

October 2023



Town of Innisfil

Transportation Master Plan



 **Innisfil**

 **BURNSIDE**

Innisfil Transportation Master Plan

**Town of Innisfil
2101 Innisfil Beach Road
Innisfil, ON**

**R.J. Burnside & Associates Limited
6990 Creditview Road, Unit 2
Mississauga ON L5N 8R9 CANADA**

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300053011.000**

Contributors

Town of Innisfil Core Project Team

Meredith Goodwin – Capital Project Manager, Engineering

Carolina Cautillo – Project Manager, Roads, Traffic, & Transportation

Paul Pentikainen – Senior Policy Planner, Land Use Planning

R.J. Burnside & Associates Ltd. Core Project Team

Ray Bacquie – Project Manager, Senior Vice-President, Transportation

Gordon Hui – Senior Transportation Planner, Transportation

Xinli Tu – Transportation Planner, Transportation

Cindy Chung – Transportation Planner, Transportation

Deanna De Forest – Environmental Assessment Lead, Environmental

Hanna Chung – Landscape Designer, Landscape Architecture

In Association with

MHBC

Watson & Associates Economists Ltd.

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Executive Summary

In July 2021, the Town of Innisfil (Town) initiated a Transportation Master Plan (TMP) Update to address existing and future pedestrian, cycling, transit and vehicle needs within Innisfil. The plan is guided by Federal policies and commitments to mitigate climate change, by Provincial Policy, by infrastructure and services provided other levels of government, and by the inter-relationship between Innisfil and its municipal neighbours. A location map is presented in Exhibit ES-1 that illustrates the location of settlement areas (including primary, urban and village settlements).

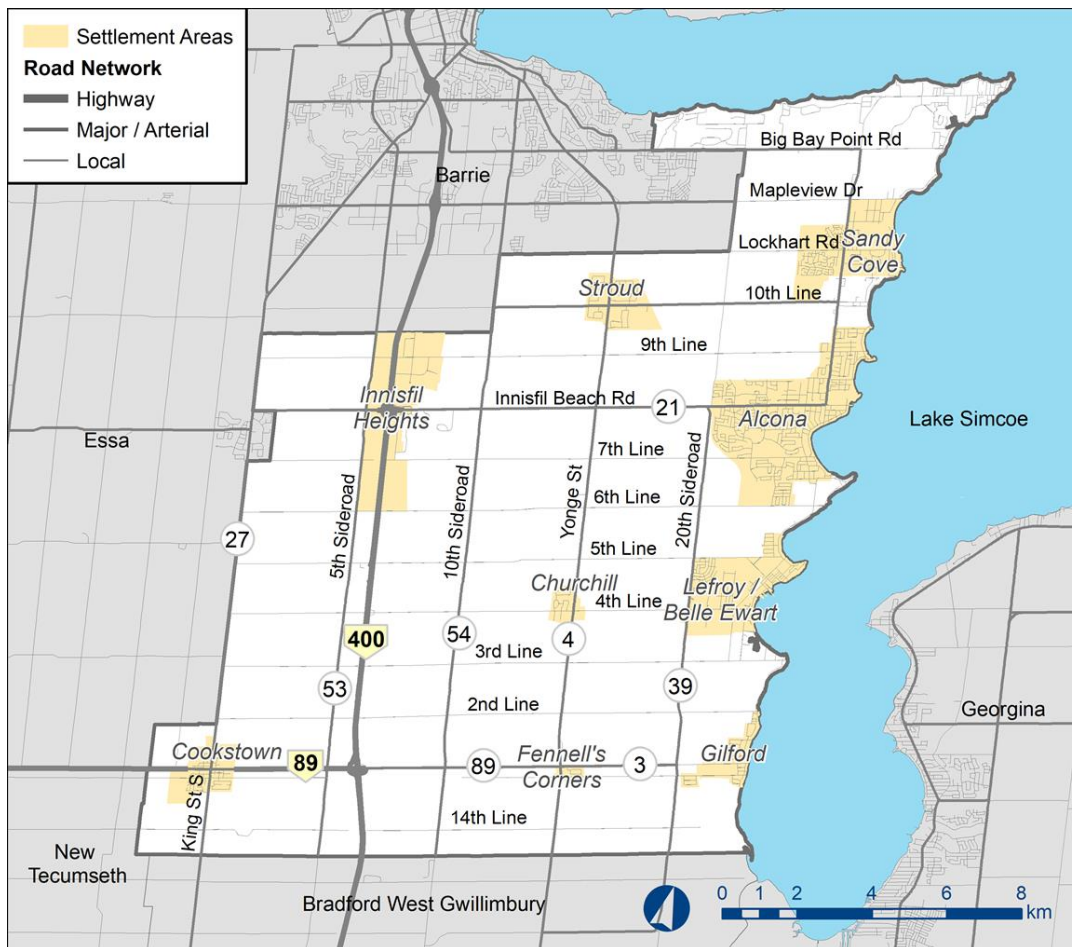


Figure ES-1: Town of Innisfil Urban Context

The Town’s previous 2018 TMP provided a multimodal strategy for the Town’s planned growth in population and employment to the year 2041. This TMP Update plans for a longer-term horizon to the year 2051. It incorporates the new growth targets to 2051 as defined through the Municipal Comprehensive Review process and plans for a new innovative community of the Orbit. The Orbit will be a community surrounding the future Innisfil GO Station located at 20th Sideroad and 6th Line. This future urban community follows the Council-endorsed Orbit Vision which contains both best of proven and “next” practice ideas of city building. Climate change mitigation commitments and initiatives are explicitly addressed.

This Transportation Master Plan expands on the multimodal approach from the 2018 TMP. It is informed by the new innovative Innisfil transit system and investigates opportunities for Innisfil Transit to grow and evolve. The plan identifies new opportunities for active transportation in collaboration with the Town's 2022 Land and Lake Plan.

A. Engaging Stakeholders

A comprehensive consultation process was undertaken to gather community and stakeholder input within the master plan process. The TMP Update follows Phases 1 and 2 of the Municipal Class Environmental Assessment process (October 2000, as amended in 2007, 2011 & 2015), including a public consultation component.

The scope of the study followed Section 2.7 (Master Plans) in the Municipal Class EA guidelines, following Master Plan Approach #1. The following summarizes the public announcements and opportunities for public and agency input and participation in the study:

- Notice of Study Commencement on July 20, 2021.
- Introductory project video July 2021.
- Public and social media posts August 2021.
- Public opinion survey of stakeholder travel behaviour, needs, issues and priorities, in August and September 2021.
- Updates and references to the study through the Town of Innisfil website at: <https://www.getinvolvedinnisfil.ca/tmplan>.
- Two public open houses, held virtually on-line on August 25, 2021 and the and January 27, 2022. Public open house materials can be found in Appendix A.
- Consultation with nine identified Indigenous Communities.
- Three Technical Agencies Committee (TAC) meetings with Town staff and external stakeholders held on August 11, 2021, January 13, 2022 and May 9, 2022.

B. Recognizing the Environmental Context

The Town of Innisfil is home to forests, wildlife, geological formations, farms, mineral and water resources. Transportation strategies were developed and evaluated considering natural heritage features as environmental assets, including Areas of Natural and Scientific Interest (ANSI), significant wetlands and valleylands, habitat for species at risk, hazard lanes and source water protection areas.

The Transportation Master Plan was developed recognizing the need to protect Innisfil's cultural environment including 7 designated properties, 50 listed properties and the Cookstown Heritage Conservation District with 209 designated properties.

C. Establishing the Current Transportation Needs

The Town of Innisfil's existing transportation network includes Provincial highways, County Roads and Town roads, sidewalks and trails, on-road bike lanes and shared lane sharrows, an on-demand local transit service, and commuter transit service via GO Bus and GO rail stations (located just outside the Town's boundaries).

Based on a review of the existing network, a number of local transportation issues were identified including road congestion. Congested locations include the Innisfil Beach Road on-ramps and off-ramps to Highway 400, Innisfil Beach Road from Yonge Street to 20th Sideroad, Yonge Street between 5th Line and 7th Line, and Highway 89 at Cookstown. Several intersections within the Town are also approaching or at capacity under existing conditions, warranting improvements.

Sidewalk infrastructure, while present in many settlement areas, is not available in all urban areas and not provided along most major County or Town roads. Under the Accessibility for Ontarians with Disabilities Act (AODA) a minimum clear sidewalk width of 1.5 metres is to be provided, however some Town sidewalk infrastructure is not consistent with AODA requirements. There is a need to prioritize opportunities for improved connectivity and adherence to AODA design standards.

The Town has implemented dedicated bike lanes in urbanized areas of Alcona, including Webster Boulevard, Jans Boulevard, Leslie Drive and Innisfil Beach Road (20th Sideroad to St. Johns Sideroad). There are, however, opportunities for additional dedicated bike lanes within and between settlement areas to provide continuity and connectivity to accommodate cycling as a safe and efficient alternative mode of travel for a wider range of cyclist abilities and level of comfort.

Existing transit services include inter-municipal transit to the Greater Toronto Area (GTA) and recently established Innisfil Transit. Metrolinx GO Transit service is limited to rail service from stations outside Innisfil (at Barrie South Station and Bradford Station) and service is limited to infrequent GO bus service along Yonge Street. Simcoe County LINX Transit does not directly serve Innisfil residents or businesses. The recently established Town of Innisfil local on-demand transit service, however, has been a success providing accessibility through partnerships Uber, Driverseat and GoGo Grandparent. GO rail and County LINX transit service is needed for broader transportation equity.

D. Assessing Growth and Mobility Opportunities

Since the 2018 TMP, Simcoe County initiated a Municipal Comprehensive Review (MCR) in accordance with the Provincial Growth Plan, A Place to Grow: Growth plan for the Greater Golden Horseshoe (Office Consolidation 2020). The MCR is a specific planning process used to bring an Official Plan (OP) into conformity with the Growth Plan.

According to the October 2021 Simcoe County draft Land Needs Assessment, the Town's population and employment is projected to grow to 68,880 people and 19,650 jobs by 2041. By 2051, it is expected to increase to 84,570 people and 26,190 jobs.

The on-going population growth includes significant planned developments in the short-term including Big Bay Point, Sandy Cove, Alcona, and Lefroy. Major employment growth is continuing in the Innisfil Heights Expansion Area and planned for the Yonge/Innisfil Beach Road Hospital Campus.

One of the most significant planning initiatives since the 2018 TMP is Town Council's endorsement of the Orbit Vision to be implemented over the next 50 plus years. The County of Simcoe is currently allocating 7,700 people to Orbit's transit-oriented communities up to 2051. Based on a preliminary analysis of constraints and potential built form patterns, the Orbit could ultimately accommodate approximately 150,000 people at completion.

Town roads identified to have capacity constraints by 2041 include 6th Line between County Road 4 (Yonge Street) and the future GO Station, 20th Sideroad between Lockhart Road and Big Bay Point, and 14th Line west of County Road 27 (King Street South). Other road segments under the Town's jurisdiction, including 13th Line just east of 25th Sideroad, and Queen Street and King Street South within Cookstown will also experience capacity constraints.

Road capacity needs beyond the year 2041 to the year 2051, include: 6th Line between the Highway 400 interchange and County Road 4 (Yonge Street), 20th Sideroad south of Gilford Road, and Innisfil Beach Road east of Jans Boulevard. In addition, as a result of The Orbit development, the capacity conditions along 6th Line between County Road 4 (Yonge Street) and the future GO Station is expected to worsen and is projected to exceed capacity by 2051.

E. Defining a Policy Direction and TMP Vision

The Innisfil Transportation Master Plan builds upon and implements the existing policy framework provided by several Provincial planning policies. The Provincial Policy Statement (PPS), 2020 and A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020 ("Growth Plan") provide specific direction for the planning and development of trails and other public lands supporting health active communities, support of a multimodal transportation system and identifies the need for connectivity in transportation systems.

This TMP recognizes the importance of transportation equity as a planning objective. The current urban and rural structure of the Town of Innisfil, wide range of income groups and age categories, and average household size being greater than the average household car ownership suggest that planning for a multi-modal transportation system is critical to achieve social objectives. There are opportunities for alternative transportation strategies to strive to maintain and build upon these achievements.

It is the Town's objective to create sustainable communities and be responsive to the technological trends that will affect transportation choices, land use needs and community development patterns, over the next three decades. The Town of Innisfil will strive to be prepared for anticipated changes, based on research into new technologies. The vision statement is as follows:

Innisfil's transportation system connects people and communities, fosters healthy living, and operates innovatively and efficiently across the Town as an environmentally and financially sustainable, resilient system ready for the future.

F. Evaluating Planning Alternatives

Planning Alternatives were developed in accordance with Phase 2 of the Environmental Assessment process to address the problem statement and to support the transportation vision for the Town. In addition to the “Base Case” alternative of incorporates planned road improvements by the Ministry of Transportation Ontario and Simcoe County only, four planning alternatives were defined as identified below:

1. **Status Quo:** Maintaining the status quo is an alternative that reflects the strategy planned to 2041 from the 2018 Innisfil Transportation Master Plan.
2. **Major Roads and Highway Focused:** In addition to meeting the growth needs to 2041 from the 2018 TMP, the Town would invest in road improvements such as widening and urbanization with the goal of alleviating auto congestion and providing residents with better access to Highway 400 and other major arterial roads to get to work.
3. **Safe Active Transportation Focused:** In addition to meeting the growth needs to 2041 from the 2018 TMP, the Town would develop additional transit and active transportation infrastructure and services in support of the growth to 2051.
4. **Multi-Modal Transportation Strategy with Emerging Technologies:** In addition to meeting the growth needs to 2041 from the 2018 TMP, the Town would develop additional transit and active transportation infrastructure and services in support of the growth to 2051. The additional investment from the 2018 TMP also include safer active transportation infrastructure to key areas within the Town, road safety improvements in key areas, and enhanced walking and cycling connectivity.

The evaluation of these alternatives is based on evaluation criteria which included transportation service, social equity in mobility, natural environment, policy, socio-economic, and financial implications. These criteria were presented at the second public open house and Technical Agency Committee meetings regarding the evaluation of alternatives and a draft preferred alternative. Following consultation with the public, external agencies and Town staff, **Alternative 4 – Multi-Modal Transportation Strategy with Emerging Technologies** is the recommended strategy.

G. Recommended Transportation Strategy

Road Improvements

Road capacity needs and opportunities reflect the level of efficiency and convenience necessary for public commuting, supporting public transit and accommodating goods movement. The recommended road improvements are summarized in Table ES-1.

Table ES-1: Road Project Recommendations

Road	From	To	Improvement	Year	Source
Big Bay Point Road	20 th Sideroad	25 th Sideroad / 13 th Line	Reconstruction	2031	2018 TMP
Big Bay Point Road	25 th Sideroad / 13 th Line	Friday Drive	Reconstruction	2031	2018 TMP
Big Bay Point Road	Friday Drive	Lake Simcoe	Reconstruction	2031	2018 TMP
13 th Line	Big Bay Point Road / 25 th Sideroad	Friday Drive	Reconstruction	2031	2018 TMP
Lockhart Road	20 th Sideroad	Lake Simcoe	Reconstruction	2031	2018 TMP
10 th Line	West boundary extent of Sandy Cove settlement area	25 th Sideroad	Urbanization	2031	2018 TMP
10 th Line	25 th Sideroad	Purvis Street	Urbanization	2031	2018 TMP
25 th Sideroad	Big Bay Point Road	Mapleview Drive	Reconstruction	2031	2018 TMP
25 th Sideroad	Mapleview Drive	Innisfil Beach Road	Urbanization	2031	2018 TMP
6 th Line	Bridge expansion over railway		New Structure	2031	2018 TMP
6 th Line	Angus Street	St. Johns Road	Urbanization	2031	2018 TMP
4 th Line / Killarney Beach Road	Yonge Street	20 th Sideroad	Reconstruction	2031	2018 TMP
Various local road upgrade to minor collectors (as identified from the previous TMP)			EA Studies	2031	2018 TMP
20 th Sideroad	Big Bay Point Road	9 th Line	Reconstruction	2031	2018 TMP
4 th Line / Killarney Beach Road	John Street	County Road 4	Urbanization	2031	2018 TMP
4 th Line / Killarney Beach Road	20 th Sideroad	Ewart Street	Urbanization	2031	2018 TMP
Willard Avenue	Leslie Drive	Innisfil Beach Road	Urbanization	2031	2018 TMP

Road	From	To	Improvement	Year	Source
Adullam Avenue	Lebanon Drive	Innisfil Beach Road	Urbanization	2031	2018 TMP
6 th Line	County Road 27	County Road 53 / 5 th Sideroad	Reconstruction	2031	2018 TMP
6 th Line	County Road 53 / 5 th Sideroad	20 th Sideroad	Reconstruction	2031	2018 TMP
7 th Line	10 th Sideroad	County Road 4	Reconstruction	2031	2018 TMP
7 th Line	County Road 4	20 th Sideroad	Reconstruction	2031	2018 TMP
7 th Line	20 th Sideroad	Webster Boulevard	Urbanization	2031	2018 TMP
7 th Line	Webster Boulevard	St. Johns Road	Urbanization	2031	2018 TMP
10 th Line	20 th Sideroad	Sandy Cove boundary	Reconstruction	2031	2018 TMP
7 th Line	20 th Sideroad	Webster Boulevard	Widen 2 to 3 lanes	2031	2018 TMP
6 th Line	County Road 27	St. Johns Road	Widen 2 to 4 lanes	2031	2018 TMP
Webster Boulevard	North Limit	20 th Sideroad	Extension	2031	2018 TMP
Webster Boulevard	Quarry Drive	6 th Line	Extension	2031	2018 TMP
Webster Boulevard	6 th Line	5 th Line	Extension	2031	2018 TMP
Jans Boulevard	North Limit	9 th Line	Extension	2031	2018 TMP
20 th Sideroad Bypass	North of Innisfil Beach Road	South of Innisfil Beach Road	New construction	2031	2018 TMP
Safety and Operations Study			Study	2031	2022 TMP
Innisfil Beach Road	20 th Sideroad	25 th Sideroad	Reconstruction	2041	2018 TMP
Belle Aire Beach Road	20 th Sideroad	West of railway tracks	Urbanization	2041	2018 TMP
Belle Aire Beach Road	Willow Street	Maple Road	Urbanization	2041	2018 TMP
Ewart Street	Killarney Beach Road	300 m north of Killarney Beach Road	Urbanization	2041	2018 TMP
9 th Line	Yonge Street	20 th Sideroad	Reconstruction	2041	2018 TMP
9 th Line	20 th Sideroad	25 th Sideroad	Urbanization	2041	2018 TMP

Road	From	To	Improvement	Year	Source
Mapleview Drive	25 th Sideroad	20 th Sideroad	Reconstruction	2041	2018 TMP
St. John's Road	Innisfil Beach Road	Nantyr Drive	Urbanization	2041	2018 TMP
13 th Line	25 th Sideroad	Friday Drive	Urbanization	2041	2022 TMP
20 th Sideroad	Lockhart Road	Big Bay Point Road	Widen 2 to 4 lanes	2041	2022 TMP
14 th Line	Town Limits	County Road 27 (King Street South)	Reconstruction	2041	2022 TMP
County Road 27 (King Street South)	-	-	Cookstown Parking Study	2041	2022 TMP
6 th Line	Highway 400 Interchange	Eastern limit of The Orbit	Transfer to County and EA Addendum	2041	2022 TMP
7 th Line	County Road 4 (Yonge Street)	20 th Sideroad	EA Study	2051	2022 TMP
County Road 27	IBR	County Road 90	Widen 2 to 4 lanes	- ¹	County TMP
County Road 4	County Road 89	Barrie City Limit	Widen 2 to 4 lanes	- ¹	County TMP
County Road 4	8 th Line	County Road 89	Widen 2 to 4 lanes	- ¹	County TMP
Innisfil Beach Road	County Road 27	20 th Sideroad	Widen 2 to 4 lanes	- ¹	County TMP
County Road 53	IBR	Barrie City Limit	Widen 2 to 4 lanes	- ¹	County TMP
County Road 54	IBR	Barrie City Limit	Widen 2 to 4 lanes	- ¹	County TMP
County Road 89 / County Road 3	County Road 53	20 th Sideroad	Widen 2 to 4 lanes	- ¹	County TMP
Highway 89 East-West Link	West of Cookstown	East of Cookstown	New construction	- ¹	Province
Highway 400	Highway 9	Highway 11	Widen 6 to 8 lanes	- ¹	Province

Note: ¹. Road not under Town jurisdiction. Timing to be determined by the respective jurisdiction.

Intersection improvements were assessed by identifying intersections that meet signal warrants or operate with a level-of-service (LOS) D or worse under future conditions. Locations that require intersection improvements are summarized in Table ES-2.

Table ES-2: Intersection Improvement Recommendations

Intersection	Proposed Improvement	Jurisdiction
20 th Sideroad and Big Bay Point Road	Signalization	Town
20 th Sideroad and 9 th Line	Intersection Improvements	Town
20 th Sideroad and Lockhart Road	Roundabout	County
Innisfil Beach Road and 20 th Sideroad Bypass	Signalization	Town ¹
Highway 89 and County Road 27	Highway 89 East-West Link	Town
Innisfil Beach Road and Webster Boulevard	Intersection Improvements	Town ¹

Note: 1. The segment of County Road 21 (Innisfil Beach Road), between County Road 4 (Yonge Street) and 20th Sideroad, once reconstructed, is anticipated to be transferred to the Town.

In addition to recommended road improvements and intersection projects, there is a need for additional study of specific corridors for potential additional initiatives and property protection as identified below:

6th Line Class Environmental Assessment: The segment of 6th Line between the Highway 400 interchange and 20th Sideroad has already been identified to be a road transfer to the County jurisdiction as per the County’s draft 2022 Transportation Master Plan Update. It is recommended that the County extend the segment under their jurisdiction to the eastern limit of the Orbit. In addition, the previous Municipal Class EA completed for 6th Line should be updated to reflect the latest Provincial Growth Plan. Updated population and employment forecasts to 2051, will contribute to capacity constraints despite the planned 4 lanes. While widening 6th Line beyond 4 lanes is not desirable from an urban form perspective, additional studies are recommended to identify a preferred solution to east-west mobility needs along or adjacent to the 6th Line from the east side of the rail corridor to Highway 400 by 2051 and beyond to the full buildout of the Orbit community.

7th Line Class Environmental Assessment: A Municipal Class EA should be initiated to assess capacity requirements along the segment of 7th Line between County Road 4 (Yonge Street) and 20th Sideroad. This road segment is forecasted to operate under capacity, however transportation modelling indicated that it may be a viable route to minimize congestion along 6th Line and Innisfil Beach Road for those travelling to/from Alcona in the future.

Highway 89 East-West Link: Given the anticipated increase in pass-through traffic through Cookstown as a result, the need for the Highway 89 east-west link becomes even more critical in facilitating regional travel. This TMP supports the Highway 89 east-west link as a project to be carried forward in conjunction with the Ministry of Transportation (MTO) in order to address safety concerns within downtown Cookstown and facilitate future traffic growth.

Active Transportation Improvements

Active transportation networks should be connected and continuous to allow cyclists and pedestrians more opportunities to connect to points of interest and have a certain level of

protection for most or all of their journey. The recommended active transportation improvements to 2051 are shown in Figure ES-2.

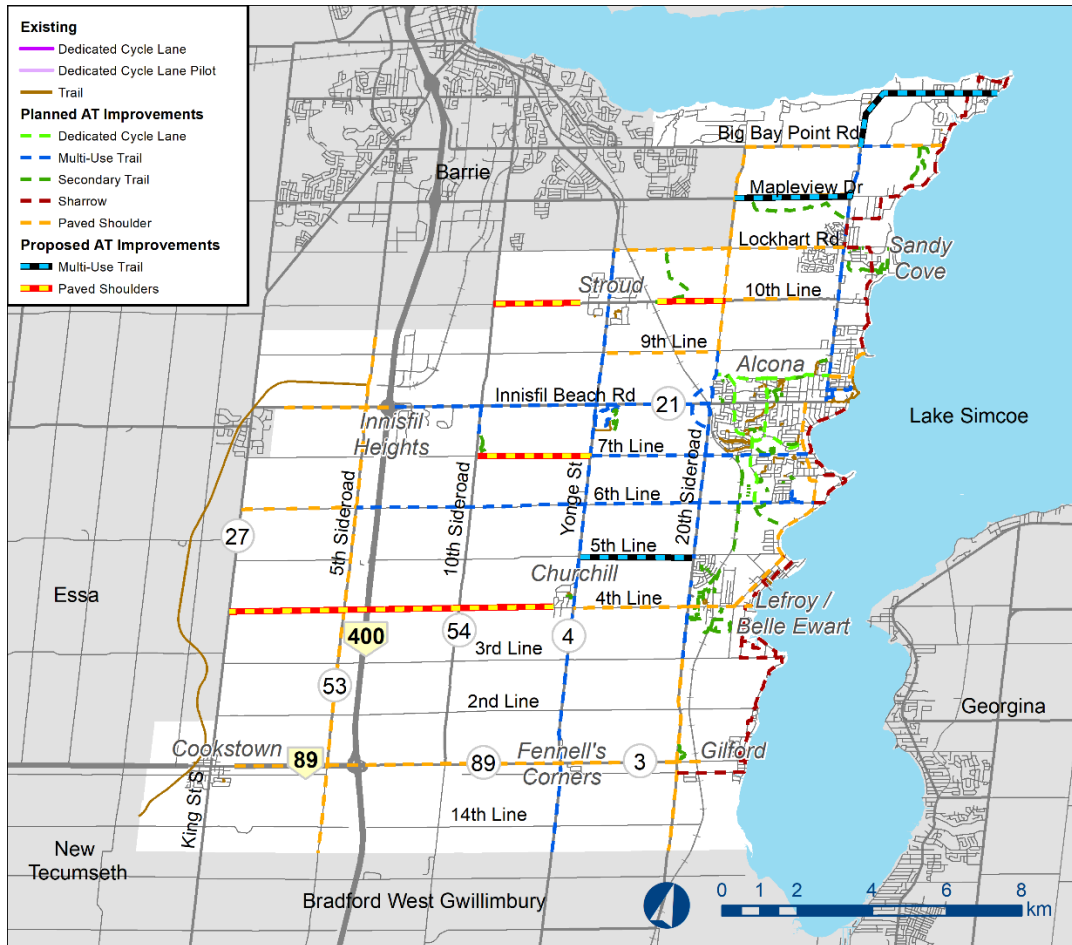


Figure ES-2: Active Transportation Recommendations

Potential improvements to be further investigated beyond 2051 include:

- 3rd Line between 20th Sideroad to Harbour Street.
- Harbour Street between 3rd Line to 4th Line.
- 20th Sideroad between 9th Line to Mapleview Drive.

The 2022 TMP continues to recommend the following Simcoe County improvements:

- Paved shoulder on County Road 89 between Country Road 27 and 20th Sideroad,
- Multi-use trail on Yonge Street throughout the entirety of the Town of Innisfil,
- Paved shoulder on 5th Sideroad throughout the entirety of the Town of Innisfil, and
- Paved shoulder and multi-use trail on Innisfil Beach Road between County Road 27 and Yonge Street.

It is noted that the existing and planned paved shoulders will also better accommodate agricultural equipment. They provide the following connections adjacent to agricultural lands:

- East-West connections west of Highway 400 (Innisfil Beach Road, 6th Line, 4th Line),

- East-West connections east of Highway 400 (10th Line, 4th Line, Highway 89) and
- North-South connections (5th Sideroad, rural sections of 20th Sideroad).

Alternative Transit Strategies

Innisfil has a number of alternatives to build upon the success of the current Innisfil Transit partnership with Uber as the town develops. These alternatives are illustrated in Figure ES-3 and include the following:

- Convert and/or supplement the On-Demand Uber Partnership to a Dedicated Fleet On-Demand Transit System.
- Supplement On-Demand transit with Scheduled Fixed Route Service (see Figure ES-3)
- Seek partners for alternative first-mile / last-mile programs and services including:
 - A Bike Share and Scooter Program
 - Autonomous Pilot Projects

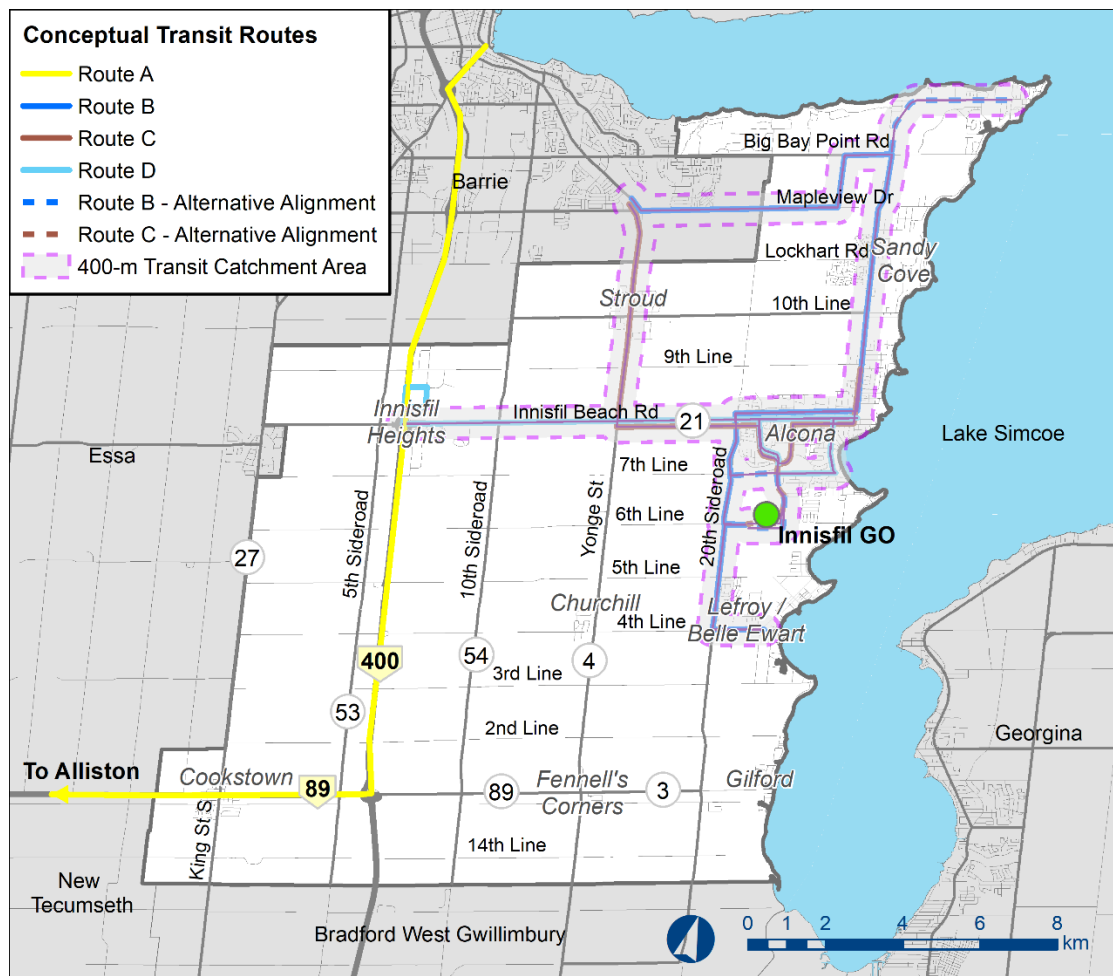


Figure ES-3: Potential Scheduled Fixed Transit Routes

The existing Uber partnership has negligible capital costs, is flexible to meet demands for origins and destinations that are not in urban areas and provides for trip making during off-peak times. Monitoring of wait times and driver availability is recommended to assess the

effectiveness of recent driver incentives. This service is currently effective and is expected to continue to be part of the transit solution.

A Dedicated ODT is seen as a potential immediate option to supplement the existing Uber transit partnership. A benefit-cost assessment would be required to confirm the size of fleet, hours of operation, geographic scope of service, ownership model (Town owned or third-party provider) that was acceptable to Town council.

Fixed Routes, providing service similar to routes A, B, C and D will provide a reliable service to in support of existing employers, future development and the planned GO rail station. It can provide a cost-effective service for priority routes as a logical expansion of the County LINX transit service. A subsequent transit route planning study may be required to confirm appropriate routes, frequency of service, service provider or partnership (i.e., County, Town, private operator and/or developer based service) and timing of implementation.

The ultimate preferred transit strategy may require a combination of alternatives with a flexible implementation strategy that may resemble Figure ES-4. It is recommended that a comprehensive transit implementation study be undertaken to assess the appropriate timing, budget, administrative support and fleet associated with the different elements of the transit system. Regular transit updates (e.g., 5-year transit plans) would be required to assess the effectiveness of the system and additional components of the system moving forward.

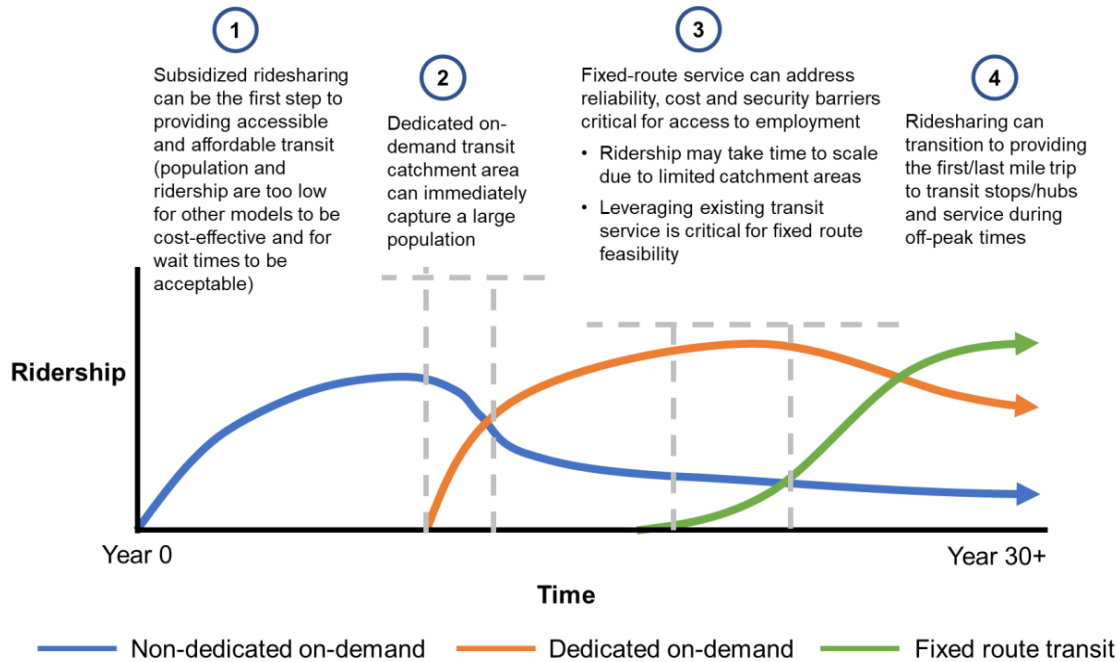


Figure ES-4: Evolution of Transit System Elements

In addition, there may be opportunities for Bike & Scooter or Autonomous Pilot programs as solutions to the first-mile / last-mile needs of key employment or intensification areas such as the Orbit community, Friday Harbour or Innisfil Heights. Coordination with potential partners would be required.

Travel Demand Management Strategy

Transportation Demand Management (TDM) is used to describe a set of strategies that allow for the more efficient use of transportation resources. With increasing travel demands associated with urban growth, jurisdictions are faced with both high costs and physical and property constraints to improving/constructing transportation infrastructure. In addition, with the municipal and provincial objectives of preserving the environment and promoting active and healthy lifestyles, alternative travel practices are becoming part of transportation strategies.

A summary of recommended TDM initiatives include:

- The County, in collaboration with the Town, should work on developing an employer-based web portal that supports work-at-home programs and connects residents together to form carpool groups.
- The Town should hold education events aiming to increase the confidence of newer or more casual cyclists.
- The Town in collaboration with the County should work with MTO on strategies to enhance carpool facilities and integrated them with transit and support facilities
- The Town should develop a TDM marketing strategy and a number of campaigns with the purpose of lifestyle and behavioral changes of residents from using an automobile to more sustainable modes of transportation such as carpooling, Innisfil Uber transit, walking, and cycling.

Parking Management Strategy

It is recommended that the Town of Innisfil establish parking management policies that are appropriate for the Town of Innisfil through a detailed parking strategy. A study or studies should be undertaken within the context of Town priorities, the Transportation Master Plan vision, the Official Plan objectives for new communities including Orbit and stakeholder input; the following scope is recommended:

- Develop urban design guidelines for on-street and off-street parking facilities including considering the use of porous paving and other green design features.
- Ensure the parking provided by the Orbit Secondary Plan is consistent with these urban design guidelines. These guidelines should be consistent with the placemaking objectives found in the Official Plan.
- A review of the zoning by-laws should be considered for Orbit and other communities and possibly incorporate bike lockers, bicycle parking, electric vehicle charging stations, car sharing, and/or shared parking.
- A review of the parking supply and demand in all settlement areas (on-street vs. off-street), Innisfil Beach Park, and key Town destinations such as Town Square, Town Campus, and community centres to ensure that there is adequate parking supply. The Town should work with Metrolinx to ensure that there is adequate parking supply at the future Innisfil GO. Before initiating the study, sites should be prioritized based on a qualitative parking review from site visits. For example, the study anticipates that on-street parking in Alcona and Cookstown to be of future concern. A timeline should be established for periodic review of the parking utilization.

- If parking utilization is found to be over 90%, a review of pricing options should be explored in certain areas.

Other Action Items

It is recommended that the Town support new initiatives and opportunities through the following action items:

- Collaborate with Simcoe County and York Region to investigate the opportunity for a lake-adjacent trail.
- Collaborate with Simcoe County, City of Barrie, MTO and other stakeholders on an active transportation connection to the Trans-Canada Trail at the Highway 400 underpass.
- Collaborate with Simcoe County to investigate the feasibility of incorporating the proposed transit routes from this study into the County transit system.
- Liaise with InnPower to implement more public electrical vehicle charging within all settlement areas.
- Coordinate with private partners for transit shuttles between settlement areas and major destinations (e.g., Friday Harbour, Tanger Outlets, etc.).

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1.0 Introduction

1.1 Role of the Transportation Master Plan

The Innisfil Transportation Master Plan (TMP) is a long-range plan that coordinates mobility solutions and services, transportation infrastructure and related policies with anticipated community growth. The plan identifies long-term needs for elements of the transportation system and determines an overall recommended strategy based on the vision that is consistent with Town's corporate objectives.

Similar to the previous Transportation Master Plan, this TMP update will balance the need to support and manage growth with the desire to encourage more sustainable travel. To this end, the TMP update builds upon "Our Place", the Town's Official Plan, and serves to advance Innisfil's Community Strategic Plan, Inspiring Innisfil.

The solutions, however, cannot be developed in isolation. The plan is guided by Federal policies and commitments to mitigate climate change, by Provincial Policy, by Provincial and County infrastructure and services, and by the inter-relationship between Innisfil and its municipal neighbours. Figure 1-1 illustrates Innisfil relative to its surrounding municipalities. The plan also considers the needs and opportunities of infrastructure, services and funding of other levels of government to provide the following transportation system elements:

- Pedestrian, cycling and multi-purpose active transportation routes
- On-demand and local transit
- Inter-municipal and local transit
- County and Town roads
- Railroads and goods movement infrastructure
- Provincial Highways

This Transportation Master Plan will serve as a blueprint for infrastructure investment, development funding, partnerships and organizational capacity. This study will guide future initiatives rather than provide prescriptive solutions.

1.2 What is New in this Plan?

Since the previous 2018 Transportation Master Plan (2018 TMP), there have been changes to growth targets extending projections to 2051, plans for a new innovative community of Orbit, commitments to climate change initiatives and established experience with a new innovative Innisfil transit system. This plan has been developed during a global pandemic that has changed travel behaviour and established telecommuting as a viable option for a large percentage of the workforce.

Within the last five years, there has also been an increased focus on planning for equity. Planning strategies have placed an increase emphasis on explicitly addressing the needs of those with financial, physical, cognitive and social barriers to services including transportation. This Transportation Master Plan is a strategy that builds upon the 2018 TMP to meet the new commitments, objectives and opportunities through a lens of equity.

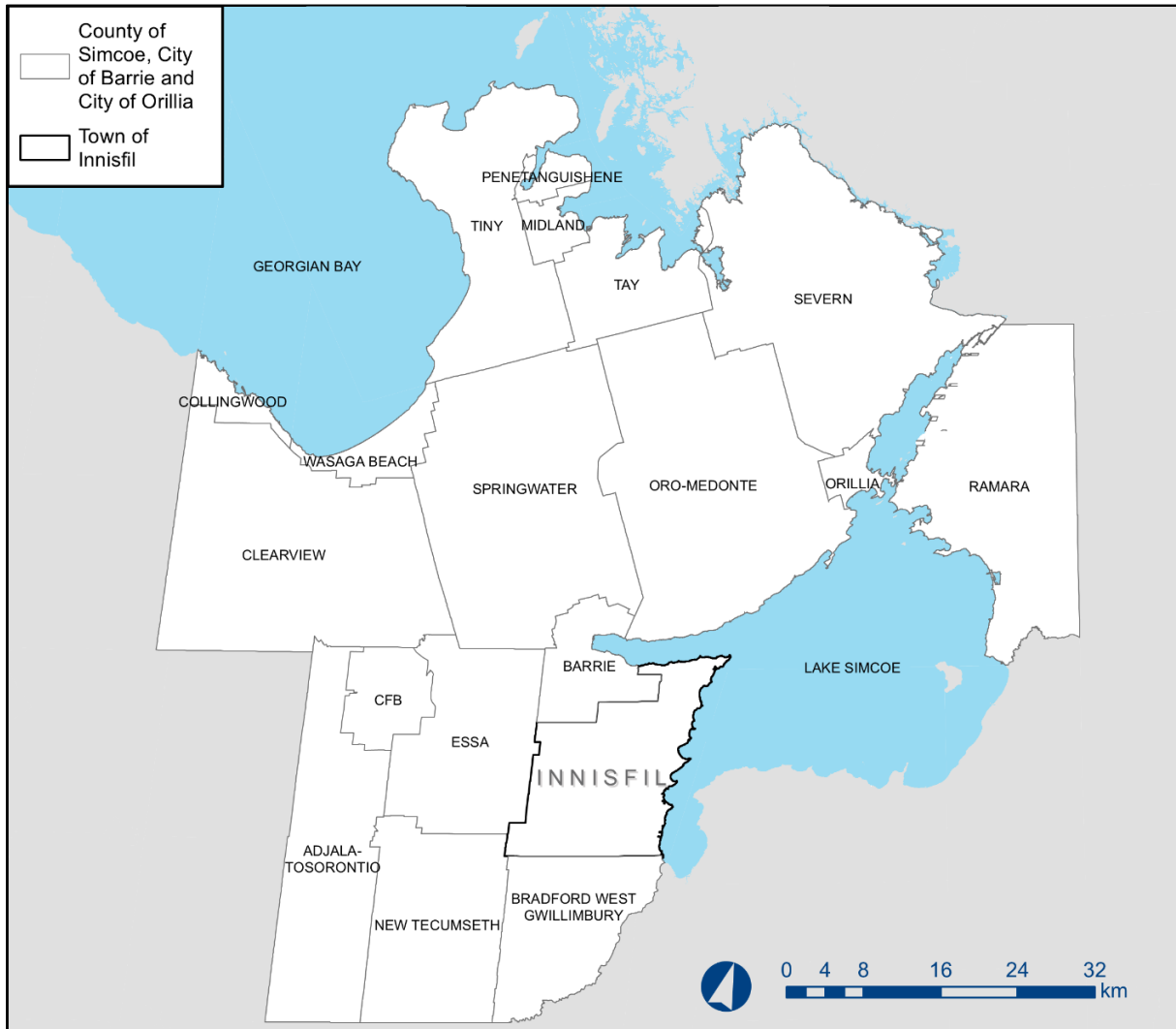


Figure 1-1: Town of Innisfil Surrounding Municipalities

1.3 Study Objectives

The intent of this TMP study update is to develop a long-term plan to the year 2051 and beyond. It will assist the Town in identifying how infrastructure improvements and new services should be prioritized (in the short-term, medium-term, and long-term), allowing for managed growth while mitigating impacts to the greatest extent possible on existing developments.

This TMP study will:

- Update the Town's 2018 TMP to align with the Town's future growth, servicing, and infrastructure plans.
- Develop new and/or revise policies for complete streets, pedestrian crossings, and roundabout implementation policy.
- Provide guidance to future studies and infrastructure designs.
- Serve as a blueprint for the Town to develop its future transportation network.

1.4 Study Approach

The TMP update has been developed in accordance with approaches of the Sustainable Planning Guidelines report developed by Transport Canada and the Transportation Association of Canada (TAC). It is consistent with the Provincial Policy Statement (PPS 2020), A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020) and is based on a vision of transportation solutions that are integrated with growth in a manner that is environmentally, operationally and financially sustainable.

The study has been informed by the current Town and County Official Plans and complements the Town Official Plan update.

This study has been carried out through an open public process as a Master Plan study under the Environmental Assessment (EA) Act to serve as direct input to any subsequent EA studies that may be deemed appropriate. Undertakings that fall under the Municipal Class Environmental Assessment (MCEA) are defined by schedules with escalating requirements dependent on the potential for environmental impacts and level of complexity. The four different schedules are Schedule A, A+, B, and C.

The scope of the study will follow Section 2.7 (Master Plans) in the Municipal Class EA guidelines, following Master Plan Approach #1. This study provides sufficient information for Phases 1 and 2 of the five-phase Municipal Class EA process.

This Master Plan can be used as the basis for and in support of future investigations for specific Schedule B and C projects, where Schedule B projects would require the filing of a project file for public review and Schedule C projects would require fulfillment of Phases 3 and 4 prior to filing an Environmental Study Report for public review.

The Town will record consultation with any subsequent applications to the Ministry of Environment Conservation and Parks associated with any substantial changes to this Transportation Master Plan or any subsequent permits. Phase 1 defines the problem and/or opportunity, whereas, Phase 2 identifies alternative solutions to the problem, considers environmental implications, and consults with the public and affected agencies. The TMP process is illustrated in Figure 1-2.

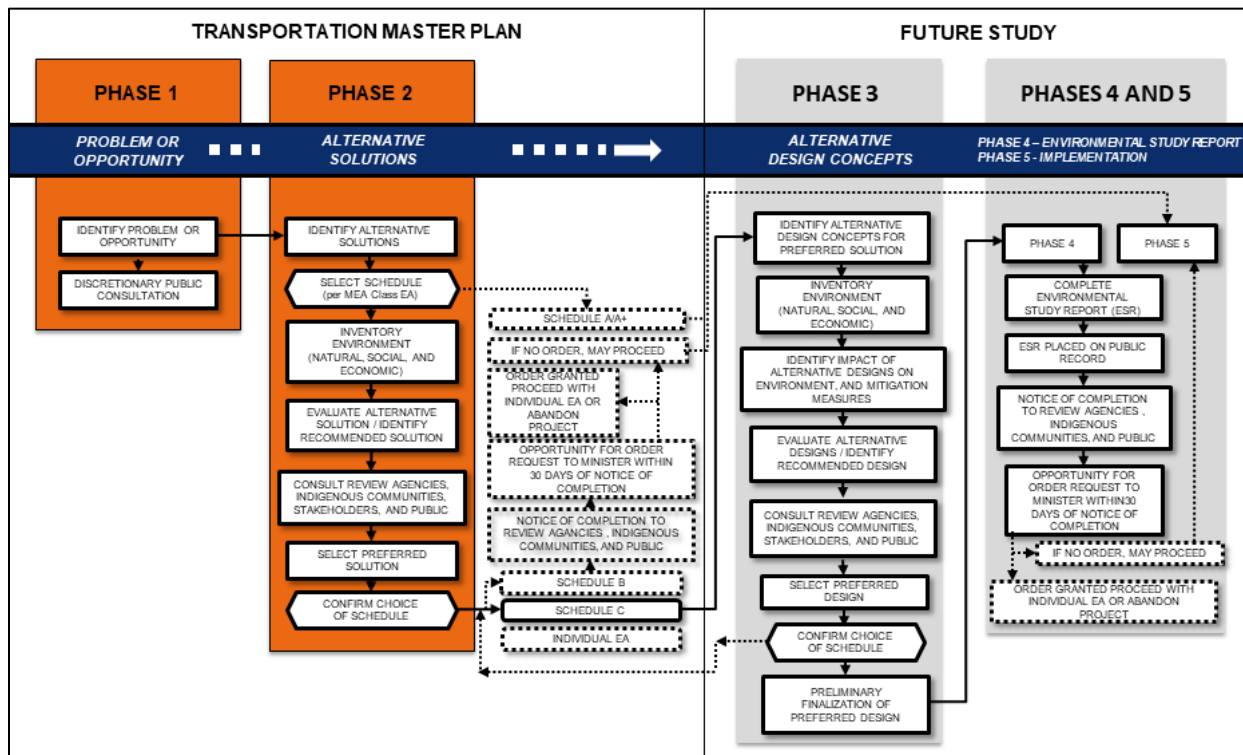


Figure 1-2: The Class EA Process of the Transportation Master Plan

The Transportation Master Plan identifies transportation network strategies, new infrastructure and policies affecting the transportation system, urban design and land use planning, and climate change mitigation implications. The recommended strategy also includes infrastructure projects and project costing that is incorporated into the Town Development Charges to fund growth related transportation needs consistent with the Development Charges Act.

The MCEA process suggests that Master Plans should be reviewed every five years to determine the need for a comprehensive formal review and/or update. Potential changes which may trigger the need for a detailed review include:

5. Major changes in the original assumptions.
6. Major changes to components of the master plan.
7. Significant new environmental effects.
8. Major changes in proposed timing of projects within the master plan.
9. Major planned or anticipated land use changes.

1.5 Stakeholder Engagement

A comprehensive consultation process was undertaken to gather community and stakeholder input within the master plan process. The following section documents the public and stakeholder consultation process. From the outset of the study, a communication plan was prepared to guide the consultation process with the following objectives:

- To allow Town residents, the business community, Indigenous communities and other stakeholders to be aware of the importance of the transportation master plan initiative and kept informed about study components, progress and opportunities for input.
- To create meaningful and strategically appropriate opportunities for public and stakeholder engagement over the course of the study.
- To foster an environment that is conducive to substantive dialogue, a respectful, informed and productive discussion of transportation-related issues and the Town's future.
- To inspire confidence in the TMP development process and in the Town's implementation and management of it.
- To present a well-integrated and seamless project progression that ensures consistency of word and action, demonstrates positive momentum and minimizes contentious issues.
- To establish and reinforce realistic expectations regarding feasible transportation-related choices and the way stakeholder input will be considered/acted upon.

A variety of tools were used to inform the community, including direct mail, a webpage hosted on the Town's website, dedicated project email addresses and phone numbers, a project initiation video, newspaper advertisements and Town press releases. Notification to the public included a Notice of Commencement, two Public Open House notices, and interactive presentations conducted with the public and posted to the Town website.

The TMP study was initiated on July 20, 2021 through a Notice of Commencement published on the Town's website. The Town's website, <https://www.getinvolvedinnisfil.ca/tmpln>, also provided information about upcoming public events, council presentations, and contact information for the Town and Consultant project managers so that the public could reach the study team to provide input and comment. Appendix A documents stakeholder input and responses throughout and during the 30-day review period of the study.

1.5.1 Technical Agencies

Relevant technical agencies were invited to participate in the Technical Agencies Committee (TAC). The TAC consisted of Town staff, staff from the Simcoe County and adjacent local municipalities, provincial ministries, transit authorities, conservation authorities, and other affected agencies. Two TAC meetings were held on the dates below. The TAC meetings were held in a virtual format on Microsoft Teams due to considerations of provincial public measures and participant's health and safety during the COVID-19 pandemic.

- The first TAC meeting was held on Wednesday August 11, 2021 and provided an overview of the Innisfil TMP study purpose, scope, and preliminary transportation needs and opportunities. Participants were given the opportunity to indicate their interests in the project and identify additional needs and opportunities from their respective agencies.
- The second TAC meeting was held on Thursday January 13, 2022 and provided an overview of the preliminary draft recommendations and supporting strategies and policies.
- The third TAC meeting was held on Monday May 9, 2022 and provided an overview of the preferred alternative strategy and associated recommendations, supporting strategies and policies.

A presentation was provided at each TAC meeting and was followed by a discussion period where attendees could ask questions and receive further information.

1.5.2 Public

Two public open houses (POHs), as required by the master plan process, were held to inform the public of the study activities and provide opportunities for the public to ask questions and obtain further information from the study team. Both POHs were held in a virtual format on Zoom, due to considerations of provincial public measures and participants' health and safety during the COVID-19 pandemic.

The first POH was held on Wednesday, August 25, 2021 from 6:00 to 7:00 PM. The public open house was the first point of contact with the general public to provide an overview of existing and planned conditions and preliminary list of transportation needs and opportunities. The public was made aware that their input on issues, concerns and opportunities proposed would assist in the identification of projects and strategies within the alternatives consider. An overview of the alternative considered was also provided. A formal presentation was delivered, followed by a facilitated question and answer period. The presentation was hosted on the Town of Innisfil website after the meeting for the public to review and comment.

The second POH was held on Thursday January 27, 2022 from 6:00 to 7:30 PM. A formal presentation was provided an overview of the preliminary preferred alternative, which included travel demand management, active transportation, transit and road components. Supporting strategies and policies were also presented to the public. A facilitated question and answer period immediately followed the presentation. Members of the public were invited to review the presentation on the Town's website for comment.

Consultation from the POHs is provided in Appendix A, which summarizes public consultation activities, along with a comments and response log.

1.5.3 Indigenous Communities

Letters and the notices were sent by email/mail to Indigenous communities by the Town. MECP has developed guidance on the steps to rights-based consultation with Indigenous communities.

Indigenous communities with a potential interest in the project were identified through correspondence provided to the following communities:

- Chippewas of Georgina Island
- Beausoleil First Nation
- Chippewas of Mnjikaning First Nation (Rama)
- Chippewas of Nawash First Nation
- Nation Huronne-Wendat
- Saugeen First Nation
- Saugeen Ojibway Nation (SON)
- Métis Nation of Ontario
- Williams Treaty First Nation

Consultation with identified Indigenous communities was initiated by the Town and summarized in Appendix A.

1.6 Collaboration with Other Studies

1.6.1 Official Plan Review

The Town's OP is a comprehensive plan and policy document that dictates how land in the Town should be used and developed. It applies to all lands within the municipal boundary and the policies within it provide direction for the size and location of land uses, provision of municipal services and facilities, and preparation of regulatory by-laws to control the development and use of the land.

This Transportation Master Plan will implement the Town's "Our Place" Official Plan policies and strategies. The Official Plan review developed land use designations and urban structure policies that help define future travel demand, environmental considerations and livability objectives.

At the time of this study, Simcoe County was also undergoing a Municipal Comprehensive Review which is a planning process used to bring the County's Official Plan into conformity with the Provincial Growth Plan. The new policies established through the County's MCR informed the development of this TMP.

1.6.2 Innisfil Land and Lake Plan

The Town initiated a Land and Lake Plan to identify new and improved parks, better lake access, enhancements to activities within Town of Innisfil parks and recreation services. The transportation master plan identifies active transportation connection opportunities within transportation rights-of-way that can link to the Land and Lake trail system to provide a comprehensive walking, cycling and rolling network and strategy. Together they define a comprehensive active transportation plan for the Town.

At the time of this study, the Land and Lake Plan is set to be completed by the end of 2022. The recommendations from this TMP will provide input into the Land and Lake Plan.

1.6.3 Orbit Community Secondary Plan

The Town of Innisfil has started the Orbit Potential and Innovation Plan (OPIP). The OPIP, a coordinated Master Servicing Plan and Secondary Plan, will guide future Orbit development with a focus on implementing the vision for a complete cutting-edge community where our small town and rural lifestyles are enhanced by the benefits and attributes of urban living. This Transportation Master Plan study will provide input to the OPIP process in the form of transportation forecasts and planned infrastructure and transportation systems.

1.6.4 Development Charges Background Study

The infrastructure and transportation systems necessary to support growth to 2041 and 2051 have been identified and costed through this Transportation Master Plan. These improvements and costs provide the basis for transportation funding associated with the Town Development Charges by-law and Background Study update.

2.0 Study Context

2.1 Environmental Context

The Town of Innisfil is home to forests, wildlife, geological formations, farms, mineral and water resources. Environmental features, protected properties and natural features have been identified based on a review of available provincial and municipal databases, including the following existing data sources. As illustrated in Figure 2-1 and documented in Appendix B.

Environmental features, protected properties and natural features have been identified based on a review of available provincial and municipal databases. Key elements are summarized in the following sections.

2.1.1 Areas of Natural and Scientific Interest

ANSIs are areas of land and water containing unique natural landscapes or features, that have been scientifically identified by the Province of Ontario as having life or earth science values related to protection, scientific study or education. ANSIs of provincial and regional significance present in the Town, include Holland River Marsh (Provincial), and DeGrassi Point Prairie Relict (Provincial).

2.1.2 Significant Wetlands and Valleylands

The Province of Ontario identifies wetlands that have been evaluated using the Ontario Wetland Evaluation System as provincially significant or non-provincially significant, as well as wetlands that have not been evaluated, but have been mapped using other procedures. Wetlands are protected through policies of the various provincial plans and Official Plans in effect. Wetlands are also regulated through the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations administered by conservation authorities.

The Province of Ontario identifies Significant Valleylands, which are ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. Significant Valleylands within the Town of Innisfil are identified as part of the Key Natural Heritage Features and Key Hydrological Features of the Town's Natural Heritage System.

Wetlands and valleylands with the Town have been identified, mapped and considered within the evaluation of alternative strategies and projects.

2.1.3 Habitat for Species at Risk

Species-at-Risk (SAR) are any naturally-occurring type of plant or animal in danger of extinction or of disappearing from the province. The SAR noted in Appendix B have been recorded in the

Town and were identified through review of various publicly available databases as having potential to be present in Innisfil.

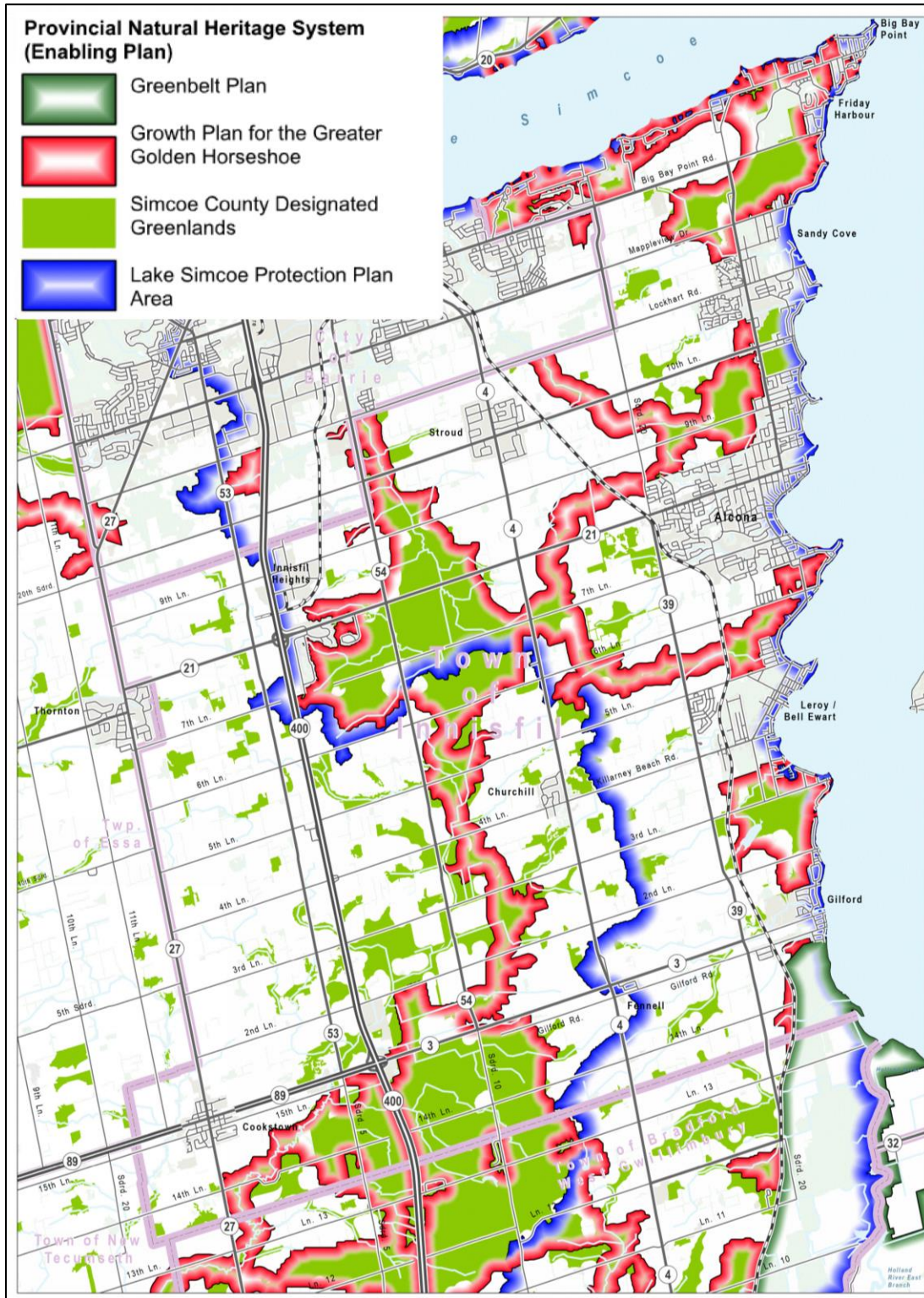


Figure 2-1: Natural Features Information Review

2.1.4 Hazard Lands

Hazard Lands of the Town of Innisfil Official Plan are those areas that include flood and erosion susceptibility areas, dynamic beach areas, unstable soils and steep slopes, organic soils or wetlands that could result in property or land that could be unsafe for development. The Lake Simcoe Region Conservation Authority (LSRCA) has jurisdiction over hazard lands within the east of the Town of Innisfil and the Nottawasaga Valley Conservation Authority (NVCA) has jurisdiction over the west side of the Town of Innisfil. It is recognized that a permit may be required for transportation facilities that affect wetlands, watercourses, and other hazard lands within the regulated area of the conservation authorities.

2.1.5 Source Water Protection Areas

Several Wellhead Protection Areas (WHPA) are located within the Town of Innisfil (illustrated in Appendix B). One Intake Protection Zone is located on the shore of Lake Simcoe between Ninth and Seventh Line. The Clean Water Act requires a standard 100 metre radius circle be provided around each municipal well.

Several areas within the Town are considered Significant Ground Water Recharge Areas which are areas on the landscape characterized by porous soils, (i.e., sand or gravel) allowing water to seep easily into the ground and flow to an aquifer. Recharge areas are considered significant when they help maintain the water level in an aquifer that supplies community drinking water.

There are Areas of Highly Vulnerable Aquifer within the Town of Innisfil, indicating an aquifer that is susceptible to contamination because of either its location near the ground surface or because of the type of overlying geological materials. The aquifer vulnerability increases as the amount of protection provided by the overlying geological materials decreases.

Any future transportation projects recommended by the Transportation Master Plan update will need to consider impacts to these Source Water Protection Areas.

2.2 Cultural Environment Context

Cultural heritage features, protected properties have been identified based on a review of available provincial and municipal databases. Any future transportation projects recommended by the Transportation Master Plan update will need to consider impacts to Cultural Heritage.

Heritage designation is public recognition of the heritage value of buildings, sites or cultural features in a community. The Ontario Heritage Act helps a community to either designate individual buildings (under Part IV of the Act) or several buildings as a district (under Part V of the Act). In the Town of Innisfil, there are:

- 7 designated properties (Part IV, Section 29 OHA).
- 50 listed properties (Section 27, OHA).
- 1 Heritage Conservation District, with 209 designated properties (Part V, OHA).

Innisfil's Cookstown Heritage Conservation District is also identified on the Ontario Heritage Act Register. Ten of the individually designated properties are listed on the provincial heritage registry with details of their designation status.

2.3 Archaeological Resource Context

The County of Simcoe has identified areas of Archaeological Potential available on their interactive Geographical Information Systems (GIS) based platform. Future transportation projects recommended in the Town of Innisfil Transportation Master Plan within and located in an area of archeological potential will require (at minimum) a Stage 1 archaeological assessment to determine if archaeological potential survives within the area. Public development projects (i.e., highway or road construction) require an archaeological assessment under the requirements of the Environmental Assessment Act or through a Class Environmental Assessment.

2.4 Urban Structure and Socio-Economic Context

The Town of Innisfil is a local municipality of 43,326 people (2021 Census) in Simcoe County, covering approximately 263 square kilometers. The Town is situated on the southeast portion of Simcoe County, bounded by of Lake Simcoe on the east. The Town of Innisfil is located approximately 80 kilometres to the north of the City of Toronto.

The County of Simcoe is an "upper tier" municipality made up of 16 local municipalities, including Towns and Townships. The Cities of Barrie and Orillia are geographically integrated within Simcoe County, however administratively separate. Simcoe County's total land area is approximately 4,860 square kilometres. The physical structure of Simcoe County consists of the Niagara escarpment which extends across the western half, as well as the Minesing Wetlands which occupy the central portion of the County. Population density within Simcoe County is greater within the southern portions, including the Town of Innisfil. The total population of the County of Simcoe is 533,169, an 11% increase from 2016 to 2021, as per the Census. By 2051, Simcoe County's population is expected to increase to 555,000 inhabitants, with employment expected to increase to 198,000 jobs, as per the County's Growth Forecasts and Lands Needs Assessment (2022).

Innisfil is influenced by the City of Barrie, which is situated immediately to the north; Barrie is estimated to grow to approximately 253,000 people and 129,000 jobs by 2041 (City of Barrie 2019 Draft Land Needs Study). Other adjacent municipalities including the Town of Bradford West Gwillimbury, Township of Essa and Town of New Tecumseth are largely rural with a lower degree of interaction with the Town of Innisfil.

The Town is now comprised of a mixed residential, rural, retirement, and seasonal populations. There are eight settlement areas within the Town of Innisfil: Alcona, Cookstown, Lefroy – Belle Ewart, Sandy Cove, Stroud, Churchill, Fennell's Corners and Gilford. The eight settlements are illustrated in Figure 2-2 and broken down into four delineations; Primary Settlement Areas,

Urban Settlement Areas, Village Settlements, and Hamlets, as summarized in greater detail below.

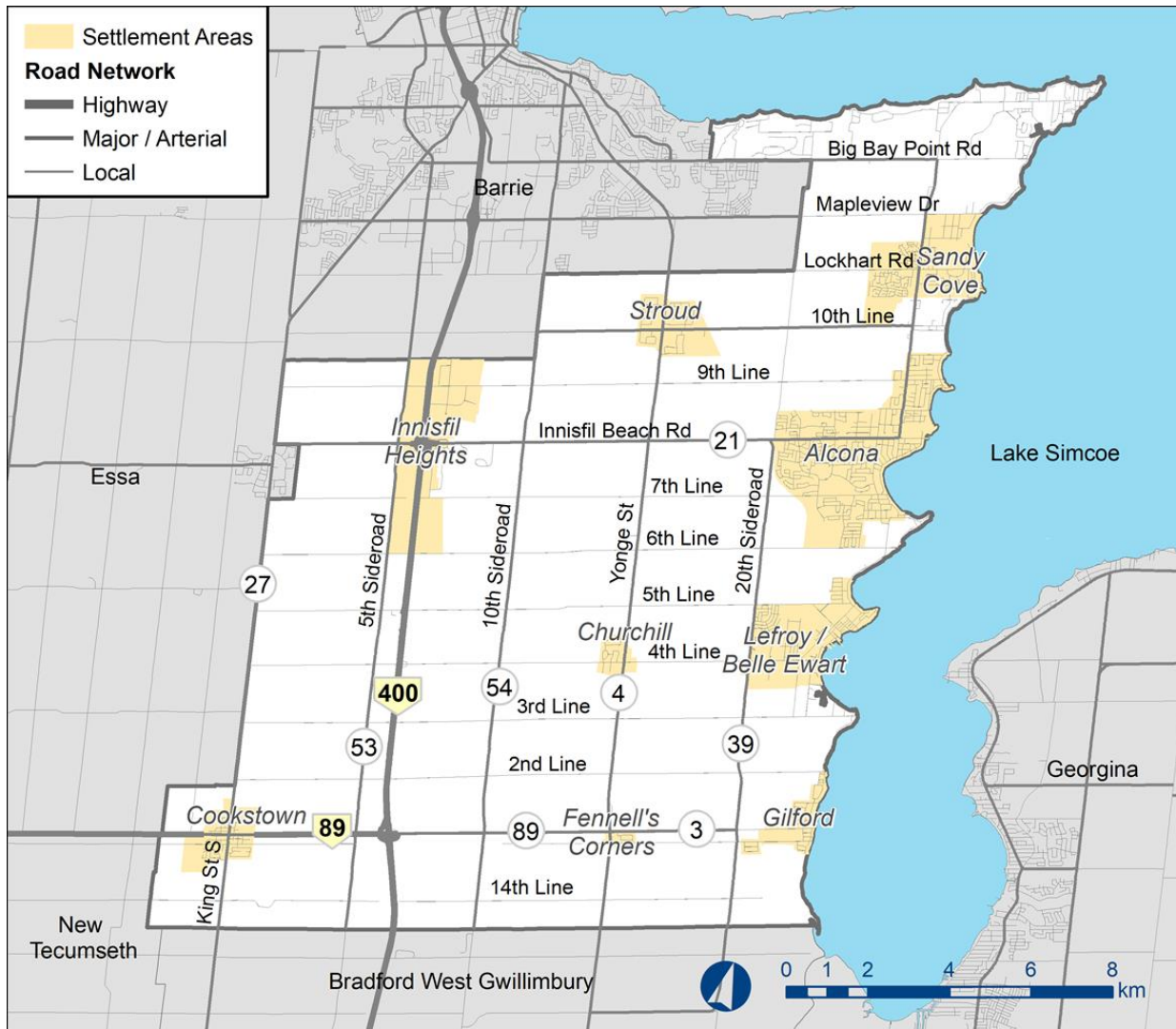


Figure 2-2: Settlement Areas and Innisfil Heights Strategic Settlement Employment Area

Urban Settlements are defined in the Town’s Official Plan as the major focus and site for urban expansion, with the goal of providing a diverse range of housing, commercial facilities and services, leisure, culture, government facilities, and job possibilities. Alcona is delineated as a Primary Settlement Area. Lefroy-Belle Ewart and Sandy Cove are delineated as Urban Settlement Areas. Village Settlement Areas are planned to accommodate limited growth due to current servicing constraints; Cookstown and Stroud are delineated as Village Settlement Areas. Hamlets are defined in the Town’s Official Plan as large lots with only partial municipal service, small scale, often used for parks, open space, and recreational uses. Churchill, Fennell’s Corners and Gilford are delineated as Hamlets.

The Town of Innisfil has a labour participation rate of 68.6%, an employment rate of 63.8% and an unemployment rate of 7.0%. The participation rate and employment rate has grown since 2011 and consequently, the unemployment rate has declined.

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies such as Statistics Canada in classifying business establishments into various industries. According to the 2016 Census, the Town's top four labour force industries are the following:

- construction,
- retail trade,
- manufacturing, and
- health care and social assistance.

In addition to the Town's top four labour force industries, agriculture is a significant industry within Innisfil. The designation "Agricultural Area" is the single largest land use as illustrated in Schedule B of the Town of Innisfil Official Plan. Census data indicates that as of 2021, there are a total of 170 farms and 55,800 acres of census farm land.

2.5 Existing Transportation System

The Town of Innisfil's transportation system consists of a road network, active transportation facilities, and on-demand transit to accommodate the movement of goods and people. The Town has planned for various transportation system improvements either through infrastructure upgrades or programs to promote certain types of transportation. The existing and planned transportation system are described in Appendix C and summarized in this section.

2.5.1 Road Infrastructure

Within the Town of Innisfil, roads are either maintained and operated by the Ministry of Transportation Ontario (MTO), Simcoe County, the Town of Innisfil, or are privately owned. Road jurisdictions within the Town of Innisfil are shown in Figure 2-3.

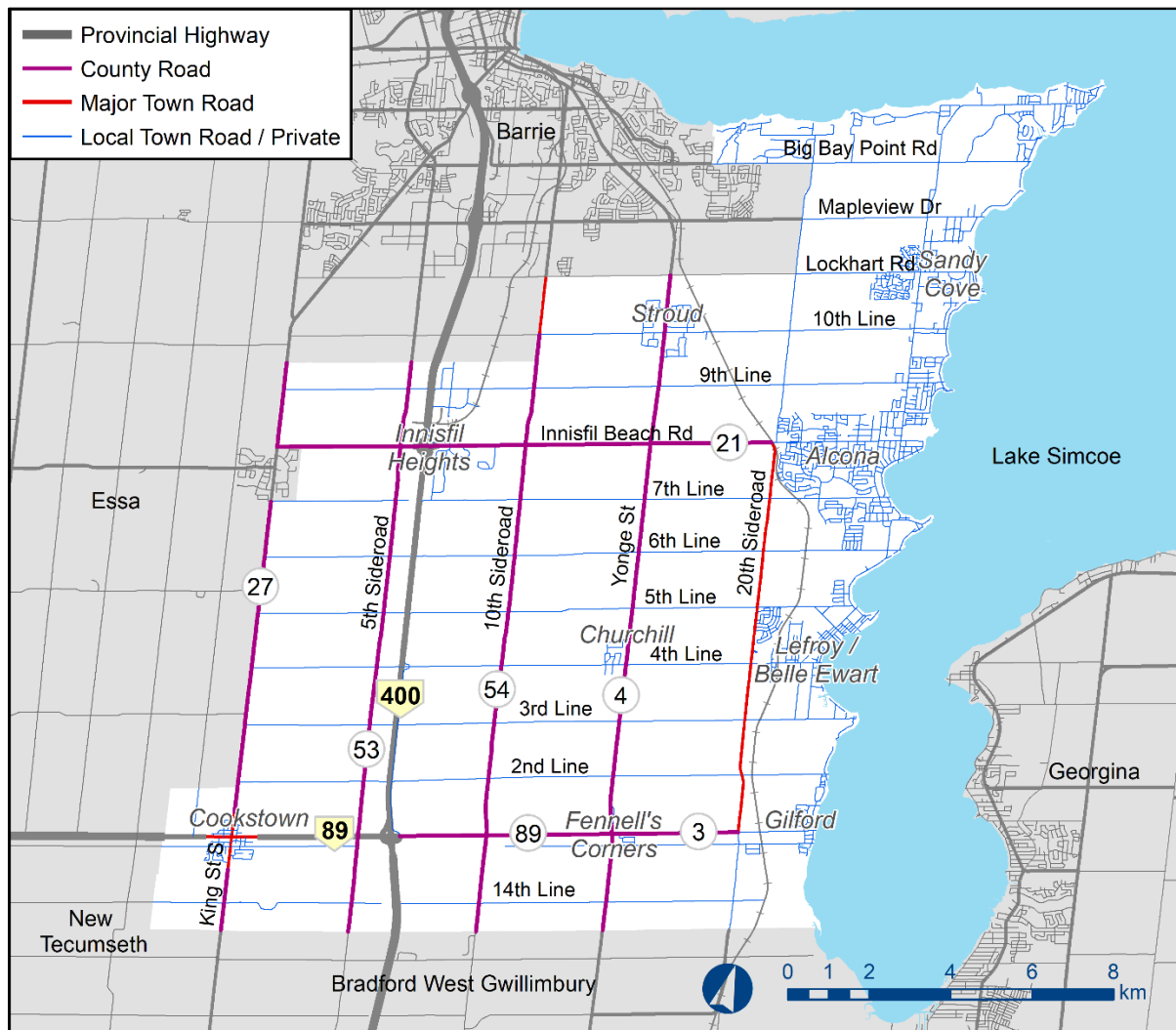


Figure 2-3: Road Network

Highway 400 is currently a 6-lane provincially owned freeway that has a posted speed limit of 100 km/hr. The role of the freeway, as a higher-order facility, is predominantly to transport personal automobiles and freight between different municipalities due to its higher capacity and higher speeds. The highway runs north and south throughout the southern Greater Golden Horseshoe Area.

Highway 89 is currently a 2 to 3-lane rural highway running east and west connecting Cookstown, Alliston, and Shelburne. Highway 89 is under the jurisdiction of the Town of Innisfil in Cookstown becoming a Simcoe County Road west of Cookstown and is provincially owned between Highway 400 to 20th Sideroad. Highway 89 provides critical higher-order capacity east and west across various Towns and municipalities.

The Country roads in the Town of Innisfil that run east-west include Innisfil Beach Road and Simcoe County Road 89. The County roads that run north-south include 5 Sideroad, 10

Sideroad, and Simcoe Road 27. 20th Sideroad, previously County Road 39, was transferred to the Town effective June 1, 2013.

2.5.2 Active Transportation Infrastructure

Active transportation infrastructure allows Town of Innisfil residents and other trip users to use self-propelled modes of transportation requiring human energy such as walking, cycling, skating, jogging, rolling, and skiing. These modes help to promote sustainable transportation, which reduces the impact to the environment and promotes healthy lifestyles. Active transportation is supported in the Provincial Policy Statement as an important component to a multi-modal transportation system.

The Town of Innisfil owns and maintains sidewalks, trails, on-street bicycle lanes, sharrows, multi-use paths, and paved shoulders. Supporting features or furniture are helpful to increase the comfort and security of trip takers of all abilities and ages. These features include benches, picnic tables, benches, shade and bicycle parking or racks. Figure 2-4 illustrates the existing infrastructure.

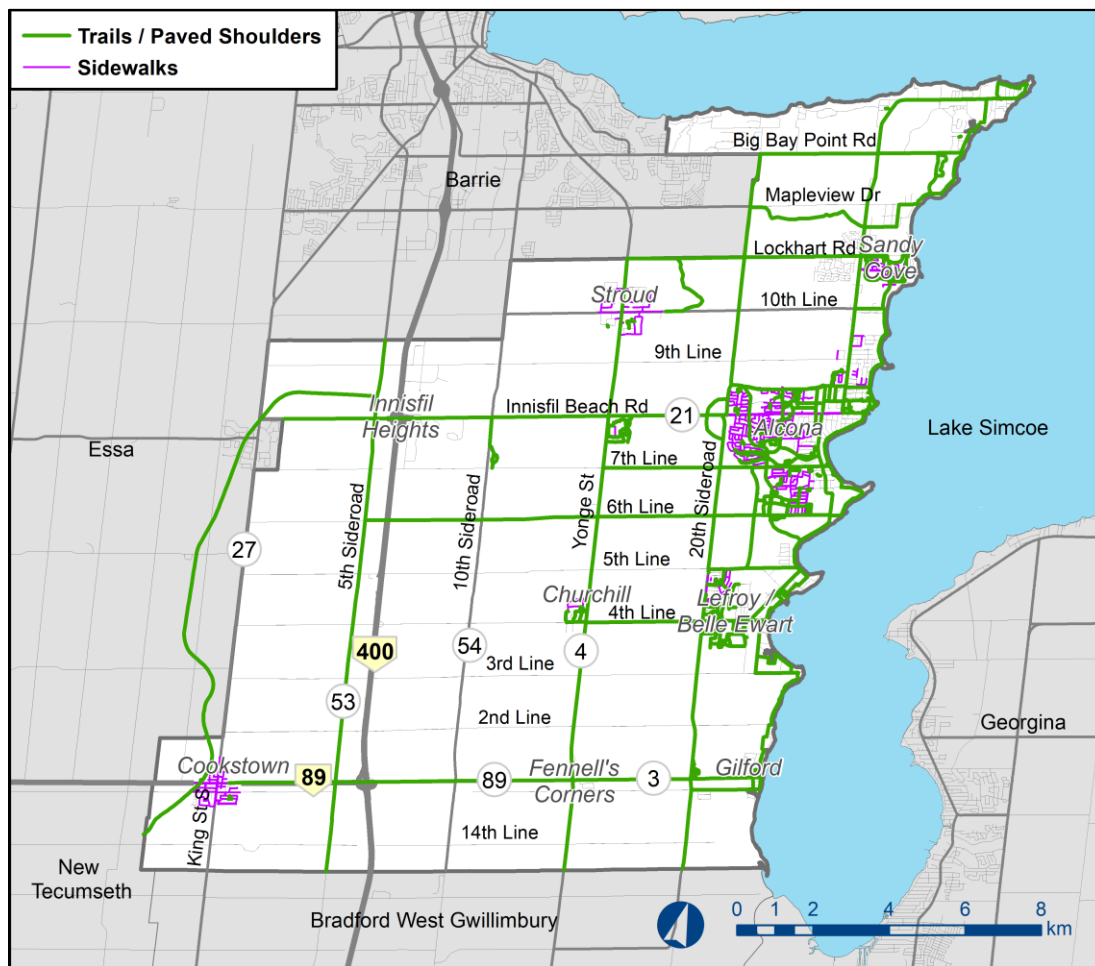


Figure 2-4: Existing Active Transportation Network

2.5.3 Transit Services

Transit within the Town of Innisfil contains regional GO service operated by Metrolinx and on-demand ridesharing which is a program run by the Town in partnership with Uber.

One GO bus route serves the Town, which connects Barrie Transit Terminal to the north and the Aurora GO Transit Station to the south.

The Innisfil Transit service is a program that currently partners with Uber to provide on-demand ridesharing. The fare structure has changed since the inception of the program. Individuals are only permitted 30 trips per month unless they are granted an exemption. There are certain origins and destination that have fixed fares to provide reliable fares:

- Innisfil Recreation Complex/Town Hall area: \$4
- Closest GO bus stop along Yonge Street: \$5
- To/from Barrie South GO train station \$6
- Innisfil Heights / Highway 400 carpool lot \$6
- IdealLab and Library (Alcona) \$4
- South Innisfil Community Centre (Lefroy) \$4

A \$4 discount is provided off regular fare for customer origin and destinations within Innisfil that are a minimum of \$4 per trip. Annual ridership is estimated to be approximately 80,000 users (Innisfil Transit System Performance, Ryerson, 2021).

The #63 GO bus route serves the Town of Innisfil with two bus lines which are the #68 bus line and #68B bus line. There are six southbound stops and seven northbound stops within Innisfil. Frequency ranges from 45 minutes to 1 hour.

2.6 Existing Travel Characteristics

Recent travel patterns were derived based on 2016 data from Transportation Tomorrow Surveys (TTS), as supplied by the Data Management Group at the University of Toronto. Most recent (2016) household and person characteristics were extracted from TTS to better inform the number and type of trips made by residents within Innisfil.

At a per household level, there are approximately of 2.7 persons, 2.0 drivers, 2.1 vehicles and 5.3 total daily trips per household. These household characteristics are slightly higher compared to those of Simcoe County as a whole.

A review of trip distribution patterns within Innisfil for the AM and PM peak period indicates that most internal Town trips occur within Alcona, particularly during the AM peak period. During the PM peak period, there are more trips travelling between Alcona and Churchill / Fennell's Corners as well as travelling within Cookstown, compared to the AM peak period.

A review of inbound trips from outside of Innisfil reveals that most trips originate in Barrie during the AM and PM peak periods. During the AM peak period, the second most common origin for inbound trips is the rest of Simcoe County (including Orillia) and then York Region, whereas

during the PM peak period, there are more inbound trips originating in York Region compared to the rest of Simcoe County (including Orillia).

The mode share between the AM and PM peak periods are similar in that the automobile is the dominant travel mode for trips to/from Innisfil. There are a greater proportion of trips using active transportation (i.e., walking and cycling) and “other” modes (most of which is attributed to the trips taken by school bus) during the AM peak period compared to the PM peak period. The mode share by peak period, as illustrated in Figure 2-5.

The detailed travel characteristics analysis is provided in Appendix D.

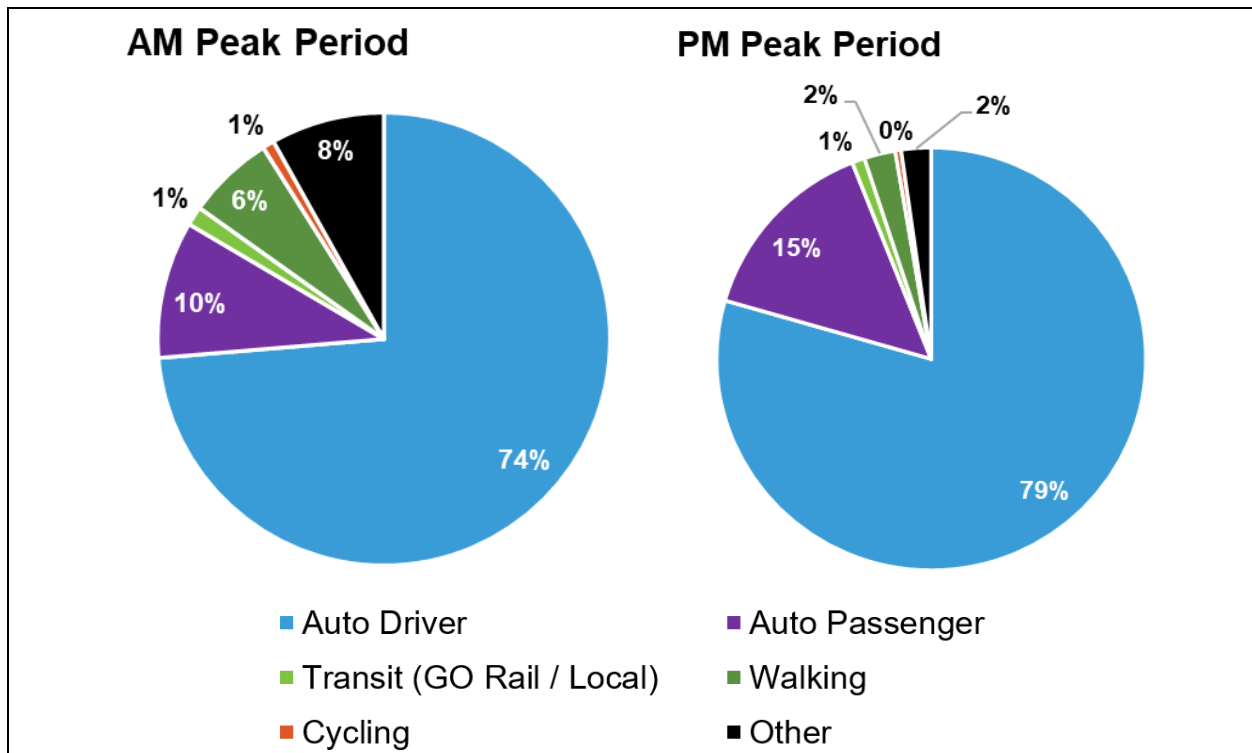


Figure 2-5: Modal Share

3.0 Policy Framework and Vision

3.1 Growth and Economic Objectives

A Place to Grow (“Growth Plan”) is the Ontario government’s initiative to plan for growth and development in a way that supports economic prosperity, protects the environment, and helps communities achieve a high quality of life. This provincial policy framework supports the achievement of complete communities with access to transit networks, protected employment zones and an increase in the amount and variety of housing available.

Simcoe County is currently undertaking their Lands Needs Assessment, Municipal Comprehensive Review to conform to the Provincial Growth Plan. On October 1, 2021, Simcoe County prepared draft Lands Needs Assessment and Growth Management planning to 2051. The approach involves separating Simcoe County into two areas: the Southern Regional Market Area (RMA) and Northern Regional Market Area. The Southern RMA, including Innisfil, was assigned more growth due to its stronger housing market and economic connections to Barrie and the Greater Toronto and Hamilton Area.

The County estimated 2021 population and employment land use and forecasted 2051 growth allocations to the Town of Innisfil as shown in Table 3-1. This represents a 90% increase for population and a 167% increase for employment from 2021 to 2051.

Table 3-1: Innisfil Growth Allocations

	Population	Employment
2021 (estimate)	44,360	9,780
2051	84,570	26,190

Source: Simcoe County Lands Needs Assessment (October 2021)

As directed by the Growth Plan, Simcoe County has also established minimum intensification targets for both Simcoe and their lower-tier municipalities. The intensification target is a percentage of residential development occurring annually within the built-up areas. The County-wide intensification target was established as 36% and 35% for the Town of Innisfil.

In November 2019, Innisfil Council adopted the vision for the Orbit, a planned community to be developed east of 20th Sideroad, directly south of Alcona and centred around the future Innisfil GO Station. As the population of Innisfil continues to grow, the Orbit is intended to allow for this growth to occur in a way that maintains the natural landscapes and environment by consolidating it all into one location. The ultimate vision for the Orbit and Major Transit Station Area Boundary is to support the development of a walkable community within approximately 20-minutes radius of the proposed GO Station.

Planned growth in other residential communities in Innisfil are anticipated to be more limited. Commercial growth will be focused within a few employment centers. Anticipated growth in other Innisfil communities is detailed Appendix E and summarized below:

- **Cookstown Heritage Conservation District:** provides specific policies and guidelines intended to prevent inappropriate development and demolition applications within the HCD, provide economic opportunities for small businesses within the unique character, and set clear guidelines and policies for new development
- **Innisfil Heights Strategic Settlement Employment Area (IHSSEA):** defined as a Strategic Settlement Employment Area focused on the intersection with Innisfil Beach Road. Permitted uses include a range of employment uses “that depend on access to, and the efficient movement of goods on, Highway 400” and employment-supportive uses. Major retail and residential uses are not permitted. In July 2020, Innisfil Council expanded IHSSEA boundary north to the City of Barrie Border and south to 6th Line.
- **Alcona North and South Secondary Plans:** define communities are expected to have a gross density of 67 people and jobs per hectare. The road system is to consist of collector and local roads within a modified grid pattern, and it shall be designed to facilitate efficient auto and bicycle travel, comfortable and walkable pedestrian travel, and future transit service. Dedicated bicycle lanes are planned for all collector roads, supported by a trail system connecting to the rest of Alcona.

Tourism is an economic engine for Innisfil given the revenue from cottage country. An assessment of Innisfil’s tourism businesses identified 141 tourism assets. Through the assessment process three unique themes were identified that differentiate Innisfil from other destinations which include: fast-paced entertainment, rural retail & arts, and Friday Harbour All Seasons Resort.

3.2 Transportation Sustainability

Sustainable transportation planning refers to the development of a transportation network that reduces resource use, including energy, while still meeting the transportation needs of the community. The Centre for Sustainable Transportation defined a sustainable transportation system as one that:

- Allows individuals and societies to meet their access needs safely and in a manner consistent with human and ecosystem health, and with equity within and between generations
- Is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy
- Limits emissions and waste to within the planet’s ability to absorb them, minimize consumption of non-renewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components and minimizes the use of land and the production of noise.

Principles for sustainable transportation planning are articulated through in the Transportation Association of Canada (TAC) document Strategies for Sustainable Transportation Planning

(2007) and provided in Appendix E. These principles include a multi-modal approach, that integrates transportation with land use and that protects environmental health.

3.3 Policy Objectives

The Innisfil Transportation Master Plan (TMP) builds upon and implements the existing policy framework provided by several Provincial planning policies. The following sections provide a summary of the overarching Provincial, County and Town policies and initiatives considered in the preparation of the Transportation Master Plan. A full summary of policy directions is documented in Appendix E.

3.3.1 Provincial Policy Statement, 2020

The Provincial Policy Statement (PPS), 2020 was issued under Section 3 of the Planning Act, and last revised in March 2020. The PPS provides a vision for land use planning in Ontario that encourages an efficient use of land, resources, and public investment in infrastructure. The Planning Act directs that municipal decisions affecting planning matters “shall be consistent with” the PPS.

Section 1.5 of the PPS provides specific direction for the planning and development of public spaces, recreation, parks, trails, and open space supporting health active communities. Section 1.6.7 provides specific direction for the planning and development of infrastructure and public service facilities, including a system to “address projected needs”, “provide a multimodal transportation system”, “maintains connectivity” and “minimize the length and number of vehicle trips”. Section 1.6.8 includes policies that “protect corridors and rights-of-way for infrastructure”, “protect major goods movement facilities and corridors” and “encourage the preservation and reuse of abandoned corridors”.

More than half of the Town’s area is designated agricultural areas. Hence, policy 1.1.5.8 of the PPS is relevant to this plan. It states that “agricultural uses, agriculture-related uses, on-farm diversified uses and normal farm practices should be promoted and protected on rural lands in accordance with provincial standards.” These policies are relevant for the accommodation of farm operations and farm vehicle accommodation.

3.3.2 A Place to Grow: Growth Plan for the GGH, 2020

A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020 (“Growth Plan”) provides a framework for implementing the Provincial government’s vision for building stronger, prosperous communities by better managing growth within the Greater Golden Horseshoe. The transportation system within the Greater Golden Horseshoe (GGH) will be planned and managed to:

- Provide connectivity among transportation modes for moving people and moving goods.

- Offer a balance of transportation choices that reduces reliance upon the automobile and promotes transit and active transportation.
- Be sustainable and reduce greenhouse gas emissions by encouraging the most financially and environmentally appropriate mode for trip-making and supporting the use of zero- and low-emission vehicles.
- Offer multimodal access to jobs, housing, schools, cultural, and recreational opportunities, and goods and services.
- Accommodate agricultural vehicles and equipment, as appropriate; and,
- Provide for the safety of system users.

The Growth Plan states that “Public transit will be the first priority for transportation and infrastructure planning and major transportation investments. It includes “Increasing the capacity of existing transit systems to support strategic growth areas”.

3.3.3 Provincial Transportation Plan, 2022

The Ministry of Transportation Ontario (MTO) released Connecting the GGH: A Transportation Plan for the Greater Golden Horseshoe (GGH), dated February 2022. The plan provides a 30-year vision for mobility in the GGH region with new infrastructure, better services and policy directions for all modes of transportation to align ongoing and future investments by the province and other transportation providers. The plan sets out a framework for local transportation planning to support municipalities in coordination and integration of local transportation and land use planning needs with regional infrastructure planning, consistent with Provincial Policy Statement, 2020 direction.

3.3.4 Metrolinx Regional Transportation Plan, 2018

Metrolinx adopted the 2041 Regional Transportation Plan (RTP) in March 2018, building upon the Growth Plan and aiming to provide a comprehensive, linked, accessible, sustainable, and people-centered transportation system. One of the RTP’s key priority actions is to connect the Region through a comprehensive and integrated Frequent Rapid Transit Network by 2041, which includes extended and more frequent GO service outside the GTHA.

3.3.5 Town of Innisfil Official Plan

The Town of Innisfil Official Plan, “Our Place”, serves as a guide to enhance place making, community character and social connections within the Town, and guides municipal actions and planning processes. The current consolidation of the Official Plan was approved in November 2018 and consolidated August 2020; Section 5 of the Official Plan, “Physically Connected”, provides specific direction and policies to guide the transportation system in The Town of Innisfil. Objectives include: a range of mobility options, complete streets, safety, provision of transit service throughout the Town, provision of off-road trail systems and embrace new transportation technologies.

3.4 Transportation Equity

An equitable transportation system ensures that the distribution of infrastructure and programs allows for different populations to have reasonably equal transportation benefits and impacts. Recent transportation planning principles have taken equity into consideration. Horizontal equity treats people in identical situations, primarily those with equal access to wealth and resources, the same way. Vertical equity aims to redistribute resources from those who have greater access to wealth and resources to those with less. Appendix F summarizes equity indicators and needs.

There are inherent vertical and horizontal equity built into the existing Innisfil transportation system. The current urban and rural structure of the Town of Innisfil, wide range of income groups and age categories, and average household size being greater than the average household car ownership suggest that planning for a multi-modal transportation system is critical to achieve social objectives. There are opportunities for alternative transportation strategies to strive to maintain and build upon these achievements.

3.5 Technology and Innovation

Transportation is undergoing a rapid evolution due to the change in lifestyle, increase in environmental awareness and shift in social trends seeking convenience and flexibility. It is also noted that, in the last decade, people are placing a stronger emphasis on sustainability and affordability. In response to this phenomenon are emerging transportation technologies and the concept of Mobility as a Service (MaaS). These innovated solutions help improve transportation efficiency by increasing travel options and capacity.

MaaS aims to integrate different transport services seamlessly into one on-demand mobility service allowing travelers to plan and manage their trip. Services can include, but are not limited to, transit, ride/car/bike-sharing, taxi and/or private automobile.

In the Greater Toronto and Hamilton Area (GTHA), there are on-going projects that are considered pilot MaaS projects including the Innisfil Transit and Uber partnership. The project provides servicing to areas of the Town that may have been difficult to achieve through conventional transit services. Trends for emerging transportation technologies and mobility models that can bring the Town a step closer to MaaS are summarized in Appendix G and listed below:

- Shared mobility (car-sharing, ride-sharing, micro-mobility, bike/scooter-share, micro-transit)
- Mobility Hubs
- Clean Energy Vehicles
- Autonomous and Connected Vehicles
- Smart Cities

3.6 Vision

The Town of Innisfil's Transportation Master Plan is guided by the Town's Official Plan ("Our Place"), the Town's Strategic Plan ("Innovative Innisfil 2020 – 2030), Cultural Master Plan, Asset Management Policy, and various master and action plans. The TMP vision complements the Council adopted vision for the current Town Official Plan and related transportation goals and reflects an appropriate balance between the demands for new development with the need to preserve its unique natural, cultural and economic attributes.

It is the Town's objective to create sustainable communities and be responsive to the technological trends that will affect transportation choices, land use needs and community development patterns, over the next three decades. The Town of Innisfil will strive to be prepared for anticipated changes, based on research into new technologies.

The vision statement is as follows:

Innisfil's transportation system connects people and communities, fosters healthy living, and operates innovatively and efficiently across the Town as an environmentally and financially sustainable, resilient system ready for the future.

4.0 Road Needs and Opportunities

4.1 Role of the Road Network

The road network provides access to land, accommodates circulation of people and goods by vehicles (including transit) and provides rights of way for other infrastructure including utilities and active transportation (e.g., sidewalks, bikeways, multi-use trails, etc.). Road capacity needs and opportunities reflect the level of efficiency and convenience necessary for public commuting, supporting public transit and accommodating goods movement. The need for public commuting by automobile includes a range of purposes such as travel to work, medical, shopping or leisure purposes from/to locations that are not adequately served by transit / active transportation and/or do not adequately serve users with mobility or other barriers to travel by other modes.

4.2 Traffic Analysis Approach and Methodology

4.2.1 Traffic Count Data

Traffic count data quantifies traffic demand under current or recent conditions. Data collected for the previous Transportation Master Plan included data from 2012 to 2017. Since the completion of the previous TMP, additional count data was collected between 2020 and 2021. Given the limitations of traffic counts collected during the COVID-19 pandemic, existing traffic volumes were estimated using the transportation model for the year 2021.

4.2.2 Travel Demand Model

Road capacity needs and opportunities include future demand associated with anticipated population and employment growth. As part of the previous TMP (2018), a travel demand model was developed for the Town of Innisfil to forecast future traffic using EMME software. The Town model was extracted as a sub-area from the model developed for the County of Simcoe. The model forecasts PM peak hour traffic volumes, as local Town roads were found to experience higher traffic volumes in the PM peak hour compared to the AM peak hour.

Vehicle count data as provided by the Ministry of Transportation (MTO), County and Town was used to calibrate the “existing” base year (2016) model. The accuracy of the model was validated via a screenline analysis, which indicated most of the modelled volumes were within 10% of observed volumes.

The previous model was calibrated to 2016 traffic conditions using count data that ranged from 2012 to 2017. Recognizing that this data was collected during the COVID-19 pandemic, a comparison between road segments with available historical (2012-2017) and recent (2020-2021) count data was conducted to inform changes in travel demand. Given lower than normal

traffic as a result of the pandemic (generally lower by 7%), the model was not further calibrated to reflect the latest counts. However, it is recommended that the Town continues to collect new count data every year to monitor traffic demand.

4.3 Existing Road Capacity Needs

4.3.1 Existing Road Link Traffic Analysis

The model was updated through network refinements and input changes to reflect existing “base” conditions, planned improvements and land uses, and the latest population and employment allocations. Updates to the model have been documented and are provided in Appendix H. This updated model was used to inform future traffic conditions and recommended improvements as part of this TMP.

Volumes were compared to road capacity at the link level. The “existing” base year capacities were updated to reflect the network refinements. The lanes and volume to capacity plots for the modelled base condition are illustrated in Figure 4-1 and Figure 4-2, respectively.

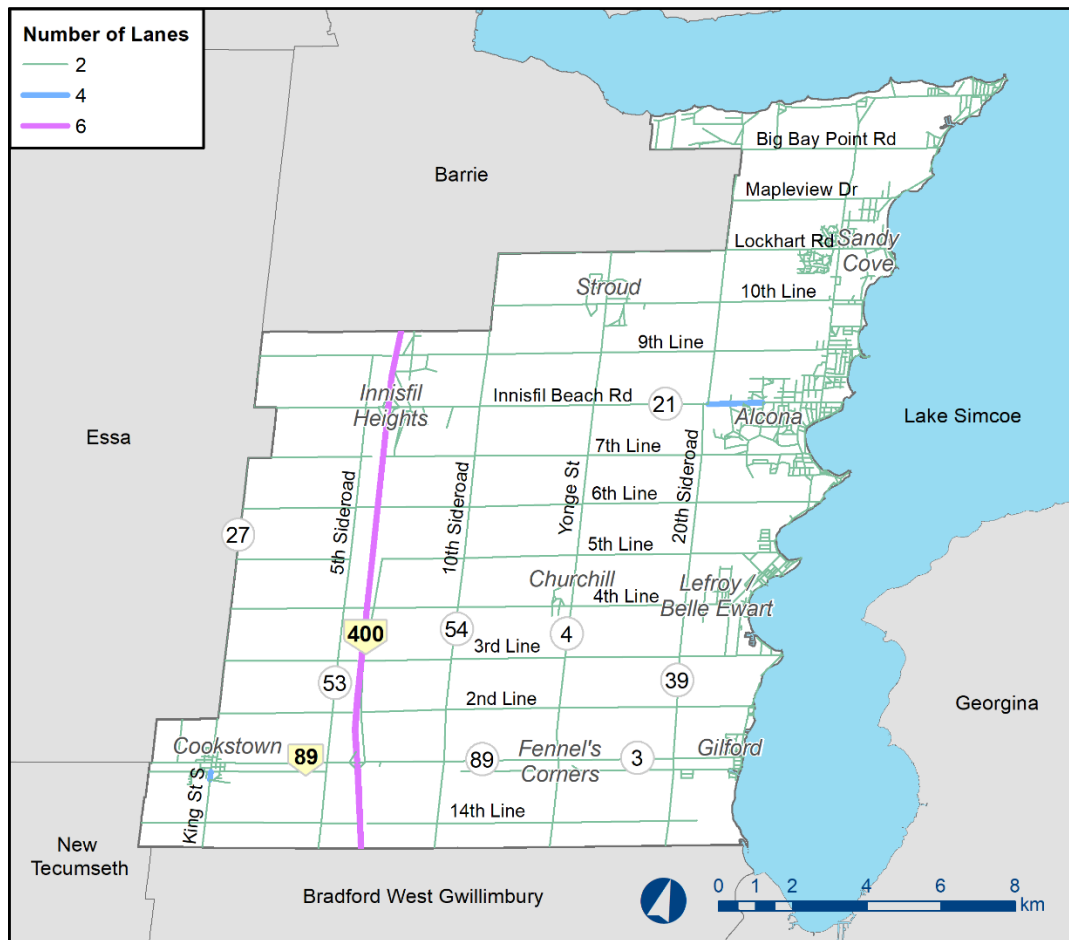


Figure 4-1: Base Condition Modelled Lanes

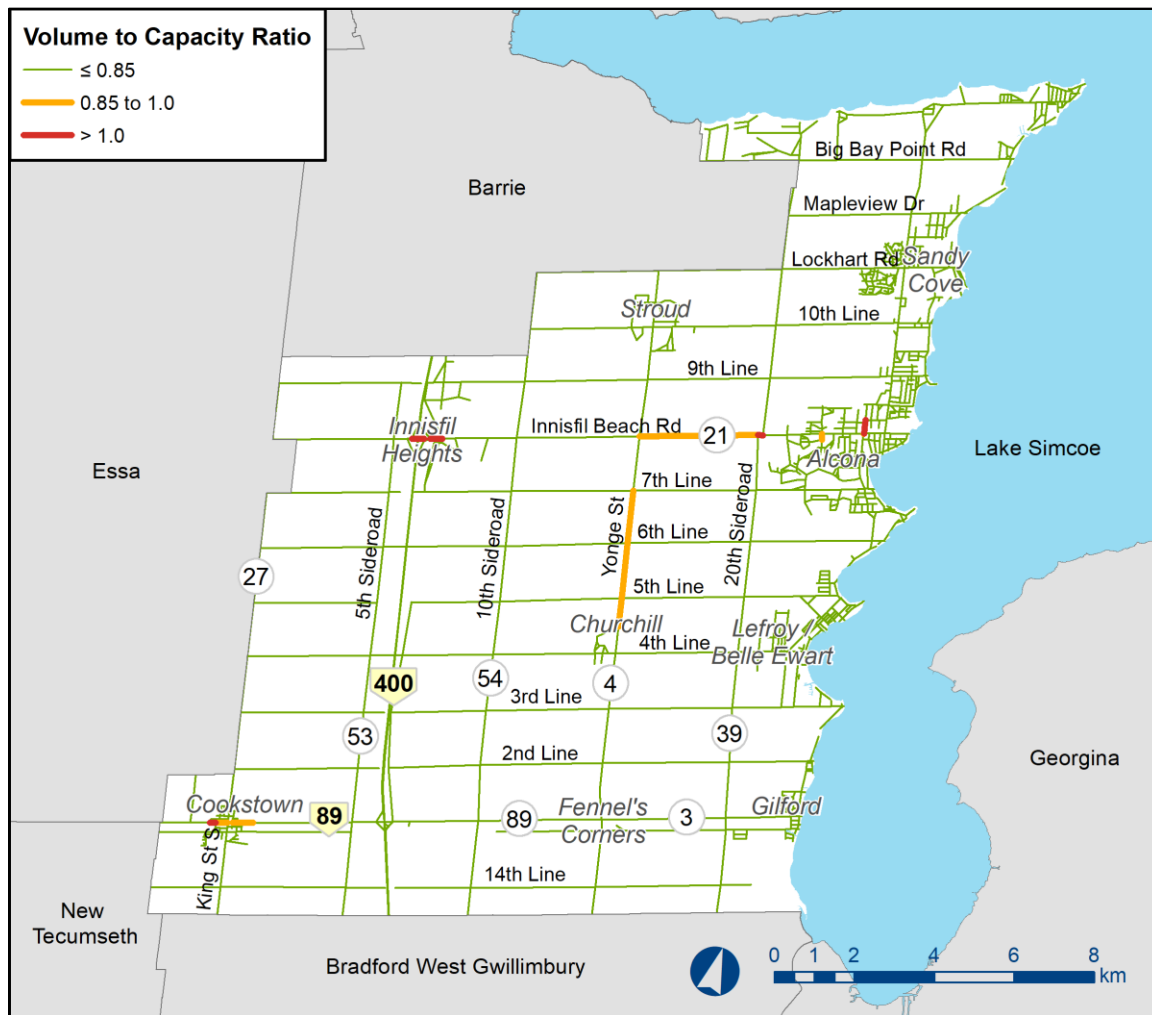


Figure 4-2: Base Condition Modelled Volume to Capacity

4.3.2 Existing Capacity Analysis

Road capacity analysis includes a comparison of the projected demand with the road capacity for all road links and key intersections. Road capacity for road links is based on model parameters reflecting the number of road lanes and characteristics of the roadway. Road capacity for intersections is based on industry practices utilizing theories adopted by the Highway Capacity Manual published by the Transportation Research Board.

Road Link Capacity Analysis

As shown in the volume to capacity plot, roads near urban settlement / employment areas appear to show the most congestion. More specifically, Queen Street-Church Street in Cookstown, Innisfil Beach Road near Innisfil Heights and Alcona, and local roads within Alcona are experiencing capacity constraints under “existing” base conditions. County Road 4 (Yonge Street) between Churchill and 7th Line is also shown to approach capacity.

Intersection Traffic Analysis

The previous TMP used turning movement counts (TMCs) collected between 2012-2017 to conduct an intersection capacity analysis using Synchro 9 software, which identified intersections that are operating with a level-of-service (LOS) D or worse. The LOS can range from A to F and is classified based on the average vehicle control delay. An intersection with an overall LOS of A, B or C is generally deemed to have acceptable operations.

Traffic data collected as part of this TMP were also reviewed to analyze intersection operations (using Synchro 11 software). None of the analyzed intersections were identified to operate with a LOS D or worse. However, it is recognized that these counts were collected during the pandemic and likely underestimate the traffic demand as noted in the previous section. In addition, a signal warrants analysis was conducted where 8-hour turning movement count (TMC) data was available to assess the need for signalization based on volume warrants.

The intersections identified to meet signal warrants or operate with a LOS D or worse under existing conditions are summarized in Table 4-1.

Table 4-1: Existing Conditions Intersection Analysis

Intersection	Existing Control Type	Intersection LOS	Proposed Improvement	Jurisdiction	Source
County Road 27 and Innisfil Beach Road	Signalized	D	N/A	County	2018 TMP
5 th Sideroad and Highway 89	Signalized	D	N/A	Province	2018 TMP
10 th Sideroad and Highway 89	Signalized	D	N/A	County	2018 TMP
9 th Line and Yonge Street ³	Unsignalized	F	Roundabout ¹	County	2018 TMP
4 th Line / Killarney Beach Road and Yonge Street ³	Unsignalized	E	Signalization	County	2018 TMP
Highway 89 and Yonge Street	Signalized	D	N/A	County	2018 TMP
20 th Sideroad and Big Bay Point Road	Unsignalized	A	Signalization ²	Town	2022 TMP

Notes: 1. The 2018 TMP recommended signalization at this intersection. However, a 2-lane roundabout at 9th Line and Yonge Street is currently in design.

2. The intersection is shown to operate with an overall LOS A during the peak hour; however, signalization is recommended based on a review of 8-hour volume and delay warrants as per Book 12 of the Ontario Traffic Manual, which indicates delays for movements from the minor street as a result of high traffic along the main road. A roundabout was considered but not recommended as this intersection would be considered a local to local road connection, which does not warrant the need for a roundabout due to impacts to right-of-way width and cost, as per the Town's Roundabout policy.

3. Intersection currently being studied as part of an Environment Assessment or undergoing design.

Farm Vehicle Accommodation

The Ministry of Agriculture Food and Rural Affairs (OMAFRA) published a document entitled “Guidelines on Permitted Uses in Ontario’s Prime Agricultural Areas”. This document identified the need to “ensure surrounding agricultural operations are able to pursue their agricultural practices without impairment or inconvenience”; it acknowledges that “some uses can result in an increase in traffic that may conflict with slow-moving farm vehicles on local roads. Avoid these uses or mitigate their impacts in prime agricultural areas.”

4.4 Future Road Capacity Needs & Opportunities

Transportation demand is a function of the socio-economic characteristics and needs of the municipality. It relates to the location of employment areas, tourist destinations and other transportation attractors and the level of interaction between urban centres. The demographics of the municipality affects transportation demand as it is primarily dictated by the proportion of population that is regularly employed and commute consistently to and from work.

4.4.1 Planned Innisfil Growth to 2051

Since the 2018 TMP, Simcoe County initiated a Municipal Comprehensive Review (MCR) in accordance with the Provincial Growth Plan, A Place to Grow: Growth plan for the Greater Golden Horseshoe (Office Consolidation 2020). The MCR is a specific planning process used to bring an Official Plan (OP) into conformity with the Growth Plan. It establishes the overall pattern of development and environmental management in the County and plans how the County will allocate the Province’s plan for population and job growth to 2051.

According to the October 2021 Simcoe County draft Land Needs Assessment, the Town’s population and employment is projected to grow to 68,880 people and 19,650 jobs by 2041. By 2051, it is expected to increase to 84,570 people and 26,190 jobs, which is above the future population and employment allocations established by the County.

Approximately half of this anticipated growth is attributed to The Orbit development in Alcona, which surrounds the future Innisfil GO Station. Population within Alcona, beyond the development in The Orbit, is also expected to experience significant growth, along with Big Bay Point, Sandy Cove and Lefroy – Belle Ewart. Major employment growth areas include Big Bay Point (due to the development of Friday Harbour Resort), Campus Node (which reflects the future location of the Royal Victoria Regional Health Centre) and the Orbit community.

The modelled 2041 and 2051 population and employment breakdown between settlement areas within the Town are summarized in Table 4-2 and were allocated based on draft targets and anticipated growth within the various communities. More details are provided in Appendix H.

Table 4-2: Updated 2041 and 2051 Population and Employment Assumptions

Location	Population		Employment	
	2041	2051	2041	2051
Big Bay Point	9,400	9,881	1,608	2,380
Sandy Cove	7,987	9,736	395	585
Leonard's Beach	1,035	1,088	0	0
Alcona North Expansion Area	3,345	4,951	0	0
Alcona North Existing Settlement	9,010	13,338	1,270	1,403
Alcona South Existing Settlement	10,934	11,493	985	1,088
Alcona South Expansion Area (i.e., The Orbit MTSA)	18,550	28,999	1,004	1,338
Big Cedar Point	685	685	0	0
Lefroy - Belle Ewart	6,872	7,405	696	769
Gilford	1,790	1,882	181	200
Fennell's Corners	164	164	0	0
Churchill	636	636	202	246
Campus Node	0	0	2,000	2,000
Stroud	2,086	2,420	664	885
Hwy 400 & 89 Employment Lands	0	0	0	0
Cookstown	2,908	3,374	925	1,021
Innisfil Heights Expansion	0	0	4,694	6,949
Innisfil Heights	268	268	7,026	9,364
Total	75,670	96,320	21,650	28,228
Place to Grow Target	68,880	84,570	19,650	26,190

4.4.2 The Orbit Community

One of the most significant planning initiatives since the 2018 TMP is Town Council's endorsement of the Orbit Vision which will be implemented over the next 50 plus years. Three areas of Transit Oriented Communities (TOCs) have been identified to ensure the growth of Innisfil feels progressive and responsibly managed over time. The Orbit has been broken down into three areas to assist in planning as illustrated in Figure 4-3.

The County of Simcoe is currently allocating 7,700 people to Orbit's TOC 1 and TOC 2 though their preliminary Municipal Comprehensive Review (MCR) anticipated up to 2051. Future MCR processes will re-examine population growth within Innisfil and therefore population forecasts and targets will be subject to change beyond 2051. Based on a preliminary analysis of constraints and potential built form patterns, the Orbit could ultimately accommodate approximately 150,000 people at completion, but this is much further in the future and subject to consultation and technical review.



Figure 4-3: Orbit Transit Oriented Communities (TOC) Concept

Source: <https://innisfil.ca/en/building-and-development/growing-our-community.aspx>

4.4.3 Planned Road Improvements

The future travel demand model represents a future “business-as-usual” scenario, which includes planned road widening or new construction projects within the Town that were carried forward from the previous 2018 TMP, as summarized in Table 4-3 and illustrated in Figure 4-4.

Table 4-3: Previously Planned Road Projects

Road	From	To	Improvement	Year	Jurisdiction
Big Bay Point Road	20 th Sideroad	25 th Sideroad / 13 th Line	Reconstruction ¹	2031	Town
Big Bay Point Road	25 th Sideroad / 13 th Line	Friday Drive	Reconstruction ¹	2031	Town
Big Bay Point Road	Friday Drive	Lake Simcoe	Reconstruction ¹	2031	Town
13 th Line	Big Bay Point Road / 25 th Sideroad	Friday Drive	Reconstruction ¹	2031	Town
Lockhart Road	20 th Sideroad	Lake Simcoe	Reconstruction ¹	2031	Town
10 th Line	West boundary extent of Sandy Cove settlement area	25 th Sideroad	Urbanization	2031	Town
10 th Line	25 th Sideroad	Purvis Street	Urbanization	2031	Town
25 th Sideroad	Big Bay Point Road	Mapleview Drive	Reconstruction ¹	2031	Town
25 th Sideroad	Mapleview Drive	Innisfil Beach Road	Urbanization	2031	Town
6 th Line	Bridge expansion over railway		New Structure	2031	Town
6 th Line	Angus Street	St. Johns Road	Urbanization	2031	Town
4 th Line / Killarney Beach Road	Yonge Street	20 th Sideroad	Reconstruction ¹	2031	Town
Various local road upgrade to minor collectors (as identified from the previous TMP)			EA Studies	2031	Town
20 th Sideroad	Big Bay Point Road	9 th Line	Reconstruction ¹	2031	Town

Road	From	To	Improvement	Year	Jurisdiction
4 th Line / Killarney Beach Road	John Street	County Road 4	Urbanization	2031	Town
4 th Line / Killarney Beach Road	20 th Sideroad	Ewart Street	Urbanization	2031	Town
Willard Avenue	Leslie Drive	Innisfil Beach Road	Urbanization	2031	Town
Adullam Avenue	Lebanon Drive	Innisfil Beach Road	Urbanization	2031	Town
6 th Line	County Road 27	County Road 53 / 5 th Sideroad	Reconstruction ¹	2031	Town
6 th Line	County Road 53 / 5 th Sideroad	20 th Sideroad	Reconstruction ¹	2031	Town
7 th Line	10 th Sideroad	County Road 4	Reconstruction ¹	2031	Town
7 th Line	County Road 4	20 th Sideroad	Reconstruction ¹	2031	Town
7 th Line	20 th Sideroad	Webster Boulevard	Urbanization	2031	Town
7 th Line	Webster Boulevard	St. Johns Road	Urbanization	2031	Town
10 th Line	20 th Sideroad	Sandy Cove boundary	Reconstruction ¹	2031	Town
7 th Line	20 th Sideroad	East of Webster Boulevard	Widen 2 to 3 lanes	2031	Town
6 th Line	County Road 27	St. Johns Road	Widen 2 to 4 lanes	2031	Town
Webster Boulevard	North Limit	20 th Sideroad	Extension	2031	Town
Webster Boulevard	Quarry Drive	6 th Line	Extension	2031	Town
Webster Boulevard	6 th Line	5 th Line	Extension	2031	Town
Jans Boulevard	North Limit	9 th Line	Extension	2031	Town
20 th Sideroad Bypass	North of IBR ³	South of IBR	New construction	2031	Town
Innisfil Beach Road	20 th Sideroad	25 th Sideroad	Reconstruction ¹	2041	Town
Belle Aire Beach Road	20 th Sideroad	West of railway tracks	Urbanization	2041	Town
Belle Aire Beach Road	Willow Street	Maple Road	Urbanization	2041	Town

Road	From	To	Improvement	Year	Jurisdiction
Ewart Street	Killarney Beach Road	300 m north of Killarney Beach Road	Urbanization	2041	Town
9 th Line	Yonge Street	20 th Sideroad	Reconstruction ¹	2041	Town
9 th Line	20 th Sideroad	25 th Sideroad	Urbanization	2041	Town
Mapleview Drive	25 th Sideroad	20 th Sideroad	Reconstruction ¹	2041	Town
St. John's Road	Innisfil Beach Road	Nantyr Drive	Urbanization	2041	Town
County Road 27	IBR	County Road 90	Widen 2 to 4 lanes	- ²	County
County Road 4	County Road 89	Barrie City Limit	Widen 2 to 4 lanes	- ²	County
County Road 4	8 th Line	County Road 89	Widen 2 to 4 lanes	- ²	County
Innisfil Beach Road	County Road 27	20 th Sideroad	Widen 2 to 4 lanes	- ²	County
County Road 53	IBR	Barrie City Limit	Widen 2 to 4 lanes	- ²	County
County Road 54	IBR	Barrie City Limit	Widen 2 to 4 lanes	- ²	County
County Road 89 / County Road 3	County Road 53	20 th Sideroad	Widen 2 to 4 lanes	- ²	County
Highway 89 East-West Link	West of Cookstown	East of Cookstown	New construction	- ²	Province
Highway 400	Highway 9	Highway 11	Widen 6 to 8 lanes	- ²	Province

Notes: 1. As per the 2018 TMP, reconstruction refers to pavement rehabilitation and widening of pavement width to Town standards, but maintaining a rural cross section with shoulders (paved and unpaved) and ditches.
 2. Road not under Town jurisdiction. Timing to be determined by the respective jurisdiction. For the purposes of travel demand forecasting, these projects were assumed to be implemented by 2041.
 3. IBR – Innisfil Beach Road

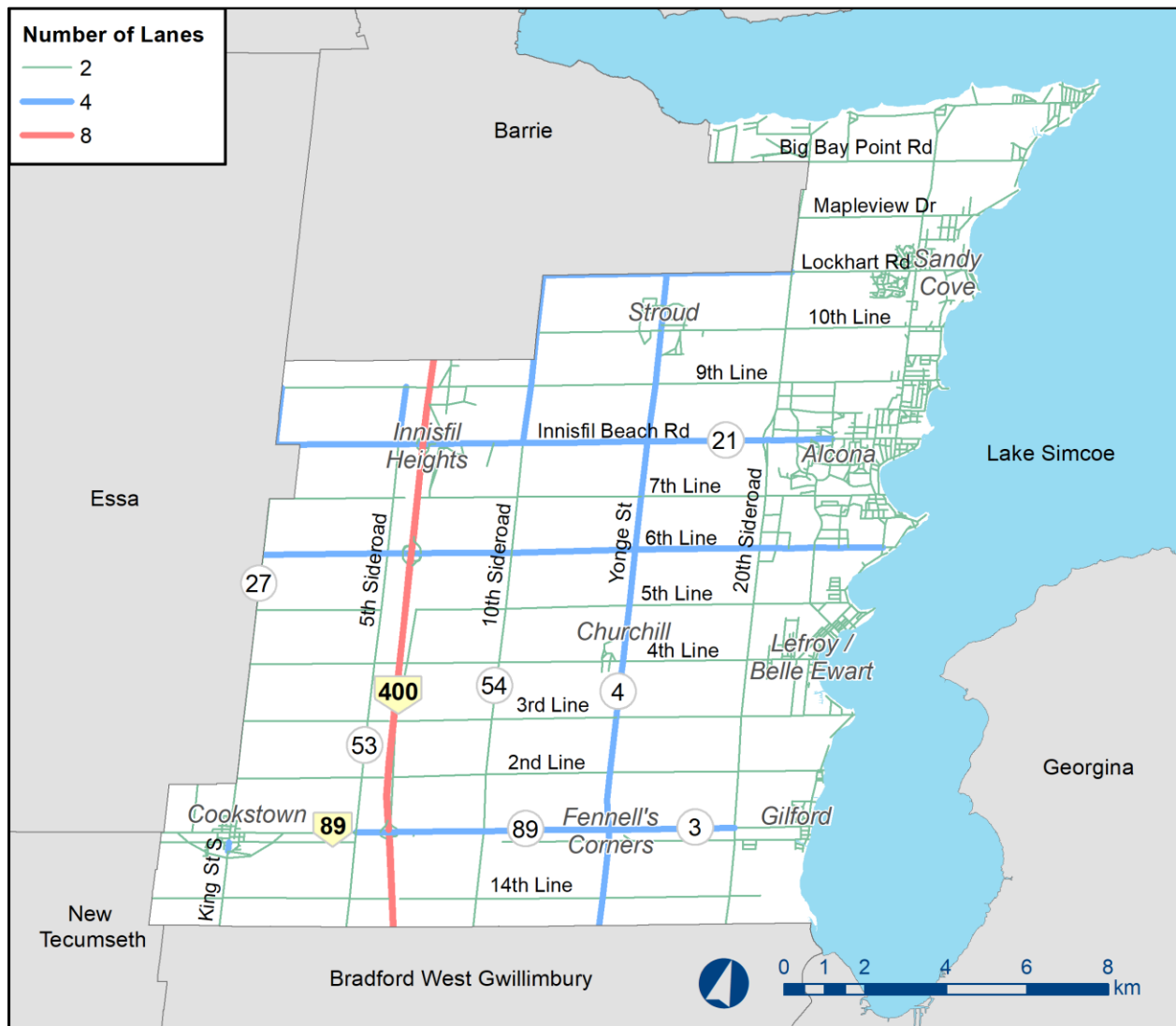


Figure 4-4: Future “Business-As-Usual” Modelled Lanes

4.5 Future Travel Forecasts

4.5.1 2041 Modelled Travel Demand

Road capacity needs beyond the planned “Business-As-Usual” improvements were identified for the growth that is anticipated to the year 2041 and the related traffic forecasts. The volume-to-capacity plot based on 2041 forecasted travel demand is shown in Figure 4-5. Road segments with a volume-to-capacity ratio of over 0.85 are projected to approach or exceed capacity, many of which are under the County’s or Province’s jurisdiction.

Traffic congestion, where vehicles cannot travel at their free flow speed, occurs as vehicle volumes approach the throughput capacity of roadways causing a reduction in speed.

Insufficient road capacity, relative to traffic volumes can cause traffic congestion which can have economic, social, and environmental impacts.

Economic impacts from traffic congestion include loss of time for productive activity. Social impacts from traffic congestion can include driver frustration and can contribute to what is commonly referred to as “road rage.” Congestion can increase time spent in vehicles and less time for family, leisure and physical activity.

Environmental impacts from traffic congestion include the impacts to air quality due to the use of non-optimal speeds in relation to fuel economy. Non-optimal speeds are variable between vehicle manufacturers however, in general, optimal speeds can be between 50 km/hr and 90 km/hr. Lower speeds can cause decreased fuel economy and increase emissions per kilometre travelled. Roadway congestion can also impact the quality of transit service (fixed, on-demand, or ridesharing) especially if transit vehicles are mixed with traffic.

Town roads identified to have capacity constraints by 2041 include 6th Line between County Road 4 (Yonge Street) and the future GO Station, 20th Sideroad between Lockhart Road and Big Bay Point, and 14th Line west of County Road 27 (King Street South). Other road segments under the Town’s jurisdiction, including 13th Line just east of 25th Sideroad, and Queen Street and King Street South within Cookstown will also experience capacity constraints.

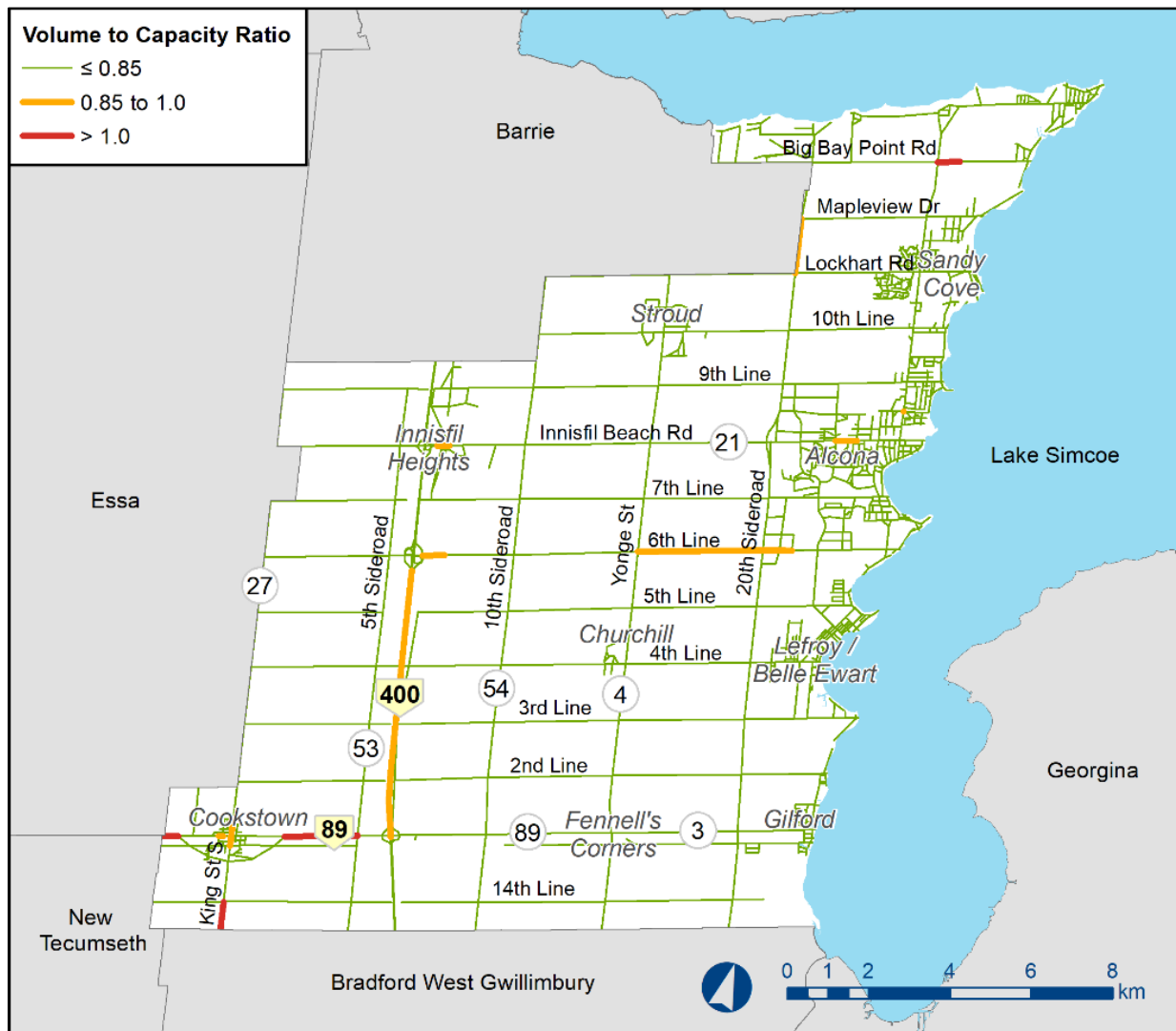


Figure 4-5: 2041 “Business-As-Usual” Modelled Volume to Capacity

4.5.2 2051 Modelled Travel Demand

Road capacity needs beyond the year 2041 were identified for growth to the year 2051. The volume-to-capacity plot based on 2051 forecasted travel demand is shown in Figure 4-6. Additional Town roads identified to have capacity constraints in the 2051 “business-as-usual” scenario (i.e., assuming no additional improvements by 2041) include 6th Line between the Highway 400 interchange and County Road 4 (Yonge Street), 20th Sideroad south of Gilford Road, and Innisfil Beach Road east of Jans Boulevard.

With additional population and employment growth as a result of The Orbit development, the capacity along the segment of 6th Line, between County Road 4 (Yonge Street) and the future GO Station, becomes worse and is projected to exceed capacity by 2051 if there are no additional planned improvements to the corridor or other mobility solutions in the area. The new

road system proposed as part of the Alcona South Secondary Plan (near The Orbit development) conducted in 2011 is projected to experience capacity constraints; however, these roads are conceptual and subject to the Orbit Potential and Innovation Plan (OPIP) study that is currently underway to address specific needs within The Orbit.

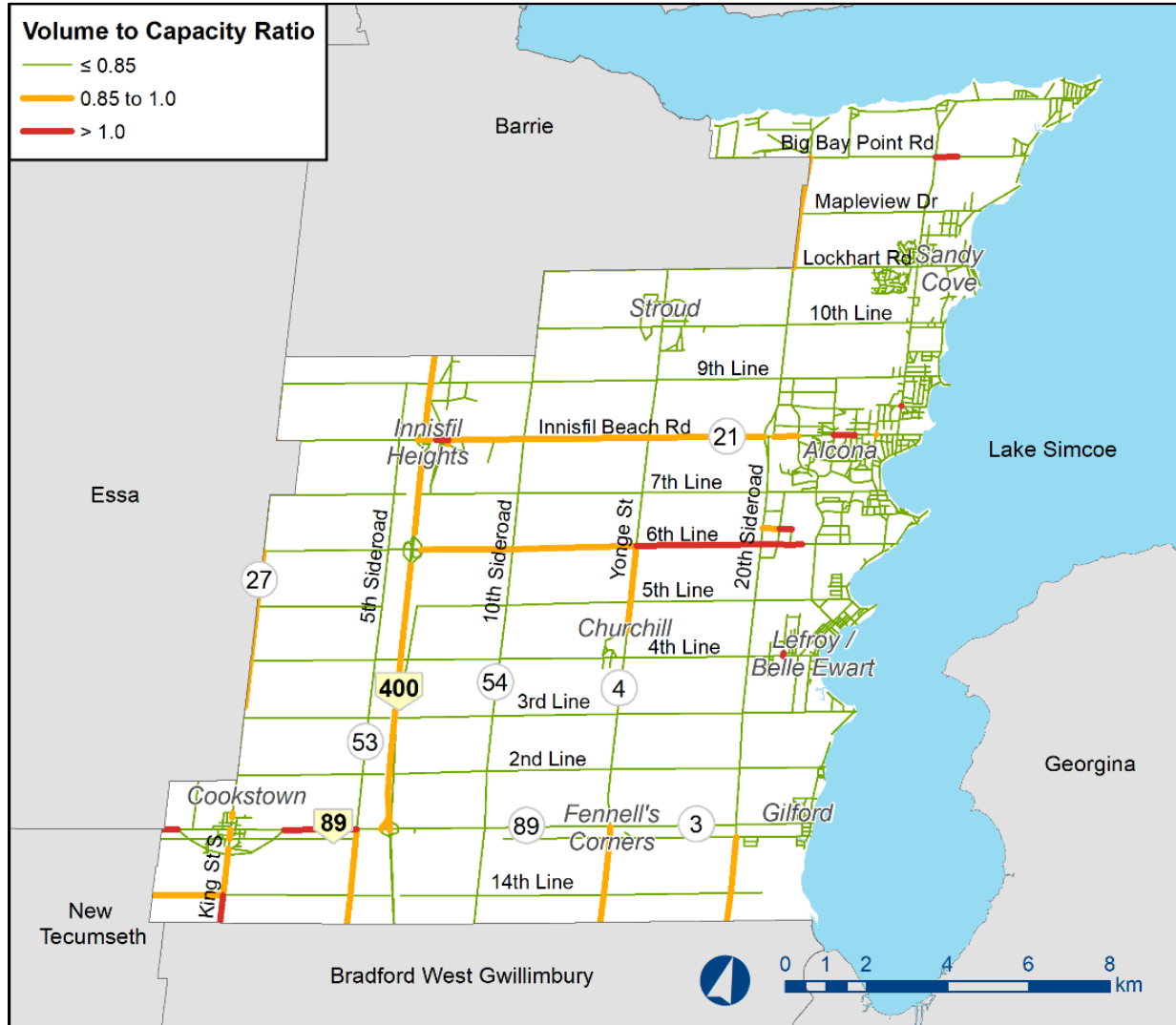


Figure 4-6: 2051 “Business-As-Usual” Modelled Volume to Capacity

4.6 Additional Road Improvement Needs

4.6.1 List of Potential Improvements

Based on projected traffic conditions, the following road segments under Town jurisdiction were identified to approach or exceed capacity by 2051.

- 13th Line, east of 25th Sideroad
- 20th Sideroad between Lockhart Road and Big Bay Point Road
- Innisfil Beach Road between 20th Sideroad and Webster Boulevard
- Innisfil Beach Road between Jans Boulevard and Adullam Avenue
- 6th Line between Highway 400 and the eastern limit of The Orbit development
- 14th Line between western Town Limits and County Road 27
- County Road 27 (King Street South) between Victoria Street and Highway 89 (Queen Street – Church Street)
- County Road 27 (King Street South) between East John Street and Garibaldi Street

The Town also encourages that Simcoe County and the Province investigate the need and feasibility of road capacity improvements, in addition to planned improvements, for the following roads under their jurisdiction:

- Innisfil Beach Road between Highway 400 and 20th Sideroad
- County Road 4 (Yonge Street) between Meadowland Street and 6th Line
- County Road 4 (Yonge Street) between Town Limits and County Road 89 / County Road 3 (Shore Acres Drive)
- County Road 27 between 3rd Line and 6th Line
- County Road 27 between southern Town Limits and Cookstown boundary
- County Road 89 between western Town Limits and County Road 53 (5th Sideroad), not including the road segment under Cookstown that is under Town jurisdiction
- County Road 53 (5th Sideroad) between southern Town Limits and Highway 89
- 20th Sideroad between southern Town Limits and Gilford Road
- Highway 400 between County Road 89 and northern Town Limits

4.6.2 Priority Improvements

In order to meet the needs of the Town by 2051, priority improvements to the Town road system were identified with consideration to traffic needs, multi-modal functionality and policy objectives. Environmental constraints were identified to assist in the assessment of alternative solutions. Accounting for future growth within and outside of the Town, several segments are forecasted to approach or exceed capacity even with the planned road improvement projects identified in Section 4.5.2. The additional road improvement needs as summarized in Table 4-4 were identified to address road capacity constraints.

Table 4-4: Proposed Road Improvements

Road	From	To	Alternative Solutions Considered	Preferred Alternative ¹	Justification	Year	Environmental Constraints
13 th Line	25 th Sideroad	Friday Drive	<ul style="list-style-type: none"> Focus on sustainable modes of transportation 2 to 4 lane widening 	Urbanization and focus on sustainable modes of transportation	Widening is not conducive to a pedestrian-priority area near Friday Harbour Resort. Urbanization of the corridor is recommended to accommodate the proposed multi-use trail along this segment.	2041	Minimal
20 th Sideroad	Lockhart Road	Big Bay Point Road	<ul style="list-style-type: none"> Focus on sustainable modes of transportation 2 to 4 lane widening 	Widen 2 to 4 lanes	Widening addresses road capacity needs and provides better connectivity to Lockhart Road, with is a planned 4-lane corridor between Huronia Road (in Barrie) to 20 th Sideroad	2041	Highly Vulnerable Aquifer (HVA) Significant Groundwater Recharge Area (SGRA)
14 th Line	Town Limits	County Road 27 (King Street South)	<ul style="list-style-type: none"> Road reconstruction 2 to 4 lane widening 	Road reconstruction	14 th Line within the Town of New Tecumseth between 20 th Sideroad and the east Town boundary is recommended for gravel surface treatment as part the Town's 2018 Road Needs Study Update. 14 th Line within the Town of Innisfil between Town limits and County Road 27 (King Street South) is recommended for road reconstruction to improve corridor capacity, subject to Town's Road Needs Study Update.	2041	Minimal
County Road 27 (King Street South)	Victoria Street	Highway 89 (Queen Street – Church Street)	<ul style="list-style-type: none"> Cookstown Parking Study 2 to 4 lane widening 	Cookstown Parking Study	It is recommended that the Town initiate a Parking Study for Cookstown to consider options to address parking needs and road capacity impacts of on-street parking and the potential to consider parking regulations and lane markings to address congestion.	2041	None
County Road 27 (King Street South)	East John Street	Garibaldi Street	<ul style="list-style-type: none"> Cookstown Parking Study 2 to 4 lane widening 	Cookstown Parking Study	It is recommended that the Town initiate a Parking Study for Cookstown to consider options to address parking needs and road capacity impacts of on-street parking and the potential to consider parking regulations and lane markings to address congestion.	2041	None
6 th Line	Highway 400 Interchange	Eastern limit of The Orbit	<ul style="list-style-type: none"> Road transfer to County EA Addendum to assess merits and alternatives to address east-west mobility and related right-of-way requirements on 6th Line and adjacent corridors 4 to 6 lane widening 	Road transfer to County and an EA addendum to address long-term east-west mobility needs	<p>The segment of 6th Line between the Highway 400 interchange and 20th Sideroad has already been identified to be a road transfer to the County jurisdiction as per the County's draft 2022 Transportation Master Plan Update. It is recommended that the County extend the segment under their jurisdiction to the eastern limit of the Orbit.</p> <p>In addition, the previous EA completed for 6th Line should be updated to reflect the latest Provincial Growth Plan. Updated population and employment forecasts to 2051, will contribute to capacity constraints despite the planned 4 lanes. While widening 6th Line beyond 4 lanes is not desirable from an urban form perspective, additional studies are recommended to identify a preferred solution to east-west mobility needs along or adjacent to the 6th Line from the east side of the rail corridor to Highway 400 by 2051 and beyond to the full buildout of the Orbit community.</p>	2041	Highly Vulnerable Aquifer (HVA) Significant Groundwater Recharge Area (SGRA) Natural Heritage System (NHS) Provincially Significant Wetland (PSW)
7 th Line	County Road 4 (Yonge Street)	20 th Sideroad	<ul style="list-style-type: none"> 2 to 4 lane widening 	Subject to EA study	EA to be initiated to assess capacity requirements along the corridor. This road segment is forecasted to operate under capacity, however transportation modelling indicated that it may be a viable route to minimize congestion along 6 th Line and Innisfil Beach Road for those travelling to/from Alcona in the future.	2051	Highly Vulnerable Aquifer (HVA) Significant Groundwater Recharge Area (SGRA) Natural Heritage System (NHS)

Road	From	To	Alternative Solutions Considered	Preferred Alternative ¹	Justification	Year	Environmental Constraints
Innisfil Beach Road ²	Highway 400	Webster Boulevard	<ul style="list-style-type: none"> Focus on sustainable modes of transportation 4 to 6 lane widening 	Focus on sustainable modes of transportation	Innisfil Beach Road should be prioritized as a transit corridor that will provide a connection between Innisfil Heights and Alcona. A sensitivity analysis indicated that widening of 6th Line to 6 lanes or a 10% reduction in traffic through transit, travel demand management or improvements to parallel corridors is sufficient to off-load and address 2051 capacity concerns along Innisfil Beach Road.	2051	Highly Vulnerable Aquifer (HVA) Significant Groundwater Recharge Area (SGRA) Natural Heritage System (NHS) Provincially Significant Wetland (PSW) Overwintering
Innisfil Beach Road	Jans Boulevard	25 th Sideroad	<ul style="list-style-type: none"> Focus on sustainable modes of transportation 3 to 5 lane widening 	Focus on sustainable modes of transportation	<p>Widening Innisfil Beach Road does not support the place making needs of the urbanized corridor as outlined in the Town's Official Plan.</p> <p>Innisfil Beach Road is planned to be a cohesive main street environment focusing on pedestrian and bike-friendly treatments. This corridor focuses on streetscaping, building architecture, and pedestrian-friendly urban design. The Town's Urban Design Guidelines developed for Innisfil Beach Road includes provisions to create a more coherent street frontage with buildings fronting the sidewalks with minimal setbacks and parking to the rear.</p>	2051	Significant Groundwater Recharge Area (SGRA)

Notes: 1. In some instances, a road widening is not recommended to address capacity constraints, as it is not suitable for the land context and intended functionality of the corridor. In such cases, the preferred alternative is to focus on sustainable modes of transportation. This could take the form of Transportation Demand Management (TDM) measures or the prioritization of pedestrians, cyclists and transit users through improved infrastructure, for example.

2. The segment of County Road 21 (Innisfil Beach Road), between County Road 4 (Yonge Street) and 20th Sideroad, once reconstructed, is anticipated to be transferred to the Town.

4.6.3 7th Line Environmental Assessments

A Class Environmental Assessment (EA) for 7th Line improvements from 20th Sideroad to east of Webster Boulevard was completed in May 2019 (Notice of Study Completion), which recommended the reconstruction of the corridor to a 3-lane urban cross-section. The EA for 7th Line between 10th Sideroad and County Road 4 (Yonge Street) was completed in October 2019 (Notice of Study Completion), which identified the preferred solution to reconstruct the road surface and widen the road to minimum standards with paved shoulders.

These EAs were completed prior to Council endorsement of the Ministerial Zoning Order (MZO) for The Orbit development, as documented in the Staff Report dated November 4, 2020.

Therefore, it is recommended that an EA Addendum be completed for the segment of 7th Line from 20th Sideroad to east of Webster Boulevard and 10th Sideroad to County Road 4 (Yonge Street) to account for anticipated changes in traffic patterns as a result of growth within and surrounding The Orbit development. In addition, it is recommended that an EA be initiated for the segment of 7th Line between County Road 4 (Yonge Street) and 20th Sideroad, which had not been previously assessed, and may become a viable alternative route to avoid congestion along 6th Line and Innisfil Beach Road for those travelling to/from Alcona in the future.

4.6.4 Highway 89 East-West Link

The future “business-as-usual” scenarios include the planned Highway 89 east-west link near Cookstown; however, it is modelled conceptually and does not represent the actual alignment. The need for the Highway 89 east-west link was identified through the previous 2018 TMP and draft 2022 Simcoe County TMP.

The alternative east-west link serves to prevent high-speed through traffic from using the urbanized Highway 89 corridor within Cookstown, which would affect the livability of the street and may pose a safety risk to residents and visitors in the area. Widening of the existing Highway 89 corridor within Cookstown cannot be completed due to property and cultural significance constraints.

In addition, the Greater Golden Horseshoe Transportation Plan (2022) identified the need to move forward with planned highways such as the Bradford Bypass, which provides a connection between Highway 400 to Highway 404 through the Town of Bradford West Gwillimbury. The Bradford Bypass would provide a key link between eastern Toronto and Barrie / Simcoe County. With this addition to the highway network, travel from Shelburne and New Tecumseth would pass through Highway 89 in Cookstown to access the bypass (see Figure 4-7).

Given the anticipated increase in pass-through traffic through Cookstown as a result, the need for the Highway 89 east-west link becomes even more critical in facilitating regional travel. This TMP supports the Highway 89 east-west link as a project to be carried forward in conjunction with the Ministry of Transportation (MTO) in order to address safety concerns within downtown Cookstown and facilitate future traffic growth.

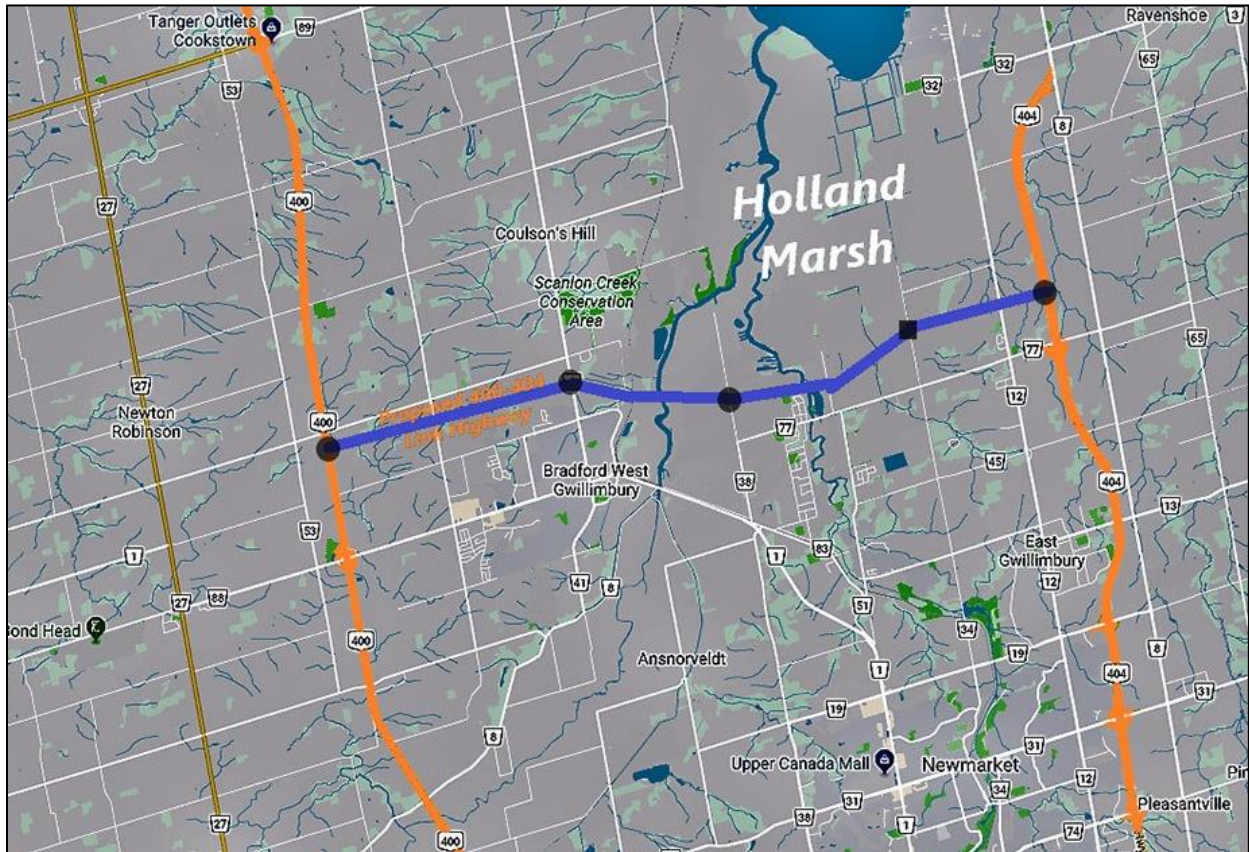


Figure 4-7: Bradford Bypass – Highway 400 to Highway 404 Link

Source: <https://www.newroads.ca/blog/hwy-400-404-link-approved/>

4.6.5 The Orbit Growth Beyond 2051

This TMP forecasts and derives improvements out to a horizon year of 2051. However, full buildout of The Orbit development will not occur during this timeframe. The Orbit has a planned target population of 150,000 people which is anticipated to grow over generations.

This target population for The Orbit development exceeds the population growth allocation for the entire Town of Innisfil in 2051. Therefore, it is anticipated that improvements beyond the 2051 timeframe be analyzed and identified as new information regarding The Orbit development becomes available. It will be important for the Town to consider and protect rights-of-way for potential improvements beyond the time horizon of this plan, particularly for 6th Line and other east-west routes between 5th Line and Innisfil Beach Road.

4.7 Intersection Improvement Needs

Future intersection improvements were determined by identifying intersections that meet signal warrants or operate with a level-of-service (LOS) D or worse under future 2041 traffic conditions, assuming a 2% per annum growth rate. Locations that require intersection

improvements are summarized in Table 4-5. This list does not include intersections along roads that have planned widenings as intersection improvements will be addressed through the widening project.

Table 4-5: Future Conditions Intersection Analysis

Intersection	Existing Control Type	Forecasted LOS	Proposed Improvement	Jurisdiction	Source
20 th Sideroad and 9 th Line	Unsignalized	E	Intersection Improvements	Town	2018 TMP
20 th Sideroad and Lockhart Road	Unsignalized	F	Roundabout	County	2018 TMP
Innisfil Beach Road and 20 th Sideroad Bypass	Unsignalized	E / F	Signalization	Town ²	2018 TMP
Highway 89 and County Road 27 ¹	Signalized	F	Highway 89 East-West Link	Town	2018 TMP / 2022 TMP
Innisfil Beach Road and Webster Boulevard	Signalized	F	Intersection Improvements	Town ²	2022 TMP

Notes: 1. The signalized intersection of Highway 89 (King Street) / County Road 27 (Queen Street-Church Street) located in downtown Cookstown is projected to experience congestion as a result of high traffic along Highway 89. Exclusive left-turn lanes have already been implemented on the east and west approach. Further widening cannot be implemented due to property constraints. The planned Highway 89 east-west link is recommended for implementation to provide an alternative east-west route to improve future intersection operations at Highway 89 and County Road 27, as well as reasons noted in Section 4.6.4.
 2. The segment of County Road 21 (Innisfil Beach Road), between County Road 4 (Yonge Street) and 20th Sideroad, once reconstructed, is anticipated to be transferred to the Town.

4.8 Goods Movement Needs and Opportunities

Trucking and goods movement is an important contributor to the Town’s economic growth, particularly in attracting businesses. It is recommended that the Town’s truck network aligns with the Greater Golden Horseshoe (GGH) Transportation Plan’s Strategic Goods Movement Network (SGMN). The SGMN has been developed to guide municipalities on implementing the provincial policies related to planning for employment near major goods movement facilities and corridors, and planning for infrastructure to support growth.

Within the context of the Town, the Provincial highway network, County road system, along with the Barrie-Collingwood rail line (which services businesses within Innisfil Heights) act as key goods movement corridors and should be used to facilitate the safe and efficient movement of goods and services. Heavy truck traffic should be discouraged along Town roads, particularly near urbanized and residential areas, to minimize the impact on the livability of communities. Town roads should be used to support primarily last-mile truck trips and local deliveries. The implementation of the Highway 89 east-west link near Cookstown is recommended to provide

truck traffic accessing Highway 400 an alternate route to minimize adverse health and safety impacts to Cookstown residents.

There is a need for the movement of agricultural equipment on Town roads in support of agricultural operations. With growth, higher traffic volumes affect the operation of farm vehicles on local roads. Policy 1.1.3.8 e) of the PPS requires that impacts from new or expanding settlement areas on agricultural operations, which are adjacent or close to the settlement area, be mitigated to the extent feasible. Potential adverse impacts on neighbouring agricultural operations resulting from proposed, new or expanding settlement areas should be addressed.

In response to PPS Policy 1.1.3.8 e), OMAFRA has identified examples of measures municipalities may need to implement to mitigate impacts include:

- “ensuring signage is used on slow-moving farm vehicles at all times (as required by the Highway Traffic Act, 1990) and along roads frequently used by farm vehicles”;
- “designing roads and traffic controls to accommodate wide, slow-moving farm equipment (e.g., wide shoulders, no curbs, reduced speed limits, designing traffic circles to safely accommodate large farm equipment)”;
- “controlling traffic access to new or expanding settlement areas”.

4.9 Road Safety

The Town of Innisfil has provided collision data dated from 2007 to May of 2021 in GIS shapefile format. Figure 4-8 illustrates the number of yearly collisions between 2015 and 2021. Between 2015 and 2019 the Town has experienced an increased trend of total collisions. The decrease in total collisions from 2020 and onwards is likely attributed to the reduced traffic exposure as a result of COVID-19 lockdown measures and 2021 dataset was incomplete at the time the safety analysis was conducted. The complete data between 2015 and 2019 was used for subsequent analyses to represent the normal (pre-COVID) conditions. Additional road safety analyses are provided in Appendix H.

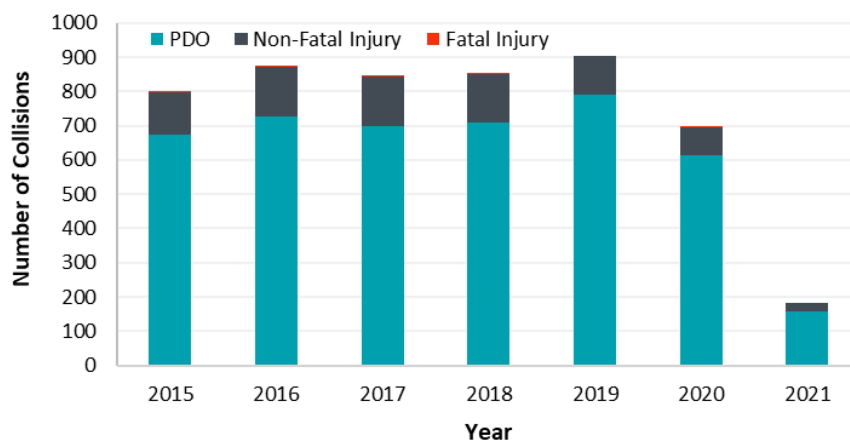


Figure 4-8: Total Collisions by Severity and Year

The collision dataset contains attributes pertaining to impact type, severity, time of year and day of week, road surface conditions, lighting conditions and locations. These attributes were analyzed to identify any trends and patterns that may inform future transportation improvements. The key insights of the collision data analysis are summarized below:

- The predominant impact type is Single-Motor-Vehicle (SMV) collisions (46%), followed by rear-end (24%), turning movement or angle (16%), sideswipe (8%) and other (5%).
- Collision hotspots are concentrated along Highway 400 and along Innisfil Beach Road.
- Vulnerable road user (VRU) collisions are concentrated predominantly in areas with higher pedestrian and cyclist volumes including along Innisfil Beach Road in Alcona, nearby Nanytr Shores Secondary School and around Innisfil municipal civic campus.
- More collisions have occurred in winter months between November and February than any other month of the year. These collisions are associated with lower visual clarity due to daylight hours and environmental conditions when compared to the annual statistic.
- Majority (77%) of single motor vehicle (SMV) collisions occur at mid-blocks and 33% of SMV collisions involve impacts with wild animals.
- Rear-ended collisions occur predominantly on major roads with higher collision density within the intersection influence areas.
- The following locations exhibited collision rates higher than 1.0 which may warrant special attention: Innisfil Beach Rd & St Johns Blvd-Willard Ave, Innisfil Beach Road East of 20th Side Rd, and 10th Side Rd North of 2nd Line

Based on the analysis of historical collision data and collision rates, the following opportunities were identified to address safety concerns, as summarized in Table 4-6. It is recommended that the opportunity to identify and address operational and safety improvements be undertaken through a collision analysis, as part of a periodically updated safety and operation review. This review should also include consideration for vulnerable road users and special vehicles (e.g., agricultural equipment).

Table 4-6: Potential Improvements to Address Road Safety

Locations	Data Analysis Findings	Potential Improvements
Innisfil Beach Rd East of 20th Side Rd	Predominate impact types are angle/turning and rear-end. Rear end collisions were mainly attributed to driver's inattentiveness	Access management west of Adullam Ave due to frequency of driveway north side of Innisfil Beach Rd, Signal Timing Review at Adullam Ave and Webster Blvd, Education Campaign
10th Side Rd N. of 2nd Line	Predominant impact type is SMV collisions	Road Maintenance (Snow Clearing), Speed Management, Enforcement
Yonge St at Innisfil Beach Rd*	High representation of angle/turning collisions	Signal Timing Review to Confirm Vehicle Clearance Requirement, Need for illumination

Locations	Data Analysis Findings	Potential Improvements
Innisfil Beach Rd and St. Johns Road	Majority of the collisions are associated with the private driveway access at the Tim Horton's lot, High SMV collisions, incidences of vehicles running the red light in E-W direction	Signal Timing Review to Confirm Vehicle Clearance Requirement, Access management at the Tim Horton's lot, Improve sightline for northbound left-turning vehicles, Lane Re-Alignment for north approach

Note: Potential improvements were identified based on historical data, the intersection has been improved since 2019, the traffic operation and safety of this location should continue to be monitored.

5.0 Active Transportation Needs and Opportunities

5.1 Role of Active Transportation Systems

Any form of self-propelled mode of transportation that uses human energy such as walking, cycling, skating, jogging, rolling and skiing, referred to as Active transportation, provides a benefit to the residents of Innisfil and the broader population. Active transportation helps to promote a healthy lifestyle, contribute to sustainable transportation, and reduce the impact on the environment. Active transportation is explicitly supported in the Provincial Policy Statement and is supported as an important component of multimodal transportation systems.

Pedestrian and cyclist-friendly neighbourhoods can improve the livability of streets, increasing public presence and contributing to the sense of community. Town roads and trails are an element of many communities. Active transportation solutions can also be a key element to climate change mitigation strategies. More details on the benefits of walking, cycling and other non-motorized modes of transportation are summarized in Appendix I.

5.2 Existing AT Infrastructure Needs

The Town of Innisfil owns and maintains sidewalks, trails, on-street bicycle lanes, sharrows, multi-use paths, and paved shoulders. Supporting features or furniture are helpful to increase the comfort and security of trip takers of all abilities and ages. These features include benches, picnic tables, shade and bicycle parking or racks. The current active transportation inventory is shown in Figure 5-1.

5.2.1 Trails

From Figure 5-1, it can be seen that the active transportation infrastructure includes trails and paths; these facilities include dedicated multi-use paths and roadway shoulders that are identified as active transportation corridors that are sufficiently wide to accommodate walking, rolling and cycling. Many of these shoulder facilities have gravel rather than paved surface; the existing trails may require upgrades to provide improved service and support active transportation use.

5.2.2 Sidewalk

Sidewalk infrastructure, which is continuous and separated / dedicated pedestrian way, is provided within urban centres. Sidewalk infrastructure is not available in all urban areas or provided along most major County or Town roads. The Accessibility for Ontarians with Disabilities Act (AODA) is a provincial law that sets out a process for developing and enforcing

accessibility standards to accommodate persons with disabilities including pedestrian infrastructure. Under AODA guidelines, pedestrian facility design requirements include minimum clear width (1.5 metres) and maximum grade for sidewalk. Some Town sidewalk infrastructure is not consistent with AODA requirements.

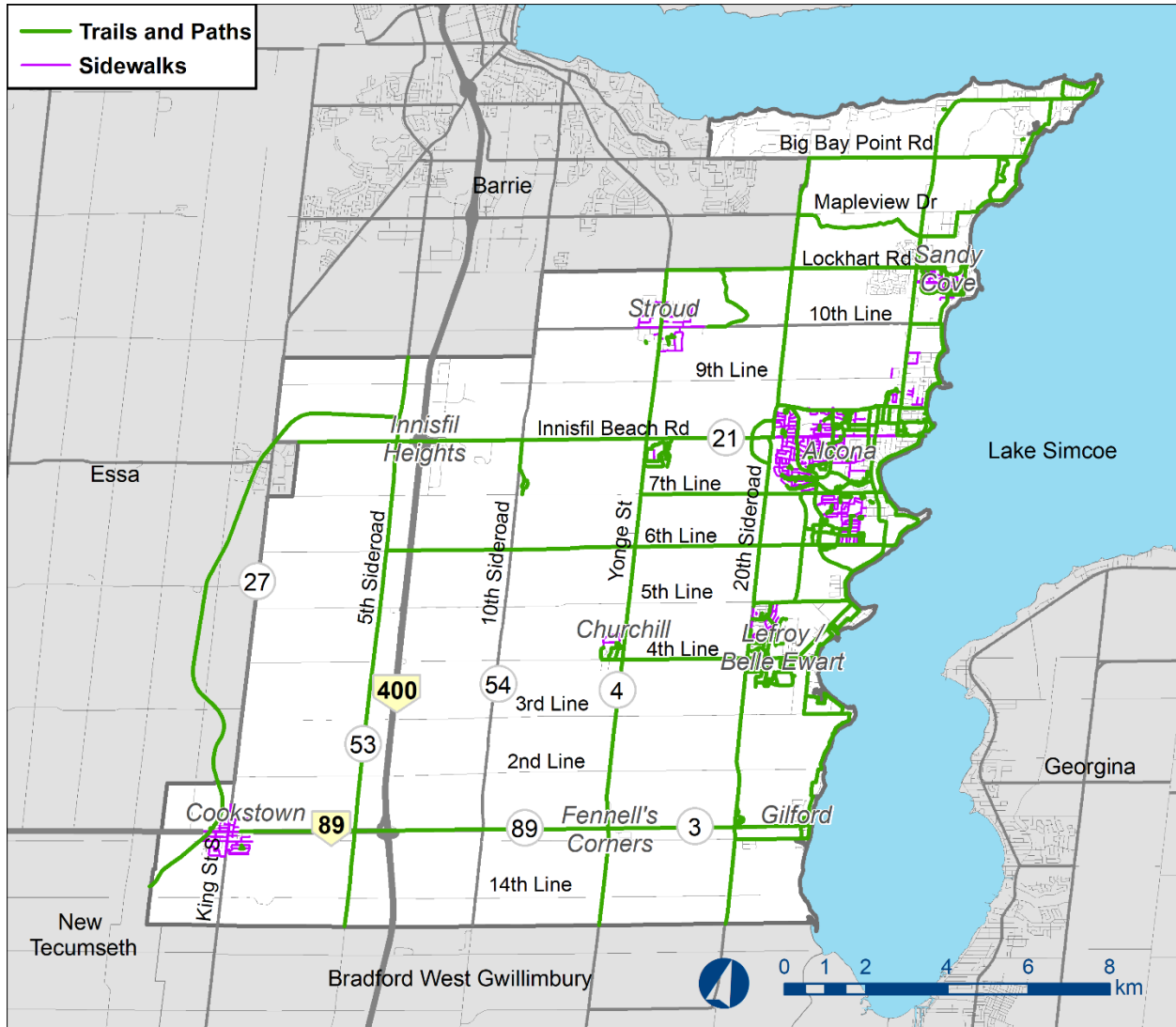


Figure 5-1: Active Transportation Infrastructure

5.2.3 Dedicated Bike Lanes

The Town has implemented dedicated bike lanes in urbanized areas of Alcona, including Webster Boulevard, Jans Boulevard, Leslie Drive and Innisfil Beach Road (20th Sideroad to St. Johns Sideroad). There are opportunities for additional dedicated bike lanes within and between urban areas to accommodate cycling as a safe and efficient alternative mode of travel for a wider range of cyclist abilities and level of comfort.

5.3 Stakeholder Identified Needs

The 2022 Transportation Master Plan held its first Public Open House on August 25, 2021 to identify transportation-related needs and opportunities. After the Public Open House, a survey was provided to all residents to obtain more feedback and to provide a chance for residents to provide further comment. There were 724 responses to the survey.

The survey showed that many Town residents enjoy walking or cycling for recreation and/or health reasons. There were 414 or 57% of respondents that walked or cycled several times a week for recreation or health reasons. There were 148 or 20% of respondents that walked or cycled every day for recreation or health reasons. Respondents identified that the top ranked barriers to active transportation were personal mobility issues, lack of a bicycle, and safety concerns due to lack of cycling infrastructure.

The most important issues that respondents identified for this TMP include:

- Unsafe conditions for pedestrians and cyclists.
- Road condition and maintenance.
- Developing walkable and accessible neighborhood.

Respondents also identified areas that may lack active transportation infrastructure. These areas include Big Bay Point Road towards Friday Harbour, St. John's Road, Maple Road, and Innisfil Beach Road. In addition, Innisfil residents identified that paved shoulders are not suitable for caretakers with strollers as these "paved shoulders usually have debris and rocks".

5.4 Previous Transportation Studies

5.4.1 Town of Innisfil Transportation Master Plan (2018)

The 2018 Transportation Master Plan (TMP) identified opportunities to "improve the safety and comfort level for people who walk and cycle and promote sustainable and healthy travel habits". The plan included:

- An incremental implementation of the phasing recommendations in the 2016 Innisfil Trails Master Plan
- Participation in the coordination of the development and implementation of proposed trails in Simcoe County along key corridors in the Town, including Innisfil Beach Road, Yonge Street, and 5th Sideroad coordinated with major road projects such as reconstruction.
- Development of road cross sections that accommodate active transportation based on best practices.
- Provision of education supporting active transportation (safe operating procedures, advisory and information groups, funding, dissemination of information, wayfinding, coalitions); and
- Promotion of walking and cycling including the use of social media, cycling maps, active travel mode incentives, bike user groups and coordination with Public Health

The 2018 TMP included policies to accommodate pedestrians on Town and County roads including the Sidewalk Prioritization Policy and the Pedestrian Crossing Guidelines. The 2022 TMP update provides an opportunity to refine and apply the sidewalk and crossing guidelines to reflect the preferred transportation strategy and identify recommended infrastructure.

5.4.2 Town of Innisfil Trails Master Plan (2016)

The Trails Master Plan is a guiding document that advances the Town’s trail network over the next 10 years and beyond. The Master Plan focuses on off-road linkages such as multi-use trails, pathways, and sidewalks in key areas. Some of the benefits that this strategy aims to achieve from the development of a robust trail network can be found below.

- Physical health and well-being can be improved by a brisk walk in the local park or bike trip around the block.
- Utilitarian transportation through the use of sidewalks and trails provides those without access to a vehicle (including youth and children) a safe environment to travel from one destination to another.
- Environmental benefits are vast when people choose to travel on foot, thereby reducing greenhouse gas emissions. Pedestrians and trail users are able to appreciate the surrounding natural heritage features and become stewards of their community.

The Trails Master Plan established a trail hierarchy system that should be considered for all routes developed in Innisfil moving forward. Key active transportation infrastructure types are summarized below:

- **Multi-Use Trail:** Multi-use trails are largely located within settlement areas and support the widest range of uses. These off-road trails are used year-round and may be located adjacent to arterial and collector roads and serve recreational and utilitarian uses.
- **Secondary Trail:** Secondary trails are short pathways or loops located off-road or within parks. Secondary trails serve as connectors to multi-use trails.
- **Sidewalks:** Sidewalks are pedestrian ways located the traveled right-of-way typically within settlement areas. They may connect to multi-use trails, and also facilitate social interactions in areas with high pedestrian volumes such as along main street corridors.
- **Paved Shoulder Cycling Routes:** Paved shoulders are generally provided along arterial and collector roads in rural areas to support the flow of traffic and may be used as emergency stopping lanes or multi-use trails to serve active transportation purposes.
- **Sharrows:** Sharrows are cycling routes along local roads that share the right-of-way with vehicular traffic and are typically supported by pavement markings and signage. Sharrows are most suitable for low volume roads.
- **Dedicated Lanes Cycling Routes:** Dedicated cycling lanes are located within the traveled right-of-way of arterial and collector roads, removed from vehicular traffic and commonly denoted by pavement markings and signage. Dedicated bike lanes are most suited for higher volume urban arterials.

The Trails Master Plan’s recommended network is shown in Figure 5-2.

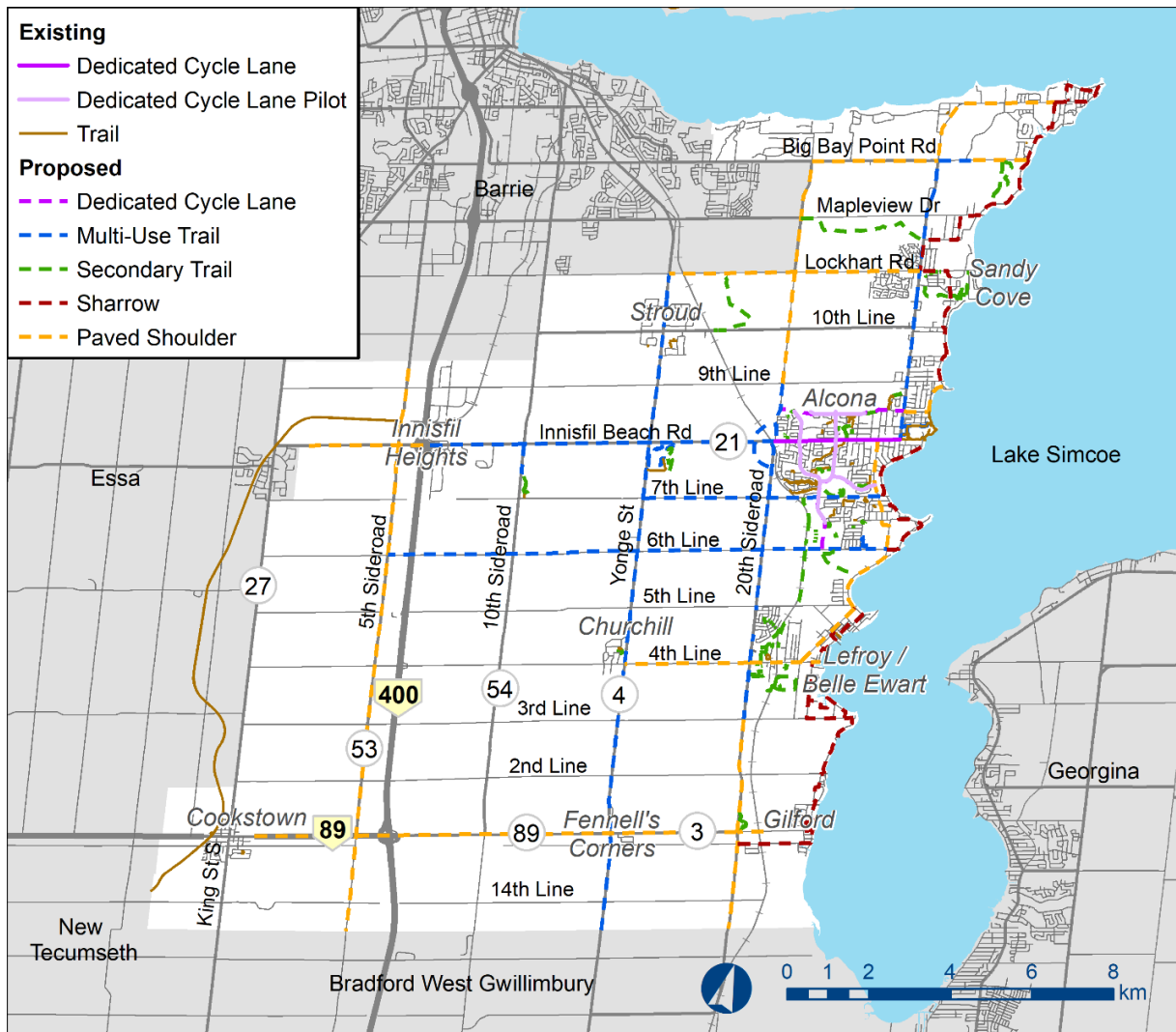


Figure 5-2: Trails Master Plan Recommended Network

5.4.3 Simcoe County Transportation Master Plan

The County’s focus and responsibility as the upper-tier municipality is to provide longer-distance connections between settlement areas along County roads, as well as managing the County’s trail network. The County’s TMP Update aims to support touring or recreational cycling as well as adapting the network to further encourage cycling as a form of utilitarian transportation.

The existing and proposed active transportation facilities from the 2014 TMP are shown in Figure 5-3. The County’s TMP Update, through a Municipal Advisory Committee Meeting presentation held on March 23, 2022, recommended a multi-use trail along County Road 4 which included the entire road segment within the Town of Innisfil. A buffered paved shoulder or multi-use trail was also recommended along Country Road 21 between Highway 400 and

Yonge Street. These recommendations are currently draft as the County’s 2022 TMP Update is still on-going at the time of writing this Transportation Master Plan.

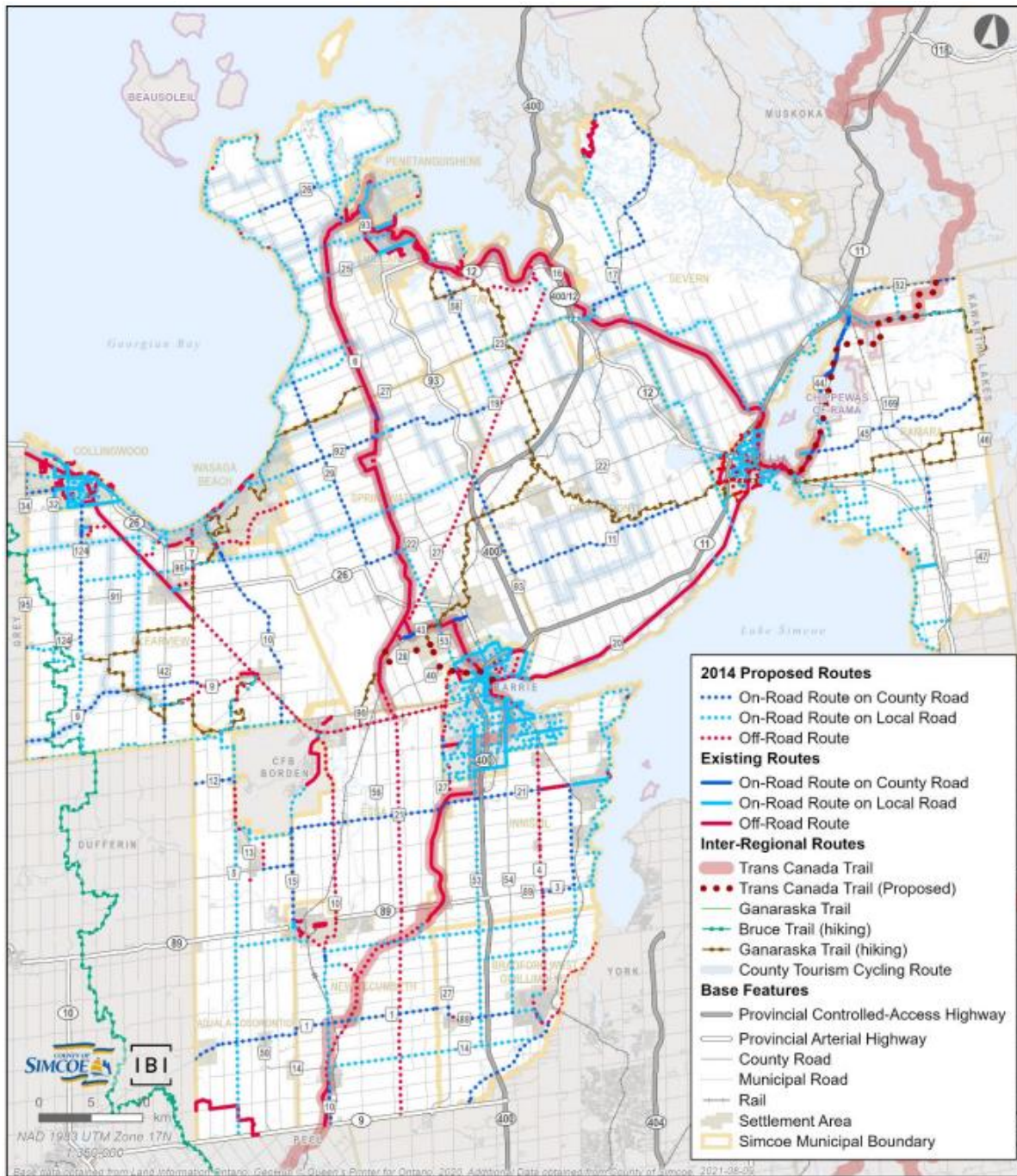


Figure 5-3: Existing and Proposed Active Transportation Network in Simcoe County

Source: County of Simcoe Transportation Master Plan Update – Phase 1: Needs and Opportunities (Simcoe County, 2021)

5.5 AT Guiding Documents and Principles

5.5.1 OTM Book 18 – Cycling Facilities Update

The OTM Book 18 Cycling Facilities was developed by MTO in association with Ontario Traffic Council (OTC) to provide provincial guidance to transportation practitioners on the design of cycling facilities. An update to OTM Book 18 was finalized in June 2021 provided few key updates to best practices are relevant for the Town of Innisfil.

Many of the traditional on-street cycling facilities appealed primarily to people who were already comfortable riding in or adjacent to motor vehicle traffic such as in a conventional bike lane with painted buffer. To attract the wide range of people who are interested in cycling, but have a greater concern for their safety, it is necessary to provide lower stress facilities such as quietly streets and physically separated bikeways.

This new manual recommends increased separation of cyclists from motorists while introducing lower motor vehicle volume and speed thresholds to make cycling safer or more enjoyable. This is in line with the increased focus on road safety considerations such as road safety/Vision Zero action plans and Complete Street policies. In addition, the Accessibility for Ontarians with Disabilities Act, 2005 (AODA) has the overarching goal of making Ontario accessible for people with disabilities by the year 2025. The design of public spaces must now appropriately serve the needs of all users.

Separation techniques, their protection from vehicles, and general ease of implementation is shown in Table 5-1. A painted buffer alone, without any vertical separation, is not considered a separation technique.

Table 5-1: Separation Techniques for Physically Separated Bike Lanes

Separation Technique	Protection from Vehicles	Ease of Implementation
Parking Lane	✓✓	✓✓✓
Flex Bollards	✓	✓✓
Planters	✓✓	✓✓
Pre-cast Concrete Curb	✓✓	✓✓
Cast-in-place Concrete Curb	✓✓	✓
Rubber Curb	✓✓	✓✓
Concrete Barrier	✓✓✓	✓✓
Guide Rail	✓✓✓	✓

5.5.2 OTM Book 15 – Pedestrian Crossing Facilities

The OTM Book 15 Pedestrian Crossings was developed by Ontario Traffic Council (OTC) in association with MTO to provide provincial guidance on the planning and design of pedestrian crossings of roadways. OTM Book 15 was considered in assessing pedestrian crossing needs within the Town.

5.6 Recent and Ongoing Studies and Initiatives

Since the completion of the 2018 TMP, new growth objectives have been identified including the Orbit development plan and land use forecasts to 2051. In response to this growth, the Town, in cooperation with other levels of government, have conducted several initiatives that provide opportunities to enhance the Town’s active transportation network. These initiatives and related opportunities are documented in Appendix I and summarized in the sections below.

5.6.1 Orbit Development and Innisfil GO Rail Station

The vision of the Orbit is to be a sustainable and mixed-use Transit Oriented Community. The Orbit Potential and Innovation Plan aims to create 15-minute neighbourhoods whereby residents can access all basic services within a 15-minute walk or bicycle trip.

The Metrolinx GO Rail Station Access Plan provides direction for access to GO rail stations (including the planned Innisfil GO rail station), that focuses on creating “safe and direct pedestrian and cycling routes to transit stations that are complemented with clear wayfinding and potential bike share programs within the station area.”



Walking



Transit



Cycling



Pick up/Drop off



Carpool Passenger



Drive and Park

The guiding principles of this Metrolinx plan is to invest and support ridership growth by creating a balance of pedestrians, cyclists, local transit, and other vehicles to ensure safe and efficient movement to and through the station for All GO Transit customers. The hierarchy of station access investments from high to low include walking, transit, cycling, pickup/drop-off, carpool passenger, drive and park.

A challenge in providing active transportation connectivity within the Orbit will be the rail crossing in Alcona. Metrolinx operations will ultimately require 3 tracks and electrification. As part of the Phase 1 Orbit development, the 6th Line Bridge replacement is planned to be constructed to integrate developments on the north and south side.

5.6.2 Land and Lake Master Plan (2022)

The Land and Lakes Master Plan is an update to the Parks & Recreation Plan (Land Plan) and the Lake Simcoe Enjoyment Strategy (Lake Plan). It is a strategy to improve Innisfil's parks, waterfront, and recreation programs and includes a review of opportunities to improve the trail system. This transportation master plan has been developed in coordination with and to provide input to the Land and Lakes Master Plan. The draft trail recommendations are illustrated in Figure 5-4. The Land and Lakes Master Plan proposed trail systems as documented in Table 5-2.

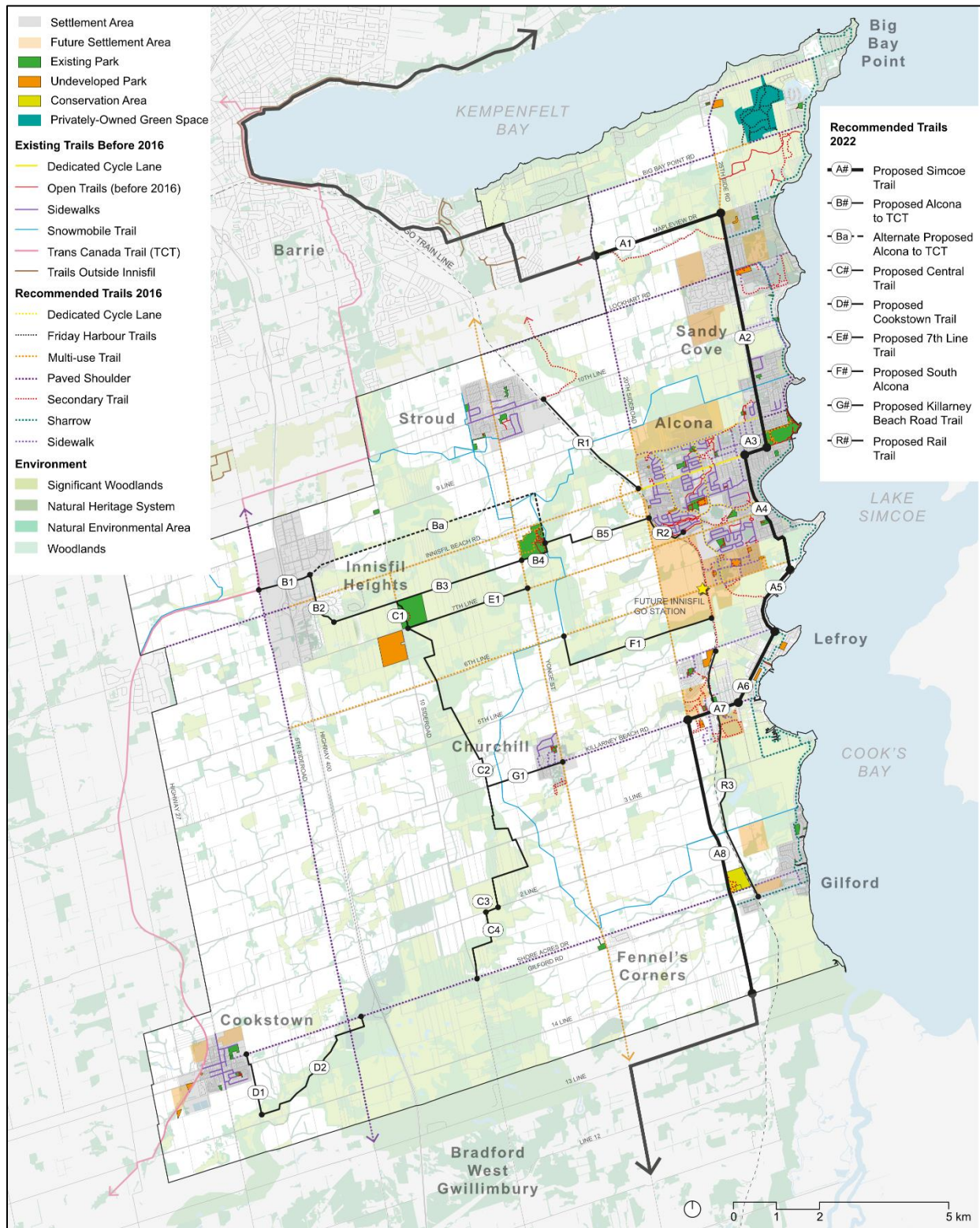


Figure 5-4: Land and Lake Master Plan Recommended Trails

Source: Draft 2022 Land and Lake Master Plan (June 2022)

Table 5-2: Proposed Land and Lakes Trails (Draft, June 2022)

Trail Segment	Description	Ownership	Trail Type
Proposed Simcoe Trail			
A1	Mapleview Drive between 20th Sideroad and 25th Side Rd	Innisfil	Multi-use
A2	25th Side Rd between Mapleview Drive and Innisfil Beach Road	Innisfil	Multi-use
A3	Innisfil Beach Road between 25th Side Rd and St Johns Road	Innisfil	Multi-use
A4	St Johns Road between Innisfil Beach Road and Maple Road	Innisfil	Multi-use
A5	Maple Road between St Johns Road and Ewart Street	Innisfil	Multi-use
A6	Ewart Street between Maple Road and Killarney Beach Road	Innisfil	Multi-use
A7	Killarney Beach Road between Ewart Street and 20th Sideroad	Innisfil	Multi-use
A8	20th Sideroad between Killarney Beach Road and Innisfil border	Innisfil	Multi-use
Proposed Trans-Canada Trail			
B1	Begin opposite Trans Canada trailhead at 5th sideroad, east side. Trail follows train tracks.	Canadian National Railway, Canadian Pacific Railway, or Metrolinx)	Multi-use
B2	Follows property lines north-south	Multiple private property landowners	Multi-use
B3	Follows property lines east-west with connection to Centennial Park and proposed Central Trail (C1) and follows property lines through Significant Woodlands and Natural Heritage System.	Multiple private property landowners Innisfil (Centennial Park)	Multi-use
B4	Follows the southern and eastern edge of the Innisfil Recreation Complex	Innisfil	Multi-use
B5	Follows property lines east-west. Connection to Centennial Park, proposed Rail Trail (R2) and Alcona.	Multiple private property landowners	Multi-use
Ba (alternate)	After B1, trail continues east and then south, meeting up with B5 at IRC.	Multiple private property landowners Innisfil (Centennial Park)	Multi-use
Proposed Central Trail			
C1	Trailhead at northwest corner of Centennial Park. Trail travels north-south through the park. Connection to proposed 7th Line Trail (E1) at south end of segment.	Innisfil	Multi-use
C2	Follows property lines southward towards 2 nd Line. Connection to proposed 7th Line Trail (E1) at north end of segment and to Killarney Beach Road Trail (G1). Follows property lines through Significant Woodlands and Natural Heritage System.	Multiple private property landowners	Multi-use
C3	Trail follows 2 Line briefly	Innisfil	Paved Shoulder

C1	Trailhead at northwest corner of Centennial Park. Trail travels north-south through the park. Connection to proposed 7th Line Trail (E1) at south end of segment.	Innisfil	Multi-use
C4	Follows property lines southward towards Shore Acres Drive 2 Line. Follows property lines through Significant Woodlands and Natural Heritage System	Multiple private property landowners	Multi-use

Proposed Cookstown Trail

D1	Follows property lines southward. Connects to Shore Acres Drive in the north	Multiple private property landowners	Multi-use
D2	Follows property lines in a northeast direction connecting back to Shore Acres Drive east of 5th Sideroad. Follows property lines through Significant Woodlands and Natural Heritage System.	Multiple private property landowners	Multi-use

Proposed 7th Line Trail

E1	Extends multi-use trail along 7th Line west towards Centennial Park	Innisfil	Multi-use
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Proposed South Alcona Trail

F1	Follows property lines through Significant Woodlands and Natural Heritage System. Connects to settlement areas of Alcona South Expansion and Sleeping Lions.	Innisfil	Multi-use
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Proposed Killarney Beach Road Trail

G1	Extends paved shoulder on Killarney Beach Road west toward Central Trail (C2)	Innisfil	Multi-use
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5.6.3 Highway 400 and 6th Line Interchange

In 2017, The Town of Innisfil completed a Schedule ‘C’ Class Environmental Assessment (Class EA) for the proposed interchange at 6th Line and Highway 400. The Ministry of Transportation Ontario (MTO) replaced the existing bridge structure on Highway 400 at 6th Line to support the planned widening of Highway 400 to 10 lanes. Due to anticipated vehicular speeds of the ramps and design of the interchange, there is an anticipated challenge to accommodate active transportation. Multi-use trails along 6th Line are currently planned to ensure that cyclists and pedestrians will be provided continual safe accommodation of active transportation infrastructure.

5.6.4 Bike Lane Pilot Project (2020)

As a result of the 2018 Transportation Master Plan, bike lanes were installed on four streets in Alcona: Anna Maria Avenue, Jans Boulevard, Leslie Drive, and Webster Boulevard to encourage people to cycle. An example of these bike lanes is shown in Figure 5-5. This design is consistent with designs in the updated 2022 Ontario Traffic Manual Book 18; however, the applicability of treatment type could be rationalized with the road typology in the Town of Innisfil complete streets policy and guidelines.



Figure 5-5: Cycle lanes along Jans Boulevard

Source: Google Streetview, Image Captured in 2021

5.6.5 Sidewalk Improvement Program

As part of the planned construction improvements, the Town of Innisfil will be repairing various sidewalks within the Town beginning at the end of June 2021. The selected sections of sidewalk were chosen based on the results of the Sidewalk Needs Study, which is completed every 5 years. This study evaluates the sidewalk condition and rates each sidewalk section. Those that receive higher ratings are in worse condition than a section of sidewalk that has a lower rating.

By programming the repair of sidewalks, the Town can keep maintenance costs down as opposed to leaving the sidewalks to deteriorate. When sidewalks deteriorate, they require replacement instead of resurfacing which raises costs.

In 2021, the following sidewalk sections were constructed:

- King Street South from Queen Street to Victoria Street West (West side of the road)
- King Street South from Church Street to Hamilton Street (East side of the road)
- Church Street from King Street to William Drive (South side of the road)
- Church Street from Elizabeth St to 114m to the East (North side of the road)
- Cook Avenue from Victoria Street East to Heritage Road (West side of the road)

5.7 AT Needs and Opportunities

5.7.1 Connectivity

Active transportation networks should be connected and continuous to allow cyclists and pedestrians more opportunities to have a certain level of protection for most or all of their journey. Providing a degree of protection for more of the journey provides more casual active transportation users more confidence to use the facilities. A connected network does not leave users isolated and stranded at the end of AT facilities.

Although Alcona includes the most extensive AT network in terms of kilometers of infrastructure provided, the older neighborhoods of this settlement to the east lack in pedestrian and cyclist facilities. It has also been noted that there are limited to no AT facilities in Sandy Cove, Gilford, Fennel's Corners, Churchill and Innisfil Heights. This includes local roads as well as roads with higher vehicular volumes such as collectors and arterials. Pedestrians typically use road shoulders if there are no existing sidewalks. This may present challenges to both the residents of the older neighborhoods as well as those accessing Lake Simcoe from the west in terms of accessibility and safety due to the lack of mode separation.

Pedestrian facilities span throughout the entirety of Cookstown and are provided along all arterial and collector roadways. The pedestrian network includes some gaps, however in most instances the segments lacking dedicated pedestrian facilities are short and not along roadways with substantial traffic demand.

Sidewalks are also provided along collector and arterial roads in Stroud, and the sidewalk gaps are generally located along local roads. The 2018 Innisfil Transportation Master Plan (TMP)

Update states that the public has raised concerns regarding poor pedestrian connectivity in this area during winter months. The standards of winter maintenance can be identified as an opportunity for maintaining sidewalks all-year round to improve equity of infrastructure, safety, and pedestrian mobility.

Limited AT infrastructure is provided within Sandy Cove, Lefroy / Belle Ewart, Gilford, and Churchill. Sidewalks in these communities are predominantly clustered in a single area serving the local population.

Innisfil Heights does not include any pedestrian or cyclist infrastructure. Highway 400 runs through this strategic settlement employment area and is a major physical barrier for those making walking or cycling trips. Potential crossover solutions should be explored in this area to create AT connections between land uses on either side of the Highway. A pedestrian and cyclist crossover at Highway 400 will also create an opportunity to extend the Thornton-Cookstown Trans Canada Trail eastward to local and tourist points of interest.

The cycling network within Innisfil communities predominantly consist of trails and curbside bike lanes are provided along Innisfil Beach Road in Alcona. It should be noted, however, that current trail networks within communities consist of small segments that are disconnected from one another serving local neighbourhoods only rather than providing cross-settlement mobility options.

5.7.2 Continuity

A discontinuity in cyclist and pedestrian infrastructure has also been noted between Innisfil hamlets and settlements. Similar to collector and arterial roads within communities, making inter-community trips via an active mode of travel is not desirable given narrow shoulder widths, lack of physical separation between pedestrians and motor vehicles, roadway condition during winter months, and lack of accessibility features. Special attention should be given to cyclist network discontinuities between communities or points of interest that are located within a five-kilometre radius from one another. This is because the competitiveness of cycling mode share is higher for trips that are five kilometres or less, with higher probability of future AT network utilization.

Opportunities for cycling network improvements based on a five-kilometre radius between communities and points of interest have been highlighted in Figure 5-6 and include segments along Highway 89, Fourth Line, Innisfil Beach Road, Yonge Street and western shore of Lake Simcoe. Additionally, as the Town's AT network evolves over time, Highway 400 could become a limiting factor in network continuity between communities located on either side of the provincial facility.

5.7.3 Protection for Vulnerable Road Users

Vulnerable road users refer to those most at risk in traffic which are most applicable to those who are not in a vehicle that acts as a shield such as pedestrians, cyclists, and other active

transportation users. Common groups of vulnerable road users are elderly people, disable persons, and children.

Elderly people show a gradual decrease of their abilities to cope with difficult traffic situations and are more prone to serious injury due to physical limitations from age. Disabled persons include any individuals with a physical, sensory, or mental impairment affecting their movements. Children are also particularly vulnerable as they are more physically fragile and less attentive than other road users.

Vision Zero best practices do not put all the onus of the active transportation user to make the best decisions to safeguard their health and well-being, but it shares the onus with the transportation practitioners that design the transportation system to ensure that safety is maximized. Without infrastructure that adapts to their abilities, they are more at risk for collisions. An equitable transportation environment creates a physical environment that reduces disabilities and enables all members of the public to move about with a level of ease and protection similar to that of other road users. This is a need that does not need to be defined by traditional transportation metrics like number of accidents, but a societal need that allows disabled persons to fully integrate with society.

5.7.4 Connections between Points of Interest

The point of interest analysis has shown that several public facilities are disconnected from the rest of the AT infrastructure in Town. These have been highlighted in Figure 5-6 and include Belle Wart Pavilion, Kempenfelt Conference Centre, Centennial Park, Thor College, Knock Community Centre, Innisfil Public Library and Georgian Downs Casino. A network gap has also been identified between Innisfil Central Public School and nearby residential dwellings where pedestrian and cyclist trips by vulnerable road users are anticipated.

Lastly, limited pedestrian connections are provided within Innisfil municipal civic campus, which includes an agglomeration of public amenities such as medical facilities, a recreational centre childcare centre, farmers market and Innisfil Town Hall. The variety and proximity of land uses in this area is highly supportive of active transportation and may be identified as a priority area for future AT infrastructure. Another area identified to be frequently used by cyclists and pedestrians is a rural section of Big Bay Point Road that runs parallel to the northern shore of Lake Simcoe (Innisfil TMP, 2018).

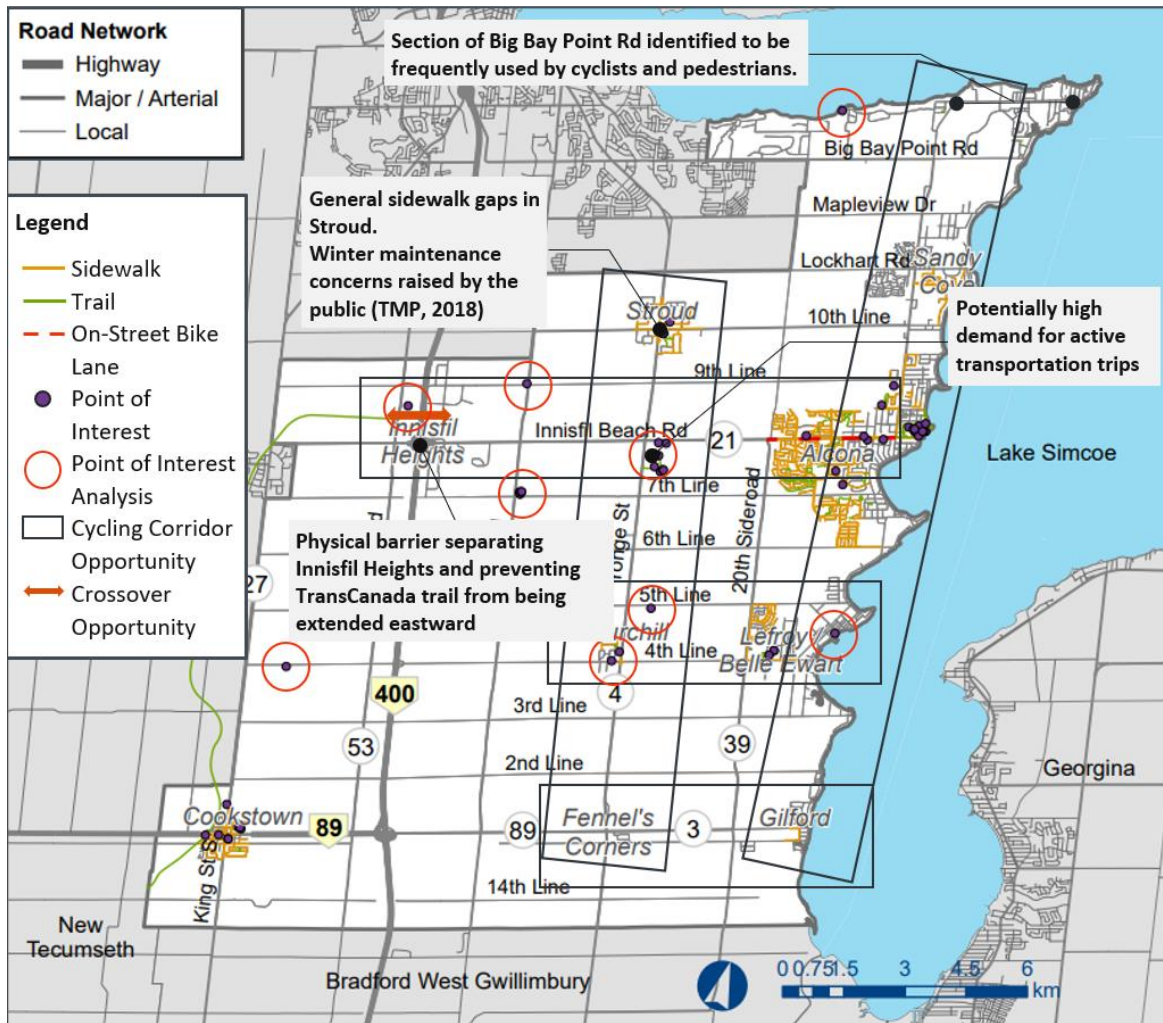


Figure 5-6: Active Transportation Network Gaps

5.7.5 AT Integration with Transit

The GO Transit service within the Town of Innisfil includes a bus route along Yonge Street has stops within Innisfil, including along 10th Line, Innisfil Beach Road, 4th Line and Highway 89. Spatial analysis was used to evaluate transit accessibility in Innisfil that indicate opportunities to improve transit accessibility through additional AT infrastructure such as the provision of sidewalks.

A transit walkshed analysis for the GO bus route along Yonge Street is shown in Figure 5-7. The walkshed analysis illustrates the potential catchment area of 500 and 800 metres if there were no gaps in pedestrian network and compares it with the catchment area that considers the existing sidewalk provisions. The analysis shows that the lack of sidewalk limits transit accessibility and equity within communities as it constrains the transit catchment area by active transportation.

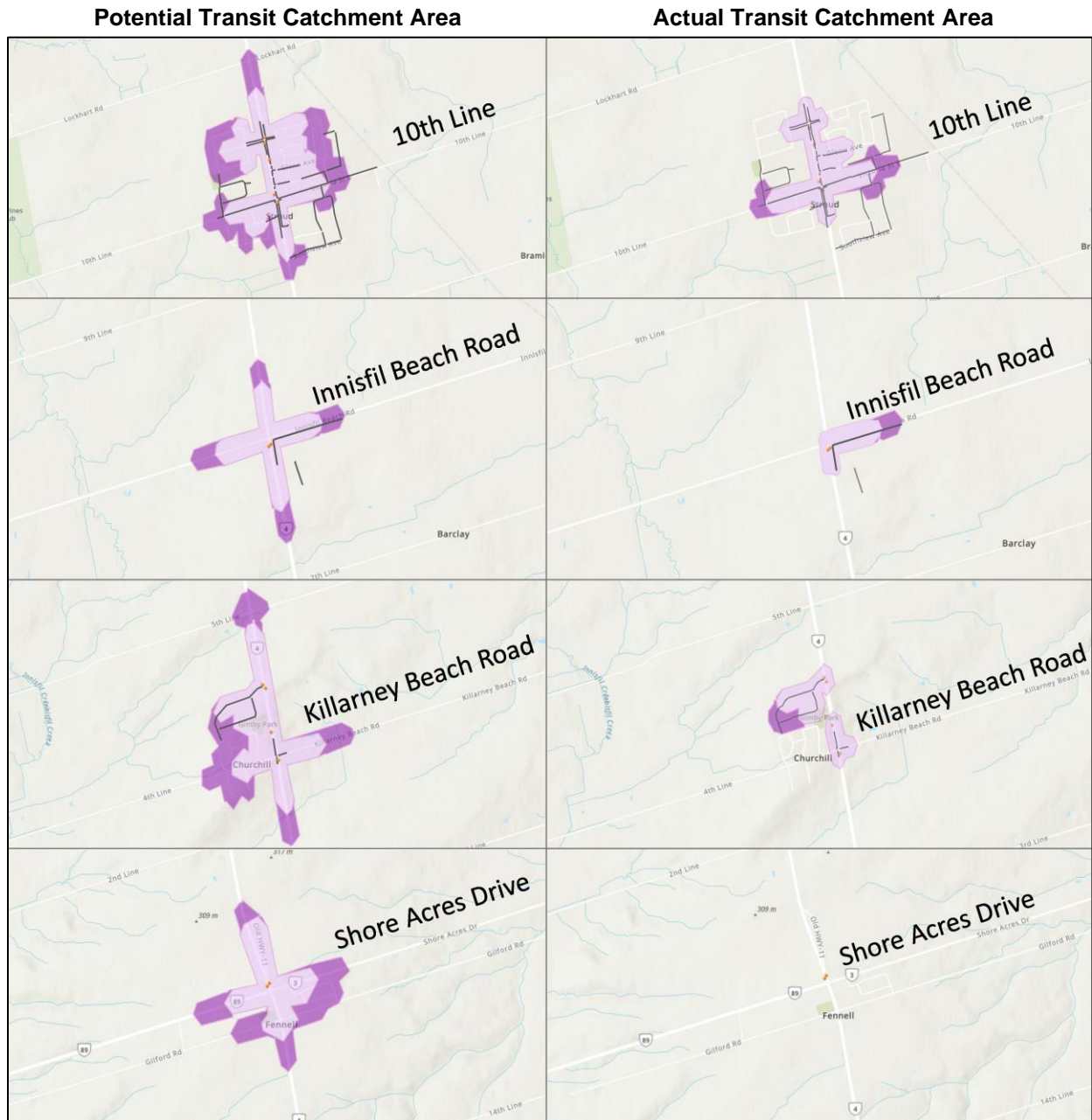


Figure 5-7: Transit Walkshed Analysis

The catchment analysis results have been combined with property parcel and demographic data to estimate the number of additional households that can benefit from a more complete sidewalk network. The comparison of the number of households within the current catchment area and the number of households within the potential transit catchment area if the sidewalk network was complete. As a result, providing a complete sidewalk network would improve transit accessibility for 358 households in Stroud, 52 households surrounding Innisfil Town Hall, 151 households in Churchill and 100 households in Fennel’s Corners.

5.7.6 Lake-Adjacent Trail

The concept of a lake-adjacent trail is under consideration by the Town. It would provide an opportunity to connect communities in York Region and Simcoe County and allow both commuters and recreational pedestrians, cyclists, and other AT users a chance to explore the Region and the County on dedicated and comfortable infrastructure. A conceptual route is shown in Figure 5-8. Coordination and consultation with both York Region and Simcoe County is recommended as this trail extends beyond Town boundaries.

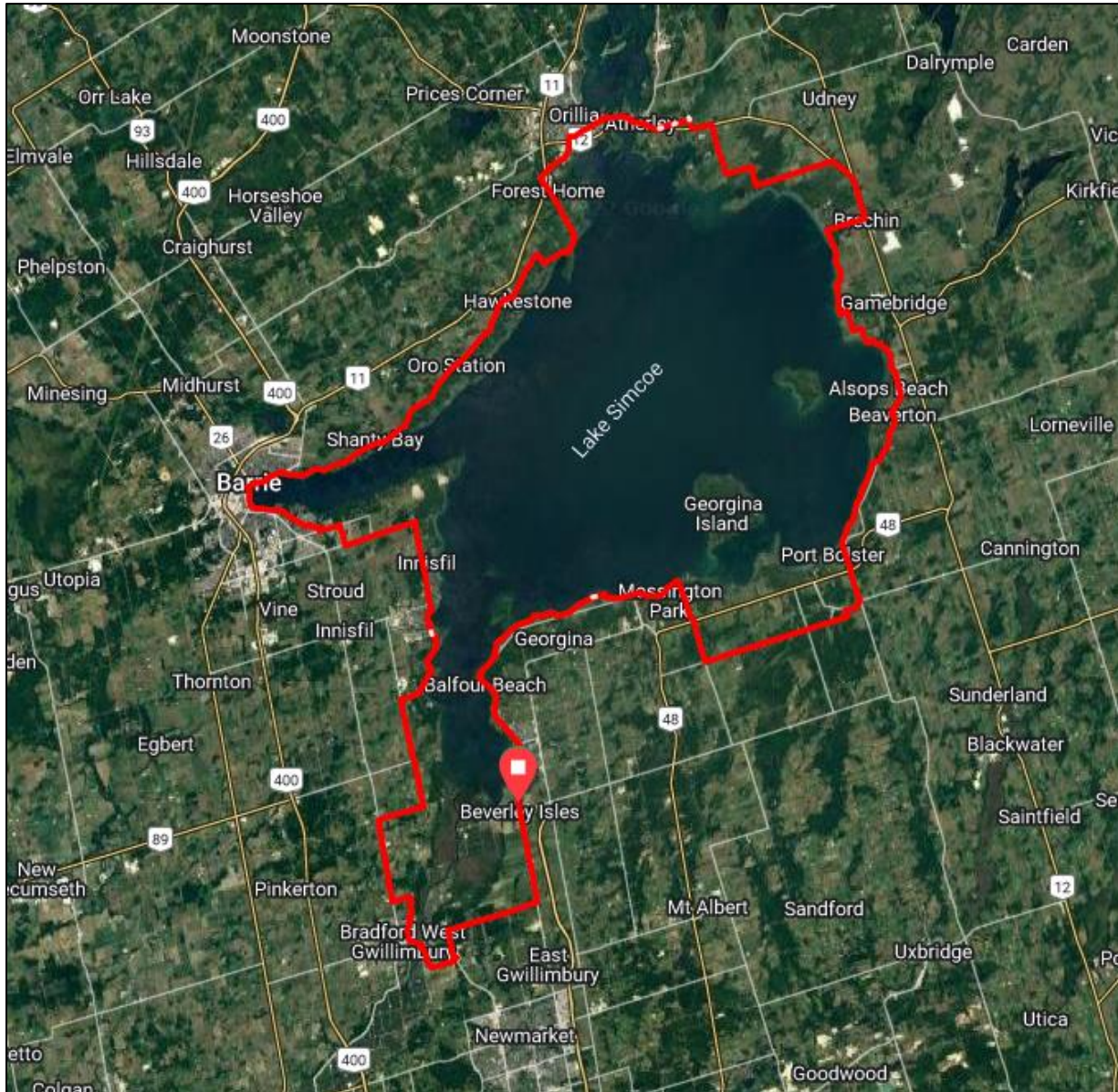


Figure 5-8: Conceptual Lake-Adjacent Trail

Other possible benefits would be to improve tourism within the County, the Town of Innisfil, and adjacent municipalities. Cycle tourists would be able to travel adjacent to Lake Simcoe and lake destinations and strengthen the County’s position as a cycle destination.

Facilities could range from signed routes to protected facilities such as multi-use trails and cycle tracks. Coordination between Simcoe County, York Region, and local municipalities would be required to facilitate a lake-adjacent trail. Implementation would require coordination including signage development and installation and marketing.

Examples of current lakeside or waterfront are documented in Appendix I.

5.7.7 Trans-Canada Trail Connection

The Ministry of Transportation Ontario (MTO) currently has plans to replace the bridge structure as shown in Figure 5-9 in Innisfil Heights as part of their plans to widen Highway 400 to 10 lanes.



Figure 5-9: Highway 400 in Innisfil Heights

Source: Google Streetview, Image taken April 2021

As part of this 2022 TMP, the Town of Innisfil, Simcoe County, the City of Barrie, and MTO has undertaken discussions to explore the feasibility of accommodating an active transportation connection under Highway 400 adjacent to the rail spur north of Innisfil Beach Road. This connection would be able to provide active transportation users the ability to cross Highway 400 using an off-road facility which provides added safety and comfort. Establishing a connection from the Town of Innisfil east of Highway 400 to the Trans-Canada Trail would provide users access to an inter-municipal trail enhancing the livability and pedestrian-oriented environment within the Town of Innisfil. This connection is also currently part of the Town’s Land and Lakes proposed Alcona Trail. Potential solutions are documented in Appendix I. Further consultation is recommended to confirm feasibility.

5.7.8 Additional Needs

There are two significant and potential active transportation opportunities to be explored in future studies. These include the following:

- There is open and park space adjacent to the Barrie GO Line that has been identified as a potential rail trail. This has been outlined in the draft 2022 Land and Lake Master Plan as “R” as illustrated in Figure 5-10.
- A pedestrian trail/underpass across Yonge Street from the future Royal Victoria Regional Health Centre and the Town campus has been identified as a future opportunity.

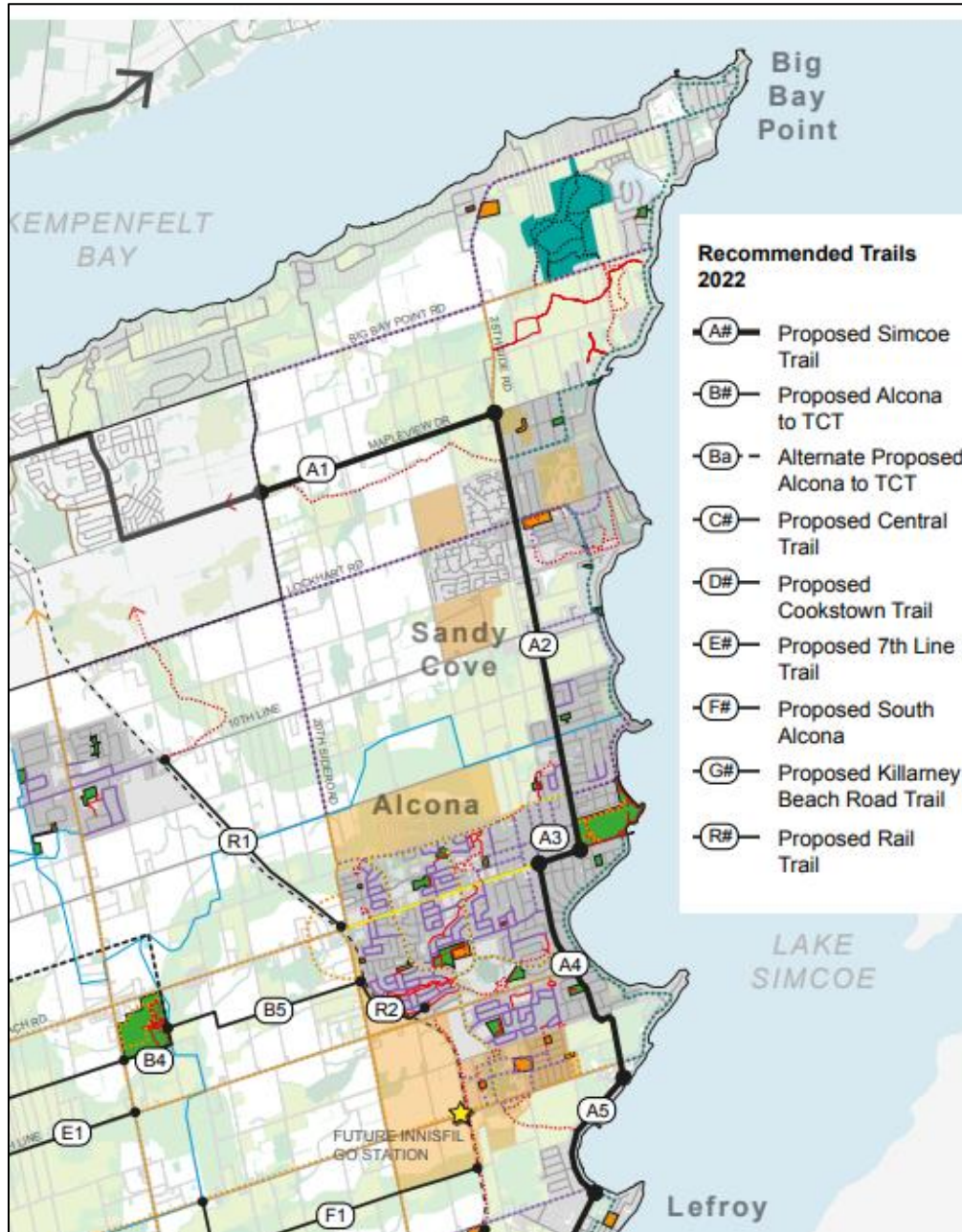


Figure 5-10: Potential Rail Trail

5.8 Proposed Active Transportation Improvements

5.8.1 Facility Selection

In selecting the appropriate cycling and pedestrian facility, best practices and guiding principles should be applied to consider the level of protection and road user needs. Explicit consideration of cyclist and pedestrian exposure to vehicle interaction is typically considered.

Book 18 of the Ontario Traffic Manual (OTM) provides descriptions of a range of facility types and tools for the preliminary assessment of bicycle facility requirements including nomographs for urban/suburban and rural conditions. Book 15 of the Ontario Traffic Manual (OTM) provides Guidance for pedestrian crossing facility selection. A summary and applicability of road users' needs and OTM guidelines are provided in Appendix I.

5.8.2 Additional Active Transportation Improvements

In order to meet the needs of the Town by 2051, priority and ultimate active transportation improvements to the Town road system were identified with consideration to multi-modal functionality, improving the Town's identity as a livable community, accommodating all types of road users regardless of age or ability, and other policy objectives. Environmental constraints were identified to assist in the assessment of alternative solutions in a subsequent memo. These improvements are shown in Table 5-3.

Potential improvements that were identified for the priority AT network were needs to 2041 or earlier. Potential improvements that were identified for the ultimate AT network were needs to 2051 or earlier. Need beyond 2051 were also identified for further consideration in the next TMP or future study.

It is noted that the existing and planned paved shoulders will also better accommodate agricultural equipment. They provide following connections adjacent to agricultural lands:

- East-West connections west of Highway 400 (Innisfil Beach Road, 6th Line, 4th Line),
- East-West connections east of Highway 400 (10th Line, 4th Line, Highway 89) and
- North-South connections (5th Sideroad, rural sections of 20th Sideroad).

Table 5-3: Potential Active Transportation Improvements

Location	From	To	Alternate Strategies	Preferred Alternative	Justification	Horizon	Environmental Constraints
10th Line	East of Stroud	20th Sideroad	<ul style="list-style-type: none"> No proposed AT facility Paved shoulders 	Paved Shoulder	Provides connectivity from Stroud to Lake Simcoe	Priority	Wellhead Protection Area/Highly Vulnerable Aquifer Listed Property – Municipal Heritage Register
10th Line	10th Sideroad	West of Stroud	<ul style="list-style-type: none"> No proposed AT facility Paved shoulders 	Paved Shoulder	Provides connectivity from Stroud to the City of Barrie The planned Highway 400 interchange at McKay Road, which becomes 10th Line, will add future vehicular volumes requiring for added protection of pedestrians and cyclists in a rural environment	Priority	Provincially Significant Wetland Significant Woodland Key Natural Heritage Feature Wellhead Protection Area/Highly Vulnerable Aquifer
4th Line	West of Churchill	County Road 27	<ul style="list-style-type: none"> No proposed AT facility Paved shoulders 	Paved Shoulder	Provides connectivity from Churchill to County Road 27 which allows closer access to Cookstown, Thornton, and Essa A paved shoulder west of Churchill is recommended in the 2022 Draft Land and Lake Master Plan	Priority	Natural Heritage Feature Wetland Protection Area / Highly Vulnerable Aquifer Designated and Listed Properties – Municipal Heritage Register
Mapleview Drive	25th Sideroad	20th Sideroad	<ul style="list-style-type: none"> No proposed AT facility Paved shoulders Multi-Use Trail Multi-Use Trail along Big Bay Point Road between 25th Sideroad and 20th Sideroad 	Multi-Use Trail	A multi-use trail along Mapleview Drive is recommended in the 2022 Draft Land and Lake Master Plan Further west in the City of Barrie, Mapleview Drive connects to the Barrie South GO Station providing safer opportunities to access the GO Station Possible AT segment as part of a lake-adjacent trail	Priority	Non-evaluated Wetland Significant Woodland Key Natural Heritage Wellhead Protection Area / Significant Groundwater Recharge Area
Big Bay Point Road	13th Line	Lake Simcoe	<ul style="list-style-type: none"> Paved shoulder (2016 Trail Master Plan) Multi-Use Trail <ul style="list-style-type: none"> Sidewalk Traffic calming measures along Big Bay Point Road 	Multi-Use Trail Traffic calming measures along Big Bay Point Road	Physical constraints along Big Bay Point Road may be a challenge to implement a multi-use trail. The Town's Official Plan states that the Town has protected for a 26 m right-of-way which would be feasible. Forecasted vehicular volumes are lower, but observed speeding is an issue causing safety concerns. Traffic calming measures should be considered. Friday Harbour is a major tourist destination, and many residents access this destination by walking or cycling. Friday Harbour is also a major employment area for a younger demographic. A multi-use trail would provide protection for vulnerable road users. Multi-use trails are also beneficial to connect off-road multi-use trails which currently exist around Friday Harbour.	Priority	Significant Woodland Key Natural Heritage Wellhead Protection Area / Significant Groundwater Recharge Area

Location	From	To	Alternate Strategies	Preferred Alternative	Justification	Horizon	Environmental Constraints
5th Line	Yonge Street	20th Sideroad	<ul style="list-style-type: none"> No proposed facility Paved Shoulder Multi-Use Trail 	Multi-Use Trail	<p>Provides connectivity between The Orbit, Churchill, and Lefroy/Belle Ewart</p> <p>Provides safe access to Innisfil Central Public School</p>	By 2051, dependent on phasing of Orbit Development	<p>Key Natural Heritage</p> <p>Wellhead Protection Area / Highly Vulnerable Aquifer / Significant Groundwater Recharge Area</p>
7th Line	Yonge Street	10 th Sideroad	<ul style="list-style-type: none"> No proposed facility Paved Shoulder Multi-Use Trail 	Paved Shoulder	Provides connectivity and continuity to proposed Central Trail from draft 2022 Land and Lakes Master Plan	By 2051	Minimal impacts to Key Natural Heritage
3rd Line	20th Sideroad	Harbour Street	<ul style="list-style-type: none"> No proposed facility Paved shoulders 	Paved shoulders	<p>Possible AT segment as part of a lake-adjacent trail</p> <p>Accommodates future demand at Lefroy/Belle Ewart</p>	Beyond 2051	<p>ANSI</p> <p>Provincially Significant Wetland</p> <p>Key Natural Heritage</p> <p>Wellhead Protection Area / Significant Groundwater Recharge Area</p>
Harbour Street	3rd Line	4th Line	<ul style="list-style-type: none"> Planned sharrows (2016 Trail Master Plan) Paved shoulders 	Paved shoulders	<p>Possible AT segment as part of a lake-adjacent trail</p> <p>Accommodates existing cycling demand and future demand at Lefroy/Belle Ewart</p> <p>Provides connectivity to Lake Simcoe through the Lefroy Harbour</p>	Beyond 2051	<p>Provincially Significant Wetland</p> <p>Significant Woodland</p> <p>Key Natural Heritage</p> <p>Wellhead Protection Area / Significant Groundwater Recharge Area</p>
20th Sideroad	9th Line	Mapleview Drive	<ul style="list-style-type: none"> Planned paved shoulders (2016 Trail Master Plan) Multi-Use Trail 	Multi-use trail may be considered beyond 2051	Multi-use trail may be warranted with the urbanization of Alcona through the North Alcona Secondary Plan. However, 25th Sideroad currently provides connectivity north and south between Alcona, Sandy Cove, and Big Bay Point. MUT should be considered beyond 2051	Beyond 2051	<p>Significant Woodland</p> <p>Key Natural Heritage</p> <p>Wellhead Protection Area / Highly Vulnerable Aquifer / Significant Groundwater Recharge Area</p>

The potential active transportation improvements to 2051 are shown in **Figure 5-11**.

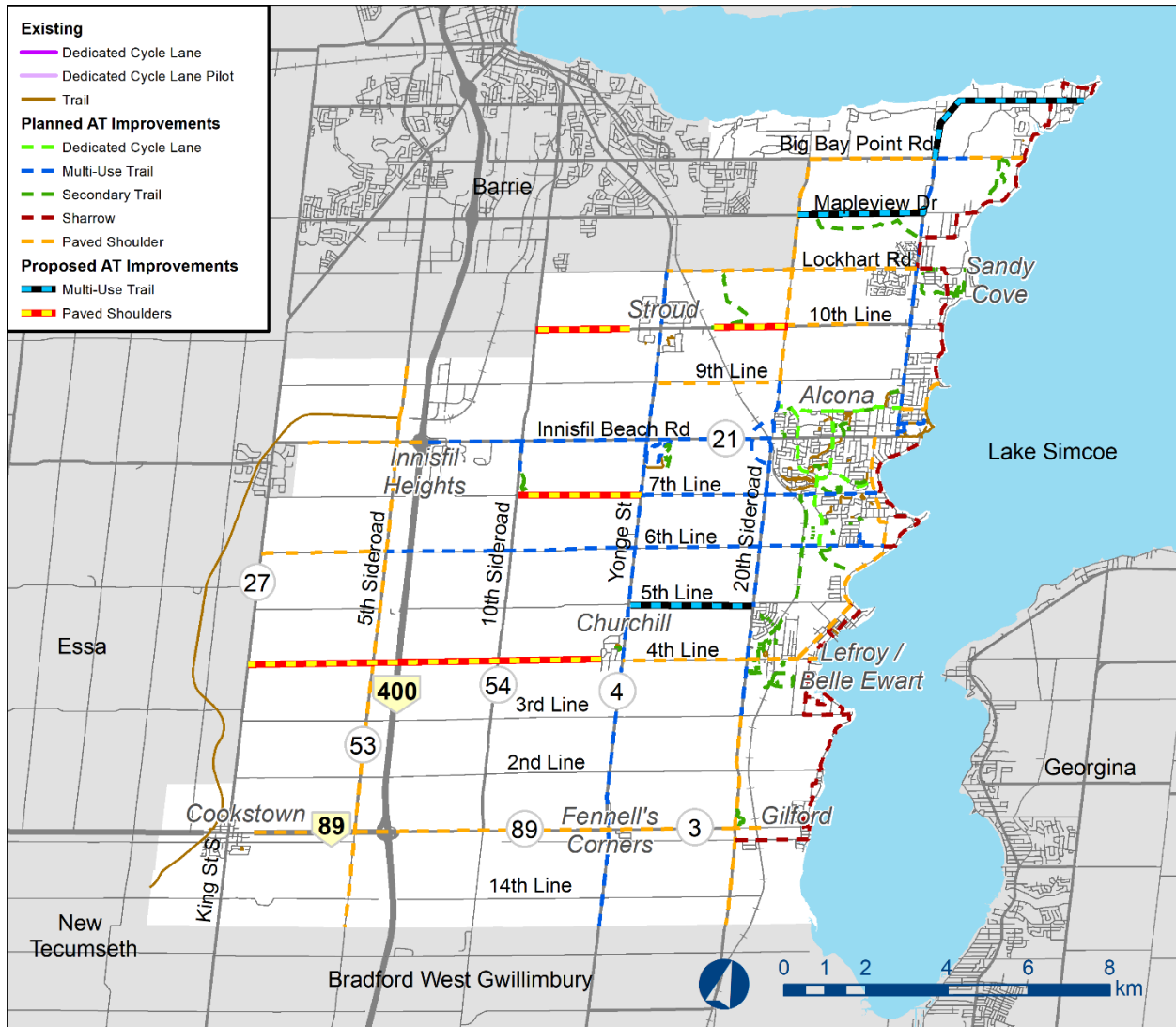


Figure 5-11: Potential Active Transportation Recommendations

Potential improvements to be further investigated beyond 2051 include:

- 3rd Line between 20th Sideroad to Harbour Street.
- Harbour Street between 3rd Line to 4th Line.
- 20th Sideroad between 9th Line to Mapleview Drive.

The 2022 TMP continues to recommend the following Simcoe County improvements based on the 2016 Trails Master Plan:

- Paved shoulder on County Road 89 between Country Road 27 and 20th Sideroad.
- Multi-use trail on Yonge Street throughout the entirety of the Town of Innisfil.
- Paved shoulder on 5th Sideroad throughout the entirety of the Town of Innisfil.
- Paved shoulder and multi-use trail on Innisfil Beach Road between Country Road 27 and Yonge Street.

5.8.3 Additional Sidewalk Needs and Opportunities

Potential new sidewalk infrastructure projects are shown in Table 5-4. The priority ranking is based on MTO collision data, identification of equity groups, strategic or public input, and if existing AT infrastructure exists.

Table 5-4: Potential Sidewalk Improvements

Location	Side	From	To	Length (km)	Trip Purpose / Pedestrian Need	Priority Ranking
Commerce Gate	South/East	Forest Valley Drive	Innisfil Beach Road	0.17	Carpool Lot, Employment Destination	1
Shore Acres Drive	South	Yonge Street	Fennell Drive	0.19	Local Safety, Transit Access	2
St. Johns Road	East or West	Nantyr Drive	Maple Road	1.1	Connectivity, Recreational, Safety, Lake Trail	3
Joseph Street	North	80 m west of 25th Sideroad	Goodfellow Public School	0.08	School	4
Ewart Street	East or West	300 m north of Killarney Beach Road	Maple Road	1.5	Connectivity, Recreational, Safety, Lake Trail	5
Maple Road	East or West	Ewart Street	St. Johns Road	1.8	Connectivity, Recreational, Safety, Lake Trail	6
Industrial Park Road	North/East	Innisfil Beach Road	Mall Access	0.84	Carpool Lot, Employment Destination	7
Garibaldi Street	North	George Street	King Street North / County Road 27	0.21	Local Safety, Trail Connection	8a
George Street	West	John Drive	Garibaldi Street	0.25	Local Safety, Trail Connection	8b
7th Line	North	Saint John's Road	Lake Shore	0.24	Recreational, Local Safety	9a
7th Line	South	Wingrow Avenue	Lake Shore	0.4	Recreational, Local Safety	9b

Location	Side	From	To	Length (km)	Trip Purpose / Pedestrian Need	Priority Ranking
4th Line/Killarney Beach Road	North	175 m east of Yonge Street	720 m east of Yonge Street	0.52	Local Safety, Transit Access	10
6th Line	North or South	St. John's Road	Lake Shore	0.33	Recreational, Local Safety	11
9th Line	North or South	Ralph Street	Lake Shore	1.21	Recreational, Local Safety	12
Church Drive	East or West	Dead End	Killarney Beach Road	0.47	Local Safety	13
Corner Avenue	East or West	Dead End	Killarney Beach Road	1.04	Local Safety	14
Gilford Road	North	Sideroad 20	500 m west of Neilly Road	1.26	Local Safety	15
Ferrier Avenue	East or West	Dead End	Killarney Beach Road	1.04	Local Safety	16
Mapleview Drive	South	Oak Street	Lake Shore	3	Major Employment Destination	17
Pine Avenue	West	425 m South of Killarney Beach Road	Killarney Beach Road	0.43	Local Safety	18
Church Street	South	Albert Street	Cook Avenue	0.12	Key Local Point of Interest (St Johns Anglican Church)	19
King Street North	East	Garibaldi Street	East John Street	0.10	Local Safety	20
Shore Acres Drive	North	Neilly Road	895 m west of Neilly Road	0.9	Local Safety, Key Point of Interest (Harbourview Golf and Country Club)	21

Potential sidewalk improvements are shown in Figure 5-12.

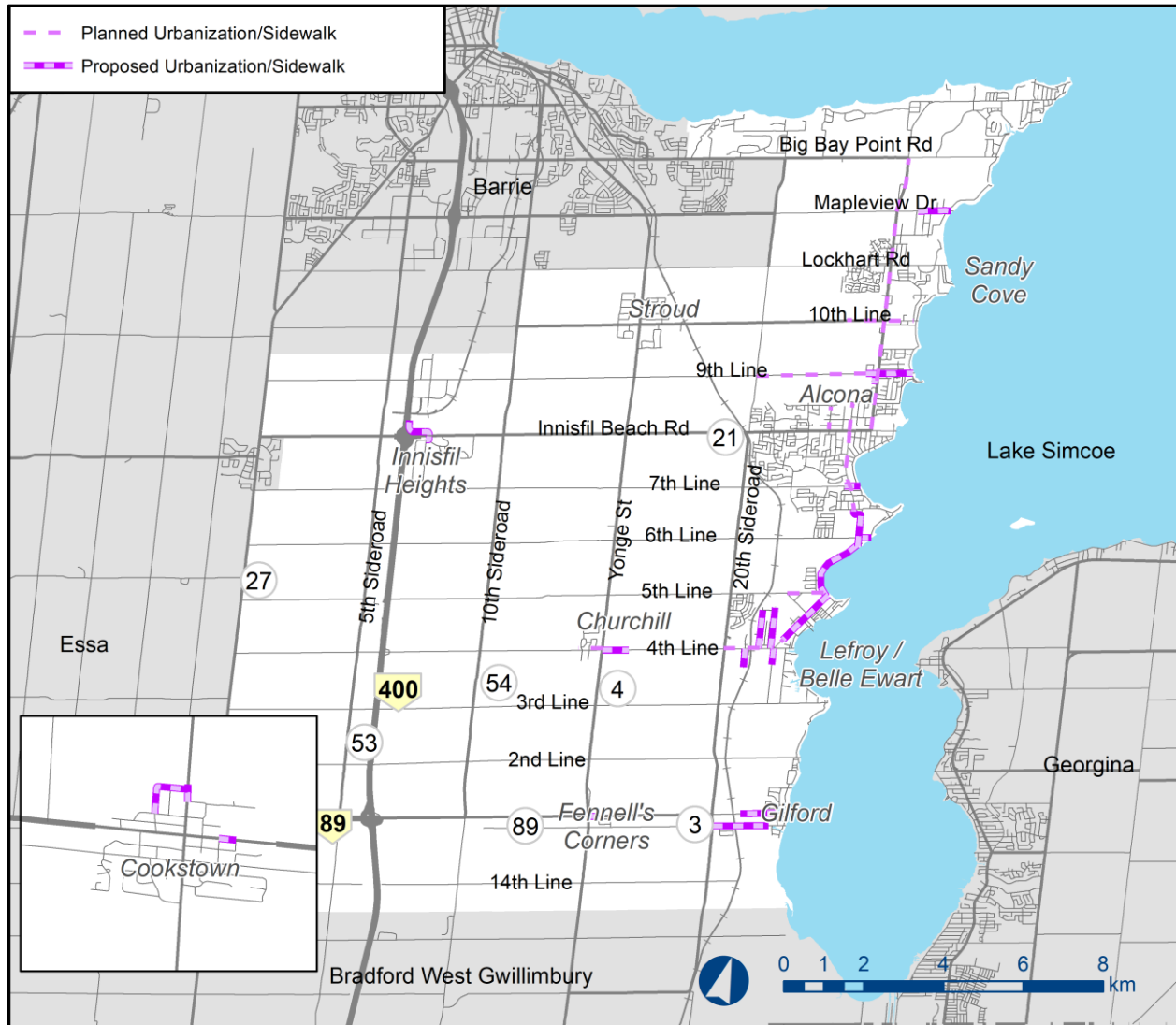


Figure 5-12: Potential Sidewalk Improvements

5.8.4 Complete Streets Opportunities

The 2018 TMP presented a Complete Streets Policy with the aim to “further the development of a multimodal, multipurpose transportation network that serves people of all ages and abilities”. The 2018 TMP Appendix D provided guidelines to integrate the vision into the design of individual streets. To apply the recommendations included in the Guidelines, project designers need to identify what typology best fits the street being built or altered using the included descriptions.

Following the implementation of pilot projects, the review of updated design references such as the OTM Book 18 Update and stakeholder engagement, modifications to the Complete Streets Guidelines have been developed as summarized in Appendix J. Additional guidance has been provided to designs to aid in the interpretation of typologies and reduce the likelihood of cost ineffective solutions for low volume and low speed roads.

6.0 Transit Needs and Opportunities

6.1 Benefits of Effective Transit Systems

6.1.1 Support of Complete Communities

Innisfil “Our Place” Official Plan supports complete communities that are “age-friendly”. Completed communities are context-sensitive but can be defined as providing safe and healthy neighborhoods, accessible employment, with a sense of community and neighborhood-based cultural and recreational opportunities. Transit can be integral to creating communities that are more complete and sustainable.

In Innisfil this includes access to employment zones within the community (e.g., Innisfil Heights), within adjacent municipalities (City of Barrie and Town of New Tecumseth) and regional financial centres such as Downtown Toronto. Transit can provide connections from residential areas to key destinations including institutional sites (government buildings, hospitals and schools) and commercial and recreational areas (e.g., Innisfil Beach Park and Friday Harbour). Some existing and future key destinations are illustrated in Figure 6-1.

6.1.2 Support Mobility Needs

Transit can provide reliable access from residential areas to employment opportunities and can be critical for those who face age or other barriers to mobility and can be age-friendly. Future transportation strategies should strive to improve accessibility for all people in the Town of Innisfil. Transit demand reflects the mobility needs for those who have limitations that restrict travel by private vehicle or other modes. This may include:

- Those with physical limitations, such as the elderly or infirm, that restrict their ability to drive.
- Those who lack confidence to drive longer distances, or at night or during the winter.
- Those who are too young to legally drive.
- Those who have financial barriers to vehicle ownership.
- Those who choose not to drive for other reasons.

Transit demand includes the need for regular commuters to travel to work. Affordable and reliable alternative transportation is not only a challenge for workers commuting to work, but employers also have identified a need for these services to connect to an available labour force. In consideration of the transit needs for the Town and pursuit of transit equity, the following groups were identified to benefit from higher levels of reliable transit service:

- Residents destined to inter-regional GO rail transit stations.
- Elderly or disabled residents destined to health / medical services, shopping and financial services.
- Young and low-income residents destined to employment areas including Innisfil Heights, Friday Harbour and Park Place / Smart Centres commercial centres.

- Residents destined to major County employers such as Honda Canada in Alliston.
- Residents commuting to the City of Barrie requiring connectivity to the Barrie transit system.

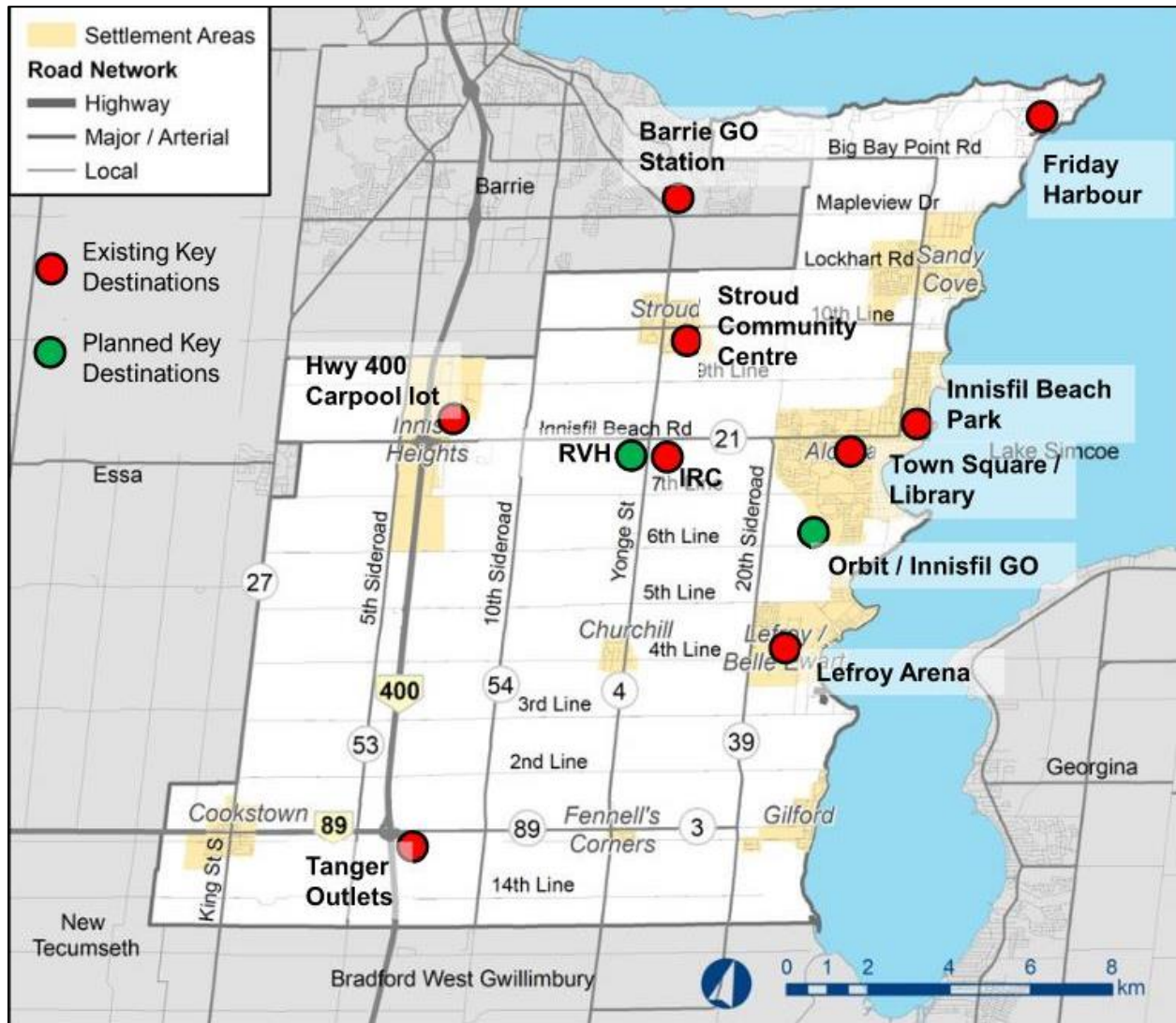


Figure 6-1: Existing and Future Key Destinations

6.1.3 Support Sustainability Objectives

A sustainable community is one that can reconcile economic growth, environmental balance and social progress without compromising the planet. Convenient transit services can contribute to more sustainable transportation and reduce the impact on the environment. Active transportation and transit are explicitly supported in the Provincial Policy Statement (2022) and is supported as an important component of multimodal transportation systems. Transit solutions can also be a key element to climate change mitigation strategies.

In addition, the Town’s goals align with the Federal Sustainable Development Act (FSDA), by Transport Canada, to promote clean growth, ensure healthy ecosystem and build safe and secure and sustainable communities. Some of the main objectives are summarized below:

The Pan-Canadian Framework on Clean Growth and Climate Change outlines a plan that focuses on the supply of clean electricity, investing in next-generation clean energy and technology, encouraging cleaner modes of transportation such as zero-emission vehicles, transit, and active transportation. The actions that pertain to a transit system are summarized below.

- Develop a national active transportation strategy and explore ways to deliver more active transportation options.
- Use of low-carbon transportation system using cleaner fuels, zero-emission vehicles and lower-emitting modes of transportation.
- Improve the public transit infrastructure and optimize corridors to accommodate for transit,
- Provide convenient and affordable public transit, and
- Develop a plan to electrify public transit systems and provide permanent transit funding.

As a response to the above, Town has initiated an Integrated Sustainability Master Plan Study in the early 2022. The Town has the following goals and actions:

- Reduce greenhouse gas emissions.
- Manage energy and carbon use.
- Be better prepared for and response to climate events.
- Share, reuse, repair and recycle existing resources.
- Improve the way resources are use.

Overall, the Town can support the above objectives by planning more sustainable transportation options while reducing the reliance on automobile. As a specific initiative, the Town can expand on the opportunities for the use of low-carbon transit and plan for transit in new communities.

6.1.4 Support Transit-Supportive Development

The Ontario Ministry of Transportation developed Transit-Supportive Guidelines. The objective is to assist in creating an environment that is supportive of transit and developing services and programs to increase transit ridership. Key recommended metrics include the following:

- Basic transit service is defined as one bus every 20-30 minutes and frequent transit service is defined as one bus every 10-15 minutes.
- The spacing of arterials and collectors should support a maximum 400 metre (5-minute) walk from the interior of a block to a local bus stop. For example, assuming that bus stops are spaced 200m apart along a set of parallel collectors, the collectors should be no more than 600m apart to satisfy this maximum walking distance.
- Space collectors at intervals of 400 m or less in designated nodes and corridors in order to facilitate higher levels of walking and cycling

6.2 Existing Transit Services

Transit service providers that operate within or in the vicinity of the Town of Innisfil include: Metrolinx (GO Transit), Ontario Northland Transportation Commission, Simcoe County LINX

Transit and Town of Innisfil local on-demand transit service through partnerships with Uber, Driverseat and GoGo Grandparent.

6.2.1 Metrolinx GO Transit

Metrolinx operates GO rail and bus service; routes and bus stops are illustrated in Figure 6-2.



Figure 6-2: Metrolinx GO Transit
 Source: https://www.tourismbarrie.com/about_barrie/GOTransit.aspx

The Barrie GO line currently passes through the Town with no stops. Innisfil residents can access this service via the Barrie South GO Station (northeast of Mapleview Drive and County Road 4) or via the Bradford GO Station (northeast of Dissette Street and Bridge Street-Highway 11). GO rail service includes 5 trains in weekday peak hours to/from Union Station. Service frequency has 45-60 minute AM headways and 30-45 minute PM headways.

In off-peak hours, GO bus route 68 (Aurora GO) operates hourly from Barrie GO Station to Aurora GO Station where an all-day train service to Toronto is available. This bus route also makes the following stops on Yonge Street:

- Lynn Street
- Victoria Street
- Innisfil Beach Road
- Highway 11 / Meadowland Street
- 4th Line / Killarney Beach Road
- County Road 89 / Shore Acres Drive

6.2.2 Ontario Northland Transportation Commission

Ontario Northland Transportation Commission (Ontario Northland) is a Crown agency of the province providing transportation services for both passenger and goods in northern Ontario. Innisfil commuters can access the Route 1 (Toronto-Barrie-North Bay) and Route 2 (Toronto-Parry Sound-Sudbury) transit services through connections via Barrie Transit Terminal located 24 Maple Avenue. There is no direct access to/from Innisfil.

6.2.3 Simcoe County LINX Transit

Simcoe County operates LINX transit system, a conventional scheduled fixed route transit system with 6 routes that connect urban centres within the County to the City of Barrie and to GO rail stations serving destinations to the south including the City of Toronto Union Station. Centres that are served include: Penetanguishine/Midland, Wasaga Beach, Orillia, Collingwood and New Tecumseth. There are no current LINX transit routes directly serving the Town of Innisfil communities.

6.2.4 Innisfil Transit

The Town of Innisfil offers transit services through partnerships with private transit service providers. All services are on-demand rides that meet a range of needs of Innisfil residents. These services include:

- Uber: to provide on-demand ridesharing.
- Driverseat: to request wheelchair-accessible vehicle service.
- GoGo Grandparent : to book rides and deliveries with Innisfil Transit through a toll-free phone number.

On-Demand Ridesharing – Uber Partnership

Discounted Uber Rates

- Recreational Complex / Town Hall: \$4
- ideaLAB / Library (Lakeshore): \$4
- South Innisfil Community Centre: \$4
- Community Church / Food Bank: \$4
- Closest GO transit bus stop: \$5
- Barrie South GO train station: \$6
- Innisfil Heights Employment Area and Highway 400 carpool lot: \$6

On May 1, 2017, the Town and Uber collaborated on an on-demand transit service called Innisfil Transit. This arrangement with Uber to provide on-demand services is Canada's first ridesharing and transit partnership. It provides on-demand ride hailing 24 hours a day / 7 days a week with selected fixed-fare destination within the Town and reduced fare trips that start and end trips in Town. The Town of Innisfil offered discounted rates for any trip to / from frequent destinations.

Other Town incentives offered by the Town of Innisfil through the Uber transit partnership, includes the following:

- A Fair Transit Program:
 - Established on October 22, 2019
 - Provides 50% discount on all rides to eligible participants
- An Essential Trips Assistance Program:
 - Established on March 20, 2020, to support residents during the COVID-19 pandemic
 - Provides riders with a \$20 monthly voucher towards any Innisfil Transit Trips
 - Two free monthly trips to /from essential locations identified on their website

Overall, the partnership showcases an innovated way of catering to specific transportation needs within the Town and the flexibility of ride-share services. A surveyed conducted in 2019 by the Town had indicated that over 70% of the users were “happy” or “very happy” with the Innisfil Transit Service. This result is consistent with the surveys in the previous years – 2017 and 2018.

Accessible Transit – Driverseat Partnership

Town of Innisfil residents can receive an accessible ride through the Town's partnership with Driverseat, a transportation service provider. Residents who request a wheelchair accessible vehicle (WAV) using the service will receive door-to-door service between 8:30 a.m. and 5:30 p.m., Monday to Friday. Using the Driverseat's website or mobile app residents can book online; recommended that rides are booked in advance by 24 hours.

GoGoGrandparent

For residents that have barriers to internet-based services, such as senior citizens, GoGoGrandparent is an option for access to food deliveries, medication deliveries and rides through a phone call.

6.3 Transit Ridership and Performance Measures

Transit use within the Town represents a small percentage of trips. The 2016 Transportation Tomorrow Survey indicates that transit trips (including GO transit) represent 1% of AM and PM peak period trips.

6.3.1 Metrolinx GO Transit

A review of the 2019 Innisfil Transit Community Engagement Results had indicated that 276 residents take Innisfil Transit to and from the Barrie South GO Station. The 2015 Metrolinx GO Passenger Survey conducted for the Barrie South and Bradford GO stations had also help identified the number of trips originating from Innisfil that utilized the two stations. Approximate 200 passengers per day board the Barrie South Station and 82 passengers per day board the Bradford station are from Innisfil. Majority of the passengers were from the Alcona area.

The 2016 Metrolinx GO Bus Passenger Survey was conducted. Approximate 200 passengers per day used the GO Bus services with majority of them utilizing the bus stops in Stroud (at Lynn Street and / or Victoria Street).

6.3.2 On-Demand Transit – Innisfil (Uber) Transit

There are some initial findings published in the Innisfil Transit System Performance Final Report (Innisfil Transit Performance Report), prepared by Ryerson University and Transform, dated January 12, 2021. This study reviewed Uber data between May 2017 and February 2020 (i.e prior to the COVID-19). Some key findings from the Transit Performance report included:

- Approximately 220,000 trips made equivalent to an annual ridership of 80,000 users.
- Average trips were 9 km in length and 11 minutes in duration and with 6 minutes of wait time.
- Urban neighborhoods have highest demand, highest services levels and lowest trip cost.
- 60% of the trips took place during time period outside of typical weekday commuting times of 6:00AM to 9:00AM and 2:00PM to 6:00 PM.
- 36% of the trips were destined to destinations that do not have flat rates.
- It appears the highest ridership levels are associated with the highest population densities.

The Town had provided Burnside more recent Uber data, dated September 2020 to June 2021. The data captured trips made during the COVID-19 pandemic, which likely understates travel demand due to reduced availability of drivers, capacity restrictions on local businesses / restaurants, business closures and prevalence of work-at-home. The trip behaviour during this period may not fully reflect typical origins and destinations, however, the data provides a general understanding of travel patterns.

There was a total of 46,530 trips between September 2020 to June 2021, of which approximately 80% occurred during a weekday and 20% during a weekend. The pick-up locations (in green) were mapped and shown in Figure 6-3.

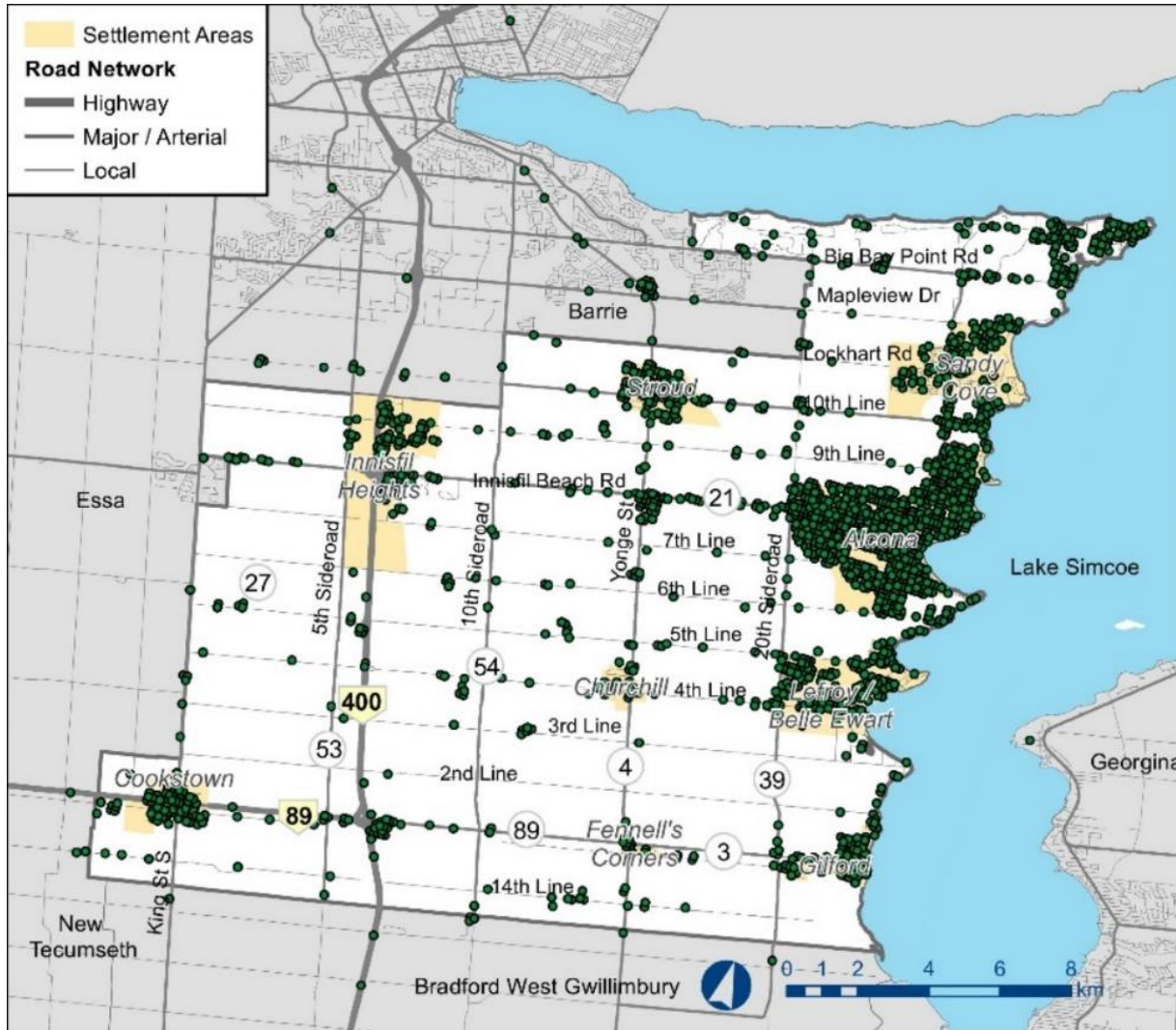


Figure 6-3: Uber Pick-up Locations

A review was conducted for the weekday AM and PM travel patterns including a review of origin and destination. A large percentage of trips (62%) had either an origin or destination at either the Alcona community or the Barrie South GO station. Weekday morning AM peak period (6:00 AM to 10:00 AM) and afternoon PM peak period (1:00 PM to 5:00 PM) trip distribution patterns were summarized for major trip generators as presented in Table 6-1 and Table 6-2, respectively.

Table 6-1: Weekday AM Peak Origin-Destination

Origin (Row) / Destination (Column)	Innisfil Heights	Barrie South GO	Alcona	Lefroy / Belle Ewart	Cookstown	Sandy Cove	Stroud	Other
Alcona	22%	18%	42%	2%	1%	< 1%	3%	11%
Barrie South GO	8%	-	58%	5%	5%	< 1%	1%	24%

Table 6-2: Weekday PM Peak Origin-Destination

Origin (Row) / Destination (Column)	Innisfil Heights	Barrie South GO	Alcona	Lefroy / Belle Ewart	Cookstown	Sandy Cove	Stroud	Other
Alcona	4%	9%	51%	4%	3%	4%	2%	23%
Barrie South GO	1%	-	62%	3%	10%	1%	< 1%	23%
Innisfil Heights	-	4%	67%	19%	< 1%	< 1%	< 1%	10%

The trip tables indicate defined patterns between Alcona and Barrie South GO, Alcona and Innisfil Heights and between Lefroy / Belle Ewart and Innisfil Heights.

6.3.3 Current Service Performance Measures

Factors Affecting Transit Use

Transit level of service can be assessed by the degree to which transit is a viable alternative mode of travel to the automobile, where travel time and convenience are significant criteria (along with comfort and cost). Transit services are typically provided by a municipality for areas within its jurisdiction to reflect the needs and expectations of the community. These services are assessed based on the following analysis measures:

- **Frequency** (headway and wait time) of service along transit routes.
- **Proximity** (of population and jobs) to a transit station or stop, reflecting convenience.
- **Connectivity** of the transit system between key trip origins and destinations.
- **Travel time** (operating speed, number of stops, dwell time) along transit routes.
- **Serviceability** (scheduled service hours of operation and reliability).

Comparison Benchmarking

To provide a measure of transportation service and operations, a comparison of transit statistics was conducted based on available data from the Canadian Urban Transit Association's (CUTA's) Canadian Conventional Transit Statistics – 2018 Operating Data. This comparison can be found in Appendix K. Innisfil data was compared to jurisdictions of similar population and

in close proximity. Benchmark municipalities have a much smaller geographic area than the Town of Innisfil, but comparable to or larger than the urbanized area of the community of Alcona. Innisfil transit ridership is lower per capita compared to most benchmarked fixed route transit systems.

For frequency, Innisfil Transit on-demand wait times are comparable to the walk time for a bus stop 400 metres away (and approximately one third of the headway of fixed route service). In terms of proximity, connectivity and travel time, the door-to-door on-demand service provides higher convenience of service. The Innisfil on-demand transit has longer hours of serviceability; the main short-coming is the potential uncertainty of reliability / availability of drivers.

6.4 Transit Opportunities

6.4.1 Metrolinx / GO Transit Planned Improvements

It has been noted that the current transit trips (including GO transit) represent 1% of AM and PM peak period trips. The feasibility of achieving a higher non-auto mode split is dependent in part on implementing new transit infrastructure and services, such as early implementation of the future Innisfil GO rail station. Currently, the planned Innisfil GO Station and Barrie line improvements represent significant changes to the provincial transit system benefiting transit opportunities in Innisfil.

The planning of the proposed Innisfil GO rail station has progressed since the 2018 TMP. In August 2021, a Ministerial Zoning Order (MZO) has been made to designate lands on the 6th Line for the Town of Innisfil's future Orbit transit hub. The MZO will help expedite the building of Innisfil's proposed GO station, together with the planning process for the surrounding Orbit community, centered around the proposed rail station. The proposed GO rail station design is underway.

As part of the GO Transit's Regional Express Rail (RER) expansion program, the rail services along the Barrie line will be upgraded to a two-way and all-day rail services. This service will operate along the entire Barrie line from Union Station in the City of Toronto to Allandale Waterfront GO Station, in the City of Barrie.

The Barrie GO rail line and planned Innisfil GO rail station will serve as a transit spine for inter-municipal transit and provide an improved transit connection to the Toronto area. The new Innisfil station will provide a more convenient option for transit riders located in Innisfil. This will change travel patterns by shifting current trips from the Barrie South GO rail station to the new Innisfil GO rail station. New riders will also be attracted to the station from surrounding development areas. There are opportunities for the Town to enhance transit through connections to the new station. The Town will also need to work with Metrolinx and Cortel to improve connections, including local transit, walking, and cycling, to the station from the Orbit area and current neighbourhoods in Innisfil.

6.4.2 On-Demand Transit Opportunities

Based on Ryerson’s and Laboratory of Innovations in Transportation’s (LiTrans) recent study, Exploring On-demand Transit Options for the Town of Innisfil (On-Demand Transit Study), dated March 28, 2022, four alternatives were explored:

- Option 1: Current Innisfil Transit Uber (non-dedicated fleet on-demand transit),
- Option 2: Dedicated fleet on-demand transit (ODT) services,
- Option 3: Hybrid – Fixed Route and Uber services, and
- Option 4: Hybrid – On-demand transit and Uber services

Details on the above are provided below.

Current Innisfil Transit Uber Partnership Needs and Opportunities

The current partnership with Uber to provide Innisfil Transit is recognized as a success in addressing transit needs in Innisfil; as noted, 70% of users indicated that they were “happy” or “very happy” with the service. Of the remaining 30% of users who are neutral or unhappy with the service, have identified driver availability, wait time and cost as the concerns.

Average wait times for rides pre-pandemic were 6 minutes, though during the pandemic, wait times increased to 11 minutes. This reflects the driver availability challenges that were experienced during the pandemic and is similar to how the level of service for all transit systems was impacted by reductions and delays during the pandemic. However, beginning in March 2022, the Town has partnered with Uber to provide incentives to drivers. Combined with increased ridership, this has resulted in wait times decreasing to approach pre-pandemic levels.

Innisfil Dedicated Fleet On-Demand Transit

Currently (2022) Ryerson University is continuing to assist the Town to understand the different transit options such as fixed route, on-demand transit and / or hybrid options for future implementation. One of the alternatives presented by Ryerson includes conversion of Innisfil Transit to Dedicated Fleet On-Demand Transit (ODT).

Much like existing ride-sharing services, ODT may provide a flexible, cost-efficient and an environmentally sustainable alternative to traditional fixed-route mass transit. It allows riders to book their trip via an app, which uses an algorithm to program a route for the bus driver to pick-up and drop-off passengers. The fleet for on-demand transit can consist of small to medium size vehicles including small buses, taxis and vans. Technology companies specializing in the development of on-demand transit apps include Pantonium, Rideco, Spare and others. These companies provide the software to process.

A benefit of demand-responsive ODT transit is that buses typically do not run empty (other than travel between trips), unlike some fixed-route buses servicing areas of lower transit-demand during off-peak periods. ODT may also schedule stops at major destinations, such as senior homes. As a result, ODT may achieve better fuel and cost economy.

The majority of ODT will require users to own smartphones; the use of the transit app may be a challenge some with financial, language or technology barriers. However, call-in services are

also available. Other operational needs include fleet capital costs, fleet maintenance costs, driver and dispatch/accounting staff salaries and operations costs including insurance and facilities.

Since the onset of the stay-at-home orders and social distancing regulations due to the COVID pandemic, a few municipalities within Ontario have taken the opportunity to fast-track or expand their on-demand transit. For example, Durham Region Transit (DRT) provides on-demand services allow riders to connect to schedule bus routes, GO Transit services and stops within a designated area. Riders can travel stop to stop within the zone and / or connect to existing bus stops / stations within a zone. A minimum trip distance of 800 m is required. Durham Region has established several zones for these on-demand services.

Innisfil Transit is a form of ride-share service and can be converted into an on-demand transit service. Based on the travel demand from the Uber data and taking into consideration the new anticipated origin-destination patterns, there are several on-demand zones that can be considered that reflect the specific urbanized area and destinations (e.g., Alcona, Sandy Cove, Innisfil Heights, Barrie GO, Stroud, Cookstown). Connectivity to other settlement areas and rural areas may be impacted. Table 6-3 summarizes the option of an ODT service based on the On-Demand Transit Study.

Table 6-3: Potential Dedicated Fleet On-Demand Transit System

ODT System – Option 2			
<p style="text-align: center;">On-Demand Transit</p>			
Source: Exploring On-demand Transit Options for the Town of Innisfil (LiTrans, Ryerson University, March 2022)			
Description	Demand responsive to trip requests based on defined zones and minimum trip distances.		
Origin and Destination	Current origin-destinations were projected into trips per year, recognizing changes in trip patterns associated with the Innisfil GO rail station and Orbit community.		
Time and Distance	Average Travel Distance: 11.6 km Average Travel Time: 13.2 mins		
Proposed Headway (mins)	Service Level: 8.60 average wait time (approximately 3.5 vehicles)		
Routes Options	Demand based with route restrictions.		
Estimated Ridership	Year 2031: 113,500	Year 2041: 159,600	Year 2051: 220,200

This option is recommended to be incorporated in certain higher density areas of the Town. The On-Demand Transit Study found that ODT system is suitable for when demand exceeds two times the existing value.

Hybrid: Innisfil Dedicated Fleet and Non-Dedicated On-Demand Transit

This option reviews an ODT system implemented along Yonge Street to/from Barrie GO Station, along Innisfil Beach Road and 25th Sideroad to/from Alcona. The existing non-dedicated fleet on-demand system remains within other parts of Town. Table 6-4 summarizes this option.

Table 6-4: Dedicated and Non-Dedicated On-Demand Transits System Hybrid

Hybrid System – Option 3			
Source: Exploring On-demand Transit Options for the Town of Innisfil (LiTrans, Ryerson University, March 2022)			
Description	Demand responsive to trip requests based on defined zones and minimum trip distances. A dedicated fleet will be also responding on-demand within the grey shaded area.		
Origin and Destination	Current origin-destinations were projected into trips per year, recognizing changes in trip patterns associated with the Innisfil GO rail station and Orbit community.		
Time and Distance	Dedicated: Average Travel Distance: 12.96 km Average Travel Time: 10.9 mins	Non: Average Travel Distance: 9.76 km Average Travel Time: 11.39 mins	
Proposed Headway (mins)	Dedicated: Service Level: 8.17 average wait time (approximately 3 vehicles)	Non: Service Level: 8.72 average wait time (approximately 4.67 vehicles)	
Routes Options	Demand based with route restrictions.		
Estimated Ridership	Year 2031: 166,800	Year 2041: 234,500	Year 2051: 323,500

The On-Demand Transit Study found that this hybrid system will outperform other alternatives if the demand exceeds 2.6 riders / square mile / day.

Hybrid: Innisfil Dedicated Fleet and Non-Dedicated On-Demand Transit

This option reviews if a fixed route system was implemented along Yonge Street to/from Barrie GO Station, along Innisfil Beach Road and 25th Sideroad to/from Alcona. The existing non-dedicated fleet on-demand system remains within other parts of Town. Table 6-5 summarizes this option.

Table 6-5: Hybrid Fixed Route Transit and Non-Dedicated Fleet On-Demand

Hybrid System – Option 4			
<small>Source: Exploring On-demand Transit Options for the Town of Innisfil (LiTrans, Ryerson University, March 2022)</small>			
Description	Demand responsive to trip requests based on defined zones and minimum trip distances. A fixed route with fixed headway will operate along the major corridor / key destinations of Town.		
Time and Distance	Fixed Route: Length of Route: 20.1 km Average Travel Time: 20.3 mins	Non: Average Travel Distance: 9.76 km Average Travel Time: 11.7 mins	
Proposed Headway (mins)	Fixed Route: Service Level: 5.1 average wait time	Non: Service Level: 6.88 average wait time	
Estimated Ridership	Year 2031: 144,300	Year 2041: 200,900	Year 2051: 280,000

6.4.3 Fixed Route Scheduled Bus Transit Opportunities

Potential Benefits of Fixed Route Scheduled Bus Service

As the Town's population is forecast to nearly double by 2051, there may be opportunities to introduce fixed route scheduled bus service to supplement current transit service. Conventional fixed-route service may help address any potential serviceability concerns related to reliability of trips, could provide additional opportunities to connect settlement areas and major employment nodes, provide cost effective transit solutions and to provide residents a wide array of mobility options helping to achieve the Town's transit mode share target of 20% of all trips.

Building upon the recommendations in the Town's Transit Feasibility Study, dated September 2015, ongoing research conducted by Ryerson and Burnside analysis of origin-destination travel pattern to identify potential transit routes. The analysis of alternative route options was consistent with elements of a proposal presented by a member of the public, including identification of key Town destinations, connections between residential areas and destinations, assessment of bus travel times based on routes and stop frequency, related operating costs, catchment area and related ridership, related revenue potential and overall route assessment.

Potential Routes and Demand Forecasts

The four preferred fixed route alternatives were examined and summarized in the sections below. The routes were developed based on the anticipated origin-destination patterns from the existing Uber data, information from 2016 Transportation Tomorrow Survey (TTS) results published by the Data Management Group at the University of Toronto Transportation Research Institute and reviewing the existing and future key destinations.

The ridership projections for each route were estimated by expanding existing Uber transit demand and origin-destination travel patterns to the 2031, 2041 and 2051 future horizon years using a factoring technique (fratar) to expand trips proportional to future land use projections. Estimates to future external / inter-municipal transit trips were seeded based on 2016 TTS travel patterns and a 3% mode share assumption. The ridership projections also take into consideration linked trips meaning if individuals were to use two or more routes to reach their destination.

Fixed Route Opportunities – Identified Simcoe County LINX Routes

The County's Transit Feasibility and Implementation Study (County Transit Feasibility 2015 Study), prepared by Steer Davies Gleave, dated September 2015 helped launch the current LINX transit routes. These routes included key destinations within the Town such as Alcona, future Innisfil GO station, Innisfil Heights, Cookstown and Sandy Cove. Figure 6-4 is an excerpt from the study that illustrates the routes reviewed at that time and their potential timing. Details are provided in Table 6-6 on the routes that included key destinations in Innisfil.

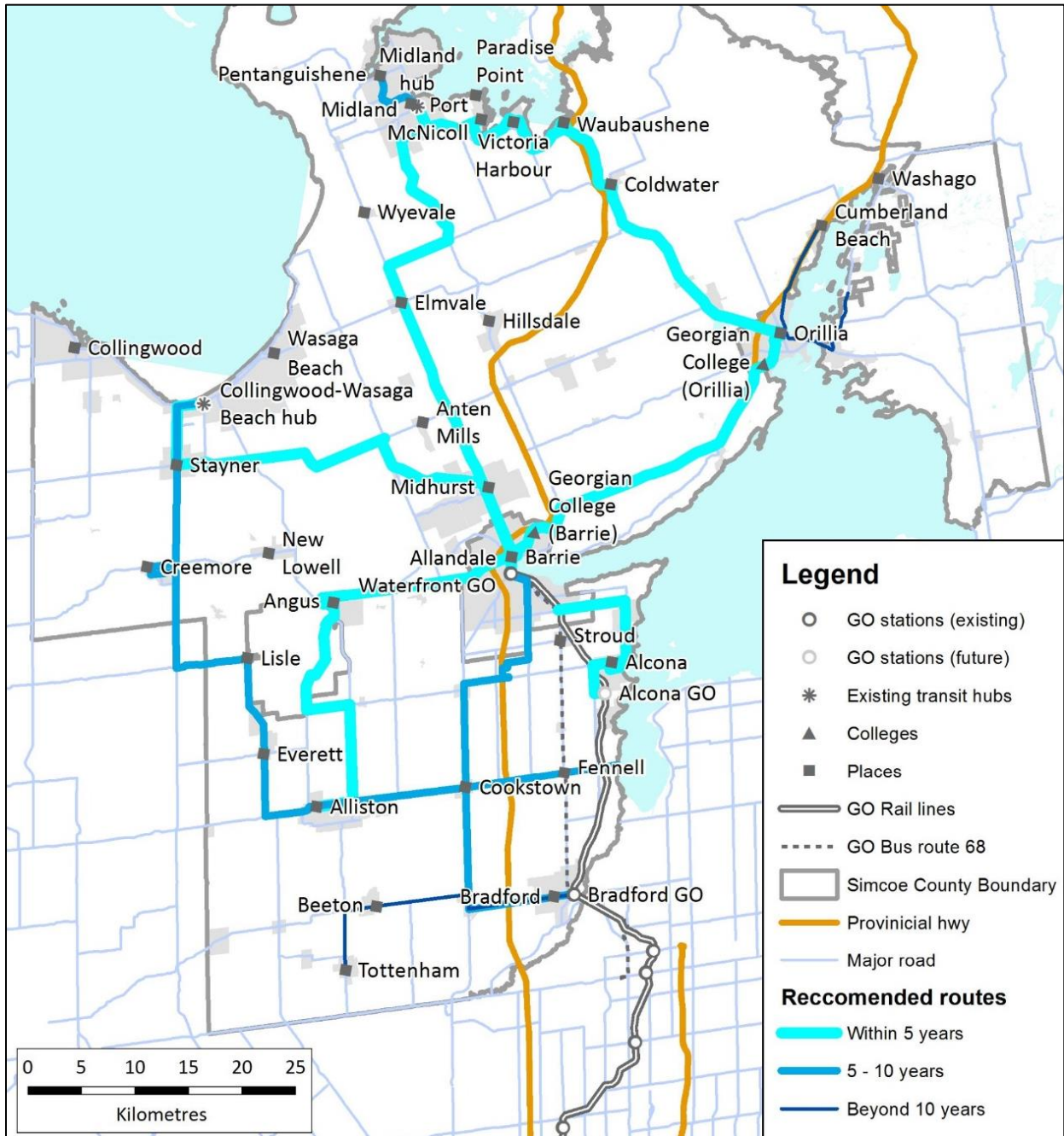


Figure 6-4: County Transit Feasibility Study Map of Routes and Preliminary Prioritization

Source: Figure 5-3 from the County Transit Feasibility 2015 Study

Table 6-6: County Transit Feasibility 2015 Study Route

Connection	Description	Length (km)	Potential Annual Ridership	Supports County-wide Network Connectivity Ranking
Barrie-Innisfil Heights-Thornton-Cookstown-Bradford	<ul style="list-style-type: none"> Established for the anticipated growth in Innisfil Heights. Was timed with the growth of Innisfil Heights (5-10 years). Could be modified to connect Barrie to Alliston (instead of Bradford). 	49.2	39,559	High
Barrie-Alcona	<ul style="list-style-type: none"> Connects Barrie South GO station to Alcona At the time of the study this was proposed as a short-term (within 5 years) timeline. Could be extended further south to Orbit and Lefroy-Belle/Ewart. 	19.8	23,638	Medium

Simcoe County is currently undertaking an update to their Transportation Master Plan and is at Phase 2 (Assess Alternative Solutions) stage. The County’s TMP update aims to better integrate transit services and improve alternative travel modes. Based on the recent County TMP Phase 1 study, the following transit plans related to Innisfil have been identified:

- The County will support the extension of GO Transit bus and rail service to additional locations including Innisfil
- Review the feasibility of improved transit links within and between Innisfil, Town of Bradford West Gwillimbury, Town of New Tecumseth and the Township of Essa
- Expand LINX to specific areas including Innisfil, Port McNicoll / Tay, Horseshoe Report, Ramara, and Nottawa / Clearview
- Utilizing the planned Innisfil GO Station as an inter-regional multi-modal hub
- Provide innovated intra-regional transit services through partnership with private sector

In addition, based on the County’s most recent Public Transit Technical Advisory Committee Meeting on March 30, 2022, a single County transit system is considered where all local lower-tier system will be consolidated. However, there are no details as to the exact routing and timing of when this will occur. It is recommended that with the anticipated growth, the Town should discuss with the County to re-evaluate some of the above route options and incorporate it into their transit system. Consideration should be given on how the service level provided by existing on-demand systems will be maintained and incorporated into a potential single County Transit system.

As noted, the Simcoe LINX routes provide connectivity throughout the County providing connections from urban centres in the County to the City of Barrie and to the GO rail system

with connections to the City of Toronto. No service is currently provided for urban centres in Innisfil by LINX Transit. It is also noted that there is not direct connection from LINX service from Alliston (Town of New Tecumseth) to the City of Barrie.

Opportunities exist for the Simcoe LINX System to provide services for Innisfil urban areas and key destinations. Figure 6-5 illustrates two potential route options (in red) as summarized below:

- Alliston (New Tecumseth) – Cookstown – Tangers Outlet – Innisfil Heights – Barrie
- Lefroy-Belle/Ewart – Orbit/GO Station – Alcona – Sandy Cove – Barrie

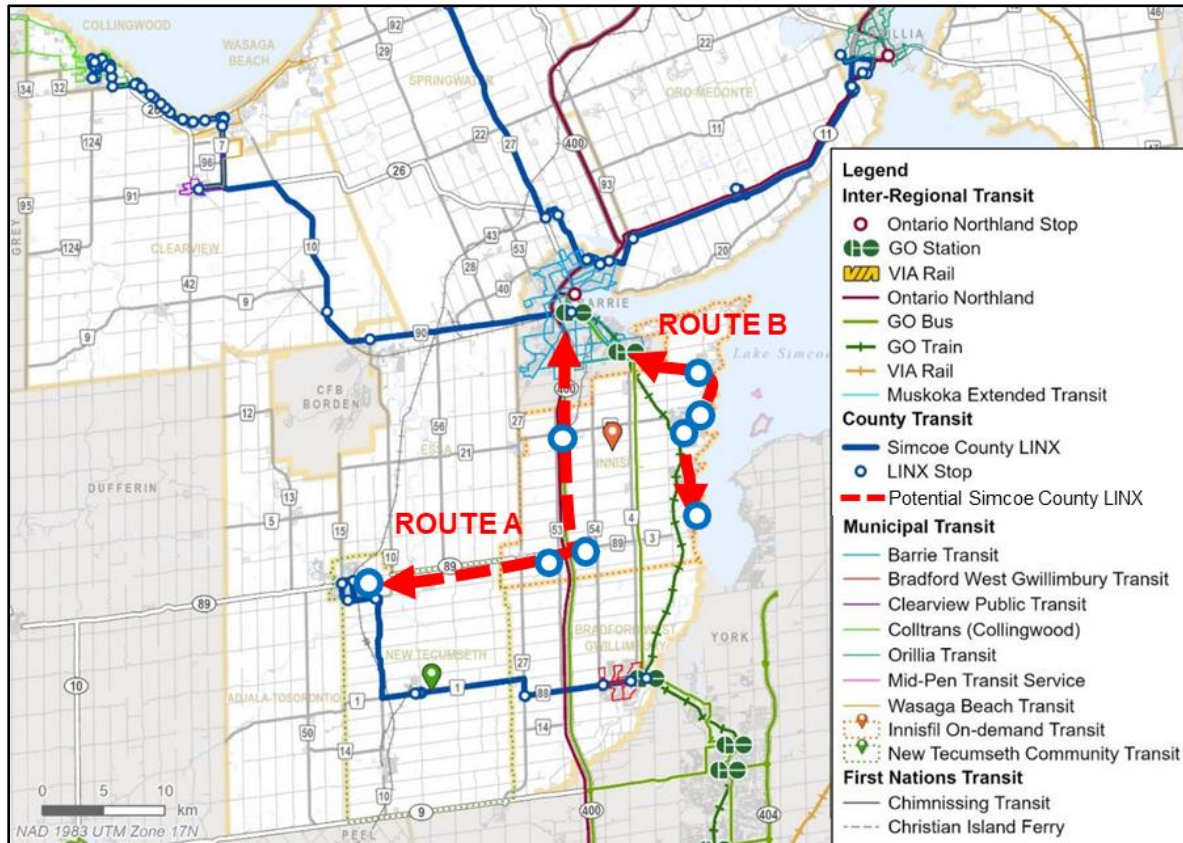


Figure 6-5: Potential LINX Routes

Source: <https://www.simcoe.ca/Transit/Pages/Routes-Schedule.aspx>

Table 6-7 and Table 6-8 provides a summary of potential LINX routes A and B, respectively, that provide linkages similar to those identified in the County Transit Feasibility 2015 Study.

Table 6-7: Potential Fixed – LINX Route A

Route A	
<p>Description: Inter-municipal County Route that connects New Tecumseth, to Barrie with stops at employment areas in Innisfil along Highway 400. There are opportunities for connections to east-west routes. Approximately 4% of all Innisfil households are within 400m of route.</p>	
<p>Origin and Destination</p> <ul style="list-style-type: none"> • AM Trips: Origins include Alliston and Cookstown; Destinations include Barrie, Tanger Outlets, Innisfil Heights and other Innisfil destinations • PM Trips: Origins include City of Barrie, Tanger Outlets, Innisfil Heights; Destinations include Alliston and Cookstown 	
<p>Time and Distance: Travel Distance: 44.9 km / Travel Time: 100 mins</p>	
<p>Proposed Headway (mins)</p> <ul style="list-style-type: none"> • Higher Service Level: 20 min headway (11 buses) • Basic Service Level: 30 min headway (7 buses) • Low Service Level: 60 min headway (4 buses) 	
<p>Routes Options: Highway 89, Highway 400, Industrial Park Road, Thomas Street, Highway 400, Essa Road</p>	
<p>Estimated Ridership (includes linked trips): Year 2031: 147,092 / Year 2041: 243,736 / Year 2051: 365,185</p>	

Table 6-8: Potential Fixed – LINX Route B

Route B	
<p>Description: Intermunicipal County Route that connects Innisfil eastern residential communities to Barrie. There are opportunities for connections to east-west routes. Approximately 28% of all Innisfil households are within 400m of route.</p>	
<p>Origin and Destination</p> <ul style="list-style-type: none"> • AM Trips: Origins include Lefroy/Belle-Ewart, Orbit, Alcona and Sandy Cove; Destinations include Orbit GO, Innisfil Beach, Friday Harbour and Barrie • PM Trips: Origins include Orbit GO, Innisfil Beach, Friday Harbour and Barrie; Destinations include Lefroy/Belle-Ewart, Orbit, Alcona and Sandy Cove 	
<p>Time and Distance: Travel Distance: 25.7 km / Travel Time: 65 mins</p>	
<p>Proposed Headway (mins)</p> <ul style="list-style-type: none"> • Higher Service Level: 20 min headway (7 buses) • Basic Service Level: 30 min headway (5 buses) • Low Service Level: 60 min headway (2 buses) 	
<p>Routes Options: 4th Line, 20th Sideroad, Innisfil Beach Road, 25th Side Road, Big Bay Point Road, 20th Sideroad, Mapleview Drive</p>	
<p>Estimated Ridership (includes linked trips): Year 2031: 72,700 / Year 2041: 106,715 / Year 2051: 150,877</p>	

6.4.4 Fixed Route Opportunities – Other Potential Routes

As demands grow, there may be opportunities to add scheduled transit routes based on high demand Uber trip patterns. The Town transit system will have needs similar to other urbanized municipalities that provide regular reliable fixed routes. A conventional fixed-route service may be a cost-effective component of the need of the County and Town to serve key trip origins and destinations.

Based on the review of the Uber data, input from residents and the ongoing studies from Ryerson University, two fixed routes were determined in addition to the two potential LINX routes. It is currently under review and will be subjected to future study such as a transit feasibility study. Details for each route are provided in Table 6-9 and Table 6-10. These routes would supplement the identified inter-municipal County routes identified in the previous section.

Route 'C' would provide connectivity for residents in Alcona, and other communities via connections, to the following destinations:

- Barrie Transit via Barrie South GO Station.
- Destinations along Innisfil Beach Road, including Innisfil Recreational Centre and planned hospital site.
- Nantyr Shores Secondary School and St. Francis of Assisi Catholic School.
- Stroud Community Centre.

Route 'D' would provide connectivity for residents in Alcona, and other communities via connections, to the following destinations:

- Innisfil Heights employment area.
- Destinations along Innisfil Beach Road, including Innisfil Recreational Centre and planned hospital site.
- Nantyr Shores Secondary School and St. Francis of Assisi Catholic School.

Alternative route alignments were considered, including detailed input provided by stakeholders through public engagement. This analysis included a preliminary evaluation of route travel time and related operating cost based on the following:

- Potential number of transit stops: transit stops were estimated using 400 m spacing which is the typical walking distances to local stops based on Transit-Supportive Guidelines – Section 2.3 Enhancing Access to Transit, prepared by Ministry of Transportation of Ontario, dated March 18, 2016.
- Time at transit stops / terminal; estimates were based on information from Transit Capacity and Quality of Service Manual Part 2 Bus Transit Capacity (TCRP Manual), prepared by Transit Cooperative Research Program (TCRP).
- Acceleration / deceleration: typical speed and distances from the TCRP Manual.
- Cruising speed: based on speed found from the operations of other transit agencies.

Table 6-9: Potential Fixed Route – Innisfil Route C

Route C	
<p>Description: Fixed route connecting residential areas in Alcona to key existing destinations served by Innisfil Uber service including Barrie GO. Approximately 24% of all Innisfil households are within 400 m of route, 41% within 800 m of route.</p>	
<p>Origin and Destination</p> <ul style="list-style-type: none"> • AM Trips: Origins include Alcona and communities linked by other routes; Destinations include Barrie South GO, ideaLAB, Town Hall and school sites. • PM Trips: Origins include Barrie GO, ideaLAB, Town Hall and school sites; Destinations include Alcona and communities linked by other routes 	
<p>Time and Distance: Travel Distance: 15.4 km / Travel Time: 41 mins</p>	
<p>Proposed Headway (mins)</p> <ul style="list-style-type: none"> • Higher Service Level: 20 min headway (5 buses) • Basic Service Level: 30 min headway (2 buses) 	
<p>Routes Options: 25th Side Road, Innisfil Beach Road, Jans Boulevard, Webster Boulevard, County Road 4 (Yonge Street)</p>	
<p>Estimated Ridership (includes linked trips): 2031: 174,168 / 2041: 307,082 / 2051:476,913</p>	

Table 6-10: Potential Fixed Route – Innisfil Route D

Route D	
<p>Description: East-west transit spine that connects residential areas in Alcona and the Orbit to employment areas in Innisfil Heights and destinations along Innisfil Beach Road. Approximately 28% of all Innisfil households are within 400 m of route.</p>	
<p>Origin and Destination</p> <ul style="list-style-type: none"> • AM Trips: Origins include Alcona, Orbit, and communities linked by other routes; Destinations include Innisfil Heights, Town Hall, Planned Hospital, Future Innisfil GO, Barrie Transit • PM Trips: Origins include Innisfil Heights, Town Hall, Planned Hospital, Future Innisfil GO, Barrie Transit; Destinations include Alcona, Orbit, and communities linked by other routes 	
<p>Time and Distance: Travel Distance: 21.4 km / Travel Time: 58 mins</p>	
<p>Proposed Headway (mins)</p> <ul style="list-style-type: none"> • Higher Service Level: 20 min headway (7 buses) • Lower Service Level: 30 min headway (5 buses) 	
<p>Routes Options: Webster Boulevard, 6th Line (7th Line Interim), St. Johns Road, Innisfil Beach Road, Industrial Park Road, Thomas Street</p>	
<p>Estimated Ridership (includes linked trips): Year 2031: 64,161 / Year 2041: 96,876 / Year 2051: 134,439</p>	

6.4.5 Localized Transit Needs and Opportunities

Micromobility and Needs and Opportunities

Micromobility is the ability of movement through minimalistic means on short distances (usually within 10 kilometers) using lighter vehicle mode such as bicycle and scooters. Micromobility services often complement first-mile/last-mile needs associated with fixed route scheduled transit.

It is noted that the COVID-19 pandemic accelerated the shift in preference for this method of transportation; with fewer points of contact and ease of maintaining physical distancing, it is considered the less risky mode of travel.

Bike-Share

The Town had explored this service through a pilot project called ShareCycle, which started August 2017 and ended October of the same year. Twelve bicycles donated by South Simcoe County Police Services with tracking system were available in the following sites:

- Innisfil Beach Park
- Sobeys Alcona Beach
- Rotary Trail
- Sandy Cove Acres
- Stroud Arena
- Foodland – Stroud
- Church Street Park, Lefroy
- Various libraries including Lakeshore libraries and Cookstown

The ShareCycle initiative was a free service. The project connected various groups in the community and allowed users to explore amenities within the Town. The recommended location is between Downtown Alcona, future Innisfil GO Station and Innisfil Beach Park given the population density and trip attraction. As a result, there will opportunity for this program to be integrated with the existing and potential transit system at either location.

Scooter-Share

Similar to the concept of bike-share is the scooter-share programs. The scooters are in a form of electric motorized scooters (also known as e-scooters). Scooter-share programs adopt on the dockless model. The Province of Ontario has launched a five-year pilot program which started January 1, 2020 to examine shared e-scooters within a given community. The province has developed best practices, general guidelines, and regulations to ensure the safety of users. Investigate the viability of a local bike and scooter sharing programs to help increase micromobility mode share within the Town. Similar to the ShareCycle program, these services can promote amenities and attraction in Innisfil. The program can be integrated with transit programs to provide residents with more mobility choices.

Autonomous and Connected Vehicle Needs and Opportunities

Vehicle automation has the potential to reshape and redefine the transportation systems and travel behaviour. Autonomous and connected vehicle projects have been supported by the federal government through the Program to Advance Connectivity and Automation. Appendix K provides a summary of example projects.

There is an opportunity for the Town and/or private sector partners to consider autonomous and connected shuttle service. Automated vehicles can assist in addressing mobility needs providing service to elderly / disable residents and young residents. Potential routes were considered that can meet technological limitations (grade, distance, traffic volume and conflicts, vulnerable road users) and serve specific needs, such as first-mile/last-mile connections. A first step to implementation could be the identification of partners and potential pilot projects; options include:

- Circulation Shuttle service to/from and within Friday Harbour.
- Circulation and Shuttle service within Innisfil Heights.
- Circulation Shuttle around the future Orbit community.

6.5 Electric Bus Fleet Opportunities

Clean fuel transit strategies represent a municipally controlled initiative toward sustainability objectives. Starting in 2021, the federal government had established the Zero Emission Transit Fund, which is a \$2.75 billion dollar program to offer support to public transit and school bus operators across Canada to electrify their fleets over the next five years. Also, the funding will help with purchasing 5,000 zero emissions buses. There are several cities currently exploring the use of electric buses as summarized in Appendix K.

The expansion of Innisfil Transit may include Town-owned vehicles, which could utilize clean fuel technology and funding. Future transit plans should consider the option of deploying electric buses and the associated type of charging methods, either plug-in charging, overhead conductive charging (see Figure 6-6), or other technologies as they become available.

The Transit cooperative Research Program (TCRP) Synthesis 130 – Battery Electric Buses – State Practice (TCRP 130) describes the advantages and disadvantages to alternative methods, as summarized in Appendix K.

The merits of electrifying a transit will need to consider capital costs, operating costs and support and availability of from Federal, Provincial and local funding. Table 6-11 and Table 6-12

Table 6-12 summarize the capital and operating costs, respectively, of electric bus procurement provided in TCRP 130 (note: all costs are in CAD dollars).



Figure 6-6: Brampton Overhead Charge

Source: <https://www.nrcan.gc.ca/science-and-data/funding-partnerships/funding-opportunities/current-investments/brampton-transit-electric-bus-demonstration-integration-trial/22242>

Table 6-11: Capital Cost of Electric Bus

	Minimum	Average	Maximum
Per Bus	\$730,000	\$1,100,000	\$1,500,000
Per Depot Charger (equipment + installation)	\$5,000	\$85,000	\$200,000
Per On-Route Charger (equipment + installation)	\$479,000	\$880,000	\$1,300,000

Table 6-12: Operation Cost of Electric Bus (Per Kilometre)

	Minimum	Average	Maximum
Schedule Maintenance	\$0.07	\$0.28	\$0.72
Unscheduled Maintenance	\$0.07	\$0.22	\$0.43
Electricity	\$0.12	\$0.28	\$0.70

6.6 Assessment of Alternative Transit Strategies

6.6.1 Alternative Transit Strategies

Innisfil has a number of alternatives to build upon the success of the current Innisfil Transit partnership with Uber as the town develops. These alternatives include the following:

- Convert the On-Demand Uber Partnership to a Dedicated Fleet On-Demand Transit System
- Supplement On-Demand transit with Scheduled Fixed Route Service (see Figure 6-7)
- Alternative first-mile / last-mile programs and services including:
 - Bike Share and Scooter Program
 - Autonomous Pilot Program

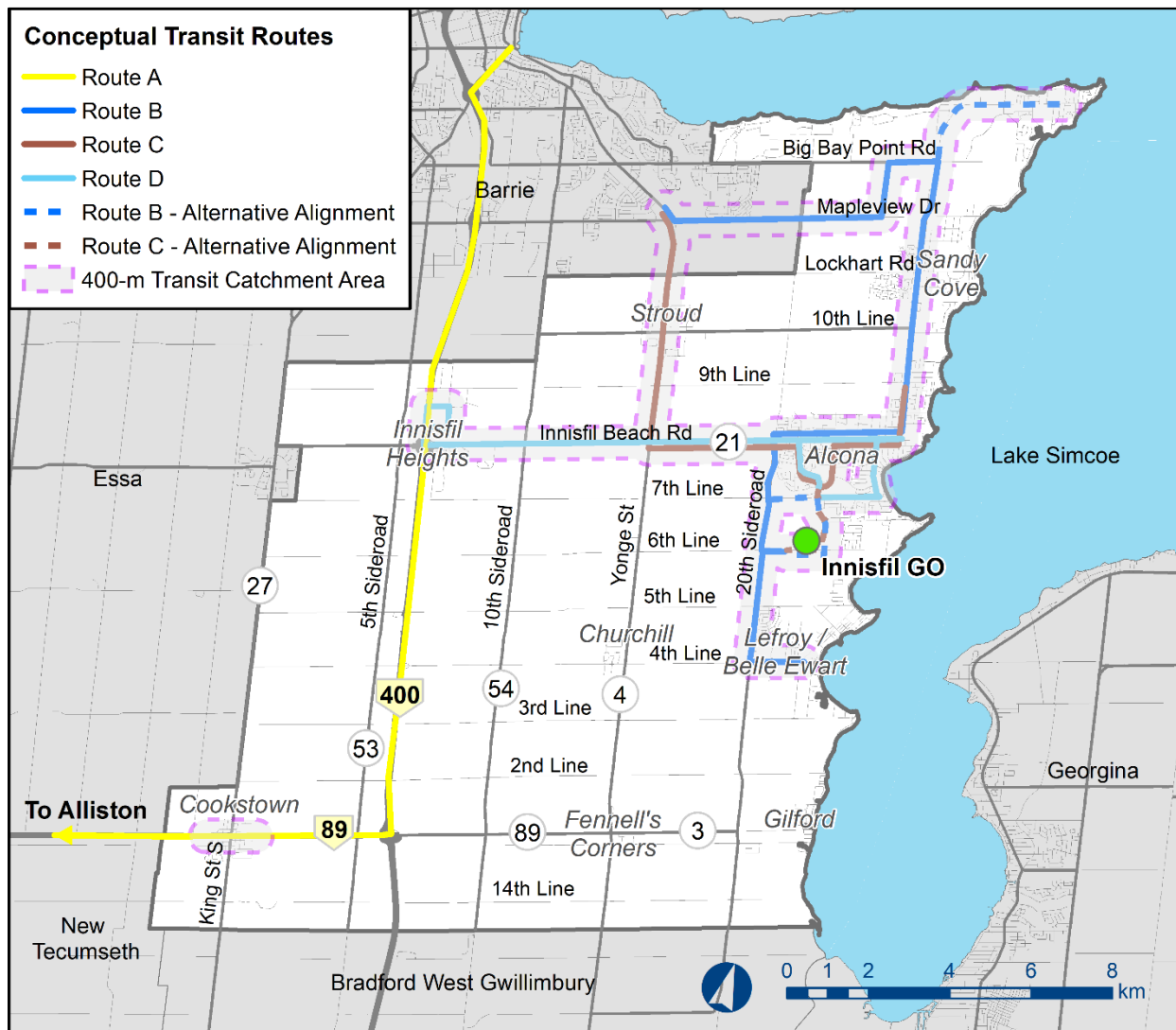


Figure 6-7: Four Fixed Schedule Alternative Routes

6.6.2 Evaluation of Alternative Strategies

A set of evaluation criteria, consistent with the Transportation Master Plan Vision, were developed to compare alternative transit strategies. The evaluation criteria used to assess how well each alternative would address the identified issues is as follows:

Criteria #1: General Operations

- Potential ridership.
- Fare structure.
- Service hours.
- Number of buses.

Criteria #2: Level of Service

- Accessibility: measured by service area population within 400 m of the transit route.
- Reliability: measured by average wait time.
- Equity: measured by assessing service to the different transit-equity seeking groups.

Criteria #3: Financial Cost

Preliminary high level capital costs and annual operating costs were estimated in order to develop draft cost estimates for the transit service alternatives. The assumptions made to estimate net costs are described below.

- Preliminary capital costs:
 - For on-demand transit systems, the cost was based on the Ryerson study.
 - For routes A to D, the capital cost in the table consists of the following: New conventional bus cost (based on data from and bus shelter cost. Maintenance facility cost was not included; it was anticipated that the Town can share the County / City of Barrie's facilities.
 - It was assumed that the 12 bicycles from the ShareCycle program will not be reused, but the same quantity will be repurchased. The cost of the bicycles was based on the Hamilton SoBi System taken from the Windsor Bike Share Feasibility Study, prepared by Urban Systems, dated March 12, 2019.
 - It was assumed that the same amount of scooters will be needed as bicycles for the share program. The cost of scooters including application, vehicle and communication fees was based on City of Ottawa Transportation Committee 2020 Electric Kick Scooter Strategy and Pilot Report.
 - For the autonomous vehicles, the capital cost will consist of Cost of the fleet based on information from the City of Toronto's West Rouge project.
- Preliminary annual operating cost:
 - Fixed routes operation cost includes fuel, transportation operations and general administration based on information from Barrie Transit Asset Management Plan.
 - Bikes and scooters' operation cost were based on City of Hamilton Bike Share Transit System Report (August 2012) and Windsor Bike Share Feasibility Study (March 2019).

- Revenue, grants and fundings:
 - The potential for funding from several Federal, Provincial and local programs including and not limited to Investing in Canada Infrastructure Program, MTO Gas Tax Funds, Reserve Funds from DC and Tax Capital.
 - The revenue for the ODT is based on different projected ridership levels in horizon year 2031, 2041 and 2051.
 - The revenue for the fixed route is based on different headways including 20 minutes, 30 minutes and 60 minutes and the projected ridership levels in horizon year 2031, 2041 and 2051.
- Estimate net costs (difference between expenditure and revenues)

The summary of the evaluation of alternative transit strategies is included in Table 6-13 and detailed in Appendix K.

Table 6-13: Summary of Evaluation of Transit Alternatives

Alternatives	Level of Service			Financial Cost		Recommendation
	Access	Reliability	Equity	Cost	Revenue	
Non-Dedicated ODT	●	◐	●	◐	◐	◐
ODT services	●	◐	●	◐	◐	◐
Fixed Route A	◐	◐	◐	◐	◐	◐
Fixed Route B	◐	◐	◐	◐	◐	◐
Fixed Route C	◐	◐	◐	◐	◐	◐
Fixed Route D	◐	◐	◐	◐	◐	◐
Bikes & Scooters	◑	◐	◑	◐	◐	◐
Autonomous Pilot	◐	◐	◐	◑	◐	◐

Understanding the Rating System



Each transit alternative has advantages as summarized above. The existing Uber partnership has negligible capital costs, is flexible to meet demands for origins and destinations that are not in urban areas and provides for trip making during off-peak times. Monitoring of wait times and driver availability is recommended to assess the effectiveness of recent driver incentives. This service is currently effective and is expected to continue to be part of the transit solution.

A Dedicated ODT is seen as a potential short-term option to supplement the existing Uber transit partnership. A benefit-cost assessment would be required to confirm the size of fleet, hours of operation, geographic scope of service, ownership model (Town owned or third-party provider) that was acceptable to Town council.

Fixed Routes, providing service similar to routes A, B, C and D will provide a reliable service to in support of existing employers, future development and the planned GO rail station. It can provide a cost-effective service for priority routes as a logical expansion of the County LINX transit service. A subsequent transit route planning study may be required to confirm appropriate routes, frequency of service, service provider or partnership (i.e., County, Town, private operator and/or developer based service) and timing of implementation.

In addition, there may be opportunities for Bike & Scooter or Autonomous Pilot programs as solutions to the first-mile / last-mile needs of key employment or intensification areas such as the Orbit community, Friday Harbour or Innisfil Heights. Coordination with potential partners would be required.

The ultimate preferred transit strategy may require a combination of alternatives with a flexible implementation strategy that may resemble Figure 6-8. Existing funding opportunities are documented in Appendix K.

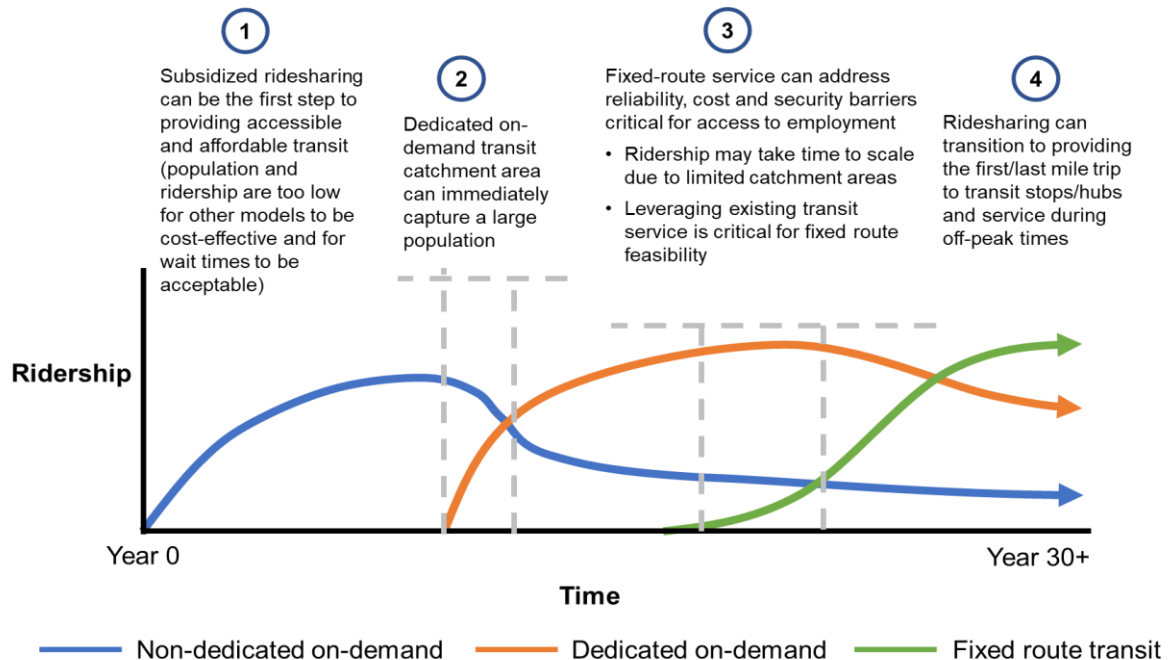


Figure 6-8: Evolution of Transit System Elements

7.0 Alternative Strategies

7.1 Identification and Evaluation of Strategies

7.1.1 Identification of Alternative Strategies

A range of alternative solution strategies were considered to address the transportation needs and vision statement as summarized below. Given the magnitude of growth from the MCR, all strategies rely on other parties and partners to lead initiatives, including the widening of Highway 400, the Highway 400-6th Line Interchange, and Metrolinx's Barrie Rail Corridor Expansion including the Innisfil GO Station. A comparison of projects and strategies for each alternative is shown in Table 7-1.

Alternative 0 – “Base Case” Scenario: A “Base Case” scenario is a strategy that would rely on planned improvements from Simcoe County and the Ministry of Transportation Ontario. It would not explicitly address the transportation needs associated with the Simcoe Municipal Comprehensive Review (MCR) and growth to 2041 or 2051.

Alternative 1 – “Status Quo” Scenario: Maintaining the status quo is an alternative that reflects the transportation strategy planned to 2041 from the 2018 Innisfil Transportation Master Plan. It would not explicitly address the transportation needs associated with the Simcoe County MCR and growth to 84,570 people and 26,190 jobs by 2051.

Alternative 2 – “Major Roads and Highway Focused” Scenario: In addition to meeting the growth needs to 2041 from the 2018 TMP, the Town would invest in road improvements such as widening and urbanization with the goal of alleviating auto congestion and providing residents with better access to Highway 400 and other major arterial roads to get to work. This solution would require a high increase in funding for road widening investments.

Alternative 3 – “Safe Active Transportation Focused” Scenario: In addition to meeting the growth needs to 2041 from the 2018 TMP, the Town would develop additional transit and active transportation infrastructure and services in support of the growth to 2051. The additional investment from the 2018 TMP would be focused on providing safer active transportation infrastructure to key areas within the Town, road safety improvements in key areas, and enhanced walking and cycling connectivity. This solution would require a high increase in funding for active transportation investments.

Alternative 4 – “Multi-Modal Transportation Strategy with Emerging Technologies” Scenario: In addition to meeting growth needs to 2041 from the 2018 TMP, the Town would develop additional transit and active transportation infrastructure and services in support of the growth to 2051. Additional investments from the 2018 TMP would focus on providing safer active transportation infrastructure, road safety improvements, and enhanced walking and cycling connectivity. This solution would require a high increase in funding for transit and mobility technologies investments.

Table 7-1: Alternative Strategies

Transportation Initiative	Alternative 0 Base Case Scenario	Alternative 1 Status Quo Scenario	Alternative 2 Major Roads and Highway Focused	Alternative 3 Safe Active Transportation Focused	Alternative 4 Multi-Modal Transportation Strategy with Emerging Technologies
Provincial Highway and Regional Improvements					
<ul style="list-style-type: none"> Planned and proposed improvements from Simcoe County Planned and proposed improvements from MTO such as the Bradford By-Pass and widening of Highway 400 2018 TMP planned improvements to address growth needs to 2041 Liase with Simcoe County and MTO to implement an East-West Link near Cookstown 	✓	✓	✓	✓	✓
Planned Town Road Improvement Projects					
<ul style="list-style-type: none"> 7th Line between 20th Sideroad and East of Webster Boulevard: 2 to 3 lane widening 6th Line between County Road 27 and St. Johns Road: 2 to 4 lane widening Webster Boulevard between North Limit and 20th Sideroad: Extension Webster Boulevard between Quarry Drive and 6th Line: Extension Webster Boulevard between 6th Line and 5th Line: Extension Jans Boulevard between North Limit and 9th Line: Extension 20th Sideroad Bypass between North of Innisfil Beach Road and South of Innisfil Beach Road: New construction 10th Line between 20th Sideroad and Sandy Cove Boundary: Reconstruction 7th Line between 10th Sideroad and County Road 4 (Yonge Street): Reconstruction Mapleview Drive between 20th Sideroad and 25th Sideroad: Reconstruction 9th Line between County Road 4 (Yonge Street) and 20th Sideroad: Reconstruction Innisfil Beach Road between 20th Sideroad and 25th Sideroad: Reconstruction County Road 27 between County Road 21 (Innisfil Beach Road) and County Road 90 (Hwy 90 / Dunlop Street): 2 to 4 lane widening 		✓	✓	✓	✓
Additional Environmental Assessments					
<ul style="list-style-type: none"> 6th Line between Highway 400 Interchange and Eastern limit of The Orbit: Road transfer to County, EA addendum 7th Line between County Road 4 (Yonge Street) and 20th Sideroad: EA study 			✓		✓

Transportation Initiative	Alternative 0 Base Case Scenario	Alternative 1 Status Quo Scenario	Alternative 2 Major Roads and Highway Focused	Alternative 3 Safe Active Transportation Focused	Alternative 4 Multi-Modal Transportation Strategy with Emerging Technologies
Additional 2051 Road Improvement Projects					
<ul style="list-style-type: none"> 6th Line between Highway 400 Interchange and Eastern limit of The Orbit: 	No action	No action	<ul style="list-style-type: none"> Planned 4 lane to 6 lane widening 	<ul style="list-style-type: none"> No action 	<ul style="list-style-type: none"> Study alternative routes through additional environmental assessments of 6th Line and 7th Line
<ul style="list-style-type: none"> 13th Line between 25th Sideroad and Friday Drive 	No action	No action	<ul style="list-style-type: none"> 2 to 4 lane widening 	<ul style="list-style-type: none"> No action 	<ul style="list-style-type: none"> Urbanization Focus on sustainable modes of transportation Monitor intersections of Big Bay Point Road and 25th Sideroad and 13th Line and Friday Drive
<ul style="list-style-type: none"> 20th Sideroad between Lockhart Road and Big Bay Point Road 	No action	No action	<ul style="list-style-type: none"> 2 to 4 lane widening 	<ul style="list-style-type: none"> No action 	<ul style="list-style-type: none"> 2 to 4 lane widening
<ul style="list-style-type: none"> 14th Line between Town Limits and County Road 27 (King Street South) 	No action	No action	<ul style="list-style-type: none"> 2 to 4 lane widening 	<ul style="list-style-type: none"> No action 	<ul style="list-style-type: none"> Road reconstruction
<ul style="list-style-type: none"> County Road 27 (King Street South) between Victoria Street and Highway 89 (Queen Street – Church Street) 	No action	No action	<ul style="list-style-type: none"> 2 to 4 lane widening 	<ul style="list-style-type: none"> No action 	<ul style="list-style-type: none"> Cookstown Parking Study
<ul style="list-style-type: none"> County Road 27 (King Street South) between East John Street and Garibaldi Street 	No action	No action	<ul style="list-style-type: none"> 2 to 4 lane widening 	<ul style="list-style-type: none"> No action 	<ul style="list-style-type: none"> Cookstown Parking Study
<ul style="list-style-type: none"> Innisfil Beach Road between Highway 400 and Webster Boulevard 	No action	No action	<ul style="list-style-type: none"> 2 to 4 lane widening 	<ul style="list-style-type: none"> No action 	<ul style="list-style-type: none"> Focus on sustainable modes of transportation
<ul style="list-style-type: none"> Innisfil Beach Road between Jans Boulevard and 25th Sideroad 	No action	No action	<ul style="list-style-type: none"> 2 to 4 lane widening 	<ul style="list-style-type: none"> No action 	<ul style="list-style-type: none"> Focus on sustainable modes of transportation and identifying alternatives around the future downtown Innisfil
Road Safety					
<ul style="list-style-type: none"> Liaise with Simcoe County to monitor the following collisions for safety concerns: <ul style="list-style-type: none"> Innisfil Beach Road East of 20th Side Rd Yonge St Churchill to County Road 21 7th Line East of Yonge St 10th Side Rd North of 2nd Line 9th Line East of 20th Side Rd Conduct road safety strategy influenced by Vision Zero principles 			✓	✓	✓
Active Transportation and Farm Vehicle Network Improvements					
<ul style="list-style-type: none"> 10th Line between West of Stroud and 10th Sideroad: Paved Shoulder 4th Line between West of Churchill and County Road 27: Paved Shoulder 				✓	✓

Transportation Initiative	Alternative 0 Base Case Scenario	Alternative 1 Status Quo Scenario	Alternative 2 Major Roads and Highway Focused	Alternative 3 Safe Active Transportation Focused	Alternative 4 Muti-Modal Transportation Strategy with Emerging Technologies
<ul style="list-style-type: none"> Mapleview Drive between 25th Sideroad and 20th Sideroad: Multi-Use Trail Big Bay Point Road between 20th Sideroad and Lake Simcoe: Multi-Use Trail 					
Additional Potential Active Transportation Network Improvements					
Potential Improvements <ul style="list-style-type: none"> 3rd Line between 20th Sideroad and Harbour Street: Multi-Use Trail Harbour Street between 3rd Line and 4th Line: Paved shoulders 20th Sideroad between 9th Line and Mapleview Drive: Multi-Use Tail 				✓	Consider in future study or beyond 2051
Sidewalk Improvements					
<ul style="list-style-type: none"> List of sidewalk improvements found in Table 5-4 			25% of sidewalk improvements by investment	100% of sidewalk improvements by investment	75% of sidewalk improvements by investment
Active Transportation Strategies					
<ul style="list-style-type: none"> Collaboration with Simcoe County and York Region on a lake-adjacent trail Collaborating with Simcoe County, City of Barrie, MTO, and other stakeholders on an active transportation connection to the Trans-Canada Trail at the Highway 400 underpass 					
Transportation Demand Management Strategies					
<ul style="list-style-type: none"> 2018 TMP recommendations of promoting walking and cycling through promotional and marketing efforts Liaise with the County to provide promotional programs and/or web portal supporting: <ul style="list-style-type: none"> Work-at-home programs Rideshare coordination programs 			✓	✓	✓
Transit Strategy Recommendations					
<ul style="list-style-type: none"> Continue operation of Innisfil Uber Transit and continue 2018 TMP Transit Recommendations of exploring demand-responsive (non-dedicated and dedicated) and/or fixed route transit improvements Develop a transit study that focuses on exploring all transit service models including fixed route and/or demand-responsive (non-dedicated and dedicated) <ul style="list-style-type: none"> Incorporate the goal of lowering GHG emissions in the transit evaluation 		✓		✓	✓

Transportation Initiative	Alternative 0 Base Case Scenario	Alternative 1 Status Quo Scenario	Alternative 2 Major Roads and Highway Focused	Alternative 3 Safe Active Transportation Focused	Alternative 4 Multi-Modal Transportation Strategy with Emerging Technologies
Transportation Policies					
Transportation Policies from the 2018 TMP Update to Road Classification and right-of-way Update to Complete Street Policy Update to Pedestrian Crossing Policy Update to Roundabout Policy			✓	✓	✓
Emerging Technologies and Innovation					
Recommendations from the 2018 TMP including Ecomobility hub		✓	✓	✓	✓
Liaise with InnPower to implement more public electric vehicle charging in all settlement areas.			✓		✓
Implement a Bike Share Program between Alcona and Innisfil Beach				✓	✓
Coordinate with private partners for autonomous and connected vehicle transit shuttle (e.g., Friday Harbour, Tanger Outlet or Orbit community)				✓	✓

7.2 Evaluation Criteria

Evaluation criteria and sub-criteria have been developed for the alternative solutions (strategies) based on typical requirements of the Municipal Class EA process. Indicators are measure of these criteria that reflect insights on qualitative measures or available quantitative data. The criteria and indicators were informed by public input and are listed in Table 7-2. The evaluation of alternative solution strategies is summarized in Table 7-3.

Table 7-2: Evaluation Criteria and Indicators

Criteria	Sub-Criteria	Criteria Indicator(s)
Transportation Service	Road Efficiency	<ul style="list-style-type: none"> Addresses roadside safety issues Maintains sufficient road capacity to meet traffic demands Improves traffic flow, circulation and safety at intersections and property accesses
	Road Connectivity	Degree to which alternative: <ul style="list-style-type: none"> Improves connectivity between settlement areas
Transportation Equity	Benefits equity-seeking groups in the Town of Innisfil	Degree to which alternative: <ul style="list-style-type: none"> Provides safe alternative transportation modes, Contributes to vertical equity by reducing major barriers to any population group such as groups based on geography within Innisfil, financial means, ability, and age Accommodates farm vehicles.
	Mobility Choice and Transit Accessibility	Degree to which alternative: <ul style="list-style-type: none"> Considers a prioritization of transportation modes based on the rural or urban structure of the community Increases communities that are served by non-auto modes i.e., transit or ride-hail Allows for improved ease of access to transit Allows for more frequent and convenient transit
	Active Transportation Accommodation	Degree to which alternative: <ul style="list-style-type: none"> Supports complete streets and/or shared streets Improves connectivity between centres and destinations with bikeways / multi-use trails Promotes more attractive walking and cycling environments
Climate Change Objectives	Air Quality and Greenhouse Gas Emissions	Degree to which alternative: <ul style="list-style-type: none"> Reduces GHG emissions / climate-related costs per capita Manages energy use and carbon Increases carbon resilience Supports clean energy initiatives

Criteria	Sub-Criteria	Criteria Indicator(s)
Natural and Cultural Heritage	Impacts to designated natural areas	Potential impacts to: <ul style="list-style-type: none"> • Significant Woodlands and Valleylands • Areas of Natural or Scientific Interest (ANSI) • Provincially or Locally Significant Coastal Wetlands • Significant Wildlife Habitat, Fish Habitat, and Habitat of Endangered and Threatened Species • Natural areas abutting Lake Simcoe • Lake Simcoe Protect Plan Area, Natural Heritage Systems, and Urban River Valleys
	Impacts to Source Water Protection Features	Potential impacts to: <ul style="list-style-type: none"> • Wellhead Protection Areas • Intake Protection Zones • Significant Ground Water Recharge Areas • Highly Vulnerable Aquifers
	Impacts to terrestrial environment	Potential impacts to: <ul style="list-style-type: none"> • Existing vegetation • Wildlife, wildlife habitats and terrestrial Species at Risk
	Impacts to aquatic environment	Potential impacts to: <ul style="list-style-type: none"> • Existing watercourses • Aquatic habitats and Species at Risk
	Impact to Cultural Heritage	Degree to which alternative: <ul style="list-style-type: none"> • Has potential to impact cultural heritage features • Has potential to impact relative estimate of areas of high archaeological potential • Aligns with the policies in the Cookstown Heritage Conservation District to preserve its historic character
Policy Objectives	Supports Established Communities and Development Objectives	Degree to which alternative: <ul style="list-style-type: none"> • Protects established residential communities • Promotes opportunities for development and placemaking objectives consistent with the Official Plan • Supports the development of The Orbit • Ensures the Town is future-ready by incorporating or planning for innovative practices • Supports healthy living by encouraging walking and cycling
Growth and Economic Objectives	Supports Economic Development Objectives	Degree to which alternative: <ul style="list-style-type: none"> • Promotes tourism • Supports existing businesses / employers • Attracts future businesses / employers to Town of Innisfil • Connects employees to major employment areas: Friday Harbour, Tangier Outlets, and Innisfil Heights Strategic Employment Area, and Cookstown • Supports the major transit station area

Criteria	Sub-Criteria	Criteria Indicator(s)
Financial	Capital Cost	Degree to which alternative requires: <ul style="list-style-type: none"> • Capital investment for construction and engineering support (Qualitative estimate) • Capital investment for acquisition of property, fleet and equipment (Qualitative estimate)
	Operating and maintenance Cost	Degree to which alternative requires: <ul style="list-style-type: none"> • Additional staff resources • Outsourced contract services • Funding for operations and maintenance of all modes of travel and support systems (Qualitative estimate)

7.2.1 Evaluation Summary



Table 7-3: Evaluation of Alternative Strategies

Evaluation Criteria	Alternative 1 Status Quo Scenario	Alternative 2 Major Roads and Highway Focused	Alternative 3 Safe Active Transportation Focused	Alternative 4 Multi-Modal Transportation Strategy with Emerging Technologies
Transportation Service	◐	◑	◒	◓
Road Efficiency / Connectivity	<ul style="list-style-type: none"> Does not address vision, need and opportunity especially with regard to accessibility and affordability Limited connectivity to major employment and population nodes, especially to Alcona Future congestion 	<ul style="list-style-type: none"> Does not address vision, need and opportunity especially with regard to accessibility and affordability Improved connectivity to major employment and population nodes, especially to Alcona Limited congestion 	<ul style="list-style-type: none"> Increases mobility options for all road users Limited connectivity to major employment and population nodes, especially to Alcona Future congestion 	<ul style="list-style-type: none"> Increases mobility options for all road users Improved connectivity to major employment and population nodes, especially to Alcona Limited congestion
Transportation Equity	◑	◒	◓	◔
Benefits equity-seeking groups in the Town of Innisfil	<ul style="list-style-type: none"> Does not improve safety and comfort of equity-seeking groups specifically caretakers and older and younger populations travelling home, to major destinations, and making recreational trips for a healthy well-being 	<ul style="list-style-type: none"> Does not improve safety and comfort of equity-seeking groups specifically caretakers and older and younger populations travelling home, to major destinations, and making recreational trips for a healthy well-being 	<ul style="list-style-type: none"> Improves the safety and comfort of equity-seeking groups specifically caretakers and older and younger populations travelling home, to major destinations, and making recreational trips for a healthy well-being 	<ul style="list-style-type: none"> Improves the safety and comfort of equity-seeking groups specifically caretakers and older and younger populations travelling home, to major destinations, and making recreational trips for a healthy well-being
Mobility Choice and Transit Accessibility	<ul style="list-style-type: none"> Does not improve accessibility and affordability for all residents and groups 	<ul style="list-style-type: none"> Limited improvement in accessibility for auto drivers and does not improve affordability for all residents and groups 	<ul style="list-style-type: none"> Improves accessibility and affordability for all residents and groups 	<ul style="list-style-type: none"> Improves accessibility and affordability for all residents and groups and enhances mobility choice using traditional transportation modes and emerging technologies
Active Transportation and Agricultural Equipment Accommodation	<ul style="list-style-type: none"> Limited public right-of-way to accommodate Complete Streets efficiently Road system does not provide protection for all road users 	<ul style="list-style-type: none"> Road system does not provide safe protection for all road users Road system does not promote walking and cycling for healthy lifestyles and non-discretionary trips 	<ul style="list-style-type: none"> Limited public right-of-way to accommodate Complete Streets efficiently Provides the necessary protection for all road users adding safety Promotes the use of active transportation modes by adding comfort to all road users Better accommodates agricultural equipment 	<ul style="list-style-type: none"> Public right-of-way is sufficient to accommodate Complete Streets efficiently Provides the necessary protection for all road users adding safety Promotes the use of active transportation modes by adding comfort to all road users

Evaluation Criteria	Alternative 1 Status Quo Scenario	Alternative 2 Major Roads and Highway Focused	Alternative 3 Safe Active Transportation Focused	Alternative 4 Multi-Modal Transportation Strategy with Emerging Technologies
				<ul style="list-style-type: none"> Better accommodates agricultural equipment
Climate Change Objectives	●	◐	◑	●
Air Quality and Greenhouse Gas Emissions	<ul style="list-style-type: none"> Delivers some level of travel demand management Does not expand opportunities for low-carbon transit and car-sharing Congestion will increase GHG emissions and GHG emissions per capita Promotes the use of zero emissions vehicles 	<ul style="list-style-type: none"> Delivers some level of travel demand management Does not expand opportunities for low-carbon transit and car-sharing Increased roadway supply can potentially cause more driving and more emissions Promotes the use of zero emissions vehicles 	<ul style="list-style-type: none"> Delivers some level of travel demand management with additional strategies Expand opportunities for low-carbon transit and car-sharing in built-up areas and improve transit in new communities. Congestion will increase GHG emissions and GHG emissions per capita Promotes the use of zero emissions vehicles 	<ul style="list-style-type: none"> Delivers some level of travel demand management with additional strategies Expand opportunities for low-carbon transit and car-sharing in built-up areas and improve transit in new communities. Increased roadway supply can potentially cause more driving and more emissions Promotes the use of zero emissions vehicles
Natural and Cultural Heritage	●	◐	●	◐
Designated Natural Areas, Source Water features, Terrestrial & Aquatic Environment: Potential for Impacts	<ul style="list-style-type: none"> Potential Impacts associated with maintenance requirements 	<ul style="list-style-type: none"> Potentially higher impacts to natural environment including Designated Natural Areas, Source Water features, Terrestrial & Aquatic Environment compared to Base Case 	<ul style="list-style-type: none"> Potentially slightly higher impacts to natural environment including Designated Natural Areas, Source Water features, Terrestrial & Aquatic Environment compared to Base Case 	<ul style="list-style-type: none"> Potentially higher impacts to natural environment including Designated Natural Areas, Source Water features, Terrestrial & Aquatic Environment compared to Base Case
Policy Objectives	◐	◑	◑	●
Supports Established Communities and Development Objectives	<ul style="list-style-type: none"> Transportation network does not support planned community growth in settlement areas and the Orbit Transportation network does not support access to employment nodes and the provincially designated employment area for jobs Transportation network does not support enhancing business growth, investment, and innovation 	<ul style="list-style-type: none"> Transportation network partially supports planned community growth in settlement areas and the Orbit with more road infrastructure Transportation network partially supports access to employment nodes and the provincially designated employment area for jobs Transportation network partially supports enhancing business growth, investment, and innovation Mobility choice, affordability, and accessibility is not enhanced to support new community or employment lands or businesses 	<ul style="list-style-type: none"> Transportation network partially supports planned community growth in settlement areas and the Orbit with more mobility choice Transportation network partially supports access to employment nodes and the provincially designated employment area for jobs Transportation network partially supports enhancing business growth, investment, and innovation Limited support to new community and employment lands due to majority of trips lacking efficient connectivity with lack of new roadway infrastructure 	<ul style="list-style-type: none"> Transportation network fully supports planned community growth in settlement areas and the Orbit with more road infrastructure Transportation network fully supports access to employment nodes and provincially designated employment lands for jobs Transportation network fully supports enhancing business growth, investment, and innovation

Evaluation Criteria	Alternative 1 Status Quo Scenario	Alternative 2 Major Roads and Highway Focused	Alternative 3 Safe Active Transportation Focused	Alternative 4 Multi-Modal Transportation Strategy with Emerging Technologies
Financial Environment	●	●	●	●
Cost Assessment	<ul style="list-style-type: none"> Minimal impact as planned roads would be budgeted 	<ul style="list-style-type: none"> Estimated Capital Cost: \$31.0 million Relatively high increase in operating costs due to additional road projects 	<ul style="list-style-type: none"> Estimated Capital Cost: \$12.0 million Relatively moderate increase in operating costs for new AT facilities 	<ul style="list-style-type: none"> Estimated Capital Cost: \$42.9 million Relatively highest increase in operating costs for new AT facilities
Overall Assessment	Not preferred	Not preferred	Not preferred	Recommended

7.3 Preferred Strategy

Alternative 4, a combined multi-modal transportation strategy was preferred. This scenario focuses on providing a transportation network that focuses on road improvements and the development of active transportation infrastructure and transit service along key corridors. This multi-modal transportation network will be able to accommodate the planned population and employment growth within the Town of Innisfil, support the Town's economic strategies and priorities, while aligning with the Town's Climate Change commitments and community development objectives.

Along with improvements to the transportation infrastructure, the preferred strategy includes strategic and operational policies that aims to reduce auto dependency, manage the Town's future parking demand, and prepare the Town leverage emerging technologies.

This proposed transportation network is anticipated to have impacts to significant groundwater recharge areas (SGRA), highly vulnerable aquifers (HVA), provincially significant wetlands (PSW) and water crossings but the magnitude of impact is expected to be minimized through future studies.

8.0 Recommended Strategy

8.1 Road Network Strategies

The road network provides access to land, accommodates circulation of people and goods by vehicles (including transit and agricultural equipment) and provides rights of way for other infrastructure including utilities and active transportation (e.g., sidewalks, bikeways, multi-use trails, etc.). Road capacity needs and opportunities reflect the level of efficiency and convenience necessary for public commuting, supporting public transit and accommodating goods movement. The need for public commuting by automobile includes a range of purposes such as travel to work, medical, shopping or leisure purposes from/to locations that are not adequately served by transit / active transportation and/or do not adequately serve users with mobility or other barriers to travel by other modes. Road recommendations for the 2031, 2041 and 2051 horizon year are summarized in Table 8-1, Table 8-2 and Table 8-3, respectively.

Table 8-1: 2031 Road Project Recommendations

Road	From	To	Improvement	Status
Big Bay Point Road	20 th Sideroad	25 th Sideroad / 13 th Line	Reconstruction ¹	Planned
Big Bay Point Road	25 th Sideroad / 13 th Line	Friday Drive	Reconstruction ¹	Planned
Big Bay Point Road	Friday Drive	Lake Simcoe	Reconstruction ¹	Planned
13 th Line	Big Bay Point Road / 25 th Sideroad	Friday Drive	Reconstruction ¹	Planned
Lockhart Road	20 th Sideroad	Lake Simcoe	Reconstruction ¹	Planned
10 th Line	West boundary extent of Sandy Cove settlement area	25 th Sideroad	Urbanization	Planned
10 th Line	25 th Sideroad	Purvis Street	Urbanization	Planned
25 th Sideroad	Big Bay Point Road	Mapleview Drive	Reconstruction ¹	Planned
25 th Sideroad	Mapleview Drive	Innisfil Beach Road	Urbanization	Planned
6 th Line	Bridge expansion over railway		New Structure	Planned
6 th Line	Angus Street	St. Johns Road	Urbanization	Planned
4 th Line / Killarney Beach Road	Yonge Street	20 th Sideroad	Reconstruction ¹	Planned

Road	From	To	Improvement	Status
Various local road upgrade to minor collectors (as identified from the previous TMP)			EA Studies	Planned
20 th Sideroad	Big Bay Point Road	9 th Line	Reconstruction ¹	Planned
4 th Line / Killarney Beach Road	John Street	County Road 4	Urbanization	Planned
4 th Line / Killarney Beach Road	20 th Sideroad	Ewart Street	Urbanization	Planned
Willard Avenue	Leslie Drive	Innisfil Beach Road	Urbanization	Planned
Adullam Avenue	Lebanon Drive	Innisfil Beach Road	Urbanization	Planned
6 th Line	County Road 27	County Road 53 / 5 th Sideroad	Reconstruction ¹	Planned
6 th Line	County Road 53 / 5 th Sideroad	20 th Sideroad	Reconstruction ¹	Planned
7 th Line	10 th Sideroad	County Road 4	Reconstruction ¹	Planned
7 th Line	County Road 4	20 th Sideroad	Reconstruction ¹	Planned
7 th Line	20 th Sideroad	Webster Boulevard	Urbanization	Planned
7 th Line	Webster Boulevard	St. Johns Road	Urbanization	Planned
10 th Line	20 th Sideroad	Sandy Cove boundary	Reconstruction ¹	Planned
7 th Line	20 th Sideroad	East of Webster Boulevard	2 to 3 lane widening	Planned
6 th Line	County Road 27	St. Johns Road	2 to 4 lane widening	Planned
Webster Boulevard	North Limit	20 th Sideroad	Extension	Planned
Webster Boulevard	Quarry Drive	6 th Line	Extension	Planned
Webster Boulevard	6 th Line	5 th Line	Extension	Planned
Jans Boulevard	North Limit	9 th Line	Extension	Planned
20 th Sideroad Bypass	North of Innisfil Beach Road	South of Innisfil Beach Road	New construction	Planned

Road	From	To	Improvement	Status
Safety and Operations Study			Study	Proposed

Note: 1. As per the 2018 TMP, reconstruction refers to pavement rehabilitation and widening of pavement width to Town standards (as necessary) but maintaining a rural cross section with shoulders (paved and unpaved) and ditches.

Table 8-2: 2041 Road Project Recommendations

Road	From	To	Improvement	Status
Innisfil Beach Road	20 th Sideroad	25 th Sideroad	Reconstruction ¹	Planned
Belle Aire Beach Road	20 th Sideroad	West of railway tracks	Urbanization	Planned
Belle Aire Beach Road	Willow Street	Maple Road	Urbanization	Planned
Ewart Street	Killarney Beach Road	300 m north of Killarney Beach Road	Urbanization	Planned
9 th Line	Yonge Street	20 th Sideroad	Reconstruction ¹	Planned
9 th Line	20 th Sideroad	25 th Sideroad	Urbanization	Planned
Mapleview Drive	25 th Sideroad	20 th Sideroad	Reconstruction ¹	Planned
St. John's Road	Innisfil Beach Road	Nantyr Drive	Urbanization	Planned
13 th Line	25 th Sideroad	Friday Drive	Urbanization	Proposed
20 th Sideroad	Lockhart Road	Big Bay Point Road	2 to 4 lane widening	Proposed
14 th Line	Town Limits	County Road 27 (King Street South)	Reconstruction ¹	Proposed
County Road 27 (King Street South)	-	-	Cookstown Parking Study	Proposed
6 th Line	Highway 400 Interchange	Eastern Limit of Orbit	Road Transfer to County and EA Addendum	Proposed

Note: 1. As per the 2018 TMP, reconstruction refers to pavement rehabilitation and widening of pavement width to Town standards (as necessary) but maintaining a rural cross section with shoulders (paved and unpaved) and ditches.

Table 8-3: 2051 Road Improvement Recommendations

Road	From	To	Improvement	Status
7 th Line	County Road 4 (Yonge Street)	20 th Sideroad	EA Study	Proposed

In addition to recommended road improvements and intersection projects, there is a need for further studies of network needs and specific corridors for additional potential initiatives and property protection. These studies will need to address all modes, including vulnerable users and agricultural equipment operations. Future studies are as identified below:

6th Line Class Environmental Assessment: The segment of 6th Line between the Highway 400 interchange and 20th Sideroad has already been identified to be a road transfer to the County jurisdiction as per the County's draft 2022 Transportation Master Plan Update. It is recommended that the County extend the segment under their jurisdiction to the eastern limit of the Orbit. In addition, the previous Municipal Class EA completed for 6th Line should be updated to reflect the latest Provincial Growth Plan. Updated population and employment forecasts to 2051, will contribute to capacity constraints despite the planned 4 lanes. While widening 6th Line beyond 4 lanes is not desirable from an urban form perspective, additional studies are recommended to identify a preferred solution to east-west mobility needs along or adjacent to the 6th Line from the east side of the rail corridor to Highway 400 by 2051 and beyond to the full buildout of the Orbit community.

7th Line Class Environmental Assessment: A Municipal Class EA should be initiated to assess capacity requirements along the segment of 7th Line between County Road 4 (Yonge Street) and 20th Sideroad. This road segment is forecasted to operate under capacity, however transportation modelling indicated that it may be a viable route to minimize congestion along 6th Line and Innisfil Beach Road for those travelling to/from Alcona in the future.

Highway 89 East-West Link: Given the anticipated increase in pass-through traffic through Cookstown as a result, the need for the Highway 89 east-west link becomes even more critical in facilitating regional travel. This TMP supports the Highway 89 east-west link as a project to be carried forward in conjunction with the Ministry of Transportation (MTO) in order to address safety concerns within downtown Cookstown and facilitate future traffic growth.

Safety and Operations Study: A regularly updated study is recommended to identify safety and operational mitigation measures to address collision trends, needs of vulnerable road users and accommodation of agricultural equipment.

8.2 Active Transportation Strategies

8.2.1 Network Recommendations

Active transportation network recommendations were developed based on the following objectives:

1. **Continuity:** Continuity within active transportation networks is important in establishing a reliable, "low-stress" active transportation network. Missing links will be identified in a network to identify and address continuity gaps.

2. **Connectivity:** Connectivity to proposed active transportation facilities between settlement areas and hamlets will be considered in establishing an integrated active transportation network.
3. **Connections between Points of Interest:** The purpose of a point of interest analysis is to ensure that public facilities are connected with active transportation infrastructure.
4. **Protection for Vulnerable Road Users:** Considerations for vulnerable road users such as elderly, disabled, children/students were given to the type of facility.
5. **AT Integration with Transit:** Considerations for connecting residents to the GO bus stops along Yonge Street with active transportation infrastructure were considered.

8.2.2 Active Transportation Improvements

Active transportation networks should be connected and continuous to allow cyclists and pedestrians more opportunities to connect to points of interest and have a certain level of protection for most or all of their journey. The recommended active transportation improvements to 2051 are shown in Figure 8-1.

Potential improvements to be further investigated beyond 2051 include:

- 3rd Line between 20th Sideroad to Harbour Street.
- Harbour Street between 3rd Line to 4th Line; and
- 20th Sideroad between 9th Line to Mapleview Drive.

The 2022 TMP continues to recommend the following Simcoe County improvements:

- Paved shoulder on County Road 89 between Country Road 27 and 20th Sideroad.
- Multi-use trail on Yonge Street throughout the entirety of the Town of Innisfil.
- Paved shoulder on 5th Sideroad throughout the entirety of the Town of Innisfil.
- Paved shoulder and multi-use trail on Innisfil Beach Road between County Road 27 and Yonge Street.

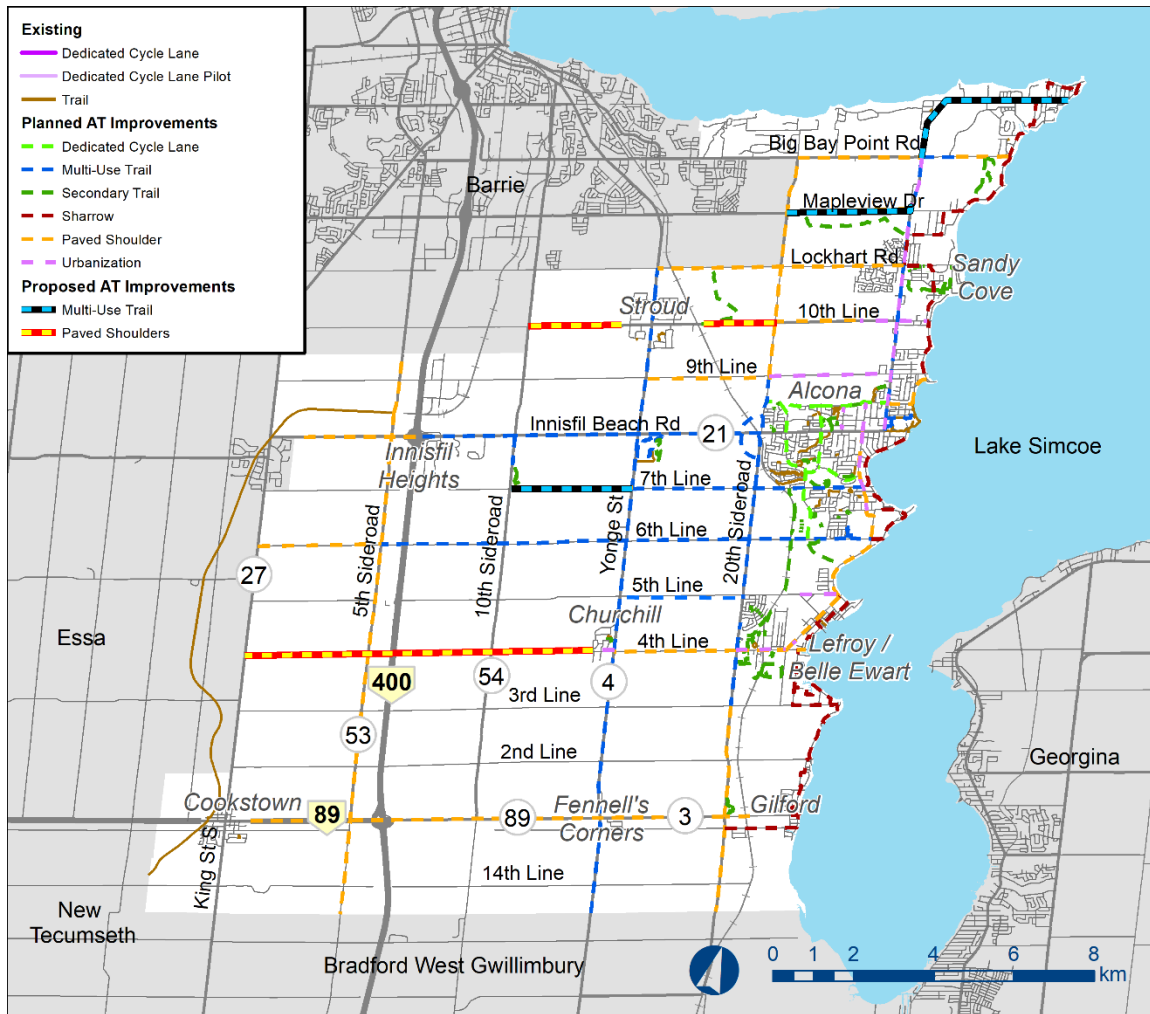


Figure 8-1: Active Transportation Recommendations

8.2.3 Additional Opportunities

Lake-Adjacent Trail

A lake-adjacent trail would provide an opportunity to connect communities in York Region and Simcoe County. It would provide both commuters and recreational pedestrians, cyclists, and other AT users a chance to explore the Region and the County to travel on dedicated and comfortable infrastructure.

AT Connection under the Highway 400

The 2022 TMP recommends the County assist the Town in the feasibility of accommodating an active transportation connection under Highway 400 adjacent to the rail spur/rail line at Innisfil Heights (adjacent to Highway 400) to connect to the Trans Canada Trail into the Town of Innisfil for connectivity and continuity. This includes participation and facilitation of discussions currently underway with MTO.

8.3 Transit Network Strategies

8.3.1 Alternative Transit Strategies

Innisfil has a number of alternatives to build upon the success of the current Innisfil Transit partnership with Uber as the town develops. These alternatives include the following:

- Convert the On-Demand Uber Partnership to a Dedicated Fleet On-Demand Transit System
- Supplement On-Demand transit with Scheduled Fixed Route Service (see Figure 8-2)
- Alternative first-mile / last-mile programs and services including:
 - Bike and Scooter Program
 - Autonomous Pilot Program

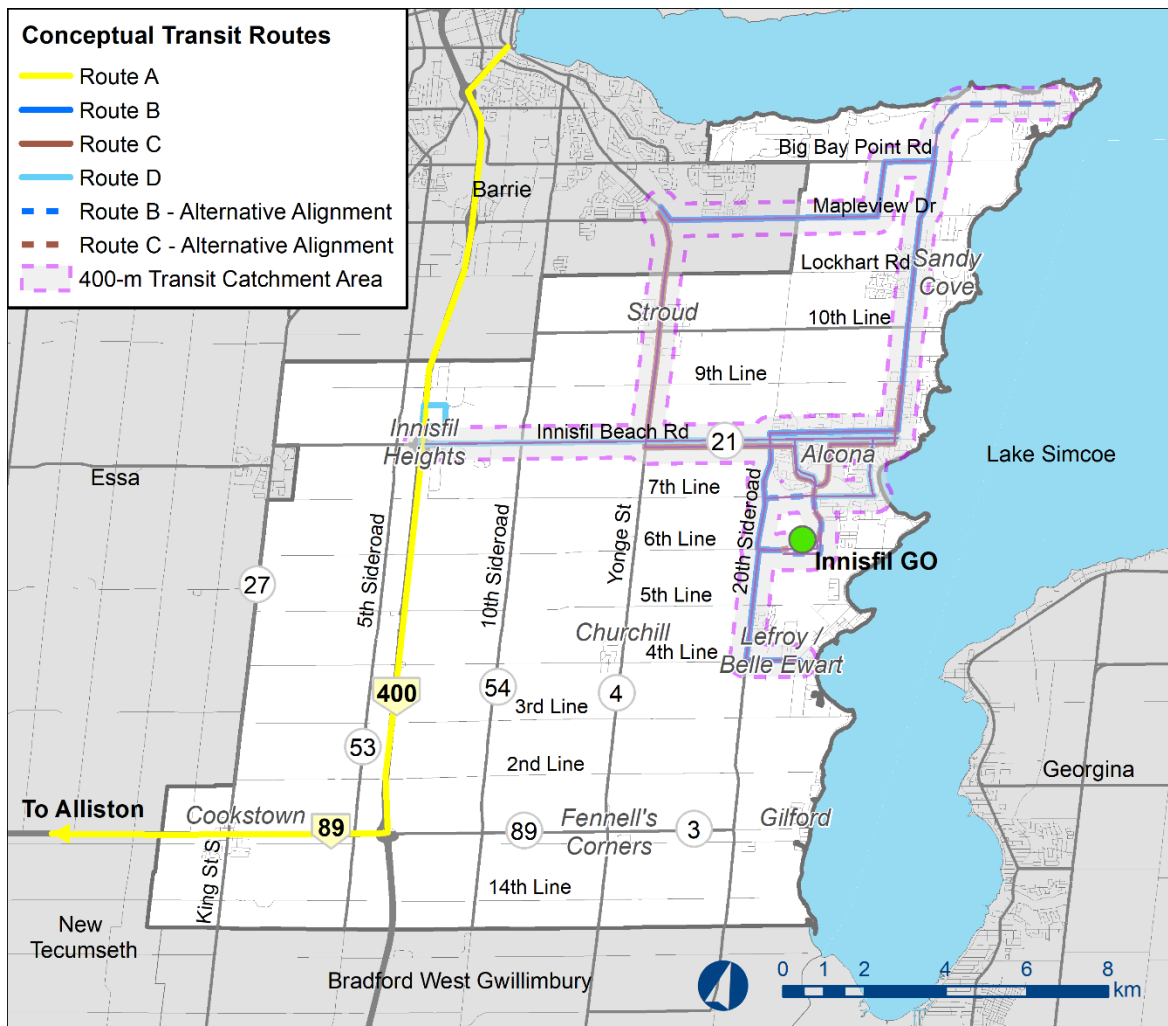


Figure 8-2: Potential Scheduled Fixed Transit Routes

The existing Uber partnership has negligible capital costs, is flexible to meet demands for origins and destinations that are not in urban areas and provides for trip making during off-peak

times. Monitoring of wait times and driver availability is recommended to assess the effectiveness of recent driver incentives. This service is currently effective and is expected to continue to be part of the transit solution.

A Dedicated ODT is seen as a potential immediate option to supplement the existing UBER transit partnership. A benefit-cost assessment would be required to confirm the size of fleet, hours of operation, geographic scope of service, ownership model (Town owned or third-party provider) that was acceptable to Town council.

Fixed Routes, providing service similar to routes A, B, C and D will provide a reliable service to in support of existing employers, future development and the planned GO rail station. It can provide a cost-effective service for priority routes as a logical expansion of the County LINX transit service. A subsequent transit route planning study may be required to confirm appropriate routes, frequency of service, service provider or partnership (i.e., County, Town, private operator and/or developer based service) and timing of implementation.

The ultimate preferred transit strategy may require a combination of alternatives with a flexible implementation. It is recommended that a comprehensive transit implementation study be undertaken to assess the appropriate timing, budget, administrative support and fleet associated with the different elements of the transit system. Regular transit updates (e.g., 5-year transit plans) would be required to assess the effectiveness of the system and additional components of the system moving forward.

In addition, there may be opportunities for Bike & Scooter or Autonomous Pilot programs as solutions to the first-mile / last-mile needs of key employment or intensification areas such as the Orbit community, Friday Harbour or Innisfil Heights. Coordination with potential partners would be required.

Other recommendations include:

- This TMP recommends that these alternatives be further investigated in a transit-specific study such as a Transit Master Plan. That transit study should also evaluate recommendations based on level of service, access, reliability, equity, and financial costs. If the County finalizes their recommendations to consolidate transit service for Simcoe County, the Town should collaborate with the County to provide service along these identified routes and continue to advocate for on-demand services.
- This TMP recommends further exploring emerging trends in electric or zero-emission fleets to understand if these technologies can be implemented. As outlined in Section 1.3.1, there are upfront capital costs with electrifying a transit system. However, this would support the Town's initiative to reduce greenhouse gas emissions and support town, provincial, and federal climate change commitments. The fuel sources, costs, and potential higher-level government funding can be further investigated in the transit study.
- This TMP recommends that the transit-specific study investigate potential capital and operating funding programs from higher levels of government.
- The TMP recommends continual partnerships with Universities and on-demand transit providers to further develop the Town's transit system.

9.0 Operational Policies

9.1 Role of Operational Policies in Planning

In the daily management of the Town transportation system and development process, staff rely on operational policies and practices that reflect the needs of the Town and state of the practice in planning and engineering. The Transportation Master Plan process has included a review of key policies to identify potential changes to better align them with the TMP vision, changes in industry practices and operational needs of the Town.

These supporting policies and guidelines assist Town staff in implementing the TMP, responding to citizens' requests and concerns, and guiding future decisions related to road design, traffic control, site development and road rehabilitation. In this regard, the following policies have been reviewed, updated or developed:

- Complete Streets Guidelines.
- Traffic Calming Policy.
- Sidewalk Prioritization Policy.
- Pedestrian Crossing Policy.
- Road Rehabilitation.
- Roundabout Implementation Policy.

9.2 Complete Streets Policy and Guidelines

As noted in Section 5.8.4, the 2018 TMP presented a Complete Streets Policy with the aim to “further the development of a multimodal, multipurpose transportation network that serves people of all ages and abilities”. The 2018 Town of Innisfil Complete Streets Guidelines provided a toolkit for designers to integrate a multimodal and multipurpose transportation network into the design of individual streets.

Since the development of the complete streets policy the Town has implemented pilot projects that balanced road right-of-way space between road users introducing buffered bike lanes and shared use cycling facilities. Since the 2018 TMP there has also been an update to the state of the practice in bicycle facility planning and design through the update to OTM Book 18.

Following the review of OTM Book 18 and input from the Town regarding the efficiency of the allocation of space for all road users and between road users on the pilot projects modifications to the Complete Streets Guidelines have been developed as summarized in Appendix J. Additional guidance has been provided to designs to aid in the interpretation of typologies and balance the level of safety and convenience for cyclists and pedestrians with the right-of-way and cost of solutions, particularly for low volume and low speed roads.

9.3 Traffic Calming Policy

The 2018 Transportation Master Plan defined a Traffic Calming Policy in Appendix D2. The policy establishes methods for the initiation, implementation, and evaluation of traffic calming projects. It has been developed considering the experiences and practices of other jurisdictions and is reflective of the current best practices in transportation planning.

The policy was developed referencing available industry practices; one of the more recognized references was the Canadian Guide to Neighbourhood Traffic Calming (the Guide) Published in 1998 by the Transportation Association of Canada (TAC) and the Canadian Institute of Transportation Engineers (CITE). In 2018, the Guide was updated with the current state of the practice. The updated guidelines recognize the relevance of local context and objectives in defining traffic calming practices.

The Town of Innisfil is initiated a separate study to review the Traffic Calming Policy (Policy CP.09-13-13) adopted by Council in 2013 and updated as part of the 2018 Transportation Master Plan, including pilot projects incorporating local context and stakeholder input. This Transportation Master Plan has deferred to the on-going Traffic Calming Study for updates to the Traffic Calming Policy.

9.4 Sidewalk Prioritization Policy

The 2018 Innisfil Transportation Master Plan Update outlines the methodology for prioritizing sidewalk upgrades. The methodology involves a scoring system out of 100 points, with higher score indicating a higher need for sidewalk improvements. Seven major criteria categories are used to determine the score, including existing sidewalk condition, AODA requirements, connectivity, road characteristics, public support and constructability/cost. This policy was reviewed and assessed to determine its alignment with the TMP Vision and direction.

The sidewalk conditions inventory has been collected in August of 2021 and includes good, fair and poor condition categories. Recently constructed sidewalks with wide boulevards and no significant decay are considered to be in a good condition. Sidewalks with sufficient boulevard width and some decay such as cracks, weathering, broken bays, trip ledges, spalling, heaving and stepping, ponding and damage by tree roots are categorised to be in fair condition. Poor condition is assigned to sidewalks that are heavily cracked and uneven with considerable presence of decay and insufficient boulevard width.

The study team has conducted site visits during August to assess the conditions of existing sidewalk assets. A GIS-based data collection application was used to document the observed conditions of existing sidewalks. Photographs were also taken for the segments that were flagged with a “poor” condition. Appendix L summarizes the application of the prioritization policy and identifies projects for consideration in the future sidewalk improvement program.

9.5 Pedestrian Crossing Policy

As prescribed in the 2016 Innisfil Trails Master Plan, providing amenities to support walking contributes to better physical health and utilitarian transportation by supporting commuters without access to a vehicle. Emphasis on a pedestrian-accommodating network supports the 2020 Provincial Policy Statement (PPS) in promoting strong, livable and healthy communities, along with the Town's 2020-2030 Community Strategic Plan, which highlights sustainability as a strategic goal.

The objectives of Innisfil's pedestrian crossing policies are to address the installation of new pedestrian crossings within the Town, with the purpose of encouraging pedestrian activity, addressing existing and future pedestrian demands, improve safety, and manage costs. The policies also serve to provide direction in addition to or complimentary to that of the Ontario Traffic Manual (OTM).

The original Ontario Traffic Manual (OTM) Book 15 was the first comprehensive pedestrian crossing design guide in Ontario. OTM Book 15 and the 2016 update provides information and guidance for the planning, design, and operation of pedestrian roadway crossing treatments.

The Innisfil Pedestrian Crossing Policy is intended to serve as a supplement to Book 15 of the OTM, with a focus on preferred treatments to be used in the Town of Innisfil, given Town objectives and the travel characteristics of the Town. OTM Book 15 recognizes the need for local policies and practices and engineering judgment, as prescribed in the introduction:

- "...municipalities may need to adopt policies that reflect local conditions"
- "The traffic practitioner's fundamental responsibility is to exercise engineering judgment on technical matters in the best interests of the public and workers. Guidelines are provided in the OTM to supplement professional experience and assist in making those judgments."

The HTA and OTM indicates that when a pedestrian is about to step from the boulevard onto the roadway, there are fundamentally two different forms of pedestrian crossing. The crossing may be either:

A **controlled crossing** where vehicles must yield to pedestrians (e.g., traffic control signals, mid-block pedestrian signals, stop signs, designated school crossing, etc.); or

An **uncontrolled crossing** where pedestrians must yield to vehicles (e.g., mid-block crossings in the absence of traffic controls, marked crossing in absence of stop or yield signs, designated school crossing in the absence of a crossing guard and/or other controls, roundabouts, etc.).

Either form of crossing may be appropriate given the range of pedestrian demand. There is generally a higher degree of concern for pedestrian safety at uncontrolled crossing points. However, both forms of crossing must be designed to maximize safety. Appendix M of this Transportation Master Plan is a guideline that provides background references and guidance for implementation of alternative pedestrian crossing features specific to the Town of Innisfil context.

9.6 Travel Demand Management

Transportation Demand Management (TDM) is used to describe a set of strategies that allow for the more efficient use of transportation resources. With increasing travel demands associated with urban growth, jurisdictions are faced with both high costs and physical and property constraints to improving/constructing transportation infrastructure. In addition, with the municipal and provincial objectives of preserving the environment and promoting active and healthy lifestyles, alternative travel practices are becoming part of transportation strategies.

9.6.1 Carpooling

Carpooling focuses on decreasing the number of vehicles on the roadway by decreasing the number of single-occupant vehicles. Benefits of carpooling include:

- Increased mental health by getting to know people who live or work close to you.
- Reducing greenhouse gas emissions by reducing the number of vehicle-kilometre travelled.
- Reducing stress by sharing the driving time with other people.
- Cutting car maintenance costs.

The carpool lots within Innisfil include:

- MTO Carpool lot at Highway 400 and Highway 89.
- MTO Carpool lot at Highway 400 and Innisfil Beach Road.

It is recommended that the Town coordinate with the MTO, Metrolinx, and County to investigate additional carpool lot capacity and access, including the planned 6th Line interchange and the planned Innisfil GO, and support systems for the carpool lots consistent with this plan including:

- Trip end facilities including shelter.
- Bicycle parking and lockers.
- Marketing and promotional programs.
- Electric vehicle charging.
- Integration with transit service.

9.6.2 Marketing

For TDM marketing to be successful, the marketing campaigns should include the following elements:

- TDM marketing should highlight the potential benefits of certain TDM initiatives.
- Marketing should be developed with a consistent brand image.
- Marketing should contain an educational component which offers useful information and resources such as the use of posters to map the location of carpool locations, how to access Innisfil transit, cycling safety tips.

- TDM marketing should focus on incremental and realistic changes to behaviour and personal lifestyles such as promoting the use of cycling to work one or two workdays a week instead of five.
- TDM marketing strategies should be developed in collaboration with employers, Simcoe County, cycling advisory committees and other stakeholders.

Examples of the benefits of certain TDM initiatives can include:

- Reduced stress from carpooling by having another person in the vehicle.
- Reduced depreciation of the personal vehicle from carpooling.
- Sharing the cost of gasoline with carpooling.
- Increased health impacts from walking and cycling.
- Increased societal benefits such as a reduction in greenhouse gas emissions.

9.6.3 Education

The Town holds a number of community events throughout the year and Town staff have built a close relationship with residents; a benefit of being a local municipality. In addition, the 2022 TMP recommends an active transportation network that is suitable for all ages and abilities and focuses on enhancing the safety and protection of less confident or more casual cyclists.

Town staff who are passionate about cycling or in collaboration with cycling committees can host educational events on the use of the bicycle, bicycle repair workshops, and tour through some of the multi-use paths. These educational events can target residents who want to cycle but are newer or less confident.

9.6.4 Recommendations

A summary of recommended TDM initiatives include:

- The County, in collaboration with the Town, should work on developing an employer-based web portal that supports work-at-home programs and connects residents together to form carpool groups.
- The Town should hold education events aiming to increase the confidence of newer or more casual cyclists.
- The Town in collaboration with the County should work with MTO on strategies to enhance carpool facilities and integrated them with transit and support facilities
- The Town should develop a TDM marketing strategy and a number of campaigns with the purpose of lifestyle and behavioral changes of residents from using an automobile to more sustainable modes of transportation such as carpooling, Innisfil Uber transit, walking, and cycling.

9.7 Parking Management

9.7.1 Parking Management Objectives

The Town of Innisfil, like other Ontario other municipalities are challenged with providing and managing the parking supply in a manner that serves the public and specifically the needs of adjacent land uses, including in support of economic development. Whether parking is provided privately or publicly, there are a range of operational objectives of parking, that municipalities strive to achieve. It is desirable that the:

- Parking supply is provided in close proximity for the destination land use, so that it is convenient, accessible for those with mobility limitations and is secure particularly at night.
- Parking supply is provided with sufficient capacity such that demand can be met and illegal parking does not affect traffic, cycling or pedestrian operations.
- Parking supply is available such that it is in a location that is close to the parking need, thus avoiding unnecessary traffic circulation.
- Parking duration is appropriate, where time limits match the needs of adjacent land uses, such that regulations aren't so short that you have enough time to shop or go to a restaurant and they're not so long that vehicles are parked next to shops all day.
- Parking space sizes are an appropriate size to be useable and accessible

As a recreation and tourism destination, the Town of Innisfil must also balance the parking needs of visitors with the parking needs of local residents.

9.7.2 Existing Parking Operations

Within the Town, parking facilities are managed through bylaws, policies and operational practices including:

- The Town's Consolidated Parking By-law 028-17.
- Parking lot operations and rates.
- Resident parking pass permits.

On-street parking availability is influenced by street design and managed through the Consolidated Parking By-law. Municipal parking lots, listed below are primarily situated parks:

- 9th Line Road End.
- 10th Line Park.
- 12th Line / Mapleview Park Lot.
- 3996 30th Sideroad North Road End and Dock.
- Guest Road Lot.
- Belle Ewart Park.
- Shore Acres (Neilly Road Lot).
- Innisfil Beach Park.

9.7.3 Existing Town Policy Scan

The strategy for parking policy should recognize and build upon current parking policy of the Town. The existing Town parking policies and strategies are summarized in Table 9-1.

Table 9-1: Existing Town Parking Policies & Strategies

Policy Document or Study	Parking-Related Policies or Proposed Solutions
<p>Town of Innisfil Official Plan (November 2018)</p>	<p>Innisfil Beach Road</p> <p>Complying with the Urban Design Guidelines developed for Innisfil Beach Road which includes provisions to create a more coherent street frontage with buildings fronting the sidewalks, no or minimal setbacks, parking to the rear, and more active and transparent ground floors and storefronts.</p> <p>The parking lot at the Crossorads Plaza is currently underutilized and has a potential to become redeveloped as a semi-enclosed public space with benches and a fountain. Parking can be relocated to the rear allowing for more visible activity on the streets.</p> <p>Recreational Centre and Town Hall</p> <p>Future developments should be pulled all the way out to Innisfil Beach Road and parking should be in the rear or in smaller, discreetly located lots.</p> <p>A pocket park with a focal point such as a fountain surrounded by benches and an information kiosk will create a gathering spot adjacent to the Town Hall. Parking should be buffered and moved behind the buildings.</p> <p>A grid of small-scale streets should break down the super blocks and large parking lots and create a better pedestrian and vehicular connectivity.</p> <p>Innisfil Heights</p> <p>Extend the seasonal uses of the parking lot at 400 Flea. Large tents during the cold months could allow for vending opportunities throughout the year with special holiday events and outdoor markets.</p> <p>Sandy Cove</p> <p>Provide lake access with parking, beach amenities, and boat rental.</p> <p>New, street-friendly mixed use development, multi-family residential with retail and restaurants on ground floors built to sidewalks with no or minimal setbacks, and parking behind or within development.</p>
<p>Transportation Masterplan Update Final Report (2018)</p>	<p>The 2018 TMP recommended to “plan for subsequent zoning by-law study to consider reduced minimum parking standards and the addition of Electric Vehicle parking spaces and carpool parking spaces requirements”, as well as to implement supportive programs for walking and cycling.</p>

9.7.4 Parking Management Opportunities

The management of operational issues is one objective in parking management. There are also, however strategic opportunities inherent in parking management. Town Council has passed policies that support sustainability and climate change mitigation. Parking management policies can contribute to these strategic objectives as a travel demand management initiative.

Parking management initiatives and developments that provide lower parking can include the following: lower parking space requirements for new residential development, narrower streets resulting in fewer temporary on-street parking spaces, lower visitor space requirements for higher density residential units, smaller parking spaces for residential uses, lower parking requirements for commercial developments, shared parking between land uses and conversion of parking spaces to EV charging spaces.

Other parking strategies may include:

- **Pricing:** Parking pricing is an important tool available especially in high demand and commercial areas. Pricing allows drivers to choose between parking that is more expensive, but closer and parking that is less expensive, but farther away. Pricing also allows for the parking space to be used for its intended purpose. The role of on-street parking is to ensure visitors have direct access to local businesses such as shops and restaurants and to encourage higher turnover to increase economic activity. In contrast, the role of off-street parking is to provide parking for longer-term parkers such as employees or parkers whose trip purpose is longer than the maximum on-street limits.
- **Wayfinding:** Information provided through signage, apps, physical and on-line maps that indicate the location and price facilitate efficient parking.
- **Urban Design:** Parking policies should also be used to support good urban design and placemaking objectives found in the Town's Official Plan and in Table 9-1. A few key principles that can be considered include:
 - Maximizing on-street parking opportunities.
 - Ensuring parking facilities accommodate people with disabilities and special needs.
 - Designing features of parking facilities or spaces that are representative of the development and image of the surrounding area.
 - Traffic calming features incorporated to reduce vehicle traffic speeds in the parking facility.
 - Porous paving to reduce stormwater runoff.
 - Incorporating green building design features in surface lots or garages.
- **Parking Supply and By-law Review:** With the population and employment growth in the Town of Innisfil, especially in Alcona and Orbit, over the next 30 years, the Town could ensure that the appropriate parking supply is provided, balancing operational needs with strategic objectives. Jurisdictions have parking minimums in their zoning by-law to ensure that developers provide adequate parking supply for the proposed land uses. However, parking minimums can be designed to be flexible encourage developers to provide other sustainable parking features, e.g., carsharing arrangement or services or electric vehicle

charging stations. Parking standards can also be changed depending on the geographic location since geographic locations can differ by land use densities, transit availability, walkability, and mobility options. Parking maximums have also been implemented to ensure that there is an upper limit to the parking that developers can supply.

9.7.5 Recommendations

It is recommended that the Town of Innisfil establish parking management policies that are appropriate for the Town of Innisfil through a detailed parking strategy. A study or studies should be undertaken within the context of Town priorities, the Transportation Master Plan vision, the Official Plan objectives for new communities including Orbit and stakeholder input; the following scope is recommended:

- Develop urban design guidelines for on-street and off-street parking facilities including considering the use of porous paving and other green design features.
- Ensure the parking provided by the Orbit Secondary Plan is consistent with these urban design guidelines. These guidelines should be consistent with the placemaking objectives found in the Official Plan.
- A review of the zoning by-laws should be considered for Orbit and other communities and possibly incorporate bike lockers, bicycle parking, electric vehicle charging stations, car sharing, and/or shared parking.
- A review of the parking supply and demand in all settlement areas (on-street vs. off-street), Innisfil Beach Park, and key Town destinations such as Town Square, Town Campus, and community centres to ensure that there is adequate parking supply. The Town should work with Metrolinx to ensure that there is adequate parking supply at the future Innisfil GO. Before initiating the study, sites should be prioritized based on a qualitative parking review from site visits. For example, the study anticipates that on-street parking in Alcona and Cookstown to be of future concern. A timeline should be established for periodic review of the parking utilization.
- If parking utilization is found to be over 90%, a review of pricing options should be explored in certain areas.

9.8 Road Needs Prioritization Policies

The 2018 Innisfil Transportation Master Plan established road rehabilitation policies related to Gravel Road and Slurry Seal Prioritization. It proposed a framework and prioritization strategy for the paving of existing gravel roads and repaving of low-class bituminous (LCB) roads. It was informed by several policies and guidelines from municipalities in North America in addition to the MTO Inventory Manual for Municipal Roads.

The Town of Innisfil's 2022 Road Needs Study (RNS) is currently underway and will assess the applicability of the policy. Insights can be drawn related to:

- Observed and projected rehabilitation needs.

- Available data and data collection processes.
- Climate change objectives.
- Current and projected costs of oil products.
- The applicability of practices of other North American jurisdictions within the context of Innisfil's climate and exposure to freeze-thaw cycles.

9.9 Roundabout Policy

The 2018 Innisfil Transportation Master Plan established a Roundabout Policy that states that are recommended as the primary intersection control along collector roads within the Town. It references the advantages of roundabouts related to safety, operations, access management, traffic calming, environmental implications and sustainability, financial implications and aesthetics. It also notes a number of disadvantages.

The 2018 Innisfil Transportation Master Plan recommendation included the following statements:

- “it is recommended that single lane roundabouts be the first consideration for intersection controls for all new intersections or intersection improvements on minor and arterial collector roads in the Town”.
- “it must be demonstrated to the Town’s satisfaction that a single-lane roundabout is not desired”.

This Transportation Master Plan reviewed the policy within the context of the state of the practice. Many other jurisdictions include a screening tool to aid decision making. Based on the state of the practice, this Transportation Master Plan has included a roundabout implementation screening guideline as presented in Appendix N.

10.0 Road Classification System

10.1 Overview

Schedule C of the Town's Official Plan contains road classifications for Town roads. Road classifications are related to land use planning and should be considered in tandem with transit, active transportation and roadway safety for each road classification category. The Town also aims to achieve right-of-way widths and provide the appropriate number of lanes to support the road classifications as set out in the Official Plan. Necessary right-of-way widths will be acquired by Town development processes.

General descriptions of the Town's road classifications are provided below.

Provincial Highways

- Are roadways under Provincial jurisdiction.
- Are roadways intended to serve large volumes of inter-regional and long-distance traffic at high speeds.
- Are roadways of high-speed design with uninterrupted flow, with access only achieved through grade separated interchanges, designated by the Ministry of Transportation as Controlled Access Highways.
- Direct access to a controlled access highway will not be permitted and all developments located adjacent to a Provincial Highway will require approval from the Ministry of Transportation.

County Arterials

- Are roadways under Simcoe County jurisdiction typically with 36 – 40 m right-of-way.
- Serve moderate to high volumes of medium to long distance inter and intra-regional traffic at moderate speeds and will provide access to major attraction centres and facilitate access to or from highways.
- Primary truck and goods movement routes.

Town of Innisfil Arterials

- Are roadways under Town jurisdiction.
- Serve moderate to high volumes of medium to long distance inter and intra-regional traffic at moderate speeds and will support the County road system.
- Will generally be designed to accommodate a high degree of separation for cycling facilities, where appropriate.

Major Collectors

- Are roadways under the Town's jurisdiction.
- Serve moderate volumes of short distance traffic between local and arterial roads at moderate speeds.

- Will serve as truck and goods movement routes along industrial roads. Otherwise, through traffic will generally be discouraged from using these roadways.
- Will generally have a minimum 26 m road allowance with a 2 to 4 lane capacity.
- Will generally be designed to accommodate a high degree of separation for cycling facilities, where appropriate.

Minor Collectors

- Are roadways under the Town’s jurisdiction.
- Serve low to moderate volumes of short distance traffic between local and arterial roads at moderate speeds.
- Through traffic will be discouraged from using these roadways.
- Will generally have a minimum of 23 road allowance with a 2 lane capacity.
- Will generally be designed to accommodate some degree of separation for cycling facilities, where appropriate.

Local Roads

- Are roadways under the Town’s jurisdiction.
- Serve local traffic only and provide connections to collector roadways at low speeds.
- Through traffic will be discouraged from using these roadways.
- Will generally have a 20 m road allowance with a 2-lane capacity.
- Will generally be designed to accommodate shared or separated cycling facilities, where appropriate.

10.2 Proposed Official Plan Revisions

The 2022 TMP recommends the following road classification revisions to the Official Plan:

- The Official Plan should outline a road classification system similar to the definitions above.
- 6th Line between Highway 400 and 20th Sideroad should be classified as a Future County Arterial pending the final Simcoe County’s 2022 TMP.
- Innisfil Beach Road between Yonge Street and 20th Sideroad should be classified as a future Town of Innisfil Arterial.
- 6th Line within the Town of Innisfil should be classified as a “Strategic Corridor” to identify the need for a future study to explore potential future design solutions and additional right-of-way requirements.
- 5th Line between 20th Sideroad and Yonge Street should be classified as a “Major Collector” due to its close proximity to the Orbit development.

These changes are illustrated in Figure 10-1.

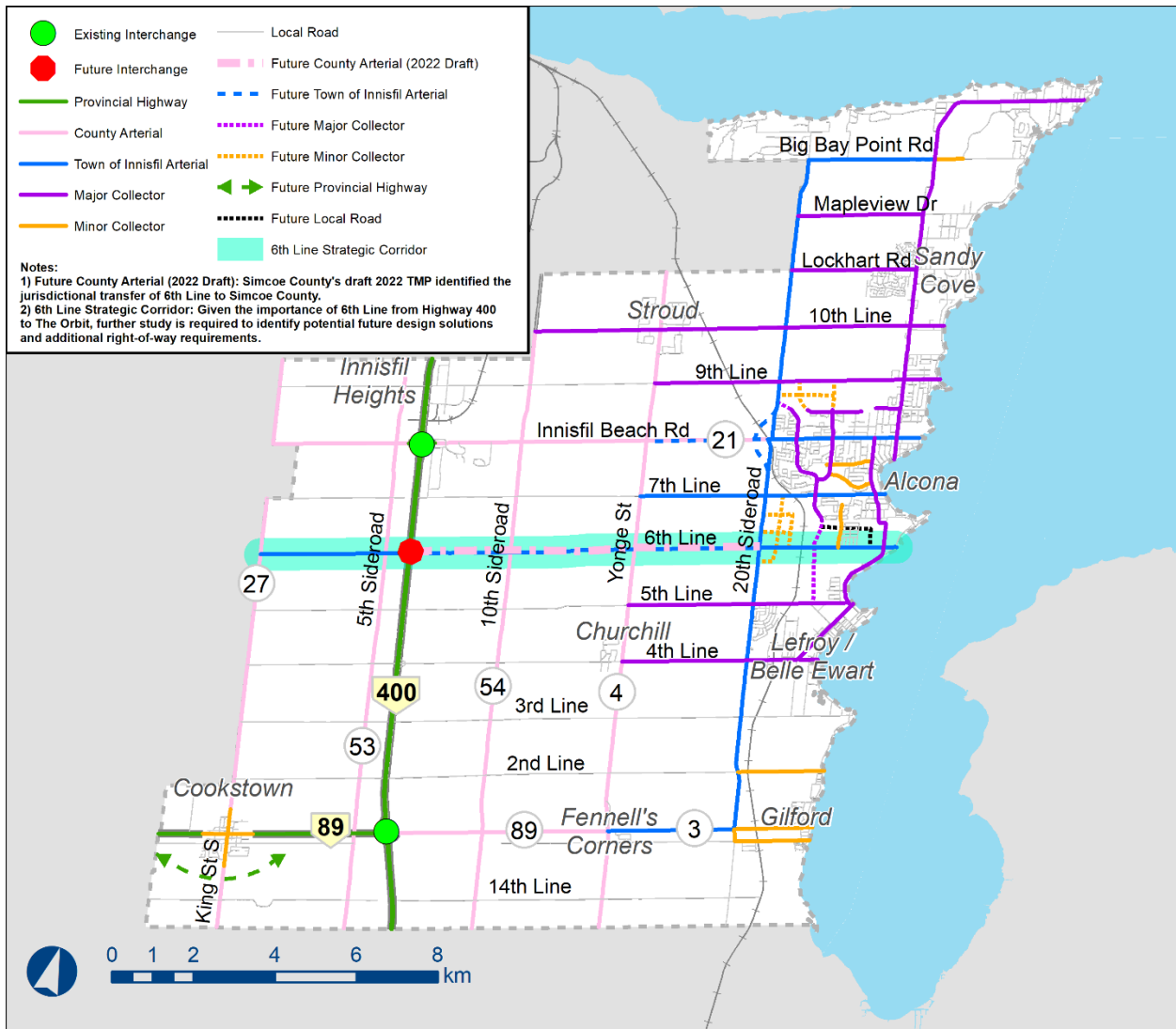


Figure 10-1: Proposed Road Classification Revisions

11.0 Climate Change Implications

11.1 What is Climate Change?

Climate scientists have agreed that concentrations of greenhouse gases (GHGs) in the atmosphere have been steadily increasing over the past century as a result of human activity, primarily the burning of fossil fuels. When fossil fuels, such as oil and gas, are burned to power our buildings, vehicles, and industrial activities, they release greenhouse gas emissions into the atmosphere. These GHGs warm the atmosphere by absorbing and emitting solar radiation, causing a greenhouse effect that traps heat close to the surface of the Earth. While some of these GHGs exist naturally, their concentrations in the atmosphere have increased dramatically over a relatively short time frame, causing Earth's average temperatures to increase, weather systems to become more extreme, and ecological systems to degrade.

11.2 Climate Change and the EA Process

The Provincial government has taken steps by ensuring that climate change is considered in the Environmental Assessment Process by incorporating certain considerations in the EA program's Guides and Codes of Practice. The Guide sets out the Ministry of Environment Conservation and Parks' expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA.

11.3 Town of Innisfil Climate Change Needs

In 2022, Innisfil Council declared a Climate Emergency stating that Canada is experiencing impacts of climate change that will continue to intensify due to human activities. The Town recognizes the following climate change mitigation needs:

- The United Nations Intergovernmental Panel on Climate Change (IPCC) 2018 Report 'Global Warming of 1.5 degree C' states the urgency of keeping global heating below the 1.5 degree C goal. The world is currently on track for more than 3 degree C increase in temperature rise based on policies that are now in place, which was reinforced at the United Nations COP26 proceedings in 2021.
- Canada is currently experiencing impacts of climate change that will continue to intensify due to human activities, posing compounding and lasting risks for communities, business, and natural ecosystems. These risks include, but are not limited to, acute damages from extreme weather, threats to human health and wellbeing, economic disruption, food and water insecurity, and social instability. These risks also include threats to all other life on earth, and to the richness and complexity of global biodiversity.

- Projected temperature and precipitation data from the Lake Simcoe Region Conservation Authority and the Lake Simcoe County Health Unit indicate greater risk to natural and built systems in Innisfil.
- Town residents have demonstrated a strong interest in and commitment to addressing climate change solutions to not only reduce carbon output, but also for the multiple benefits including improved health and air quality, greater community resilience, sustainable economic and physical development, and reduced costs.
- The need to develop an Integrated Sustainability Master Plan, which will operationalize the Town's commitment to the health and protection of the municipality, via actions to reduce carbon emissions, adapt to climate impact, and improve sustainability within the community.

If strategies are not undertaken to mitigate climate change, transportation emissions are expected to increase over the next 30 years due to the anticipated growth of approximately 100,000 people and 26,000 jobs in the Town of Innisfil by the 2051 horizon year. According to the United States Environmental Protection Agency, a typical passenger vehicle emits about 4.6 metric tons of carbon dioxide per year. The average passenger vehicle emits about 404 grams of CO₂ per mile. Strategies in the TMP should aim to reduce the use and reliance of the gas-powered personal automobile.

To meet the challenges of climate change, the Town of Innisfil is developing an Integrated Sustainability Master Plan (ISMP). The goal of this plan is to create a cohesive strategy that outlines actions we can take at both corporate and community levels.

The ISMP will identify key goals and actions needed to:

- Reduce greenhouse gas emissions and climate-related costs.
- Manage energy use and carbon.
- Increase climate resilience (i.e., our ability to prepare for and respond to climate events).
- Develop a circular economy (i.e., sharing, reusing, repairing, and recycling existing resources).
- Improve how we use resources and the state of our natural environment.

The Integrated Sustainability Master Plan uses three main pathways to guide actions for a "Sustainable Innisfil". These pathways include mitigation, adaptation, and operational sustainability.

- **Mitigation:** Mitigation means reducing energy use and carbon management. Examples are hybrid/electric transportation, energy efficiency and renewable energy.
- **Adaptation:** Adaptation means adjusting our decisions, behaviours and activities to account for existing or expected changes in climate. Adaptation measures can be taken either before or after we experience the effects of a changing climate. Examples are infrastructure resilience, shoreline protection and community preparedness.
- **Operational Strategies:** Operational sustainability means reducing waste, using circular and efficient processes, and general environmental preservation. Examples are a single-use plastic ban, environmental preservation, and circular economy practices.

11.4 Climate Change and the TMP

11.4.1 Considerations

The TMP evaluated four different high-level alternative solutions. The evaluation criteria included the solutions' impact to climate change and the natural environment. Although the transportation improvements associated with this master plan's preferred strategy will result in effects to the climate (e.g., greenhouse gas emissions) and impact the natural environment within the Town of Innisfil, climate change was considered throughout the process and the strategy aims to reduce the GHG emissions for the growth prescribed for the Town.

11.4.2 Preferred Alternative Solution

A multi-modal approach has been undertaken to develop the preferred alternative solution in line with the Town's climate change commitments. This multi-modal approach ensures that emissions and negative effects to air quality are minimized. This strategy includes the following:

- Road capacity improvements manages average speeds of vehicles a level that minimizes GHG emissions by reducing congestion on key major corridors. This will be confirmed through Schedule B or C environmental assessments.
- Active transportation network strategy that provides levels of protection for pedestrians and cyclists depending on the context to lessen the reliance of the personal automobile.
- Identification of key transit corridors that connects communities within Innisfil ranging from smaller hamlets to larger and denser urban areas to lessen the reliance of the personal automobile.
- The promotion of electric vehicle charging stations so that if the trip is made by a personal vehicle, there is support for the vehicle to be electric which lowers GHG emissions per capita.
- A travel demand strategy that promotes reducing the demand of personal automobile trips to lower GHG emissions per capita.
- The promotion of a bike-share program as an alternative mode of transportation.

Summary and Next Steps

This Transportation Master Plan satisfies Phase 1 and Phase 2 of the Municipal Class Environmental Process. Alternative solutions were identified, and a preferred alternative solution was selected based on an evaluation criterion which involved both natural heritage and climate change. An inventory of natural heritage assets was also conducted to understand the extent of the impacts to the natural environment.

Therefore, climate change considerations and implications have been documented and assessed through this study. Additional project-specific studies that involve Phase 3 to Phase 5 of the Municipal Class EA process in the Town of Innisfil should further consider impacts to the climate and use the information provided in the TMP as a foundation.

12.0 Funding and Monitoring

12.1 Costing Scope

This Transportation Master Plan (TMP) update undertook a costing exercise to establish the financing requirements of the recommended transportation strategy to 2051. Costs were estimated for additional projects not included in the previous TMP. This includes recommended projects for road widenings, urbanization and reconstruction, intersection improvements, multi-use and off-road trails, and on-road cycling facilities. The cost of transportation studies identified in this TMP or required for approval / implementation of the recommendations were also included. The costs of projects from the previous TMP were also updated to account for inflation and updated development charge breakdowns. The full project costing table, including planned proposed projects, is provided in Appendix P.

The cost of expanding Innisfil Transit to a Town On-Demand Transit (ODT) service and scheduled fixed route service have been costed at a preliminary level in this Transportation Master Plan; however, further studies will be necessary to confirm the preferred transit model, service and service provider.

12.2 Cost Estimates

The costs presented in this section are based on construction benchmark cost information provided by the Town and extracted from bid documents, the Town's Road Needs Study and information from Simcoe County.

Roadway benchmark costs reflect typical cross sections and roadway design standards for roads under the jurisdiction of the Town of Innisfil. Structure and culvert benchmark costs were derived from the road needs studies and other municipal sources. All costs reflect the average of 2016 and 2017 contract bids. Costs were updated using inflation rates reflecting the non-residential construction price index. The benchmark capital and annual maintenance cost by road improvement type is documented in Table 12-1 and Table 12-2, respectively.

Cost estimates provided in the subsequent sections reflect capital costs in 2022 dollars for roads under the Town's jurisdiction.

Table 12-1: Benchmark Capital Costs

Type	2022 \$ per KM
Road Projects	
Urbanization	\$ 3,692,539
Reconstruction	\$ 1,191,591
Widening (2-4 Lanes)	\$ 3,318,758
Active Transportation Projects	
Paved Shoulders	\$ 242,179
Multi-use Path	\$ 198,125
Sharrows	\$ 4,576
Painted Bike Lanes	\$ 191,134

Table 12-2: Benchmark Annual Maintenance Costs

Type	2022 \$ per KM
Road - Hard Surface	\$ 2,433
Road - Loose Top	\$ 5,349
Trail	\$ 1,169
Multi-Use Trail	\$ 3,407
Paved Shoulder	\$ 3,211
Sidewalk	\$ 3,211
Urbanization	\$ 2,402
Widening	\$ 2,925
Type	2022 \$ per Installation
Streetlight	\$ 250
Boulevards & Road-ends	\$ 8,793

12.2.1 Road Projects

Road projects recommended from this TMP study up to the horizon year of 2051 is estimated to require a capital investment of \$31.0 million total, most of which (88%) is proposed to be implemented in the medium-term (by 2041). A summary of road improvement costs is provided in Table 12-3.

12.2.2 Active Transportation Projects

Proposed active transportation improvements include on-road facilities, multi-use trails and sidewalks. Capital costs for on-road facilities and multi-use trails recommended from this TMP study are summarized in Table 12-4, with a total amounting to approximately \$12.0 million. Most of these facilities are recommended by 2031; however, it should also be incorporated as part of the construction of road projects, where possible. Proposed sidewalk locations as part of this TMP should be considered and budgeted as part of the Town's Sidewalk Improvement Program.

12.2.3 Transit Projects

A transit strategy was established as part of this TMP, with the capital, operating and net costs estimated and summarized in Appendix K for the alternatives considered. Costs will be further assessed as part of the Town's Transit Study.

Table 12-3: Road Projects Capital Cost Summary

Road / Intersection	From	To	EA Schedule	Length (km)	Improvement Type	Existing Road Class	Roadwork Cost (\$)	Utilities (10%)	Culvert Cost (\$)	Traffic Control (2%)	Property Acquisition	EA Study (\$100,000+8%)	Other Study	Subtotal	Engineering (15%)	Contingency (10%)	Total Capital Cost (2022 \$)	BTE %	BTE \$	BTG %	BTG \$		
By 2031																							
Big Bay Point Road / 20th Sideroad Safety and Operations Study (including the assessment of identified potential crossing locations)	-	-	-	-	Signalization		-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 371,696	\$ 55,754	\$ 37,170	\$ 464,620	90%	\$ 418,158	10%	\$ 46,462		
Implementation of crossings at recommended locations, subject to further study, as noted above							-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ 100,000	\$ 15,000	\$ 10,000	\$ 125,000	0%	\$ -	100%	\$ 125,000		
							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,973,400	\$ 296,010	\$ 197,340	\$ 2,466,750	10%	\$ 246,675	90%	\$ 2,220,075		
																	Subtotal		\$ 3,056,370		\$ 664,833		\$ 2,391,537
By 2041																							
13th Line	25th Sideroad	Friday Drive	A+	0.7	Urbanization	Local	\$ 2,584,778	\$ 258,478	\$ -	\$ 51,696	\$ -	\$ -	\$ -	\$ 2,894,951	\$ 434,243	\$ 289,495	\$ 3,618,689	10%	\$ 361,869	90%	\$ 3,256,820		
20th Sideroad	Lockhart Road	Big Bay Point Road	C	2.8	Widening	Arterial	\$ 10,035,913	\$ 1,003,591	\$ 291,526	\$ 200,718	\$ 2,687,295	\$ 902,873	\$ -	\$ 15,121,918	\$ 2,268,288	\$ 1,512,192	\$ 18,902,397	20%	\$ 3,780,479	80%	\$ 15,121,918		
14th Line	Town Limits	County Road 27 (King Street South)	A+	1.9	Reconstruction	Local	\$ 2,264,023	\$ 226,402	\$ -	\$ 45,280	\$ -	\$ -	\$ -	\$ 2,535,706	\$ 380,356	\$ 253,571	\$ 3,169,632	75%	\$ 2,377,224	25%	\$ 792,408		
County Road 27 (King Street South)	Victoria Street	Highway 89 (Queen Street – Church Street)	-	0.3	Parking Study	Local	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ 100,000	\$ 15,000	\$ 10,000	\$ 125,000	0%	\$ -	100%	\$ 125,000		
County Road 27 (King Street South)	East John Street	Garibaldi Street	-	0.1	Parking Study	Local	-	\$ -	\$ -	\$ -	\$ -	\$ -	Included in Above Cost	\$ -	\$ -	\$ -	\$ -	0%	\$ -	100%	\$ -		
6th Line	Highway 400 Interchange	Eastern limit of The Orbit	C	12.6	EA Addendum	Arterial	-	\$ -	\$ -	\$ -	\$ -	\$ 647,168	\$ -	\$ 647,168	\$ 97,075	\$ 64,717	\$ 808,959	0%	\$ -	100%	\$ 808,959		
Innisfil Beach Road / Webster Boulevard	-	-	A	-	Signalization/Intersection Improvements		-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 371,696	\$ 55,754	\$ 37,170	\$ 464,620	10%	\$ 46,462	90%	\$ 418,158		
																	Subtotal		\$ 27,089,297		\$ 6,566,034		\$ 20,523,263
By 2051																							
7th Line	County Road 4 (Yonge Street)	20th Sideroad	C	3.1	EA Study	Minor Collector	-	\$ -	\$ -	\$ -	\$ -	\$ 647,168	\$ -	\$ 647,168	\$ 97,075	\$ 64,717	\$ 808,959	0%	\$ -	100%	\$ 808,959		
																	Subtotal		\$ 808,959		\$ -		\$ 808,959
																	Total		\$ 30,954,627		\$ 7,230,867		\$ 23,723,759

Table 12-4: Active Transportation Projects Capital Cost Summary

Road	From	To	EA Schedule	Length (km)	Improvement Type	Existing Road Class	Roadwork Cost (\$)	Utilities (10%)	Culvert Cost (\$)	Traffic Control (2%)	Property Acquisition	EA Study (\$100,000+8%)	Other Study	Subtotal	Engineering (15%)	Contingency (10%)	Total (2022 \$)	BTE %	BTE \$	BTG %	BTG \$		
By 2031																							
10th Line	East of Stroud	20th Sideroad	A	2.1	Paved Shoulder	Minor Collector	\$ 508,576	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 508,576	\$ 76,286	\$ 50,858	\$ 635,720	80%	\$ 508,576	20%	\$ 127,144		
10th Line	10th Sideroad	West of Stroud	A	2.4	Paved Shoulder	Minor Collector	\$ 581,230	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 581,230	\$ 87,184	\$ 58,123	\$ 726,537	80%	\$ 581,230	20%	\$ 145,307		
4th Line	West of Churchill	County Road 27 (King Street South)	A	8.7	Paved Shoulder	Local	\$ 2,106,958	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,106,958	\$ 316,044	\$ 210,696	\$ 2,633,698	80%	\$ 2,106,958	20%	\$ 526,740		
Mapleview Drive	25th Sideroad	20th Sideroad	A/A+	3.1	Multi-Use Trail	Minor Collector	\$ 614,187	\$ -	\$ -	\$ -	\$ 874,920	\$ -	\$ -	\$ 1,489,106	\$ 223,366	\$ 148,911	\$ 1,861,383	80%	\$ 1,489,106	20%	\$ 372,277		
Big Bay Point Road	13th Line	Lake Simcoe	A/A+	4.7	Multi-Use Trail	Minor Collector	\$ 931,186	\$ -	\$ -	\$ -	\$ 2,487,519	\$ -	\$ -	\$ 3,418,705	\$ 512,806	\$ 341,870	\$ 4,273,381	80%	\$ 3,418,705	20%	\$ 854,676		
																	Subtotal		\$ 10,130,719		\$ 8,104,575		\$ 2,026,144
By 2051																							
5th Line	Yonge Street	20th Sideroad	A/A+	3.1	Multi-Use Trail	Local	\$ 614,187	\$ -	\$ -	\$ -	\$ 97,794	\$ -	\$ -	\$ 711,980	\$ 106,797	\$ 71,198	\$ 889,975	80%	\$ 711,980	20%	\$ 177,995		
7th Line	Yonge Street	10th Sideroad	A	3.1	Paved Shoulder	Local	\$ 750,755	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 750,755	\$ 112,613	\$ 75,076	\$ 938,444	80%	\$ 750,755	20%	\$ 187,689		
																	Subtotal		\$ 1,828,420		\$ 1,462,736		\$ 365,684
																	Total		\$ 11,959,139		\$ 9,567,311		\$ 2,391,828

12.3 Development Charges

The capital cost of the recommended transportation strategy over the next 29 years (until 2051), inclusive of road widenings, new construction, urbanization and reconstruction, intersection improvements, multi-use and off-road trails, and on-road cycling lanes will total approximately \$42.9 million (2022\$). Of the total, 31% or \$13.2 million is needed for short-term improvements (before 2031), 63% or \$27.1 million for medium term (2032-2041), and 6% or \$2.6 million for long-term (beyond year 2041).

Certain transportation improvements will benefit current residents and would comprise the non-growth component of the Development Charges (also known as Benefit to Existing or BTE). The improvements required to accommodate higher volumes of traffic and increased demand on the existing infrastructure directly attributable to new developments (growth component also known as Benefit to Growth or BTG) are eligible for funding through Development Charges.

Approximately 61% of the capital improvement cost will be eligible for cost recovery through the DC mechanisms. The remaining 39% of expenditures could be financed from the residential tax base. A summary of costs by timing and by BTE and BTG is provided in Table 12-5. The BTG and BTG breakdown for each road and active transportation project is included in Table 12-3 and Table 12-4, respectively.

Table 12-5: Development Charge Cost Summary

Phase Year	Cost (\$ 2022)	% of Total	Benefit To Existing (BTE)		Benefit To Growth (BTG)	
			\$	%	\$	%
Short-Term (By 2031)	\$13,187,089	31%	\$8,769,408	66%	\$4,417,681	34%
Medium-Term (By 2041)	\$27,089,297	63%	\$6,566,034	24%	\$20,523,263	76%
Long-Term (By 2051)	\$2,637,379	6%	\$1,462,736	55%	\$1,174,643	45%
Total	\$42,913,765	100%	\$16,798,178	39%	\$26,115,587	61%

The Town will see considerable growth over the next 20 to 30 years and most of the roadway infrastructure needs identified in this report are needed to accommodate that growth. However, certain improvements will benefit current residents and would comprise the non-growth component of the Development Charges (DC). The improvements required to accommodate higher volumes of traffic and increased demand on the existing infrastructure directly attributable to new developments are eligible for funding through Development Charges.

New road construction, road reconstruction and road widening projects have been determined to be largely triggered by growth and required to meet the needs of new development. Certain portions of future reconstruction and urbanization projects have recognized benefits to existing (non-growth) component. Table 12-6 details the percentage allocation and the rationale behind attributing whole or a portion of an improvement type to existing development.

Table 12-6: Development Charge Breakdown Rationale

Improvement Type		Rationale	Benefit to Existing	Benefit to Growth
Road Urbanization		When a road needs to be urbanized due to higher population and employment densities from new developments. Assumed 10% deduction to cover the estimated cost of the rehabilitation of existing asset.	10%	90%
Road Reconstruction	End of Life	When a road reaches the end of its regular service life based on existing traffic, with no capacity being added and no upgrades being provided	100%	0%
	Out of Settlement Area	When a road needs to be reconstructed to a higher standard (alignment, road reconfiguration, pavement structure) to accommodate anticipated traffic growth, in areas outside of settlement areas	75%	25%
	Within Settlement Area	When a road needs to be reconstructed to a higher standard to accommodate anticipated traffic growth, within a settlement area	40%	60%
	New Development	When a road needs to be reconstructed to a higher standard to accommodate anticipated traffic growth, within or directly adjacent to a development, resulting in minor benefit to existing residents with respect to replacing the existing road	10%	90%
	Truck Haul Route	When a road needs to be reconstructed to address road damage caused by heavy construction traffic.	20%	80%
New Construction		No deduction understanding that the need for road widening and additional capacity is entirely driven by the need to accommodate new growth.	0%	100%
Grade Separation		Deduction applied to reflect the improved safety and elimination of delays due to train movements as a result of a grade separation.	25%	75%
Widening		Minimal deduction understanding that the need for new construction is primarily driven by the need to accommodate new growth, with some benefit to existing related to the rehabilitation/reconstruction of existing lanes.	20%	80%

Improvement Type		Rationale	Benefit to Existing	Benefit to Growth
Signalization	Future Need	90% of the cost is allocated to growth understanding that the need for additional signalization is required to control increased traffic volumes at intersections. We acknowledge that the existing community will benefit from signal installation in certain locations and this is reflected in a 10% allocation to existing.	10%	90%
	Existing Need	Intersection that meets existing signal warrants; signalization would largely benefit existing traffic	90%	10%
Paved Shoulders and Multi-Use Trails	Big Bay point	Where shoulders are in, close to or leading to areas that are expecting significant growth, BTG should take same percentage of the projected new population. Locations with minimal growth will be attributed 80% BTE. This is ratio from the 2011/2041 population and grouped into:	40%	60%
	Sandy Cove		40%	60%
	Alcona North		45%	55%
	Alcona South		45%	55%
	Lefroy-Belle Ewart		40%	60%
	Cookstown		40%	60%
	Other locations		80%	20%
New Development	Road adjacent to secondary plan development area	0%	100%	
Studies			0%	100%

12.4 Implementation and Monitoring Plan

The Innisfil Transportation Master Plan provides a strategy for the implementation of transportation facilities and services and recommends relevant policies to support Town goals and objectives. Phasing of proposed projects were identified for the short, medium and long term. Implementation and timing of projects should be confirmed through subsequent corridor-specific studies and a further assessment to balance capital costs and funding strategies.

12.4.1 Active Transportation Planning

The development and programming of the active transportation improvements should be developed at a network level to encourage continuity and connectivity. Recommended active transportation projects will be confirmed in consultation with the Land and Lake Plan. Phasing should be developed together with the capital roads plan in order to identify cost efficiencies.

12.4.2 Transit Planning

It is recommended that the introduction of additional ODT and fixed route transit should follow a transit implementation study includes demand surveys, public engagement and forecasting of demand based on survey and Uber data. It should present a detailed benefit-cost analysis of additional services, identify funding sources and present capital and on-going operating costs in a manner sufficient for Council to consider and program expenditures.

12.4.3 Project Delivery

Specific projects will carry forward through the Municipal Class Environmental Assessment process. This TMP has followed the Municipal Class EA Master Plan process thereby fulfilling the requirements of Phases 1 and 2 of the Municipal Class EA process for roads including the identification of problems and opportunities and the selection of preferred solutions. The TMP and its background technical reports will become supporting documents for future EA work. Projects that have not completed the EA process will require additional study including public and stakeholder consultation before design and construction can proceed.

Projects that are limited in scale and have few/minimal environmental effects are categorized in the Municipal Class EA under Schedule A and A+ and are pre-approved and can proceed to implementation. Examples include installation of traffic signals, operational improvements at specific locations including turning lanes, construction of new parking lots below a specified cost threshold, re-designation of existing traffic lanes, construction of sidewalks and bike paths.

Projects that have the potential for some adverse environmental effects are categorized in the Municipal Class EA under Schedule B, making available a Project File for public review is required to fulfill the requirements of the Municipal Class EA process. Examples of Schedule B projects include reconstruction and expansion of small water crossings and construction of new roads that cost less than \$2.4 million.

12.4.4 Organizational Capacity

The Transportation Master Plan recommends new initiatives and infrastructure improvements that support a nearly doubling of the population including new transit-oriented communities. To implement the findings and address growth in an effective manner, additional resources and skill sets will be needed.

Appendix O summarizes an organizational capacity review of the existing Town administrative structure, staffing and competencies. It identifies additional required resources referencing a benchmarking survey of comparable municipalities and the state of the practice in staffing (full time equivalents) relative to anticipated operational demands for the Town. Key findings include:

- The addition of a dedicated active transportation and Transportation Demand Management (TDM) coordinator to “champion”, plan, program and provide input on implementation of trails and cycling facilities.

- The addition of a dedicated transit manager to administer transit services, manage a transit implementation study and funding opportunities.
- Alignment of capital programs and capital budget line items with program leaders.
- Additional full time equivalent staff resources phased with the approval of transit and active transportation programs.

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