better than current conditions in the south area of Caledon and it is consistent with the assessment of roadway improvement needs developed in this study.

The data required to assess peak hour volume to capacity conditions consists primarily of traffic counts. The Region of Peel has an established program of collecting traffic data (i.e., turning movement counts, daily volume counts) on an ongoing basis on regional roads throughout Caledon. The Town of Caledon collects daily volume data on Town roads on a regular basis. The current data collection is generally adequate to meet the needs of monitoring volume to capacity conditions. An overall review of volume to capacity conditions every 5 years would be appropriate and could be coordinated with other monitoring activities. For specific locations, this performance indicator can be checked as often as required to review specific issues.

### 3. Alleviate impacts of excess traffic on collector roads:

In Section 2.3, preliminary guidelines were suggested to identify locations with excessive amounts of traffic on rural collector roadways. These guidelines are likely to be reviewed and refined as experience is gained in managing the problem of excess traffic on collector roadways. A reasonable performance indicator that may be used to assess the progress towards improving the situation could be **the number of rural collector road segments with daily traffic volumes exceeding the suggested guidelines**. Using the guidelines outlined earlier, 16 roadway segments have been identified with traffic volumes meeting or exceeding the guidelines. A suggested target would be to reduce the number of collector road segments that exceed the guidelines to 10 locations by year 2011. That would imply effective improvements for at least 6 locations in the short term. Beyond that time, the guidelines and target should be reviewed and updated. The data required to assess actual traffic volumes is available through the current traffic counting program conducted by the Town.

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<sup>5</sup> Highway Capacity Manual 2000, Transportation Research Board, Washington. D.C., 2000.

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## REFERENCES

The following reports and documents were referenced during this study:

- ▲ Town of Caledon Official Plan, July 2000 (and Amendments 158, 160, 161, 165, 167, 168, 171 and 175).
- ▲ Region of Peel Official Plan (Office Consolidation) May 2001.
- ▲ 427 Extension Transportation Corridor Draft Transportation Needs Assessment Consolidated Summary, Prepared by McCormick Rankin Corporation & URS Cole Sherman for Ministry of Transportation, November 2002.
- ▲ Brampton Transportation and Transit Master Plan (TTMP) Status Report, Report to Planning, Design & Development Committee, January 2003.
- ▲ Caledon East Secondary Plan Transportation study, Prepared by the Region of Peel, January 1997.
- ▲ Bolton GO Station Needs and Feasibility Study, Prepared by Marshall Macklin Monaghan for the Region of Peel, August, 2001.
- ▲ Town of Caledon Bolton Arterial Roads Environmental Assessment Report Volume 1, Prepared by McCormick Rankin Corporation in association with Ecoplans Ltd for the Town of Caledon, February 1997.
- ▲ Town of Caledon Bolton Arterial Roads Amendment to the Environmental Assessment, Prepared by McCormick Rankin Corporation in association with Ecoplans Ltd for the Town of Caledon, April 1998.
- ▲ York Peel Boundary Area Transportation Study Final Draft Report, Prepared by iTRANS Consulting Inc. for the Regions of York and Peel, June 2002.
- ▲ Caledon Transportation Study Phase I, Prepared by UMA Engineering Ltd for the Town of Caledon, October 1990.
- ▲ Caledon Transportation Study Phase II, Prepared by UMA Engineering Ltd for the Town of Caledon, September 1991.
- ▲ Highway Capacity Manual 2000, Transportation Research Board, Washington. D.C., 2000.
- ▲ Transportation Facilities Level of service Policy, Report by Commissioner of Planning to Peel Region Planning/Housing Committee, February, 1993.
- ▲ Traffic Calming in Practice, County Surveyors Society, U.K., November, 1994.
- ▲ Canadian Guide to Neighbourhood Traffic Calming, Transportation Association of Canada, December, 1998.
- ▲ Region of Peel Travel Demand Forecasting Model, Planning Department, April, 1996.
- ▲ The Transportation Tomorrow Survey 2001, University of Toronto Joint Program in Transportation, Data Management Group.

# *Appendix A*

## *Screenline Traffic Summaries*

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**TABLE A.1: 2001 PEAK TRAFFIC SUMMARY**

<b>2001 Existing Conditions</b>				
<b>Screenline &amp; Section</b>	<b>Existing Capacity (vph)</b>	<b>AM Peak Hour Observed Volume (vph)</b>	<b>PM Peak Hour Observed Volume (vph)</b>	<b>AM Peak Hour Volume / Capacity Ratio</b>
<b>1 - North Caledon Boundary (south side)</b>	<b>6,495</b>	<b>3,265</b>	<b>3,890</b>	<b>0.50</b>
1a) Winston Churchill Blvd. to Hwy 10	2,475	961	1,660	0.39
1b) Kennedy Rd. to Airport Rd.	1,830	791	786	0.43
1c) Glen Haffy Rd. to The Gore Rd.	730	450	379	0.62
1d) Humber Station Rd. to Town Line Rd.	1,460	1,063	1,065	0.73
<b>2 - Charleston Sideroad (north side)</b>	<b>4,505</b>	<b>1,911</b>	<b>2,261</b>	<b>0.42</b>
2a) Winston Churchill Blvd. to Hwy 10	2,665	1,209	1,465	0.45
2b) Kennedy Rd. to Airport Rd.	1,840	702	796	0.38
<b>3 - Old Base Line Rd. (south side)</b>	<b>5,110</b>	<b>3,909</b>	<b>3,581</b>	<b>0.76</b>
3a) Winston Churchill Blvd. to Hwy 10	2,660	2,169	1,873	0.82
3b) Kennedy Rd. to Airport Rd.	2,450	1,740	1,708	0.71
<b>4 - King St. (south side)</b>	<b>10,425</b>	<b>7,475</b>	<b>7,271</b>	<b>0.72</b>
4a) Winston Churchill Blvd. to Hwy 10	4,050	1,992	1,826	0.49
4b) Kennedy Rd. to Airport Rd.	2,450	2,148	2,039	0.88
4c) Innis Lake Rd. to The Gore Rd.	1,500	782	748	0.52
4d) Humber Station Rd. to King Town Line	2,425	2,553	2,658	1.05
<b>5 - Mayfield Rd. (north side)</b>	<b>12,575</b>	<b>9,164</b>	<b>7,559</b>	<b>0.73</b>
5a) Winston Churchill Blvd. to Hwy 10	4,400	2,517	2,021	0.57
5b) Kennedy Rd. to Airport Rd.	3,850	2,429	2,158	0.63
5c) Innis Lake Rd. to Albion Vaughan Townline	4,325	4,218	3,380	0.98
<b>6 - Townline Rd. (west side)</b>	<b>3,490</b>	<b>1,535</b>	<b>2,276</b>	<b>0.44</b>
6a) Mayfield Rd. to Columbia Way eastbound	1,900	661	1,288	0.35
6a) Mayfield Rd. to Columbia Way westbound	1,900	1,668	781	0.88
6b) Mount Pleasant Rd. to Hwy 9 eastbound	1,590	874	988	0.55
<b>7 - Winston Churchill Blvd. (east side)</b>	<b>3,880</b>	<b>1,095</b>	<b>1,162</b>	<b>0.28</b>
7a) Mayfield Rd. to Olde Base Line Rd.	1,890	644	658	0.34
7b) The Grange Sideroad to Charleston Sideroad	1,375	391	444	0.28
7c) Beech Grove Sideroad to East Garafaxa Townline	615	60	60	0.10
<b>8 - Highway 10 (west side)</b>	<b>5,020</b>	<b>3,397</b>	<b>3,302</b>	<b>0.68</b>
8a) Mayfield Rd. to Olde Base Line Rd.	2,340	1,900	2,275	0.81
8b) The Grange Sideroad to Charleston Sideroad	1,390	494	514	0.36
8c) Beech Grove Sideroad to Highway 9	1,290	1,003	513	0.78
<b>9 - Airport Rd. (west side)</b>	<b>4,870</b>	<b>2,121</b>	<b>2,185</b>	<b>0.44</b>
9a) Mayfield Rd. to Olde Base Line Rd.	2,340	1,231	1,095	0.53
9b) The Grange Sideroad to Charleston Sideroad	890	232	304	0.26
9c) Beech Grove Sideroad to Highway 9	1,640	658	786	0.40
<b>10 - Regional Rd. 50 (west side)</b>	<b>5,015</b>	<b>1,681</b>	<b>1,930</b>	<b>0.34</b>
10a) Mayfield Rd. to King St.	2,575	1,010	1,126	0.39
10b) Columbia Way to Old Church Rd.	1,150	141	145	0.12
10c) Patterson Sideroad to Highway 9	1,290	530	659	0.41
<b>11 - Forks of Credit Rd. (south side)</b>	<b>1,960</b>	<b>1,735</b>	<b>1,544</b>	<b>0.89</b>

**TABLE A.2: TYPICAL ROADWAY CAPACITY ESTIMATES**

<b>Roadway Functional Classification</b>	<b>Type of Roadway Cross Section</b>	<b>Traffic Capacity per Through Lane (vph)</b>
Local Road	1 lane per direction, gravel surface, stop sign	<b>40</b>
Local Road	1 lane per direction, paved, stop sign	<b>200</b>
Collector Rd	1 lane per direction, gravel surface, stop sign	<b>40</b>
Collector Road	1 lane per direction, paved, stop sign	<b>250</b>
Collector Road	1 lane per direction, paved, stop sign, turn lanes	<b>325</b>
Collector Road	1 lane per direction, paved, signals, turn lanes	<b>600</b>
Low Capacity Arterial	1 lane per direction.	<b>300</b>
Medium Capacity Arterial	1 lane per direction, stop sign, turn lanes	<b>325</b>
Medium Capacity Arterial	1 or more lanes per direction, signals, turn lanes	<b>650</b>
High Capacity Arterial	1 or more lanes per direction, signals, turn lanes	<b>800</b>

**TABLE A.3: TRAFFIC FORECASTS AT SCREENLINES**

<b>Traffic Volume Projections</b>					
<b>Screenline &amp; Section</b>	<b>AM Peak Hour Observed Volume (vph)</b>	<b>PM Peak Hour Observed Volume (vph)</b>	<b>2011 AM Peak Hour Forecast Volume (vph)</b>	<b>2021 AM Peak Hour Forecast Volume (vph)</b>	<b>2031 AM Peak Hour Base Case Forecast Volume (vph)</b>
<b>1 - North Caledon Boundary (south side)</b>	<b>3,265</b>	<b>3,890</b>	<b>5,200</b>	<b>5,682</b>	<b>6,687</b>
1a) Winston Churchill Blvd. to Hwy 10	961	1,660	1,743	2,142	2,429
1b) Kennedy Rd. to Airport Rd.	791	786	1,177	1,361	1,635
1c) Glen Haffy Rd. to The Gore Rd.	450	379	712	543	677
1d) Humber Station Rd. to Town Line Rd.	1,063	1,065	1,568	1,636	1,946
<b>2 - Charleston Sideroad (north side)</b>	<b>1,911</b>	<b>2,261</b>	<b>3,159</b>	<b>3,806</b>	<b>4,301</b>
2a) Winston Churchill Blvd. to Hwy 10	1,209	1,465	2,077	2,509	2,771
2b) Kennedy Rd. to Airport Rd.	702	796	1,082	1,297	1,530
<b>3 - Old Base Line Rd. (south side)</b>	<b>3,909</b>	<b>3,581</b>	<b>6,209</b>	<b>7,117</b>	<b>7,718</b>
3a) Winston Churchill Blvd. to Hwy 10	2,169	1,873	3,603	4,258	4,303
3b) Kennedy Rd. to Airport Rd.	1,740	1,708	2,606	2,859	3,415
<b>4 - King St. (south side)</b>	<b>7,475</b>	<b>7,271</b>	<b>11,491</b>	<b>13,396</b>	<b>14,824</b>
4a) Winston Churchill Blvd. to Hwy 10	1,992	1,826	3,814	4,465	4,566
4b) Kennedy Rd. to Airport Rd.	2,148	2,039	2,782	3,288	3,975
4c) Innis Lake Rd. to The Gore Rd.	782	748	1,280	1,407	1,872
4d) Humber Station Rd. to King Town Line	2,553	2,658	3,615	4,236	4,411
<b>5 - Mayfield Rd. (north side)</b>	<b>9,164</b>	<b>7,559</b>	<b>13,785</b>	<b>17,231</b>	<b>19,282</b>
5a) Winston Churchill Blvd. to Hwy 10	2,517	2,021	4,936	6,941	7,446
5b) Kennedy Rd. to Airport Rd.	2,429	2,158	3,337	4,113	5,041
5c) Innis Lake Rd. to Albion Vaughan Townline	4,218	3,380	5,512	6,177	6,795
<b>6 - Townline Rd. (west side)</b>	<b>1,535</b>	<b>2,276</b>	<b>2,431</b>	<b>2,792</b>	<b>2,887</b>
6a) Mayfield Rd. to Columbia Way eastbound	661	1,288	1,145	1,360	1,344
6a) Mayfield Rd. to Columbia Way westbound	1,668	781	2,127	2,231	2,529
6b) Mount Pleasant Rd. to Hwy 9 eastbound	874	988	1,286	1,432	1,543
<b>7 - Winston Churchill Blvd. (east side)</b>	<b>1,095</b>	<b>1,162</b>	<b>1,969</b>	<b>2,449</b>	<b>3,076</b>
7a) Mayfield Rd. to Olde Base Line Rd.	644	658	1,274	1,567	2,096
7b) The Grange Sideroad to Charleston Sideroad	391	444	635	822	920
7c) Beech Grove Sideroad to East Garafaxa Townline	60	60	60	60	60
<b>8 - Highway 10 (west side)</b>	<b>3,397</b>	<b>3,302</b>	<b>5,588</b>	<b>6,162</b>	<b>7,277</b>
8a) Mayfield Rd. to Olde Base Line Rd.	1,900	2,275	3,542	3,860	4,829
8b) The Grange Sideroad to Charleston Sideroad	494	514	1,081	1,301	1,431
8c) Beech Grove Sideroad to Highway 9	1,003	513	965	1,001	1,017
<b>9 - Airport Rd. (west side)</b>	<b>2,121</b>	<b>2,185</b>	<b>3,438</b>	<b>4,040</b>	<b>4,057</b>
9a) Mayfield Rd. to Olde Base Line Rd.	1,231	1,095	2,490	2,886	3,047
9b) The Grange Sideroad to Charleston Sideroad	232	304	358	378	371
9c) Beech Grove Sideroad to Highway 9	658	786	590	776	639
<b>10 - Regional Rd. 50 (west side)</b>	<b>1,681</b>	<b>1,930</b>	<b>2,844</b>	<b>2,783</b>	<b>2,854</b>
10a) Mayfield Rd. to King St.	1,010	1,126	1,419	1,589	1,543
10b) Columbia Way to Old Church Rd.	141	145	284	356	329
10c) Patterson Sideroad to Highway 9	530	659	1,141	838	982
<b>11 - Forks of Credit Rd. (south side)</b>	<b>1,735</b>	<b>1,544</b>	<b>3,217</b>	<b>3,737</b>	<b>3,983</b>

**TABLE A.4: COMPARISON OF 2031 FORECASTS**

2031 Conditions		2031 Base Case	No External Growth	Planned Roadways	Most Likely Improvements
Screenline & Section	Existing (2001) Capacity (vph)	AM Peak Hour Forecast Volume (vph)	AM Peak Hour Forecast Volume (vph)	AM Peak Hour Forecast Volume (vph)	AM Peak Hour Forecast Volume (vph)
<b>1 - North Caledon Boundary (south side)</b>	<b>6,495</b>	<b>6,687</b>	<b>4,822</b>	<b>3,165</b>	<b>3,192</b>
1a) Winston Churchill Blvd. to Hwy 10	2,475	2,429	1,436	1,658	1,600
1b) Kennedy Rd. to Airport Rd.	1,830	1,635	1,274	718	782
1c) Glen Haffy Rd. to The Gore Rd.	730	677	328	236	195
1d) Humber Station Rd. to Town Line Rd.	1,460	1,946	1,784	553	615
<b>2 - Charleston Sideroad (north side)</b>	<b>4,505</b>	<b>4,301</b>	<b>3,022</b>	<b>2,673</b>	<b>2,648</b>
2a) Winston Churchill Blvd. to Hwy 10	2,665	2,771	1,837	2,045	1,984
2b) Kennedy Rd. to Airport Rd.	1,840	1,530	1,185	628	664
<b>3 - Old Base Line Rd. (south side)</b>	<b>5,110</b>	<b>7,718</b>	<b>6,584</b>	<b>6,074</b>	<b>6,373</b>
3a) Winston Churchill Blvd. to Hwy 10	2,660	4,303	3,675	3,651	3,754
3b) Kennedy Rd. to Airport Rd.	2,450	3,415	2,909	2,423	2,619
<b>4 - King St. (south side)</b>	<b>10,425</b>	<b>14,824</b>	<b>13,171</b>	<b>11,202</b>	<b>11,210</b>
4a) Winston Churchill Blvd. to Hwy 10	4,050	4,566	4,086	4,046	4,399
4b) Kennedy Rd. to Airport Rd.	2,450	3,975	3,534	3,080	3,046
4c) Innis Lake Rd. to The Gore Rd.	1,500	1,872	1,584	1,074	696
4d) Humber Station Rd. to King Town Line	2,425	4,411	3,967	3,002	3,069
<b>5 - Mayfield Rd. (north side)</b>	<b>12,575</b>	<b>19,282</b>	<b>17,513</b>	<b>15,741</b>	<b>15,416</b>
5a) Winston Churchill Blvd. to Hwy 10	4,400	7,446	6,830	6,707	6,650
5b) Kennedy Rd. to Airport Rd.	3,850	5,041	4,391	4,134	3,871
5c) Innis Lake Rd. to Albion Vaughan Townline	4,325	6,795	6,292	4,900	4,895
<b>6 - Townline Rd. (west side)</b>	<b>3,490</b>	<b>2,887</b>	<b>2,588</b>	<b>2,348</b>	<b>2,398</b>
6a) Mayfield Rd. to Columbia Way eastbound	1,900	1,344	1,155	1,182	1,133
6a) Mayfield Rd. to Columbia Way westbound	1,900	2,529	2,694	2,106	1,964
6b) Mount Pleasant Rd. to Hwy 9 eastbound	1,590	1,543	1,433	1,166	1,265
<b>7 - Winston Churchill Blvd. (east side)</b>	<b>3,880</b>	<b>3,076</b>	<b>2,755</b>	<b>2,793</b>	<b>2,877</b>
7a) Mayfield Rd. to Olde Base Line Rd.	1,890	2,096	2,006	2,048	2,279
7b) The Grange Sideroad to Charleston Sideroad	1,375	920	689	685	538
7c) Beech Grove Sideroad to East Garafaxa Townline	615	60	60	60	60
<b>8 - Highway 10 (west side)</b>	<b>5,020</b>	<b>7,277</b>	<b>6,627</b>	<b>6,771</b>	<b>8,052</b>
8a) Mayfield Rd. to Olde Base Line Rd.	2,340	4,829	4,718	4,915	6,195
8b) The Grange Sideroad to Charleston Sideroad	1,390	1,431	918	847	845
8c) Beech Grove Sideroad to Highway 9	1,290	1,017	991	1,009	1,012
<b>9 - Airport Rd. (west side)</b>	<b>4,870</b>	<b>4,057</b>	<b>4,213</b>	<b>4,304</b>	<b>4,399</b>
9a) Mayfield Rd. to Olde Base Line Rd.	2,340	3,047	3,086	3,167	3,262
9b) The Grange Sideroad to Charleston Sideroad	890	371	459	483	506
9c) Beech Grove Sideroad to Highway 9	1,640	639	668	654	631
<b>10 - Regional Rd. 50 (west side)</b>	<b>5,015</b>	<b>2,854</b>	<b>2,707</b>	<b>2,868</b>	<b>2,916</b>
10a) Mayfield Rd. to King St.	2,575	1,543	1,534	1,218	1,316
10b) Columbia Way to Old Church Rd.	1,150	329	413	942	945
10c) Patterson Sideroad to Highway 9	1,290	982	760	708	655
<b>11 - Forks of Credit Rd. (south side)</b>	<b>1,960</b>	<b>3,983</b>	<b>3,245</b>	<b>2,982</b>	<b>2,947</b>



**TABLE A.5: SCREENLINE CAPACITY DEFICIENCIES**

Screenline and Section	2001 Conditions		2011 Conditions		2021 Conditions		2031 Conditions (w/o Hwy 427)		2031 Conditions (with Hwy 427)	
	Volume / Capacity	Capacity Deficiency (vph)	Volume / Capacity	Capacity Deficiency (vph)	Volume / Capacity	Capacity Deficiency (vph)	Volume / Capacity	Capacity Deficiency (vph)	Volume / Capacity	Capacity Deficiency (vph)
<b>1 - North Caledon Boundary (south side)</b>	<b>0.50</b>		<b>0.80</b>		<b>0.87</b>		<b>1.03</b>	<b>190</b>	<b>0.49</b>	
1a) Winston Churchill Blvd. to Hwy 10	0.39		0.70		0.87		0.98		0.67	
1b) Kennedy Rd. to Airport Rd.	0.43		0.64		0.74		0.89		0.39	
1c) Glen Haffy Rd. to The Gore Rd.	0.62		0.98		0.74		0.93		0.32	
1d) Humber Station Rd. to Town Line Rd.	0.73		1.07	110	1.12	180	1.33	490	0.38	
<b>2 - Charleston Sideroad (north side)</b>	<b>0.42</b>		<b>0.70</b>		<b>0.84</b>		<b>0.95</b>		<b>0.59</b>	
2a) Winston Churchill Blvd. to Hwy 10	0.45		0.78		0.94		1.04	110	0.77	
2b) Kennedy Rd. to Airport Rd.	0.38		0.59		0.70		0.83		0.34	
<b>3 - Old Base Line Rd. (south side)</b>	<b>0.76</b>		<b>1.22</b>	<b>1,100</b>	<b>1.39</b>	<b>2010</b>	<b>1.51</b>	<b>2610</b>	<b>1.19</b>	<b>960</b>
3a) Winston Churchill Blvd. to Hwy 10	0.82		1.35	940	1.60	1600	1.62	1640	1.37	990
3b) Kennedy Rd. to Airport Rd.	0.71		1.06	160	1.17	410	1.39	970	0.99	0
<b>4 - King St. (south side)</b>	<b>0.72</b>		<b>1.10</b>	<b>1,070</b>	<b>1.28</b>	<b>2970</b>	<b>1.42</b>	<b>4400</b>	<b>1.07</b>	<b>780</b>
4a) Winston Churchill Blvd. to Hwy 10	0.49		0.94		1.10	420	1.13	520	1.00	
4b) Kennedy Rd. to Airport Rd.	0.88		1.14	330	1.34	840	1.62	1530	1.26	630
4c) Innis Lake Rd. to The Gore Rd.	0.52		0.85		0.94		1.25	370	0.72	
4d) Humber Station Rd. to King Town Line	1.05	130	1.49	1,190	1.75	1810	1.82	1990	1.24	580
<b>5 - Mayfield Rd. (north side)</b>	<b>0.73</b>		<b>1.10</b>	<b>1,210</b>	<b>1.37</b>	<b>4660</b>	<b>1.53</b>	<b>6710</b>	<b>1.25</b>	<b>3170</b>
5a) Winston Churchill Blvd. to Hwy 10	0.57		1.12	540	1.58	2540	1.69	3050	1.52	2310
5b) Kennedy Rd. to Airport Rd.	0.63		0.87		1.07	260	1.31	1190	1.07	280
5c) Innis Lake Rd. to Albion Vaughan Townline	0.98		1.27	1,190	1.43	1850	1.57	2470	1.13	580
<b>6 - Vaughan King Townline (west side)</b>	<b>0.73</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>	
6a) Mayfield Rd. to Columbia Way eastbound	0.35		0.60		0.72		0.71		0.62	
6a) Mayfield Rd. to Columbia Way westbound	0.88		1.12	230	1.17	330	1.33	630	1.11	210
6b) Mount Pleasant Rd. to Hwy 9 eastbound	0.55		0.81		0.90		0.97		0.73	
<b>7 - Winston Churchill Blvd. (east side)</b>	<b>0.28</b>		<b>0.51</b>		<b>0.63</b>		<b>0.79</b>		<b>0.72</b>	
7a) Mayfield Rd. to Olde Base Line Rd.	0.34		0.67		0.83		1.11	210	1.08	160
7b) The Grange Sideroad to Charleston Srd	0.28		0.46		0.60		0.67		0.50	
7c) Beech Grove Srd to East Garafaxa Townline	0.10		0.10		0.10		0.10		0.10	
<b>8 - Highway 10 (west side)</b>	<b>0.68</b>		<b>1.11</b>	<b>570</b>	<b>1.23</b>	<b>1140</b>	<b>1.45</b>	<b>2260</b>	<b>1.35</b>	<b>1750</b>
8a) Mayfield Rd. to Olde Base Line Rd.	0.81		1.51	1,200	1.65	1520	2.06	2490	2.10	2580
8b) The Grange Sideroad to Charleston Srd	0.36		0.78		0.94		1.03	40	0.61	
8c) Beech Grove Sideroad to Highway 9	0.78		0.75		0.78		0.79		0.78	
<b>9 - Airport Rd. (west side)</b>	<b>0.44</b>		<b>0.71</b>		<b>0.83</b>		<b>0.83</b>		<b>0.88</b>	
9a) Mayfield Rd. to Olde Base Line Rd.	0.53		1.06	150	1.23	550	1.30	710	1.35	830
9b) The Grange Sideroad to Charleston Srd	0.26		0.40		0.42		0.42		0.54	
9c) Beech Grove Sideroad to Highway 9	0.40		0.36		0.47		0.39		0.40	
<b>10 - Regional Rd. 50 (west side)</b>	<b>0.34</b>		<b>0.57</b>		<b>0.55</b>		<b>0.57</b>		<b>0.57</b>	
10a) Mayfield Rd. to King St.	0.39		0.55		0.62		0.60		0.47	
10b) Columbia Way to Old Church Rd.	0.12		0.25		0.31		0.29		0.82	
10c) Patterson Sideroad to Highway 9	0.41		0.88		0.65		0.76		0.55	
<b>11 - Forks of Credit Rd. (south side)</b>	<b>0.89</b>		<b>1.64</b>	<b>1,260</b>	<b>1.91</b>	<b>1780</b>	<b>2.03</b>	<b>2020</b>	<b>1.52</b>	<b>1020</b>

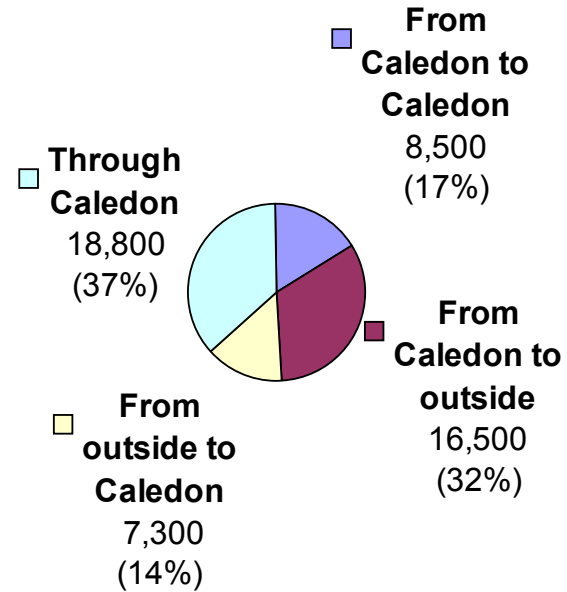
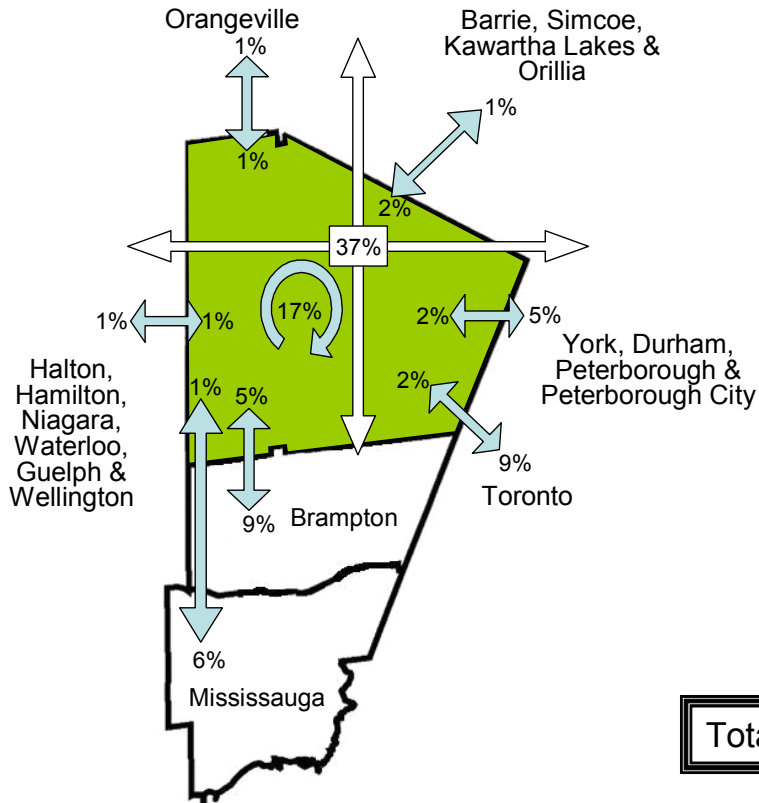
# ***Appendix B***

*2001 Commuting Patterns in Caledon*

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# Caledon Daily Travel Pattern

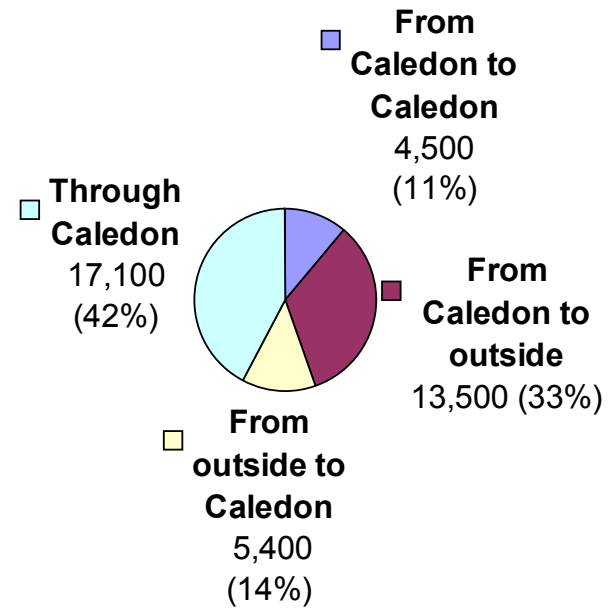
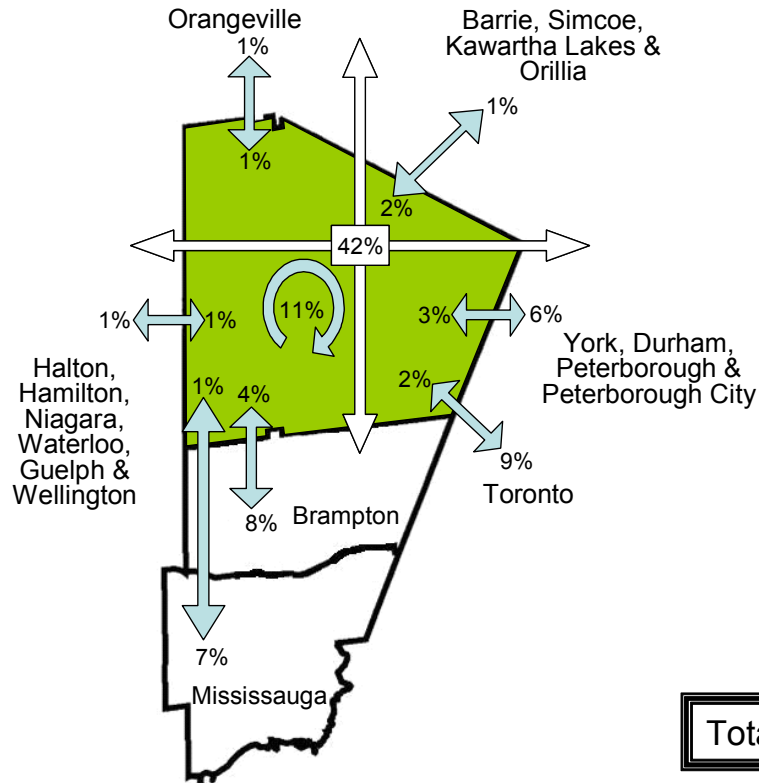
Morning Peak 3 Hours, 2001 Snapshot – Person Trips



**Total number of Caledon Trips = 51,100**

# Caledon Daily Travel Pattern

## Morning Peak 3 Hours, 2001 Snapshot – Auto Trips



**Total number of Caledon Trips = 40,500**

***Appendix C***  
*Stakeholder Meeting Notes*

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**LIST OF COMMUNITY STAKEHOLDER GROUPS CONSULTED DURING THE CALEDON  
TRANSPORTATION NEEDS STUDY**

- |  |  |
|--|--|
| 1. Caledon Chamber of Commerce                 | Philip Armstrong, Jeff Christain       |
| 2. The Hills of Headwaters Tourism Association | Lisa Brusse                            |
| 3. Peel Federation of Agriculture              | Philip Armstrong                       |
| 4. Aggregate Producers Association of Ontario  | Peter White                            |
| 5. Caledon East O.P.P.                         | Const. Ron Ginack, A/Sgt. Dave Service |
| 6. Palgrave Ratepayers Association             | George Palmieri, Sami Ullah            |
| 7. Valleywood Residents Association            | Vincent Pezzano, Marisa Williams       |
| 8. Terra Cotta Community Committee             | Dave Rutherford                        |
| 9. Belfountain Community Planning Organization | David Jobe                             |
| 10. Cheltenham Area Ratepayers                 | Sue St. Hilaire                        |
| 11. Coalition of Concerned Citizens            | Dave Rutherford, Paul Maturzo          |
| 12. Caledon Countryside Alliance               | Roger Taylor, Karen Hutchinson         |
| 13. GO Transit                                 | Michael Wolczyk                        |
| 14. Ministry of Transportation of Ontario      | Lija Whittaker, Arthur Tai             |
| 15. Metis Transit (private transit operator)   | Darren Parberry, Rick Jessup           |
| 16. Canada's Pride (private transit operator)  | Frank Rogers                           |

**DATE: NOVEMBER 13, 2003**

**LOCATION: CALEDON COMMUNITY CENTRE**

**SUBJECT: STAKEHOLDER MEETING NOTES**

**ATTENDEES:**

Marisa Williams & Vincent Pezzano (Valleywood Residents Assoc.), Ron Gignac (OPP), Paul Maturzo (Coalition of Concerned Citizens), Dave Rutherford (Terra Cotta Hall Ctte & Coalition of Concerned Citizens), Philip Armstrong (Peel Fed' of Agriculture & Caledon Chamber of Commerce), Lisa Brusse (Headwaters Country Tourism Assoc.), George Palmieri & Sami Ullah (Palgrave Ratepayers Assoc.), Tim Manley (Caledon), Murray McLeod (Peel), Hans Muntz (Caledon), Jim Carrick (Peel), Dan Kennaley (Caledon), Mike Wolczyk (GO Transit), Bill O'Brien & Daryl Bender (PTSL)

**Regrets (with some comments received via email):** Belfountain Community Organization, Cheltenham Area Ratepayers Assoc., Caledon Countryside Alliance

**Issues Summary:**

- ▲ Regional Road 50 has no safe pedestrian crossing in Palgrave
- ▲ Speeding issues on Mt Wolfe & Mt Pleasant
- ▲ Recent traffic calming efforts in Caledon East were recognized as positive
- ▲ There are safety issues with cyclists and farm equipment
- ▲ Traffic calming must be the #1 approach on ALL types of roads including arterials – and especially in villages
- ▲ Identify wildlife corridors
- ▲ We need a major EW road in the vicinity of Mayfield Rd. It could be the limit of urbanization.
- ▲ Hwy 10 should be 100 km/hr
- ▲ We need more transit. All new development to incorporate transit friendly design and the staging of new development should be such that transit is there when the people move in.
- ▲ Tourism recognized that traffic calming, aesthetic design and parking issues need to be addressed.
- ▲ Preservation of roads like Olde Base Line should be a part of the plan
- ▲ Mississauga Road is hurting
- ▲ Identify areas as “no improvement” corridors to prevent through traffic
- ▲ Build bypasses around the villages OR maybe there are more creative solutions.
- ▲ Increased gravel truck traffic is a concern
- ▲ Creation of a viable Belfountain By-Pass
- ▲ Review road jurisdictions e.g. Forks of Credit, Bush St, Mississauga Rd, Shaw's Creek Rd, Charleston Sr (to Townline)
- ▲ Provide electronic alternatives to driving such as improved internet service
- ▲ Establish carpool lots
- ▲ The BCPO opposes construction of roads through prime, 'Class A' farmland or environmentally sensitive areas

**The following details the discussions of the first meeting with stakeholders in the Caledon Transportation study.**

Tim and Murray made introductions of the study. (approx. 10 minutes)

Bill provided a PowerPoint presentation. (approx. 20 minutes)

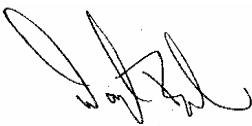
Discussion continued for approximately 1.5 hours. The comments noted were as follows:

- ▲ A summary of data (volumes etc.) should be made available to all present.
- ▲ Regional Road 50 has no safe crossing in Palgrave except when a school crossing guard is working. Speeding is an issue. A Regional study recently conducted on RR50 found 99.3% of NB traffic to be speeding, 95.3% of SB traffic. Speeding also an issue on Mt Wolfe & Mt Pleasant, etc. Regional staff asked if a bypass by 2031 would help. Resident said yes, great, but we need an immediate solution too – how about a pedestrian signal or a tunnel.
- ▲ What are future plans for Hwy 427? The corridor being considered is just east of Caledon.
- ▲ Recent traffic calming efforts in Caledon East were recognized as positive – such as tree plantings and street furniture.
- ▲ Regarding issues, REGION-WIDE solutions are needed.
- ▲ There are safety issues with cyclists and farm equipment. Consider building roads to accommodate cyclists and farm machinery better with wider pavement and no curbs. Curbs are difficult for farm equipment to mount. Contact cycling groups to get more detail about cycling issues. (Brampton Cycling Club, C3 Cross training club in Inglewood). Cyclists like routes without traffic signals for their time trials. Don't forget cycling is for children too. We need a network of multi-use trails for cyclists, horse riding, etc. Even though we have 75 km of trail network we need more because we need to provide networks for commuter cyclists, and racing cyclists need hard surface routes.
- ▲ OPP officer comments: Speeding in GTA is untenable and the high growth rates of the area make enforcement even more difficult. There are plans for an increase of 50,000 people in a new community near Alliston. This will increase volumes on RR50. Commuters disregard stop signs and run red signals. We need more electronic enforcement equipment and more staff to enforce. (Jim Carrick noted the Ontario Traffic Conference is trying to get the Province to permit wider use of electronic enforcement for speeding and red-light running.)
- ▲ Traffic calming must be the #1 approach on ALL types of roads including arterials – and especially in villages. Identify wildlife corridors.
- ▲ Design roads with grooves as a way of controlling speed. Part of the problem is drivers travel daily, and are distracted by cell phones etc., so design the roads to force them to pay attention more closely.
- ▲ Which comes first, more roads or more housing development? If you build the roads, won't there be more demand for development? (Staff response: Yes, and it will be up to council to resist or proceed with development in accordance with the OP or to revise it.)
- ▲ Is it appropriate for us to have to provide a road network for through traffic? The growth of surrounding municipalities is at our expense. The MTO must be a part of this process.
- ▲ Regarding the proposed Highway 413, Caledon has notified the MTO that Caledon staff want to be a part of this study.



- ▲ If the employment lands (clarified as commercial & industrial) are in Caledon, then commuters won't have to drive through Caledon, but instead stop here. We need a major EW road. Mayfield is on option, or have Mayfield as a collector for a new expressway. Have it run north of Mayfield from Halton border to Hwy 10, and the further east perhaps south of Mayfield. It could serve as the northerly border of urbanization and keep the rest of Caledon more rural. The road could serve as the buffer for things like farm smells etc.
- ▲ Hwy 10 should be 100 km/hr. If we can legally go XXkm/hr on back roads with gravel. (Jim Carrick noted perhaps we need a schedule of speed limits for all roads and this information could be used to determine the details of any roadwork such as lane widths and the amount of cut/fill. We need to find ways to get people to make a modal shift to use less vehicles. We should recognize the need for carpool lots e.g. Mayfield Road.)
- ▲ Marisa: We need to get all new development to incorporate transit friendly design and the staging of new development should be such that transit is there when the people move in. Transit should be no more than 5-10 mins walk from people's homes.
- ▲ The tourism perspective liked the idea of traffic calming and requested that the aesthetics be considered when implementing/constructing. Make it convenient to allow people to stop and enjoy the villages within the Town. Devise ways (signage, kiosks, etc.) to spread the visitors around more as some areas are crushed with tourists and others are empty. The signage program in Caledon Village is great – expand on this. Parking is an issue with conflicts between residents of villages and tourists e.g. Terra Cotta. (Hans Muntz noted there is a 5-10 year program in place for parking at trail heads.) Lisa response: Make sure the program is more than no parking signs because that is not welcoming for tourists after we have spent money to get them to come visit.
- ▲ Olde Base Line is beautiful – make sure the character of this road is maintained. Such preservation should be a part of the plan.
- ▲ Look at Mississauga Road because it is hurting – and the problem extends south to Huttonville in Brampton.
- ▲ Identify areas as “no improvement” corridors to prevent through traffic. (Hans Muntz noted we are establishing a heritage road designation e.g. Forks of Credit. Should we choose to engineer the reduced connectivity of some of the roads we want to have low traffic volumes to keep through traffic on the arterials? No one answered.)
- ▲ We must build bypasses around the villages. But there may be more creative ways rather than bypasses.
- ▲ Bottlenecks identified were Mayfield Rd. and King St.

**MINUTES PREPARED BY:**



Daryl Bender, B.E.S.

***Transportation Planner***

# *Appendix D*

*Excess Traffic Locations*

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**TABLE C.1: NORTH –SOUTH ROADWAYS WITH EXCESS TRAFFIC**

<b>Roadway</b>	<b>Segment</b>	<b>Current Daily Volume</b>	<b>Nature of the Problem</b>	<b>Excess Traffic Volume (vs. threshold)</b>
Shaws Creek Rd	Charleston to Bush St.	>1,400 vpd	Rolling terrain. geometry	400 vpd
McLaren Rd	Charleston to Forks of the Credit	>500 vpd	Gravel surface	100 vpd
Willoughby Rd	Melville hamlet	>1,800 vpd	Rolling terrain, local hamlet area	800 vpd
Heart Lake Rd	Mayfield Rd. to Olde Base Line	6,000 to 8,000 vpd	Related to direct connection to Hwy 410	3 000 to 5 000 vpd
Heart Lake Rd	Olde Base Line to Charleston	1,000 vpd to 2,000+ vpd	Rolling terrain, geometry	1 000 vpd
Bramalea Rd	Mayfield Rd. to King St.	>3,000 vpd	Connections to south	Minimal
Torbram Rd	Mayfield Rd. to Olde Base Line	>3,000 vpd	Connections to south, Option to Airport Rd	Minimal
Mountainview Rd	Olde Base Line to Walkers Rd	1,000 vpd	Rolling terrain, geometry	Minimal
Innis Lake Rd	Old Church Rd. to Mayfield Rd.	>3,000 vpd	Connections to south, Option to Airport Rd	Minimal
Innis Lake Rd & Patterson Srd	Airport Rd to south of Patterson	1,000 to 1,300 vpd	Rolling terrain, geometry	Minimal
Caledon King Townline	King St. to Castleberg	>4,500 vpd	East Bolton bypass	1,500 vpd
Mount Wolfe Rd	Columbia to Hwy 9	>3,000 vpd	Continuation of east Bolton bypass	Minimal

**TABLE C.2: EAST-WEST ROADWAYS WITH EXCESS TRAFFIC**

<b>Roadway</b>	<b>Segment</b>	<b>Current Daily Volume</b>	<b>Nature of the Problem</b>	<b>Excess Traffic Volume (vs. threshold)</b>
Healey Rd	The Gore Rd. to R.R. 50	>4,000 vpd	Excess volume related to Bolton urban area	1,000 vpd
Old School Rd	Mississauga Rd. to Hwy 10	3,000 vpd	Excess traffic - recent growth (possible spillover from Mayfield Rd.)	Minimal
Columbia Way	R.R. 50 to Townline	>3,000 vpd	Excess traffic Bolton bypass route	Minimal
Castleberg Srd	R.R. 50 to Townline	1,200 vpd	Rolling terrain, geometry	200 vpd