
DATE: March 16, 2009

SUBJECT: **CALEDON TRANSPORTATION NEEDS STUDY UPDATE**

FROM: Dan Labrecque, Commissioner of Environment, Transportation and Planning Services

RECOMMENDATION

That copies of the report of the Commissioner of Environment, Transportation and Planning Services, dated March 16, 2009, titled "Caledon Transportation Needs Study Update" and the supporting technical study report having the same title, be forwarded to the Town of Caledon, City of Brampton, City of Mississauga, Metrolinx, Ontario Ministry of Transportation (MTO), Ontario Ministry of Energy and Infrastructure, Ontario Ministry of Municipal Affairs and Housing, Region of Halton, County of Wellington, County of Dufferin, County of Simcoe, Region of York, Town of Halton Hills, Town of Erin, Township of East Garafraxa, Town of Orangeville, Town of New Tecumseh, Township of King, and City of Vaughan for their information;

And further, that the Regional Chair write to the Minister of Transportation of Ontario requesting the Province to initiate the development of a longer term plan to accommodate provincial traffic which will have to pass through the Town of Caledon, a plan which should include the extension of Highway 427 north to Highway 9.

REPORT HIGHLIGHTS

- The Caledon Transportation Needs Study Update is a joint project by Region of Peel and the Town of Caledon. It is a reference document to help identify and assess the potential transportation improvements needed to accommodate future traffic demand within Caledon.
- Traffic capacity analyses using screenlines was based on the assumption of currently planned Regional Road widenings and improvements being in place. The study found that there is a need for additional transportation improvements in Caledon, including road improvements, use of travel demand management measures (e.g., carpooling), and improvements to inter-regional public transit services due to the additional population and employment growth and the provincial decision to shorten the extension of Highway 427 to Major Mackenzie Drive (instead of extending it to Highway 9).
- Key areas of concern include: peak period congestion on the road network and a high percentage of through trips. Projected future traffic volumes will exceed the available road capacity in the medium to long term future.
- There is an urgent need for the Province to complete the construction of the Highway 410 extension north to Highway 10 and the widening of Highway 10 north to Orangeville; planning and construction of the extension of Highway 427 from Highway 7 to Major Mackenzie Drive; and to examine the further extension of Highway 427 from Major Mackenzie Drive to north of Highway 9.

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DISCUSSION

1. Background

In 2004, the Region of Peel and the Town of Caledon jointly conducted the *Caledon Transportation Needs Study (CATS)* to assess and identify the potential transportation improvements needed to accommodate future traffic demand within Caledon. Since that time, a number of changes have occurred that prompted the need for an update to CATS. The changes are as follows:

- Increased future population and employment levels have been projected in order to meet the growth targets outlined in the *Provincial Growth Plan*. Caledon Council has endorsed new population and employment forecasts that confirm Caledon's currently approved 2021 numbers, and project substantial additional population and employment growth between 2021 and 2031 (e.g. 108,000 population by 2031, as compared to the 84,400 population by 2021 assumed in the previous CATS).
- The *427 Transportation Corridor Environmental Assessment* being undertaken by the Ontario Ministry of Transportation (MTO) recently identified, as a preliminary preferred option, that Highway 427 is to be extended from Highway 7 to the vicinity of Major Mackenzie Drive. The previous CATS assumed that Highway 427 would be extended further north to the Highway 9 area. This will have significant traffic impacts on the roads in Caledon.
- Several other new transportation studies have recently been initiated that will have future implications on Caledon. These studies include: *427 Transportation Corridor Environmental Assessment*; *Peel-Highway 427 Extension Area Transportation Master Plan*; *Brampton Transportation and Transit Master Plan Sustainability Update* and the *Halton-Peel Boundary Area Transportation Study*. The CATS Update provides a basis on which Peel and Caledon can respond to these studies.

Based on these changes, the CATS Update was conducted to identify the need for potential transportation improvements in addition to those that were identified in the previous CATS. The CATS Update was managed by the Region of Peel and the Town of Caledon Transportation Planning staff. Paradigm Transportation Solutions Limited (Paradigm), the consultant which undertook the previous CATS, was retained to conduct the technical analysis and provide the study results. The study used screen lines capacity analysis to provide an overview of future transportation issues and problems. Preliminary study findings were presented to, and feedback was solicited from, the members of Caledon Council at a workshop held in September 2008. The Executive Summary of the CATS Update is attached in **Appendix I**.

2. Findings

Issues with the current road network in Caledon remain generally similar to those outlined in the previous CATS. The key areas of concern continue to be as follows:

- Peak period congestion on the road network: traffic congestion, particularly in the southern areas of Caledon such as the Bolton area and along the Mayfield Road corridor, is a problem for commuters and for businesses in Caledon.
- High percentage of through trips: the Transportation Tomorrow Survey (TTS) conducted in 2006 found that 45% of the total traffic travelling on the Caledon road network during

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the weekday morning peak period is through traffic (traffic travelling between areas which are outside Caledon). With limited capacity and discontinuities on the Provincial highway routes, this traffic spills over to arterial and collector roads within the Town, creating additional congestion and environmental impacts. The percentage of through traffic as measured in the 2001 TTS was 42%. This demonstrates a trend of increasing through traffic on Caledon's road network – a trend that is expected to continue in the upcoming years.

Future transportation conditions have been assessed for the years 2011, 2021 and 2031 using the Region of Peel's Travel Demand Forecasting Model. The analyses found that, even with the committed road improvements, the projected future traffic volumes will exceed the available road capacity in the medium to long term future (i.e., in 2021 and 2031). In the short term (2011) the capacity deficiencies identified on the arterial road network are relatively minor, as a number of major projects such as the Highway 410 extension will provide additional capacity at critical locations. The network capacity deficiencies identified for the year 2021, however, are more substantial and widespread across the southern areas of Caledon. The capacity deficiencies identified for the year 2031 are expected to be even more severe, especially since there are few new road projects identified beyond the year 2021. Overall, the peak hour traffic volumes seen on the roads in Caledon are projected to nearly double by 2031.

3. Proposed Direction

To deal with these future transportation system deficiencies, an overall transportation strategy is proposed in the CATS Update, as follows:

Recommended Future Arterial Road/Freeway Network Improvements

The Region of Peel, the Town of Caledon and MTO have several major arterial road/freeway improvement projects that are planned and committed in Caledon as shown in Figure ES.2 in **Appendix I**. The analysis shows that the existing/planned transportation system within Caledon will require additional improvements to maintain levels of service. The additional potential road/freeway improvements that are identified in the CATS Update are shown in Figure ES.3 in **Appendix I**. The CATS Update and its findings should be viewed as a reference document for the Region in the ongoing planning for transportation infrastructure needs. The upcoming Region of Peel Long Range Transportation Plan Update will confirm and further define the road improvement needs required on Regional roads with respect to the capacity requirement and timing. To develop formal plans for specific road improvements, environmental assessment studies will need to be carried out by the responsible agency and approved through the EA process.

Other Recommended Transportation Options

- Developing and implementing travel demand management measures, such as the construction of carpool lots to help reduce peak period vehicular traffic. The planned new carpool lot at Mayfield Road and Regional Road 50 will be an important improvement. Further efforts are required to support more sustainable forms of transportation, including additional travel demand management measures and shifting travel demand away from private automobile use to alternate modes of transportation.
- Assessing and evaluating the development of improved inter-regional public transit services in Caledon and investigating opportunities for local transit services in Bolton and Mayfield West. The recently finalized Metrolinx RTP includes a northerly extension

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of the Hurontario LRT to the Caledon/Brampton border. GO Transit has recently improved services to Caledon and will be studying future GO Rail service to Bolton. The need for, and feasibility of, local transit service requires further investigation.

- Investigating traffic calming measures where specific problems exist on the rural collector road network that cannot be resolved through the planned improvements to the related highways and arterial roads.
- Managing truck traffic and mitigating the impacts of truck traffic on roads within the Town in cooperation with the Region and Ministry of Transportation.
- Organizing and carrying out more detailed transportation master plan studies in the congested areas of Caledon. Studies have been conducted or are underway for Mayfield West to ensure the transportation system can accommodate the new growth. Studies are underway in the South Albion-Bolton area with respect to planned employment land expansions. The Bolton area has existing transportation improvement needs and these will become more significant with new land use development and the impact of external transportation network changes. Development of a transportation master plan for the South Albion – Bolton area should be given priority.

Recommendation for Provincial Highway Network Improvements

As discussed earlier, a recent transportation survey revealed that 45% of the peak period automobile trips on Caledon's roads are long distance trips that pass through Caledon. This high volume of through trips must be matched with the corresponding provision of additional capacity by means of widening and extensions of the Provincial highway network. To alleviate the through traffic issue, the Province is completing the construction of the Highway 410 extension north to Highway 10 and the widening of Highway 10 north to Orangeville. As well, the Province is undertaking an environmental assessment to examine the extension of Highway 427. The current plan to extend Highway 427 to the area of Major Mackenzie Drive is expected to have a major impact on transportation in Caledon in the future. The planned termination of Highway 427 at Major Mackenzie Drive will leave a major gap, or discontinuity, in the Provincial highway network. High volumes of through traffic travelling to/from the planned Highway 427 Extension will have a substantial impact on the arterial and local roads in the southeastern area of Caledon. Until this issue is corrected, the municipal road system in Caledon will have to bear the additional long distance traffic normally carried by the Provincial highway system.

As an example of the impact of extending Highway 427 only to Major Mackenzie Drive, Bolton will have to accommodate additional traffic on Regional Road 50 and on Coleraine Drive. The Region of Peel and Town of Caledon will have to incur additional expenditures to accommodate the through traffic travelling between Highway 9 and the extended Highway 427. A recommendation of the CATS Update is that the Region of Peel and Town of Caledon continue to work with the Province to investigate solutions to this situation, including requesting MTO to consider development of a long-term plan to include the extension of Highway 427 further north to Highway 9.

Another transportation planning initiative currently being undertaken by MTO is the assessment of an east-west transportation corridor through Caledon (the *GTA West Transportation Corridor EA*). This study is ongoing and no findings were available sufficiently early to be used as input to the CATS Update. The recommendations noted above, therefore, have not included any effects of such an east-west corridor.

May 25, 2009

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Dan Labrecque
Commissioner of Environment,
Transportation and Planning Services

Approved for Submission:



D. Szwarc, Chief Administrative Officer

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c. Legislative Services

P-09-05/rs

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*Caledon Transportation
Needs Study Update*

**EXECUTIVE SUMMARY**

The Caledon Transportation Needs Study Update is a project conducted jointly by the Town of Caledon and the Regional Municipality of Peel to assess and identify the potential transportation improvements needed to accommodate future traffic demand within the Town. This study is an update of the Caledon Transportation Needs Study completed by the Town and the Region in September 2004. A number of changes have occurred since 2004 that have prompted the need for this study update, as follows:

- The most current plan for the Provincial Highway 427 extension has the highway ending in the vicinity of Major Mackenzie Drive.
- To meet Provincial growth guidelines, Caledon is now planning for substantial additional growth with a target population of 108,000 persons by year 2031.
- The new Provincial Metrolinx agency is actively planning new transportation directions for the Greater Toronto and Hamilton area, including improved public transit services to communities such as Caledon.
- Several other new transportation studies have recently been initiated that will have future implications on Caledon. This study helps provide a basis on which the Town can respond to these studies.

Current Transportation Conditions

The existing transportation conditions remain generally as outlined in the 2004 study. The key areas of concern continue to be as follows:

- Peak period congestion on the roadway network, particularly in the southern areas of Caledon such as Bolton area and along the Mayfield Road corridor is a problem for commuters and business activities in the Town.
- Excessive traffic volumes using the rural collector roadway network in the Town create safety and nuisance problems for local residents.
- Over 40% of the traffic on the Caledon road network during the weekday peak period is external or through traffic to and from adjacent areas travelling across the municipality. With limited capacity and discontinuities on the Provincial highway routes, this traffic spills over to arterial and collector roads within the Town creating additional congestion and environmental impacts.
- Caledon commuters are heavily dependant on automobile travel. Recent initiatives and plans to provide travel demand management and improved inter-regional transit as well as future integration with adjacent municipality's public transit services may help to reduce this automobile dependency in future.

Future Transportation Conditions

The future transportation conditions have been assessed for years 2011, 2021 and 2031 using the Region of Peel's travel forecasting model. The main inputs to this model are:

- Forecasts of population and employment growth within Caledon and adjacent to Caledon to year 2031. By year 2031 the population of Caledon is expected to almost double to over 108,000

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persons.

- The existing plus committed roadway network, including the completion of the Highway 410 extension, the widening of Highway 10 to Orangeville, the extension of Highway 427 to Major Mackenzie Drive, the widening of Mayfield Road from Winston Churchill Boulevard to Regional Road 50, the widening of Airport Road to Caledon East and the widening of Regional Road 50 south of Caledon. These roadway projects will substantially improve the peak period capacity of the current road network and are fully incorporated in the study findings.

The estimates of the future peak hour travel have been considered at a number of screenlines to provide an overview of the nature of the traffic growth. Table ES.1 below provides a summary of the existing and future traffic levels at these different screenlines. Overall, the peak hour traffic volumes in the southbound direction are expected to increase by about 70% to 110 % in comparison to year 2001 peak hour traffic volumes. The greatest increase occurs in traffic volumes crossing the Mayfield Road screenline with an estimated increase of 111%. It is also noted that the east west traffic volumes (e.g., crossing the Highway 10 screenline in the eastbound direction) are expected to increase even more with an estimated increase of 120% to 160%.

Table ES.1: Traffic Forecasts at Study Screenlines

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 (2001 to 2031) (Percent of 2001 Volume)
1 North Town Boundary	3,265	4,098	5,145	6,259	92%
2 Charleson Sideroad	1,996	2,253	2,995	3,870	104%
3 Old Base Line Road	3,909	4,914	6,459	7,213	85%
3.2 Old Church Road	1,730	2,226	2,606	2,980	72%
4 King Street	7,218	9,884	10,938	12,555	74%
5 Mayfield Road	8,520	11,710	14,188	17,969	111%
6 East Town Boundary	1,760	2,037	2,545	2,756	57%
6a Mayfield Rd to Columbia Way (Westbound)	2,402	2,785	2,895	3,175	32%
7 Winston Churchill Boulevard	1,166	1,241	1,500	2,323	99%
8 Highway 10 (Hurontario Road)	2,799	3,543	5,510	7,357	163%
9 Airport Road	2,185	3,322	4,667	5,220	139%
10 Regional Road 50	1,681	2,049	2,335	3,789	125%
11 Forks of Credit	1,735	2,320	2,950	3,868	123%

NOTE: Weekday AM peak hour volumes are shown in southbound or eastbound direction except where noted.

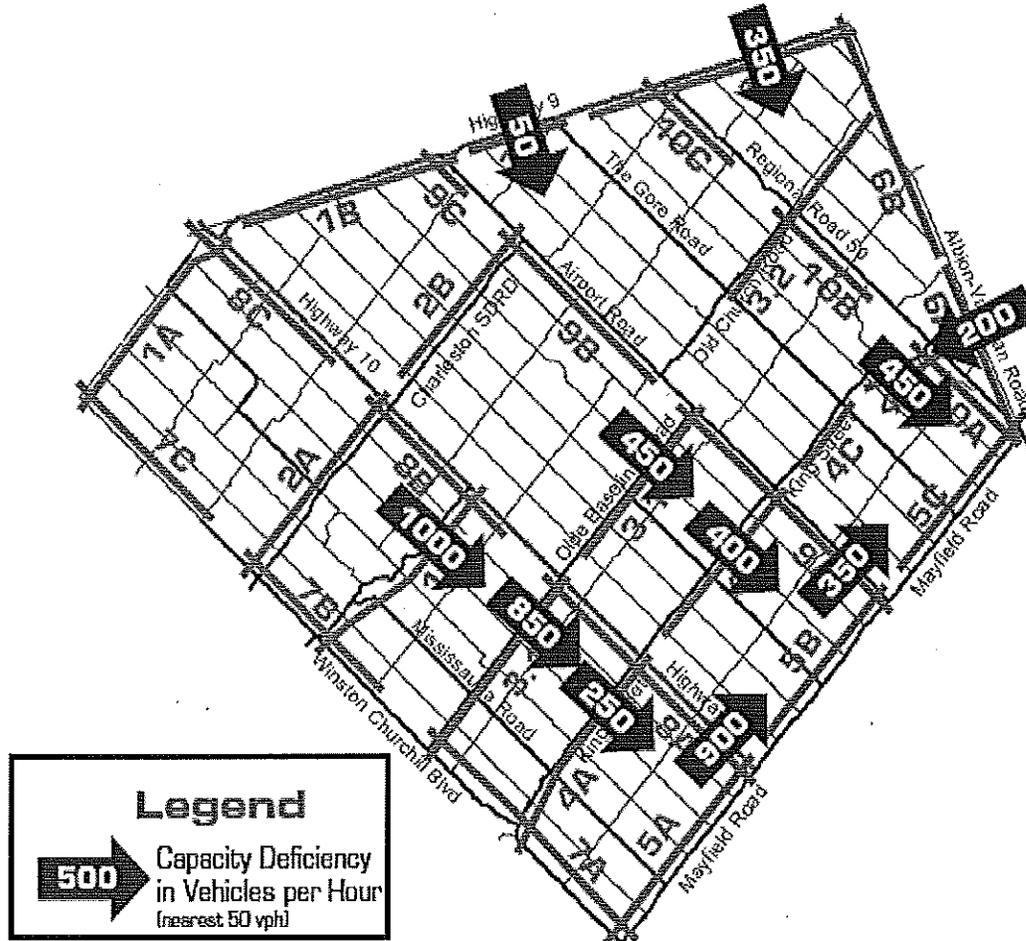
Even with the committed roadway improvements, the estimated future traffic volumes will exceed the available roadway capacity in years 2021 and 2031. In year 2011, the capacity deficiencies on the arterial roadway network are relatively minor as a number of major projects such as the Highway 410 extension provide additional capacity at critical locations. The network capacity deficiencies in year 2021, however, are more substantial and widespread across the south area of Caledon. Figure ES.1 below illustrates the estimated year 2021 capacity deficiencies. Since a single arterial roadway lane has a capacity of about 800 vehicles per hour, it is clear that some of the year 2021 capacity deficiencies indicate the need for roadway improvements and widening. The capacity deficiencies in year 2031 are expected to be more severe, especially since there are few new roadway projects identified beyond year 2021. The year 2031 capacity

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deficiencies are discussed in the main report.

Figure ES.1: Year 2021 Roadway Capacity Deficiencies



Future Transportation Improvement Needs

To deal with these future transportation system deficiencies, an overall transportation strategy is presented in this study update, consisting of the following components:

- Working with Peel Region and others to develop and implement travel demand management measures such as carpool lots to reduce peak vehicular traffic. The planned new carpool lot at Mayfield and Regional Road 50 will be an important improvement. Further efforts are required to support more sustainable forms of transportation including travel demand management and shifting travel demand away from private automobile use to alternate modes of transportation.
- Supporting the development of improved inter-regional public transit services and investigating opportunities for local transit services in Bolton in the short term and in Mayfield West in the longer term. GO Transit has recently improved services and will be studying future GO Rail service. The need

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for and feasibility of local transit service requires further investigation.

- Carrying out improvements to the arterial roadway network and working with the Provincial Ministry of Transportation to support improvements to the Provincial highway network where necessary to accommodate peak traffic requirements. The potential future improvements within Caledon are discussed below.
- Investigating traffic calming measures where specific problems exist on the rural collector road network that can not be resolved through the planned improvements to the related highways and arterial roads.
- Managing truck traffic on roads within the Town in cooperation with the Region and Ministry of Transportation to control the impacts of truck traffic. This includes consideration of the implications of truck restrictions, particularly on Regional and arterial roads.
- Organizing and carrying out more detailed transportation master plan studies in the congested urban areas. Studies have been conducted or are underway for Mayfield West to ensure the transportation system can accommodate the new growth. However, the Bolton area has existing transportation improvement needs and these will become more significant with new land use development and the impact of external transportation network changes. Development of a transportation master plan for the South Albion – Bolton area should be given priority.
- Working with the adjacent municipalities and Regions to ensure that the transportation system is well integrated across municipal boundaries.

The Town and the Region as well as the Ministry of Transportation of Ontario have several major roadway improvement projects planned and committed as shown in Figure ES.2 below. The potential additional roadway improvements to address the expected transportation needs are shown in Figure ES.3 below and the timing of these improvement needs is indicated in Table ES.2 below. It is noted that these improvements are subject to confirmation by future infrastructure planning studies such as the Region's Long Range Transportation Plan Update (to be completed in 2009) and the environmental assessment process.

Overall, the current plan to end Highway 427 in the area of Major Mackenzie Drive is expected to have a major impact on the Caledon transportation system in the future. The extension of Highway 410 and the widening of Highway 10 will greatly improve traffic conditions within the Town in the short term. However, the planned termination of Highway 427 will leave a major gap or discontinuity in the Provincial highway network and the high volumes of through traffic focused on the end of Highway 427 will have a substantial impact on the roads in the south east area of Caledon. Other current studies will further investigate how this future traffic impact can be managed and mitigated. However, the Town and the Region should continue to work with the Province to investigate solutions to this situation.

Based on the findings of this study, a number of further actions are recommended to the Town, as follows:

- The Town should consider preparing a Transportation Master Plan for the Bolton urban area.
- The Town and Region of Peel should request the Provincial Ministry of Transportation to consider development of a longer term plan for the extension of Highway 427 north to Highway 9. The study indicates that this improvement is required in the medium to long term time frame.
- The Town should participate in and monitor the progress of current transportation studies related to

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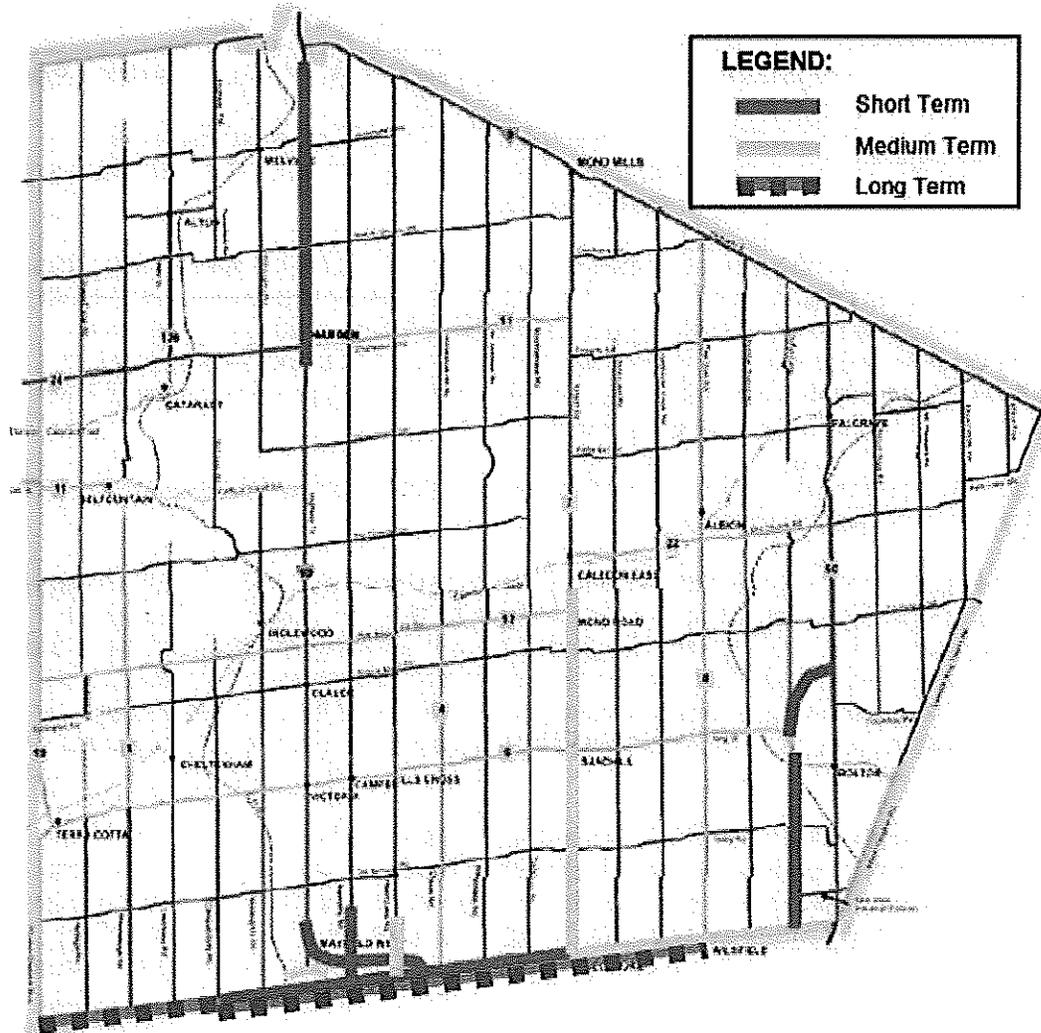


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new facilities in and adjacent to Caledon.

Figure ES.2: Planned and Committed Roadway Projects



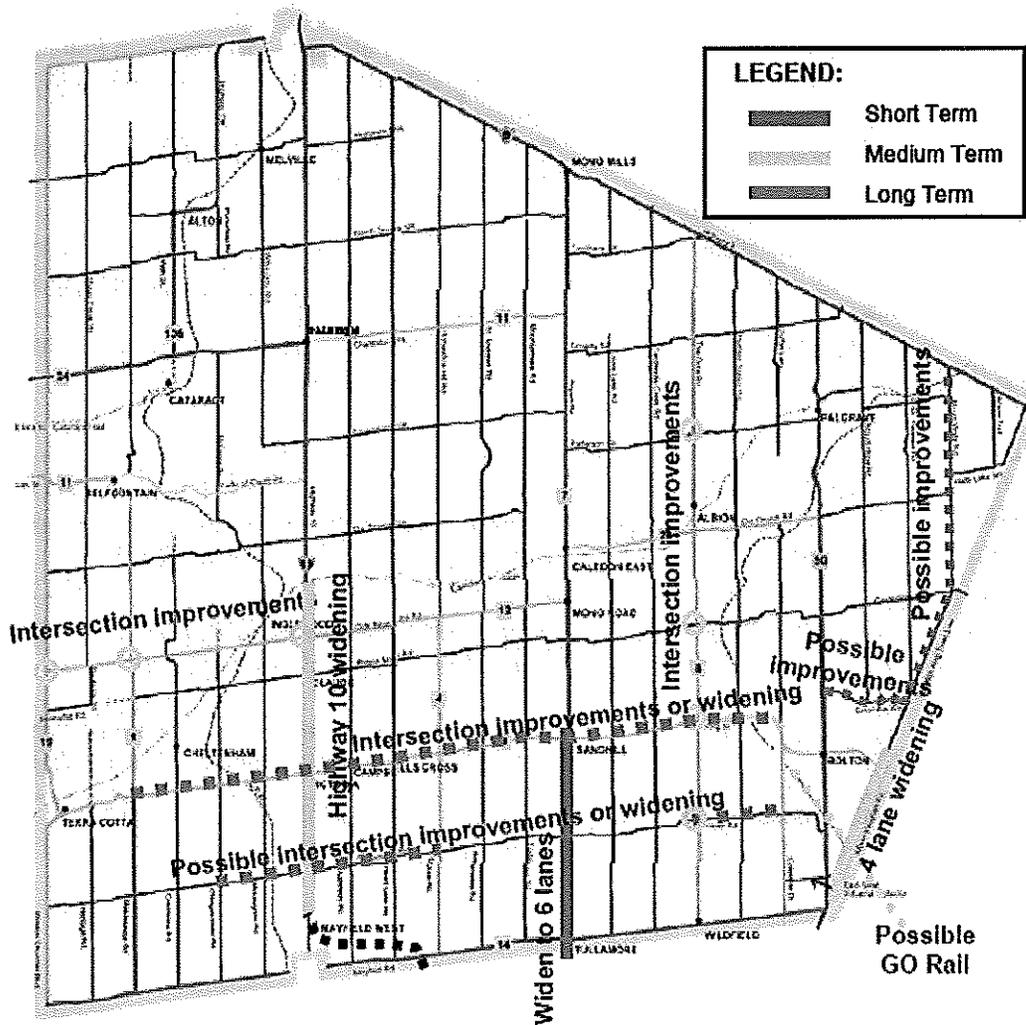
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Figure ES.3: Potential Additional Improvements to Meet Transportation Needs



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Table ES.2: Potential Additional Improvements to Meet Transportation Needs *

Corridor	Short Term Potential Improvements (by 2011)	Medium Term Potential Improvements (by 2021)	Long Term Potential Improvements (by 2031)
Highway 10 Corridor	None identified	Improvements and/or widening Highway 10 (Highway 410 to Olde Base Line)	
Airport Road Corridor	None identified	None identified	Widen Airport Road to six lanes (Mayfield to King)
Regional Road 50 – Townline Corridor (North of Bolton Area)	None identified	Improvements to the Gore Rd and/or to Mount Wolfe Rd – Caledon King Townline	
Humber Station Rd 50 – Albion Vaughan Road Corridor (Bolton Area)	Consider preparing transportation master plan for Bolton	Widening of Albion Vaughan Line (Mayfield to King) to four lanes	Improvements to Columbia Way (RR 50 to Caledon King Townline)
Mayfield Road – King Street Corridor	None identified	<p>Intersection improvements and/or minor widening of King Street (Mississauga Rd – Coleraine Dr)</p> <p>Intersection improvements and/or minor widening of Old School Road (Mayfield West area, West of Bolton)</p>	

* Subject to confirmation by future infrastructure planning studies such as the Region's Long Range Transportation Plan Update and the environmental assessment process.