TOWN OF CALEDON

Caledon Transit Feasibility Study



Caledon Transit Feasibility Study

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Executive Summary

The Caledon Transit Feasibility Study was undertaken to:

- Identify the need and potential demand for local transit services within Caledon for residents and local communities
- Determine reasonable levels of service and investment in local transit
- Identify potential approaches for transit service (such fixed route service or on-demand service), and identify which are suitable for Caledon
- Determine how any service would be delivered (such as in-house by the Town or by a private contractor)
- Identify the various economic, environmental, social and other benefits to Caledon, including how transit supports the Town's wider policy objectives

This report contains the findings of the work undertaken as part of this study, and this Executive Summary summarizes the key findings.

The policy environment for the Province, Region of Peel, and Town of Caledon all support the provision of local transit service in Caledon. The Town's Transportation Master Plan (2017) recommends implementing transit as part of package of measures intended a transportation system that is "safe, efficient, reliable, convenient, sustainable and multimodal".

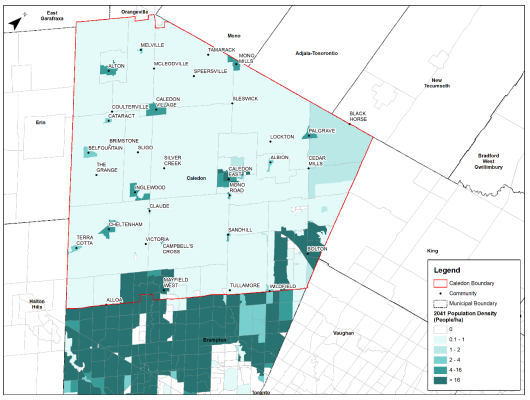
Transportation is also the second highest source of GHG emissions in Caledon, amounting to 39% of local GHG emissions and 48% of expenditures (2013 GHG inventory report). Transit aligns well with the goals of the Town's Climate Change Action Plan Update, to encourage the uptake of transit users, which will directly result in a reduced quantity of vehicles on the road, reducing GHG emissions.

Transit can also support many of the Town's wider policy aims, such as the Official Plan's aim to improve the health and well-being of residents, employees, landowners and businesses.

Existing travel patterns show a need for transit connections within Caledon, and between Caledon and adjacent municipalities. Around two-thirds of commutes by Caledon residents are to workplaces outside the town. Caledon has no post-secondary institutions, so Caledon's students must either commute to institutions outside the town, or live closer to campus. However, more than three-quarters of trips by Caledon residents for other purposes are within the town.

Caledon's population and employment are forecast to grow, and this will increase travel demand and the need for transit. Caledon's population is expected to more than double from 2017 to 2041, reaching over 160,000 people. Most of this growth is planned to be in Bolton, Mayfield West and Caledon East. This concentration of population growth will increase both the need for and its use. Caledon's employment growth is likely to increase commutes into the town, supporting the need for effective cross-boundary connections.

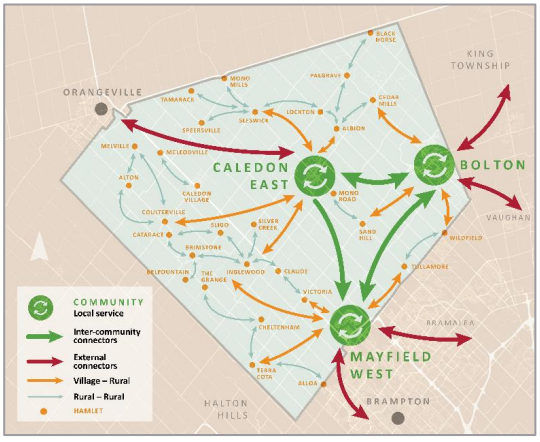
2041 forecast population density



The consultation process revealed widespread public and stakeholder support for funding and providing transit service. Public attitudes towards transit and increased property taxes to support it were measured using statistically-valid telephone poll. It revealed a clear majority in favour of modest property tax increases to support local transit, including from people who stated they would not use the service. That majority support was present in both rural and urban areas in the town. Stakeholder engagement also revealed general support for transit. Engagement with the public and stakeholders was used to establish the strategic direction for transit, and to help review and refine the study's recommendations.

A number of potential travel markets exist where transit provision is feasible, with forecast demand levels could justify a useful level of service. The markets include local service within villages, connections between villages and other communities within or outside Caledon, and rural area services.

Service types and concepts



Given that implementing of all 26 options simultaneously would require significant investment, and create a very large challenge to get that scale of service started**, a 'Made-in-Caledon' evaluation framework was developed and used to select and prioritize services.** The evaluation process revealed the relative merits of services for different travel markets, and for different service options within each travel market. The evaluation criteria were linked to the Town's wider objectives for transit and the services it provides.

The recommended staging order for transit service is as follows:

- ***High Priority Phase 1:***
  1. Local service between Mayfield West and Brampton Transit's Heart Lake terminal (denoted M4 in this report)

2. A connector between downtown Bolton and Hwy 50 Züm station in Brampton (B6), where passengers can transfer to services to the subway or surrounding employment areas.

- ***High Priority Phase 2:***
  3. Bolton local demand-responsive service within the community (B3)
  4. Inter-community service between Mayfield West and Bolton (IC3), as an extension of Brampton Transit's planned future route along Mayfield West Road
- ***Medium Priority***
  5. Local service in Mayfield West (M2 and M3), when Mayfield West build-out justifies service provision. An interim "home-to-hub" demand-responsive service could also be used.
  6. Inter-community service between Caledon East, Caledon Village and Orangeville via Hwy 10 (OR1).
  7. Inter-community service between Mayfield West and Bolton via Caledon East (IC4)
  8. Rural demand-responsive routes, connecting rural areas with each other and with urban areas.
- ***Low Priority***
  9. CE1 (Caledon East local)
  10. CE2 (Caledon East to Tullamore Industrial and Brampton)

These routes are illustrated in Figure 1 (page after next). The staging order took into consideration the evaluation results, implementation issues, network connectivity, and engagement input.

The recommended approaches for providing transit are tailored to the characteristics of each service. The study examined a wide range of approaches for providing transit service. This included both different delivery methods (such fixed-route service or demand-responsive service) and operator models (such in-house operation or contracting out operations). The recommended approaches for each service considered estimated passenger volumes and geographic considerations.

Successful transit requires supportive actions by the Town and its partners, to complement good service provision. These include:

- Investing in transit-related infrastructure (such as bus stops and sidewalks),
- Including transit considerations in land use planning
- Incorporating Transportation Demand Management in the Town's development approval process
- Working with the Town's Economic Development Division to promote areas served by transit
- Monitoring and analysing the effects and performance of transit service.

The next steps for the Town will be for Council to consider the recommendations of this study, and the move towards any implementation in line with Council direction.

PICs and Public Engagements







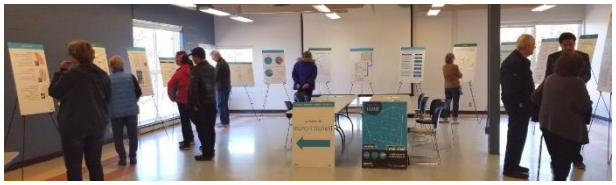
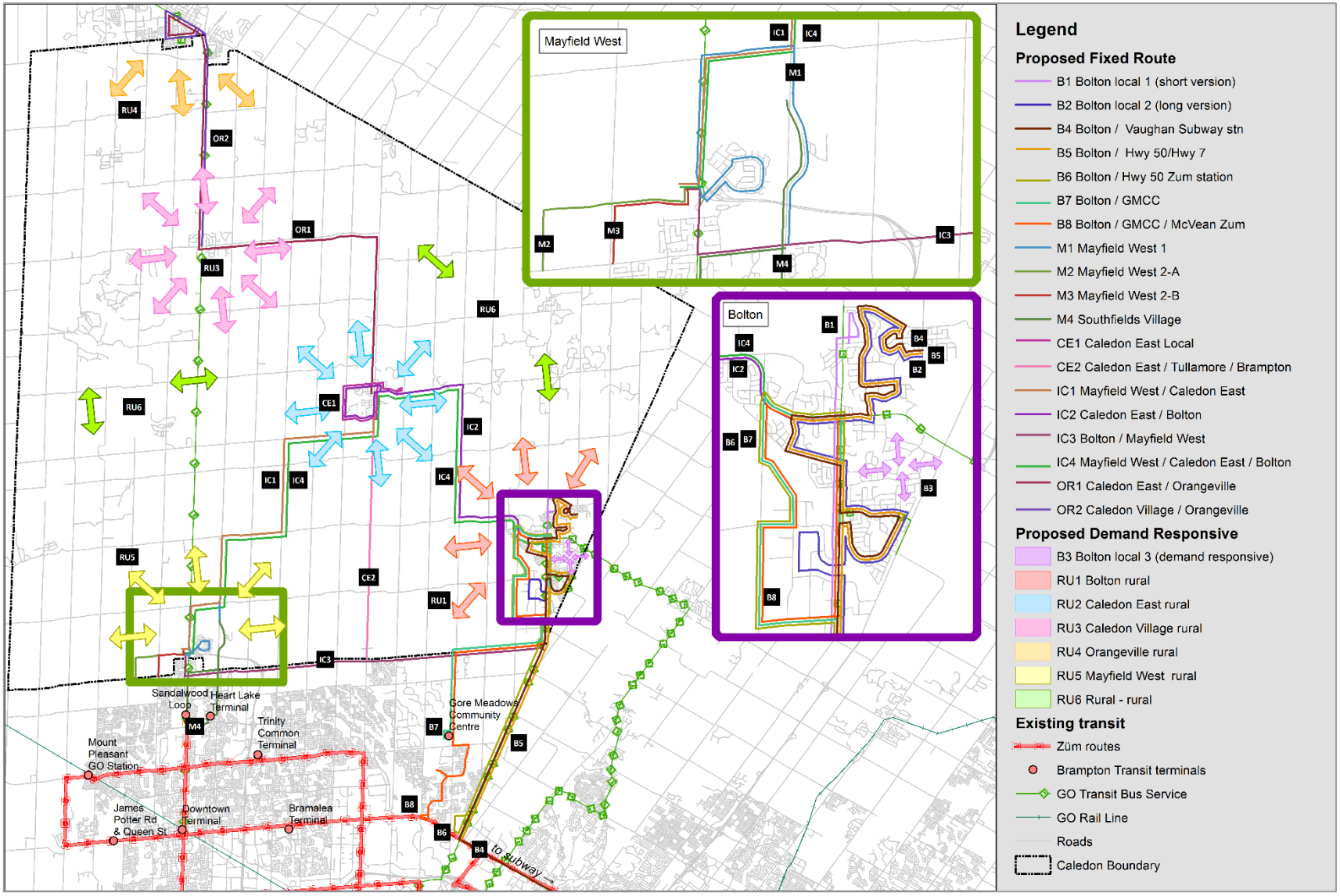






Figure 1: Long-list of options



1 Introduction

The Town of Caledon is a geographically diverse municipality within the Region of Peel comprising multiple urban and rural communities. Facing rapid population growth, the Town is facing the challenge of balancing growth with the protection of its natural heritage features.

For several years, the Town of Caledon has been actively exploring transportation options that address future needs. Pursuing a local transit service plan fits well with the overall transit focus of the Town's transportation strategy, which focuses on the integration of land use and transportation, access and mobility and multi-modal integration. Furthermore, various policy documents such as the Province Growth Plan for the Greater Golden Horseshoe, Provincial Policy Statement, Caledon Official Plan, Caledon Transportation Master Plan, and Mayfield West 2 Transportation Master Plan provide policies which strategically support growth and prioritize planning for complete communities and transit-supportive design. Climate Change Action Plan also supports the development of transit services to address Caledon's largest community GHG emissions source.

The Caledon Transit Feasibility Study is an opportunity to respond to the challenge of supporting transit initiatives in and between the smaller communities and the larger urban centres in the adjacent municipalities, as well as understanding and addressing the needs of vast rural areas.

This study is an important opportunity to develop options for transit service and demonstrate how a comprehensive approach to transit in the Town could improve transportation choice and community access. The study will also determine how services can be provided in an affordable manner. It will build on the experience of the local municipalities to define the feasibility of a broader service that:

- Serves local and promote healthy communities;
- Connects major employment centres;
- Facilitates local, regional and inter-regional commuter travel;
- Supports the broader economic, environmental and social objectives of development in the Town of Caledon;
- Addresses climate change by providing a more sustainable travel option for Caledon residents, employees and visitors.

This document is the final report for the study, summarising all the work done. Following this introduction, Chapter 2 provides a **Policy Review** of the various policies affecting transportation and transit in Caledon. Chapter 3 provides a **Demographic Analysis** of Caledon's current and future population and employment, followed by a **Performance Review** of transit provision in a group of municipalities similar to Caledon in Chapter 4.

Caledon has some transit service already, and this is described in the **Existing and Planned Service Review** (Chapter 5), along with neighbouring municipalities' future transit plans. Chapter 6 then examines the travel demand though a **Travel Pattern Analysis.**

The various possible **Service Approaches** for transit are described in Chapter 7, followed a description and evaluation of the **Service Options** in Chapter 8. This information in used in Chapter 9 to create the **Prioritization and Staging** plan, which then informs the **Financial Plan** in Chapter 10.

Finally, Chapter 11 summarizes the **Conclusions and Next Steps**.

2 Policy Review

2.1 Province

This chapter provides an overview of the key documents that are potential influences on the development of a local transit service. It provides background context, and demonstrates the broad policy support for local transit services in Caledon.

2.1.1 Growth Plan for the Greater Golden Horseshoe (2017)

The Province of Ontario, through the *Planning and Conservation Land Statue Law Amendment Act*, promotes development that is designed to support public transit and that is pedestrian-oriented.

The Growth Plan recognizes transit as a priority for major transportation investments. The Plan defines "Major Transit Station Areas" as the area around high-order transit stations and major bus depots within urban cores. Generally, planning will be prioritized for major transit station areas, including planning in a manner that maximizes the size of the area and the number of potential transit users that are within walking distance of the station.

While Caledon currently has no identified Major Transit Stations, the Town of Caledon Official Plan requires that the Town initiate studies to examine the potential to locate Major Transit Station Areas in Bolton and in Mayfield West to support the Town's Growth Management objectives.

2.1.2 Greenbelt Plan (2017)

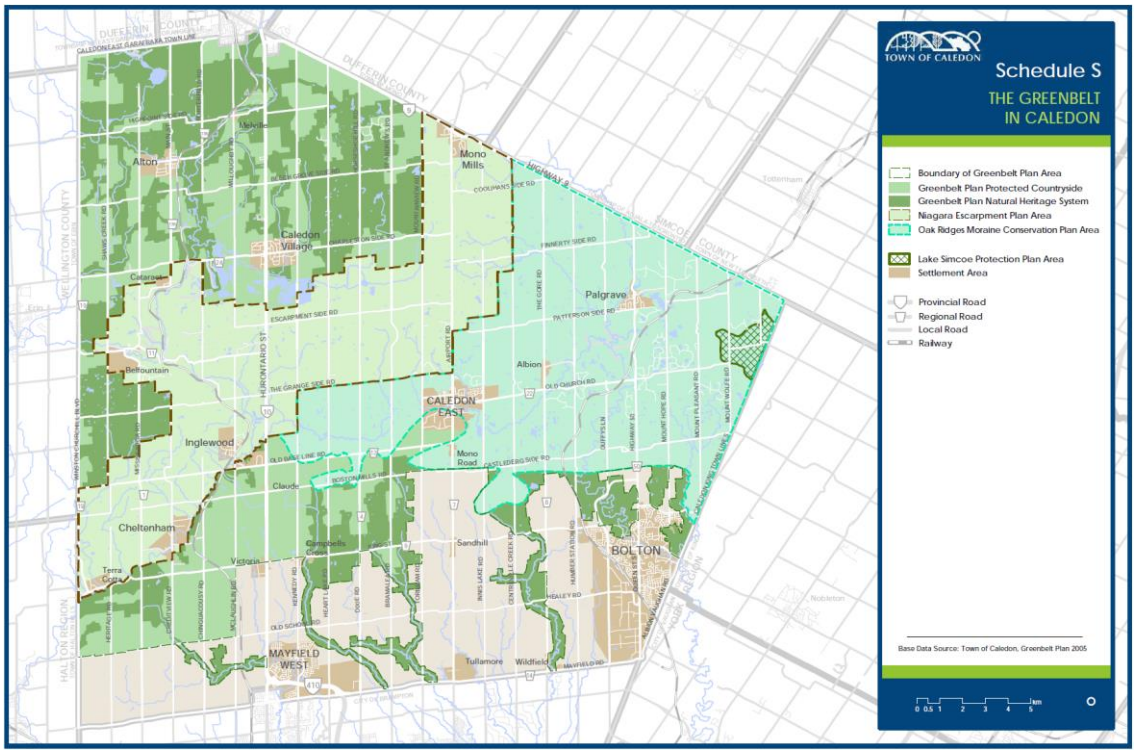
Introduced in 2005, the Greenbelt Plan provides an overarching strategy to guide urban development in balance with environmental protection. The Greenbelt Plan also provides permanent protection to the agricultural land base and the ecological and hydrological features occurring on the provincial landscape.

Most of Caledon's geographic land mass is within the Greenbelt's overall area, with a significant portion of Caledon's rural population residing in the Protected Countryside of the Greenbelt Plan Area (Figure 2). These are areas where no significant urban development is permitted.

Protected Countryside includes three key policy areas: Agricultural System, Natural System, and Settlement Areas within the Greenbelt. Policies within the three key policy areas apply to non-agricultural uses, recreation and tourism uses, infrastructure, natural resource uses, cultural heritage resources and existing uses, as well as lot creation.

Lands within the Protected Countryside are shown on Schedule S of the Town of Caledon Official Plan, and are subject to the entirety of the Greenbelt Plan.

Figure 2: Greenbelt areas in Caledon



Source: Town of Caledon Official Plan

2.2 Region of Peel

2.2.1 Region of Peel Long Range Transportation Plan Update (2012)

The Peel Region Long Range Transportation Plan notes that travel distance to work made by Peel residents is slightly longer than the average for the Greater Toronto and Hamilton Area (GTHA). From 1996 -2006, the average work trip length for residents of the Town of Caledon was 23.1 km compared to 14.3 km for the GTHA.

The rising number of intra-regional trips within the Region is a key challenge in the Transportation Plan Update. In 2006, more than 65 percent of all trips originating in Peel Region are contained within the region, and consist mainly of trips between Mississauga, Brampton and Caledon. Most of the inter-regional trips ending in Peel are from Toronto and Halton Region. About 15,000 trips put an additional load on the Regional network, especially on major arterial roads in Brampton.

With planned population and employment increases, the share of self-contained trips (trips originating and ending in Peel) is forecast to increase by 2 percent, from 225,100 (in 2011) to 275,700 by 2031. Inter-regional travel is also expected increase substantially, both in terms of volume and the diversification of the trip ends.

The Update identifies a need to coordinate efforts with local municipalities and Metrolinx to create a seamless inter- and intra-regional transit network that is an attractive alternative to single-occupancy auto trips. The Region also highlights the Mayfield West/Highway 50 Commuter Parking Lot as a transit connection point for future transit services between Peel Region and York Region.

The Update supports Caledon's objectives regarding greater use and accessibility of public transit, especially the provision of expanded GO Bus Service, potential GO Rail Service to Bolton, bringing higher order transit into the Mayfield West community and advocating for an expanded role for the Region of Peel in addressing Caledon's transit needs.

2.2.2 Region of Peel Sustainable Transportation Strategy (2018)

The Region of Peel sustainable transportation strategy contains goals and objectives that promote sustainable transportation, including the following:

- Policies contributing to a Regional transportation system that is safe, convenient, efficient, multi-modal, well-integrated and sustainable
- Encouraging and supporting cycling and walking to and from schools, transit hubs, and other community destinations,
- The locations of new and upgraded walking and cycling infrastructure,
- Implementation of new carpool lots and targeted carpooling promotion, the development of a teleworking toolkit, and guidance for new development.

2.2.3 Region of Peel Official Plan (2016)

The Region of Peel Official Plan contains goals and objectives that promote sustainable development and healthy communities, including the following:

- Integrate the transportation system in Peel with the transportation plans of the area municipalities, neighbouring municipalities and the Province
- Establish a planned transportation network that considers and coordinates the road linkages across municipal boundaries that will accommodate cross-boundary traffic.

The Plan requires area municipalities to identify intensification areas such as Major Transit Station Areas and encourages the area municipalities to require a minimum density of 100 combined resident and jobs per hectare around major transit stations.

While Major Transit Stations Areas have not been identified in Caledon, the Town's Official Plan policies have stipulated that Bolton and Mayfield West will be further examined for potential to locate two Major Transit Station Areas.

2.3 Regional Transportation

2.3.1 The Big Move and Regional Express Rail

In 2008, Metrolinx adopted *The Big Move,* a Regional Transportation Plan which sets out long-range transit goals and objectives for the Greater Toronto and Hamilton Area. This document

envisioned extending GO Rail service to the Town of Caledon. No other regional transit initiatives were planned for Caledon.

2.3.2 Metrolinx's Bolton Commuter Rail Feasibility Study (2010)

In 2010, Metrolinx completed the Bolton Commuter Rail Service Feasibility Study, a comprehensive review of the technical requirements to implement a commuter rail service between Bolton and Toronto.

The study found that introducing the service is feasible, which supports the vision outlined in the Metrolinx Regional Transportation Plan (RTP). However, the study concluded that the ridership would be modest and capital cost would be high. Consequently, it did not recommend moving forward with the expansion in the short-term.

On February 12, 2013, the Metrolinx Board of Directors approved a technical update to *The Big Move* which included moving commuter rail service to Bolton from the 0- to 15-year plan to its 16- to 25-year plan in response to the findings of the Bolton Commuter Rail Service Feasibility Study.

Commuter rail service to Bolton remains in Metrolinx's long-term plans.

2.3.3 Metrolinx 2041 Regional Transportation Plan

On March 8, 2018, Metrolinx Board of Directors adopted the 2041 Regional Transportation Plan (2041 RTP) for the Greater Toronto and Hamilton Area (GTHA). The 2041 RTP is an update to the 2008 version*, The Big Move,* and extends its planning horizon to 2041. In addition to completing the delivery of current regional transit projects set out by The Big Move, the 2041 RTP recommends the continued expansion and optimization of the region's rapid transit network and aims to integrate the planning, fares and service in the region. With rapid population growth in the GTHA, the 2041 RTP emphasizes its commitment to improving customer experience.

2.4 Adjacent Municipalities

2.4.1 City of Brampton Transportation Master Plan (2015)

Population and employment are expected to continue to grow through the year 2041, from present levels of over 523,000 people and 182,000 jobs to almost 900,000 people and more than 325,000 jobs in the year 2041.

Select road links and intersections are approaching capacity, with congestion at several intersections in the peak commuter period. Peel Region accounts for 21 percent of travel outside Brampton, with Mississauga and Caledon as major travel origins.

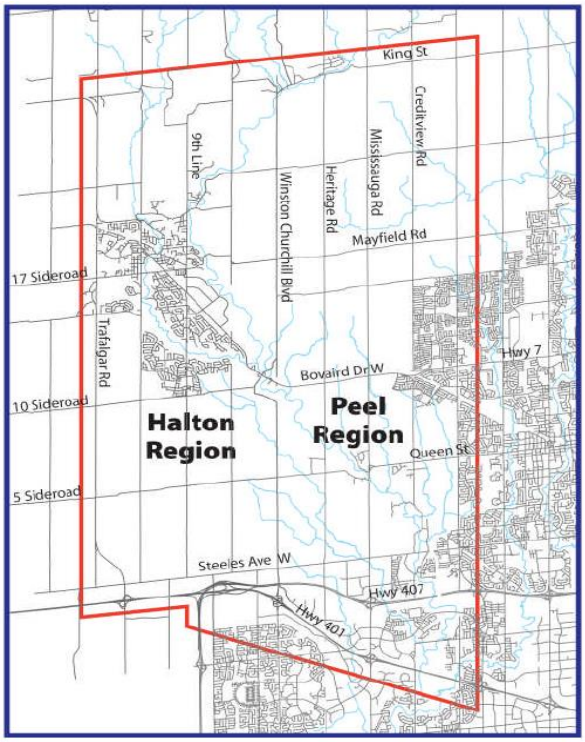
Given that Brampton is a major destination for Caledon residents, transit service in Caledon would provide significant benefit to Brampton.

2.4.2 The Halton-Peel Boundary Area Transportation Study (HPBATS) (2010)

The HPBATS was a joint study undertaken by the Region of Peel, Halton Region, City of Brampton, Town of Caledon and Town of Halton Hills. The study identified a long-term (2021 and 2031) transportation network required to support provincial and inter-municipal planning goals, and to serve future transportation demands within the Study Area (Figure 3).

Figure 4 shows the overall Recommended Transit Network for 2031 of the HPBATS study. While highway 410 has been identified as a potential connection into Caledon, the recommendations in the study have minor impact on the feasibility of local transit in Caledon.

Figure 3: HPBATS Study Area



Source: The Halton-Peel Boundary Area Transportation Study (HPBATS) (2010)

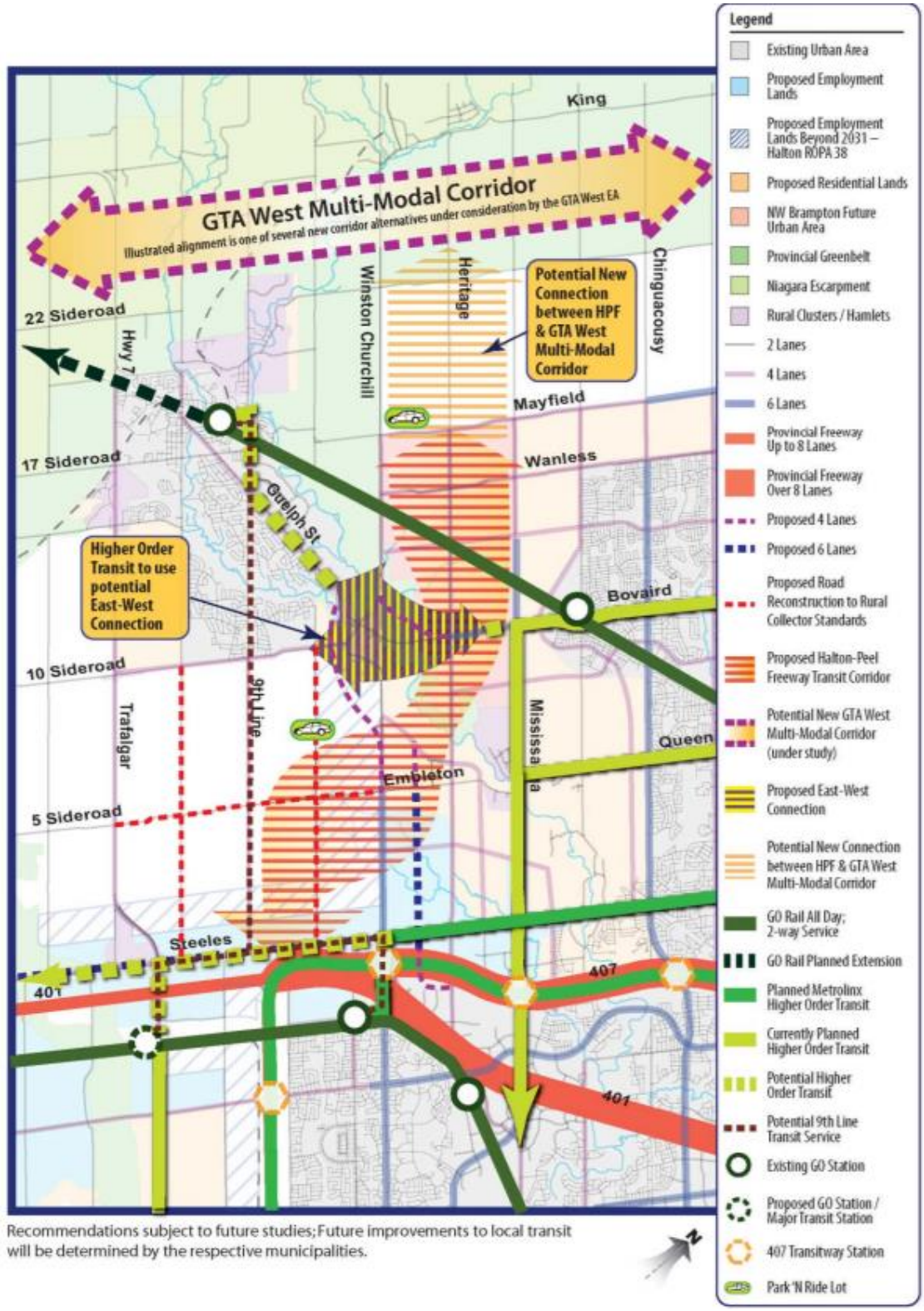
2.4.3 York Region Transportation Master Plan (2016)

York Region Transportation Master Plan includes the strategies and directions to create a word class transit system. The study has indicated that he Region needs to maximize investment in transit by leveraging rapid transit corridors and by getting more people to use existing services. Transit is a much more efficient use of road space, enabling moving more people with fewer vehicles especially where the existing roadway cannot be expanded, reducing congestion and is accessible to people of all ages, stages and incomes.

2.4.4 County of Simcoe Transportation Master Plan (2008)

As per the County of Simcoe Transportation Master Plan, Transit is a key component in the plan for growth. The study highlighted the rule of transit as not only a long-term solution to congestion but is also to provide residents with choice for travel and to maintain accessibility to basic services.

Figure 4: HPBATS Recommended Transit Network, 2031



Source: The Halton-Peel Boundary Area Transportation Study (HPBATS) (2010)

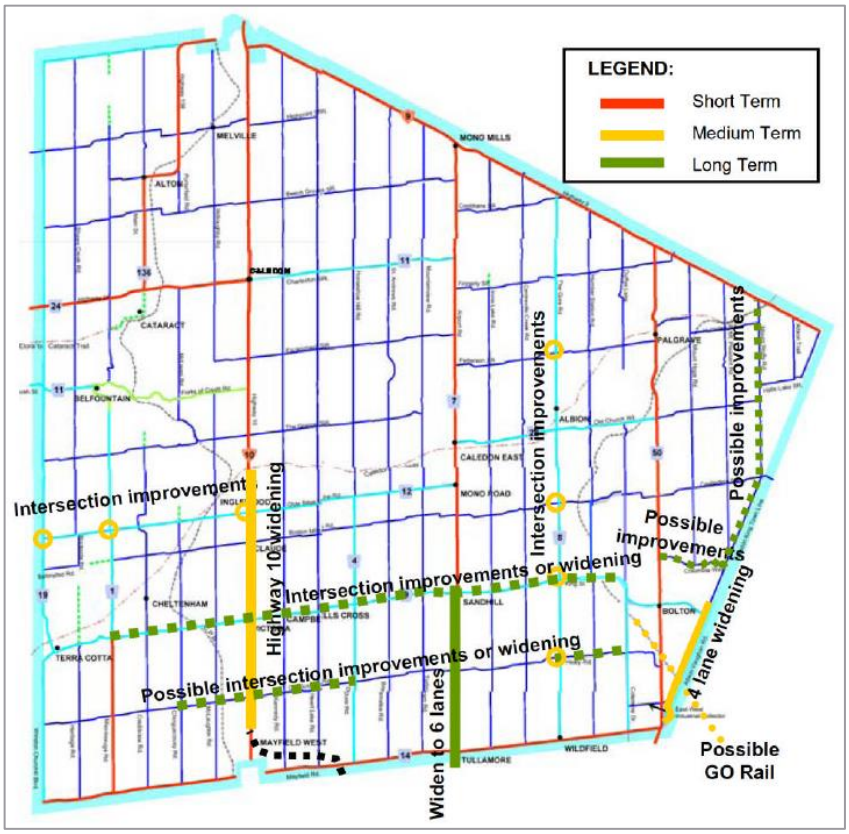
2.5 Town of Caledon

2.5.1 Transportation Needs Study Update (2009)

The Caledon Transportation Needs Study Update was conducted jointly by the Town of Caledon and the Region of Peel to assess and identify potential transportation improvements to accommodate future transportation demand within the Town. The Study included new requirements to meet new Provincial growth guidelines, with Caledon planning for substantial growth with a target population of 108,000 persons by year 2031, up from 66,502 in 2016. Cycling and pedestrian facilities were out-of-scope of the Study.

Potential improvements to meet Caledon's transportation needs are shown in Figure 5.

Figure 5: Potential additional improvements to meet transportation needs



Source: Town of Caledon Transportation Needs Study Update (2009)

The Study identified the new transportation directions for the Greater Toronto and Hamilton Area set out by Metrolinx. It highlights a strong commitment to implement transportation demand management measures. This are intended reduce growth in single occupant peak period automobile travel. The Study also supports the development of improved inter-regional commuter services, particularly to the Bolton urban area.

The carpool lot at Mayfield West Road and Regional Road 50 is expected to be used as a hub for inter-regional and local transit services. Local public transit services in Mayfield West and areas adjacent to Brampton are also expected to be needed in the medium-term as new urban development proceeds. In the Study, the option to extend Brampton Transit services into Caledon appears to have potential.

2.5.2 Town of Caledon Transportation Master Plan (2017)

The Town of Caledon Transportation Master Plan (TMP) sets a vision and priorities for transportation in the Town of Caledon over the next 15 years. The TMP process included a comprehensive evaluation of transportation deficiencies, opportunities and solutions consistent with municipal planning goals and environmental assessment planning principles.

Caledon is largely rural in its geographic area, with a few small urban areas. Consequently, most trips made by Caledon residents driving a car. The mode split has remained fairly similar to previous years. The TMP stresses the need to explore multi-modal transportation options.

In addition to assessing the potential for a local public transit system, the TMP recommends an active transportation strategy to connect the area's natural heritage to the local communities across Caledon. The active transportation strategy includes:

- A network of on-road and off-road walking and cycling facilities with signage and
- Policies to promote active transportation-oriented developments;
- Design guidelines to construct active transportation facilities in new development (e.g. cycle tracks in new subdivisions);
- A complete streets policy that prioritizes pedestrians, cyclists and transit users for roadway reconstruction projects in villages and hamlets.

Chapter 3 of the TMP presents the preferred plan including the road, active transportation and transit networks, transportation demand management (TDM), and other policies in support of the plan. Scores for alternative scenarios were calculated and ranked based on a Multiple Account Evaluation (MAE) framework. The MAE led to the selection of Alternative 4B: Low Level of TDM Combined with Road and Highway Improvements as the preferred alternative for the community. The combination of implementing road, transit, TDM and active transportation measures as part of the framework for Alternative 4B aids in reducing congestion and promotes transit and active transportation.

Following the evaluation of alternatives, the TMP sets out recommended transit-supportive policies and actions. These include:

- Developing a Transit Implementation Plan (Policy Section 4.2.1 of the TMP)
- Developing a Transportation Demand Management Plan (Policy Section 4.4 of the TMP)
- Implementing long-term network plans for pedestrian and cycling routes (Policy Section 4.3.7 of the TMP)
- Introducing transit stop criteria and design policies into the Town of Caledon Official Plan (Policy Section 4.2.2)

Overall, the TMP provides a strong basis for providing transit in Caledon, both within the Town and connecting to other municipalities.

2.5.3 Town of Caledon Official Plan (2016)

The Town of Caledon's Official Plan (OP) includes principles of sustainability, including growth management policies that encourage compact and transit-supportive communities and decreases automobile dependency. The OP recognizes that the primary mode of travel in the town during the plan period will be the automobile however, policies aim to provide for a transportation system that accommodates all travel modes and looks to senior levels of government to expand transit into the Caledon area.

In partnership with the Region of Peel and the Province, the OP supports activities that promote public transit and active transportation to minimize emissions.

To maintain Caledon's rural, suburban, and natural features, Caledon has developed a tri-nodal planning approach, where growth will be directed to the three Rural Service Centres:

- Bolton
- Mayfield West
- Caledon East

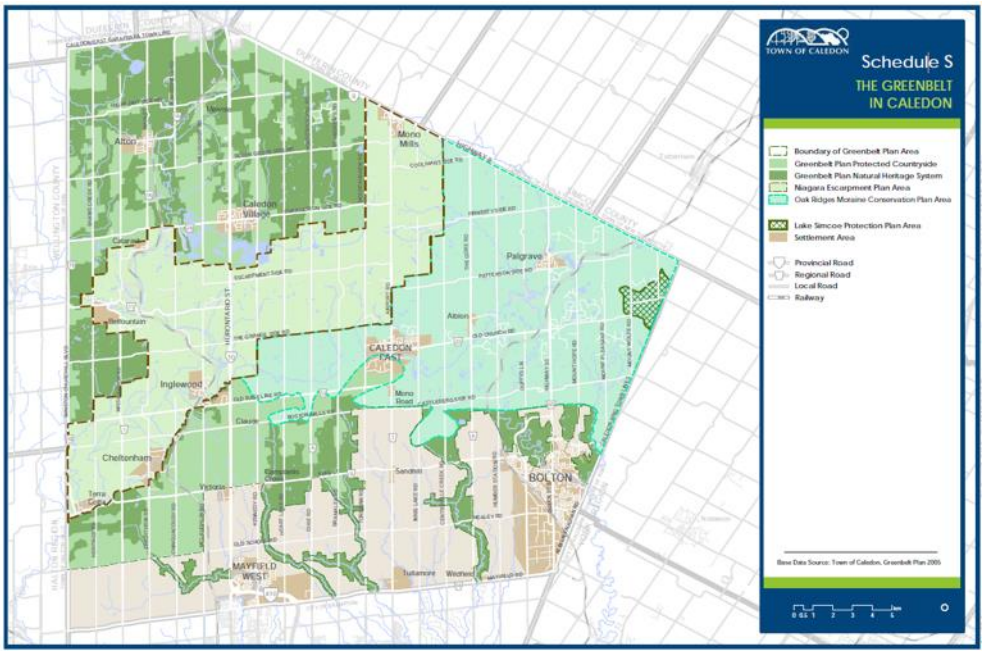
In the future, Bolton and Mayfield West may be identified as Major Transit Station Areas. These areas may undergo further studies as part of a municipal review in the future.

Most of the land in Caledon is within the Protected Countryside designation of the Greenbelt Plan (Figure 6). The Protected Countryside is made up of three types of Geographic Specific Policies:

- Agricultural System
- Natural System
- Settlement Areas

Under these three categories are specific designations, which are described in the Town's Land Use Schedule A (Figure 7).

Figure 6 Schedule S: The Greenbelt in Caledon

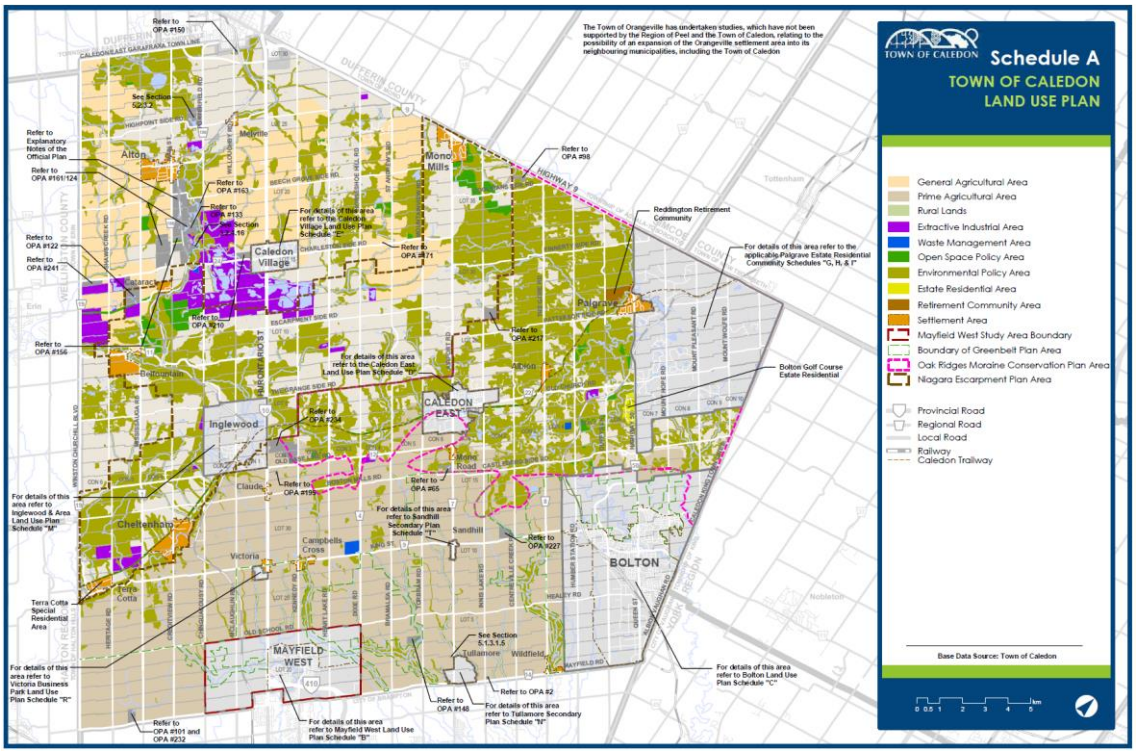


Source: Town of Caledon Official Plan

Part of the Agricultural System, Natural System, and Settlement Areas are further subject to the Oak Ridges Moraine Conservation Plan and Niagara Escarpment Plan policies. This indicates that significant urban development outside the boundaries of existing settlement areas is restricted.

Some smaller communities fall under the category of Estate Residential, Settlement, or Retirement Community, where limited development is permitted. However, most of growth from the 2031 population and employment projections will occur in Bolton, Mayfield West, and to a lesser degree, Caledon East. This implies there will no new distinct urban areas in the future. Consequently, a long-term transit network can be designed around the existing settlements.

Figure 7: Schedule A: Town of Caledon Land Use Plan



Source: Town of Caledon Official Plan

Bolton's population is expected to grow by 41 percent from 2021 to 2031, and Mayfield West is expected to grow by around 47 percent during the same period. While employment is expected to grow by 15 percent from 2021 to 2031, this forecast refers to Town-wide employment. In the longer term, it is anticipated that Mayfield West and Bolton will be similar in size. Both communities will grow larger than Caledon East, which is constrained by geophysical characteristics.

To support future growth in Caledon, The Official Plan encourages the development of public transit in partnership with the Region of Peel, Metrolinx, the City of Brampton, and other adjacent municipalities.

2.5.4 The Bolton Transportation Master Plan Study (2015)

The Town of Caledon and the Regional Municipality of Peel completed a joint study to develop a Transportation Master Plan (TMP) for the community of Bolton. The study encompassed areas adjacent to Bolton for undertaking network analysis, goods movement characteristics, transit considerations and other broad aspects of the study. The study followed a comprehensive multi-modal transportation master planning approach, which included developing a transportation vision for the downtown core area.

Transportation issues examined in the Bolton TMP Study included:

- The need and potential for transit improvements by integrating GO/Brampton/York Transit to serve residents and employers in Bolton;

- Exploring travel demand management strategy to reduce single-occupant auto use during the peak periods;
- Exploring opportunities to enhance pedestrian and cycling infrastructure, and trail connections to Regional Roads in accordance with Peel's Active Transportation Study, particularly the anticipated reduction of vehicular traffic on Highway 50 when the construction of Bolton Arterial Route is completed at the end of 2014.

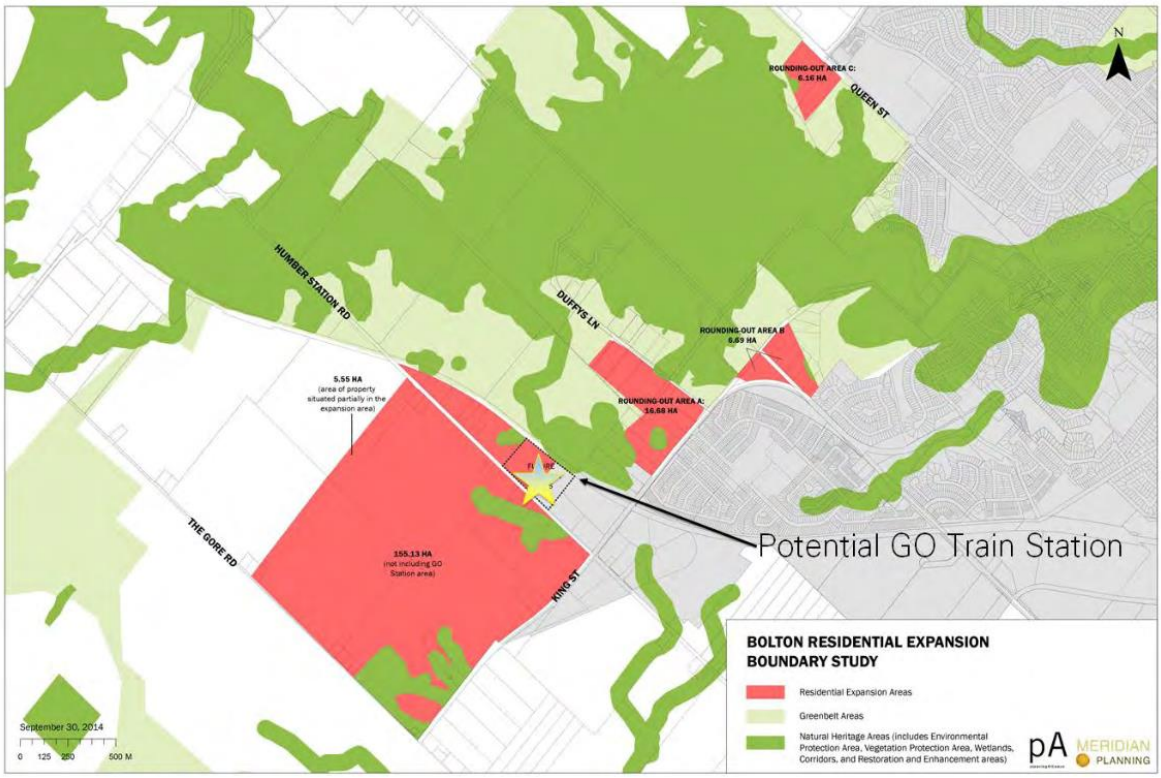
The study concluded that downtown Bolton will not see significant increases in either employment or population. Much of the future population growth is expected in the area northeast of King Street and The Gore Road intersection. Most employment growth will occur west of Coleraine Drive and north of Mayfield West Road. This implies that future transit requirements will need to focus on providing service options to these growth areas.

The potential for a new GO Train service to Bolton was considered as part of the Bolton Commuter Rail Service Feasibility Study. As the Town of Caledon and Region of Peel continued to advocate for the implementation of a new train service, the Bolton Residential Expansion Study provided the Town the opportunity to frame a location for the future GO Train Station. A GO Train Station at this location represented an opportunity to develop Bolton's expansion area into a transit-oriented community.

The Bolton TMP Study also concluded that a new GO Train station Figure 8 would only serve a portion of the population and does not entirely address the community's transit needs. In addition to serving passengers destined for Toronto, destinations to Brampton and Mississauga should also be carefully considered. The study also includes the following recommendations:

- Working with the Town of Caledon and stakeholders in Mayfield West to develop a local transit plan that identifies the most convenient routes, periods of operation and frequency of service for potential riders. Sufficient funding should be secured to maximize the potential of this long-term investment.
- Liaison with GO Transit regarding increased frequency on existing routes and the potential for
- new and more direct services.
- Discussions on improving access from Bolton to transit hubs identified in the Metrolinx Big Move. Downtown Brampton, Vaughan Metropolitan Centre and Pearson Airport are nearby anchor hubs. Gateway hubs in the vicinity include Humber College, currently served by route 38A via York Region, where an expanded bus loop is now being constructed offering connectivity with the TTC and other operators.
- Encouraging Brampton Transit to extend service to Bolton via the northeastern portion of the City of Brampton as that area develops.
- Reviewing, in consultation with York Region Transit, the potential for extending or connecting to the peak hour YRT service 61 that runs between King, Nobleton and Schomberg.
- Engaging with studies that may arise regarding a potential Highway 427 transitway.
- Assessing, in collaboration with Brampton Transit, MiWay and Peel Region, the effectiveness of amalgamating the transit services into a regional authority that can leverage its scale to expand into Bolton and Caledon.

Figure 8: Possible Location of Future GO Train Stations in Bolton



2.5.5 Town of Caledon Secondary Plan for Mayfield West Phase II – Transportation Master Plan (2016)

The Mayfield West Phase 2 – Transportation Master Plan was undertaken as part of the preparation of the Secondary plan for development. The Plan provides a strategic transportation framework that supports a broad range of options including walking, cycling, and public transit.

Public transit service is a significant component of the Plan. The plan recommends local bus services integrated with the transit services in adjacent municipalities and offer connections to GO rail stations and other destinations within Brampton.

Through an agreement with the developer, the Town of Caledon has committed to providing transit service in Mayfield West.

2.5.6 Caledon's Community Climate Change Action Plan

The Town's Community Climate Change Action Plan was adopted by Council in 2011, with the overall target to reduce greenhouse gas emissions by 17% below 2006 levels by 2021. The Transportation sector is the highest source of community greenhouse gas emissions in Caledon equating to 39% of the Town's GHG emissions and 48% of community expenditures in 2013. Emissions from the transportation sector have increased by almost 26% between 2001 and 2013 highlighting the importance and need for sustainable transportation solutions in Caledon.

The existing action plan includes recommendations for the development of a public transit service in Caledon, exploring opportunities to increase the availability and presence of GO transit, including a commuter rail service to Bolton, and pursue discussions with other transit authorities,

such as Brampton Transit to bring additional transit services into Caledon. The Town is currently in the process of updating its Community Climate Change Action Plan. Since the projection of Caledon's population is expected to vastly grow, in order to control and reduce emissions in Caledon will depend on the ability to increase sustainable transit options and adoption throughout Caledon.

2.6 Opportunities and challenges for transit

The study adopted a "made in Caledon" approach to assessing the potential benefits and issues associated with transit. This reflects Caledon's unusual situation of being a mostly rural municipality adjacent to the largest urban area in Canada.

2.6.1 Opportunities

Based on the policy environment, providing transit helps enable a number of opportunities for the Town, its businesses, its visitors, and the people who live or work in Caledon.

Inclusiveness and equity

- Employment and post-secondary opportunities for youth, by providing additional transportation options between residents and jobs or post-secondary institutions
- Independent living and reduced isolation for people with mobility issues and seniors, by providing a way to travel that does not require help from a friend or family member or use of a car
- Increased well-being for Caledon residents, by offering more ways for residents to access the things they need and enjoy
- Provide more options for commuters, by offering additional ways for them to travel

Economic vitality:

- Enhance businesses' access to customers and employees, by connecting them to a greater proportion of the local population
- Attract and retain youth and entrepreneurs, by reducing auto dependence
- Promote tourism, by enabling car-free travel by tourists within the town
- According to the 2013 GHG emissions inventory, the Transportation sector in Caledon equates to $136 million. If transit solutions are employed within Caledon, there could be opportunities to ensure the dollars spent on public transportation can stay local benefitting the Caledon economy.

Integration with land use:

- Enhance access to recreation and social programs
- Develop well-connected and transit-supportive communities
- Support growth intensification, by increasing the number of people that can be moved within the existing road network

Support for healthy living communities:

- Lower greenhouse gas emissions, through mode shift from cars to transit
- Increase walking and cycling for short-distance trips, as a complement to transit's strengths for longer trips

Customer experience

- Proximity to Brampton Transit, an award-winning system
- Bringing new young-generation families to Caledon

Financial Responsibility

- Ensure financial feasibility, by creating suitable transit options for Caledon

2.6.2 Challenges

Similarly, Caledon's characteristics create many challenges for the successful implementation and ongoing delivery of transit service to, form and within the town.

Costs and funding

- Costs of transit of providing transit and the resulting increases in property tax, requiring clear political support
- Achieving only 20-30% cost recovery from the farebox
- Limited funding and non-predictable transit grants in Ontario, resulting in uncertainly in long-term financial planning if the Town wishes to use grants to cover a significant proportion of the costs of transit

Customer experience

- Potential long waiting times, given likely headways of at least 30 minutes or more in the initial phases of service
- Travel to/from bus stops ("last mile" issue), given lack of sidewalk provision on many rural roads and presence of roads without sidewalks on one or both sides in Caledon's urban areas.

Sparse population / large geographic area

- Sparsely-populated areas and long-distance trips to/from/within Caledon increases the cost of service, as longer trips and a flat fare means less revenue per service-km

Infrastructure and sidewalks:

- Lack of sidewalks, amenities and transit-supportive development in Caledon, reflecting that Caledon has no history of local transit service provision
- Accessibility during adverse weather conditions (particularly snow) may deter transit use in those times and consequently depress transit usage, or require higher levels of service for winter maintenance activities such as snow clearance

Operation

- Achieving acceptable levels of service given long travel distances, as long routes may be more likely to suffer from delays

3 Project Consultation and Engagement

The study included extensive engagement with the public, external stakeholders, and internal staff. Early engagement work focused on setting the strategic direction for transit. This was formed part of the input used when creating the various types of service (section 8.1), such as “local service” and “external connectors”. It was also used in deciding the target markets for transit, as engagement input made it clear transit should serve both commuters and other trip purposes.

Later engagement work focused on reviewing and revising the various key outputs from the project team. This included the long-list of service options, the evaluation criteria and metrics, and the recommended prioritization. Feedback from stakeholders and the public was used to refine these outputs.

In addition, the project team engaged with specific stakeholders who could potentially help deliver transit service in Caledon, to understand their needs and requirements. This information was used in the recommendations for delivery methods for each service option.

Specific changes that arose as a result of engagement input are documented within the main body of the report. Table 36 (next page) lists all the engagement activities that took place.

During the stakeholder / public consultation meetings and based on Census and TTS data, we found that nearly half of all trips are within Caledon but, there is also a need in connecting to the neighboring municipalities because:

a. 70% of the people work outside of Caledon (that means we need more peak hour services to Brampton, Mississauga, Toronto and Vaughan).
b. 60% of post-secondary students go to Toronto Humber/Sheridan/YorkU/UofT (that means we need transit services during the school hours)

Also, based on the survey from more than 300 residents and the messages we heard from the meetings with staff and community groups, it was determined that:

c. About 20% of all respondents said they are likely to use take transit within Caledon, a bit more would take transit to outside of Caledon

d. Taking transit to go to work is the main reason, about 40%. Other reasons are going to medical appointments, recreations, social services, groceries, etc…
e. Transit should serve both within Caledon and adjacent areas
f. We should provide transit for those commuting to work and those who are in need for general transportation such as the young adults and the seniors
g. Transit should connect people from suburban and rural villages to the points of interest, to the community centers, to the transit hubs, to the employment areas in Brampton, Mississauga, Toronto, and Caledon.

Therefore, a long list of 26 transit services options was developed in consultation with staff, stakeholders and input from the public to provide the following objectives:

- Connecting 32 villages/hamlets/communities within Caledon and 6 municipalities outside of Caledon;
- Sustainable growth by connecting major residential and employment centres;
- Improve service delivery by facilitating local, regional and inter-regional commuter travel in a fiscally efficient manner;
- Good governance by supporting the broader economic, environmental and social objectives.

Through consultation with stakeholders and staff, the study team developed six goals for any transit service to align the service with the Town's strategic directions and Council Work Plan. These goals were then translated into quantifiable evaluation metrics, as shown Section 9.3 to prioritize 26 transit service options. Appendix G includes the details of the consultation and Public Information Centres (PIC) events.

Stakeholder service option workshop (19th March 2019)



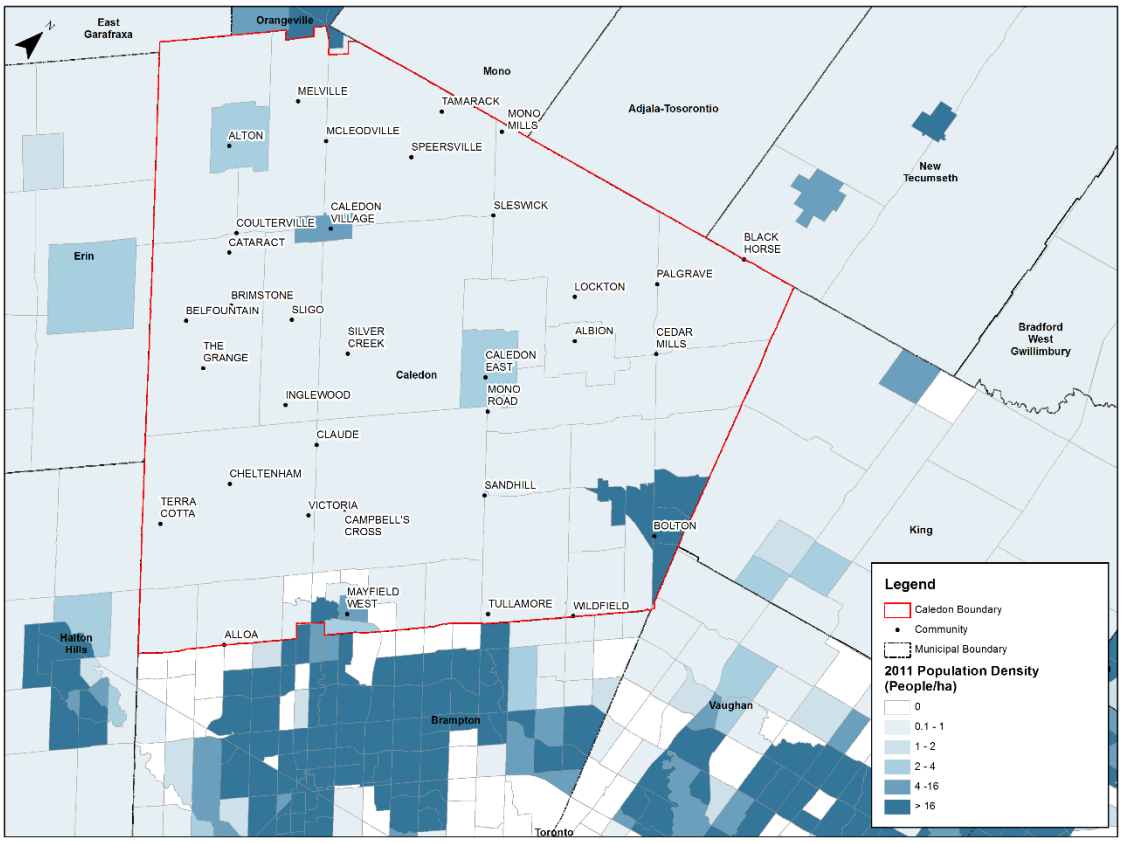
4 Demographic Analysis

4.1 Population

This chapter assess the current and future population and employment distribution in Caledon.

As of 2017, Caledon is home to 71,600 people. As illustrated in Figure 9, Bolton, Mayfield West and Caledon Village have the highest population densities in Caledon.

Figure 9: 2011 Population density of Caledon and surrounding area (People/ha)



Source: 2011 Transportation Tomorrow Survey

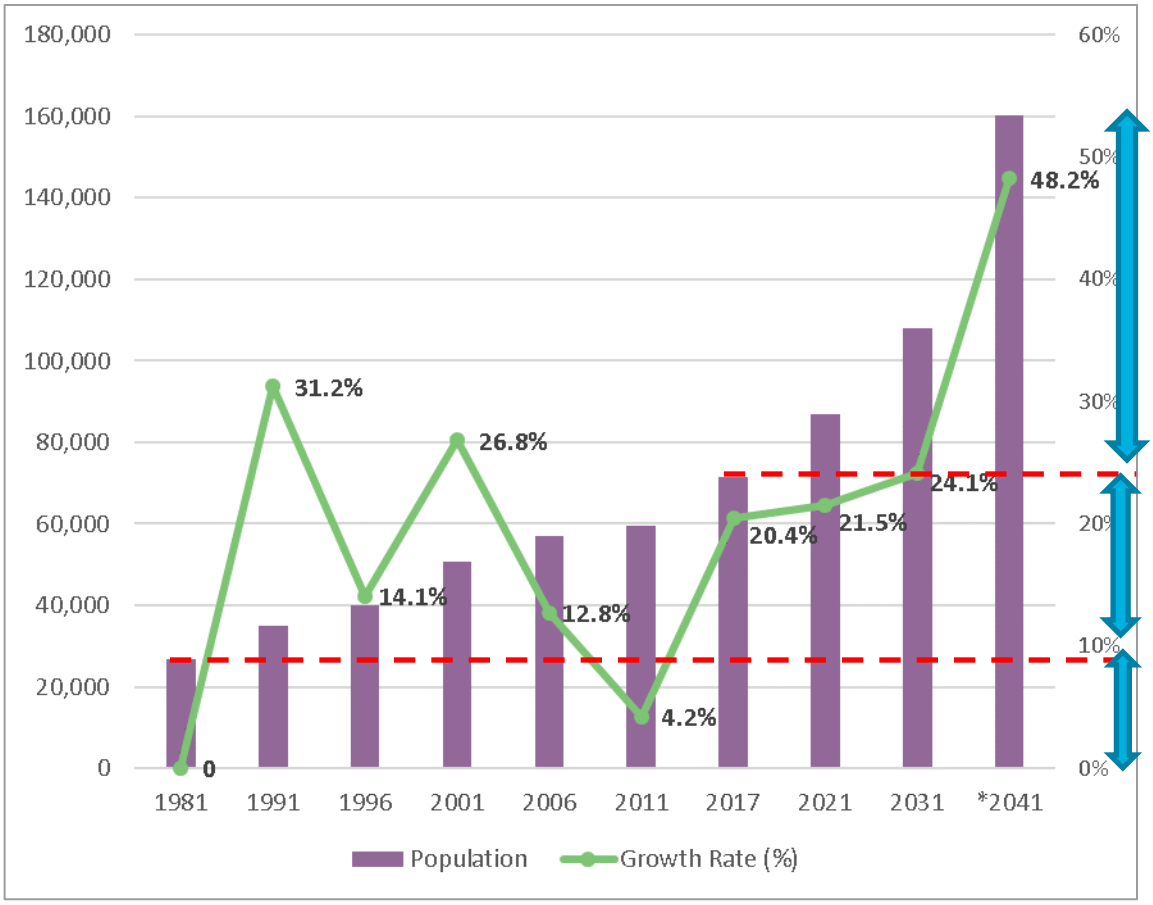
Since 2011, the community of Mayfield West has grown significantly (not shown in Figure 7). The population in Mayfield West has increased by approximately 70 percent, from 5,732 to 9,899 people[1].

4.1.1 Historical Population Growth

Caledon has experienced a slow and steady population at various growth rates throughout the year, as shown in Figure 10. Over the last 25 years the population of Caledon has been doubled and expected to be doubled over next 25 years. In 2041, the population is expected to experience a significant increase. Amongst the individual communities, the situation has been more varied. From 2006 to 2011, the Bolton population grew by 2 percent, and from 2011 to 2017 the population declined by approximately 3 percent. Generally, the town has grown by 16 percent, from 57,050 in 2006 to 71,600 in 2017.

[1] Growth was calculated using aggregate data from the 2011 Transportation Tomorrow Survey (TTS) and the 2016 Census Program. Boundaries of Mayfield West are Mayfield Rd, Chinguacousy Rd, Old School Rd and Dixie Road. 2016 TTS data was not available at the time of this study. (Note: TTZ survey boundaries do not conform to Census dissemination area boundaries).

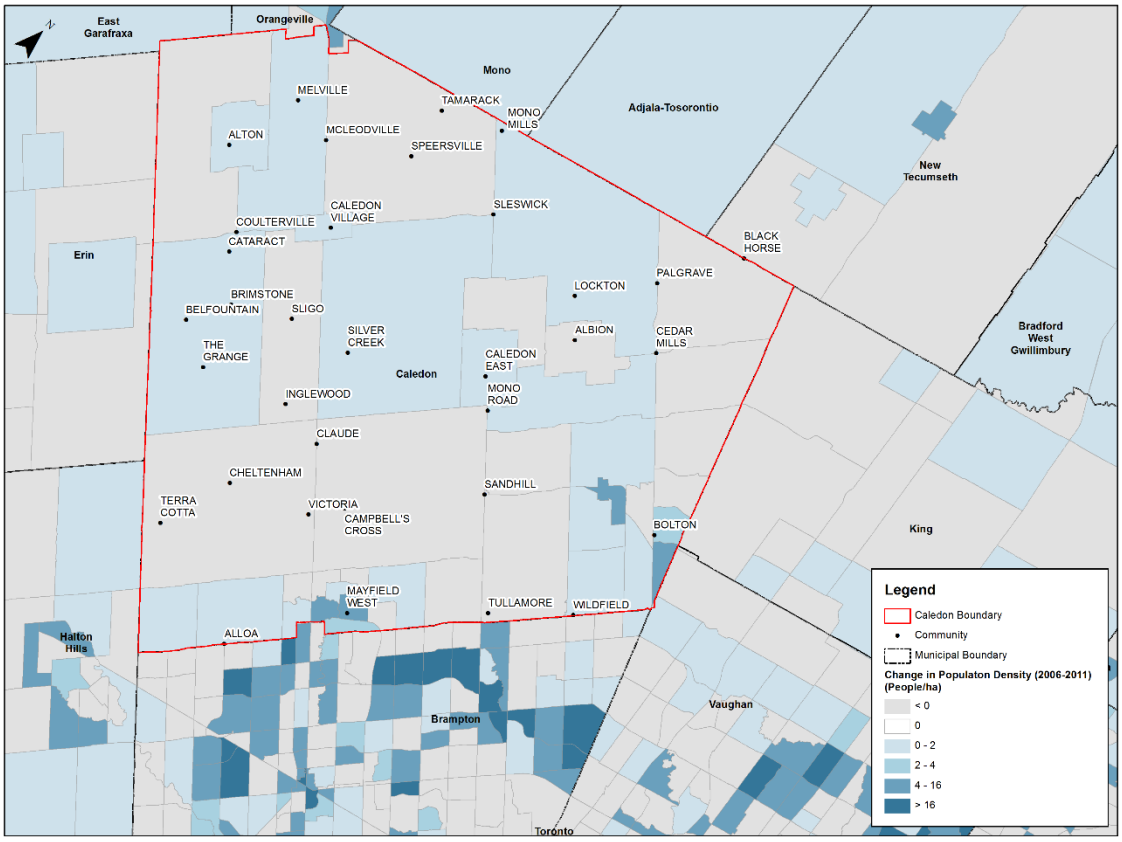
Figure 10: Historic Total Population and Growth Rate



Source: Statistics Canada 2016 Census; Town of Caledon population forecasts; Region of Peel 2041 Total Population by Municipality and Planning Community Area (*2041 population allocations not approved by Council at the time of study)

Figure 11 shows there is an overall increase in population density (people/ha) in the Mayfield West and Bolton, and a slight decrease in the smaller communities such as Inglewood. With future population allocations focused in Mayfield West and Bolton, there is a strong incentive to ensure there is adequate transport connections to support growth in these upcoming areas.

Figure 11: Population density change from 2006 to 2011 (People/ha)

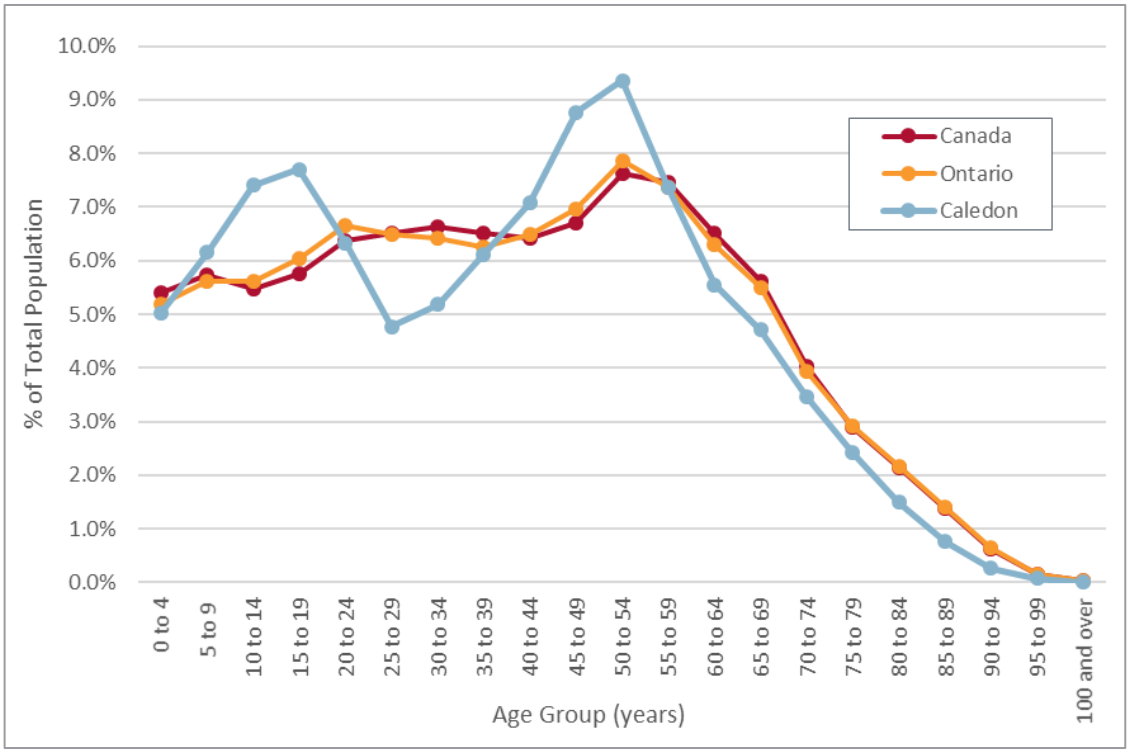


Source: 2011 Transportation Tomorrow Survey

4.1.2 Population Age Distribution

Shown in Figure 12, Caledon's current age distribution reveals a slightly larger share of seniors than young adults (20 to 39 years old). About 13 percent (8,595) of Caledon's population will be entering retirement in 10 years or less. Compared with Ontario and Canada, Caledon has significantly more people aged 45-59 (the tail end of the Baby Boom generation) and aged 5-19 (their children). If the former (45-59) remains in Caledon, this group will create a shift from commuting trips to non-commuting trips. This implication should be considered in future long-term transit plans.

Figure 12 Population age distribution for Caledon, Ontario and Canada (2016)



Source: Statistics Canada 2016 Census

4.1.3 Future Population Growth

To achieve a compact and urban form, the Province has established new intensification targets in existing built-up areas in the Growth Plan. By the year 2041, Caledon's population is expected to more than double (from 2017) to 160,080 people. Table 1 shows how population increases are assigned by land use type.

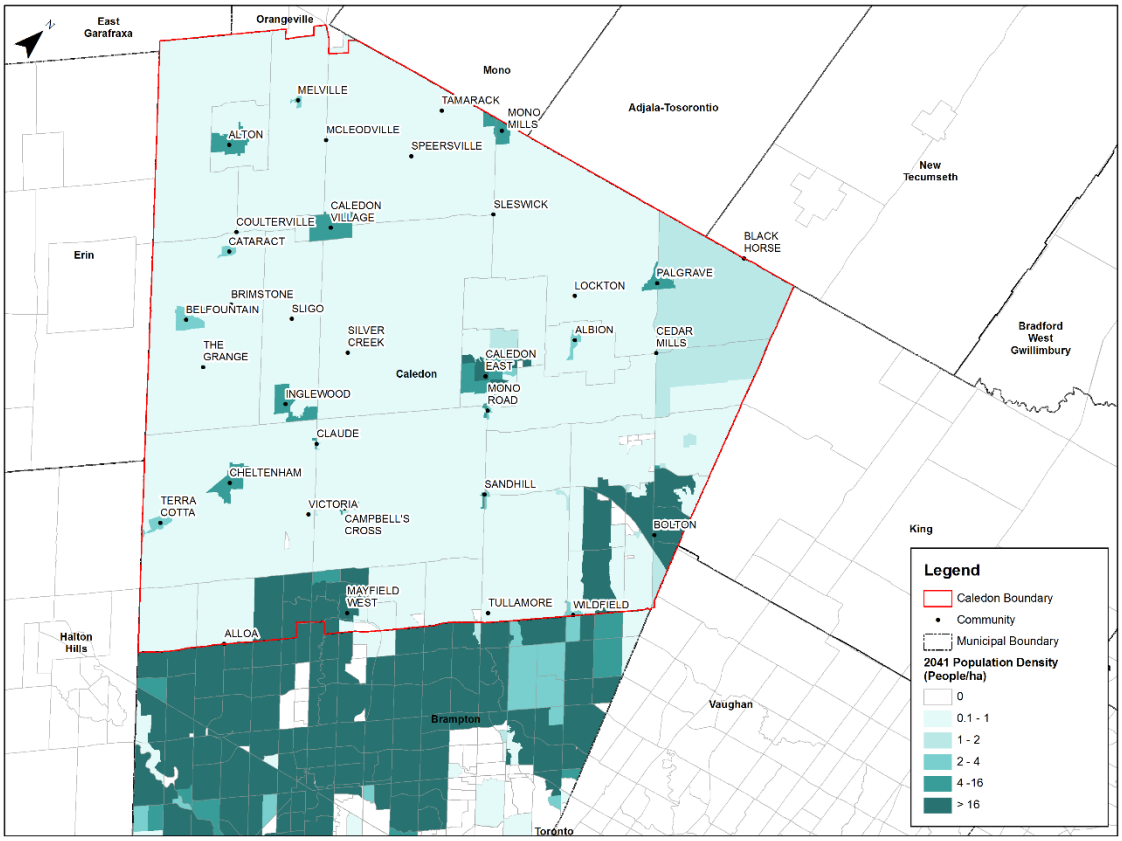
Table 1: 2021/2041 Population Allocations

Land use type	Historical Population	2021 Population	2031 Population	2041 Population	Change (2021 to 2041)
Rural Service Centres	-	54,825	75,054	129,710	74,885 (+137%)
Villages	6,395	7,428	7,428	6,820	- 608 (-8%)
Hamlets	1,536	1,343	1,343	1,170	- 173 (-13%)
Industrial/Commercial Centres	176	175	175	1,010	835 (+477%)
Palgrave Estate Residential Community	-	4,865	5,371	6,200	1,335 (+27%)
Rural Lands, Prime Agricultural Area, and General Agricultural Area	-	18,365	18,629	15,170	3,195 (-17%)
Total	-	87,001	108,000	160,080 (+24%)	73,079 (+84%)

Source: Town of Caledon Official Plan; Region of Peel 2041 Total Population by Municipality and Planning Community Area (pending Council approval)

The population allocations represent interim budget allocations only, and will be amended as future studies are completed. Figure 13 illustrates the 2041 forecast population density.

Figure 13: 2041 forecast population density



Source: 2041 forecast population data provided by the Region of Peel (*2041 population allocations are for Peel Region only and are draft until approved by Council)

To achieve the 2041 population target, 80 percent of the population will be in the Rural Service Centres (Bolton, Mayfield West and Caledon East). As greater levels of population density are expected in the future, the development of transit service options will require greater priority in these areas.

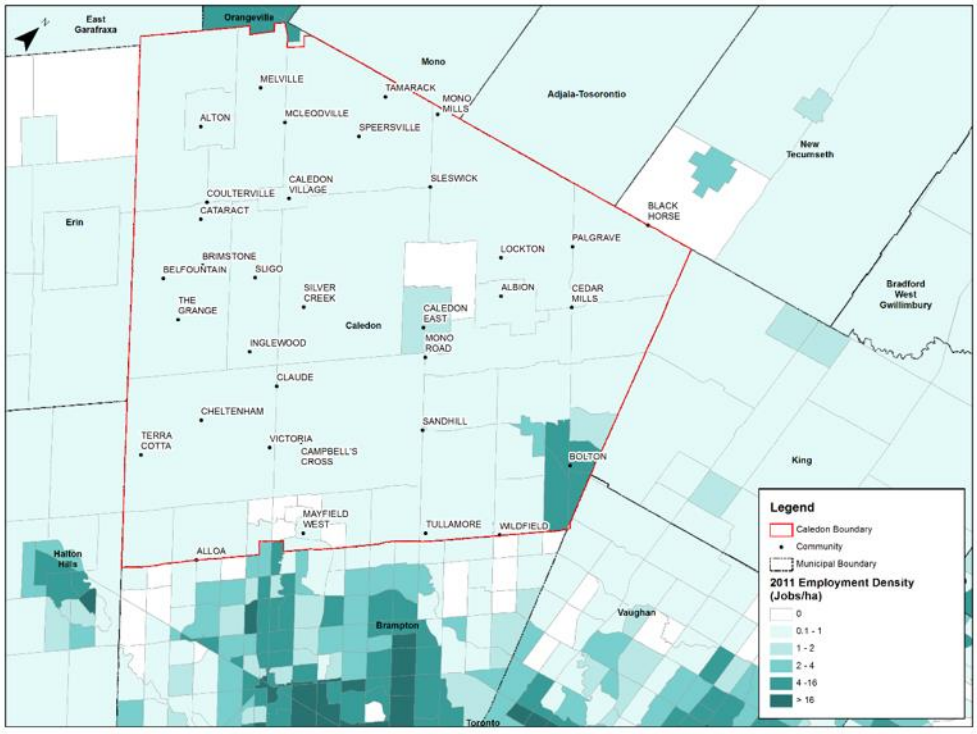
Apart from Inglewood, future growth in the Villages, Hamlets and Industrial Centres have not been individually established in Caledon's Official Plan. In the interim, future population growth forecasts for these communities are allocated based on their historic populations. Official Plan amendments to refine population allocations may take place as Village Studies are completed in the future. Inglewood has undergone a Village Study prior to the Official Plan consolidation in 2016, and therefore has its 2021 assigned population included in analysis for this study.

4.2 Employment

4.2.1 Existing employment

As shown in Figure 14, employment density in Caledon follows a similar geographic distribution to population density. This suggests that transit service to residential communities will also generally serve employment areas as well.

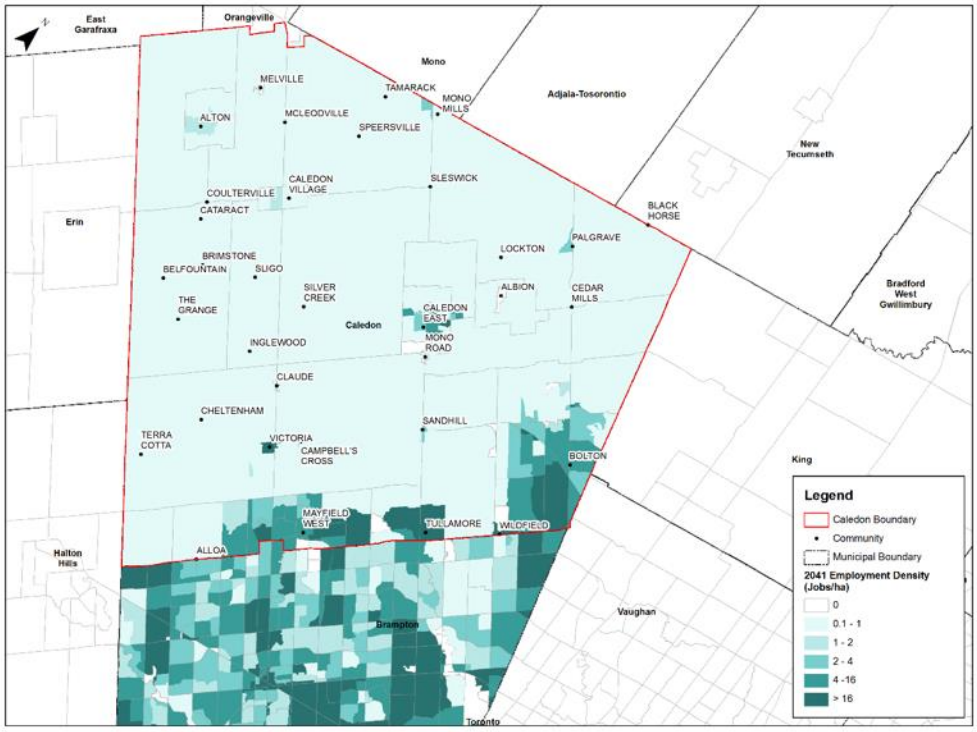
Figure 14: 2011 Employment Density (Jobs/ha)



Source: 2011 Transportation Tomorrow Survey

4.2.2 Future Employment Growth

Figure 15: 2041 Forecast employment density



Source: Peel Region 2041 Total Employment by Municipality and Planning Community Area. (*2041 population allocations are for Peel Region only and are draft until approved by Council)

As shown in Figure 15, Mayfield West and Bolton are expected to become major growth areas for employment in the 2041 horizon. As the settlement boundaries of Bolton expand westward, employment in the peripheral areas are also expected to grow. A similar effect can also be observed for Mayfield West as the community there develops. Given the high rate of employment growth in adjacent municipalities such as Brampton and Mississauga, transit options in Caledon will need to meet both inter- and intra- municipal commuter needs.

5 Performance Review

This chapter includes information on the characteristics and financial performance of transit systems in municipalities of a similar population to Caledon.

Caledon has a population of about 71,600 and an area of 688km². Like many municipalities with a smaller population, Caledon is faced with the challenge of providing services with limited or potentially reduced levels of funding while continuing to satisfy the growing needs of the community.

Table 3 compares various operating, financial and performance data for conventional transit with populations ranging from about 50,000 to 150,000. This data was obtained from the Canadian Urban Transit Association's 2015 Canadian Transit Fact Book for conventional transit. This data can be used a high-level budget comparison for a potential conventional transit system in Caledon.

In general, the terms used in the 2015 Canadian Transit Fact Book are defined as the following:

- Service Area Population: represents the population living within an area (within 400 meters from a service route) receiving regular transit service.
- Total Operating Revenues: includes the total revenue generated from regular passenger services (e.g. cash, tickets, passes), contract revenue (e.g. school or college passes, local charters), advertising and parking lot charges.
- Total Direct Operating Expenses: includes transportation operation expenses, fuel/energy for vehicles, vehicle maintenance, plant maintenance, and general administration.
- Municipal Capital/Operating Contribution: represents the municipal funding that is sourced from residential property taxes.
- Revenue Vehicle Hours: sum of revenue passenger service hours and layover hours

Amongst the systems listed, the median annual operating cost is $147,000 per bus, while the median municipal operating contribution is $46/person. Although Caledon's population is roughly in the middle of this group, its area is substantially larger. This suggests that the operating models employed by this group would need to be adapted to fit Caledon's needs.

To evaluate how much the operating expenses are met by the fares paid by passengers, Table 2 shows the farebox recovery ratio for each transit system listed in Table 3. This ratio gives a general illustration of how much the total operating expenses are supported by passenger fares. A lower farebox recovery ratio implies more pressure on the municipality to increase taxes, pursue higher fares or limit services to maintain a conventional transit system.

Table 2 also show the municipal contribution (subsidy) and total operating costs per person.

Table 2: Farebox Ratios for selected transit systems

Transit System	Farebox Recovery Ratio (Total Operative Revenue/ Total Direct Operating Expenses)	Municipal contribution per person	Operating cost per person
Deseronto	44%	$4.83	$17.58
Cornwall	27%	$54.31	$87.16
Belleville	42%	$46.45	$82.91
Welland	31%	$38.95	$86.70
North Bay	51%	$43.63	$108.97
Sarnia	28%	$49.70	$79.21
Niagara Falls	48%	$69.30	$99.86
Brantford	35%	$46.89	$90.23
Milton	31%	$23.84	$36.10

Source: CUTA Factbook 2015

North Bay shows the highest recovery ratio, and Cornwall demonstrates the lowest recovery ratio. While these municipalities are like Caledon in population size, the farebox recovery ratios are variable and highly dependent on contextual factors. A potential conventional transit system in Caledon will need to consider the Town's geography, demographics, location of key amenities, and population density in the context of these factors.

Table 3: Municipal costs for conventional transit systems

Transit System	Municipal Population	Service Area Population	Service Area (km$^{2)}$	# of Active Vehicles	Total Operating Revenues	Total Direct Operating Expenses	Municipal Capital Contribution	Municipal Operating Contribution	Revenue Vehicle Hours
Deseronto	21,485	13,974	464	4	$130,790	$299,606	N/A[1]	$67,500	5,401
Cornwall	46,340	46,340	62	16	$1,100,733	$4,038,872	N/A[1]	$2,516,697	37,159
Belleville	49,454	37,000	247	15	$1,718,284	$4,100,117	N/A[2]	$2,297,241	43,338
Welland	50,331	48,000	86	22	$1,331,368	$4,363,478	N/A[1]	$1,960,619	34,851
North Bay	53,651	49,000	315	24	$2,989,894	$5,846,107	$949,379	$2,340,677	62,400
Sarnia	71,420	71,420	167	23	$1,611,908	$5,657,473	$200,000	$3,549,326	N/A
Niagara Falls	85,000	80,000	81	27	$4,078,626	$8,488,355	$105,930	$5,890,782	79,949
Brantford	97,499	97,499	75	31	$3,040,425	$8,797,135	$521,405	$4,571,708	76,149
Milton	103,700	84,973	36	18	$1,150,720	$3,743,486	$288,951	$2,471,693	33,338

[2] No data available

6 Existing and Planned Service Review

6.1 Existing Services

This chapter reviews the existing fixed-route and specialized services operating within Caledon. It also examines the planned services changes for operators of those services and services in other adjacent municipalities.

There is currently no local public transit service operated by the Town of Caledon. Some parts of Caledon are served by GO Transit and Brampton Transit, with the latter paid for by the Town of Caledon under a cost-sharing agreement. There is also service that operates close to Caledon which is offered by York Region Transit (YRT) and Orangeville Transit.

6.1.1 Brampton Transit

Table 4 shows the Brampton Transit routes that operate near or extend into Caledon at Caledon-Brampton border. In the context of this summary, AM peak period refers to 6:00AM – 9:00AM, and PM peak period refers to 15:00PM – 18:00PM. The ridership activity of these services is reviewed in Chapter 6, Travel Pattern Analysis. Overall Brampton transit service map is shown in Figure 16.

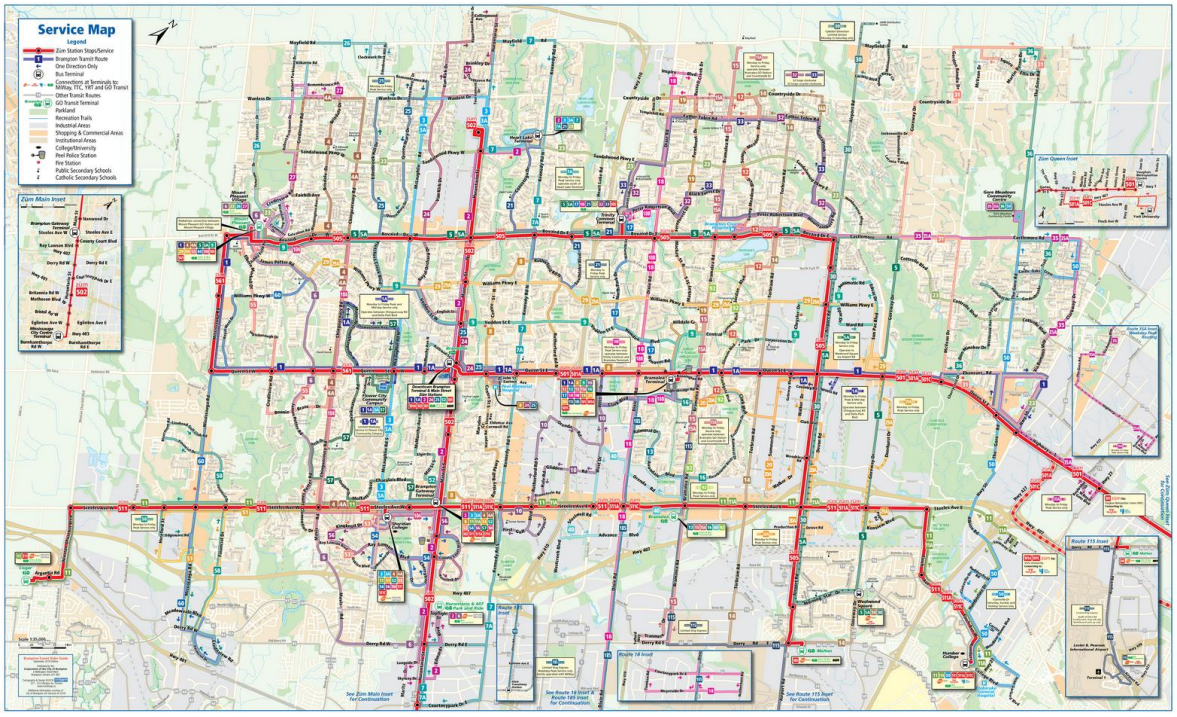
Table 4: Summary of Brampton Transit routes operating near Caledon

Route Name	Peak Headways		# of Buses during peak period		Fare[3]	Major Stops
	SB	*NB*	*SB*	*NB*		
7 KENNEDY (Figure 17)	AM: 14-15 min	AM: 14-15 min	AM: 13 buses	AM: 13 buses	$3.75	Kennedy Rd./Steeles Ave/Queen St./Heart Lake Terminal
	PM: 14-15 min	PM: 14-15 min	PM: 14 buses	PM: 24 buses	PRESTO: $2.95	
15/15A BRAMALEA (Figure 18)	AM: 20 min	AM: 30 min	AM: 9 buses	AM: 12 buses	$3.75	Bramalea Rd/Father Tobin Road/Bramalea Terminal/Derry Rd.
	PM: 15-20 min	PM: 20-23 min	PM: 9 buses	PM: 8 buses	PRESTO: $2.95	

[3] Fare is calculated based on the price of 1 single-ride adult ticket

Route Name	Peak Headways		# of Buses during peak period		Fare[3]	Major Stops
24 VAN KIRK (Figure 19)	AM: 22-32 min	AM: 30 min	AM: 6 buses	AM: 6 buses	$3.75	Main St./Van Kirk Dr./Hurontario St.
	PM: 30 min	PM: 30 min	PM: 6 buses	PM: 6 buses	PRESTO: $2.95	
30 AIRPORT RD[4] (Figure 20)	AM: 8-14 min	AM: 6-16 min	AM: 16 buses	AM: 16 buses	$3.75	Westwood Mall Terminal/Airport Rd/Mayfield Rd.
	PM: 10-16 min	PM: 7-20 min	PM: 17 buses	PM: 16 buses	PRESTO: $2.95	
31 MCVEAN (Figure 21)	AM Peak: 6-15 min	AM Peak: 6-16 min	AM Peak: 6 buses	AM Peak: 5 buses	$3.75	Mayfield Rd./Goreway Dr./McVean Dr./Queen St.
	PM Peak: 8-16 min	PM Peak: 7-20 min	PM Peak: 7 buses	PM Peak: 8 buses	PRESTO: $2.95	

Figure 16: Brampton transit existing map



The 30 AIRPORT RD service (Figure 19) operates partially within Caledon; the Town pays Brampton Transit around $60,000 per year for this, based on a formula used by TTC for providing service in York Region. It is possible this cost-sharing formula would need to be revised if there is more extensive use of Brampton Transit's operations within Caledon.

[4] Frequencies on 30 AIRPORT ROAD refer to the transit stops at Airport Rd & Mayfield Rd

Figure 17: Route 7 Kennedy

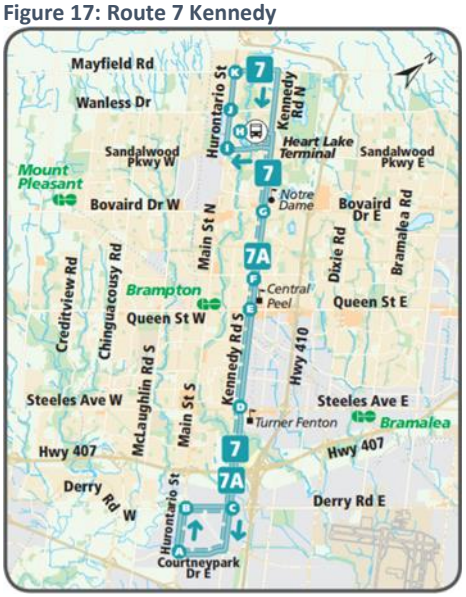


Figure 18: Route 15/15A Bramalea



Figure 19: Route 24 Van Kirk



Figure 20: Route 30 Airport Rd

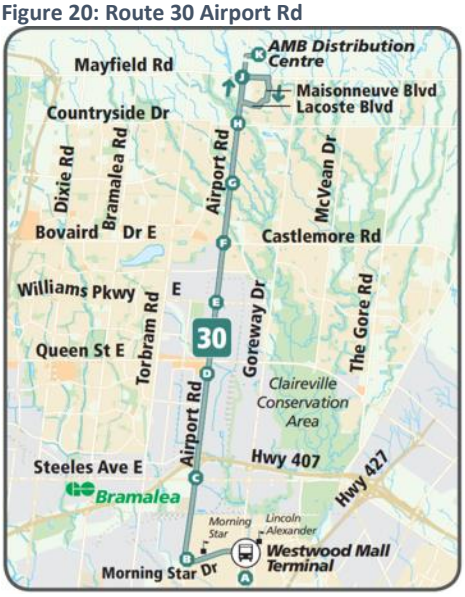
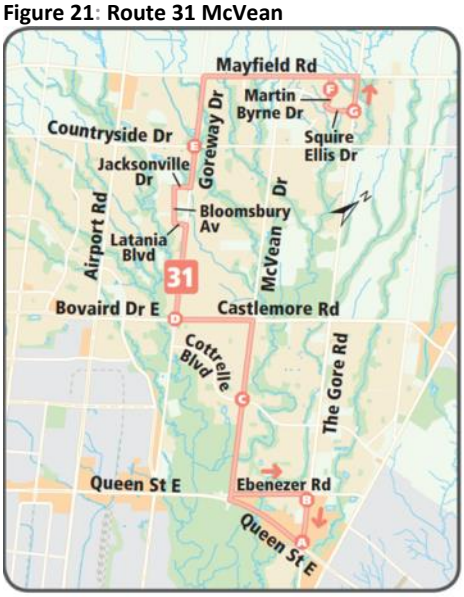


Figure 21: Route 31 McVean



6.1.2 GO Transit

Summarized in Table 5, inter-regional commuter bus service is currently provided by GO Transit.

Table 5: Summary of GO Bus routes operating near Caledon

Route Name	Peak Frequency		# of Buses during peak period		Fare[5]	Major Stops
	SB	*NB*	*SB*	*NB*		
37 BRAMPTON-ORANGEVILLE (Figure 22)	AM: 60 min	AM: No Service	AM: 2 buses	AM: 0 buses	$12.60	Orangeville Mall/ Orangeville Park n' Ride/ Hwy 10 @ Buena Vista Dr./ Hurontario St. @ Travelled Rd./Victoria/Snelgrove/ Brampton GO/ Bramalea GO/Union Station
	PM: 14-15 min	PM: 30-60 min	PM: 2 buses	PM: 5 buses	PRESTO: $11.19	
38 BOLTON-MALTON (Figure 23)	AM: 47-73 min	AM: N/A	AM: 3 buses	AM: 0 buses	$9.20	Bolton/Bolton South Park and Ride/Woodbridge/Malton GO/ Union Station
	PM: No Service	PM: 45-60 min	PM: 0 buses	PM: 4 buses	PRESTO: $8.17	
38A BOLTON-NORTH YORK (Figure 23)	AM: 43 min	AM: No Service	AM: 2 buses	AM: 0 buses	$9.20	Caledon/Nobleton/Kleinburg/ Woodbridge/Humber College/ Etobicoke North GO/Yorkdale GO/York Mills GO/ Union Station
	PM: No Service	PM: 60 min	PM: 0 buses	PM: 2 buses	PRESTO: $8.17	

[5] Fares are calculated based on the cost of a single-ride adult ticket for the distance of the entire route.

Figure 22: Route 37 Brampton/Orangeville

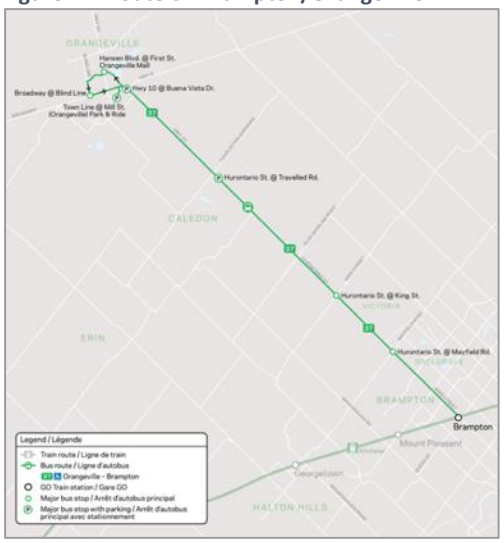


Figure 23: Route 38/38A Bolton North York/Malton



6.1.3 York Region Transit (YRT)

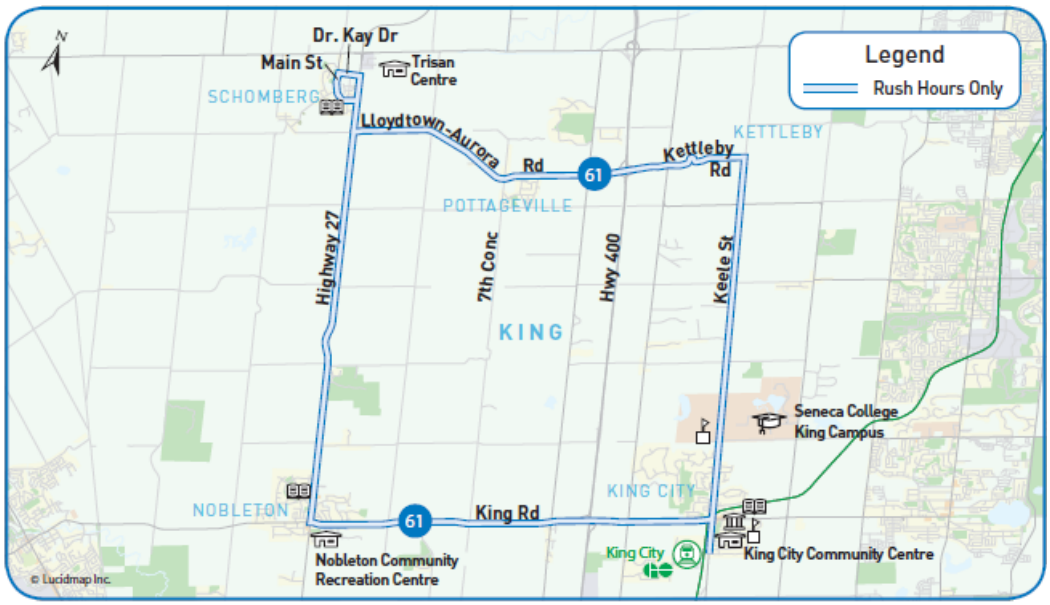
York Region Transit currently does not provide service into the Town of Caledon. However, YRT service extends to Nobleton (5 km from the Caledon boundary) on Route 61 King Local, a dial-a-ride service between King City, Nobleton, and Schomberg (Figure 24). This route is served Monday to Friday, and requests for pickup and drop-off can be made at any bus stop serviced by the route (Table 6).

Table 6: Summary of YRT routes near Caledon

Route Name	Peak Frequency		# of Buses during peak period		Fare	Major Stops
	SB	*NB*	*SB*	*NB*		
61 KING LOCAL (Figure 24)	AM 5:30 AM - 7:50 AM	AM 5:30 AM -7:50 AM	No Service	No Service	$4.00	*Stops can be requested at any us stop services by the route.
	PM 5:30 PM - 7:30 PM	PM 5:30 PM - 7:30 PM			PRESTO/Viva Pay: $3.63	

Source: York Region Transit

Figure 24: YRT route 61 KING LOCAL



Source: York Region Transit

6.1.4 Orangeville Transit

The Town of Orangeville lies just beyond Caledon's northwest boundary and is an important destination for Caledon residents in that area.

While Orangeville Transit offers service on three routes throughout the Town of Orangeville, the service does not operate in Caledon. The three routes converge at the Fourth Avenue transfer point every half hour. Operation of the service is contracted to First Student Canada (formerly Laidlaw). Buses operate Monday to Friday from 7:15 AM to 8:45 PM, and on Saturday from 7:15 AM to 6:15 PM. See Table 7 for a summary of Orangeville Transit's services. Figure 25 shows the map of Orangeville Transit Service.

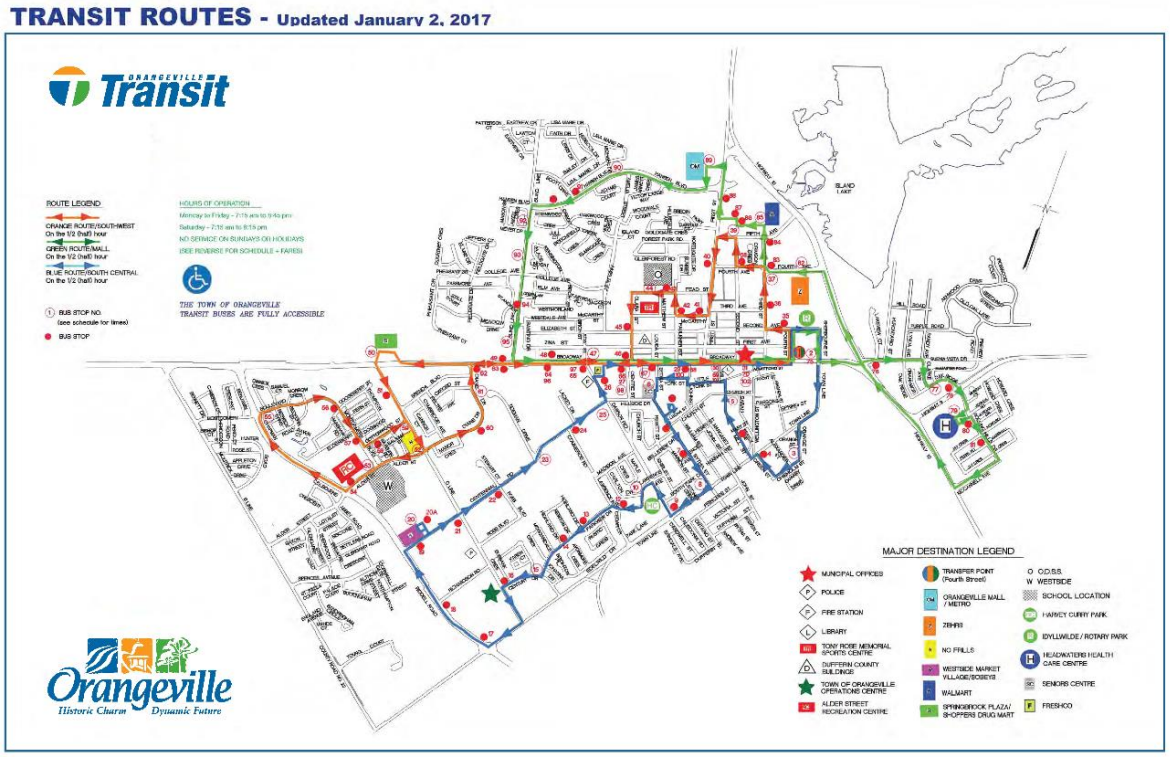
Table 7: Summary of Orangeville Transit services

Route Name	Peak Frequency		# of Buses during peak period		Fare	Major Stops
ORANGE ROUTE/SOUTHWEST	AM: 30 min	AM: 30 min	AM: 4 buses	AM: 4 buses	$2.00	Fourth St/Third St. @ Fourth Ave/Fifth Ave @ Second St./ODSS-TONY ROSE/Broadway @ Ada St./Springbrook Plaza/Alder Street @ No Frills/Alder Street (Westside School)/Montgomery @ Riddell Rd/Cottonwood St (No Frills)/Diane Drive @ Oxford/Broadway @ Bythia St
	PM: 30 min	PM: 30 min	PM: 6 buses	PM: 6 buses	*PRESTO unavailable	
GREEN ROUTE/MALL	AM: 30 min	AM: 30 min	AM: 4 buses	AM: 4 buses	$2.00	Fourth St/Oakridge Dr @McMaster/Hospital/Fourth Ave (Zerhs)/Walmart/

	PM: 30 min	PM: 30 min	PM: 6 buses	PM: 6 buses	*PRESTO unavailable	Orangeville Mall/Hansen Blvd @Michael Dr/Blind Line @Hansen Blvd/Blind Line @Broadway/Broadway @Centre St/Broadway @Second St./
BLUE ROUTE/SOUTH CENTRAL	AM: 30 min	AM: 30 min	AM: 4 buses	AM: 4 buses	$2.00	Fourth St/Sherbourne St. @Town Line/Orange St @Chisholm St/Mill St @Church St/Seniors Centres Bythia St/Bythia St @Town Line/Lawrence/Century Dr @School/Westside Market Village/Centennial Rd @Tideman Dr./Centenial Rd. @Dawson Rd./Broadway @Mills St.
	PM: 30 min	PM: 30 min	PM: 6 buses	PM: 6 buses	*PRESTO unavailable	

Source: Orangeville Transit

Figure 25: Orangeville Transit map



6.1.5 Paratransit services

Ontario's Accessibility for Ontarians with Disabilities Act, 2005 (AODA) requires transit agencies to meet accessibility requirements under various standards, The Transportation Standard will require transit agencies to put in place a comprehensive set of measures, including transit vehicle equipment standards, accessible boarding and deboarding of vehicles, accessibility plans, and such. Implementing best practices in transit accessibility improves transit service and can help transit agencies prepare for the Standard. CCS and TransHelp are existing transit services that providing accessible transportation services.

Caledon Community Services

Caledon Community Services (CCS) is Caledon's largest human service provider and is home to the community's only accessible transportation program along with a broad range of other services.

Beginning in 1989, funding from the Ministry of Health & Long Term Care (MOHLTC) has enabled CCS to provide specialized accessible transportation options to Caledon seniors and adults with disabilities who are unable to drive. In addition, CCS is the Region of Peel's contracted TransHelp service provider, providing transportation to Caledon residents using mobility aids and to people with visible and invisible disabilities that include physical, sensory, cognitive and mental health. This partnership with TransHelp began in 2002.

The CCS transportation service is provided using a shared ride model, transporting multiple clients, whose rides are subsidized by different levels of government, traveling on the same bus to different destinations. The service provides transportation to Caledon residents with a variety of needs including but not limited to regular medical and social service appointments, therapy, day programs, shopping and leisure trips. In addition to Caledon destinations, CCS provides specialized transportation services to Brampton, Mississauga, Etobicoke, Toronto, and Woodbridge, Georgetown, Newmarket, Orangeville, Alliston and other neighbouring communities.

Current Client eligibility include:

- All Caledon residents aged 60 and over
- Residents who are unable to drive due to a short- or long-term disability
- Residents who are experiencing mobility issues
- Residents who are temporarily unable to drive themselves
- Residents who require dialysis
- TransHelp clients (see below)
- York Region and Wheel Trans transfer rides

The CCS Transportation Program provides door-to-door service seven days/week. All trips originate in Caledon. Many trip destinations are in Caledon or to designated locations out of the Town's geographical borders.

CCS Transportation hours of operation:

- Monday-Saturday 6:00am to 6:00pm
- Sunday, 6:00am to 2:00pm.
- All TransHelp clients are supported outside of these hours until 1:00am.

CCS has a current fleet that includes 8 accessible buses, 2 accessible vans, 1 passenger van and 1 car. The program is delivered through paid drivers and scheduling staff as well as through volunteers who use their own vehicles and are compensated by km driven to support their gas costs. Fares vary from $3.75 to $30.00 one-way, depending on the destination.

TransHelp

TransHelp is an agency that provides service for people with disabilities throughout Peel Region. In Mississauga and Brampton, this paratransit service is a legal requirement, because those municipalities operate conventional transit service. Its services are available to all residents who would experience a barrier to using conventional public transit across Peel Region. TransHelp is a shared rider service and users pay the same fare as conventional public transit. Peel Region has chosen to include Caledon in TransHelp's service area. For Caledon residents, TransHelp contracts Caledon Community Services to provide some of its service. (see service times above).

6.1.6 Taxi Services

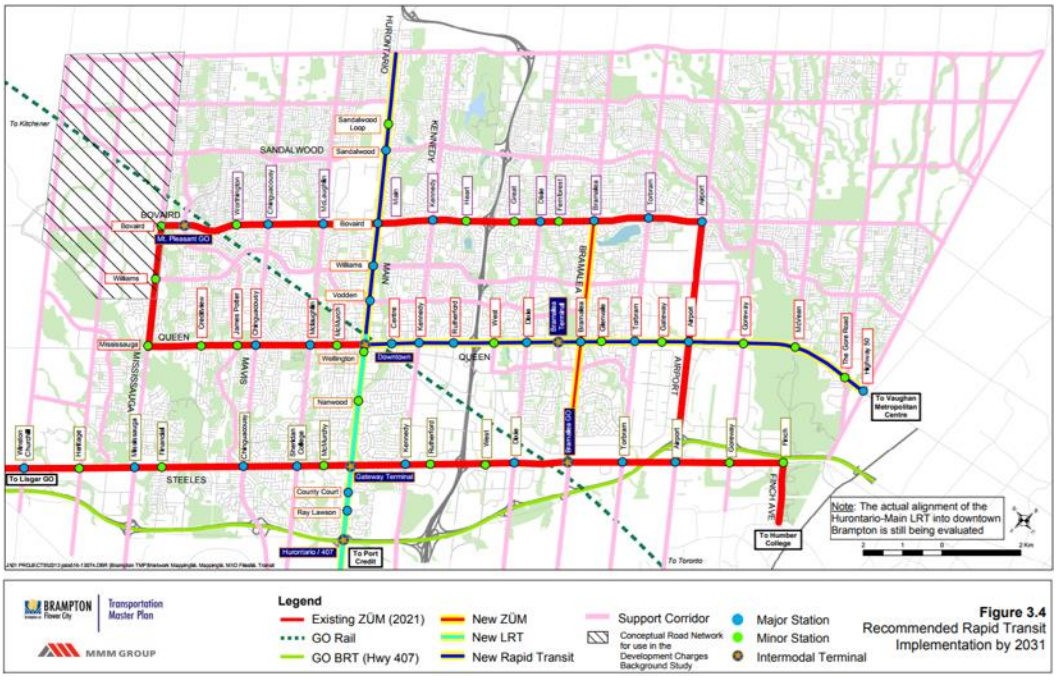
Taxi services in Caledon provide residents with a demand-responsive transportation option. Taxi vehicle licensing, driver permits, and brokerage are currently administered and regulated by the Town of Caledon.

6.2 Planned Services

6.2.1 Brampton Transit Five Year Plan

Brampton Transit Five Year Business Plan (2013-2017) includes various additional Züm corridors, but these are not planned to be extended into Caledon. However, the recommended network by 2031 in Brampton's Transportation Master Plan update includes the addition of a Rapid Transit corridor connecting Mayfield West to the planned LRT terminus in downtown Brampton.

Figure 26: Brampton Transportation Masterplan Recommended Rapid Transit Implementation by 2031



Source: City of Brampton Transportation Master Plan Update, 2015

6.2.2 Brampton Transit in 2041

Brampton's population is planned to increase by 72% from 2011 to 2041. This growth will be accompanied by a significant increase of transit demand of 235%. This forecast is also based on an improved transit mode share.

According to the City of Brampton 2015 Transportation Master Plan Update, the transportation demand modal scenarios for 2041 identify where additional transit priority infrastructure may be required (Figure 27).

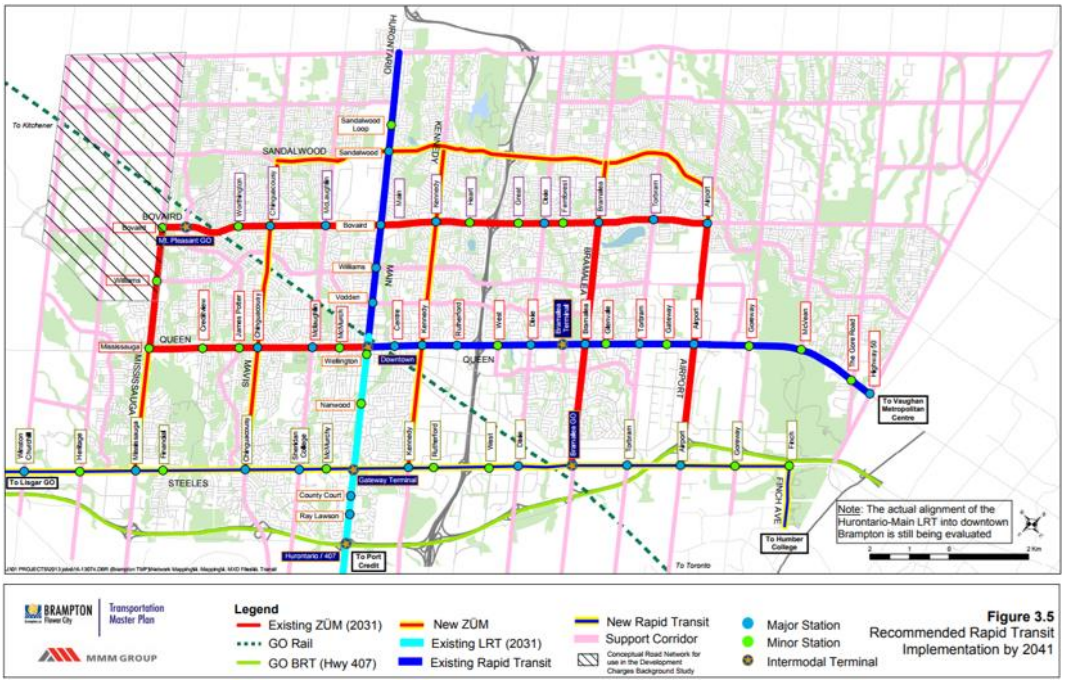
Figure 27: Brampton 2041 Model Output, corridors greater than 1,000 passengers/direction in peak period



Source: City of Brampton Transportation Master Plan Update, 2015

The 2041 transit plan includes an additional Rapid Transit corridor on Steeles Ave as well as additional ZÜM corridors. Additional major corridors identified for Züm transit facilities are shown in Figure 28.

Figure 28: Recommended Rapid Transit Implementation by 2041

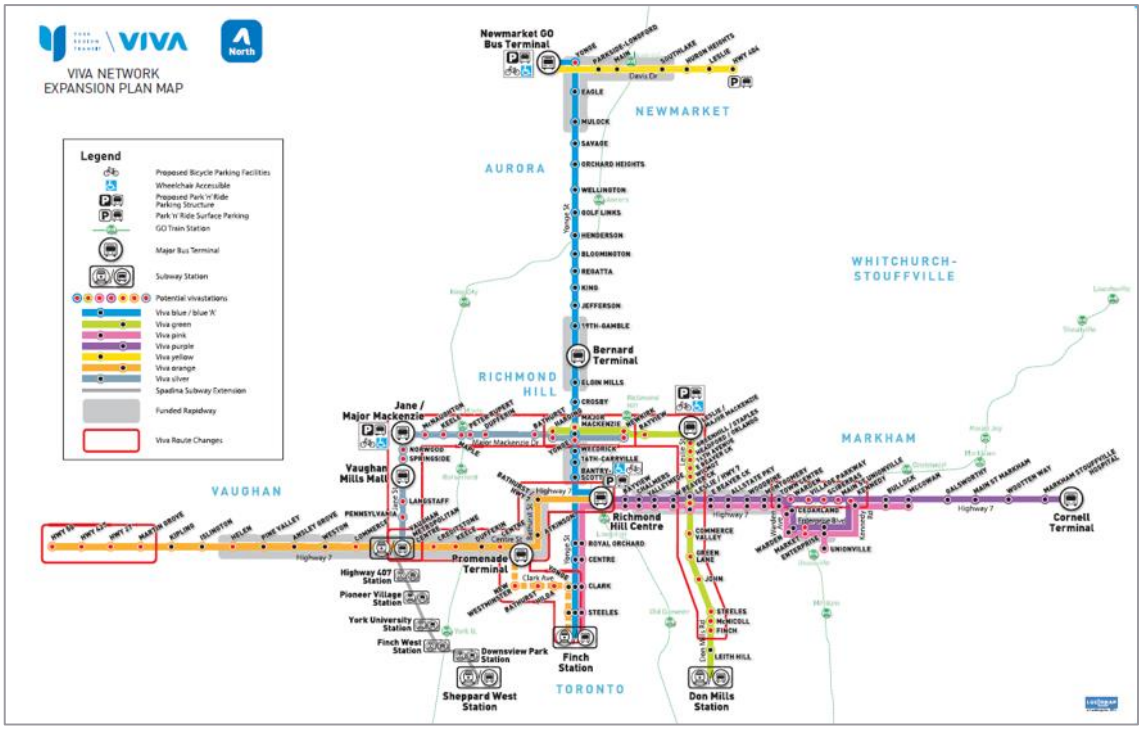


Source: City of Brampton Transportation Master Plan, 2015

6.2.3 York Region Transit 2020 and 2041

York Region's YRT/Viva service is set for expansion to accommodate new population and employment growth in the Region. Travel time and service reliability will be improved by implementing the Viva Network Expansion Plan (shown in Figure 29), which is expected to be completed by the year 2020. Enhanced and new or restructured services are planned along Yonge Street, Major Mackenzie Drive, Leslie Street, Jane Street, and Highway 7.

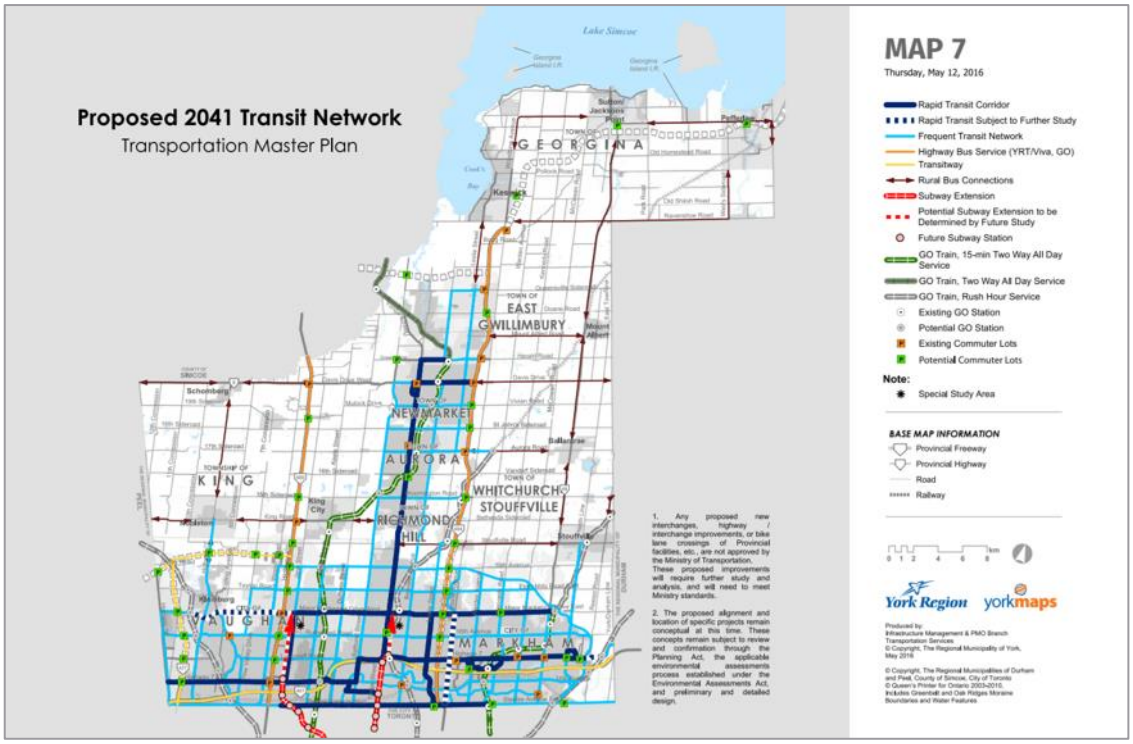
Figure 29: Viva network 2020



Source: York Region Transit

Investing in transit is a key priority in York Region's 2041 Transportation Master Plan. The proposed 2041 network builds on investment in the Toronto-York Spadina Subway Extension, the first wave of vivaNext rapidways, Regional Express Rail and YRT/Viva Frequent Transit Network service expansion. Figure 30 illustrates York Region's proposed 2041 transit network, which includes a Frequent Transit Network future integration with GO Transit's current commuter rail corridor, as well as several planned future extensions.

Figure 30 Proposed 2041 Transit Network



Source: York Region Transit

6.2.4 GO Transit

GO Transit's Regional Express Rail (RER) project will increase service frequency of peak and off-peak transit service on most existing GO rail corridors. This includes the Kitchener line (which runs through Brampton), which will have two-way all-day service every 15 minutes as far as Bramalea Station (in eastern Brampton). Metrolinx is aiming to provide this level of service further west, subject to agreement with CN. The RER project is planned in conjunction with existing regional and municipal plans to support growth and development.

As per *The Big Move*, the Bolton commuter corridor had been identified to have commuter rail service every 30 minutes or better during peak periods, with counter-peak and off-peak bus service hourly or better. However, these plans may not be realized within the 2020 timeline as reported due to the changes in *The Big Move's* technical update in response to the findings of Metrolinx's Bolton Commuter Rail Feasibility Study (See Policy Review).

6.2.5 Orangeville Transit Five-Year Plan

In 2016, the Town of Orangeville completed a Transit Optimization Study, in which a Five-Year Service Plan was included. The study recommended modifications to the current transit network to provide more direct service on key corridors and expand service to underserviced areas and newly-developed areas in Orangeville. Based on recommendations presented in the study's final

report, the Five-Year Service Plan applies only within Orangeville and does not contemplate any route extensions into Caledon.

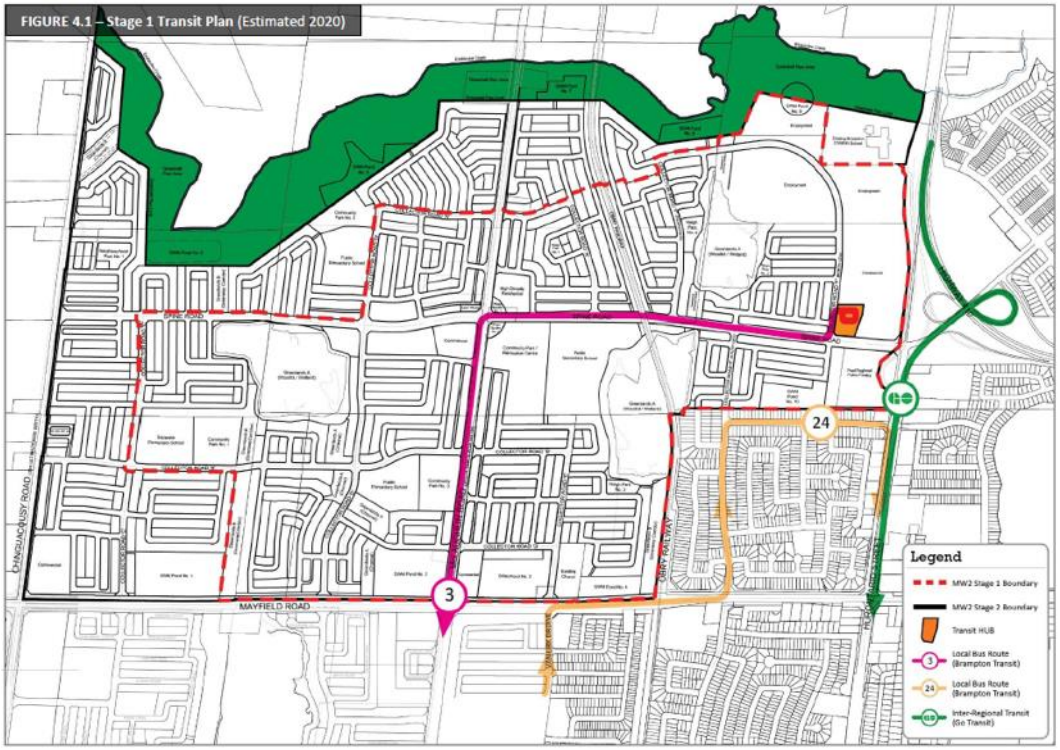
6.2.6 Mayfield West Phase 2 Secondary Plan Area (MW2): Development Staging and Sequencing Plan (DSSP)

The MW2 DSSP is a guide to order the various components of the MFW2 Secondary Plan Communities to achieve adequate infrastructure and community services. Of this, transit service is a key component.

As per the DSSP, Figure 31, Figure 32, Figure 33 summarize the potential routing of each transit service and year of delivery. Figure 34 shows the proposed location of transit stops that correspond to the full build-out of the potential transit routes.

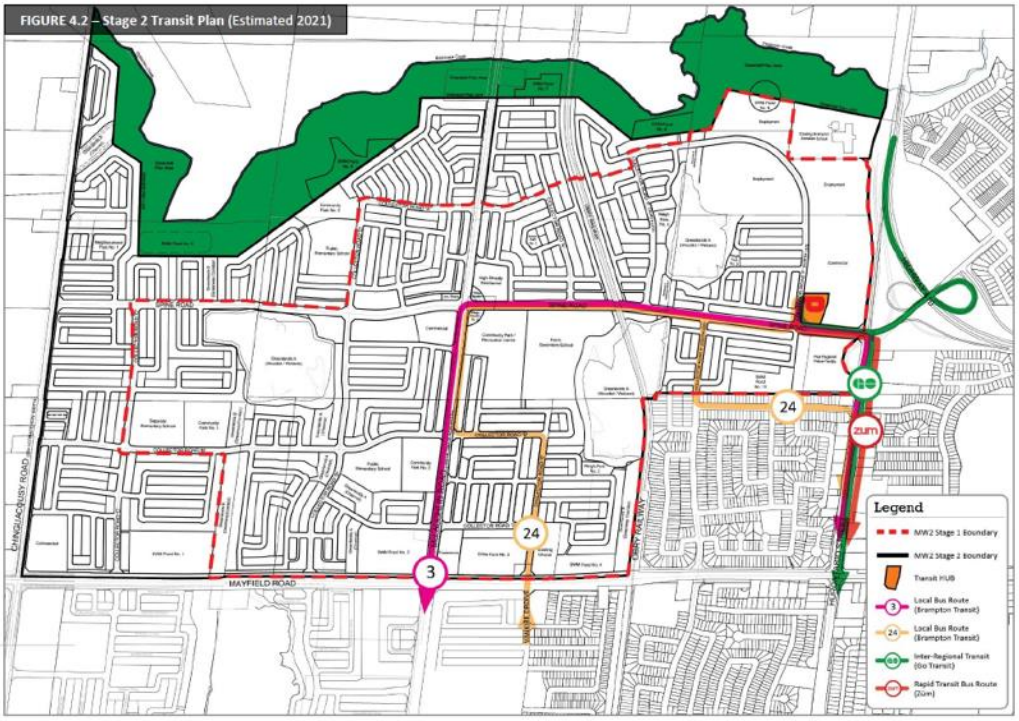
The proposed transit service in Mayfield West is expected to be delivered by extending or re-routing existing Brampton Transit (including Züm) and GO Transit routes.

Figure 31: Stage 1 Transit Plan (estimated 2020)



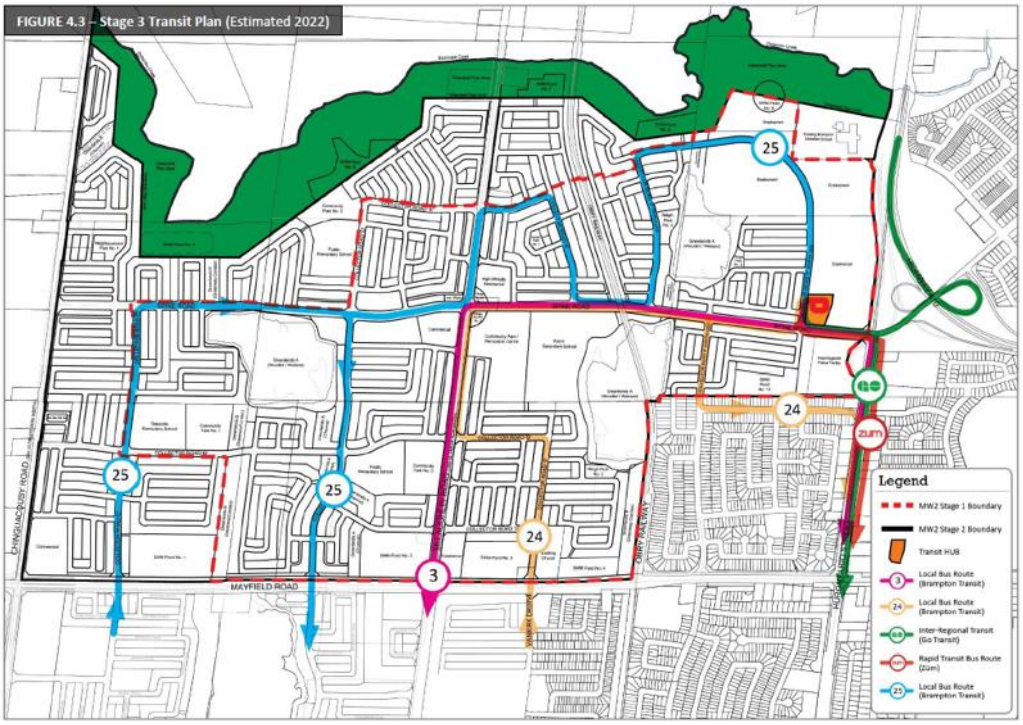
Source: Mayfield West Secondary Plan: Development Staging and Sequencing Plan

Figure 32: Stage 2 Transit Plan (estimated 2021)



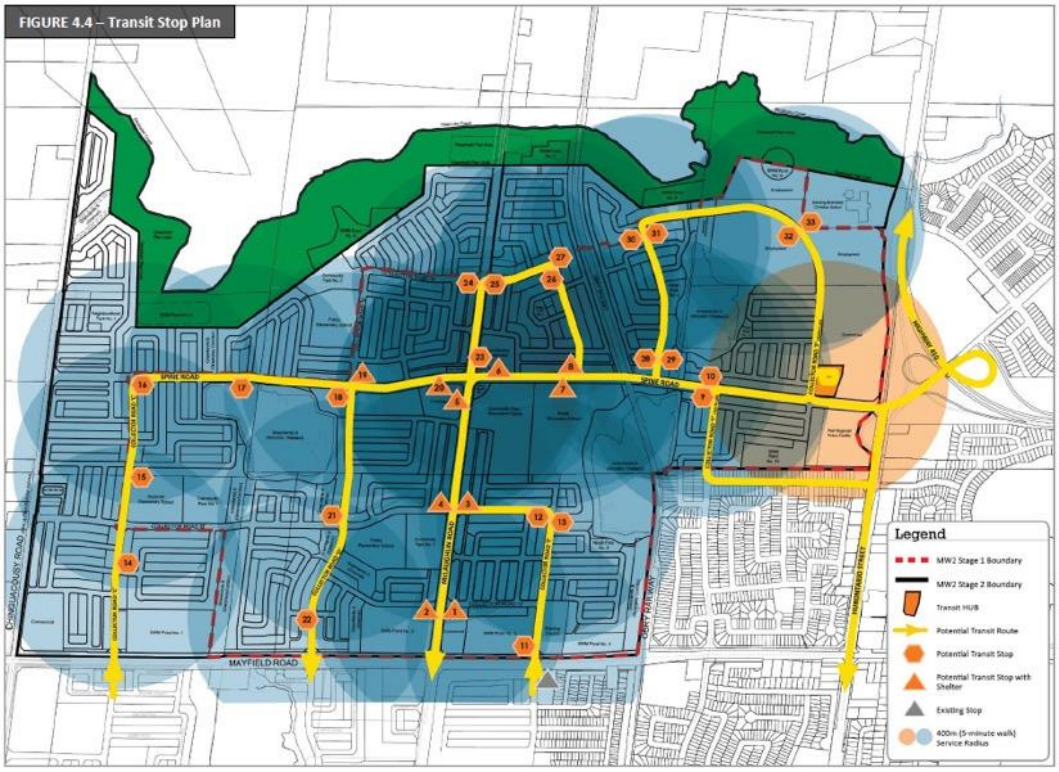
Source: Mayfield West Secondary Plan: Development Staging and Sequencing Plan

Figure 33: Stage 3 Transit Plan (estimated 2022)



Source: Mayfield West Secondary Plan: Development Staging and Sequencing Plan

Figure 34: Transit Stop Plan



7 Travel Pattern Analysis

7.1 Why are people travelling?

This chapter assesses the major travel patterns in the Town. Travel pattern data were sourced from the *Transportation Tomorrow Survey* (TTS) conducted in 2011 and 2016 and reflect trips made during a full day. The survey covers about 5 percent of households across the Greater Golden Horseshoe area. The data collected include trip origin and destination, time of travel, trip purpose, and mode(s) used.

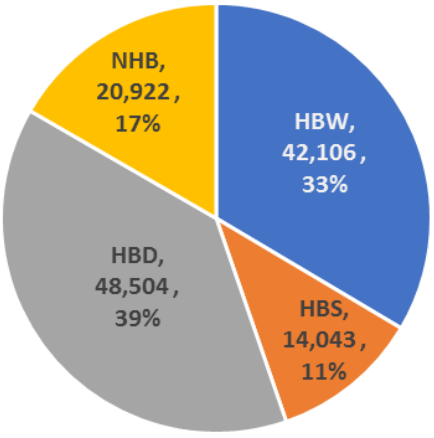
The information from this chapter will be used to prioritize connections between communities in Caledon. It will also inform the type of service to be provided.

TTS distinguishes between four trip types:

- **Home-based work (HBW):** trips between a person's home and their place of employment, in either direction
- **Home-based school (HBS):** trips between a person's home and their place of education, in either direction
- **Home-based Discretionary (HBD**): trips between a person's home and any other location, in either direction (this includes shopping and leisure trips)
- **Non home-based (NHB):** trips not involving a person's home as origin or destination

Figure 35 shows that more than a third of inter-municipal trips are discretionary trips (HBD), which is typical for the GTHA. Commuters (HBW) make up a third of inter-municipal trips.

Figure 35: Purpose for inter-municipal trips



Although commuters are a smaller market than discretionary trips, they are generally a better target for transit services. This is because commuters typically use the same mode on a consistent level and are more focussed in a shorter period (AM and PM peaks). Further, a commuter's destination rarely changes, whereas people make discretionary trips to a variety of destinations.

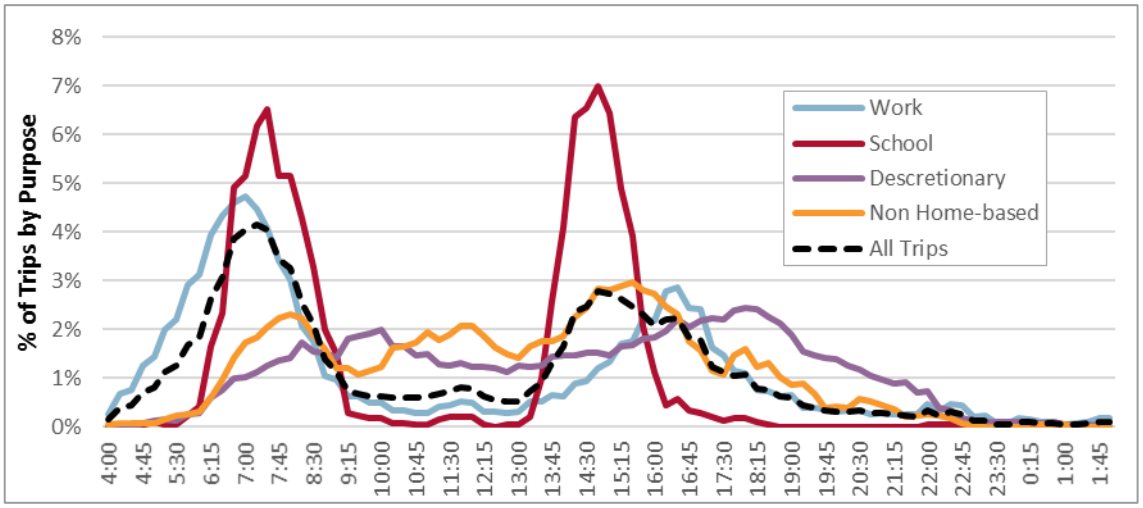
HBS are like commuting trips, in that the destination rarely changes and trips are more focussed in peaks. Further, the post-secondary student population is subject to rapid turnover, increasing the potential for shifts in mode split amongst

this travel market from one year to the next.

7.2 When are people travelling?

Figure 36 shows the trip start time distribution by purpose for all trips originating in Caledon. The graph shows that the busiest time for trips is during the early morning around 07:30 and early evening around 15:45.

Figure 36: Time of travel by trip purpose



Source: 2011 Transportation Tomorrow Survey

Regarding individual trip purposes, 06:45 to 08:15 and 14:00 to 15:30 are the most popular time frames for school-related trips, with about 72 percent of all school trips taking place during these times. This pattern reflects the fixed schedules of students.

Work-related commuting trips are spread over broader peaks, with the AM peak occurring earlier, between 06:15 and 07:30, and the PM peak taking place between 15:45 and 17:00. This suggests a mixture of traditional '9 to 5' working hours, and shift work with an earlier start/finish time.

7.3 Where do Caledon residents work?

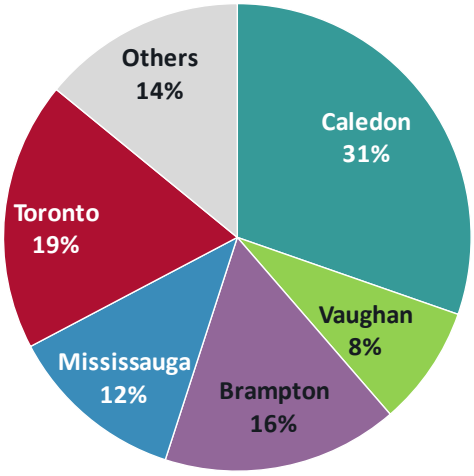
As discussed in the previous section, commuters are an attractive potential market for transit. Figure 37 summarises the workplace destinations for Caledon residents.

The chart shows that about 30 percent (26,113) of Caledon residents work within Caledon. Their trip destinations will follow that of employment density, which was discussed in Chapter 4. These commuters form an attractive market for a local transit system.

Outside of Caledon, the main workplace destinations are Toronto, Brampton, Mississauga and Vaughan.

While employment in areas outside of Caledon are generally dispersed, there are several areas within the area municipalities that generate a higher number of home-based work trips.

Figure 37: Workplace destinations for Caledon residents



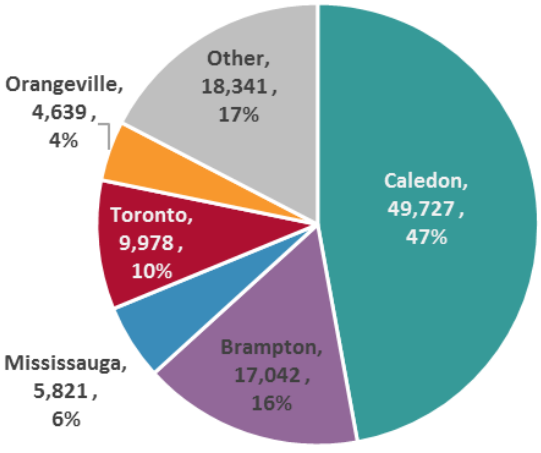
The trips to Toronto and Mississauga will generally pass through Brampton. As such, transit connections to Brampton will also support trips to these areas.

7.1 Where are people going to?

Figure 38 shows that around half (47 percent) of all trips starting in Caledon end in Caledon, while the rest end in another municipality in the GTHA.

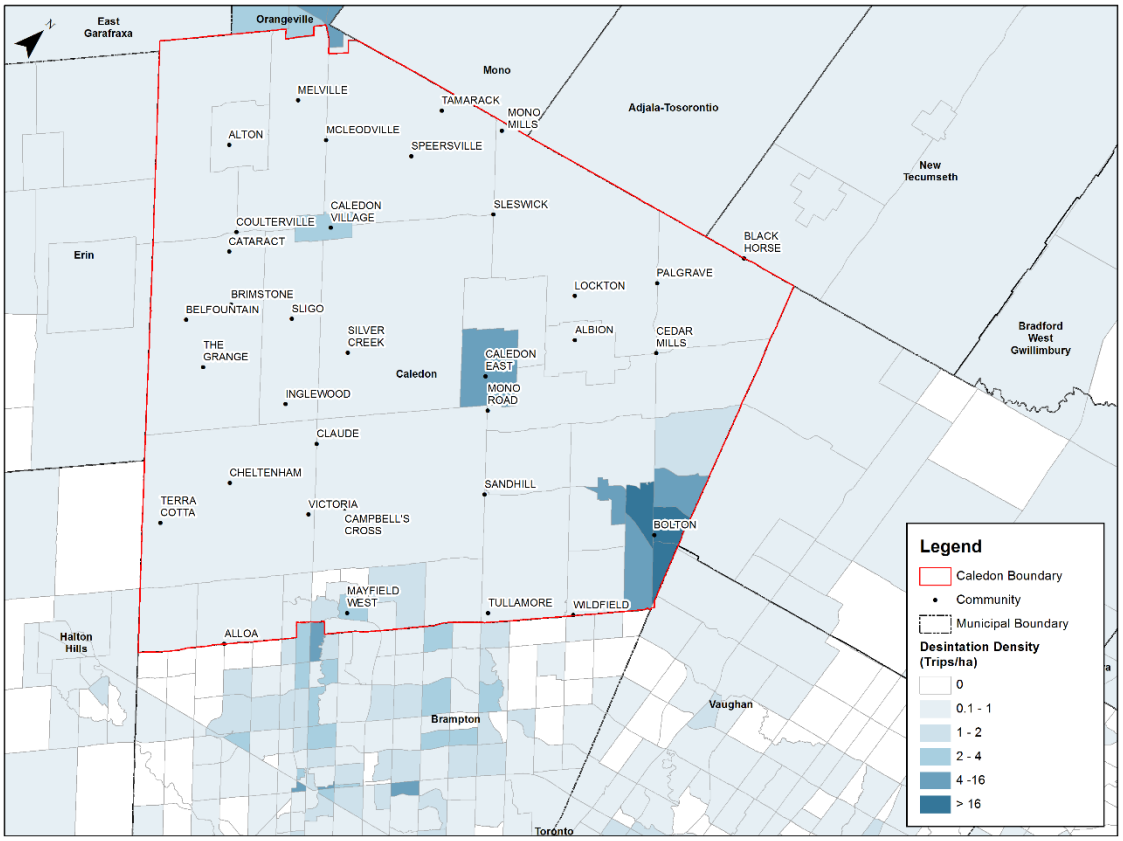
The most significant destinations are Brampton (16 percent), Toronto (10 percent) and Mississauga (6 percent). These are the nearest urban centres with considerable amounts of employment, services and amenities. Consequently, these are the natural transit markets for travel beyond Caledon.

Figure 38: Destinations of trips from Caledon



As shown in Figure 39, intra-municipal trips originating in Caledon have destinations concentrated in Bolton and Caledon East. Caledon East and Bolton are well-developed service centres; Caledon East is the location of one secondary school, Town Hall, and community centres; Bolton is a major destination for businesses as well as services.

Figure 39: Destination density for trips originating in Caledon



Source: 2011 Transportation Tomorrow Survey

Mayfield West is not a popular trip attractor. It is primarily a residential area; however, employment is expected to increase between now and 2031. Given this, any future transit should aim to link communities to Caledon to Caledon East, Bolton and Mayfield West.

7.2 Where do Caledon residents travel for post-secondary education?

Post-secondary students share similar travel behaviour to work place commuters. Both make regular trips between a fixed origin and destination. However, people do not remain students forever, and hence the turnover in the market is higher. Further, Caledon students form a smaller market than commuters. Despite this, students still form an attractive market for transit in Caledon.

Figure 40 and Figure 41 show the destinations for post-secondary education trips made by students residing in Caledon by municipality and institution (top five), respectively.

Figure 41 shows that Toronto is the most popular destination for post-secondary students residing in Caledon. York University, Humber College, and George Brown College attract the largest portion of education purpose trips in Toronto.

Mississauga is the only other municipality to attract a significant portion of Caledon's post-secondary students. Most of those attend the University of Toronto's Mississauga campus.

Figure 40: Post-secondary education destinations

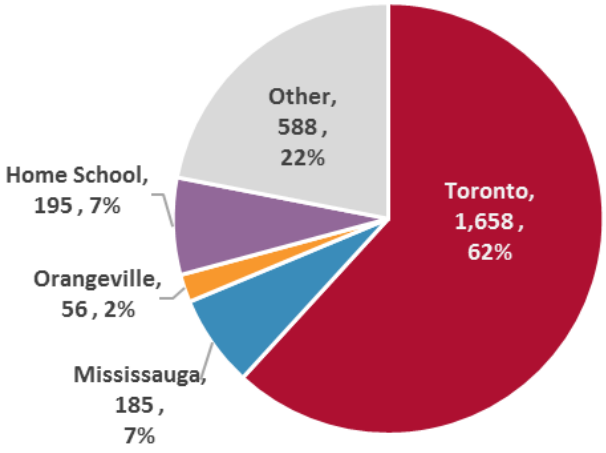
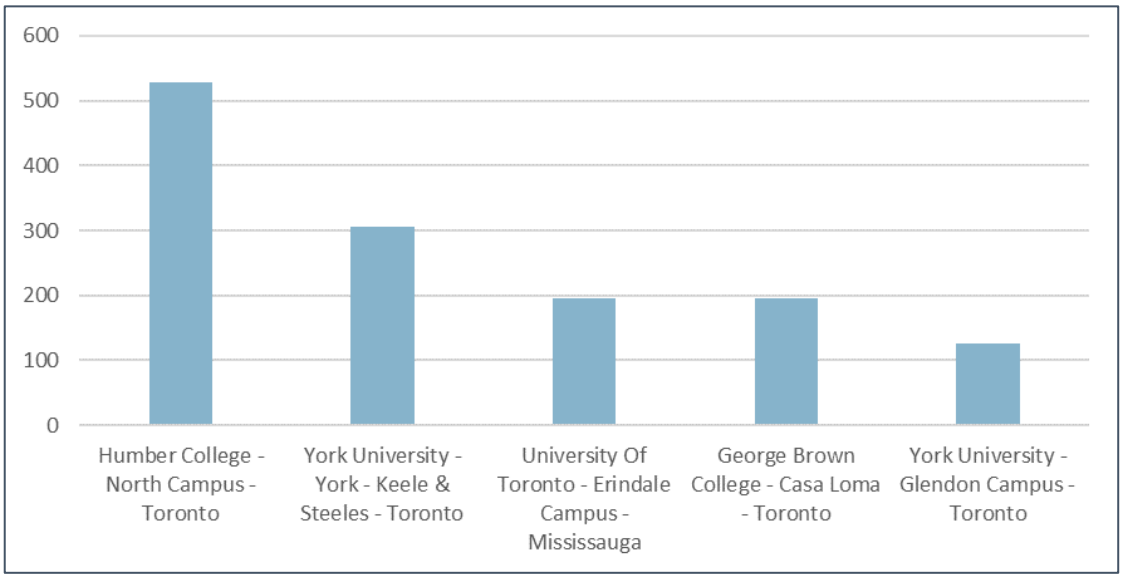


Figure 41: Number of trips by institution



There are around 1,700 full-time post-secondary student residents in Caledon, and about 900 part-time students. The proportion of trips made by post-secondary student trips is relatively

small, with only a total of 1.9 percent of all post-secondary students residing and attending post-secondary education within Caledon. This suggests that student-related inter-municipal transit service should focus on major post-secondary institutions in Toronto and Mississauga.

7.3 Where do Caledon residents travel for other trips?

Trips classed as "Home-Based Discretionary" make up most trips starting or ending in Caledon. This category includes trips for shopping, leisure/recreation, visiting friends, and tourism. As typical for the GTHA, these trips form most trips made by Caledon residents (39 percent). An individual's trip in this category will be to a variety of destinations, and occur more irregularly. This makes these trips more challenging to target for transit.

The distribution of discretionary trips originating in Caledon is shown in Figure 42. A considerable proportion (74 percent) of these trips have a destination within Caledon. This is to be expected as many of these trips are typically short journeys to local amenities (such as shopping).

Figure 43 shows the location discretionary trip destinations and the density of these trips within Caledon. It shows that Bolton is the most popular destination for discretionary trips. Closer examination reveals that most of the discretionary trips ending in Bolton also originated within Bolton. Thus, the current level of intra-community travel in Bolton supports the potential for local transit service in this area.

Figure 42: Discretionary trip destinations

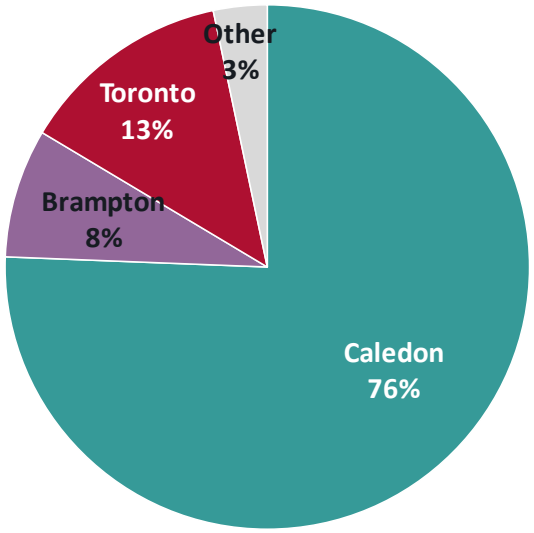
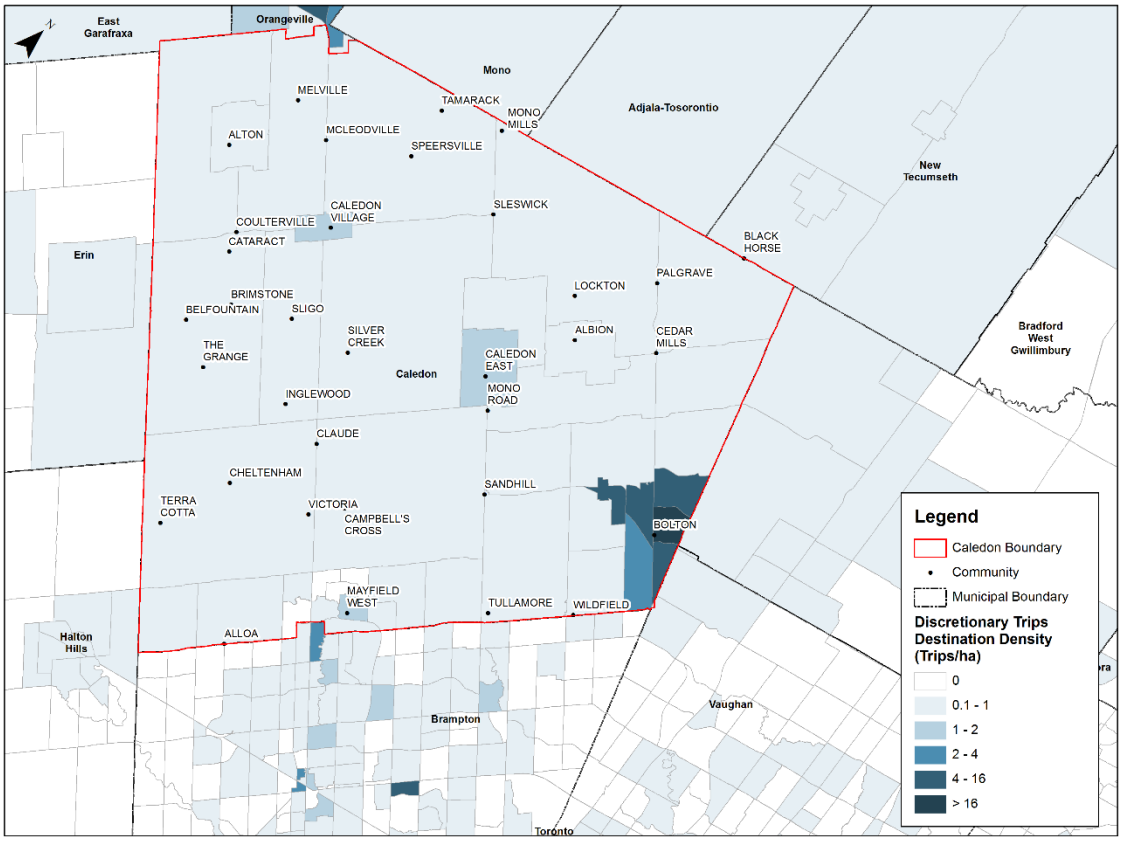


Figure 43: Destination density for discretionary trips in Caledon (Trips/ha)



Only 10 percent of discretionary trips are made to other municipalities. This suggests that residents are well-served within Caledon and do not necessarily rely on adjacent municipalities for needs beyond education and employment.

Brampton and Orangeville together account for 12 percent of discretionary trips. While this share is not relatively large, these two municipalities may have amenities not present in Caledon and are geographically well positioned to serve communities residing in Mayfield West and the northern border of Caledon. Consequently, the location of key attractors for these trip types will be investigated and evaluated as potential targets for inter-municipal transit services.

Town also conducted travel pattern analysis based on the TTS 2016 for the work-related trips as well employment survey which is considered and attached as an Appendix G.

7.4 How is existing transit serving Caledon being used?

7.4.1 Brampton Transit

There are 46 Brampton Transit bus stops near the Caledon border, and are typically at the start or terminus of a route. There are considerable differences between boardings and alightings among the routes (Routes 7, 15, 24, 30, and 31). Table 8 and Table 9 summarize the levels of bus stop activity on select routes that showed prominent levels of bus stop activity in areas near or in Caledon.[6]

Stops near Caledon on Route 7 KENNEDY experience a substantial amount of activity during the weekday and weekend, with a high number of southbound boardings and northbound alightings. This is unsurprising since this route provides direct access to the Heart Lake Terminal in Brampton, which is a major destination for employment, retail and services.

Further south on Route 7 KENNEDY is the Kennedy Rd S @ Queen St E stop, which is the busiest stop on this route; the surrounding area has many retail businesses, services, the Central Peel Secondary School, and two post-secondary education institutions. Kennedy Rd S @ Queen St E is also a transfer point onto the Züm service, which provides a direct connection to the Brampton GO Station.

Table 8: Route 7 KENNEDY annual weekday bus activity near Caledon

Route 7 Kennedy	Direction	Boardings	Alightings	Stop Activity
Hurontario St @ Mayfield Rd	North	0	27,000	**27,000**
Hurontario St @ Mayfield Rd	South	21,750	1,250	**23,000**
Mayfield Rd opp Summer Valley Blvd	South	7,500	6,000	**13,500**
Mayfield Rd @ Inder Heights Dr.	South	5,250	5,500	**10,750**
Kennedy Rd N s/of Mayfield Rd	South	9,500	13,750	**23,250**
Kennedy Rd N s/of Kenpark Ave	South	2,250	1,750	**3,750**

Table 9: Route 7 KENNEDY annual weekend bus activity near Caledon

Route 7 Kennedy	Direction	Boardings	Alightings	Stop Activity	Boardings	Alightings	Stop Activity
		Saturday			Sunday		
Hurontario St at Mayfield Rd	North	4,160	**4,160**	0	2,600	**2,600**	4,160
Hurontario St at Mayfield Rd	South	52	**3,588**	2,600	52	**2,652**	52
Mayfield Rd opp Summer Valley Blvd	South	104	**676**	260	208	**468**	104
Mayfield Rd at Inder Heights Dr.	South	520	**1,300**	416	468	**884**	520
Kennedy Rd N s/of Mayfield Rd	South	624	**1,404**	728	832	**1,560**	624

[6] Boarding and alighting data was requested through Brampton Transit. Data represents daily averages recorded during Fall 2015 and Fall 2016

Table 10 and Table 13 summarize weekday stop activity for Route 15 BRAMALEA. The weekend alighting and boarding patterns suggest that the area near the Mayfield Rd/Bramalea Rd intersection is a major destination for shopping and other discretionary trip purposes, as well as possible part-time employment.

Table 10: Route 15 BRAMALEA annual weekday bus activity near Caledon

Route 15 Bramalea	Direction	Boardings	Alightings	Stop Activity
Bramalea Rd @ Smart Centres	North	250	21,000	21,250
Smart Centres - Walmart Plaza	North	250	15,750	16,000
Smart Centres - Walmart Plaza	South	37,750	2,500	40,250

Table 11: Route 15 BRAMALEA annual weekend bus activity near Caledon

Route 15 Bramalea	Direction	Saturday			Sunday		
		Boardings	Alightings	Stop Activity	Boardings	Alightings	Stop Activity
Bramalea Rd @ Smart Centres	North	52	1,820	**1,872**	0	1,976	**1,976**
Smart Centres - Walmart Plaza	North	52	2,808	**2,860**	260	2,808	**3,068**
Smart Centres - Walmart Plaza	South	3,640	156	**3,796**	4,368	52	**4,420**

The stop activity on Route 30 AIRPORT (shown in Table 12 and Table 13) shows a small level of employment trips generated from the Tullamore industrial area north of Mayfield Rd (AMB Distribution Centre – Caledon and Mayfield Rd east of Airport Rd). However, most of the ridership in this area is generated from the Maisonneuve Blvd north of Leparc Rd stop, which is situated in a residential area south of Mayfield Rd in Brampton.

The terminus of this route is the Westwood Mall Terminal, a major hub for retail businesses and transit connections. As such, this route provides important access to employment and discretionary trip opportunities for both Caledon and Brampton residents.

Table 12: Route 30 AIRPORT RD annual weekday bus activity near Caledon

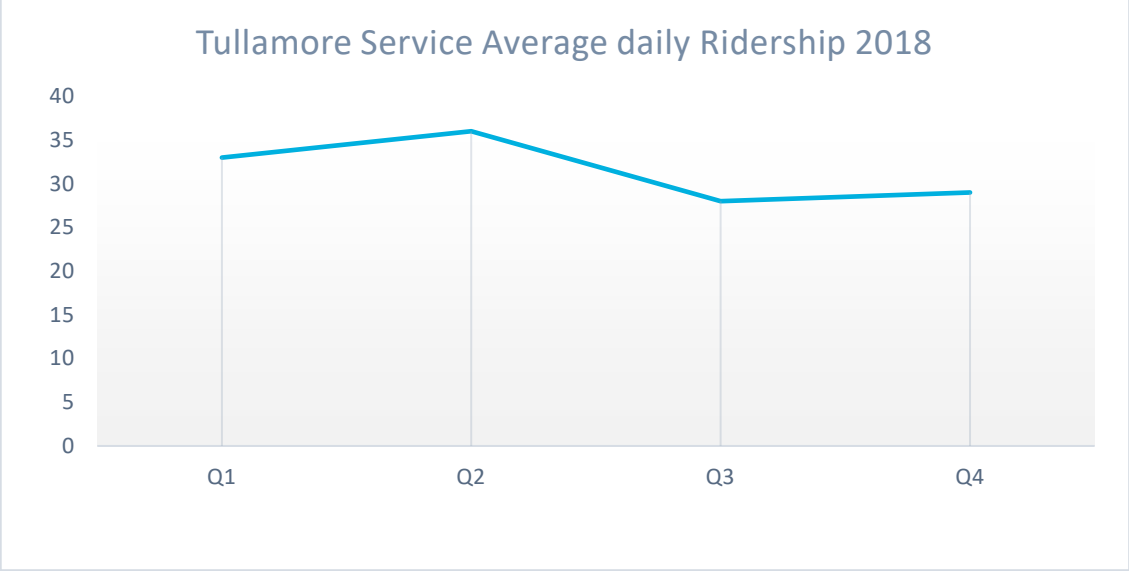
Route 30 Airport Rd	Direction	Boardings	Alightings	Stop Activity
Airport Rd s/of Mayfield Rd	North	0	1,500	**1,500**
Airport Rd n/of Mayfield Rd	North	250	500	**750**
AMB Distribution Centre - Caledon	North	0	7,750	**7,750**
AMB Distribution Centre - Caledon	South	3,750	0	**3,750**
Mayfield Rd e/of Airport Rd	South	15,250	500	**15,750**
Mayfield Rd w/of Maisonneuve Blvd	South	500	1,750	**2,250**
Maisonneuve Blvd n/of Leparc Rd	South	18,000	15,750	**33,750**
Maisonneuve Blvd n/of Sofitel Rd	South	7,250	7,500	**14,750**

Table 13: Route 30 AIRPORT RD annual weekend bus activity near Caledon

Route 30 Airport Rd	Direction	Boardings	Alightings	Stop Activity	Boardings	Alightings	Stop Activity
		Saturday			Sunday		
Airport Rd s/of Mayfield Rd	North	52	0	**52**	0	468	**468**
Airport Rd n/of Mayfield Rd	North	52	208	**260**	-	-	-
AMB Distribution Centre - Caledon	North	0	468	**468**	-	-	-
AMB Distribution Centre - Caledon	South	572	0	**572**	-	-	-
Mayfield Rd e/of Airport Rd	South	1,456	0	**1,456**	3,380	52	**3,432**
Mayfield Rd w/of Maisonneuve Blvd	South	52	0	**52**	0	156	**156**
Maisonneuve Blvd n/of Leparc Rd	South	1,872	1,612	**3,484**	1,352	988	**2,340**
Maisonneuve Blvd n/of Sofitel Rd	South	624	624	**1,248**	416	312	**728**

Seasonal variation for the Tullamore service is shown in Figure 44.

Figure 44: Tullamore 2018 average daily ridership by quarter



7.4.2 GO Transit

Figure 45 and Table 14 summarize the stop activity for Route 37 ORANGEVILLE/BRAMPTON. This route has a daily weekday average of 143 boardings. While there are stops provided between Caledon Village and Inglewood, these stops are typically unused. About 51 percent of total boardings occur within Orangeville and only 10 percent within Caledon.

Table 14: Boarding distribution on Route 37 ORANGEVILLE/BRAMPTON

Area	Annual boardings	% Share
Orangeville	**12,750**	**36%**
Caledon	**2,500**	**7%**
Inglewood	*250*	*<1%*
Caledon Village	*750*	*2%*
Other	*1,500*	*4%*
Brampton	**20,500**	**57%**
Mayfield West	*1,500*	*4%*
Brampton GO	*16,500*	*46%*
Rest of Brampton	*2,500*	*7%*
Total	**35,750**	**100%**

Figure 45: Stop activity for GO Transit Route 37 ORANGEVILLE/BRAMPTON

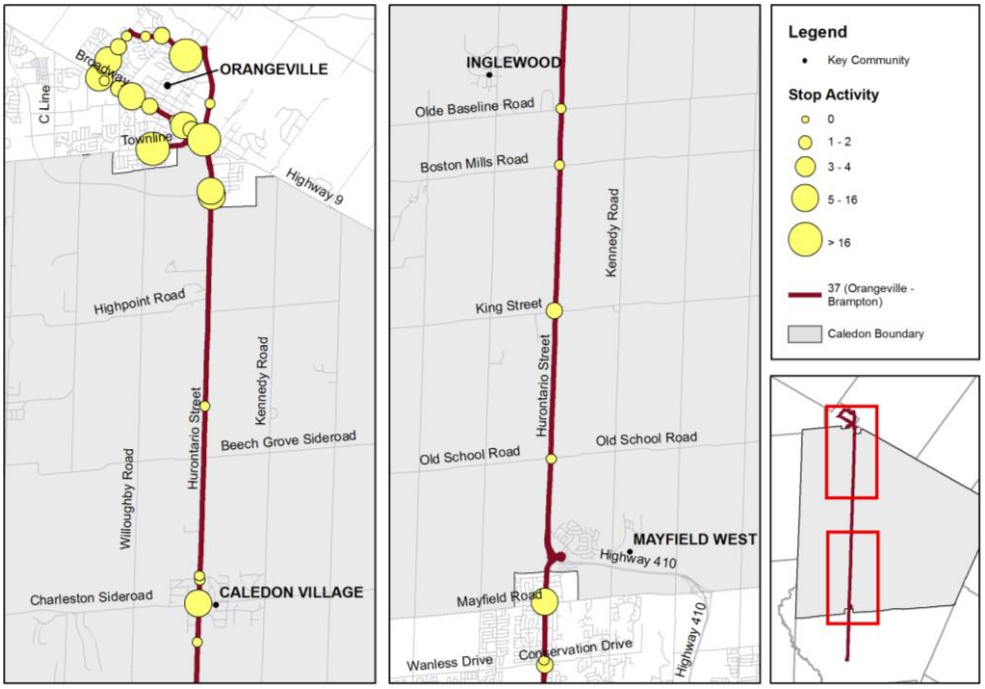


Table 16 and Figure 46 summarizes the boarding activity for 38 BOLTON/MALTON. This route has a daily weekday average of 109 boardings, with close to 34 percent occurring within Bolton. The remaining boardings are spread throughout Brampton and Mississauga. This route provides key

connections for Bolton residents to reach major transit hubs such as the Malton GO station. However, Route 38 BOLTON/MALTON provides only regional commuter service and does not provide local circulation within Bolton.

Table 15: Boarding distribution on Route 38A BOLTON/MALTON

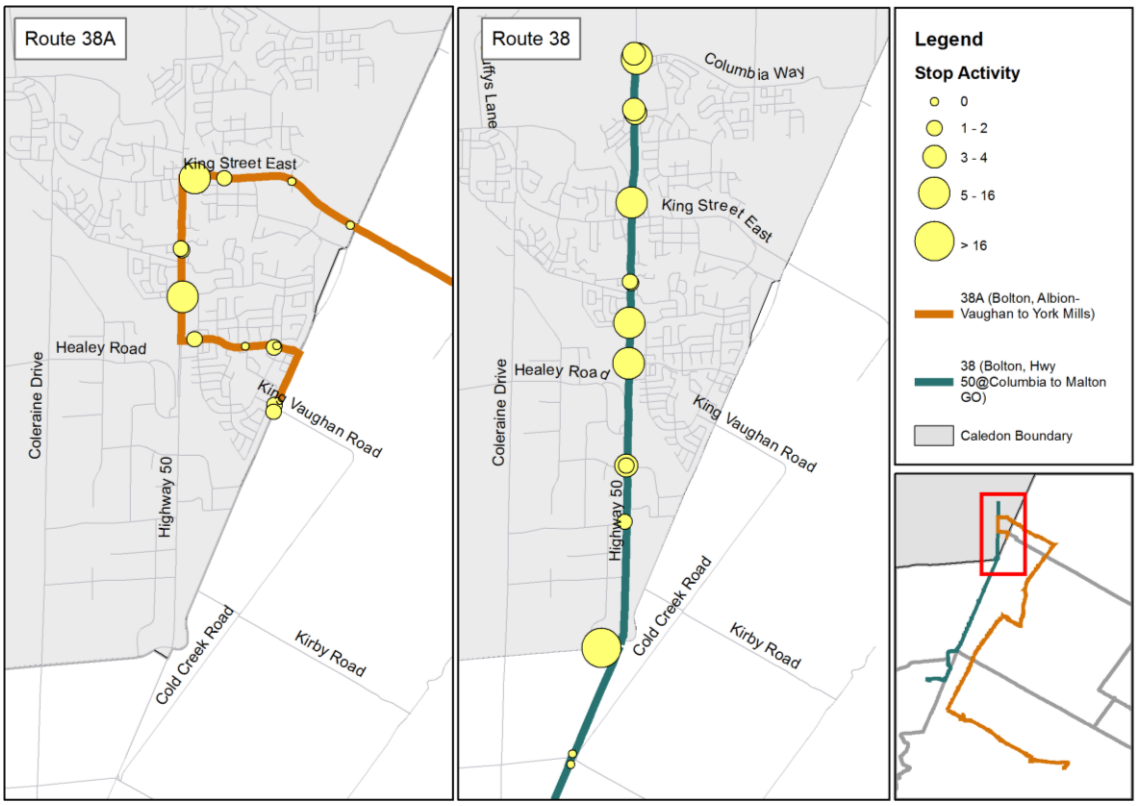
Area	Total Boardings	% Share
Bolton	**9,250**	**34%**
Brampton	**5,750**	**21%**
Mississauga	**12,250**	**45%**
Malton GO	*11,750*	*43%*
Rest of Mississauga	*500*	*2%*
Total	**27,250**	**100%**

Table 15 and Figure 46 summarize the boarding activity for 38 BOLTON/MALTON. This route has a daily weekday average of 109 boardings with close to 34 percent occurring within Bolton. These remaining boardings are spread throughout Brampton and Mississauga. This route provides key connections for Bolton residents to reach major transit hubs such as the Malton GO station. However, Route 38 BOLTON/MALTON provides only regional commuter service and does not provide local circulation within Bolton. Table 15 and Figure 46 summarizes the boarding activity for 38A Bolton/North York. This route has a daily weekday average of 69 boardings, with 36.2 percent of the total activity occurring within Bolton. The remaining activity is spread throughout Brampton and Mississauga. This route provides access to major transit hubs such as the Etobicoke North GO Station, York Mills Bus Terminal and the Yorkdale Bus Terminal.

Table 16 Boarding distribution on Route 38 BOLTON/NORTH YORK

Area	Total Boardings	% Share
Caledon	**6,250**	**36%**
Bolton	*6,250*	*36%*
York Region	**3,750**	**22%**
Township of King	*500*	*3%*
Vaughn	*3,250*	*19%*
Toronto	**7,250**	**42%**
Etobicoke GO	*2,500*	*15%*
York Mills Terminal	*1,000*	*6%*
Yorkdale Bus Terminal	*1,500*	*9%*
Rest of Toronto	*2,250*	*13%*
Total	**17,250**	**100%**

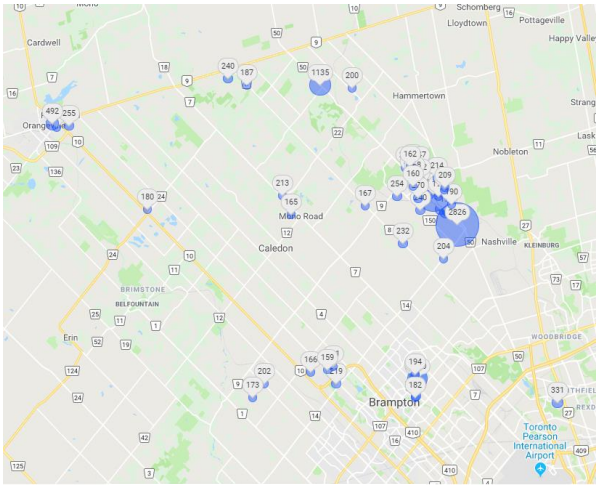
Figure 46: Stop activity for GO Transit routes 38 and 38A



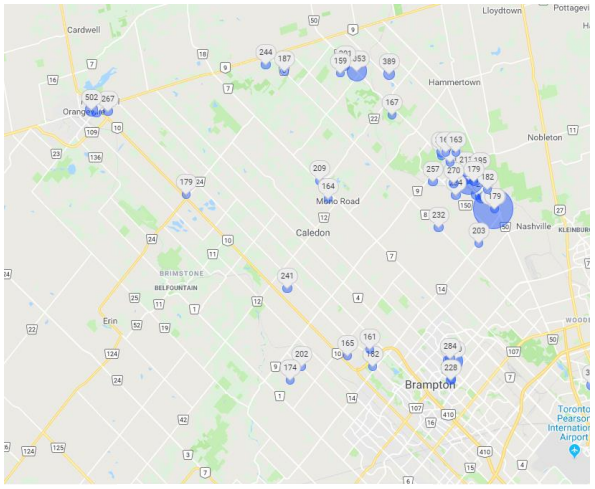
7.4.3 Caledon Community Service (CCS)

Figure 47 summarizes the pick-up and drop-off activity for CCS. Trip data presented in this subsection was collected in 2018.

Figure 47: CCS pick-up/drop-off activities in 2018



Trips origination



Trips Destination

7.4.4 TransHelp

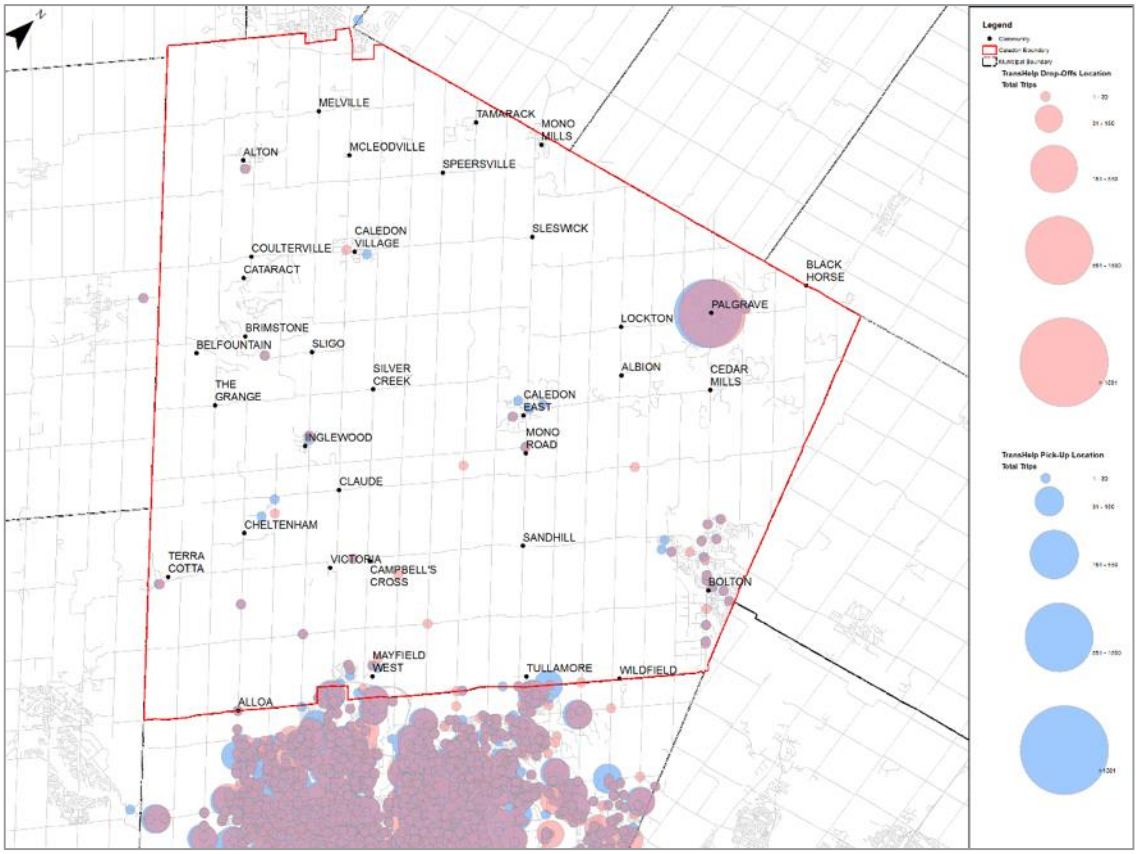
Figure 48 and Table 17 summarize the pick-up and drop-off activity for TransHelp. Trip data presented in this subsection was collected between March 1, 2016 and August 31, 2016. During this period, nearly 190,000 trips were made (pick-up and drop-off), with 1 percent (1,975) of trips made within Caledon. Within Caledon, 85 percent of trip activity occurred within Caledon, and 5 percent of trips occurred within Bolton.[7]

Table 17: TransHelp pick-up and drop-off trip activity

Area	Drop-off	Pick-up	Total Activity	% Share of Total
Orangeville	**0**	**1**	**1**	**0.0%**
Caledon	**1,000**	**975**	**1,975**	**1.1%**
Bolton	51	39	90	0.0%
Palgrave	854	824	1,678	0.9%
Caledon East	2	6	8	0.0%
Caledon Village	1	1	2	0.0%
Mayfield West	18	19	37	0.0%
Brampton	**39,540**	**39,535**	**79,075**	**43.7%**
Mississauga	**46,929**	**46,366**	**93,295**	**51.6%**
Toronto	**1,666**	**1,964**	**3,630**	**2.0%**
Vaughan	**1**	**12**	**13**	**0.0%**
Township of King	**0**	**11**	**11**	**0.0%**
Oakville	**1,298**	**1,568**	**2,866**	**1.6%**
Halton Hills	**-**	**1**	**1**	**0%**
Total	**90,436**	**90,423**	**180,859**	**100%**

[7] Pick-up and drop-off data was requested from TransHelp. Data represents trips recorded from March 1, 2016 to August 31, 2016.

Figure 48: TransHelp pick-up and drop-off locations



8 Service Approaches

8.1 Definitions

- The **service operator** is responsible for running and maintaining the buses. The operator may be a private or public entity.
- The **service delivery method** is the type of service provided. This may include fixed route, demand-responsive, or like a taxi.
- The individual **service options** will provide details such as routing and frequency (for fixed-route service), service area, and interactions with other transit systems.

This chapter provides a wide range of alternatives for transit service delivery and operating models for consideration. It includes examples of appropriate service options for the various Caledon travel environments. It also examines some of the transit service approaches adopted by other municipalities in areas where fixed-route service is not appropriate.

8.2 Service delivery methods

The following section describes a range of service methods, from conventional fixed-route transit services to less formal community-based options, including the general applicability of each to different markets and service needs.

8.2.1 Fixed route

With a “fixed route”, a bus operates along a prescribed route according to a fixed schedule. It is the most common approach for transit within urban areas and is also generally used for long-distance inter-city services. The area (and people) served by a fixed route are those within walking distance of the stops (typically defined to be 400m).

In small communities, fixed route service is best suited to market areas with limited access to personal vehicles, whether because of age, physical ability to drive, or income. It is most suitable for corridors with higher ridership demand.

A fixed route service is simple for users to understand, minimizes administrative overhead, and provides a predictable schedule and trip duration for passengers. However, for smaller communities, fixed-route fixed-schedule services may be too rigid to accommodate the wider of travel needs, and lower level travel demand.

Fixed-route fixed-schedule services may be more ideal for routes where a larger proportion of trips are made, such as between larger cities, towns and villages and along major road arterials with a denser range of land uses. Within the Caledon area, an example of an appropriate fixed

route service might be along Queen St South in Bolton, or a Mayfield West – Bolton connector.

8.2.2 Flexible transit services

The term "flexible transit services" covers a range of transit services that incorporate elements of both fixed route and demand-responsive transit and have a combination of flexible routing and scheduling. This type of service is designed to meet specific needs of geographic and demographic markets where the travel demand is less than what is required to sustain a fixed route service. Flexible transit services can be categorized into six approaches:

- **Flexible-route segments**: a portion of an otherwise scheduled fixed-route is operated as demand-response. Assigning a segment of a fixed-route to flexible service can be beneficial in very low-density areas.
- **Requested stops**: a scheduled, fixed-route service in which certain stops are served only in response to passenger requests. The vehicle must deviate off the fixed path to serve requested stops. This is similar to a route deviation but limited only to specific stops instead of a range of unspecified locations within a zone.
- **Route deviation**: a set route and schedule is used to define a service area, but the vehicle may serve requests for pick-up or drop-off within a specified zone around the path. The deviation-zone may or may not be strictly bounded. This service type effective in areas with sufficient density to support a fixed route and schedule but could benefit from the flexibility of serving origins and destinations that are otherwise off-route.
- **Zone Route**: a primarily demand-response service that has set departure and arrival times at its end points. The Zone Route is effective when there is not a defined corridor to travel, but a specific origin or destination exists within an area.
- **Demand-responsive connector**: service operates entirely by demand-response but includes scheduled transfer points connecting with a fixed route. The Connector is an effective option when there are scattered origins but a common destination once connected with the fixed-route system.
- **Point deviation (or 'point-to-point')**: service is provided within a defined zone with a set of specific stops, but the path between the stops is unspecified and the vehicle will serve locations within the zone on request. Point Deviation can be most effective in an area with specific trip destinations but dispersed origins, or vice-versa.

For Caledon, flexible route opportunities may include developing specific zones for each key residential community (Bolton, Mayfield West, Caledon East, and Caledon Village) with demand-responsive connector routes to major transit stations or destinations.

8.2.3 Demand-responsive

Demand-responsive services allow flexibility for vehicles to be routed according to passenger origin and destination requests and can be adapted to the needs of different areas and different seasons. With shared demand-responsive services, customers contact the transit agency to schedule a trip within a prescribed area. Passengers generally share their ride with other customers making trips to or from similar areas. Trips may fall under the following types:

- Subscription: regularly occurring trips (no booking needed for individual trips)
- Advanced notice: 1 to 14 days in advance
- Real-time booking: on the day of service

Shared demand-responsive services have a defined degree of flexibility in terms of service coverage. For instance, there may be a fixed route in which a segment of it operates as demand-responsive. Flexible routes can be designed to offer deviation zones around established routes or points. A demand-responsive service may also serve as a connector within a defined zone and provide transfers to a fixed schedule service.

Shared demand-responsive services provide point-to-point service, replicating some of the convenience of a car. However, service vehicles are dispatched according to the requested passenger pick-up and drop-off times. This implies there will be a minimum wait time between booking and trip time, resulting in less choice in departure or arrival time. Further, the need to serve individual destinations limits the number of passengers that can be served. For non-paratransit services, it is rare for demand-responsive services to reach more than six boardings per hour.

Depending on the location of key amenities and destinations, a demand-responsive service may be limited to defined zones by time of day or day of week, with boundaries, major origins and destination based on historical or predicted trip patterns. An area could be served by a fixed route in peak periods, but a demand-responsive route at other times.

Defining zones for shared demand-responsive vehicles can also minimize the number of empty (dead-head) trips. Zone service is useful for short trips to a common destination and may be transformed to a fixed route service if demand and trips patterns warrant.

Accessible transportation services provided by Caledon Community Services, TransHelp (Peel Region), and other traditional dial-a-ride accessible transportation programs are examples of demand-responsive transit. If demand-responsive services are a preferred option for conventional transit trips (non-specialized), considerations should be given to how AODA conventions and requirements will be integrated.

TNC and Smartphone Technology Option

Some transportation network companies (TNC) such as Uber and Lyft have recently expanded their service in partnership with municipalities and public transit agencies. A partnership with a TNC is one approach to a demand-responsive service, with the added benefit of an established mobile application. The use of these technologies has broadened the transportation options available and has the potential to satisfy diverse transit markets in smaller communities.

Based on the Innisfil Transit Pilot project, a partnership with an existing company such as Uber has proven to be a cost-effective demand-based transit option. Passengers can request one of three types of trips:

- **Key destination request**: a flat fare trip request to a pre-determined list of destinations (such as the GO Rail Station, community centre, or employment area)
- **Custom destination request**: a fixed municipal subsidy is applied to any other trip booked within the municipal boundaries.

- **Accessible vehicle request:** a wheelchair-accessible vehicle can be requested through a local paratransit provider. The price of an accessible trip will follow the same fare structure as for the Uber trips.

The service models used by Uber and Lyft require developing a network of available drivers. As a result, there may be limitations to offering these service options in smaller communities unless there is greater financial incentive to offer services.

8.2.4 Vanpool

A vanpool service allows groups of people to share trips to a common destination, using a vehicle with 10-15 seats. Passenger pick-up and drop-off locations typically include meeting areas such as park-and-ride facilities, a workplace, or a business/industrial park. Vanpools typically carry up to fifteen passengers per vehicle and operate on a fixed route schedule with pre-determined pick-up and drop off locations. A vanpool service differs from a flexible transit service in that the passenger van is owned, insured, and serviced by an organization linked to the passengers in some way. This could be a transportation agency, an employer, or a transportation demand management association. The vehicle could be driven by on of the users, or by a person hired by the organisation responsible for the service.

The fixed nature of a vanpool schedule removes the need to coordinate with other passengers' trips. A vanpool service may be an appropriate solution to satisfy the mobility of the school and work travel market.

While a vanpool service is a cost-effect alternative to a fixed route conventional transit system, it may require higher subsidies due to a passenger capacity per vehicle. For vanpools and carpools to be successful, there needs to be a critical mass of participants who travel on a routine basis, with common origin and destination points. Communities that are clustered around geographic towns and villages or in a primarily rural area along a busy corridor would provide greater opportunities for carpool and vanpool success.

A vanpool service is a potential beneficial option for Caledon residents who must commute regularly to a transit station or workplace. A vanpool could be used in to pick up residents and drop them off at a major transit node. (For example, linking Mayfield West with a Brampton Transit terminal.) A vanpool service may also be suitable for inter-community commutes or school travel within Caledon. Other potential pick-up areas include residential areas with roads unsuitable for large buses, such as part of Caledon Village or Alton.

8.2.5 Taxi voucher

With a taxi voucher, customers can use conventional taxi services for a fixed fee or percentage discount on the metered fare. The municipality then reimburses the taxi operator, paying the difference between the standard taxi fare and the cost to the passenger. Alternatively, the municipality can sell a voucher with a certain face value at a lower cost, with the taxi company then redeeming them with municipality for face value.

This type of service generally may be limited by the size of the taxi company's fleet of available vehicles and drivers, causing service issues if there is a sudden growth in ridership demand.

Taxi vouchers facilitate a point-to-point service, although a fare structure that includes pre-determined and custom destinations may be used. The wait times are typically less than shared demand-responsive services, as there is no need to coordinate with other passengers' trips. However, the cost per trip for the municipality is the highest of all the concepts described here.

A taxi voucher service approach may be suited to serve dispersed communities with the fewest transit options available. Due to the cost per trip for the municipality, a taxi voucher system should be implemented on an ad-hoc basis. Within Caledon, this approach would be most suitable for low-density rural areas, or for low-demand period, such as evenings or Sundays.

8.3 Service operator models

When operating a transit service, a transit organization may choose to directly employ transit operators and maintenance staff ('in-house operations') or hire an external organization to handle operations and maintenance ('contract operations').

8.3.1 In-house operations

With in-house operation, a municipal department or transit agency is responsible for employing staff to operate the vehicles and manage the vehicle operations on the street. They also procure the transit vehicles and employ vehicle maintenance staff. Larger transit systems in Canada tend to keep operations and maintenance in-house. Table 18 summarizes the advantages and disadvantages of in-house operations.

Table 18: Advantages and disadvantages of in-house operations

Advantages of in-house operations	Disadvantages of in-house operations
Greater operational and maintenance control • By assembling an internal team of operators, managers and maintenance staff, the agency has greater control over the operation of the service and training of staff. No need for additional contract oversight • In-house operations do not require additional oversight (monitoring contractor performance to ensure public accountability)	Greater costs • High capital start-up costs from purchasing new vehicles and providing storage and maintenance facilities • Union considerations: generally larger municipal systems are unionized work places. Negotiating contracts are time consuming and costly • Greater operating costs: Because an in-house operation does not rely as much on the competitive open market, it may lead to higher costs of operation. These higher costs are often wages and benefits.

8.3.2 Private contractor

In this scenario, the municipality tenders the provision of transit services to a private company. Most commonly, both the operation of the transit vehicles and their maintenance are contracted out. However, municipalities may also keep operations in-house, but contract out the maintenance and the storage of their vehicles. Similarly, the vehicles can be owned by the municipality or the contractor. Small transit systems in Canada typically contract out operations and maintenance, but vehicle ownership has no clear pattern.

Table 19 summarizes the advantages and disadvantages of contract operations. This information is based on the Transportation Association of Canada's Design and Implementation of Transit Services: Guidelines for Smaller Communities, which were developed by Steer.

Table 19: Advantages and disadvantages of contract operations

Advantages of contract operations	Disadvantages of contract operations
Economic efficiency • Relying on a competitive open market and creating incentives for good operations present greater opportunities to deliver services in a more cost-effective manner. Greater operational and maintenance experience • Private contractors typically already have the experience and knowledge in place to recruit the right staff to operate and manage the service effectively, as well as maintain the transit fleet. Costs • Costs are generally lower	Less operational control • With operation and maintenance functions completed by a third party, transit agencies have less control (e.g. quality of the service, experience of operators, absentee rates, training) on how the service is run. To compensate for these issues, strong contractual agreements and contract oversight are needed. Need for greater oversight • Contract operations require greater oversight to monitor contractor performance to ensure public accountability.

A typical service contract will identify service provisions such as days and hours of services, and policies on notification requirements for interested parties regarding schedule modifications. The contract will outline the fee for the provision of services, the payment terms, the amount of insurance liability, and the processes for negotiating service expansion or contraction during the contract period.

Additionally, a service contract will usually stipulate the service standards required by the responsible transit agency. Failure to meet those standards, will have clearly defined penalties, up to and including termination of the contract.

These service contracts will also usually require vehicle specifications, ensuring that the vehicle will be fully accessible for all passengers. Vehicle standards are generally covered off as well, areas such as: maintenance frequency and schedule, maximum age of vehicles, physical body damage and repair, and general cleanliness of the vehicle (exterior washes, interior).

The transit agency or municipality may also choose to buy its own transit fleet or request that the contractor operate and acquire its own fleet.

Municipal purchase of the required transit vehicles will result in an initial capital cost but will result in a lower contract operating cost. However, municipal ownership of vehicles would raise the issue of maintenance. A decision needs to be made on whether the maintenance of the vehicles is contracted out or not, if the municipality owns the vehicles.

Securing capital funding from various levels of government (federal, provincial) is generally easier than obtaining operating funding. Thus, there may be greater incentive for municipalities to purchase the vehicles, even when considering the contracting out of operations.

Finally, a contract requiring the third-party operator to supply its own buses typically requires longer contract terms. This is because the contractor will need to have the appropriate revenue stream to ultimately offset the cost of purchasing the vehicles, although some third-party providers may have the equipment already in place.

8.3.3 Inter-government collaboration

Contracted operations can also include contracting services from a neighboring municipality that already runs a transit service. This can be done through a formal contract or a letter of understanding. This approach is particularly suitable for cross-boundary services.

Brampton Transit is an existing collaborator with the Town, providing service to the Tullamore industrial area (Route 30). Additional potential collaborators for the Town include Orangeville Transit and GO Transit.

Advantages of other transit agencies	Disadvantages of other transit agencies
• Integration with other municipality's services • Start-up is quicker and cheaper	• Service levels partially controlled by another municipality • Detailed cost sharing agreement is required

8.3.4 Ride-share company / taxi partnering

A model used in some low-density or rural areas in other municipalities is to either partner with ride-share company (such as Uber or Lyft) or a taxi company to provide the transit service. The municipality would take advantage of the providers' existing booking system. However, is that system is entirely app-based, then that limits usage by people without smart phones.

The vehicles used are typically small (auto size), limiting the number of passengers. However, the costs per vehicle are lower than larger transit vehicle. Consequently, it can be the cheapest option at very low demand levels. The vehicle fleet used by the service provider may also create accessibility issues for people with mobility impairments.

Advantages of other transit agencies	Disadvantages of other transit agencies
• Strong/simple user experience • Lower costs at low demand levels	• Driver recruitment difficult in low-density areas • Accessibility issues for people with mobility impairments / without smartphones

8.4 Current examples

8.4.1 Innisfil – transportation network company (TNC)

Innisfil (population: 37,000) is a town in Simcoe County, located immediately south of Barrie and 80km north of Toronto. It has historically been a rural area, but growth in the Barrie area and the Greater Toronto Area has resulted in recent residential development in Innisfil.

The Town of Innisfil is conducting a pilot project where it has partnered with Uber Canada to provide transportation as an alternative to a fixed-route bus service. The program currently offers flat rates to major community destinations and discounted for travel anywhere else within the town. Barrie Taxi has been contracted by the Town to provide accessible trips.

The first four months of the pilot project showed the initiative to be a cost-effective demand-responsive transit solution for the Town. From May 15 to September 30, a total of 12,393 trips were taken using the Uber transit service. Of these, about 10 percent had more than one person in the vehicle. No wheelchair accessible trips were taken through Barrie Taxi.

The Town's total subsidy for these trips amount to approximately $71,000, an average of $5.73 per vehicle trip (and hence around $5.30 per person-trip). There have been no capital costs for the Town. Table 20 describes the Town's project results from May 15 to September 30.

Table 20 Town of Innisfil Transit Results from May 15 to September 30

Total Trips	Total Cost	Ridership	Unique Drivers	Top Destinations	Rideshare rates	Average Wait Time	Peak Hours for Trips
12,393	$70,678	2,366 (individuals who have taken at least one trip	930	Innisfil Heights Employment Area (640 drop-offs) Barrie South GO (515 drop-offs) Innisfil Recreational Complex (457 drop-offs) Innisfil GO Bus Stops (262 drop-offs)	About 10% of trips have matched 2 passengers or more in one vehicle trip– this average has been increasing recently	9:36 minutes	3-5PM (Weekdays) 4-10PM (Fridays) 7-9AM (Weekdays)

By contrast, a fixed-route system would have required a first-year net cost of $272,000 for one bus or $605,000 for two buses. This would have fallen to $155,000 (one bus) and $267,000 (two buses) in the second year. The routes would have served only a small portion of the Town. This indicates that the cost of a fixed-route bus system to service all of Innisfil would have been far greater than the current ridesharing transit service. Further, the demand-responsive system will typically result in lower wait times than a low-frequency fixed-route service.

Recent results from the Town's monitoring process shows that expenditures continue to grow. In a Council session in March 2019, Council agreed to increase the cost of the service and cap available rides at 30 per month. This indicates the limitation of the model in terms of scaling to larger applications.

8.4.2 Welland – Trans-Cab

Welland (population: 52,000) is located in Niagara Region. The municipality provides on-demand, door-to-transit service for rural areas not served by the fixed-route transit service. The Trans-Cab service allows residents to book their trip in advance, be picked up at their place of residence by a taxi and taken to a regular Welland Transit bus stop. For return trips, passengers board the bus and alert the driver, who then contacts the control centre. The control centre then arranges for a taxi to meet the bus and take the passenger back home. The fare for this service is $1.25 above the regular fare.

Trans-Cab is an example of a supplementary service that provides a dynamic transportation service for passengers who need to connect to major transportation stations. A 'home-to-hub' type of service is an option to address the limitations of a fixed route bus service.

8.4.3 York Region Transit (YRT) – Mobility Plus

York Region Transit (YRT) is the public transit operator in York Region. Mobility Plus is YRT's door-to-door, shared ride, accessible public transit service for people with disabilities.

As part of York Region Transit's 2017 Annual Service Plan Goals and Initiatives, Mobility Plus staff have sought to collaborate with the private sector to develop full on-demand integration into the current Mobility Plus service model.

YRT has begun developing a mobile application called *Ride OnDemand* that will allow Mobility Plus passengers to request same day bookings and receive the operator's estimated arrival time.

Since accessibility will be a key factor in Caledon's Transit Feasibility Study, York Region Transit's *Ride OnDemand* service is another example of a supplementary service that may address the limitations of a fixed route bus service.

8.4.4 City of Hamilton

Public transit in the City of Hamilton (population: 550,000; similar to Brampton) is currently operated by the Hamilton Street Railway (HSR). Most service is provided by fixed-route bus services in the urban area. Hamilton also includes various lower-density communities outside the

main urban area. Transit service in some of these areas is provided by Trans-Cab, a shared-ride taxi service introduced in 1988 as a two-year pilot.

The service operates in a comparable manner to Welland's, with passengers either contacting the taxi company (for inbound trips) or alerting the bus driver (for outbound trips). The taxi service connects the terminus of specific routes with surrounding area. The cost is the usual fare, plus $0.50.

Trans-Cab is another example of a supplementary service that may address the limitations of a fixed route bus service in Caledon. It is a good example of transit service in a low-density area that connects to fixed-route transit in a major urban area.

8.4.5 Belleville Transit

Belleville Transit provides a conventional fixed-route transit network during the day. For evenings (after 9:30pm on weekdays and after 6:30pm on weekends), service is provided through an on-demand transit service. Passengers book trips through an app (at any time) or by phone (during daytime on weekdays only). Trips start and end at the bus stops used by conventional transit. Service is then dynamically planned to pick-up passengers at their requested stop and pick-up time and take them to their chosen destination stop.

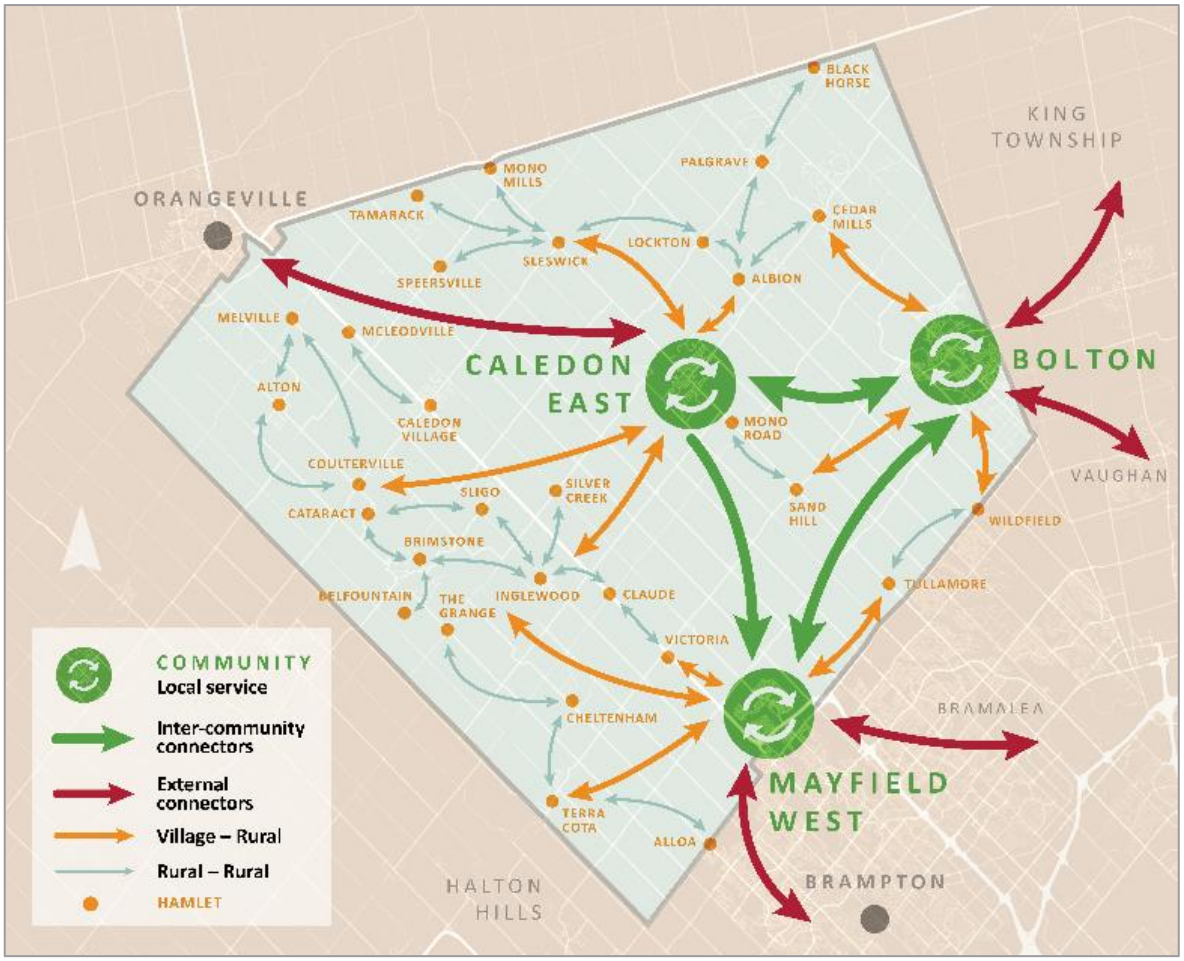
9 Service Options

9.1 Service types

This chapter provides information on the types of service that were considered, the long-list of service options, the evaluation methodology, and the evaluation results.

Figure 49 illustrates the various service types. (Not all possibilities shown in this illustration form part of the long-list of service options.)

Figure 49: Service types



Caledon contains several distinct communities of various sizes, ranging from the various villages (Bolton, Caledon East, Caledon Village, Mayfield West) to tiny hamlets. The rural area that covers much of Caledon also contains a significant population. Finally, Caledon is adjacent to Brampton, which serves a destination for many trips originating within Caledon.

As a result, a transit service could fulfil several distinct functions:

- **Local service**: within one of the villages
- **Inter-community**: between two or more villages
- **Village-rural**: between a village and the surrounding rural area (including smaller communities)
- **Rural-rural**: between parts of the rural area (including smaller communities)
- **External connector**: between Caledon and urban areas outside its boundaries

This classification is used to help explain the motivation behind each of the long-list of service options. The first four types in the list will be collectively referred to as “internal” services.

The service types were developed through various workshops and discussion with stakeholders. These were then translated by the project team into the long-list of service options. Those options were then vetted by stakeholders, and their feedback was used to amend and expand the list of service options. The long-list of options was also reviewed to the public as part of the second round of public open houses. (Appendix C provides further details on the various engagement activates for this study.)

9.2 Service options long-list

A long-list of service options was developed in consultation with staff, shown in Table 21 and Figure 50. The long-list was created by taking each village in Caledon and each service type described in the previous section and identifying the various plausible ways of providing that service for those village(s). To identify the most feasible options, factors such as population of each community, shortest path to major destinations, employments and nature of trips were considered.

This section also provides details on each option, including the rationale for each option, vehicle requirements, estimated ridership, and estimated financial effects. The service options are grouped by the main area served within Caledon.

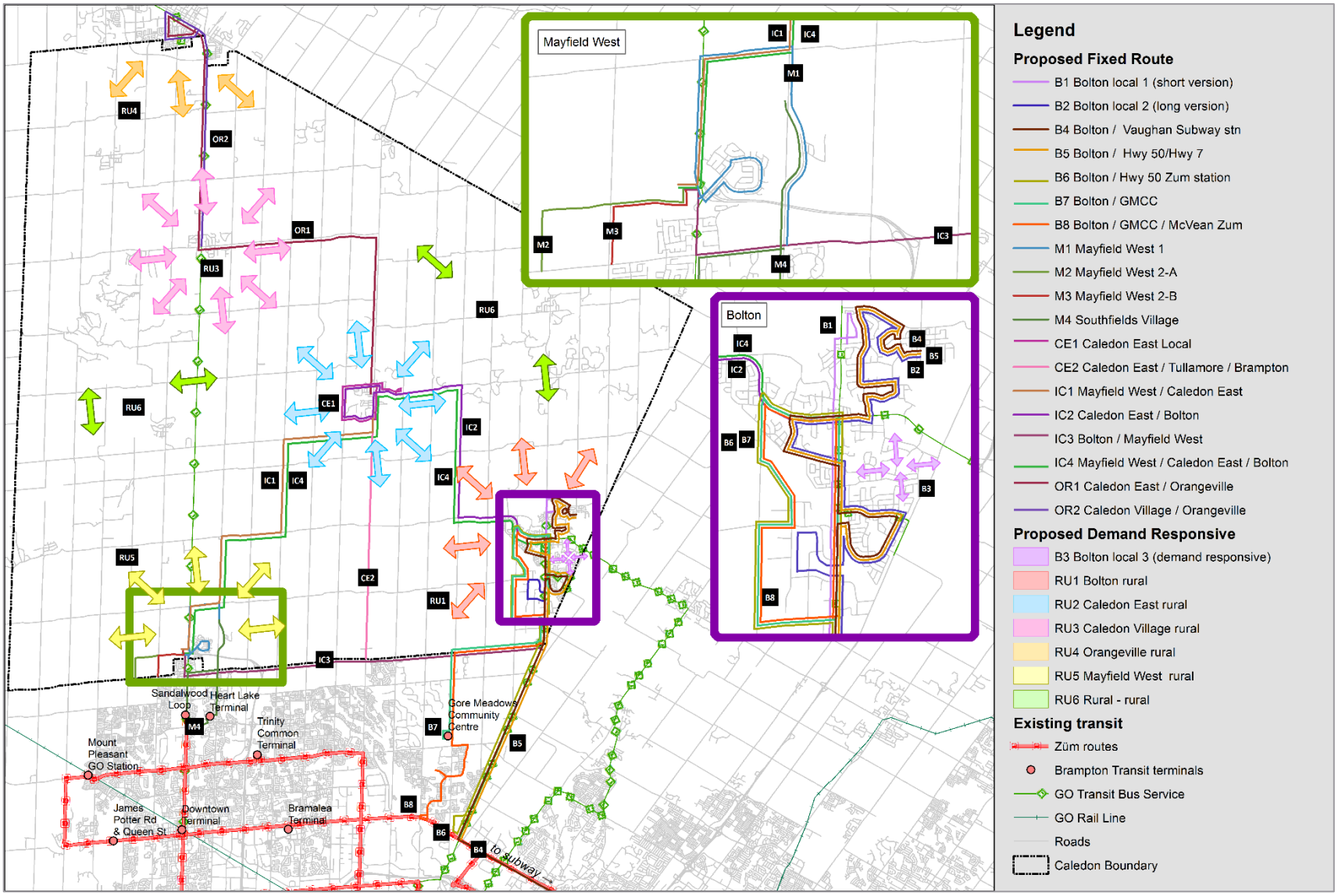
Table 21: Route long-list and main rationale

#	Route	Main Rationale	Purposes served
Bolton services			
1	B1 Bolton local 1 (short)	Local service within Bolton	Shopping, medical, leisure, non-work
2	B2 Bolton local 2 (long)	Local service within Bolton	Shopping, medical, leisure, non-work
3	B3 Bolton local 3 (demand-responsive)	Local service within Bolton	Shopping, medical, leisure, non-work
4	B4 Bolton ↔ Vaughan Subway	External connector to Züm/subway/wider GTA transit network	Commuting, students
5	B5 Bolton ↔ Hwy 50/Hwy 7	External connector to Züm/wider GTA transit network	Commuting, students
6	B6 Bolton ↔ Hwy 50 Züm stn	External connector to Züm / wider GTA transit network	Commuting, students
7	B7 Bolton ↔ GMCC	External connector to Brampton / wider GTA transit network	Commuting, students
8	B8 Bolton ↔ GMCC ↔ McVean Züm station	External connector to Züm / wider GTA transit network	Commuting, students
Mayfield West services			
9	M1 Mayfield West 1	Local service within Mayfield West / external connector to Brampton and wider GTA transit network	Commuting, students, shopping leisure, non-work

#	Route	Main Rationale	Purposes served
10	M2 Mayfield West 2-A	Local service within Mayfield West / external connector to Brampton and wider GTA transit network	Commuting, students, shopping leisure, non-work
11	M3 Mayfield West 2-B	Local service within Mayfield West / external connector to Brampton and wider GTA transit network	Commuting, students, shopping, leisure, non-work
12	M4 Southfields Village	Local service within Mayfield West / external connector to Brampton and wider GTA transit network	Commuting, students, shopping, leisure, non-work
Caledon East services			
13	CE1 Caledon East local	Local service within Caledon East	Shopping, medical, leisure, non-work
14	CE2 Caledon East ↔ Tullamore ↔ Brampton	External connector to Brampton and wider GTA transit network	Commuting, students
Inter-community services			
15	IC1 Mayfield West ↔ Caledon East	Inter-community service	Commuting, amenities
16	IC2 Caledon East ↔ Bolton	Inter-community service	Commuting, amenities
17	IC3 Bolton ↔ Mayfield West	Inter-community service	Commuting, amenities
18	IC4 Mayfield West ↔ Caledon East ↔ Bolton	Inter-community service	Commuting, amenities
Connectors to Orangeville			
19	OR1 Caledon East ↔ Orangeville	Inter-community service / external connector to Orangeville	Commuting, amenities
20	OR2 Caledon Village ↔ Orangeville	External connector to Orangeville	Commuting, amenities
Rural services			
21	RU1 Bolton Rural	Village-rural (around Bolton)	All
22	RU2 Caledon East rural	Village-rural (around Caledon East)	All
23	RU3 Caledon Village rural	Village-rural (around Caledon Village)	All
24	RU4 Orangeville Rural	Village-rural (around Orangeville area within Caledon)	All

#	Route	Main Rationale	Purposes served
25	RU5 Mayfield West Rural	Village-rural (around Mayfield West)	All
26	RU6 Rural-Rural	Rural-rural (between rural areas)	All

Figure 50: Long-list of options



9.2.1 Ridership/financial evaluation estimation process

The ridership was estimated using the existing travel demand (all modes) within the area served or connected by each option. This used 2011 travel data from TTS, scaled in line with the forecast population change from 2011 to 2021 and 2041. The forecast 2021 population was used for start of service, as 2021 is closer to the present day than 2011. The transit mode share was based on similar types of route or service area within the GTHA, as follows:

- 3.08 percent for all-day services to Mayfield West
- 1.54 percent for peak-only services to Mayfield West
- 1.0 percent for other services in Caledon.

The estimated ridership is the forecast 2021 travel demand multiplied by the transit mode share.

The vehicle requirement calculations are based on the length of the route, allowing for different average speeds in urban and rural areas. For the evaluation and staging of 26 service option developed in the previous section, all fixed-route services were assumed to operate on 30-minute headways in peak (six hours) and 60-minute service in off-peak (six hours), for a total of 12 hours per day. Actual operating parameters may vary, but using a consistent assumption allows meaningful comparisons.

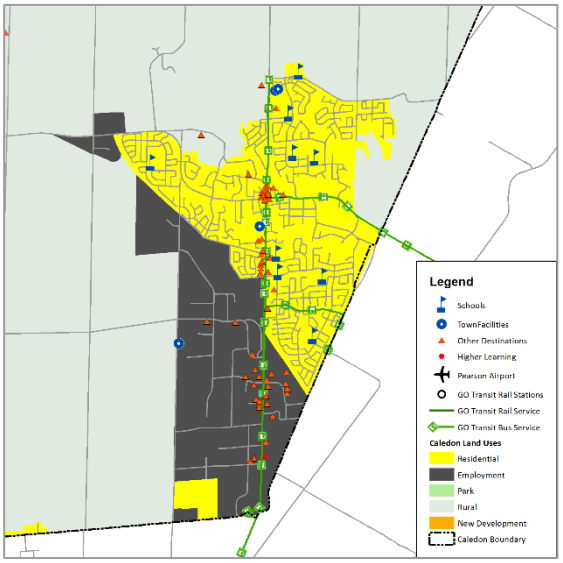
For evaluation and comparison purposes, the operating cost used a typical hourly cost for the GTHA of $125/hour and a service span of 12 hours per day operating weekdays only. The revenue assumed an average revenue per trip of $2.50 (accounting for a typical $3.00 fare cash with various concessions). For routes that primarily provide cross-boundary service into Brampton,(M1-M4 and B-6), and in case of partnership with Brampton Transit, there will be an opportunity for the cost and fare-revenue sharing agreement .

Demand-responsive service assumed an overall cost of $150,000 per vehicle per year.

9.2.2 Bolton service

Bolton is the largest community in Caledon, with a population of approximately 26,000, around two-thirds of the Town's population. As shown in Figure 51, the southwest half of the community is used for employment, while the northeast half is residential. The two secondary schools are in the northeast part of the residential area. The community is bisected by Hwy 50, a commercial corridor.

Figure 51: Bolton context



Bolton local services

Two options for Bolton local service have been included in the long-list. The first (B1) is a short and direct route operating along the commercial corridor along Hwy 50.

The second option (B2) provides more extensive coverage of the residential and employment areas, including service to the two secondary schools. The third option (B3) is demand-responsive service throughout the Bolton urban area.

[B1] Bolton local 1 (short)

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 62,000/year
- Operating Expense: $562,200/year
- Revenue $154,000/year
- Net Cost: $296,000/year
- Farebox Recovery: 27%

[B2] Bolton local 2 (long)

- Possible service approaches: fixed route (4 vehicles)
- Ridership: 62,000/year
- Operating Expense: $1,125,000/year
- Revenue: $153,500/year
- Net Cost: $747,500/year
- Farebox Recovery: 14%

[B3] Bolton local 3 (demand-responsive)

- Possible service approaches: demand-responsive (6 vehicles)
- Ridership: 61,300/year
- Operating Expense: $450,000/year
- Revenue: $153,000/year
- Net Cost: $297,500/year
- Fare box recovery: 34%

Stakeholder input:

- Bolton Local 1 is too limited and direct; function is provided by existing GO route.
- Bolton Local 2 provides critical coverage to high schools

Bolton External Services

The subway is a regionally-significant destination. The recent extension into York Region is expected to attract new riders from the north and east of Toronto, including Caledon. Further, service to the subway would also provide connections with Brampton Transit and York Region Transit. This will enable trips to a wide range of destinations, not just those directly served by the subway.

The simplest way to connect to the subway would be a direct bus route from Bolton, and this is option B4. However, a service to the intersection of Hwy 50 and Hwy 7 would connect with Brampton Transit's Züm services to the subway. This service would also connect with York Region Transit services along Hwy 7 (as shown in Figure 52). Two options were considered: one which served the residential areas in northeast Bolton (B5), and one which served the industrial areas in southwest Bolton (B6).

[B4] Bolton – Vaughan Subway

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 65,000 /year
- Operating Expense: $843,750/year
- Revenue: $162,500 /year
- Net cost: $513,000/year
- Farebox Recovery: 19%

[B5] Bolton – Hwy 50 & Hwy 7

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 62,500
- Operating cost: $562,500/year
- Revenue estimate $156,000 /year
- Net cost: $294,000/year
- Farebox Recovery: 28%

[B6] Bolton – Hwy 50 Züm station

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 67,600
- Operating cost: $562,500/year [8]
- Revenue estimate $166,000 /year
- Net cost: $284,000/year
- Farebox Recovery: 30%

Figure 52: Transit services in and around Vaughan



[8] The operating costs are different in Chapter 10 because the service hours for this service were refined following stakeholder feedback.

Brampton connections

Two potential services would connect Bolton with Brampton at the Gore Meadows community Centre (GMCC). The first (B7) runs only as far the GMCC; the second (B8) would be an extension of Brampton Transit's 36 GARDENBROOKE. These two routes have the same operating costs for Caledon, as the portion paid for the by Town would be the same.

[B7] Bolton ↔ GMCC

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 67,600/year
- Operating Expense: $562,500/year
- Revenue: $169,000 /year
- Net Cost: $281,000/year
- Farebox Recovery: 30%

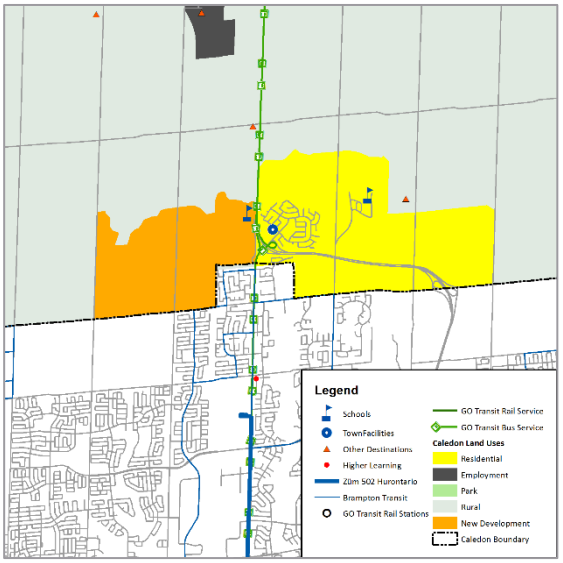
[B8] Bolton ↔ GMCC ↔ McVean Züm

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 67,600/year
- Operating Expense: $562,500/year
- Revenue: $169,000 /year
- Net Cost: $281,000/year
- Farebox Recovery: 30%

9.2.3 Mayfield West Local and External Services

Mayfield West is a community located either side of Hwy 10 (Hurontario St) beside the boundary with Brampton (Figure 53). A small part (Mayfield West 1) has already been developed, but the majority (Mayfield West 2) will be developed over the next five years. The area will be primarily residential, with some commercial and academic land use.

Figure 53: Mayfield West context



The Town of Caledon has agreed with the Mayfield West 2 developers that transit will be provided, and land has been reserved close to Hurontario St for a 1-hectare transit hub. The developer will also be providing funding for the future transit hub in Mayfield West 2.

The service options for Mayfield West are extensions of various Brampton Transit routes, (M1, M2 and M3)), plus an all-new route proposed by Brampton Transit (M4). The latter would connect Southwinds, Heart Lake terminal, and Sandalwood Loop (the terminus for Brampton Transit's route 502 ZÜM MAIN). It would loop in the opposite direction of the north end of Brampton Transit's route 7 KENNEDY, complementing it.

Option M1 could use the existing road network. A more efficient version will exist if a planned connection between Dougall Ave and Hurontario St is built. The potential connection between Dougall Ave and Hurontario St (Ontario Highway 10) also depends on discussions with MTO.

The estimated costs have been conservatively estimated on the assumption that Brampton Transit's routes have no slack time in their schedule (that could be used in Caledon at no marginal

cost). It is also assumed that all ridership would be between Caledon and Brampton (with none within Caledon). This means that half of trips would start in Brampton, and hence half the farebox revenue would go to Brampton. The figures for revenue and net cost shown below reflect that.

[M1] Mayfield West 1 (7 KENNEDY extension):

- Possible service approaches: fixed route (4 vehicles)
- Ridership: 128,000/year
- Operating Expense: $1,130,000/year
- Revenue: $321,000/year
- Net Cost: $801,000/year
- Farebox Recovery: 29%

[M2] Mayfield West 2-A (25 EDENBROOK extension)[9]:

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 22,100/year
- Operating Expense: $375,000/year
- Revenue: $55,500/year
- Net Cost: $320,000/year
- Farebox Recovery: 15%

[M3] Mayfield West 2-B (3 MCLAUGHLIN extension):

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 204,000/year
- Operating Expense: $562,500/year
- Revenue: $511,000/year
- Net Cost: $52,000/year
- Farebox Recovery: 91%

[M4] Southfields Village:

- Possible service approaches: fixed route (1 vehicle)
- Annual Ridership: 26,900/year
- Operating Expense: $375,000/year [10]
- Annual Revenue: $67,300/year
- Net cost: $3081,000/year
- Farebox Recovery: 18%

Stakeholder input:

- Connections to all three GO stations will be important to some portion of the market and will need to be prioritized in implementation.
- Access to and from east of Hurontario is problematic and is not likely to be resolved during the term of this assessment.
- During detailed assessment, consultations with Brampton Transit will be needed to assess the operational effects of extensions and impacts on Main Street service north of Sandalwood.
- Southfield Village, if operated by Brampton Transit, would likely be interlined with other Brampton Transit routes for operational efficiency.

9.2.4 Caledon East

Caledon East is (currently) the second-largest community in Caledon, with a population of around 5,000. The community is primarily residential and includes a few commercial uses such as Caledon's Town Hall, and a multi-use community leisure facility.

[10] The operating costs are different in Chapter 10 because the service hours for this service were refined following stakeholder feedback.

Local service

Caledon East Local would serve trips within the community and be implemented through a fixed route or demand-responsive service.

A fixed route service would require one vehicle for a half-hourly service. Similarly, a demand-responsive service would require one vehicle and reflect a similar demand estimate.

To be conservative, the higher operating cost of a fixed-route service has been assumed.

[CE1] Caledon East Local:

- Possible service approaches: demand-responsive or fixed route (1 vehicle)
- Ridership: 4,770/year
- Operating Expense: $375,000/year
- Revenue: $11,900/year
- Net Cost: $288,000/year
- Farebox Recovery: 3%

Brampton connection

The Brampton connection would extend the existing route servicing Tullamore Industrial (30 Airport Road) to Caledon East. This is intended to provide direct external access for passengers residing or transferring at Caledon East.

[CE2] Caledon East – Tullamore Industrial – Brampton

- Possible service approaches: fixed route (1 vehicle)
- Ridership: 2,900/year
- Operating Expense: $562,500/year
- Revenue: $7,260 /year
- Net Cost: $443,000/year
- Farebox Recovery: 1%

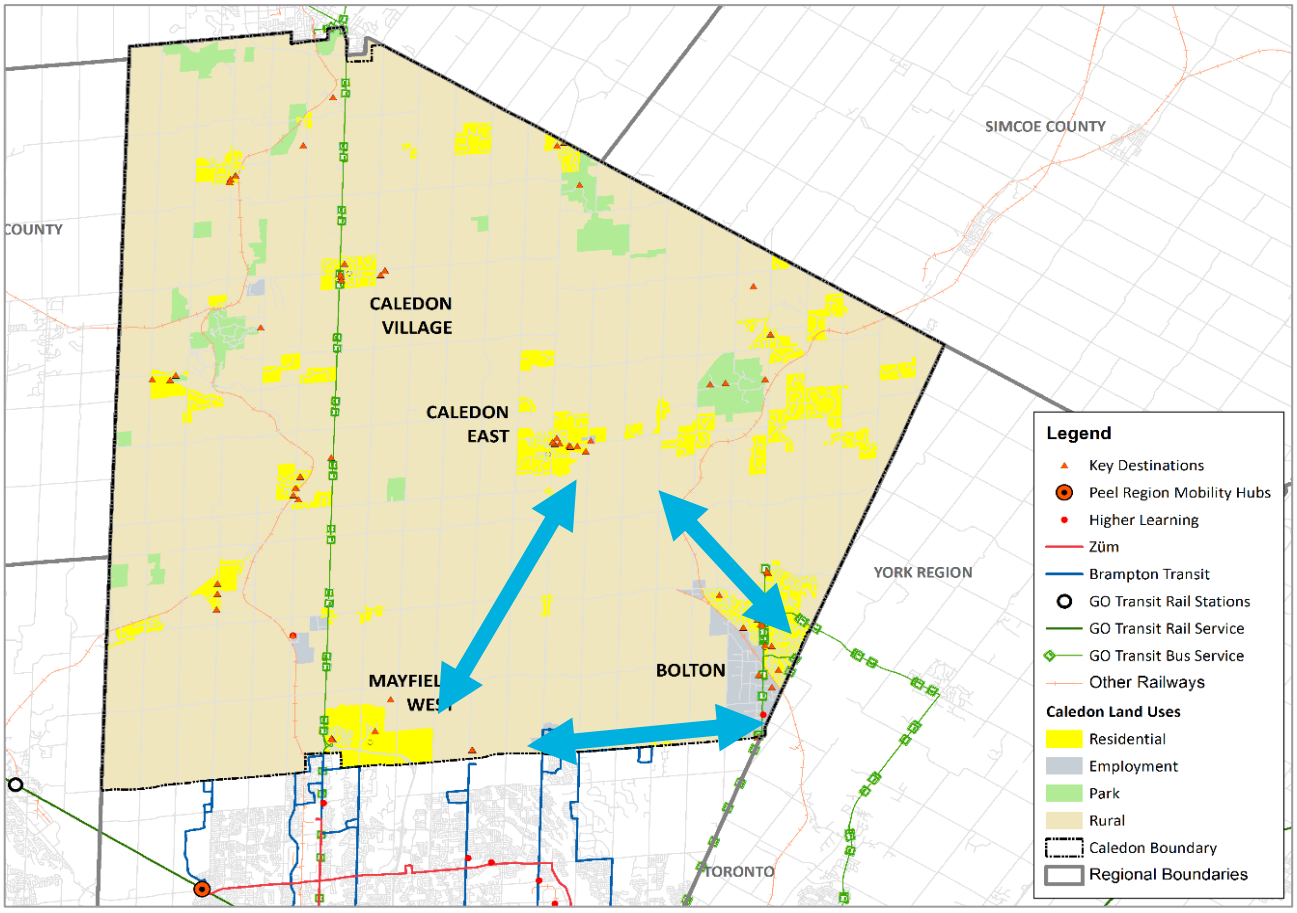
The Mayfield West routes described in a previous section also provide connections into Brampton and are not duplicated here.

9.2.5 Inter-community services

There are four villages in Caledon: Bolton, Caledon East, Caledon Village, and Mayfield West. The existing GO Transit service already connects Caledon Village (with Mayfield West and Brampton). Consequently, the long-list of service options includes three services, each connecting two of the other three villages. A fixed-route service is the most appropriate service approach for inter-community transit.

The three routes are shown in Figure 54. The rural areas between these three villages are sparsely populated. Consequently, the exact route between each village will not have a significant effect on ridership. The configuration of the road network means that the service's routing will not have a significant effect on the vehicle journey time (and hence operating costs).

Figure 54: Inter-community services



Mayfield West ↔Caledon East

This route will directly serve the transit terminal in Mayfield West to allow easy connections to any local Mayfield West service. Within Caledon East, it is assumed this route would circle the village to provide coverage for most of the community, including community amenities.

[IC1] Mayfield West ↔ Caledon East:

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 16,400/year
- Operating Expense: $562,500/year
- Revenue: $41,100/year
- Net cost: $409,000/year
- Farebox Recovery: 7%

Caledon East ↔ Bolton

This route is expected to provide coverage for most of the community (including community amenities) in Caledon East. Within Bolton, it is assumed the route would serve the downtown areas, connecting to the existing GO Bus routes, and any local Bolton transit service.

[IC2] Caledon East ↔ Bolton:

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 34,600/year
- Operating cost: $562,500/year
- Revenue estimate $86,500/year
- Net cost: $363,000/year
- Farebox Recovery: 15%

Mayfield West ↔ – Bolton

This route is expected to directly serve the transit terminal in Mayfield West, allowing for easy connections to any local Mayfield West transit service. Within Bolton, it is assumed the route would serve the downtown areas, connecting to the existing GO Bus routes, and any local Bolton services.

[IC3] Bolton ↔ Mayfield West:

- Possible service approaches: fixed route (2 vehicles)
- Ridership: 57,200/year
- Operating Expense: $562,500/year
- Revenue: $143,000/year
- Net cost: $307,000/year
- Farebox Recovery: 25%

Mayfield West ↔ Caledon East ↔ Bolton

This route is a combination of the Mayfield West ↔ Caledon East and Caledon East ↔ Bolton service options described above. The ridership is higher than the sum of these two routes since it enables trips between Mayfield West and Bolton.

[IC4] Mayfield West ↔ Caledon East ↔ Bolton:

- Possible service approaches: fixed route (4 vehicles)
- Ridership: 108,000/year
- Operating Expense: $1,125,000/year
- Revenue: $271,000/year
- Net Cost: $629,000/year
- Farebox Recovery: 24%

9.2.6 Rural services

Rural – Village services

Caledon has multiple communities to which people in its rural areas may wish to travel. To estimate the ridership for a Rural – Village service, each rural area was allocated to a community. The allocation was done at the zonal level, based on the most popular trip destination for each zone. The destination communities were Bolton, Caledon Village, Caledon East, Orangeville, and Mayfield West.

Rural – Village options would use a form of demand-responsive service that is centred a round a key point in the destination community. The estimated ridership was used to derive the number of vehicles; assuming 6 boardings per hour (a typical upper limit for demand-responsive services).

[RU1] Bolton Area Rural:

- Possible service approaches: demand-responsive (2 vehicles)
- Ridership: 19,500/year
- Operating Expense: $150,000/year
- Revenue: $49,000/year
- Net Cost: $101,000/year
- Farebox: 33%

[RU2] Caledon East Area Rural:

- Possible service approaches: demand-responsive (1 vehicle)
- Ridership: 1,100/year
- Operating Expense: $75,000/year
- Revenue: $2,760/year
- Net Cost: $72,200/year
- Farebox Recovery: 4%

[RU3] Caledon Village Area Rural:

- Possible service approaches: demand-responsive (1 vehicle)
- Ridership: 1,240/year
- Operating Expense: $75,000/year
- Revenue: $3,090/year
- Net Cost: $71,900/year
- Farebox Recovery: 4%

[RU4] Orangeville Area Rural:

- Possible service approaches: demand-responsive (1 vehicle)
- Ridership: 10,300/year
- Operating Expense: $75,000/year
- Revenue: $25,700/year
- Net Cost: $49,300/year
- Farebox Recovery: 34%

[RU5] Mayfield West Area Rural

- Possible service approaches: demand-responsive (1 vehicle)
- Ridership: 5,980/year
- Operating Expense: $75,000/year
- Revenue: $14,900/year
- Net Cost: $60,100/year
- Farebox Recovery: 20%

Rural – Rural services

A demand-responsive service is the only plausible service approach for a Rural – Rural transit service. The estimated ridership was used to derive the required number of vehicles, assuming 6 boardings per hour (a typical upper limit for demand-responsive services). Given Caledon's size, it is likely this vehicle estimate is conservative, and the actual number may be higher.

[RU6] Rural – Rural:

- Possible service approaches: demand-responsive (4 vehicles assumed)
- Ridership: 43,700/year
- Operating Expense: $300,000/year
- Revenue: $109,000/year
- Net Cost: $191,000/year
- Farebox Recovery: 36%

9.2.7 Connector to Orangeville

GO Transit's existing service provide connections along Hwy 10 to Orangeville, serving Caledon Village along the way. However, service on this route is limited, with only six southbound and seven northbound trips each day. Consequently, the long-list includes an all-day service between Caledon Village and Orangeville.

[OR2] Caledon Village – Orangeville

- Possible service approaches: fixed route (3 vehicle)
- Ridership: 2,900 /year
- Operating Expense: $900,000/year
- Revenue: $7,260 /year
- Net Cost: $893,000/year
- Farebox Ratio: 1%

Caledon East is located approximately mid-way between Orangeville and Bolton. Consequently, stakeholder input resulted in a shorter service between Caledon East and Orangeville being added the long-list.

[OR1] Caledon East – Orangeville

- Possible service approaches: fixed route (1 vehicles)
- Ridership: 4,450/year
- Operating Expense: $300,000/year
- Revenue: $11,100 /year
- Net Cost: $289,000/year
- Farebox Recovery: 4%

Public and stakeholder feedback highlighted the importance of transit on the Hwy 10 corridor, expressing a desire for better service levels than that currently provided by GO Transit. Improving the GO Bus service would benefit communities along Hwy 10 by helping reduce traffic as well providing better connections. It would also benefit Orangeville for the same reasons.

9.3 Evaluation

9.3.1 Evaluation methodology

Through consultation with stakeholders and staff, the study team developed six goals for any transit service to align the service with the Town's strategic aims. These goals were then translated into quantifiable evaluation metrics, as shown in Table 22.

Table 22: Evaluation goals and metrics

Evaluation goal	Evaluation metric	Rationale
Financial Responsibility	Capital cost	Transit has both start-up (capital) and ongoing (operating, promotional and marketing costs). Regardless of tax subsidy levels, the Town will need to consider overall (total) costs and has a goal of being cost-effective.
	Total operating cost	
	Operating cost per passenger	
Integration with land use	Current population served	Transit that's well-integrated and compatible with land use goes where people are now and will be in the future. It also means that people have easy access to transit stops via the pedestrian and cycling network (sidewalks, crossings, etc.)
	Future population served	
	Pedestrian access quality	
Support for healthy living communities	Number of activity centres served	Healthy communities provide people with more than a home and a job. Good transit provides access for people to all the other places in life.
Inclusiveness and equity	Forecast ridership	Good transit is useful to a wide range of people, specifically seniors and youth and this results in strong ridership. The Inclusiveness and equity was measured by ridership. Study's calculations for the ridership take into consideration that youth and seniors are disproportionately likely to use transit. Consequently, high transit ridership implies an extra benefit for those groups.
Economic vitality	Jobs served by route	Employment requires people to travel to their job; post-secondary education has a significant role in long term economic vitality. Good transit enables people to travel to both
	Post-secondary education access	

Customer experience	Directness of route / transfer requirements for likely users	Good transit isn't just about the destinations – it's also about the experiment of the journey.

The values for each metric were calculated for each of the options on the long-list. These were then translated into scores on a scale of one to three. Options in the top third were assigned a score of 3, those in the middle third were assigned a score of 2, and those in the bottom third a score of 1. Where an evaluation goal had multiple metrics, the score for the goal was averaged across the metrics.

The total score across all six evaluation goals was then used in the next stage of the study for prioritization.

9.3.2 Ridership and financial performance

The ridership and financial performance are two of the six evaluation criteria and are expected to attract extra attention because of their wider effects on the Town's finances. This section documents the methodology used to calculate the ridership (and hence fare revenue).

The ridership forecast used a 'direct demand' process. Each route serves a particular area, and the number of weekday trips made within that area was calculated. The data source for the 'service start-up' number of trips was the 2011 Transportation Tomorrow Survey (TTS). The number of trips was adjusted in line with forecast population changes from Town to driver the number of trips in 2021 and 2041.

The total number of trips was converted to the forecast transit ridership by applying an estimated transit mode share (as documented in section 9.2.1). This was derived from experience in other municipalities and professional judgment. The farebox revenue assumed an average fare per passenger of $2.50, in line with similar local transit systems in the GTHA.

The vehicle requirements and operating costs assume six hours of peak service (30-minute headways) and six hours of off-peak service (60-minute headways) on weekdays only. The portion of operating costs covered by farebox revenue is known as "farebox recovery ratio". Across the GTHA, figures of 25-50% are typical at the system level, with greater variation at the route level. Farebox recovery ratio is also typically higher in denser areas, as there are more people and jobs served by a given amount of service. This implies Caledon will probably have a low rate compared with the rest of the GTHA. Further, new services can expect to start with a lower rate. This is because the ridership will take time to reach its potential, while all the costs are present from the start. This issue will be particularly acute if an area had no transit service previously (like Caledon).

Table 23 summarises the applicable data for 2021.

Table 23: Ridership and financial summary (2021)

Route	Annual Ridership	Vehicles	Headway		Annual OpEx	Annual Revenue	Net Cost	Farebox Recovery
			Peak	Off-Peak				
Bolton services								
B1 Bolton local 1 (short)	61,600	2	30	60	$563,000	$154,000	$408,000	27%
B2 Bolton local 2 (long)	61,300	4	30	60	$1,130,000	$153,000	$972,000	14%
B3 Bolton local 3 (demand-responsive)	61,300	6	N/A	N/A	$450,000	$153,000	$297,000	34%
B4 Bolton ↔ Vaughan Subway	65,000	3	30	60	$844,000	$162,000	$681,000	19%
B5 Bolton ↔ Hwy 50/Hwy 7	62,500	2	30	60	$563,000	$156,000	$406,000	28%
B6 Bolton ↔ Hwy 50 Züm stn	66,500	2	30	60	$563,000 [11]	$166,000	$396,000	30%
B7 Bolton ↔ GMCC	67,600	2	30	60	$563,000	$169,000	$393,000	30%
B8 Bolton ↔ GMCC ↔ McVean Züm stn	67,600	2	30	60	$563,000	$169,000	$393,000	30%
Mayfield West services								
M1 Mayfield West 1	128,000	4	10	20	$1,130,000	$321,000	$804,000	29%
M2 Mayfield West 2-A	22,100	2	10	20	$375,000	$55,500	$320,000	15%
M3 Mayfield West 2-B	204,000	2	10	N/A	$563,000	$511,000	$52,000	91%
M4 Southfields Village	26,900	1	30	30	$375,000[11]	$67,300	$308,000	18%

[11] The operating costs are different in Chapter 10 because the service hours for this service were refined following stakeholder feedback.

Route	Annual Ridership	Vehicles	Headway		Annual OpEx	Annual Revenue	Net Cost	Farebox Recovery
			Peak	Off-Peak				
Caledon East services								
CE1 Caledon East local	4,770	1	30	30	$375,000	$11,900	$363,000	3%
CE2 Caledon East ↔ Tullamore Industrial ↔ Brampton	2,900	2	30	60	$563,000	$7,260	$555,000	1%
Inter-community services								
IC1 Mayfield West ↔ Caledon East	16,400	2	30	60	$563,000	$41,100	$521,000	7%
IC2 Caledon East ↔ Bolton	34,600	2	30	60	$563,000	$86,500	$476,000	15%
IC3 Bolton ↔ Mayfield West	57,200	2	30	60	$563,000	$143,000	$419,000	25%
IC4 Mayfield West ↔ Caledon East ↔ Bolton	108,000	4	30	60	$1,130,000	$271,000	$854,000	24%
Connectors to Orangeville								
OR1 Caledon East ↔ Orangeville	4,450	1	30	60	$375,000	$11,100	$364,000	3%
OR2 Caledon Village ↔ Orangeville	2,900	3	30	60	$1,130,000	$7,260	$1,120,000	1%
Rural services								
RU1 Bolton Rural	19,500	2	N/A	N/A	$150,000	$48,900	$101,000	33%
RU2 Caledon East rural	1,100	1	N/A	N/A	$75,000	$2,760	$72,200	4%
RU3 Caledon Village rural	1,240	1	N/A	N/A	$75,000	$3,090	$71,900	4%
RU4 Orangeville Rural	10,300	1	N/A	N/A	$75,000	$25,700	$49,300	34%

Route	Annual Ridership	Vehicles	Headway		Annual OpEx	Annual Revenue	Net Cost	Farebox Recovery
			Peak	Off-Peak				
RU5 Mayfield West Rural	5,980	1	N/A	N/A	$75,000	$14,900	$60,100	20%
RU6 Rural-Rural	43,700	4	N/A	N/A	$300,000	$109,000	$191,000	36%

Caledon is expected to grow significantly in the future. As a result, overall travel demand will also increase, as will the potential ridership on the various transit options under consideration. Transit service (and hence costs) will need to increase to accommodate that demand, as well as to encourage additional growth in ridership. Appendix D provides more details on some of the cost implications.

9.3.3 Evaluation results

The evaluation process scored on a comparison basis, so that top performers in each category received a score of three, and the worst performers received a score of one. The results of the evaluation will be used to remove mutually-exclusive options, and to prioritize the remaining options for implementation. (Implementing all at once is unlikely to be feasible.) Table 24 shows the resulting score thresholds for each metric.

Table 24: Evaluation score thresholds

Category	Metric for preliminary evaluation	Score of 1	Score of 2	Score of 3
Financial responsibility	Capital cost	4+ vehicles	2 or 3 vehicles	1 vehicle
	Total operating cost (net of fare revenue)	$400,000/year	$290,000-400,000 per year	Under $290,000/year
	Operating cost/passenger (net of fare revenue)	Over $25 per passenger	$5.70 to $25 per passenger	Under $5.70 per passenger
Integration with land use	Current population served	Under 8,000 people	8,000 to 14,000 people	Over 14,000 people
	Future population served	Under 12,000 people	12,000 to 20,000 people	Over 20,000 people
	Quality of pedestrian access	No sidewalks	Sidewalk on one side of street	Demand-responsive *or* sidewalks on both sides
Support for healthy living communities	Number of activity centres served	Under 7	8 to 20	Over 20
Inclusiveness and equity	Forecast ridership	Under 16,000 passengers/year	16,000 to 64,000 passenger/year	Over 64,000 passengers/year
Economic vitality	Jobs served by route	Under 5,500 jobs	5,500 to 9,500 jobs	Over 9,500 jobs
	Post-secondary education access	Three or more transfers, or no connection	Two transfers	One transfer
Customer experience	Directness of route / transfer requirements for likely users	Meandering / many transfers	Fairly straight / some transfers	Straight / few or no transfers

Table 25 (next page) shows the evaluation results for each option, along with information on the service type and information about each option. Further details are provided in Appendix B (detail evaluation results). These results are used in the next chapter to prioritize the options for implementation.

Table 25: Evaluation results

Type: F = Fixed route service; D = Demand-responsive service

#	Route	Type	Description / notes	Financial	Land use integration	Healthy communities	Inclusiveness / equity	Economic vitality	Customer experience	Total
Bolton routes										
B1	Bolton local 1 (short)	F	Queen St only. Overlaps B2, B3	2.0	2.7	2.0	2.0	1.5	3.0	**13.2**
B2	Bolton local 2 (long)	F	Queen St and local roads. Overlaps B1, B3	1.3	2.0	3.0	3.0	2.0	2.0	**13.3**
B3	Bolton local 3 (demand-responsive)	D	All of Bolton. Overlaps B1, B2	2.3	2.3	3.0	3.0	1.5	2.0	**14.2**
B4	Bolton ↔ Vaughan Subway stn	F	Bolton residential areas. Overlaps B5, B8	1.7	3.0	3.0	3.0	3.0	3.0	**16.7**
B5	Bolton ↔ Hwy 50/Hwy 7	F	Bolton residential areas. Connects with VIVA/Züm. Overlaps B6, B8	2.0	3.0	3.0	2.0	3.0	2.0	**15.0**
B6	Bolton ↔ Hwy 50 Züm stn	F	Bolton employment areas. Connects with VIVA/Züm. Overlaps B4, B5	2.3	2.7	3.0	3.0	3.0	3.0	**17.0**
B7	Bolton ↔ GMCC	F	Overlaps B8	2.3	2.7	2.0	3.0	2.5	2.0	**14.5**
B8	Bolton ↔ GMCC ↔ McVean Züm stn	F	36 GARDENBROOKE SOUTH extension. Overlaps B7	2.3	2.7	2.0	3.0	3.0	2.0	**15.0**

#	Route	Type	Description / notes	Financial	Land use integration	Healthy communities	Inclusiveness / equity	Economic vitality	Customer experience	Total
Mayfield West routes										
M1	Mayfield West 1	F	7 KENNEDY extension. Overlaps M4	1.7	1.3	1.0	3.0	1.5	3.0	**11.5**
M2	Mayfield West 2-A	F	25 EDENBROOK extension. Overlaps M3	2.0	1.3	1.0	2.0	1.5	3.0	**10.8**
M3	Mayfield West 2-B	F	3 MCLAUGHLIN extension. Overlaps M2	2.7	1.7	1.0	3.0	1.5	3.0	**12.8**
M4	Southfields Village	F	Overlaps M1	1.3	2.3	3.0	3.0	2.0	3.0	**14.7**
Caledon East routes										
CE1	Caledon East local	F		2.0	1.3	2.0	1.0	1.0	3.0	**10.3**
CE2	Caledon East ↔ Tullamore Industrial ↔ Brampton	F	30 AIRPORT extension	1.3	1.3	1.0	1.0	1.5	3.0	**9.2**
Inter-community routes										
IC1	Mayfield West ↔ Caledon East	F	Overlaps IC4	1.3	1.3	1.0	2.0	1.5	3.0	**10.2**
IC2	Caledon East ↔ Bolton	F	Overlaps IC4	1.3	2.0	3.0	2.0	1.5	3.0	**12.8**
IC3	Bolton ↔ Mayfield West	F		2.0	2.7	2.0	2.0	2.5	3.0	**14.2**
IC4	Mayfield West ↔ Caledon East ↔ Bolton	F	Overlaps IC1, IC2	1.3	2.3	3.0	3.0	2.0	2.0	**13.7**

#	Route	Type	Description / notes	Financial	Land use integration	Healthy communities	Inclusiveness / equity	Economic vitality	Customer experience	Total
Connectors to Orangeville										
OR1	Caledon East ↔ Orangeville	F	Overlaps OR1	2.0	2.0	2.0	1.0	1.5	3.0	**11.5**
OR2	Caledon Village ↔ Orangeville	F	Overlaps OR2	1.3	1.7	1.0	1.0	1.5	3.0	**9.5**
Rural services										
RU1	Bolton Rural	D		2.3	1.7	3.0	2.0	1.5	3.0	**13.5**
RU2	Caledon East rural	D		2.3	1.7	2.0	1.0	1.5	3.0	**11.5**
RU3	Caledon Village rural	D		2.3	1.7	1.0	1.0	1.5	3.0	**10.5**
RU4	Orangeville Rural	D		3.0	1.7	2.0	1.0	1.5	3.0	**12.2**
RU5	Mayfield West Rural	D		2.7	1.7	3.0	1.0	1.5	3.0	**12.8**
RU6	Rural-Rural	D		2.3	1.7	1.0	2.0	1.5	3.0	**11.5**

10 Prioritization and Staging

10.1 Option prioritization

This chapter uses the evaluation results and other factors to prioritize options for implementation, and to set out a staged implementation.

The evaluation results were reported to Council in February 2019, along with a preliminary prioritization (high/medium/low) based on the scores. Generally speaking, options with a score of 14 or higher were assigned a high priority, options with a score of 11 to 14 were assigned a medium priority, and options with less than 11 were assigned a low priority.

The long-listing process included multiple options that overlapped with each other. The evaluation process then revealed which was the best-performing among those options, and the other options were then eliminated form further consideration.

The resulting prioritization (and removed options) are shown in Table 26.

Table 26: Option prioritization

#	Route	Score	Priority	Rationale for "N/A"
Bolton services				
B1	Bolton local 1 (short)	**13.2**	N/A	Overlaps with higher-scoring B3
B2	Bolton local 2 (long)	**13.3**	N/A	Overlaps with higher-scoring B3
B3	Bolton local 3 (demand-responsive)	**14.2**	High	--
B4	Bolton ↔ Vaughan Subway stn	**16.7**	N/A	Overlaps with higher-scoring B6
B5	Bolton ↔ Hwy 50/Hwy 7	**15.0**	N/A	Overlaps with higher-scoring B6
B6	Bolton ↔ Hwy 50 Züm stn	**17.0**	High	--
B7	Bolton ↔ GMCC	**14.5**	N/A	Part of higher-scoring B7
B8	Bolton ↔ GMCC ↔ McVean Züm stn	**15.0**	High	--
Mayfield West services				
M1	Mayfield West 1	**11.5**	N/A	Overlaps with higher-scoring M4
M2	Mayfield West 2-A	**10.8**	Medium	--
M3	Mayfield West 2-B	**12.8**	Medium	--
M4	Southfields Village	**14.7**	High	--

#	Route	Score	Priority	Rationale for "N/A"
Caledon East services				
CE1	Caledon East local	**10.3**	Low	--
CE2	Caledon East ↔ Tullamore Industrial ↔ Brampton	**9.2**	Low	--
Inter-community services				
IC1	Mayfield West ↔ Caledon East	**10.2**	N/A	Part of higher-scoring IC4
IC2	Caledon East ↔ Bolton	**12.8**	N/A	Part of higher-scoring IC4
IC3	Bolton ↔ Mayfield West	**14.2**	High	--
IC4	Mayfield West ↔ Caledon East ↔ Bolton	**13.7**	Medium	--
Connectors to Orangeville				
OR1	Caledon East ↔ Orangeville	**11.5**	Medium	--
OR2	Caledon Village ↔ Orangeville	**9.5**	N/A	Part of higher-scoring OR1
Rural services				
RU1	Bolton Rural	**13.5**	Medium	--
RU2	Caledon East rural	**11.5**	Medium	--
RU3	Caledon Village rural	**10.5**	Low	--
RU4	Orangeville Rural	**12.2**	Medium	--
RU5	Mayfield West Rural	**12.8**	Medium	--
RU6	Rural-Rural	**11.5**	Medium	--

10.2 Staging plan

This section describes the recommended staging for the various service options, along with the rationale behind the recommendations. The rationale considers such issues as deliverability, stakeholder feedback, public comments, and the evaluation scores.

Staging covers the order services are recommended to be implemented, not the timeline. The timing of each stage of implementation will depend on Council decisions on funding. It is also to be noted that implementing of all 26 options simultaneously would require significant investment and create a very large challenge to get that scale of service started.

For Caledon's transit services, the two most sensible short-term delivery approaches are contracting with Brampton Transit, and using a private contractor. Contracting additional services with Brampton Transit requires a minor amendment to the existing agreement, and hence can be

done quickly. However, a private contractor will be more appropriate for services with significant portions operating beyond Brampton Transit's service area.

There is a thriving market for transit service provision by the private sector in southern Ontario, so any RFP is likely to attract competitively-priced bids. To ensure the Town retains flexibility, it is recommended such contracts be for three years, with options to extend by two additional years (up to four or five years) at the Town's discretion.

10.2.1 High-priority routes

The evaluation process resulted in five services being assigned high priority, shown in Figure 55 (next page):

- B3 Bolton local 3 (demand-responsive)
- B6 Bolton ↔ Hwy 50 Züm station
- B8 Bolton ↔ GMCC ↔ McVean Züm station
- M4 Southfields Village
- IC3 Bolton ↔ Mayfield West

The high-priority services are those intended to be implemented in a short-term timeframe. Consequently, deliverability was a major consideration when deciding the staging order.

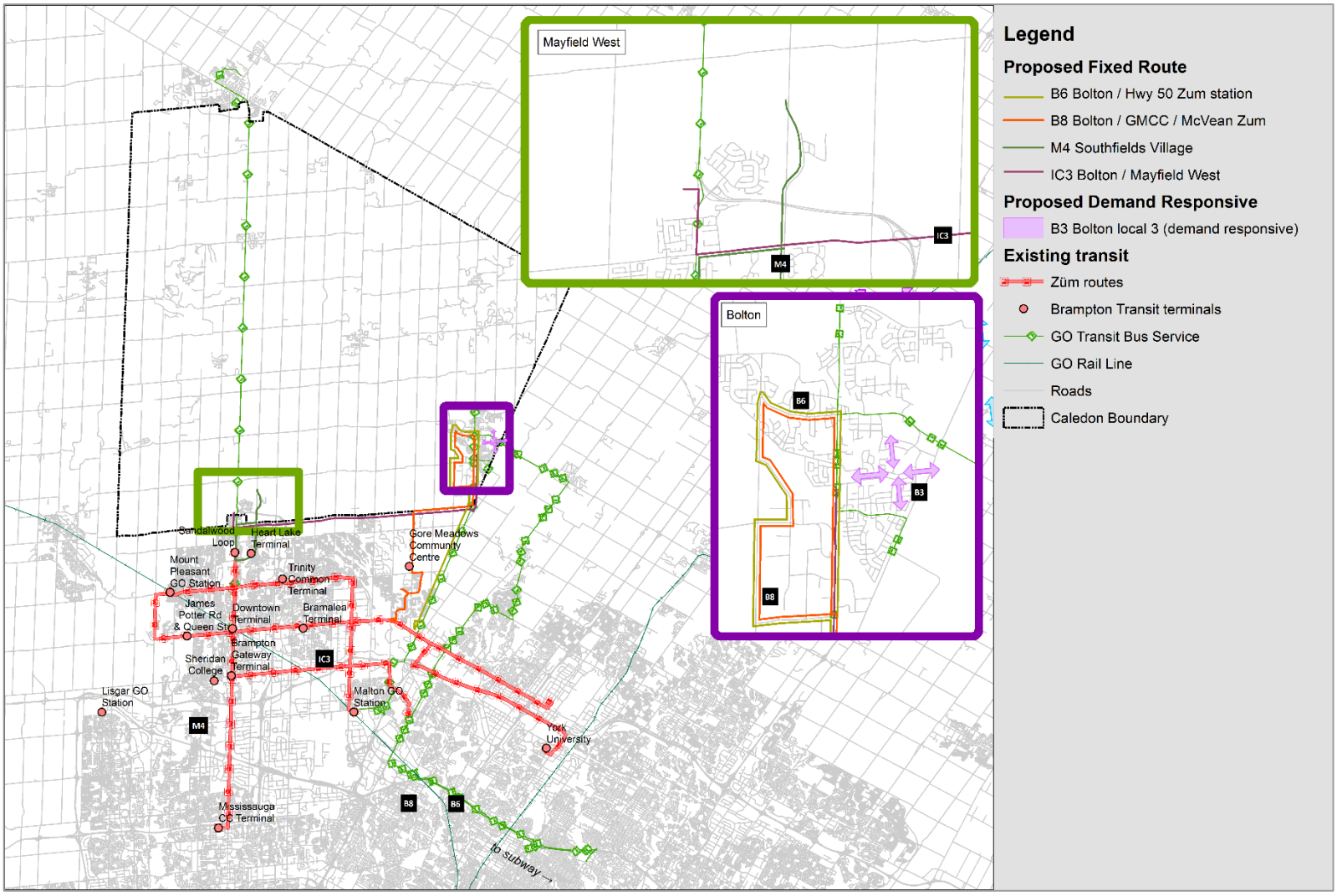
Mayfield West

Discussions with Brampton Transit revealed that they have sufficient resources available to deliver M4 (Southfields Village) in September 2019, subject to timely agreement with the Town following Council approval. Like all the Mayfield West routes, this service be would an extension of a Brampton Transit route. Consequently, contracting with Brampton Transit will provide the best customer experience for transit users from Caledon.

Under this arrangement, the Town of Caledon would pay the proportion of the service's operating costs corresponding to the proportion of the route within Caledon.

The Town's costs would then be reduced by the fare revenue generated by boardings within Caledon, as determined by Brampton Transit's average revenue per board (or a similar mutually-agreed measure). Transit users boarding in Caledon would enjoy free transfers in Brampton in the same way that Brampton Transit users do.

Figure 55: High-priority options



Bolton local

The evaluation process identified demand-responsive service (B3) as the best way to serve local trips within Bolton. Caledon Community Services (CCS) currently provides a demand-responsive service for specialized and accessible transportation within Bolton. This service is under annually-negotiated contracts with the Ministry of Health & Long Term Care (MOHLTC) and TransHelp (Peel Region's paratransit service provider) and is operated through a blended model of service that increases efficiencies and capacities of its services.

Accordingly, town is recommended to seek a transit operator through a competitive bid process. The selected operator will find ways to complement the existing service of CCS and other transit as complementary services that would benefit (not compete) the existing transit service and the recommended new fixed route in Bolton. This new service will also be considered as integrated as possible in terms of routing, operations and fare payment.

A Bolton local service could be operating in 6-12 months, depending on the time spent in negotiations and procurement. This service should be implemented beyond 2021 and Subject to success of Bolton-Brampton connection (B6).

Bolton-Brampton connection

Two services connecting Bolton with Brampton were evaluated as being high-priority. Option B6 (Bolton ↔ Hwy 50 Züm station) was included as standalone service; option B8 (Bolton ↔ GMCC ↔ McVean Züm station) was included as an extension of Brampton Transit's 36 GARDENBROOKE SOUTH. Given the similarity in their functions, it would not be appropriate to operate both services.

Discussions with Brampton Transit about option B8 have indicated they do not have sufficient resources to operate an effective level of service in the short-term. Further, a significant portion of the route is outside Brampton Transit's existing service area, but still within Brampton. This could require the Town of Caledon to pay for operating costs on a portion of the route within Brampton, as well as the portion within Caledon.

Based on these deliverability concerns and the relative evaluation scores, it is recommended that only option B6 (Bolton ↔ Hwy 50 Züm station) be implemented. The Town is recommended to seek a transit operator through a competitive bid process as well as applying for the public vehicle license. The selected operator will find ways to complement the existing services, e.g. CCS and other transit services as complementary service that would benefit (not compete) with them.

As Brampton's urban area grows, it is expected that all or part of this service would fall within Brampton Transit's service area. This could provide a future opportunity for cost-sharing. Any Bolton-Brampton connection would be best delivered by a private contractor, and could be operating in 6-12 months, depending on the time spent on procurement.

Inter-community service

The natural route for IC3 (Bolton ↔ Mayfield West) runs along Mayfield Rd and Hwy 50 (Queen St S). Discussion with Brampton Transit have indicated that a plan to start running service along the Mayfield Rd corridor in the short-term. It would be more financial and operational benefits for the Town and Brampton to partner for this service to be extended to Bolton than for the Town to pay a private contractor to operate the entire service.

Consequently, it is recommended that the Town plan to provide the service through an extension of a Brampton Transit service on the Mayfield West corridor (subject to agreement with Brampton Transit). This would maximize the effectiveness of the Town's early investment in transit. If the Town formally adopts this approach, then this can help ensure Brampton Transit has sufficient resources available to operate the service.

Summary

The recommend staging order is as follows:

Phase 1:

1. M4 (Southfields Village), delivered by Brampton Transit as a new route
2. B6 (Bolton ↔ Hwy 50 Züm station), through contract with private operator

Phase 2:

3. B3 (Bolton local demand-responsive), through contract with CCS or private operator;
4. IC3 (Bolton ↔ Mayfield West), delivered by Brampton Transit as an extension of their planned future route along Mayfield West Road

10.2.2 Medium-priority routes

The evaluation process resulted in five services being assigned medium priority:

- M2 Mayfield West 2-A (25 EDENBROOK extension)
- M3 Mayfield West 2-B (3 MCLAUGHLIN extension and EW Spine Road
- IC4 Mayfield West ↔ Caledon East ↔ Bolton
- OR1 Caledon East ↔ Orangeville
- The rural demand-responsive routes (except RU3 Caledon Village rural).

Mayfield West

The two Mayfield West services (M2 and M3) are planned to operate as extensions of Brampton Transit routes 25 EDENBROOK and 3 MCLAUGHLIN, respectively. Setting a timeline for their implementation would allow Brampton Transit to plan for the provision of sufficient resources. Discussions with Brampton Transit have indicated that up to two years notice is needed if they require additional vehicles to operate the service.

The medium-term Mayfield West services are intended to serve new (unbuilt) development in the Mayfield West area. Consequently, the timing of their implementation should be tied to the

timing of the development. Further, their relative timing will be tied to which parts of the new development are built first.

This raises the question of exactly when in the construction process the service should start. If transit service does not start until the development is completed (or nearly completed), then new residents will already have adopted non-transit travel habits. This would be a missed opportunity for Caledon's transit service, as people are far more likely to consider changing travel modes at major life events such as moving to a new house.

However, serving a partially-built community would require greater subsidy than serving a fully-built community. This is because the ridership (and fare revenue) would be lower, even though the operating costs would be similar.

A possible solution is for Caledon to provide some form of interim service with lower operating costs that is not the planned fixed-route. The Town of Oakville is currently serving ongoing development in the north of the town with a service named "Home-to-Hub". This is a shared, on-demand transit service that transports residents between their home and the closest transit hub. For Mayfield West, an analogous service would link ongoing development in Mayfield West with services on Hurontario St (at Mayfield Rd), Sandalwood Loop (the northern terminus of route 502 ZÜM MAIN), or the Heart Lake Terminal.

It is to be noted that the Town has agreed with the Mayfield West 2 developers that transit will be provided, and land has been reserved close to Hurontario St for a 1-hectare transit hub. The developer will also be providing funding for the future transit hub in Mayfield West 2.

Inter-community / Orangeville connectors

Services IC4 (Mayfield West ↔ Caledon East ↔ Bolton) and OR1 (Caledon East ↔ Orangeville) both provide connections between the larger communities serving Caledon residents. Information gathered from the public and stakeholders suggest that Caledon East residents would value a connection to Orangeville more strongly than connections to Mayfield West and Bolton. This suggests that OR1 should be implemented before IC4.

There are two main options for the route of OR1:

- west along Olde Baseline Rd, then north along Hwy 10 to Orangeville (23 minutes' drive)
- north along Airport Rd, then west along Hwy 9 to Orangeville (29 minutes' drive)

The route via Hwy 10 is slightly longer. However, the route along Hwy 10 serves Inglewood, Caledon Village, and McLeodville, whereas the route via Hwy 9 only serves Mono Mills (in Caledon). The greater number of people (and trips) served means IC1 should be routed via Hwy 10.

For IC4, one feasible routing could be via Hwy 10, Olde Baseline Rd, Airport Rd, Old Church Rd and Hwy 50. Exact routing is to be determined based on detailed review and public input. This service is a combination of IC1 (Mayfield West ↔ Caledon East) and IC2 (Caledon East ↔ Bolton), and

outperformed both in the evaluation process. However, if sufficient resources are not available to implement the whole of IC4, then the Town should implement IC2 as interim measure, because it performed better than IC1.

For both IC1 and OR1, service would be operated by a private contractor.

Rural area services

The various rural demand-responsive services all showed similar levels of performance. All were classified as medium priority, except the low-priority RU3 (Caledon Village rural). However, there are considerable benefits in implementing the rural services together (including around Caledon Village), rather than only in select areas. In particular, it would avoid any perception that certain areas of the Town are being favoured over others. Further, many of the back-office requirements to implement service would be the same for a partial or complete roll-out.

Like the Bolton local service, rural area demand-responsive could be provided by private transit operators. This could take the form of a contractor operating small transit vehicles, or subsidizing taxi companies that operate in Caledon.

Summary

The recommend staging for the medium-term routes is as follows:

5. M2 and M3 when Mayfield West build-out justifies service provision, delivered by Brampton Transit as an extension of their existing routes
   – Depending on the build-out period, an interim “home-to-hub” demand-responsive service (as used in Oakville) could be used
6. OR1 (Caledon East ↔ Orangeville), through contract with private operator (*NB: service could be implemented prior to M2 and M3 if Mayfield West build-out timing allows*)
7. IC4 (Mayfield West ↔ Caledon East ↔ Bolton), through contract with private operator (*NB: service could be implemented prior to M2 and M3 if Mayfield West build-out timing allows*)
8. Rural demand-responsive routes

10.2.3 Low-priority routes

The evaluation process resulted two other services being assigned low priority:

- CE1 (Caledon East local)
- CE2 (Caledon East ↔ Tullamore Industrial ↔ Brampton)

Given the likely timeline to implement the high priority and low priority services, it would not be prudent to decide the staging order for these services at this time. Staff should assess the staging order closer to implementation, potentially updating the evaluation results.

10.3 Service parameters

The “service parameters” are the frequencies (or headways) and time in operation (span). These are provided for the high priority and medium priority services only.

Several proposed services would use extensions of Brampton Transit services. Consequently, the service parameters used in Caledon are constrained by the Brampton Transit service parameters: the headway must be the same or a whole multiple of the Brampton Transit service, and the span in Caledon must be the same or shorter than the span in Brampton. Table 27 shows the service parameters for the relevant routes.

Table 27: Brampton Transit service parameters

#	Service	Brampton Transit route	Route service span	Route headway
M2	Mayfield West 2-A	25 EDENBROOK	Weekday: 5:30-9:30am, 2pm-8pm (*peak-only*) Weekend: N/A	Peak: 30 mins Off-peak: N/A Weekend: N/A
M3	Mayfield West 2-B	3 MCLAUGHLIN	Weekday: 5am-1am, Saturday: 6am-12:30am Sunday: 7am-12:30am	Peak: 30 mins Off-peak: 30 mins Weekend: 30 mins

Unless the Brampton Transit span is shorter, the recommended span for services at start-up is generally weekdays 7am-7pm (12 hours per day, or 624 hours per year). For headways, the recommendation is to start service with 30-minute headways in the peak period and 60 minutes in the off-peak period. The exception is demand-responsive service, which does not have fixed headways. The results are shown in Table 28.

For Mayfield West service (M4) and the Bolton-Brampton connector (B6), demand in the short-term is expected to be focused on commuters. Consequently, peak-only 30-minute service (eight hours per day) would be suitable at start-up, with the aim of adding off-peak service within a few years.

For both service span and headways, the aim is to provide the minimum level of service that is useful for a wide range of trip purposes. This will maximize the financial efficiency of the Town's early investment in transit service. Lower service levels risk being unable to attract the critical mass of ridership needed to justify the service. As ridership grows, then both span and headway can be improved to increase the attractiveness of the service. The service parameters have taken consideration of residents and businesses input through public consultation and surveys.

The resulting service will be useful for residents for a wide range of trip purposes, including commuting, travelling to post-secondary institutions, shopping, and accessing medical facilities. It will also be useful for businesses, allowing access for both their customers and for their employees across a range of potential working hours.

Table 28: Recommended service parameters

#	Route	Brampton Transit route?	Span	Headways
Bolton routes				
B3	Bolton local 3 (demand-responsive)	No	Weekdays 7am-7pm	N/A (demand-responsive)
B6	Bolton ↔ Hwy 50 Züm station	No	*Start-up*: 6-10am and 3-7pm. *Later*: Weekdays 7am-7pm	*Start-up*: 30 minutes peak *later*: add 60 minutes off-peak
Mayfield West routes				
M2	Mayfield West 2-A	Yes	Match existing peak-only span (~10 hours)	30 minutes *If span extended:* add 60 minutes off-peak
M3	Mayfield West 2-B	Yes	Weekdays 7am-7pm	*Start-up*: 30 minutes peak *Start-up or later*: add 60 minutes off-peak (*higher than BT*)
M4	Southfields Village	Yes	*Start-up*: 6-10am and 3-7pm. *Later*: Weekdays 7am-7pm	*Start-up*: 30 minutes peak *later*: add 60 minutes off-peak
Inter-community routes				
IC3	Bolton ↔ Mayfield West	Yes (future)	Weekdays 7am-7pm	30 minutes peak 60 minutes off-peak
IC4	Mayfield West ↔ Caledon East ↔ Bolton	No	Weekdays 7am-7pm	30 minutes peak 60 minutes off-peak
Connectors to Orangeville				
OR1	Caledon East ↔ Orangeville	No	Weekdays 7am-7pm	30 minutes peak 60 minutes off-peak
Rural services (all demand-responsive)				
RU1	Bolton Rural	No	Weekdays 7am-7pm	N/A (demand-responsive)
RU2	Caledon East rural	No	Weekdays 7am-7pm	N/A (demand-responsive)

#	Route	Brampton Transit route?	Span	Headways
RU3	Caledon Village rural	No	Weekdays 7am-7pm	N/A (demand-responsive)
RU4	Orangeville Rural	No	Weekdays 7am-7pm	N/A (demand-responsive)
RU5	Mayfield West Rural	No	Weekdays 7am-7pm	N/A (demand-responsive)
RU6	Rural-Rural	No	Weekdays 7am-7pm	N/A (demand-responsive)

10.4 Transit-related infrastructure

A transit stop is an important visible image of a town's transit system. Appropriate location, design and maintenance of transit stops infrastructure such as sidewalk will enhance user comfort and accessibility while balancing of an attractive and efficient transit service in Caledon. Conversely, poor design, lack of maintenance, or stop locations that are difficult to reach will negatively influence the image of a transit system and depress ridership.

There are several different types of bus stops and transit amenities. Minor and major stops exist along the length of a transit route and at the junction of two connecting routes, respectively. Amenities at transit stops, such as bike racks and benches should reflect these differences with higher levels of amenity at major locations within the system.

The design and location and of bus stops is significant factor in determining how far pedestrians must walk to reach transit and the quality of the wait at a bus stop. Bus stops are typically placed at a average of every 250m along a route. Stop locations may be adjusted to coincide with major intersections, key attractors, or the absence of development. Key attractors can include seniors' residences, entertainment venues, large employers and retail nodes. The Town will need to plan out the exact bus stop locations for each service prior to implementation.

The Town will need to establish a regular maintenance schedule including snow clearance during winter months. Bus stops adjacent to swales or ditches need direct, level connections between the sidewalk and the edge of the curb. It is also good practice to add a concrete pad at the side of the road, either where there is no sidewalk, or between the sidewalk and the roadway.

Missing or poor conditions sidewalks connecting commuters to bus stops should be completed and maintained as a high priority as a majority of transit users walk to bus stops to take transit. It would also run counter to the spirit of Ontario's Accessibility for Ontarians with Disabilities Act (2005).

Currently, the Integrated Accessibility Standards Regulation (O. Reg 191/11) (IASR) does not specify standards for bus stop accessibility. The Ontario Public Transit Association and several area transit agencies have accessible stop guidelines that can be considered in the installation of transit

stops. The provision of cycling facilities at bus stops enables passengers to bike to the stop. Along cycling routes or in other places with increased potential for cyclists, bus stops should be equipped with some form of bicycle parking. This could be bike racks, bike lockers and/or sheltered racks. Landscape treatments can enhance the environment for waiting passengers by providing shelter from the wind and sun. This would enhance the environmental performance, user experience and help increase ridership. For the next step, Town needs to:

- Determine roles and responsibilities for Roads/Fleet Division and Parks Division, and budget implications
- Identify service level for road (i.e. bus routes) and boulevard (e.g. sidewalk, bus stops)

11 Financial Plan

11.1 Fares

This chapter describes the recommended fare structure and prices, the major funding sources for any transit service, and the overall financial effects of the recommended staging plan.

Given that some early services will be operated by Brampton Transit, it could minimize potential customer confusion if Caledon's transit services start with the same fares and fare structure as Brampton Transit.

Table 29: Fare structure and prices

Category	Cash	Paper ticket	Monthly pass
Adult	$4.00	$3.00	$124
Senior (65 and older)*	$4.00	$1.60	$52
Youth (13-19)	$4.00	$2.55	$109
Child (6-12)	$4.00	$2.00	$84
Under-5s	*Free*	N/A	N/A

* Subject to further discussions

Paper tickets would be sold in books of ten; the prices (per ride) match Brampton Transit's Presto fares. Discussions with Brampton Transit have indicated they are willing to provide free transfers to Caledon's transit users, assuming the converse is also true. Assuming this arrangement is agreed, fares and transfers would be valid as shown in Table 30.

Table 30: Brampton / Caledon fare validity

Issuer	Fare type	Valid on services operated by Brampton Transit?	Valid on services operated by Caledon contractor?
Brampton	Cash (Brampton price)	Yes	Yes (with paper transfer)
	Presto (e-purse)	Yes	Yes (with paper transfer)
	Brampton monthly pass	Yes	No
Caledon	Cash (Caledon price)	Yes (with paper transfer)	Yes
	Ticket	Yes (with paper transfer)	Yes
	Caledon monthly pass	No	Yes

Monthly passes from Caledon and Brampton would not be valid on the other municipality's services because the revenue from monthly passes goes only to one municipality. Unlike a cash fare or ticket, a monthly pass does not generate revenue from each trip. This practice would be in keeping with other GTHA transit agencies offering free transfers.

It is not recommended that Caledon provide full Presto facilities on vehicles operated by private contractors during the early stages of implementation. This is because the high cost of implementation is unlikely to justify the benefits when passenger numbers are lower in the early years of service. If the Town adopts a farecard system, then as a GTHA transit agency it must use Presto to receive gas tax funding. However, gas tax funding will be available if the Town does not have a farecard system. The potential provision of Presto services should be reviewed after a few years of service.

11.2 Funding

11.2.1 Provincial gas tax funding

The Province of Ontario operates a program whereby a portion (2 cents per litre) of its gasoline tax revenues are given to municipalities operating transit. This can be used for both operating and capital expense relating to transit. The amount provided is based on the number of trips on the transit system, and the population of the municipality it serves. In order to become a Gas Tax funding recipient a municipality must provide the Ministry with a by-law/resolution, committing to ongoing financial support of public transit. The by-law/resolution should also include the expected municipal contributions that are being committed. This initial by-law/resolution is a one-time requirement to join the program.

Gas tax funding is provided to transit agencies on the basis of the municipal population and ridership. A certain is amount is allocated per person and per passenger, and municipalities received the sum of the two. The gas tax funding is also limited to 75 percent of municipal expenditure on transit. (This is total spending, without considering farebox income). For the 2018-19 financial year, MTO has stated that the amounts provided were as follows:

- $8.44 per person residing in the municipality (Caledon's 2016 Census population implies this would be approximately $560,000)
- $0.30 per passenger trip (this would depend on ridership)

The Region of Peel currently uses part of the Caledon population factor for its funding calculations, since it serves the Town through TransHelp. Caledon staff will need to review this with Peel staff to ensure the population is not double counted.

Typically, municipalities joining the program have newly established transit systems and therefore do not have ridership data. As a result, their first Gas Tax allocation may be solely based on population estimates provided to the Ministry by the Ministry of Finance, with consideration to the level of financial support the municipality commits to providing. After joining the Gas Tax program, a municipality should begin tracking transit data and reporting it to the Canadian Urban Transit Association (CUTA). The Ministry will advise CUTA of any new program recipients to ensure that they are included in the next annual data collection exercise. The Ministry relies on municipal

ridership data reported to CUTA to calculate annual Gas Tax allocations. As a result of this reporting, there is typically a one-year lag between joining the program and the ability to include ridership data in the calculation of Gas Tax allocations. However, in the initial stages of implementing the recommended routes, because the subsidy cap applies (75 percent of municipal expenditures), the low ridership values will not affect the overall subsidy calculations. For the next step, Town needs to:

a. work with the Ministry of Transportation of Ontario (MTO) and Region of Peel staff, if applicable, to ensure that the all required reporting and applications are completed for the Town to share in the Provincial Dedicated Gas Tax funding;
b. pass a by-law be provided authorizing the Mayor/Head of Council to execute the agreement;
c. Enter into a Letter of Agreement between the municipality and the Ministry;
d. Submit annual reporting form to the Ministry; and
e. Report our transit data to CUTA (Canadian Urban Transit Association)

11.2.2 Development charge contribution

Municipalities in Ontario are allowed to levy charges on new development to help cover the cost of new infrastructure to serve that development. The mechanism for calculating development charge contributions towards transit expenses was recently changed. Previously, eligible growth-related capital expenditures had to be based on levels of service in the prior 10 years. This meant new transit agencies did not have any eligible costs and had to build up a history of expenditures over 10 years.

However, under the revised *Development Charges Act*, eligible growth-related capital expenditures can be based on planned levels of service projecting ten years in the future. Transit is a relatively recent inclusion, and the ramifications and procedures have yet to be established. Because of this, no development charge contributions have been included in the financial plan. The Town is finalizing a review of development charges for non-transit infrastructure. Following the completion of this study, the Town should initiate a development charges background study for transit infrastructure and services in the new future.

11.2.3 Fare revenue

Fare revenues are dictated by ridership levels and fare prices. The fares and average revenue per passenger recommended in this report aim to balance public perception of value with the Town's financial needs. Revenue per passenger will be lower than the adult cash fare or ticket prices because non-adult passengers and monthly uses pay less per trip.

Caledon will have a mix of services that extend from a larger urban area (Mayfield West services), services that serve trips within medium-sized communities (such as the Bolton local service), and rural/inter-community services. These types of services typically have very different farebox recovery ratios. However similar examples elsewhere in Ontario suggest that Caledon could expect different farebox recovery ratios in the range of 20 to 30 percent in the long-term. The

introduction of new services will tend to depress the farebox recovery ratio while the ridership (and fare revenue) ramps up.

Where Brampton Transit operates a service in Caledon, it will pay the Town an agreed amount per each boarding that occurs within Caledon, regardless of payment method.

11.2.4 Other revenue

Transit agencies are able to collect revenue from sources such as charter service (where an agency's vehicles are hired out) and advertising on buses or at bus stops and sponsorships. If Caledon contracts out its service to private operators or other municipalities, then it will not be able to offer charter services, nor will collect revenue from on-board advertising. Advertising at bus stops will be limited to those stops in Caledon. Based on a comparison with other transit agencies in Ontario, it is reasonable to assume that other revenues will be no more than 5 percent of Caledon's operating costs. To be conservative, this revenue has not been included in the financial assessment in the next section.

11.2.5 Municipal funding

As transit is a municipal service, the Town will have to provide funding necessary to fill in the gap between expenditure and income from other sources. In general, this money will come from property tax revenue.

11.3 Financial assessment

11.3.1 Capital Costs

Vehicles

During the early years of implementation, it is not recommended that Caledon purchase any vehicles. This is because services will run by contractors (municipal or private) who will be able to provide their own vehicles. Any contractor will include the (amortized) capital costs as part of the operating costs. For example, the operating costs quoted above for M4 Southfields Village are based on price provided by Brampton Transit that includes their cost of purchasing the bus.

In the longer term, it may prove more financially prudent for Caledon to purchase its own vehicles, even if they are operated and maintained by a private contractor. This model is used by other similarly-sized municipalities, such as Milton. The Town typically has a lower cost of capital than a private contractor, so purchasing their own vehicles is cheaper than paying a contractor to do it on the Town's behalf, and the capital cost of vehicles is an eligible expense for gas tax funding – both at the federal and provincial level. Further, owning its own vehicle fleet gives the Town more flexibility to change operators.

The operational costs provided in the next section include an amortized capital cost of $50,000 per vehicle for fixed-route services, and $25,000 per vehicle for demand-responsive services.

Bus stops

The costs of bus stops depend on amenity provision. A sign on a post has an all-in cost of about $1,000 (including installation). Adding in a concrete pad at the side of the road (either where there is no sidewalk, or between the sidewalk and the roadway) typically costs about $10,000. This is beneficial for all users, but particularly those using wheelchairs of baby buggies. A bus shelter typically costs an additional $5,000 to 10,000.

Bus stops are normally located approximately every 250m in pairs (one for each direction) for general walkability purposes subject to specific context. For the Phase 1 high-priority routes, The Town of Caledon would need to provide bus stops along 2.5km of route for the M4 (Mayfield West) service and about 8km of route for the B6 (Bolton ↔ Hwy 50 Züm station) service. This would imply a minimum of 20 and 64 stops respectively, for a minimum capital costs of $88,000 for bus stops for the two services prior to their implementation.

Over time, it is expected that Caledon would wish to improve the quality of stop infrastructure to help make the service more attractive for potential users. Assuming all stops receive concrete pads and that a quarter of stops would receive bus shelters means that an additional $1.26m would be needed. Spreading that cost over ten years implies an investment of $126,000 per year.

Some urban areas in Caledon where transit services operate lack sidewalks on one or both sides the roadway. This makes it more difficult for people to walk to and from their transit stop. This problem applies to streets throughout the area served by transit, not just along the roads used by the transit service. The Town should examine the provision of sidewalks in areas served by transit as part of any wider efforts to improve the pedestrian environment.

11.3.2 Operational costs

The staging and implementation recommendations were combined with estimates for fare revenue and gas tax funding (in line with section 9.2.1) to estimate the required net subsidy for each of the options. The results are summarized in Table 31. The potential gas tax funding assumes Caledon receives the full population allocation, without calculating an allocation for Peel Region to support TransHelp services. Amortized capital costs have been added to the operating costs provided in Chapter 8 to produce the annual costs. Services that include a significant portion in Brampton's urban area have opportunities for cost sharing with the City of Brampton; this has not been included in the table to ensure the estimates are conservative.

Where the staging plan recommends simultaneous implementation (such as for M2 and M3, or the rural area services), the financial effects are shown in combined form. The operating costs for M4 Southfields Village are based on an indicative price provided by Brampton Transit. (Fare revenue calculations do not take into consideration the effects of free transfers between Caledon's transit services and other agencies' services.)

Table 31: Financial effects

Group	Services	Annual ridership	Annual operating costs	Fare revenue	FRR*	Potential gas tax funding	Net subsidy
High priority (phase 1)							
1	M4 **	26,900	$300,000	$67,300	22%	$129,000	$103,700
2	B6 **	66,500	$600,000	$166,000	28%	$257,000	$177,000
	All phase 1	**93,500**	**$900,000**	**$233,300**	**26%**	**$386,000**	**$280,700**
High priority (phase 2)							
3	B3	61,300	$600,000	$153,000	26%	$222,000	$225,000
4	IC3	57,200	$663,000	$143,000	22%	$17,200	$502,800
	All high (phase 1+2)	**212,000**	**$2,163,000**	**530,000**	**24%**	**$625,200**	**$1,008,500**
Medium priority							
5	M2+M3	77,100	$1,140,000	$193,000	17%	$23,100	$923,900
6	OR1	4,450	$425,000	$11,100	3%	$1,340	$412,560
7	IC4	108,000	$1,330,000	$271,000	20%	$32,500	$1,026,500
8	Rural area services	81,800	$1,150,000	$204,000	18%	$24,500	$921,500
	All high and medium	**484,000**	**$6,208,000**	**$1,210,000**	**20%**	**$706,000**	**$4,292,900**
Low priority							
9	CE1	4,770	$425,000	$11,900	3%	$1,430	$411,670
10	CE2	2,900	$663,000	$7,260	1%	$871	$654,869
	All services	**492,000**	**$7,290,000**	**$1,230,000**	**17%**	**$709,000**	**$5,360,000**

* FRR = farebox recovery ratio. The figures for services M4, B6, and M2+M3 reflect the whole cost and revenue of the service. In case of partnership with other transit agency and based on the agreement, cost and fare-revenue can be shared. ** Based on 8h service under short term of phase 1.

12 Conclusions and Next Steps

12.1 Key Conclusions

Policy Review

- The policy environment at all levels of government supports the provision of local transit in Caledon. Provincial policies encourage mode shift auto use to other modes, particular transit. Peel Region polices aim to create a seamless inter- and intra-regional transit network that is an attractive alternative to single-occupancy auto trips.
- Caledon has an objective to support greater use and accessibility of public transit. The Town's *Transportation Master Plan* provides a strong basis for providing transit in Caledon, both within the Town and connecting to other municipalities. Its *Transportation Needs Study Update* supports the development of improved inter-regional commuter services, particularly to the Bolton urban area. Caledon's Official Plan encourages the development of public transit in partnership with the Region of Peel, Metrolinx, the City of Brampton, and other adjacent municipalities. It is recommended that the Town includes the following policies in the official plan (OP):

  - To promote the development of an efficient transportation system and land use patterns that foster strong live-work relationships and encourage greater use of public transit;
  - To provide a reliable, safe, accessible, and convenient Transit services, which encourage public transit ridership, increases personal mobility and travel choices, enhances accessibility for all members of the Caledon community including persons with disabilities, conserves energy resources, preserves air quality, promotes a sustainable environment and fosters economic growth;
  - To support and encourage developing of healthy and sustainable communities that are transit-oriented and cycling an pedestrian-friendly. To this end Town needs to develop the transit-friendly development guidelines;
  - To integrate transit planning with other modes of active transportation, land use, economic development, other transit agencies and road design (e.g., complete street);
  - To establish, monitor and update Key Performance Indexes (KPI) for continuous improvement and optimization of financial and operational efficiency

Performance Review

- For the systems examined from the similar municipalities, the median annual operating cost is $147,000 per bus, and the median municipal operating contribution is $46/person. Although Caledon's population is roughly in the middle of the group, its geographic area is substantially larger. This suggests that the operating models employed by this group may need to be adapted to fit Caledon's needs. This is reflected in the range of service approaches recommended for the various service options.

Demographic Analysis

- As of 2017, Caledon is home to 71,600 people. Caledon is planning for substantial growth with a target population of 108,000 persons by year 2031. By the year 2041, Caledon's population is expected to more than double (from 2017) to 160,080 people. To achieve the 2041 population target, 80% of the population will be in the Rural Service Centres (Bolton, Mayfield West and Caledon East).
- In the longer term, it is anticipated that Mayfield West and Bolton will be similar in size. Both communities will grow larger than Caledon East, which is constrained by geophysical characteristics.
- Town-wide employment is expected to grow by 15 percent from 2021 to 2031. Mayfield West and Bolton is expected to become a major growth area for employment in the 2041 horizon.

Existing and Planned Service Review

- Caledon residents use the existing transit service by Brampton Transit, GO Transit, and CCS/ TransHelp for a wide variety of purposes. However, ridership from Caledon is limited by both the existing services' service area and the layout of Caledon's residential areas. No significant changes are planned to service provision affecting transit in Caledon.

Travel Pattern Analysis

- Around a third of Caledon residents work within the Town; the rest commute across borders. Caledon students attend post-secondary institutions across the GTHA. By contrast, three-quarters of residents other trips are within the town.
- Travel is highly car-orientated, with cars used for 90% of trips (as a driver or a passenger)
- Travel is highly-concentrated in the peak travel periods

Service Approaches

- Other municipalities have adopted a variety of service approaches in areas where fixed-route service is not appropriate. Some of these approaches may be applied in Caledon, and the other municipalities' experience provide a valuable source of information for the Town.

Service Options

- The project team developed a long-list of 26 options, and then evaluated these options based on criteria developed through consultation with stakeholders.

Prioritization and staging

- The prioritization process groups the options into high, medium and low priority for implementation. Options that overlapped with higher-performing options were discarded.
- The staging considered deliverability, stakeholder feedback, public comments, and the evaluation scores. The resulting staging plan sets out the implementation order for the high priority and medium priority services. For the high priority routes, the implementation order was as follows:

Phase 1:

1. M4 (Southfields Village), delivered by Brampton Transit as an extension of their existing route
2. B6 (Bolton ↔ Hwy 50 Züm station), through contract with private operator

Phase 2:

3. B3 (Bolton local demand-responsive), through contract with private operator;
4. IC3 (Bolton ↔ Mayfield West), delivered by Brampton Transit as an extension of their planned future route along Mayfield West Road

Financial Plan

- The financial plan sets out the forecast farebox revenue, gas tax funding and municipal support by route, assuming the implementation order as shown in the staging plan. The high priority services would require a total net subsidy of around $280,700 per year. This would cover weekday-only service operating 8 hours per day, with 30 minutes headways in the peak periods for the phase 1 with an opportunity of extending the service to 60-minute headways in the off-peak periods.

Stakeholder and public engagement

- Engagement took place throughout the study, and was used to set the desired role of transit for Caledon, to review and refine the various outputs produced by the project team, and to gauge public support for transit in general and the recommended service options in particular.
- Public attitudes towards transit and increased property taxes to support it were measured using statistically-valid telephone poll. It revealed a clear majority in favour of modest property tax increases to support local transit, including from people who stated they would not use the service. That majority support was present in both rural and urban areas in the town.

12.2 Service performance monitoring

Post-implementation monitoring

Once implemented, services should be monitored closely for operations issues and overall performance against projections and expectations. Operational issues may need to be addressed immediately to ensure the continued safe operation of the route and to maximize performance. This means that operator and customer feedback will be important.

Short-term monitoring

Generally, it is desirable to operate a new service for at least two years to give customers time to respond to the service. While some demand is latent and will respond quite quickly, other patterns will take time to emerge as people change their travel choices – such as changing a job to one that is transit accessible, or changing residences to take advantage or transit, or eliminating a second car (or even a first), but not until it makes financial sense to do so.

Interim targets can be established over the initial two-year period to ensure that the ridership and performance is proceeding on track. For instance, six-month milestone targets could be established and 25, 50, 75 and 100 percent of the targets to track progress. If performance is lagging considerably behind these interim targets, then changes can be considered to improve performance prior to the end of the period.

It is important not to frame this two-year growth period as a trial period, as this affects customer response. Customers are less likely to change their longer-term travel patterns if they think that the service might not be there in the future.

Ongoing monitoring

The recommended services include a variety of operating models and hence will have different operating costs. Further, revenue-sharing arrangements will also vary by route. Consequently, financial indicators will not be an effective way to monitor in the performance of individual services. This means that ongoing monitoring of individual services should use performance indicators that are based on ridership.

The best indicators to use are annual ridership, and boardings per revenue-hour. Each proposed route has an annual ridership target. Monthly averages will vary, with lower ridership in summer months, but a rolling 12-month average annual ridership will allow suitable monitoring towards that target.

Boardings per revenue-hour relates usage of the service directly to the amount of service provided. High priority routes are expected to generate about 15 boardings per hour after service has been place for a while. At the other end of the scale, the low-priority demand-responsive routes are unlikely to generate more than 6 boardings per hour. These rates will be higher in the peak periods and lower in the off-peak periods. They will also have the same seasonal variations as total ridership.

12.3 Implementation strategy and recommendations

The use of transit does not depend solely on service provision. There are a number of other factors that contribute to people's decisions to use transit, as well as the potential effectiveness and finance efficiency of transit provision. This section describes the various actions the Town can take to support short-term and long-term transit use.

Corporate Mission	Supporting Goal	Short Term Recommendation	Future Directions (ongoing)	
			Medium Term	Long Term
Sustainable Growth	Financial Responsibility	Establishing opportunities with more financially efficient models such as micro transit, flexible and demand responsive transit for rural communities	• Support intensification by introducing transit hubs and influencing the next Metrolinx RTP based on the transportation/land use/programming initiatives • Connect Communities by using sustainable models of transportation (e.g., mobility services for car, bike, transit, walk) • Improve Service Delivery by strengthening the partnership with various transit agencies and expand the network • Improve Service delivery by updating the Transit Feasibility	• Run the pilot of Caledon-operated transit operation (with the sponsor, public-private partnership with multiple agencies • demonstrate the seamless integration of transportation and land use, for all levels from planning to operations to monitoring • work with Metrolinx, Brampton Transit and York Region Transit and the Toronto Transit Commission to develop a GTHA-wide integration transit network..
		Developing a Transit Development Charges background study in order to collect Development Charges to assist in funding future Transit infrastructure related to growth		
		Continuing applying for transit grant funding from upper levels of government		
Sustainable Growth	Integrated with land use	Influencing Mayfield West 2, Caledon East and Bolton new developments, where appropriate		
		Participate in the Town's Climate Change Action Planning Task Force to help align actions in the Town's Climate Change Plan Update with the findings from the Transit Feasibility Study.		
		Establishing transit-friendly design guidelines and policies		
Sustainable Growth	Support for healthy living communities	Integrating transit operations with other modes of transportation, such as better pedestrian infrastructure and bike share		
		Participating in the Active Transportation Task Force		
		Incorporating Transportation Demand Management in the new and existing development approval process		

Connected Community	Inclusiveness and equity	Integrating transit planning with the Senior's Adult 55+ Strategy	Study to fine-tune the short-term solutions • Good governance by building a potential business case for Caledon-operated transit operation	
		Participating in the Accessibility Advisory Committee		
Sustainable Growth	Economic Vitality	Implementing the Tullamore and Coleraine West employment lands phasing plan *		
		Working with the Economic Development Division to promote lands that are/will be serviced by Transit		
Improved Service Delivery	Customer Experience	Partnering with Brampton Transit and Metrolinx for service in Mayfield West and Bolton		
		Partnering with any transit operators for promotional events (such as sponsored free transit to sports event or concert)		
		Developing an information sharing platform for all transit-related application (e.g., real-time)		
		Developing a system to monitor and analyze output- and outcome-based performance.		

* Implementing the **Tullamore and Coleraine West employment lands phasing plan as follows:**

Year	Tullamore	Coleraine West
Year 1	Trend analysis, monitor completion of MUT and determine seasonal demand	Monitor employment survey
Year 2	Phase out on low-demand season and survey companies on the impacts	Collect transit surveys and determine route/schedule adjustment with priority to serve Caledon Residents
Year 3	Monitor based on the KPIs recommended in the report	-

12.4 Next steps

Subject to Council approval, the next step will be for staff to create a detailed implementation plan for the first stages of transit services. This should include (but not be limited to) the following steps:

- Finalize amendment to existing service agreement with Brampton Transit so that it covers service to Mayfield West
- Begin procurement process for Bolton services
- Obtain Public Vehicle Licence (for services operating from Caledon to points outside the town)
- Establish route infrastructure requirements (stops, shelters, information provision, sidewalk, bike racks, etc., that are compliment with AODA and Pedestrian and Cyclist requirements.), including the locations of stops, in coordination with other transit agencies where appropriate
- Finalize fare prices, the arrangements for how fare media will be sold, and the procedures for using on board
- Develop marketing plan, including promotional and communications materials
- Plan a launch event
- Monitor and report on the performance of the service, through indicators such as ridership (by service, time, stop and user type), financial performance, and customer satisfaction.
- For rural-area services (and others), examine in detail issues associated with microtransit service provision and demand-responsive arrangement with taxies and rideshare transportation network companies.
- Identify transit requirements for Mayfield West Phase 2
- Develop Transit related DC Background study

For the Gas tax funding, Town needs to

- Enter into a Letter of Agreement between the municipality and the Ministry;
- Provide a by-law authorizing the Mayor/Head of Council to execute the agreement;
- Submit annual reporting form to the Ministry; and Report their transit data to CUTA.

A Telephone Survey Summary

The project team commissions a telephone survey of Caledon residents. The survey was conducted in September and October 2017 by an independent polling company, targeting randomly-selected households in Caledon. The survey to collected just 300 valid survey responses, for margin of error of ±5.65 percent, 19 times out of 20.

Overall, despite the high car and drivers' licence ownership, the telephone survey suggests that the residents of the Town of Caledon support the introduction of a local bus service. In addition to demographic categorization questions, the survey asked respondents about:

- Support for property tax increase of $20 to $40 per year to implement transit
- Likelihood of using a transit service at least twice/month within Caledon, and between Caledon and surrounding municipalities, and what trips purposes they would use transit for
- Likely usage by other household members
- Current mode of travel used most often for travel within Caledon, and between Caledon and surrounding municipalities
- Usual place of work
- Household vehicle ownership
- General opinions regarding transit

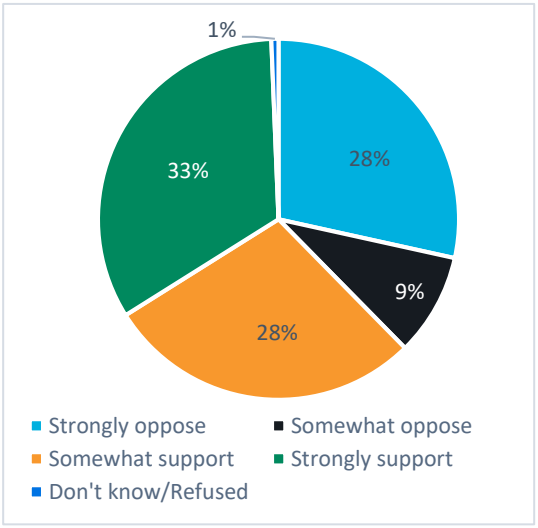
Support for introducing transit

Given a property tax increase of $20 to $40 annually, around 62 percent of the respondents were in favour of introducing a local bus service in Caledon, with 33 percent of all respondents strongly supporting this notion. The breakdown is shown in Figure 56.

Overall support varied somewhat between communities, but all had a majority in favour:

- Bolton (122 responses): 63% support
- Caledon East (50 responses): 54% support
- Caledon Village (23 responses): 62% support
- Other (107 responses): 63% support

Figure 56: Support for a local Caledon bus service

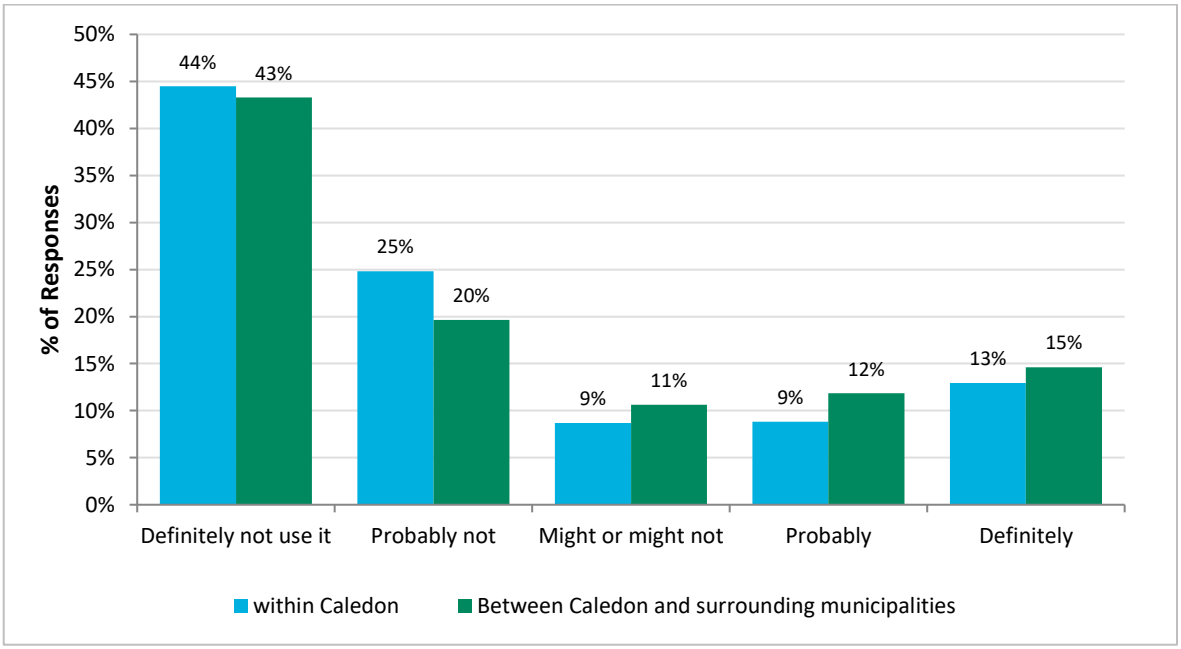


(Communities not listed had too few responses for a statistically robust sample).

Likely usage

When asked about how likely respondents would use a local Caledon transit service at least twice a month to travel, an average of 65 percent of all respondents said they would not use the local transit system (see Figure 57). Interestingly, among the people who said they are less or not likely to use the local transit service (non-users), more than 50 percent supported introducing a local bus service in Caledon.

Figure 57: Number of respondents who are likely to use the local Caledon transit system at least twice a month



The main reasons why the non-users supported the introduction of a local Caledon transit system were:

- Support other people who do not own a vehicle or need transit
- Support senior citizens and young people/children who cannot drive or travel otherwise
- Caledon's growth possibilities and a better connection among communities

Likely usage vs. trip purpose

A potential new local transit service would be more popular for trips related to personal business, followed by medical appointment purposes, instead of commuting trips. Details are shown in Table 32.

Table 32: Potential transit users based on trip purpose

Likely usage	Work	School	Medical appointments	Personal business, entertainment, or social
Trips within Caledon				
Yes/Maybe	23%	20%	70%	86%
No	77%	80%	30%	14%
Trips between Caledon and surrounding municipalities				
Yes/Maybe	39%	22%	66%	89%
No	61%	78%	34%	11%

Travel modes

Currently, 98 percent of all respondents that travel within Caledon and 99 percent of all respondents that travel between Caledon and surrounding municipalities chose ‘using Private vehicle as a driver’, followed by ‘using Private vehicle as a passenger’, as their preferred transport mode. In addition, almost 99 percent of the households have at least one car and one adult possessing a driver’s license.

B Detailed Evaluation Results

The following three tables provide the values used for the evaluation process, and the resulting scores.

Table 33: Financial evaluation values and scores

Route	*Vehicles*		*Operating cost*		*OpEx / passenger*		Overall Score
	Value	Score	Value	Score	Value	Score	
Bolton services							
B1 Bolton local 1 (short)	2	2	$296,000	2	$4.81	2	**2.0**
B2 Bolton local 2 (long)	4	1	$708,500	1	$9.26	2	**1.3**
B3 Bolton local 3 (demand-responsive)	6	1	$258,500	3	$3.38	3	**2.3**
B4 Bolton ↔ Vaughan Subway	3	2	$512,500	1	$7.88	2	**1.7**
B5 Bolton ↔ Hwy 50/Hwy 7	2	2	$293,500	2	$4.70	2	**2.0**
B6 Bolton ↔ Hwy 50 Züm stn	2	2	$283,500	2	$4.26	3	**2.3**
B7 Bolton ↔ GMCC	2	2	$281,000	2	$4.16	3	**2.3**
B8 Bolton ↔ GMCC ↔ McVean Züm stn	2	2	$281,000	2	$4.16	3	**2.3**
Mayfield West services							
M1 Mayfield West 1	4	1	$578,500	1	$4.50	3	**1.7**
M2 Mayfield West 2-A	2	2	$340,000	2	$7.73	2	**2.0**
M3 Mayfield West 2-B	2	2	$45,000	3	$0.44	3	**2.7**
M4 Southfields Village	1	2	$382,500	1	$14.20	1	**1.3**
Caledon East services							
CE1 Caledon East local	1	3	$287,500	2	$57.50	1	**2.0**
CE2 Caledon East ↔ Tullamore ↔Brampton	2	2	$442,500	1	$147.50	1	**1.3**

Route	*Vehicles*		*Operating cost*		*OpEx / passenger*		Overall Score
	Value	Score	Value	Score	Value	Score	
Inter-community services							
IC1 Mayfield West ↔ Caledon East	2	2	$408,500	1	$24.76	1	**1.3**
IC2 Caledon East ↔ Bolton	2	2	$363,500	1	$10.54	1	**1.3**
IC3 Bolton ↔ Mayfield West	2	2	$307,500	2	$5.39	2	**2.0**
IC4 Mayfield West ↔ Caledon East ↔ Bolton	4	1	$628,500	1	$5.79	2	**1.3**
Connectors to Orangeville							
OR1 Caledon East ↔ Orangeville	1	3	$288,500	2	$64.11	1	**2.0**
OR2 Caledon Village ↔ Orangeville	3	2	$892,500	1	$297.50	1	**1.3**
Rural services							
RU1 Bolton Rural	2	2	$101,000	3	$5.17	2	**2.3**
RU2 Caledon East rural	1	3	$72,000	3	$65.45	1	**2.3**
RU3 Caledon Village rural	1	3	$72,000	3	$57.60	1	**2.3**
RU4 Orangeville Rural	1	3	$48,500	3	$4.62	3	**3.0**
RU5 Mayfield West Rural	1	3	$60,000	3	$10.00	2	**2.7**
RU6 Rural-Rural	4	1	$191,000	3	$4.39	3	**2.3**

Table 34: Land use integration valuation values and scores

Route	*2011 population*		*2041 population*		Overall Score
	Value	Score	Value	Score	
Bolton services					
B1 Bolton local 1 (short)	14,147	3	16,112	2	**2.5**
B2 Bolton local 2 (long)	14,049	2	18,101	2	**2.0**
B3 Bolton local 3 (demand-responsive)	14,049	2	18,101	2	**2.0**
B4 Bolton ↔ Vaughan Subway	54,534	3	71,270	3	**3.0**
B5 Bolton ↔ Hwy 50/Hwy 7	22,193	3	26,956	3	**3.0**
B6 Bolton ↔ Hwy 50 Züm stn	23,311	3	27,363	3	**3.0**
B7 Bolton ↔ GMCC	16,266	3	20,493	3	**3.0**
B8 Bolton ↔ GMCC ↔ McVean Züm stn	20,618	3	22,587	3	**3.0**
Mayfield West services					
M1 Mayfield West 1	3,292	1	7,519	1	**1.0**
M2 Mayfield West 2-A	451	1	2,420	1	**1.0**
M3 Mayfield West 2-B	677	1	17,413	2	**1.5**
M4 Southfields Village	8,212	2	12,975	2	**2.0**
Caledon East services					
CE1 Caledon East local	1,510	1	1,575	1	**1.0**
CE2 Caledon East ↔ Tullamore ↔Brampton	3,389	1	4,949	1	**1.0**
Inter-community services					

Route	*2011 population*		*2041 population*		Overall Score
	Value	Score	Value	Score	
IC1 Mayfield West ↔ Caledon East	2,908	1	7,617	1	**1.0**
IC2 Caledon East ↔ Bolton	8,142	2	18,590	2	**2.0**
IC3 Bolton ↔ Mayfield West	17,603	3	41,409	3	**3.0**
IC4 Mayfield West ↔ Caledon East ↔ Bolton	9,730	2	24,150	3	**2.5**
Connectors to Orangeville					
OR1 Caledon East ↔ Orangeville	13,016	2	18,681	2	**2.0**
OR2 Caledon Village ↔ Orangeville	11,300	2	11,695	1	**1.5**
Rural services					
RU1 Bolton Rural	N/A	1	N/A	1	**1.0**
RU2 Caledon East rural	N/A	1	N/A	1	**1.0**
RU3 Caledon Village rural	N/A	1	N/A	1	**1.0**
RU4 Orangeville Rural	N/A	1	N/A	1	**1.0**
RU5 Mayfield West Rural	N/A	1	N/A	1	**1.0**
RU6 Rural-Rural	N/A	1	N/A	1	**1.0**

Table 35: Healthy communities, Inclusiveness/equity, and Economic vitality evaluation values and scores

Route	Healthy communities *Activity centres served*		Inclusiveness/equity Ridership		Economic vitality *Jobs*	
	Value	Score	Value	Score	Value	Score
Bolton services						
B1 Bolton local 1 (short)	19	**2**	61,500	**2**	9,789	**3**
B2 Bolton local 2 (long)	21	**3**	76,500	**3**	9,725	**2**
B3 Bolton local 3 (demand-responsive)	21	**3**	76,500	**3**	9,725	**2**
B4 Bolton ↔ Vaughan Subway	23	**3**	65,000	**3**	41,785	**3**
B5 Bolton ↔ Hwy 50/Hwy 7	23	**3**	62,500	**2**	14,638	**3**
B6 Bolton ↔ Hwy 50 Züm stn	22	**3**	66,500	**3**	15,557	**3**
B7 Bolton ↔ GMCC	19	**2**	67,500	**3**	11,072	**3**
B8 Bolton ↔ GMCC ↔ McVean Züm stn	19	**2**	67,500	**3**	13,465	**3**
Mayfield West services						
M1 Mayfield West 1	3	**1**	128,500	**3**	1,973	**1**
M2 Mayfield West 2-A	0	**1**	44,000	**2**	168	**1**
M3 Mayfield West 2-B	0	**1**	102,000	**3**	374	**1**
M4 Southfields Village	13	**2**	26,935	**2**	5,599	**2**
Caledon East services						
CE1 Caledon East local	8	**2**	5,000	**1**	1,494	**1**

Route	Healthy communities *Activity centres served*		Inclusiveness/equity Ridership		Economic vitality *Jobs*	
	Value	Score	Value	Score	Value	Score
CE2 Caledon East ↔ Tullamore ↔Brampton	5	**1**	3,000	**1**	2,533	**1**
Inter-community services						
IC1 Mayfield West ↔ Caledon East	6	**1**	16,500	**2**	2,259	**1**
IC2 Caledon East ↔ Bolton	21	**3**	34,500	**2**	6,871	**2**
IC3 Bolton ↔ Mayfield West	18	**2**	57,000	**2**	12,046	**3**
IC4 Mayfield West ↔ Caledon East ↔ Bolton	23	**3**	108,500	**3**	7,636	**2**
Connectors to Orangeville						
OR1 Caledon East ↔ Orangeville	11	**2**	4,500	**1**	9,445	**2**
OR2 Caledon Village ↔ Orangeville	7	**1**	3,000	**1**	7,902	**2**
Rural services						
RU1 Bolton Rural	N/A	**1**	19,550	**2**	N/A	**1**
RU2 Caledon East rural	N/A	**1**	1,100	**1**	N/A	**1**
RU3 Caledon Village rural	N/A	**1**	1,250	**1**	N/A	**1**
RU4 Orangeville Rural	N/A	**1**	10,500	**1**	N/A	**1**
RU5 Mayfield West Rural	N/A	**1**	6,000	**1**	N/A	**1**
RU6 Rural-Rural	N/A	**1**	43,500	**2**	N/A	**1**

C Project Consultation Events

Table 36: Consultation and Public Engagement Events

Date	Name	Location	Audience	Attendees	Outcome
2017					
28-Aug	Kick-Off meeting and Project Charter Workshop	Town Hall	Internal / External Stakeholders	18	Based on the outcome of this workshop, the project charter for the Caledon Transit Feasibility Study was developed. The Charter (not an official Town of Caledon document) clearly defines the outcomes and expectations of the study, aiming to ensure that key stakeholders and participants share a common understanding of the objectives, process, milestones and deliverables.
18-Sep	Visioning Workshop	Town Hall	Internal Stakeholders	33	The key service elements and their relationship to the Town's vision and the vision statement, along with specific goals and objectives that can be reflected in the development of service options and priorities were explored and discussed. The outcome of this session was draft as a vision and mission to guide the development of options, evaluation and recommendations throughout the project.
18-Sep	Meeting with CCS	4 Industrial Road, Bolton	CCS Managers / Town Staff / Consultant	7	The Scope and goals of the Caledon Transit Feasibility Study discussed with CCS and the comments and questions raised by CCS were addressed.
20-Sep	Public Transit Visioning Drop-in session with Councillors	Town Hall	Staff and Councillors	2	During the one on one meeting with councillors, the key service elements of the Public Transit and their relationship to the Town's vision and the vision statement, along with specific goals and objectives that can be reflected in the development of service options and priorities were explored. The outcome of this session was incorporated in the draft vision and mission to guide the development of options, evaluation and recommendations throughout the project.
25-Sep	Public Information Centre (PIC) 1	Caledon East Community Centre	Internal / External Stakeholders and Public	50	The Gaols and Objectives of the projects presented to the public. The project team and consultant addressed the comments and questions during the event.
26-Sep	Senior Task Force	Town Hall	Senior Task Force Members	13	Eric Presented the latest status of the project, goals and the potential of the provision of local transit service options in Caledon and addressed the question raised by the Senior Task Force Members.

Date	Name	Location	Audience	Attendees	Outcome
26-Oct	Accessibility Advisory Committee	Town Hall	Accessibility Advisory Committee Members	13	Eric presented the overall Transportation Master Plan, with a preliminary discuss on the upcoming Transit Feasibility to address the needs from the accessibility perspective.
2018					
18-Jan	Transit Options Workshop	Town Hall	Internal / External Stakeholders	34	The consultant presented the draft of the transit options in Caledon. It included a long-list of options for transit in Caledon, covering a wide range of travel markets and service types. The study team received the comments from the internal/external stakeholders and will be considered for the recommended set of options for transit in Caledon.
20-Feb	Cycling Task Force	Town Hall	Task Force Members	20	Eric Provided an update regarding the latest status of TFS to the Task Force Members and Addressed their questions/comments.
05-Mar	Brampton Transit	Brampton Transit	Internal Stakeholders / Brampton Transit Managers	8	In this meeting the partnership opportunities on transit services and infrastructure in Caledon through Brampton Transit Service discussed.
13-Mar	Senior Task Force	Town Hall	Senior Task Force Members	13	Eric Chan presented the latest status of the project, goals and the potential transit service options in Caledon. Residents provided their comments and were asked about their preferences and trade offs.
13-Apr	Meeting with Halton Hills and their consultant	Town Hall	Town of Caledon and Halton Hills Staff and their Consultant	7	Eric Chan Presented the latest status of the project, goals and the potential of transit services in Caledon. Staff from the Town of Halton Hills and WSP (Consultant) shared the experiences, discussed the status and lesson-learned from Transit Project in Halton Hills and Caledon. Town of Caledon sent the survey questions to the Town of Halton Hills.
21-Apr	Coffee with Council (Ward 3)	Gabe's Country Bake Shop	Residents / Councillors	10	Residents were informed about the town's Transit Feasibility Study Project, What have done so far, scope of the project and more importantly, trade-offs concept. Their concerns/questions were addressed and they were directed to either go online to attend the survey or given them the hard copy to complete the survey.

Date	Name	Location	Audience	Attendees	Outcome
21-Apr	Coffee with Council (Ward 4)	Palgrave Community Kitchen	Residents / Councillors	3	Residents were informed about the town's Transit Feasibility Study Project, What have done so far, scope of the project and more importantly, trade-offs concept. They were directed to either go online to attend the survey or given them the hard copy to complete the survey.
21-Apr	Coffee with Council (Ward 5)	Caledon Centre for Recreation and Wellness	Residents / Councillors	5	Residents were informed about the town's Transit Feasibility Study Project, What have done so far, scope of the project and more importantly, trade-offs concept. They were directed to either go online to attend the survey or given them the hard copy to complete the survey.
28-Apr	Coffee with Council (Ward 1)	Caledon Village Place	Residents / Councillors	2	Residents were informed about the town's Transit Feasibility Study Project, What have done so far, scope of the project and more importantly, trade-offs concept. They were directed to either go online to attend the survey or given them the hard copy to complete the survey.
28-Apr	Coffee with Council (Ward 2)	South Fields Pop-Up Service Space	Residents / Councillors / OPP officer	3	Residents were informed about the town's Transit Feasibility Study Project, What have done so far, scope of the project and more importantly, trade-offs concept. They were directed to either go online to attend the survey or given them the hard copy to complete the survey.
01-May	Meeting with the Go Riders Residents in Bolton	Naked Coffee / Bolton	Residents / Go Bus Riders	10	Residents requested the changes in the Go Bus schedule line 38 in order to catch the earlier Go train in Malton to get to Union Station. They were also willing to have more transit options. Eric also provided an update on the Transit Feasibility Study and directed the resident to more actively support Transit and attend the survey online. Lorraine who represented the residents, will sent the requests to Eric. Eric discussed the Case on the phone and sent the request to Trevor Pereira, operation manager in Metrolinx.
02-May	Youth Summit - Transit booth	Caledon Centre for Recreation and Wellness	Mayor / Students	150	Students were given multiple choice questions in regards to the most significant factor in transit service and also the main purpose of using transit. Also, the status of the projects were presented to the students and encouraged to go online and attend the survey. Generally, majority of students were supportive of the local public transit.
23-May	TransHelp	TransHelp Office - 2 Copper Road	Staff and Manager	5	Eric Provided a presentation regarding the latest status of TFS and the importance of the culture to support transit. TransHelp elaborated their relationship with CCS and the business Model (TransHelp fund CCS and determines the eligibility of passengers). TransHelp will send the statistics regarding the number of trips/passengers which are being served in Caledon.

Date	Name	Location	Audience	Attendees	Outcome
26-May	Public Work Week	Town Hall	Internal Staff	200	Internal Town Staff were informed about the latest status of the town's Transit Feasibility Study Project, What have done so far, scope of the project and more importantly, trade-offs concept. They were directed to go online to attend the survey.
14-Jun	Policy and Sustainability and Development Planning	Town Hall	Internal Staff	6	The importance of the coordination between the land use policy and transit were elaborated by Eric. Eric highlighted the importance of creating the culture as one of the contributing factors to support provision of local public transit in Caledon, specifically in Bolton through land use planning and density at the proximity of the potential Bolton Go Rail Station.
14-Jun	Accessibility Advisory Committee	Town Hall	Accessibility Advisory Committee Members	11	Eric Provided a presentation regarding the latest status of TFS and addressed the comments and questions by the committee members.
26-Sep	Meeting Ubitransport	Town Hall	Town Transportation Staff / Staff from Ubitransport	4	Staff from Ubitransport presented their IT service and digital fare collection solution for small-size transit systems in light of Caledon's ongoing transit feasibility study.
28-Sep	Brampton Transit	Brampton Transit	Town Transportation Staff / Brampton Transit Managers	5	Eric Provided an update regarding the latest status of TFS and in-house travel pattern analysis in support of transit service provision in Caledon and Mayfield West. It was decided that the findings and analysis results be sent to Brampton Transit for the review and Brampton will send us their feedback and proposal.
16-Oct	Meeting with a Taxi Service Provider in Caledon (Harmeet - a1htacabs)	Town Hall	Town Transportation Staff / Service Provider	3	Arash/Eric Provided an update regarding the latest status of TFS. Harmeet explain about the type of service he provides in Caledon. Similar to Uber with more flexibility in regards to the payment type (accept cash)
2018					
21-Feb	Meeting with Brampton Transit	Town Hall	Town Transportation Staff / Service Provider / Steer	6	Potential service options presented and reviewed

Date	Name	Location	Audience	Attendees	Outcome
07-Mar	Meeting with CCS and TransHelp	Town Hall	Town Staff / Steer / TransHelp / CCS	7	Eric Provided an update regarding the latest status of TFS. CCS and TransHelp provided information about their business model and potential impacts from the introduction of transit in Caledon
07-Mar	Service option workshop	Town Hall	Town Staff / Steer/internal and external stakeholders	37	Service options within Caledon presented to the stakeholders and questions were addressed.
07-Mar	PIC 2	CECC	Residents	14	Project teams addressed the questions from public and collected their feedbacks
18-Mar	PIC 3	Kennedy Road Temp Facility	Residents	26	Project teams addressed the questions from public and collected their feedbacks
27-Mar	PIC 4	Albion Bolton Community Centre	Residents	25	Project teams addressed the questions from public and collected their feedbacks
4-Apr	Passenger Assist Program	CCS	Town Staff/Transhelp and CCS staff/residents	12	Arash addressed the questions regarding the transit in Caledon
5-Apr	Meeting with School Board	Humberview Secondary School	Town staff/Peel School Board	3	The implication of transit in Caledon was discussed

D Financial and Ridership estimation to 2031

Capital costs for transit are primarily driven by vehicle requirements, which in turn are dictated by peak levels of service. This Appendix sets on an indicative timeline for implementing the various services, along with the vehicle requirements. The forecasts use the following assumptions:

- High-priority services start in 2019, with increased service in 2023
- Medium-priority services start in 2023, with increased service in 2027
- Low-priority services start in 2027, with no increased service by 2031

For all services "increased service" means increased service span to include earlier start, later finishes, and weekend service. In addition, the following services would see headway improvements as a result of increased demand:

- B6 (Bolton ↔ Hwy 50 Züm station): increased 30/60 minutes service in peak/off-peak to 20/30 minutes service
- M3 (Mayfield West 2-B): increased 30/60 minutes service in peak/off-peak to 15/30 minutes service
- IC4 (Mayfield West ↔ Caledon East ↔ Bolton): increased 30/60 minutes service in peak/off-peak to 20/30 minutes service

The resulting vehicle requirements are shown in Table 37.

Table 37: Forecast vehicle requirements

Order	Services	2019	2023	2027
High priority services				
1	M4 Southfields Village	1	1	1
2	B6 Bolton ↔ Hwy 50 Züm station	2	3	3
3	B3 Bolton local 3 (demand-responsive)	6	6	6
4	IC3 Bolton ↔ Mayfield West	2	2	2
	Total high	**11**	**12**	**12**
Medium priority services				
5	M2+M3 Mayfield West local services	--	4	4
6	OR1 Caledon East ↔ Orangeville	--	1	1
7	IC4 Mayfield West ↔ Caledon East ↔ Bolton	--	4	6
8	Rural area services	--	10	10
	Total high/medium	**11**	**31**	**37**
Low priority services				
CE1	CE1 Caledon East local	--	--	1
CE2	CE2 Caledon East ↔ Tullamore Industrial ↔ Brampton	--	--	2
	Total all services	**11**	**31**	**36**
	Change from previous	**11**	**20**	**5**

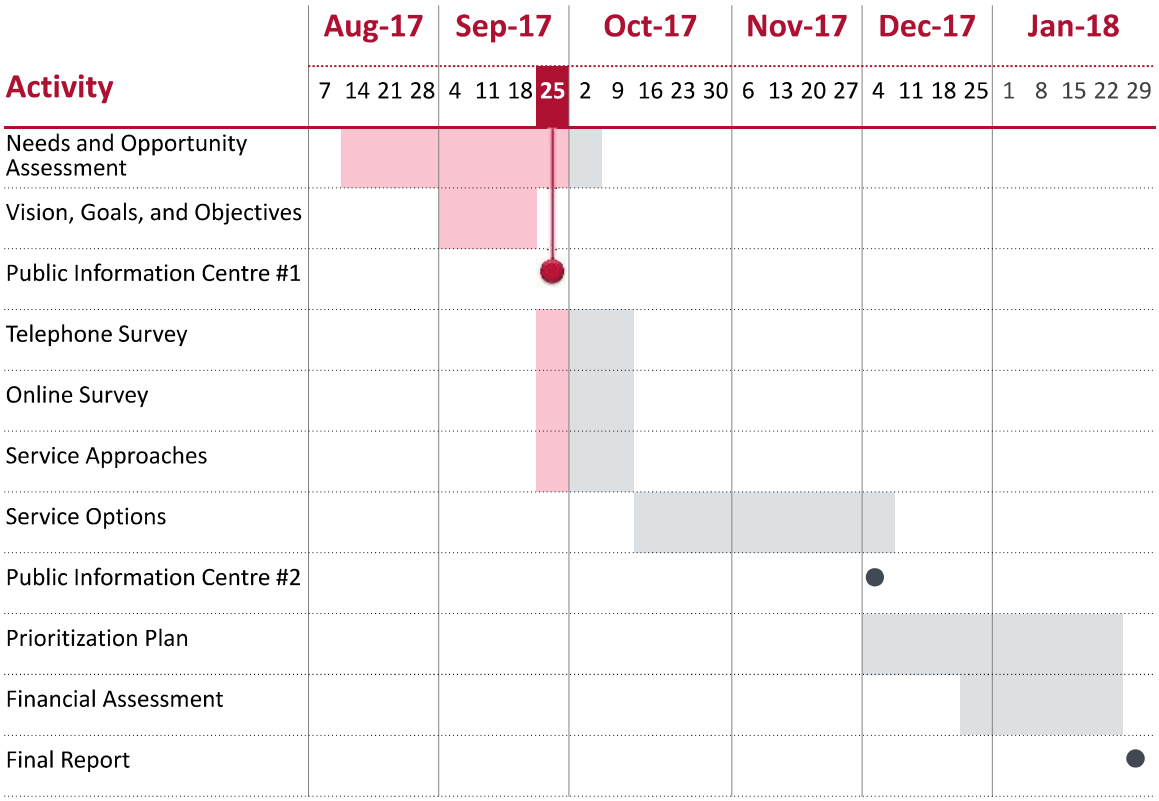
Table 38: Forecast 2031 financials

Order	Services	Vehicles	Costs	Ridership	Revenue	FRR
High priority services						
1	M4 Southfields Village	1	$425,000	30,785	$76,963	18%
2	B6 Bolton ↔ Hwy 50 Züm station	3	$993,750	107,707	$269,268	27%
3	B3 Bolton local 3 (demand-responsive)	6	$600,000	67,163	$167,907	28%
4	IC3 Bolton ↔ Mayfield West	2	$662,500	89,761	$224,402	34%
	Total high	**12**	**$2,681,250**	**295,416**	**$738,540**	**28%**
Medium priority services						
5	M2+M3 Mayfield West local services	4	$1,325,000	104,576	$261,500	20%
6	OR1 Caledon East ↔ Orangeville	1	$425,000	30,338	$75,844	18%
7	IC4 Mayfield West ↔ Caledon East ↔ Bolton	6	$1,987,500	166,829	$417,072	21%
8	Rural area services	10	$1,000,000	127,076	$317,690	32%
	Total high/medium	**33**	**$7,418,750**	**724,235**	**$1,810,646**	**24%**
Low priority services						
9	CE1 Caledon East local	1	$425,000	4,854	$12,136	3%
10	CE2 Caledon East ↔ Tullamore Industrial ↔ Brampton	2	$662,500	3,414	$8,536	1%
	Total all services	**36**	**$8,506,250**	**723,503**	**$1,831,318**	**22%**

E September 2017 PIC boards

Transit Feasibility Study – About the study

- The **Caledon Transit Feasibility Study** will investigate the benefits and costs of providing public transit services within the Town of Caledon, to help meet the current and future needs of its residents, workers, visitors and employers.
- The study will develop and then be guided by a set of **Vision, Goals and Objectives** that are consistent with the Town's wider plans.



- Project website: www.caledon.ca/tfs
- Twitter: @YourCaledon #CaledonTransitFuture
- Facebook: Your Caledon

- For further information, contact:

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Eric.Chan@caledon.ca

Dennis Fletcher
Project Director
Steer Davies Gleave
(647) 233 1695
Dennis.Fletcher@sdgworld.net

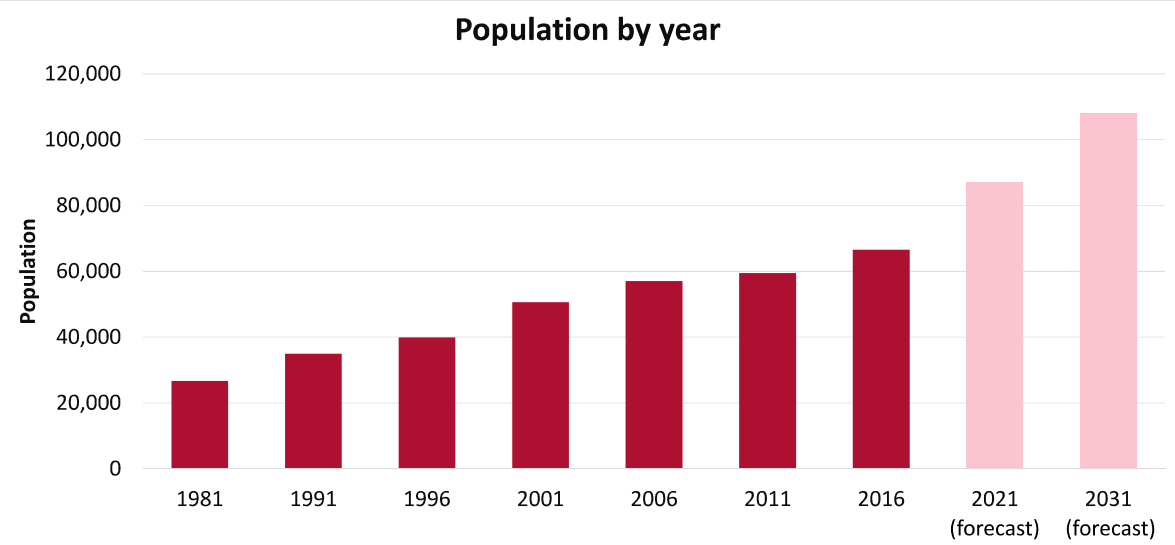
steer davies gleave

TOWN OF CALEDON

Transit Feasibility Study – Existing conditions

Population forecast

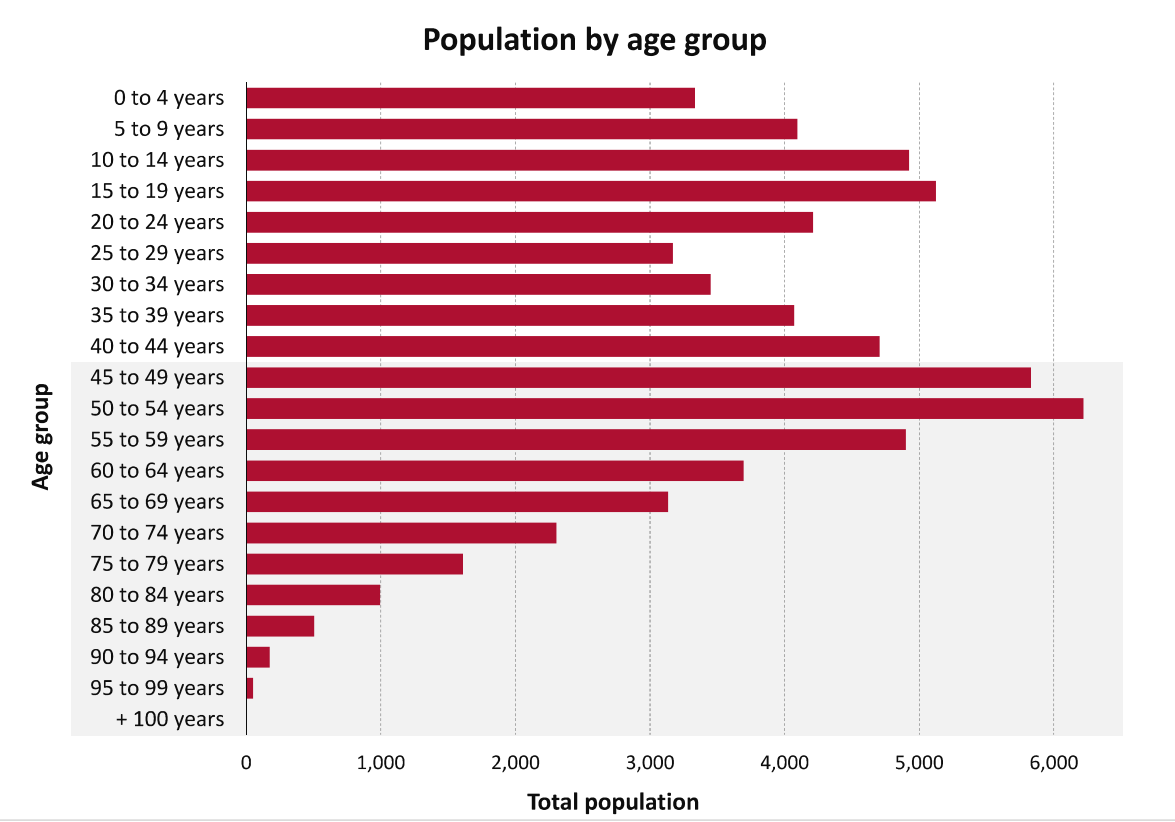
- Caledon has a fast growing and aging population



Source: Statistics Canada/Census (1981-2016); Ontario Growth Secretariat (2021-31)

Population breakdown

- Over 50% of the population is 45 years old or above



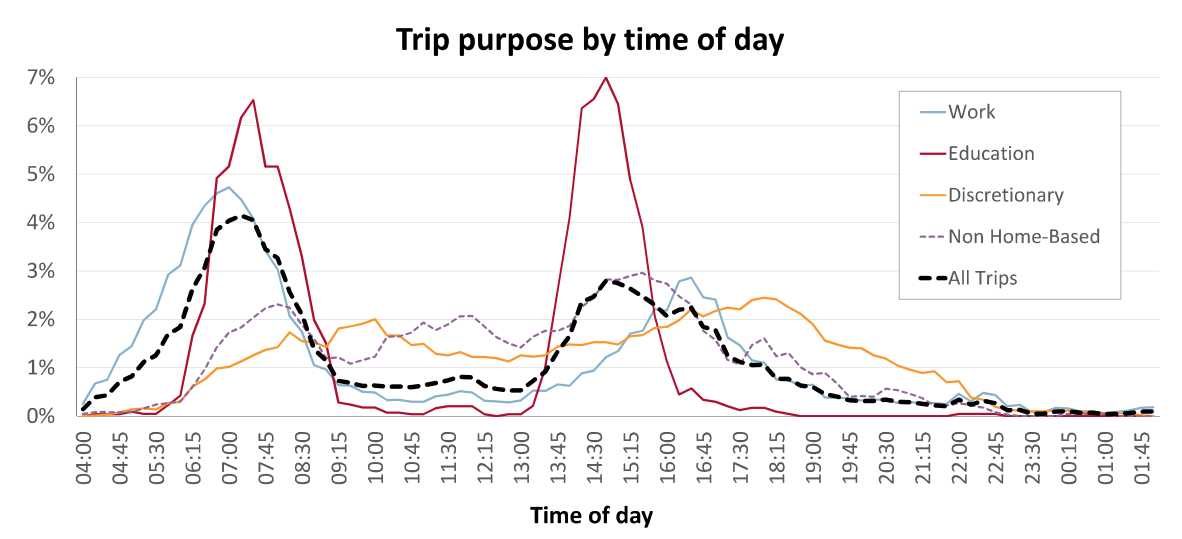
Source: Statistics Canada/Census

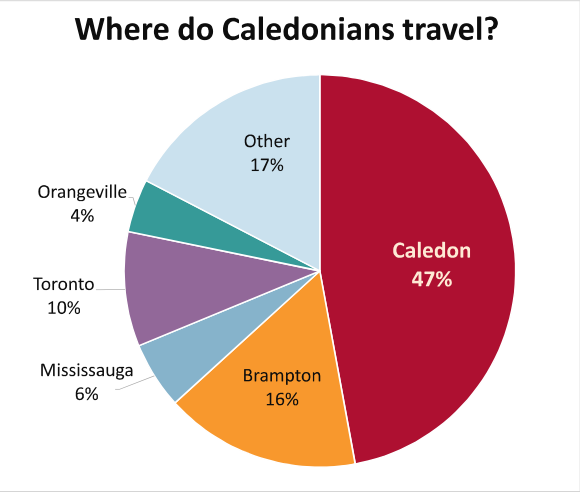
Transit Feasibility Study – Existing conditions

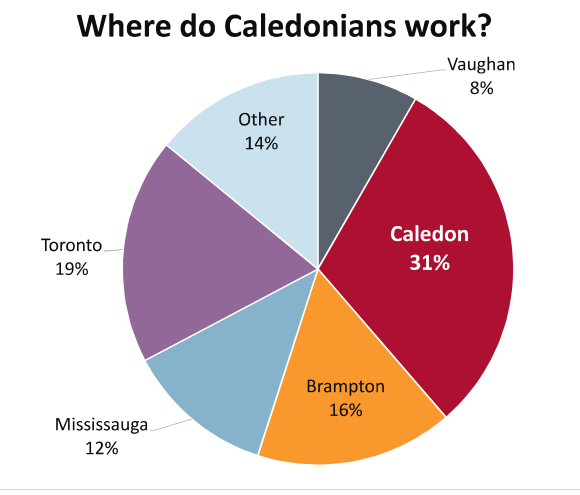
Existing transit services

- GO Transit operates two routes, both with GO Train connections:
  - Route 37: Orangeville to Brampton via Hwy 10 (peak-only)
  - Route 38: Bolton to Brampton and North York (all-day)
- Brampton Transit:
  - 30 AIRPORT RD: Service to AMB Distribution Centre (all-day)
  - 24 VAN KIRK: Service to Mayfield community (peak-only)
- Caledon Community Services: door-to-door service 7 days a week to Caledon seniors and Caledon citizens with short or long term disabilities.
- TransHelp: transit service for people with disabilities across Peel Region

Existing travel patterns



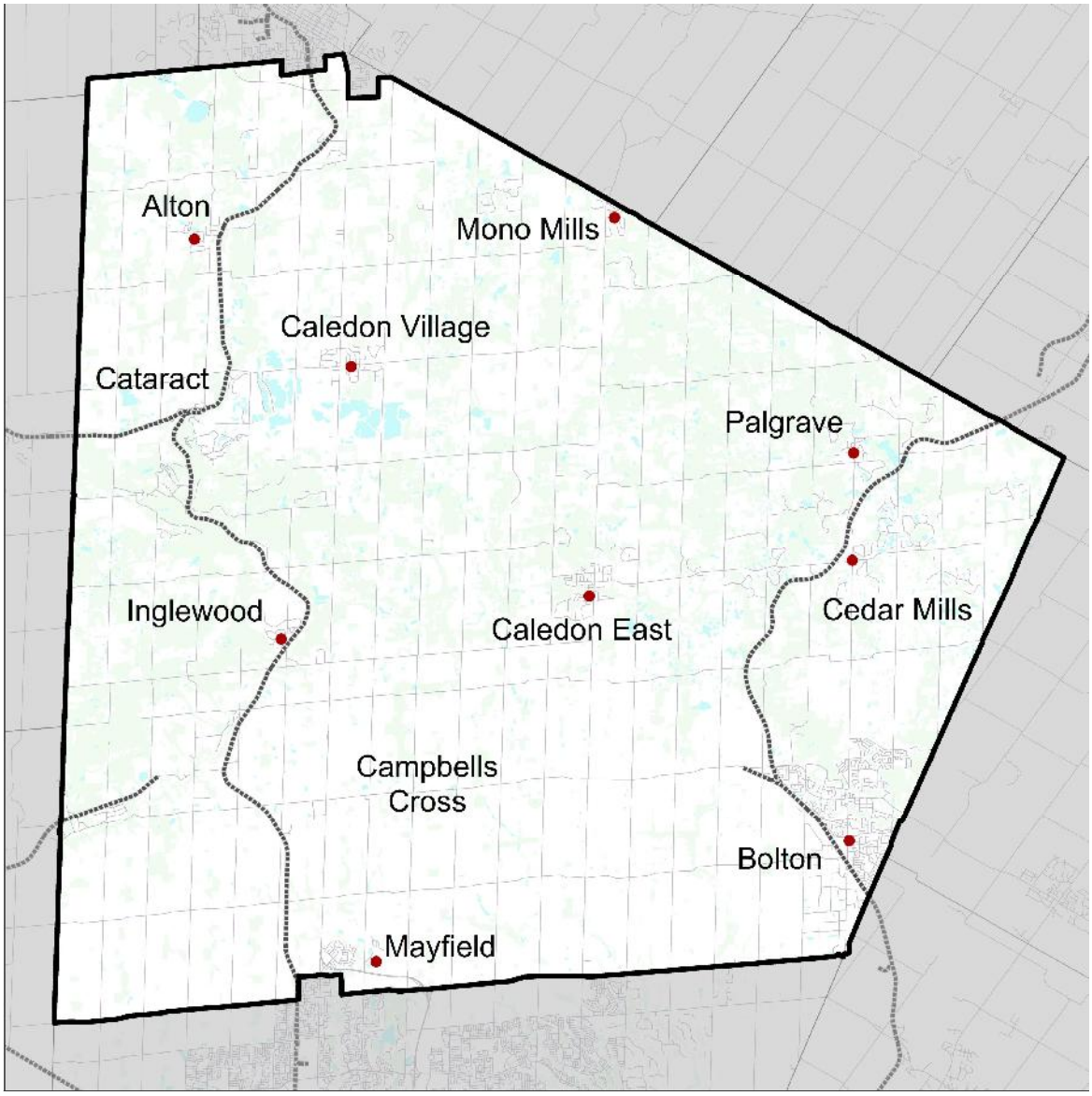




Source for charts: 2011 Transportation Tomorrow Survey

Transit Feasibility Study – your input

- Place a • dot on the map where you LIVE

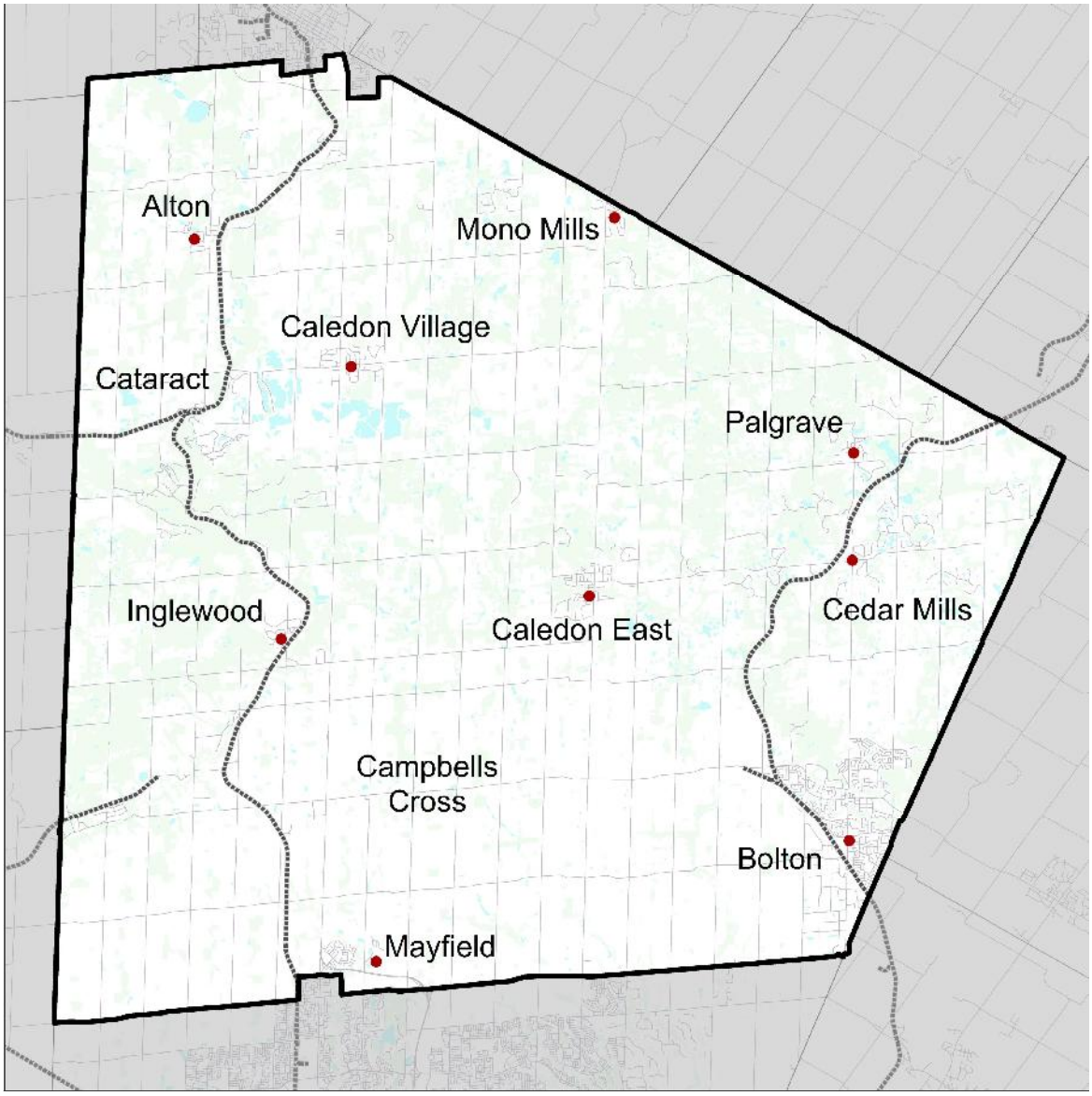


Not on the map? Place your dot after the following:

Brampton	York Region
Mississauga	Toronto
Other	

Transit Feasibility Study – your input

- Place a • dot on the map where you **WORK / STUDY**



Not on the map? Place your dot after the following:

Brampton	York Region
Mississauga	Toronto
Do not work	Other

- Would you support an annual tax increase of **$20-40/household to fund transit?**

YES	NO

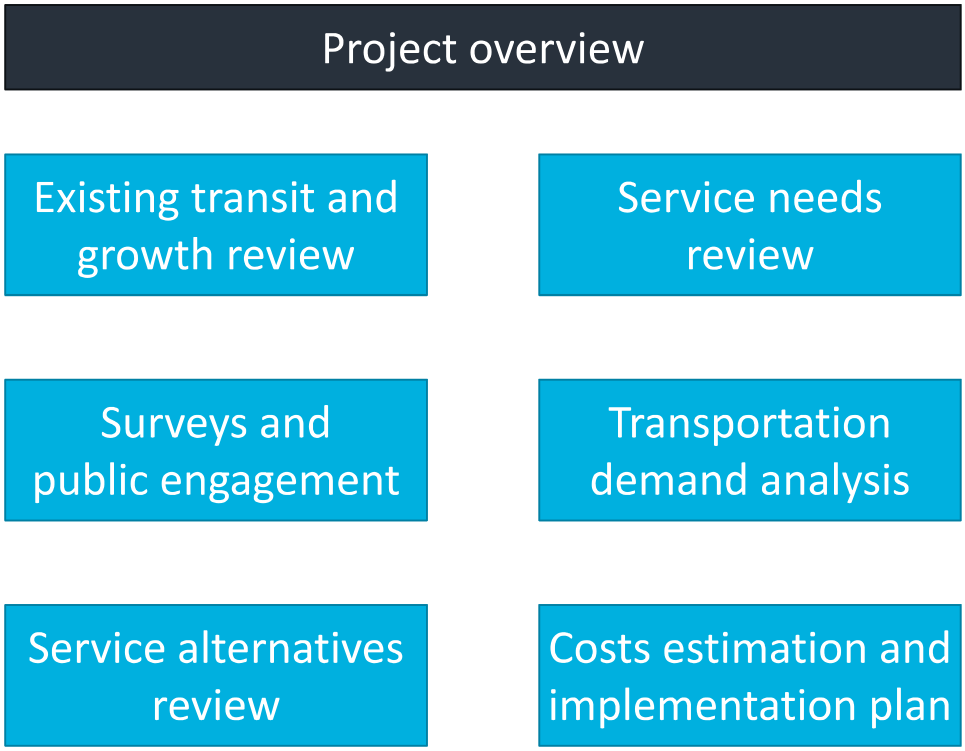
steer davies gleave

TOWN OF CALEDON

F March 2019 PIC Boards

Welcome to the Transit Feasibility Study

- The **Caledon Transit Feasibility Study** has been investigating the benefits and costs of providing public transit services for the Town of Caledon in a 2-year process



- Project website: www.caledon.ca/tfs
- Twitter: @YourCaledon #CaledonTransitFuture
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- For further information, contact:

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(416) 360 0307
Dennis.Fletcher@SteerGroup.com

Eric Chan
Manager, Transportation Engineering
Town of Caledon
(905) 584 2272 x4076
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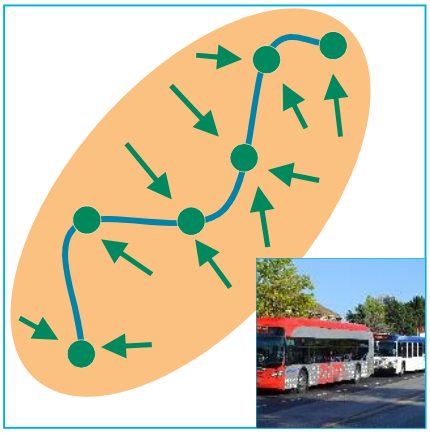
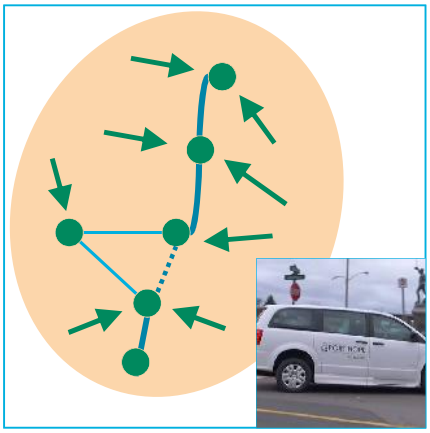
What is transit?



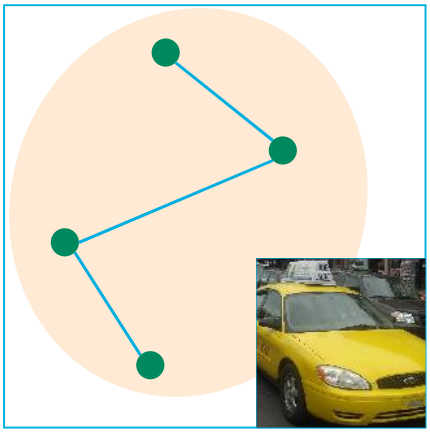
Fixed-route

- Service operates along an unchanging route, with scheduled arrival/departure times at stops
- No pre-booking needed
- Works best in urban areas with good demand (e.g. Bolton, Mayfield)
- Example: Brampton Transit services



Flexible service

- Variation on fixed-route service
- Bus may deviate in response to customer requests
- Works best where area served by deviation has lower demand than rest of the route



Demand-responsive

- Service provides door-to-door service; similar to taxi, except vehicle is shared with other passengers
- Pre-booking required
- Works best in low-demand areas (e.g. rural areas outside the villages)
- Examples: taxi, Uber, Lyft

Questions

- *These questions relate to the previous board*

Which approach do you prefer?

Place dot in space below

Fixed-route	Flexible
Demand-responsive	**No transit**

Do you have any additional comments on these approaches?

Write in space below

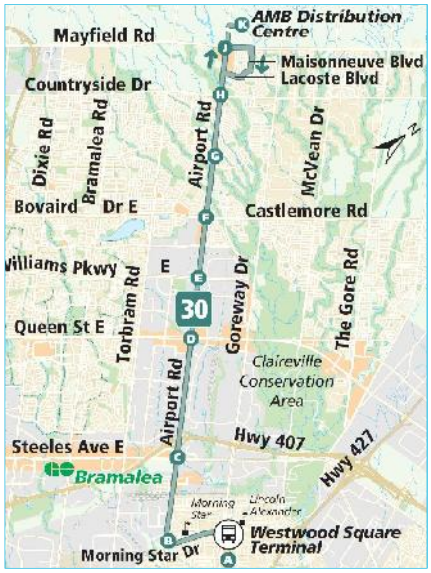
What are the existing transit services in Caledon?

- **GO Transit** operates two routes, both with GO Train connections:
  - Route 37: Orangeville to Brampton via Hwy 10 (peak-only)
  - Route 38: Bolton to Brampton and North York (all-day)





- **Brampton Transit**:
  - 30 AIRPORT RD: Service to AMB Distribution Centre (all-day)





- **Caledon Community Services**: door-to-door service 7 days a week to Caledon seniors and Caledon citizens with short or long term disabilities.

- **TransHelp**: transit service for people with disabilities across Peel Region.

- **Other:** taxis, rideshare services.

What can transit do for Caledon?

- Made in Caledon review indicates the following:

Opportunities

Inclusiveness and equity:

- Employment/post-secondary opportunities for youth
- Independent living
- Reduce isolation
- Increase Caledon residents' well-being
- Provide more options for commuters
- People with mobility issues and seniors

Economic vitality:

- Enhance businesses' access to customers/employees
- Attract/retain youth and entrepreneurs
- Promote tourism

Integration with land use:

- Enhance access to recreation and social programs
- Develop well-connected and transit-supportive communities
- Support growth intensification

Support for healthy living communities:

- Lower greenhouse gas emissions
- Improve walking / cycling

Customer experience:

- Proximity to Brampton Transit, an award-winning system (CUTA 2018)
- Bringing new young-generation families to Caledon

Financial Responsibility:

- Exploring financially feasible transit options for Caledon

Challenges

Costs and funding:

- Transit is an expensive service
- Increase in property tax
- Achieving only 20-30% cost recovery from the farebox
- Limited funding and non-predictable transit grants in Ontario

Customer experience:

- Potential long waiting times (30-minute service during peaks)
- Travel to/from bus stops ("last mile" issue)

Sparse population / large geographic area:

- Sparsely-populated areas and long-distance trips to/from/within Caledon increases the cost of service

Infrastructure and sidewalks:

- Lack of sidewalks, amenities and transit-supportive development in Caledon
- Accessibility during harsh weather conditions

Operation:

- Achieving acceptable levels of service given long travel distances

Questions

- *This question relates to the previous board*

Are there additional opportunities / challenges for transit in Caledon?

Write in space below

Opportunities	Challenges

Who have we heard from?

Town Departments
- Council
- Finance
- Engineering
- Transportation
- Roads & Fleets
- Communications
- Regulatory Services
- Community Planning
- Parks and Recreations
- Development Services
- Economic Development
- Energy and Environment
- Tourism / Culture

Region of Peel
- Sustainable Transportation
- TransHelp

City of Brampton
- Transpiration Planning
- Brampton Transit

Metrolinx
- GO Transit
- Smart Commute

Other government agencies
- Toronto Transit Commission
- Ministry of Transport
- York Region and York Rapid Transit
- City of Vaughan
- King Township
- Simcoe County
- Dufferin County
- Town of Orangeville
- Halton Region
- Wellington County
- Town of Innisfil

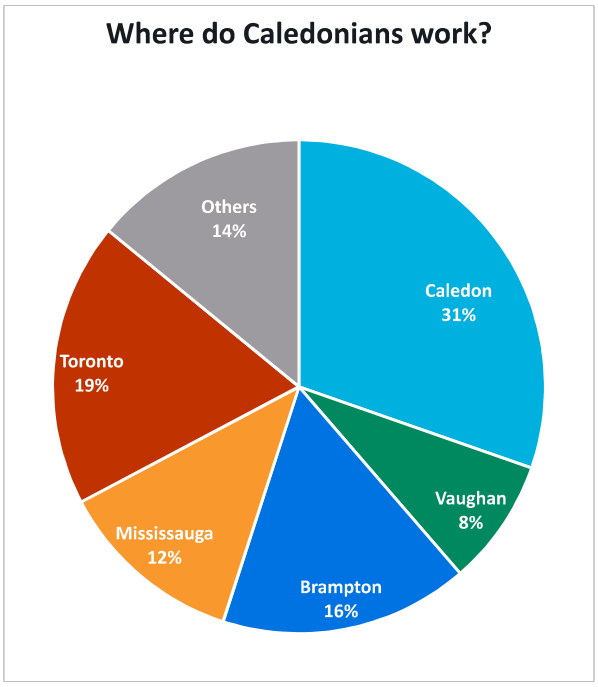
Private companies
- Uber
- Lyft
- A1 GTA Cab

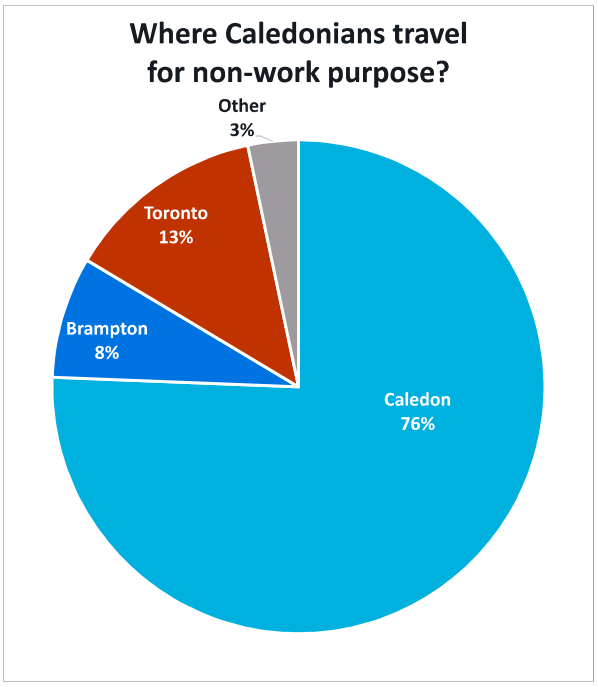
Public
- 300+ residents in phone poll
- 100+ residents through public meetings in 2017/2018/2019
- 20+ residents inquiries
- 25+ companies in petition
- 1,100+ households responded to Transportation Tomorrow Survey
- 16,000+ residents responded to Census trip journey survey

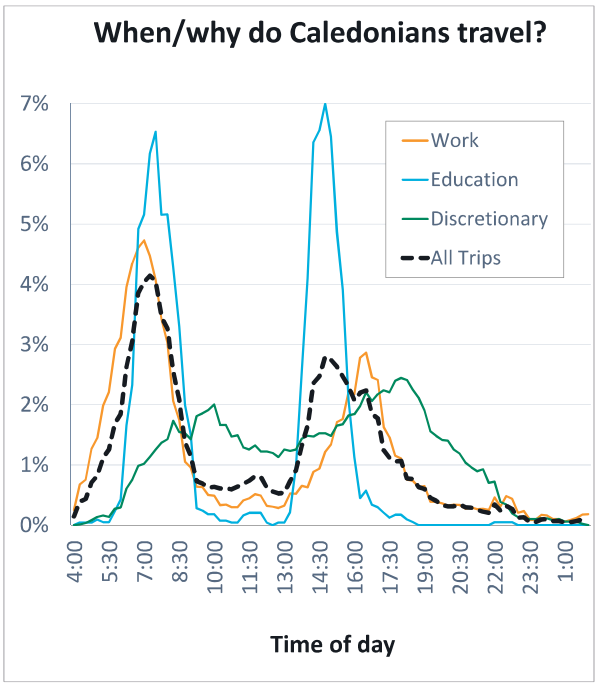
Community Groups
- Cycling Task Force / Active Transportation Task Force
- Seniors' Task Force
- Caledon Community Services
- Accessibility Advisory Committee
- Caledon Area Families For Inclusion

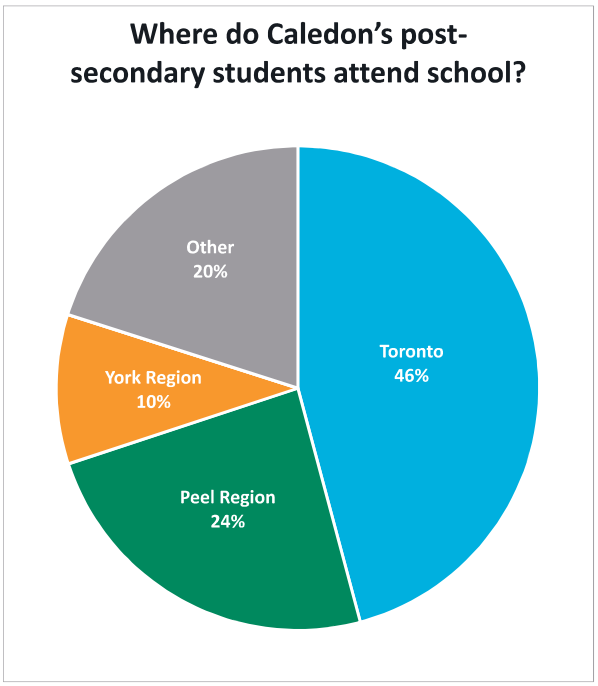


How do people travel in/around Caledon?





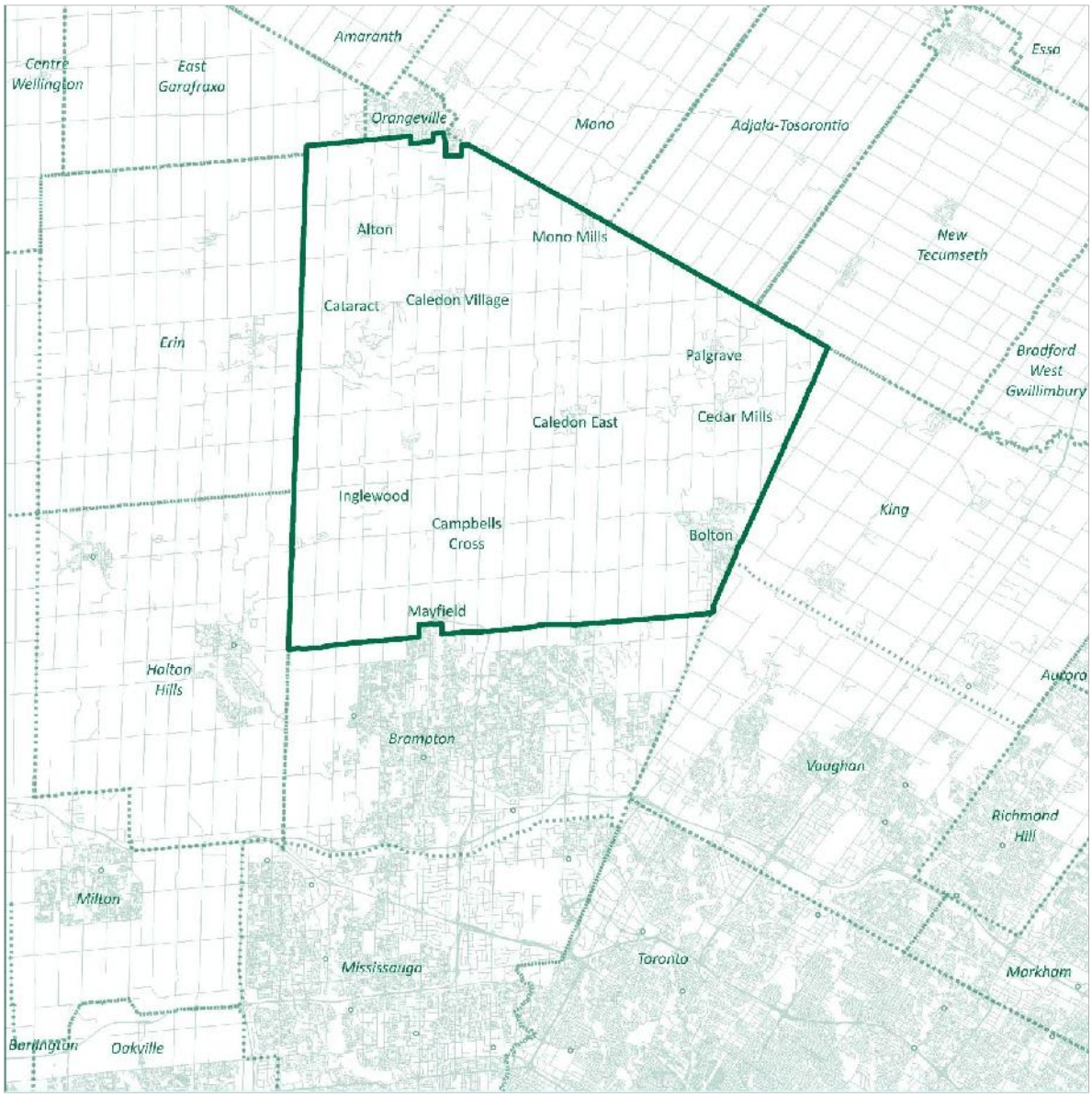




Data source for all charts: Transportation Tomorrow Survey

Question: Where do you live and work/study?

- Place a • dot on the map where you **LIVE**
- Place a • dot on the map where you **WORK / STUDY**

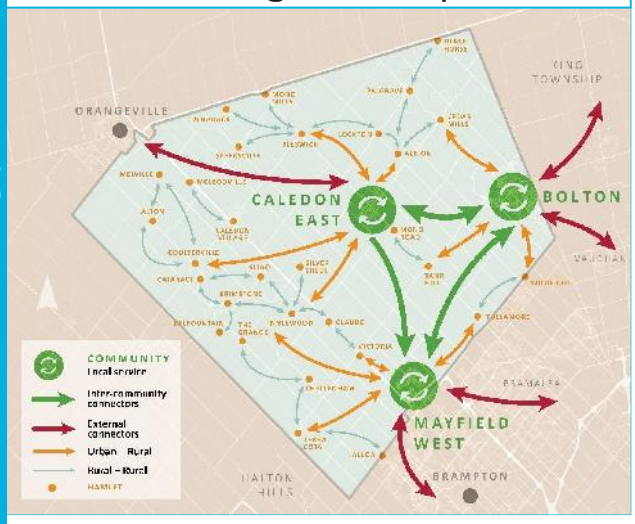


Not on map? Write in space below.

How did we assess the options for transit?

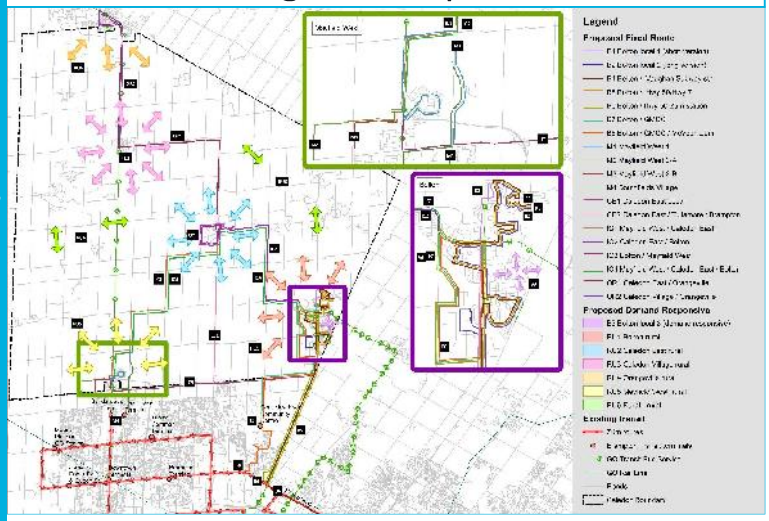
Pre-screening process

Strategic concept

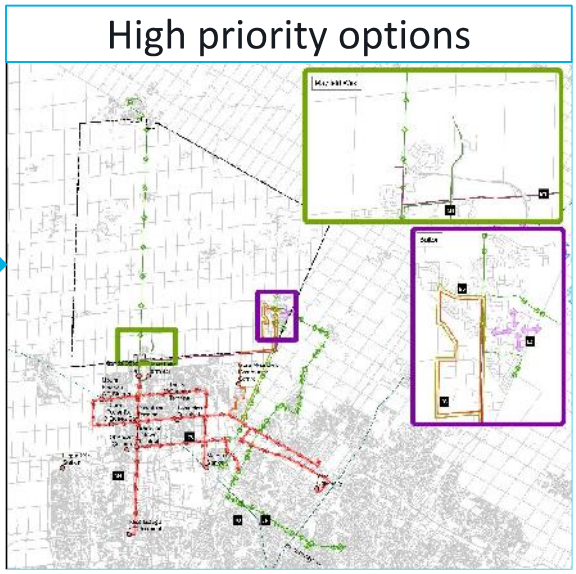


Evaluation process

Long-list of options

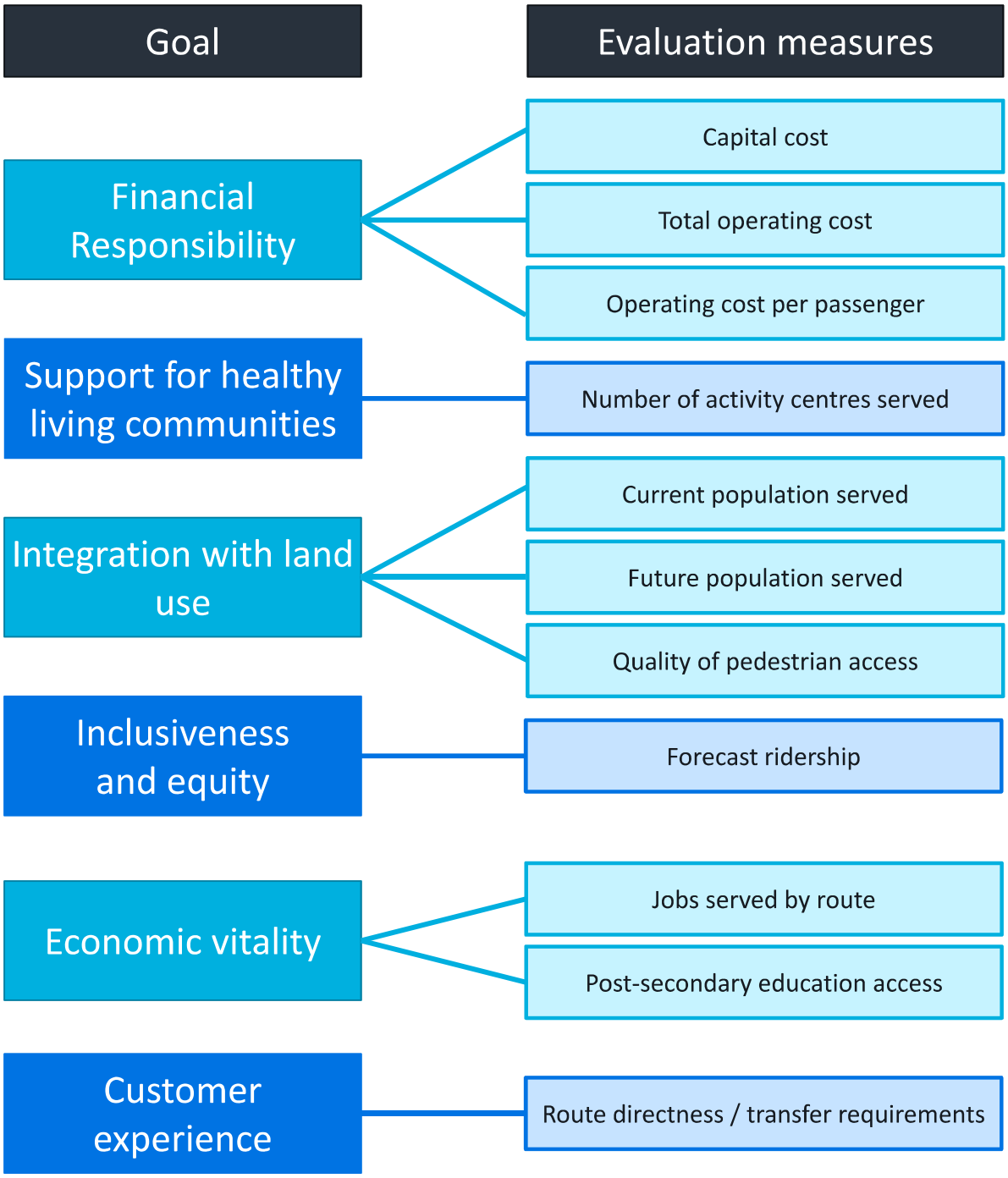


High priority options



How did we evaluate the options for transit?

- Each service option was assessed against the five goals. The goals were assigned one or more evaluation metrics to measure performance



Questions

- *These questions relate to the previous two boards*

Are there additional evaluation measures that should be considered?

Write in space below

What options did we consider?

- The table below shows the evaluation results and priorities
- Type: F = Fixed-route; D = Demand-responsive
- Scores: highest ● – ◕ – ◑ – ◔ lowest

#	Route	Type	Description / notes	Financial	Land use integration	Healthy communities	Inclusiveness and equity	Economic	Customer	Total	Priority
Bolton routes											
B1	Bolton local 1 (short)	F	Queen St only. Overlaps B2, B3	◑	●	◑	◑	◔	●	13	N/A *Overlaps B3*
B2	Bolton local 2 (long)	F	Queen St and local roads. Overlaps B1, B3	◔	◑	●	●	◑	◑	13	N/A *Overlaps B3*
B3	Bolton local 3 (demand-responsive)	D	All of Bolton. Overlaps B1, B2	◕	◕	●	●	◔	◑	14	High
B4	Bolton ↔ Vaughan Subway stn	F	Bolton residential areas. Overlaps B5, B8	◑	●	●	●	●	●	16	N/A *Overlaps B6*
B5	Bolton ↔ Hwy 50/Hwy 7	F	Bolton residential areas. Connects with VIVA/Züm. Overlaps B6, B8	◑	●	●	◑	●	◑	15	N/A
B6	Bolton ↔ Hwy 50 Züm stn	F	Bolton employment areas. Connects with VIVA/Züm. Overlaps B4, B5	◕	●	●	●	●	●	17	High
B7	Bolton ↔ GMCC	F	Overlaps B8	◕	●	◑	●	◕	◑	14	N/A *Overlaps B8*
B8	Bolton ↔ GMCC ↔ McVean Züm station	F	36 GARDENBROOKE SOUTH extension. Overlaps B7	◕	●	◑	●	●	◑	15	High
Mayfield routes											
M1	Mayfield West 1	F	7 KENNEDY extension. Overlaps M4	◑	◔	◔	●	◔	●	12	Medium
M2	Mayfield West 2-A	F	25 EDENBROOK extension. Overlaps M3	◑	◔	◔	◑	◔	●	11	Medium
M3	Mayfield West 2-B	F	3 MCLAUGHLIN extension. Overlaps M2	●	◑	◔	●	◔	●	13	Medium
M4	Southfields Village	F	Overlaps M1	◔	◕	●	●	◑	●	15	High
Caledon East routes											
CE1	Caledon East local	F		◑	◔	◑	◔	◔	●	10	Low
CE2	Caledon East ↔ Tullamore Industrial ↔ Brampton	F	30 AIRPORT extension	◔	◔	◔	◔	◔	●	9	Low
Inter-community routes											
IC1	Mayfield West ↔ Caledon East	F	Overlaps IC4	◔	◔	◔	◑	◔	●	10	N/A *Overlaps IC4*
IC2	Caledon East ↔ Bolton	F	Overlaps IC4	◔	◑	●	◑	◔	●	13	N/A *Overlaps IC4*
IC3	Bolton ↔ Mayfield West	F		◑	●	◑	◑	◕	●	14	High
IC4	Mayfield West ↔ Caledon East ↔ Bolton	F	Overlaps IC1, IC2	◔	◕	●	●	◑	◑	14	Medium
Connectors to Orangeville											
OR1	Caledon East ↔ Orangeville	F	Overlaps OR1	◑	◑	◑	◔	◔	●	12	Medium
OR2	Caledon Village ↔ Orangeville	F	Overlaps OR2	◔	◑	◔	◔	◔	●	**10**	N/A *Overlaps OR1*
Rural services											
RU1	Bolton Rural	D		◕	◑	●	◑	◔	●	13	Medium
RU2	Caledon East rural	D		◕	◑	◑	◔	◔	●	11	Medium
RU3	Caledon Village rural	D		◕	◑	◔	◔	◔	●	10	Low
RU4	Orangeville Rural	D		●	◑	◑	◔	◔	●	12	Medium
RU5	Mayfield West Rural	D		●	◑	●	◔	◔	●	13	Medium
RU6	Rural-Rural	D		◕	◑	◔	◑	◔	●	12	Medium

Who will operate the service?

In-house

Pros:

- Full control of assets and service levels
- No contract oversight required

Cons:

- Full capital costs required up-front
- Relies on internal management expertise

Private contractor

Pros:

- Start-up is quicker and cheaper
- Draws on external management expertise
- Full control of service levels

Cons:

- Harder to integrate with other transit agencies
- Contract oversight required

Other transit agency

Pros:

- Integration with other municipality's services
- Start-up is quicker and cheaper

Cons:

- Service levels partially controlled by other municipality
- Detailed cost-sharing agreement required

Ride-share company

Pros:

- Strong/simple user experience
- Lower costs at low demand levels

Cons:

- Driver recruitment difficult in low-density areas
- Accessibility issues for people with mobility impairments / without smartphones

Questions

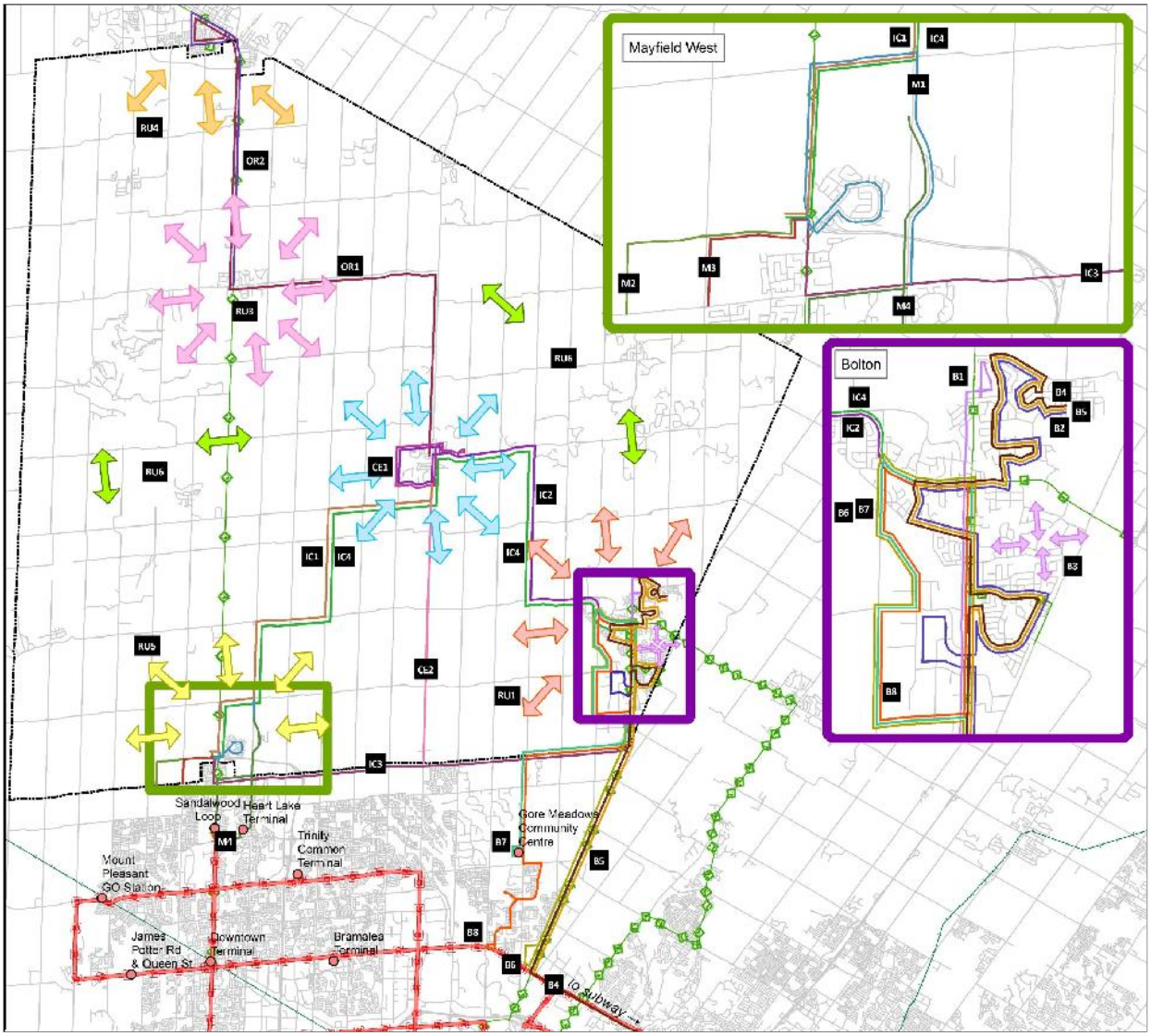
- *These questions relate to the previous two boards*

Do you agree/ disagree with the evaluation results?
Write in space below

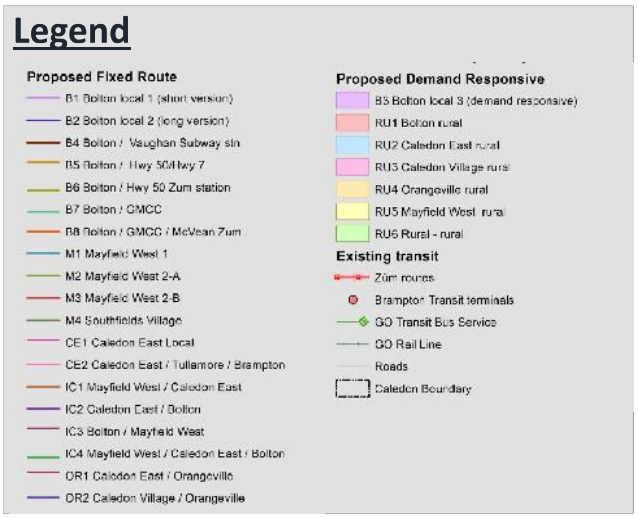
Which approach for operating service would you prefer?	
Place dot in space below	
In-house	**Municipal contractor**
Private contractor	**Ride-share company**

What options did we consider?

- A long-list of service options was developed, shown in the map below

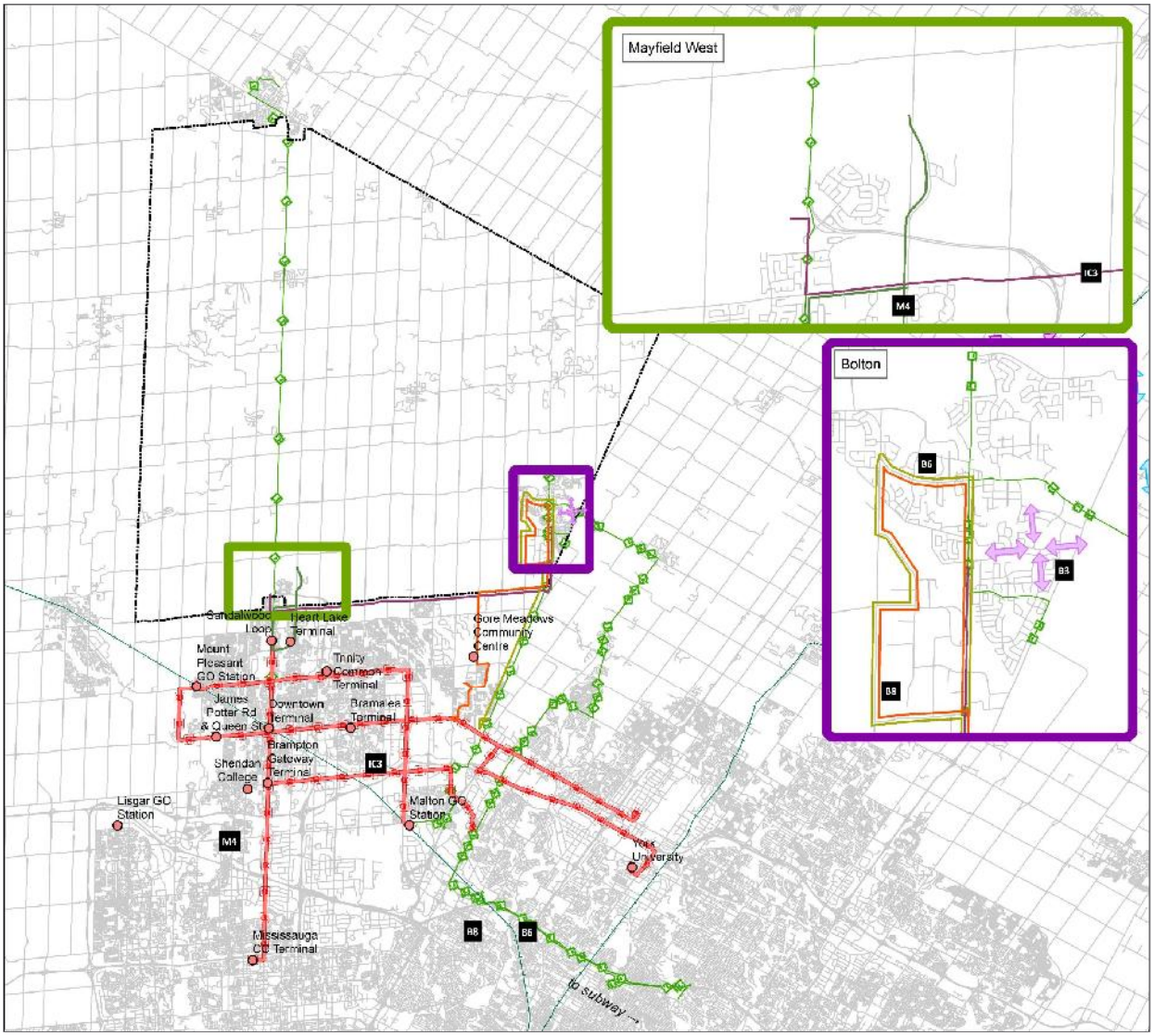


- **Bolton** routes: B1 – B8
  (B3 is demand-responsive)
- **Mayfield** routes: M1 – M4
- **Caledon East** routes: CE1 – CE4
- I**nter-community** routes: IC1 – IC4
- Connectors to **Orangeville**:
  OR1 – OR2
- **Rural area** routes: RU1 – RU6 |
  (all demand-responsive)



What options are currently ranked high priority?

- The map below shows the high-priority options



Legend

Proposed Fixed Route
- B6 Bolton / Hwy 50 Zum station
- B8 Bolton / GMCC / McVean Zum
- M4 Southfields Village
- IC3 Bolton / Mayfield West

Proposed Demand Responsive
- B3 Bolton local 3 (demand responsive)

Existing transit
- Zūm routes
- Brampton Transit terminals
- GO Transit Bus Service
- GO Rail Line
- Roads
- Caledon Boundary

- Options described as medium/low-priority will considered for implementation after these options
- Exact bus stop locations will be decided as part of the implementation process, but will include:
  - Shopping centres / plazas
  - Schools
  - GO bus stops
  - Other transit agencies' terminals / stations
  - Other sites attracting large numbers of trips

Questions

- *These questions relate to the previous two boards*

What additional comments on the proposed route do you have?

Write in space below

What are the next steps?

- Detailed **financial analysis** on the high-priority options
  - Detailed costs are still to be developed, based on the final recommendations
  - Transit is an investment to achieve the objectives and benefits
  - Implementation plans will be developed to start with the highest benefit alternatives, to minimize start-up costs
- Assessment of **delivery** mechanisms (type of service and operator)
- Discussions with potential **partners**
- Consideration of **public input** from PICs
- Report to **Council** in spring 2019
- Council **vote** on study's findings and recommendations
- **Delivery** in line with Council direction
  - Subject to Council direction, there will be some lead time for implementation

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- Project website: www.caledon.ca/tfs
- Twitter: @YourCaledon #CaledonTransitFuture
- Facebook: Your Caledon
- Other PIC dates:
  - Mon Mar 18, 4-8pm: Mayfield West, Storefront in Southfield (12560 Kennedy Rd, Unit #5)
  - Wed Mar 27, 4-8pm: Albion Bolton Community Centre - Meeting Room C (150 Queen St S)
- For further information, contact:

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Town of Caledon
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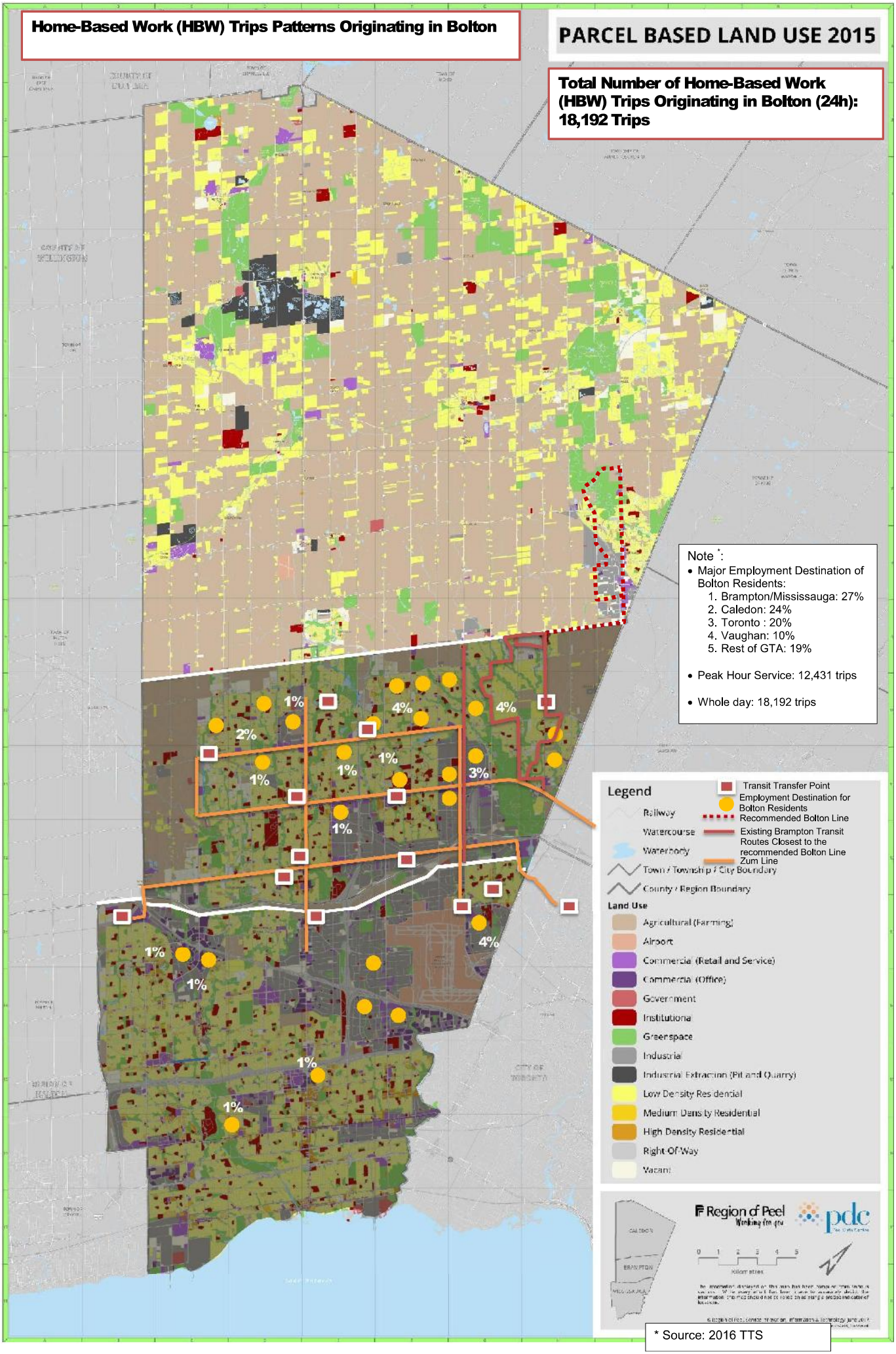
Eric.Chan@caledon.ca

G TTS 2016 Analysis (provided by the Town)

Home-Based Work (HBW) Trips Patterns Originating in Bolton

PARCEL BASED LAND USE 2015

Total Number of Home-Based Work (HBW) Trips Originating in Bolton (24h): 18,192 Trips



Note *:

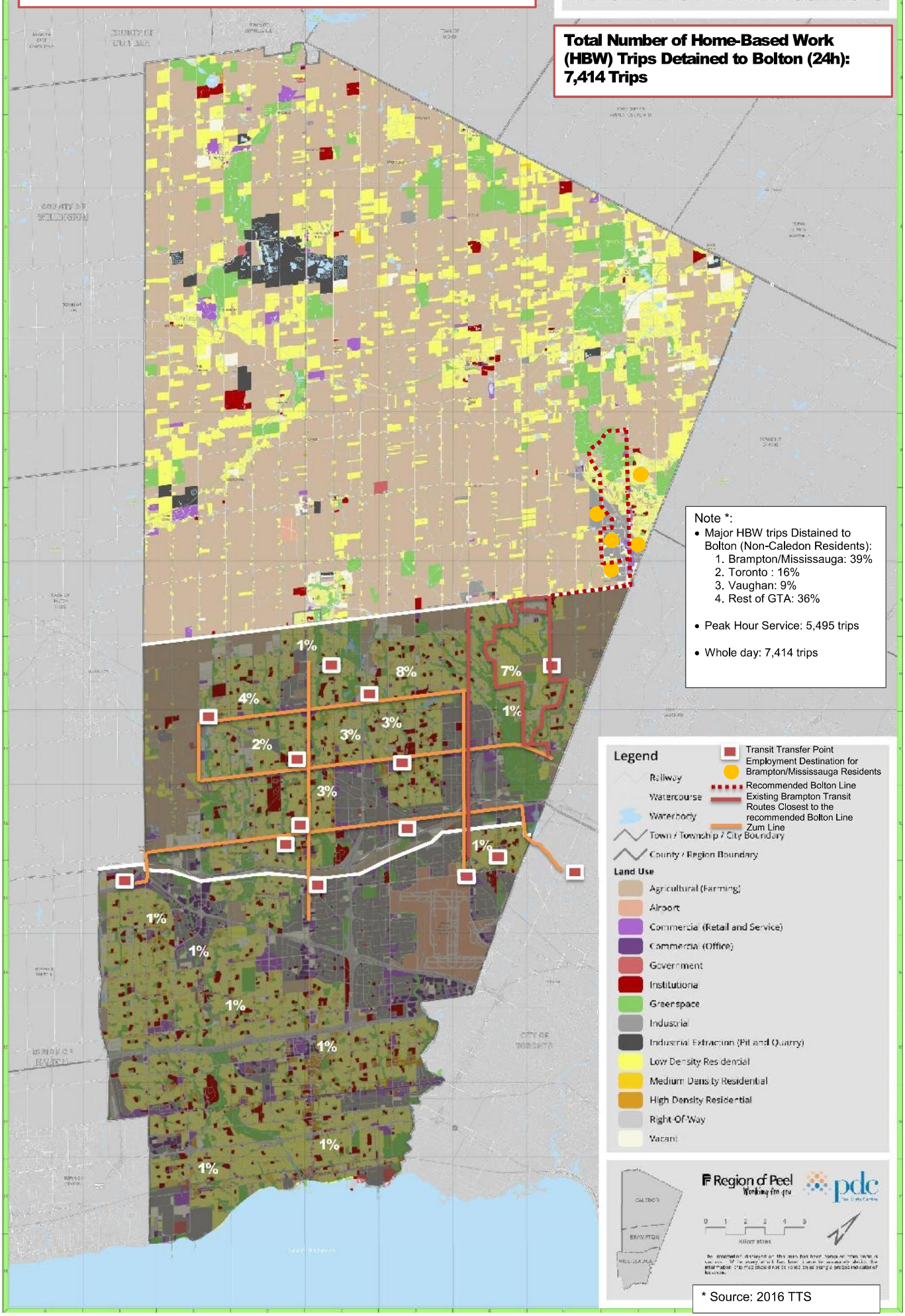
- Major Employment Destination of Bolton Residents:
  1. Brampton/Mississauga: 27%
  2. Caledon: 24%
  3. Toronto : 20%
  4. Vaughan: 10%
  5. Rest of GTA: 19%
- Peak Hour Service: 12,431 trips
- Whole day: 18,192 trips

* Source: 2016 TTS

Home-Based Work (HBW) Trips Pattern Detained to Bolton

PARCEL BASED LAND USE 2015

Total Number of Home-Based Work (HBW) Trips Detained to Bolton (24h): 7,414 Trips



Note *:

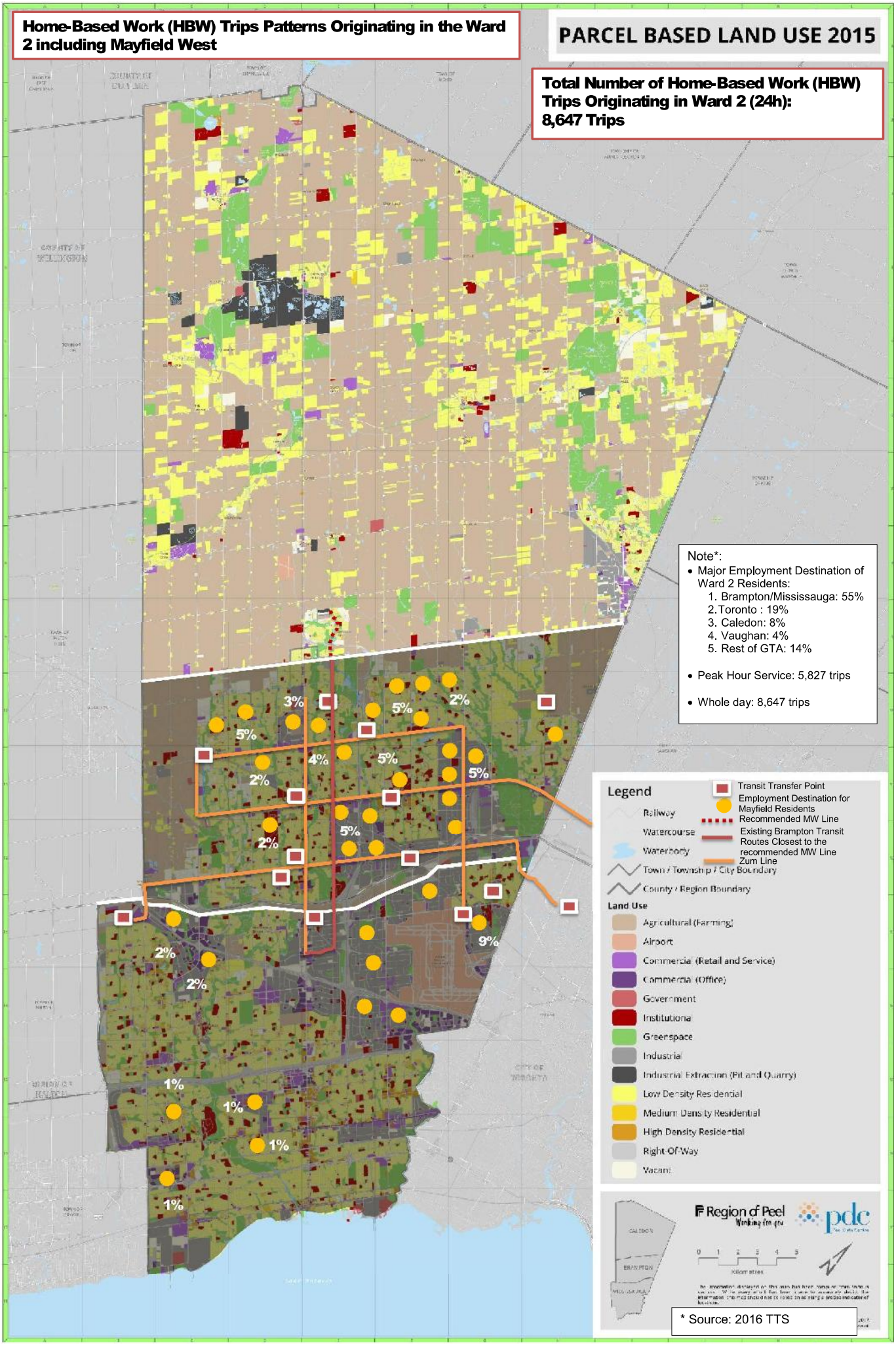
- Major HBW trips Distained to Bolton (Non-Caledon Residents):
  1. Brampton/Mississauga: 39%
  2. Toronto : 16%
  3. Vaughan: 9%
  4. Rest of GTA: 36%
- Peak Hour Service: 5,495 trips
- Whole day: 7,414 trips

* Source: 2016 TTS

Home-Based Work (HBW) Trips Patterns Originating in the Ward 2 including Mayfield West

PARCEL BASED LAND USE 2015

Total Number of Home-Based Work (HBW) Trips Originating in Ward 2 (24h): 8,647 Trips



Note*:

- Major Employment Destination of Ward 2 Residents:
  1. Brampton/Mississauga: 55%
  2. Toronto : 19%
  3. Caledon: 8%
  4. Vaughan: 4%
  5. Rest of GTA: 14%
- Peak Hour Service: 5,827 trips
- Whole day: 8,647 trips

Legend

- Transit Transfer Point
- Employment Destination for Mayfield Residents
- Railway
- Recommended MW Line
- Watercourse
- Existing Brampton Transit Routes Closest to the recommended MW Line
- Waterbody
- Zum Line
- Town / Township / City Boundary
- County / Region Boundary

Land Use

- Agricultural (Farming)
- Airport
- Commercial (Retail and Service)
- Commercial (Office)
- Government
- Institutional
- Greenspace
- Industrial
- Industrial Extraction (Pit and Quarry)
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Right-Of-Way
- Vacant

Region of Peel Working for you

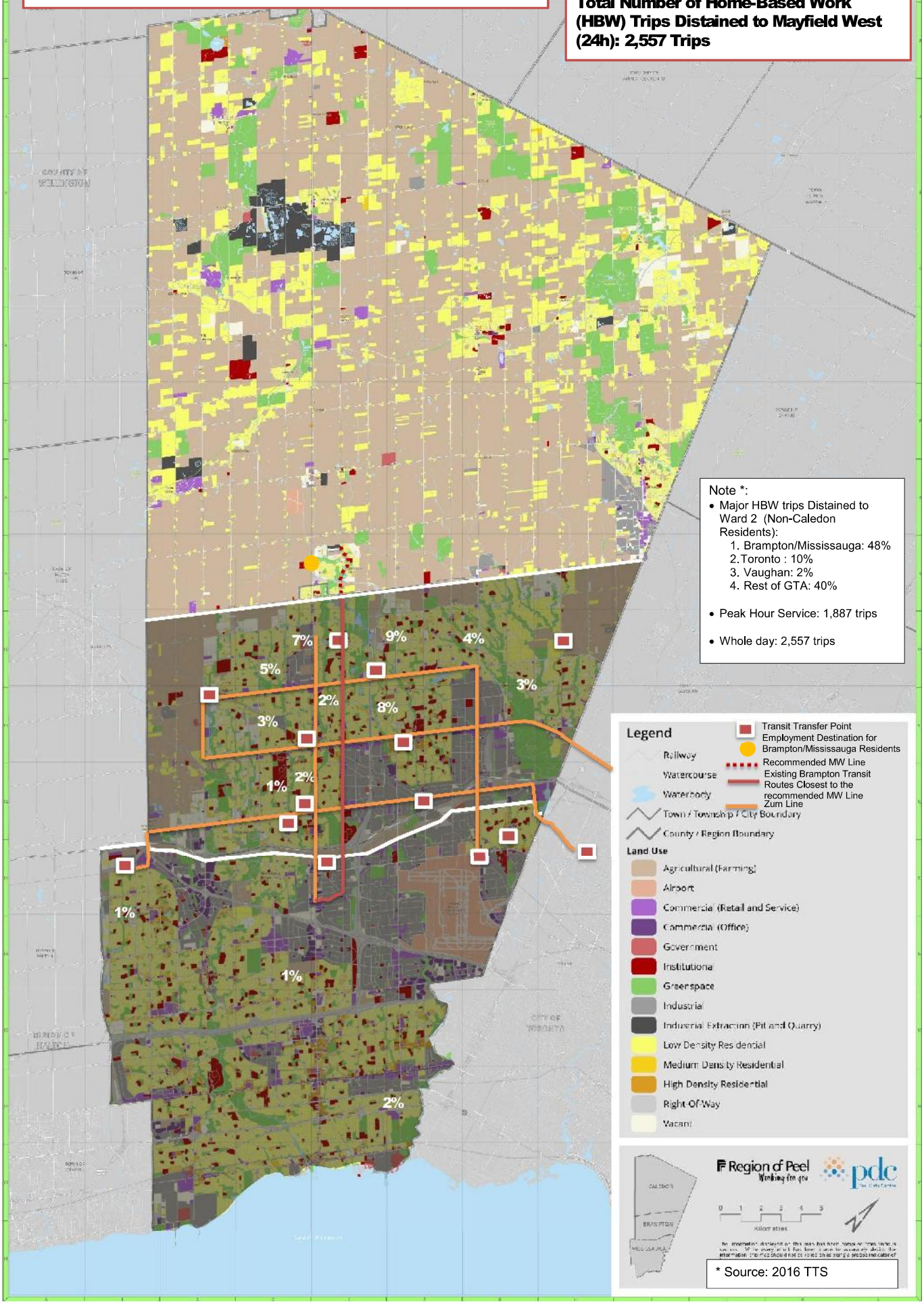
pdc

* Source: 2016 TTS

Home-Based Work (HBW) Trips Patterns Distained to Ward 2 including Mayfield West

PARCEL BASED LAND USE 2015

Total Number of Home-Based Work (HBW) Trips Distained to Mayfield West (24h): 2,557 Trips



Note *:

- Major HBW trips Distained to Ward 2 (Non-Caledon Residents):
  1. Brampton/Mississauga: 48%
  2. Toronto : 10%
  3. Vaughan: 2%
  4. Rest of GTA: 40%
- Peak Hour Service: 1,887 trips
- Whole day: 2,557 trips

Legend

- Transit Transfer Point
- Employment Destination for Brampton/Mississauga Residents
- Railway
- Recommended MW Line
- Watercourse
- Existing Brampton Transit Routes Closest to the recommended MW Line
- Waterbody
- Zum Line
- Town / Township / City Boundary
- County / Region Boundary

Land Use

- Agricultural (Farming)
- Airport
- Commercial (Retail and Service)
- Commercial (Office)
- Government
- Institutional
- Greenspace
- Industrial
- Industrial Extraction (Pit and Quarry)
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Right-Of-Way
- Vacant

Region of Peel

pdc

* Source: 2016 TTS