



Town of Innisfil

**Town of Innisfil
Transportation Master Plan
Final Report**

Innisfil, ON

August 2013

HDR



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Project # 6937



EXECUTIVE SUMMARY

A. Introduction and Study Purpose

In June 2012, the Town of Innisfil initiated its first Transportation Master Plan (TMP) to address existing and future auto, transit, cycling and pedestrian traffic needs within Innisfil. The TMP provides a long term guide and strategy for the Town to manage planned population and employment growth by 2031 which takes into account the January 2012 Amendment to the Provincial Growth Plan. A sustainable multi-modal transportation strategy is required to achieve this goal and will result in:

- better travel choices for residents without access to cars
- better connections between communities within Innisfil and with its neighbouring municipalities
- improved mobility for youth and seniors
- improved accessibility to Town and County facilities and services
- reduced reliance of autos for local trips within the Town
- an efficient and effective transportation network

This Transportation Master Plan Study has also addressed and integrated the following study components identified by the Town for inclusion in the Strategy:

- Pedestrian and Cycling Network Plan
- Identification of Transit Opportunities for Innisfil
- Road Network Improvements
- Traffic Operations Review of Intersections
- Preparation of “Made in Innisfil” Traffic Policies and Manuals
- Financial Planning and Input to Development Charges Update

B. Study Approach and Consultation

This TMP study has been carried out through an open public process under the Municipal Class Environmental Assessment Guidelines. The following summarizes the public announcements and opportunities for public and agency input and participation in this study:

- Public notice of study commencement in June 2012
- A public opinion survey to understand the transportation needs and concerns of the Town residents and was available both online and at community events between June 2012 and June 2013
- References to the study through the Town of Innisfil web site as well as a project specific website at <http://www.innisfilTMP.ca>
- Three public open houses held at the Innisfil Town Hall in September 2012, November 2012, and May 2013
- Four Council Meetings held in council chambers in June and September 2012 and April and May 2013
- Two Technical Agencies Committee (TAC) meetings held in August and November 2012



C. The Current Transportation System

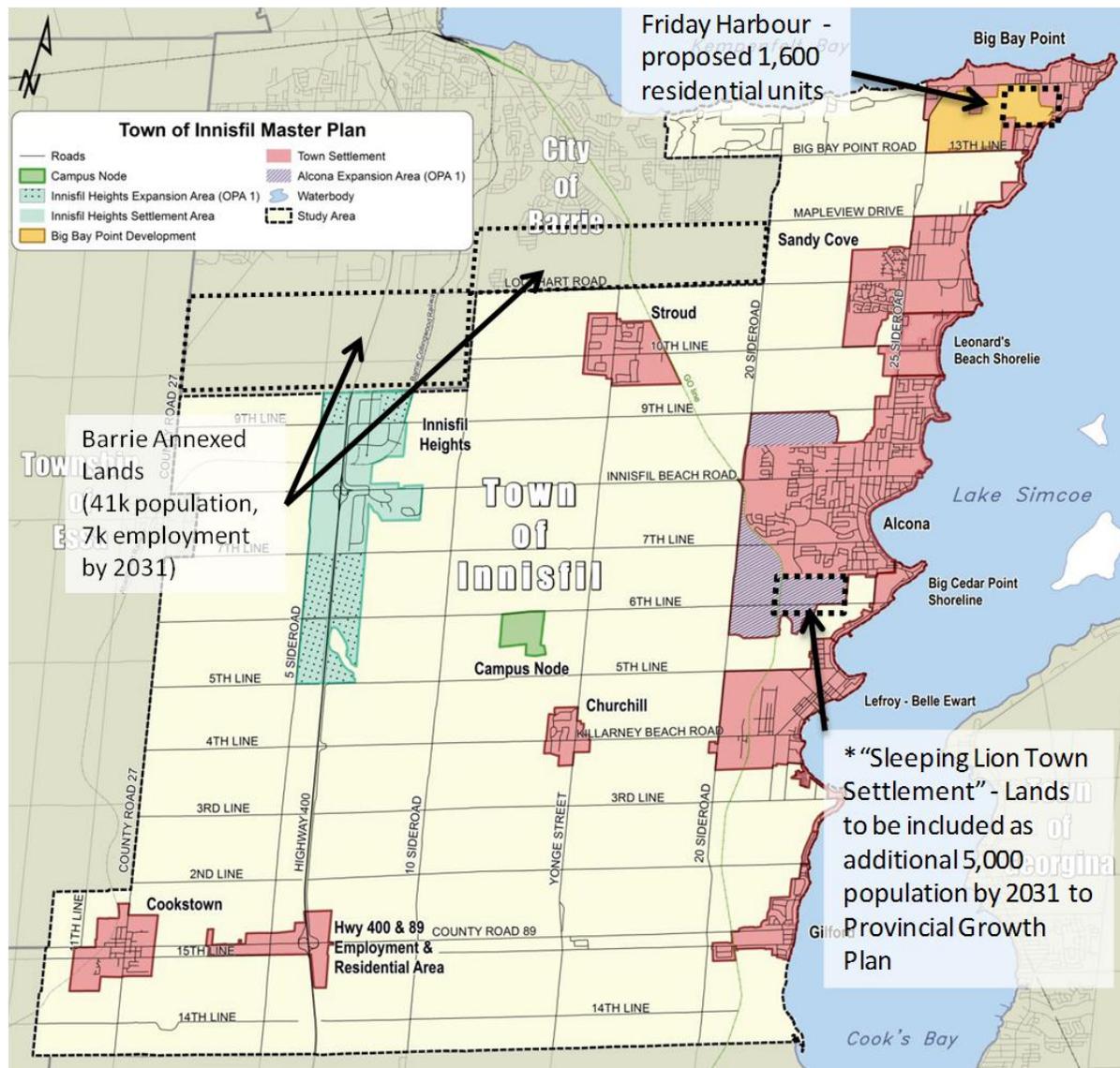
The Town of Innisfil's transportation network includes provincial, county and local roads, sidewalks and trails, and commuter transit service via GO rail and GO bus. Although some elements of a multi-modal transportation network are present, they are limited and scattered throughout the Town. Increased connectivity in the transportation system (including trails and sidewalks) within and between settlement areas is needed to encourage non-auto trips. Residents have also identified a desire for local transit service within the Town and better inter-regional service as the only regional commuter service is provided by GO Transit.

In addition to the above, a number of local transportation issues (such as speeding, intersection congestion and queuing, and increased traffic around schools and neighbourhoods) were identified as part of the background research and existing conditions documentation. These issues were gathered from the TMP online survey, field investigations, traffic analysis, and discussions with the Town, Council, and the public. A key issues map was prepared to share with the public, TAC, Town staff and Council who attended the open houses and meetings.

Several inter-regional and provincial issues are not addressed in the TMP, namely, the existing and future capacity deficiencies on Highway 400 and Highway 89. The MTO is currently undertaking the Simcoe Area Multi-Modal Transportation Strategy to address the potential provincial roads and highway improvements in this area, including widening of Highway 400 and the Highway 89 / Cookstown Bypass.

D. Future Growth

The Town of Innisfil is projected to grow significantly from about 32,000 people today to about 65,000 by 2031, and this presents the Town with a set of issues and challenges, but also opportunities, for the future. The population projection includes significant planned developments in the short term including Friday Harbour and the Sleeping Lion lands in the south part of Alcona. Also affecting Innisfil is the City of Barrie's plans for the Barrie Annexed Lands, projected to grow from greenfield today to 41,000 population and 7,000 employment by 2021. The Town's various settlement areas, Friday Harbour, the Sleeping Lion lands and the Barrie Annexed Lands are illustrated in **Exhibit A**.



(Source: Innisfil Town-Wide Water and Wastewater Master Servicing Plan)

Exhibit A: Future Growth Areas

E. A Transportation Vision for Innisfil

To develop a recommended strategy, the TMP prepared a Problem Statement which summarizes the issues facing the town:

Today, almost all travel is made by car. Traffic has grown steadily by 2-4% per year over the past 10 years resulting in traffic congestion during peak periods; while only 14% of all Innisfil work trips stay within Innisfil. There needs to be a greater emphasis on non-auto travel choices such as cycling, walking and transit particularly for seniors, students, and those without access to a vehicle.



Communities within Innisfil are not well connected and the existing sidewalk and trail network is inadequate to accommodate future needs to travel within residential neighbourhoods, and to access Town facilities and services.

By 2031, people and jobs in the Town are expected to double. Without a balanced transportation strategy to handle the growth in travel, Innisfil residents will face town-wide traffic congestion and will not be able to attain its vision and goals.

To address these issues, a transportation vision for Innisfil was developed to guide the development of alternative strategies and to ultimately select the recommended strategy:

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

F. Alternative Planning Strategies

Alternative planning strategies were developed to address the Problem Statement and to satisfy Phase 2 the Environmental Assessment process.

Four planning alternatives were identified:

1. **Do-Nothing** – do not build any improvements
2. **Business As Usual** – build only currently planned road improvements by MTO and County
3. **Balanced Approach** – invest in Town road improvements but also build more trails, bike lanes, sidewalks and implement Travel Demand Management strategies (i.e. encourage carpools, working from home, etc.)
4. **Aggressive Approach** – Alternative 3 plus investment in local transit network and service

Alternative 3 and Alternative 4 are recommended to be carried forward. These Alternatives provide the Town with sustainable travel choices to meet the Transportation Vision and to address the Problem Statement.

G. Recommended Transportation Strategy

Following input from the public open houses, TAC meetings, Council workshop meeting, and based on the evaluation of alternatives and all feedback and comments received from Town staff, a recommended multi-modal transportation strategy was developed for the Town.

Active Transportation Network – Improving Connections

An incremental approach to improving active transportation facilities is recommended, which may include providing interim low-cost active transportation facilities (e.g., a paved shoulder) before multi-use (shared pedestrian and cycling) trails, sidewalks, or on-road bike lanes can be accommodated along with road reconstruction or urbanization. Opportunities to expand



the active transportation network through development applications and planned municipal capital works projects should be explored by the Town.

It is also recommended for the Town to participate in the coordination of the development and implementation of proposed trails along the County's key corridors in the Town (such as on CR21 - Innisfil Beach Road and CR 4 - Yonge Street).

The recommended ultimate active transportation network is illustrated conceptually in **Exhibit B** and will tie together all communities within the Town of Innisfil.

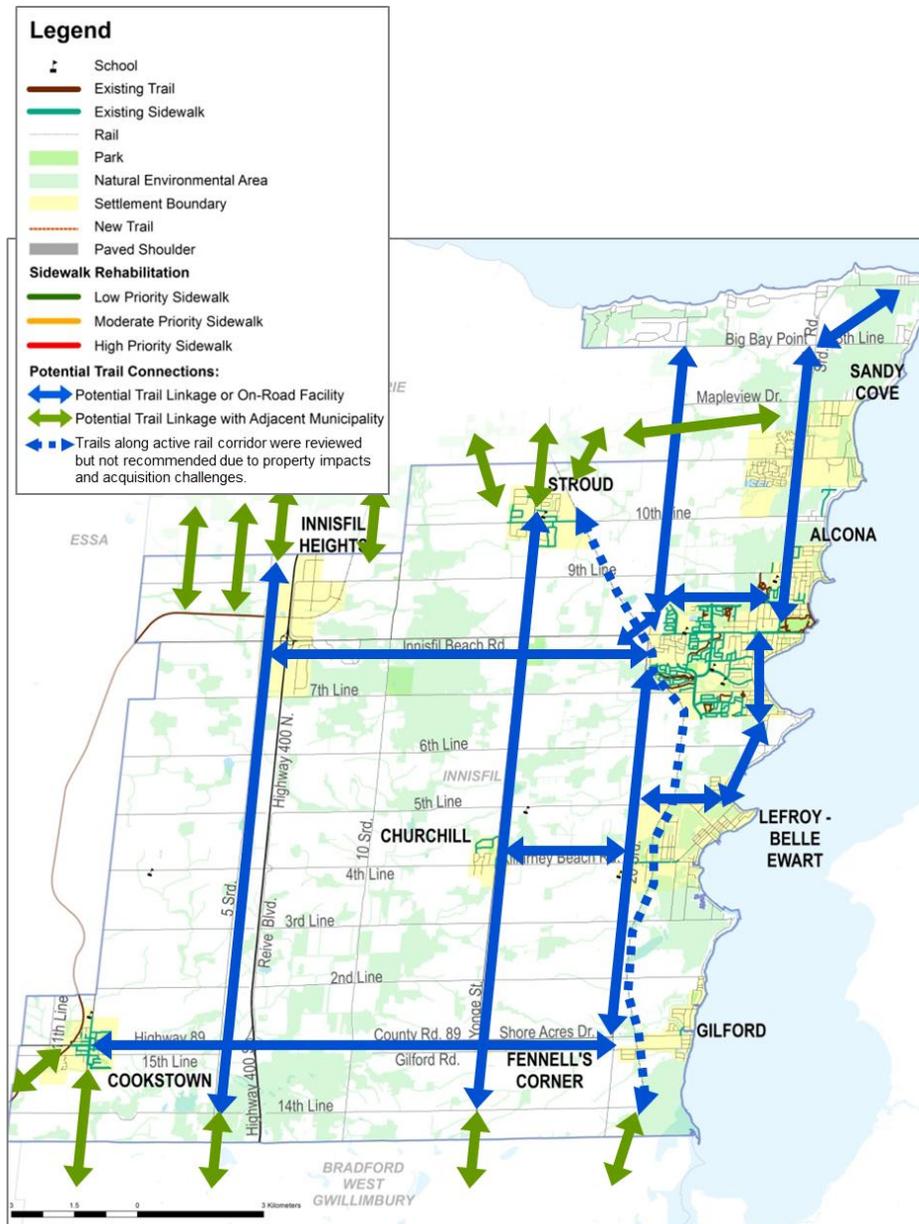


Exhibit B: Proposed Active Transportation Connections



Transit Opportunities for Innisfil

Transit is a key part of the Transportation Vision to connect people and communities as part of a sustainable system. With the proposed Innisfil GO Station, the future intensification of Alcona and Innisfil Heights, and an aging population in need of public transportation to access services, the time is right for the Town to consider local transit opportunities.

To demonstrate the opportunities available for the Town, a conceptual phased approach to implementing local transit service was developed. These opportunities build on the recommendations of the Simcoe County Transit Plan and can be further explored in a separate Transit Strategy or Transit Master Plan Study for the Town. **Exhibit C** illustrates a preliminary loop service concept which provides a strong connection to the City of Barrie, local service on key Town roads, and reliance on taxi service for lower demand connections.



Note: Conceptual only. A separate Transit Strategy study will need to be conducted by Innisfil to provide transit route recommendations.

Exhibit C: Conceptual Short Term Local Transit Network



GO Station Location

Metrolinx/GO Transit in 2005 identified a potential GO Station in Innisfil at Belle Aire Beach Road (5th Line) east of 20th Sideroad. However, since that time, the Ontario Growth Plan amendment for the Simcoe area in 2012 has designated Alcona as a Primary Settlement area, which necessitates a review of the station location in this TMP. An important component of the transportation plan is the connectivity of Primary Settlement areas with public transit services such as GO Transit.

An alternative GO Station located at 6th Line closer to the Primary Settlement area of Alcona was reviewed and compared with the 5th Line location in Lefroy. A 6th Line location can serve a larger travel market in Alcona (based on future population), has an opportunity to support high-density development and attract more walk and cycling trips to the GO station in support of the Provincial Growth Plan.

We recognize that Innisfil's Official Plan currently shows the GO station at the 5th Line location in Schedule C, which incorporated the findings from the 2005 EA study; however, both the 2005 EA and Official Plan predated the Provincial Growth Plan Amendment. Since Metrolinx has not made any commitment to the timing of the station and there is no funding for it at this time, there is the opportunity to update the 2005 EA in light of this TMP.

The cost and timing implications of changing the GO Station location from 5th Line to 6th Line are also not yet known. The recommendation for the Innisfil GO Station location has thus been deferred to a later date following further consultation with Metrolinx / GO Transit.

Road and Intersection Improvements

To support the proposed active transportation and transit opportunities, road improvements remain an integral component of a balanced transportation strategy to support the Town's development targets. Based on the findings of the travel demand modelling and input from Town staff, a road improvement plan and high-level implementation schedule has been developed.

The proposed short (1-5 years), medium (5-10 years) and long term (10+ years) road improvements are summarized in **Table A and Exhibit D**.

Critical to the strategy, we highlight below key recommendations and transfers

- Realignment of 20th Sideroad at Innisfil Beach Road
- Leslie Drive extension between Adullam and Willard
- Leslie Drive westerly extension to 20th Sideroad
- New interchange at Highway 400 / 6th Line
- Upgrade 6th Line from Local Road to Town Arterial Road
- Downgrade 5th Line from Town Arterial Road to Local Road
- Transfer of 5th and 10th Sideroads from County to Town
- Transfer of 20th Sideroad (south of Innisfil Beach Road), Shore Acres Drive (east of CR 4), and Innisfil Beach Road (east of CR 4) from County to Town

Select intersections were also assessed in the TMP and recommendations for installation of signals and geometric (turning lane) improvements for 2031 are also highlighted in **Exhibit D**. Where intersection analyses indicate a need for traffic signals, the TMP supports the policy of evaluating roundabouts to determine the best traffic control for the intersection.



Table A: Recommended Road Network Improvements by 2031

Map Item#	Road	From	To	Improvement Type
Short Term Improvements				
35	St. Johns Rd / Maple Rd	Nantyr Drive	Ewart Street	Paved Shoulders
32	St. John's Road	Innisfil Beach Road	Nantyr Drive	Paved Shoulders
29	13th Line	Big Bay Point Road / 25th Sideroad	Friday Drive	Reconstruction
30	25th Sideroad (West Side)	Rose Lane	Leslie Drive	Paved Shoulders
31	25th Sideroad (West Side)	Leslie Drive	Innisfil Beach Road	Paved Shoulders
2	Big Bay Point Road	20th Sideroad	25th Sideroad	Reconstruction
36	Ewart Street	Maple Road	Killarney Beach Road	Paved Shoulders
38	Willard Ave	Leslie Drive	Innisfil Beach Road	Paved Shoulders
39	Adullam Ave	Lebanon Drive	Innisfil Beach Road	Urbanization
33	25th Sideroad	Big Bay Point Road	Rose Lane	Paved Shoulders
37	9th Line (South Side)	25th Sideroad	Leonard Street	Paved Shoulders
2	Big Bay Point Road	20th Sideroad	25th Sideroad	Reconstruction
36	Ewart Street	Maple Road	Killarney Beach Road	Paved Shoulders
Medium Term Improvements				
34	20th Sideroad	9th Line	4th Line	Paved Shoulders
7	Leslie Drive West Extension	20 Sideroad	Oriole Crescent	New Construction
9	20th Sideroad (bypass)	Leslie Drive	South of Innisfil Beach Rd	New Construction
11	St. John's Road	Innisfil Beach Road	Nantyr Drive	Urbanization
17	Ewart Street	Killarney Beach Road	300 metres north of Killarney Beach Road	Urbanization
16	Killarney Beach Road	20th Sideroad	Ewart Street	Urbanization
1	Big Bay Point Road	Big Bay Point	25th Sideroad	Reconstruction
14	Killarney Beach Road / 4th Line	John Street	Yonge Street	Urbanization
25	6th Line	20 Sideroad	St Johns Road	Urbanization
7	Leslie Drive West Extension	20 Sideroad	Oriole Crescent	New Construction
9	20th Sideroad (bypass)	Leslie Drive	South of Innisfil Beach Rd	New Construction
11	St. John's Road	Innisfil Beach Road	Nantyr Drive	Urbanization
17	Ewart Street	Killarney Beach Road	300 metres north of Killarney Beach Road	Urbanization
16	Killarney Beach Road	20th Sideroad	Ewart Street	Urbanization
1	Big Bay Point Road	Big Bay Point	25th Sideroad	Reconstruction



Map Item#	Road	From	To	Improvement Type
Medium Term Improvements				
14	Killarney Beach Road / 4th Line	John Street	Yonge Street	Urbanization
25	6th Line	20 Sideroad	St Johns Road	Urbanization
5	Lockhart Road	100m west of Main St (Sandy Cove)	25th Sideroad	Urbanization
Long Term Improvements				
3	Mapleview Drive	25th Sideroad	20th Sideroad	Reconstruction
4	Lockhart Road	20th Sideroad	100m west of Main St (Sandy Cove)	Reconstruction
8	20th Sideroad	Leslie Drive	Big Bay Point Road	Reconstruction
6	25th Sideroad	Innisfil Beach Road	Leslie Drive	Urbanization
13	Belle Aire Beach Road	East of GO Transit Station (Proposed)	Maple Road	Urbanization
23	25th Sideroad	Rose Lane	Leslie Drive	Urbanization
10	7th Line	20th Sideroad	St Johns Road	Urbanization
19	25th Sideroad	Big Bay Point Rd	Mapleview Drive East	Reconstruction
20	25th Sideroad	Mapleview Drive East	Henderson Drive	Reconstruction
12	Belle Aire Beach Road	Sideroad 20	GO Transit Station (Proposed)	Urbanization
21	25th Sideroad	Henderson Drive	Lockhart Road	Urbanization
22	25th Sideroad	Lockhart Road	Rose Lane	Urbanization
18	Ewart Street / Maple Rd / St. Johns Rd	300 metres north of Killarney Beach Road	Nantyr Drive	Urbanization
26	6th Line	County Road 27	20 Sideroad	Reconstruction
27	7th Line	Yonge Street	20 Sideroad	Reconstruction
15	Killarney Beach Road	Yonge Street	20th Sideroad	Reconstruction
24	9th Line	20 Sideroad	25th Sideroad	Urbanization
28	9th Line	Yonge Street	20 Sideroad	Reconstruction

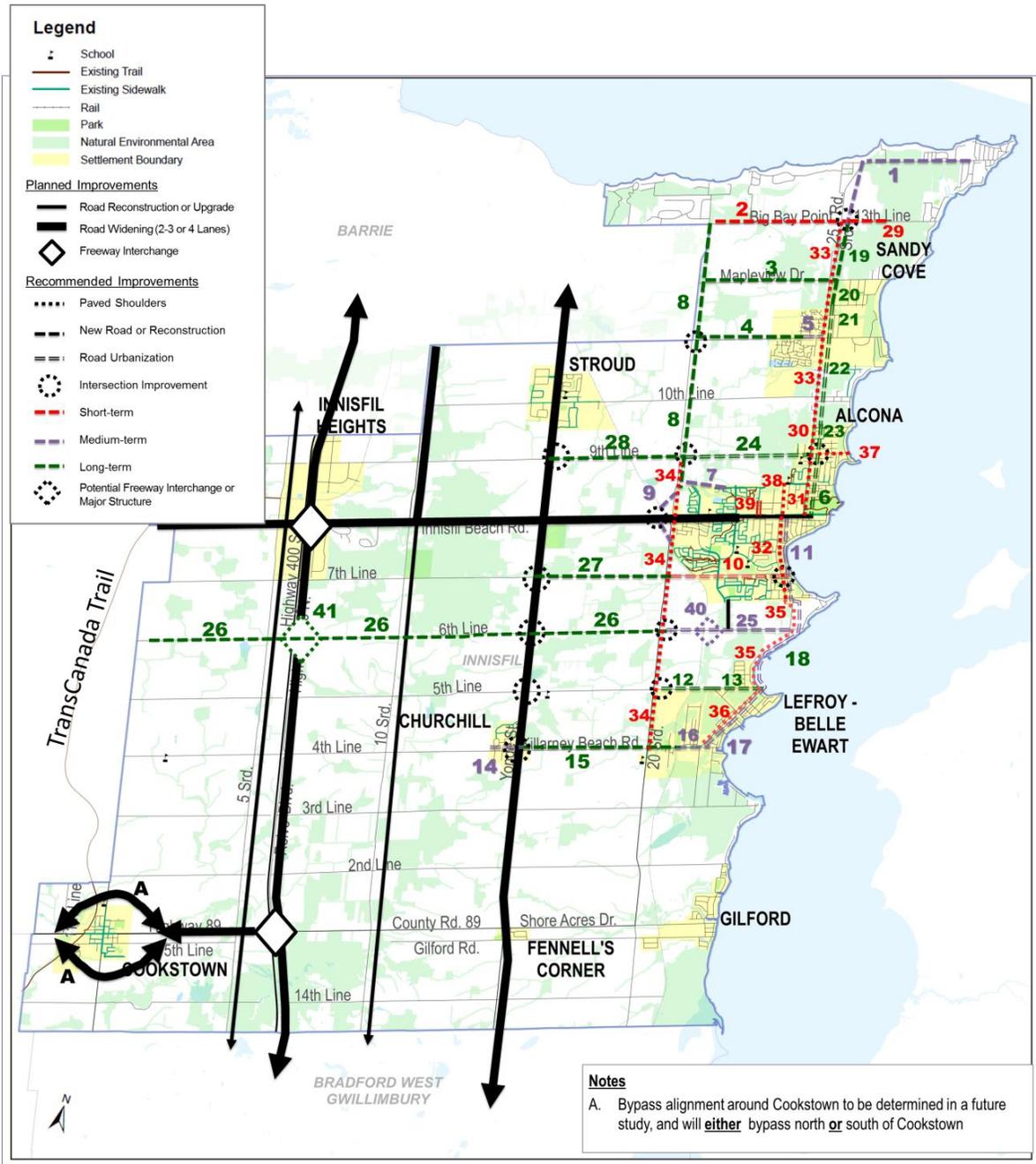


Exhibit D: Recommended 2031 Road Network Improvements

Based on the above transportation network improvements and recommendations, the TMP supports the following changes to the Official Plan Schedule C as illustrated in **Exhibit E**.



Legend

- Provincial / Highway
- - - - - Provincial / Future Highway
- County of Simcoe / Arterial Road (36 m - 40 m)
- Town of Innisfil / Arterial Road (30 m)
- - - - - Town of Innisfil / Future Arterial Road (30 m)
- Town of Innisfil / Major Collector Road (min. 26 m)
- - - - - Town of Innisfil / Future Major Collector Road (min. 26 m)
- Town of Innisfil / Minor Collector Road (min. 23 m)
- - - - - Town of Innisfil / Future Minor Collector Road (min. 23 m)
- Local Road (min. 20 m)
- Existing Interchange
- Potential Future Interchange
- Existing GO Station / Stop
- Potential Future GO Station / Stop *
- Rail
- Settlement Boundary

*NOTE: Decision on Future GO Rail Station location deferred for further consultation with Metrolinx

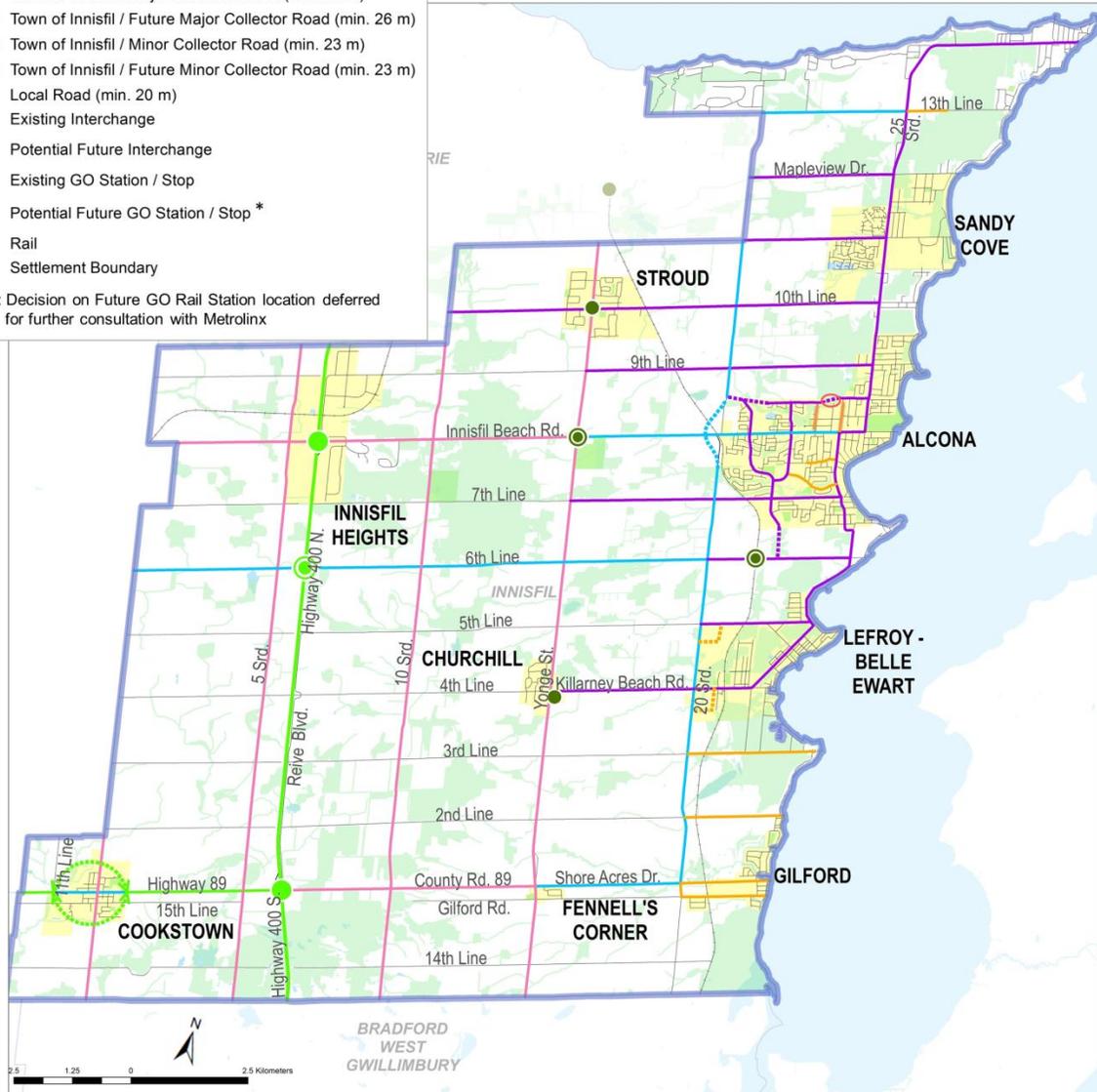


Exhibit E: Recommended Revisions to Official Plan Schedule C – Transportation Network

H. Transportation Policies

The TMP process typically develops comprehensive support policies, principles and guidelines to support and implement the preferred transportation strategy. These supporting policies and guidelines assist Town staff in implementing the TMP, responding to citizens’



requests and concerns, guiding future decisions pertaining to traffic operations and implementation of traffic measures for the years to come. In this regard, Town policies have been developed and updated for the following.

- Traffic Calming
- All-way Stop Control Warrants
- Speed Limits
- Parking / Stopping Regulations
- Community Safety Zones

Town staff had previously consulted guidelines and policies from the Ontario Traffic Manuals (OTM) which were originally developed for province-wide application. Some municipalities have developed their own guidelines and policies to address local issues that were not well defined in the OTM or well suited for application of the OTM. The TMP has developed a “Made in Innisfil” Traffic Manual to handle issues common to smaller communities with a mix of urban and rural conditions.

I. Financing Requirements and Development Charges (DC) Bylaw Input

The capital cost of the recommended transportation strategy over the next 20 years, 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 \$259 million.

The overall estimated cost of capital improvements for road reconstruction and urbanization is approximately \$229 million and accounts for 88% of the road infrastructure costs. The Town will have to construct new roads at an estimated cost of \$11 million.

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

Approximately 65% of the capital improvement cost will be eligible for cost recovery through the DC mechanisms. The remaining 35% of expenditures could be financed from alternate funding sources such as the residential tax base or other non-development charges sources.



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1. INTRODUCTION

1.1 What is a Transportation Master Plan?

A Transportation Master Plan (TMP) is a long-range strategic plan that guides transportation and land use decisions and identifies transportation infrastructure requirements and policies for municipalities to attain their vision and goals for economic development and managing growth. Transportation Master Plans are also integrated with environmental planning and sustainability principles and provide the framework and “blueprint” to implementing coordinated improvements on an area-wide or town-wide basis. A TMP avoids the pitfalls of piece-meal planning and “band-aid” solutions and provides a vision for the Town to strive for. A TMP also provides the unique opportunity for proactive thinking, anticipating community needs, and preparing for emerging trends in transportation solutions.

The Town of Innisfil’s Transportation Master Plan study is a review and assessment of present and future multi-modal transportation requirements for the Town to the year 2031. The intent of the TMP study is to develop a pragmatic 20 year plan that will assist the Town in identifying how infrastructure improvements should be prioritized (short-term, medium-term, and long-term) as well as allow for managed growth while mitigating impacts to the extent possible on existing development.

1.2 Why is a Transportation Master Plan Needed?

The TMP is the Town’s response to the latest planning initiatives set forth by the Province, Simcoe County, and adjacent municipalities, and it was the intent of this study to work closely with these agencies and municipalities to build upon and complement their plans while meeting the needs of the Town.

In addition, the TMP was identified as a recommendation of **Inspiring Innisfil 2020**, whose strategic vision is based on three pillars: 1) Community, 2) Economic Development, and 3) Tourism and Culture. These pillars rely on the need for strategic infrastructure planning and wise decision-making processes for the Town.



Innisfil is a community in transition - community needs and aspirations are changing while life-style expectations remain firm. The Town’s first TMP will balance the needs to accommodate and manage growth and the challenges and expectations to avoid transforming Innisfil to a community dominated by increasing traffic congestion and road expansion.

The anticipated growth in population, mostly concentrated in Alcona and Big Bay Point, and growth in employment along Highway 400 combined with growth in the southern areas of



the City of Barrie will further exacerbate existing traffic congestion within the Town. Fragmented connections between communities within the Town, lack of alternative travel choices for those without access to cars, changing demographics, and societal values of Towns' residents are some of the key factors that support the desire for more sustainable travel modes and infrastructure. The TMP will provide solutions that will preserve the quality of life supported by an effective transportation system.

1.3 Goals and Scope of the Study

The TMP study addressed existing and future vehicular and pedestrian traffic needs to accommodate the population and employment growth as outlined in the Official Plan, and taking into account the January 2012 Amendment to Provincial Growth Plan for the Simcoe Sub-Area. In addition, the Transportation Master Plan has also addressed and integrated the following study components identified by the Town for inclusion in the Plan:

- Pedestrian and Cycling Network Plan
- Identification of Transit Opportunities for Innisfil
- Traffic Operations Review of Intersections
- Preparation of "Made in Innisfil" Traffic Policies and Manuals
- Financial Planning and Input to Development Charges Update

1.4 TMP Study Initiation, Process and Consultation

This TMP study has been carried out through an open public process under the Municipal Class Environmental Assessment Guidelines (2011) so that the study results could properly serve as direct input to any subsequent EA studies for specific infrastructure projects. The study satisfied Phases 1 and 2 of the five-phase Municipal Class EA process. 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 **Exhibit 1-1**, on the next page.

The TMP study was initiated in June 2012 through a Notice of Commencement published on the Town's website and a presentation of the study process and objectives were also presented to the public at the June 20, 2012 Council Meeting.



Town of Innisfil Transportation Master Plan Study

NOTICE OF STUDY COMMENCEMENT

The Town of Innisfil has initiated the Transportation Master Plan (TMP) Study. This Plan will guide the development of the Town's long-term transportation network in compliance with the provincial Policy Statement, Simcoe County Official Plan, and Town of Innisfil Official Plan.

The study also reflects the Town's desire to develop a sustainable transportation system with a strong focus on active transportation and protection for future transit opportunities. This study will be carried out through an open public process in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process (MEA, October 2000 as amended in 2007) which is an approved process under the Environmental Assessment Act.

This notice signals the commencement of the TMP Study. This study will be carried out through an open public process in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process (MEA, October 2000 as amended in 2007) which is an approved process under the Environmental Assessment Act. The TMP study will be carried out in two stages:

- ❖ Stage 1 will assess the current state of the transportation system and identify short term and quick implementation solutions; and
- ❖ Stage 2 will identify the transportation infrastructure needs and timing to accommodate planned growth in the Town and will provide input for the Development Charges By-law and Official Plan updates.

A key component of the study will be consultation with stakeholders, regulatory agencies and the general public. Anyone with an interest in this study has the opportunity to get involved and provide input. One Public Information Centre (PIC) will be held during the study to present findings and receive public input. A Notice providing the time and location of the PIC will be published in local newspapers.

If you require additional information, would like to be placed on the project mailing list, or if you represent an agency, organization, ratepayers group, or special interest group and would like to be added to the study contact list, please contact one of the individuals below:

Amber Parnell, B.Sc., C.E.T. Project Manager Town of Innisfil 2101 Innisfil Beach Rd. Innisfil, ON L9S 1A1 Phone: 705-436-3740 ext. 3234 Email: aparnell@innisfil.ca	Carl Wong, P.Eng. Consultant Project Manager HDR 100 York Boulevard, Suite 300 Richmond Hill, ON L4B 1J8 Phone: 905-882-4100 ext. 3234 Email: carl.wong@hdrinc.com
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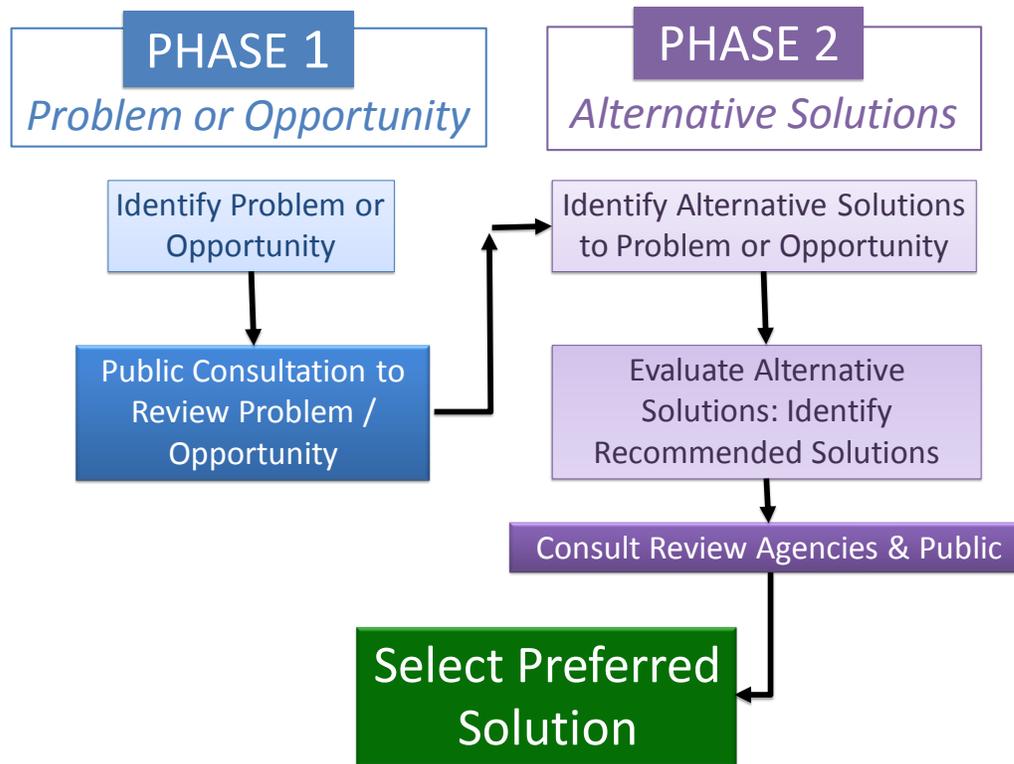


Exhibit 1-1: Transportation Master Plan Process

A study website, www.InnisfilTMP.ca, was also created to enable the project team to provide information about upcoming public events, access to display materials for public meetings, council presentations, meeting minutes, comment forms and the submission of feedback. Contact information for the Town and Consultant Project Manager was also provided so the public can reach our study team members to provide input and comment. The web site was also linked to the Town's web site, www.Innisfil.ca.

1.5 Agency Consultation: Technical Agencies Committee (TAC)

A Technical Agencies Committee was formed to consult with adjacent municipalities at the two key stages of the TMP as identified in **Exhibit 1-1**, and included representatives from the following agencies:

- Ministry of Transportation
- Metrolinx / GO Transit
- Simcoe County
- City of Barrie
- Town of Bradford West Gwillimbury
- Town of New Tecumseth
- Township of Essa
- Nottawasaga Valley Conservation Authority
- Lake Simcoe Region Conservation Authority

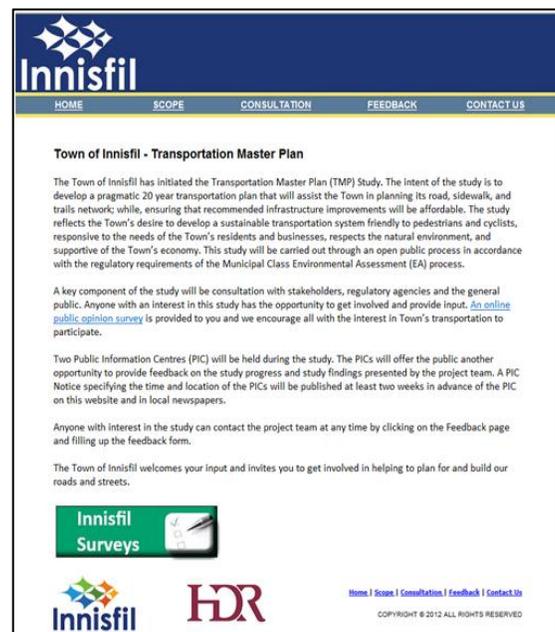


The intent of the TAC consultation was to bring to the study a broad range of input and issues for the TMP to consider. It also provided the opportunity for the Town and project team to be informed about other studies being carried out in the vicinity of the Town that could have a large influence on the TMP recommendations. Two of these studies were the Barrie Annexed Lands Master Plan and the Simcoe Area Multi-Model Transportation Strategy study being carried out by MTO. TAC meetings were held on August 28, 2012 and November 16, 2012 and minutes from these meetings have been posted on the study website. The Town and HDR would like to thank agency staff for their participation and input to the Innisfil TMP. Additional details of the agency consultation carried out for the TMP study are provided in Chapter 3.

1.6 Public Consultation

For a TMP study, two rounds of public consultation are typically required and the interaction could be in the form of open houses, presentations, and Council meetings. The first consultation follows the problem and opportunity identification and the second follows the preliminary recommendations. However, given the importance of the first TMP for the Town, a third public open house and Council meeting were held in May 2013 with Town Council motioning to approve the findings of the TMP report.

An online public opinion survey was also administered to provide another opportunity for the public to be engaged and for the project team to obtain the latest public views of the transportation system and travel choices within Innisfil. Hard copies of the surveys were also distributed at various community events. Additional details of the public consultation and the survey carried out for the TMP study are provided in Chapter 3.



The screenshot shows the website for the Town of Innisfil Transportation Master Plan. The header includes the Innisfil logo and navigation links: HOME, SCOPE, CONSULTATION, FEEDBACK, and CONTACT US. The main content area is titled "Town of Innisfil - Transportation Master Plan" and contains the following text:

The Town of Innisfil has initiated the Transportation Master Plan (TMP) Study. The intent of the study is to develop a pragmatic 20 year transportation plan that will assist the Town in planning its road, sidewalk, and trails network; while, ensuring that recommended Infrastructure improvements will be affordable. The study reflects the Town's desire to develop a sustainable transportation system friendly to pedestrians and cyclists, responsive to the needs of the Town's residents and businesses, respects the natural environment, and supportive of the Town's economy. This study will be carried out through an open public process in accordance with the regulatory requirements of the Municipal Class Environmental Assessment (EA) process.

A key component of the study will be consultation with stakeholders, regulatory agencies and the general public. Anyone with an interest in this study has the opportunity to get involved and provide input. [An online public opinion survey](#) is provided to you and we encourage all with the interest in Town's transportation to participate.

Two Public Information Centres (PIC) will be held during the study. The PICs will offer the public another opportunity to provide feedback on the study progress and study findings presented by the project team. A PIC Notice specifying the time and location of the PICs will be published at least two weeks in advance of the PIC on this website and in local newspapers.

Anyone with interest in the study can contact the project team at any time by clicking on the Feedback page and filling up the feedback form.

The Town of Innisfil welcomes your input and invites you to get involved in helping to plan for and build our roads and streets.

At the bottom of the page, there is a "Innisfil Surveys" button with a survey icon, the Innisfil logo, the HDR logo, and a footer with navigation links and a copyright notice: "COPYRIGHT © 2012 ALL RIGHTS RESERVED".

1.7 Future Updates to the TMP

Through the TMP study process, many existing local issues may be identified by the public; however, a TMP is a strategic long term plan that cannot address every issue within the Town. While short term recommendations and new policies have been identified, the TMP is a living document that requires 5-year updates as land use growth, community needs, and travel patterns change over time and as new transportation challenges and opportunities arise from these changes.

2. THE PLANNING CONTEXT

The Innisfil Transportation Master Plan has been developed within the context of provincial, county, and municipal planning policies and initiatives. The following section highlights the key planning documents influencing the Innisfil TMP, while a detailed summary of all background reports and studies is provided in **Appendix A**.

2.1 The Provincial Planning Context

2.1.1 Growth Plan for the Greater Golden Horseshoe 2006 – Office Consolidation January 2012

The recently revised Ontario *Places to Grow, Growth Plan for the Greater Golden Horseshoe 2006 Office Consolidation, January 2012* (“Growth Plan”) came into effect on January 19, 2012. The amended Chapter 6 of the Growth Plan affects the County of Simcoe Subarea (including the Town of Innisfil), in regard to addressing sprawl.

Schedule 7 of the Growth Plan indicates a forecast 2031 population of 56,000 for the Town of Innisfil, while the 2031 employment forecast is 13,100.

The Growth Plan also highlights two specific areas in Innisfil targeted for intensification: The Alcona Primary Settlement Area and the Innisfil Heights Strategic Settlement Employment Area, and these are illustrated in **Exhibit 2-1**, an excerpt from Schedule 8 of the Growth Plan.

Previously called an ‘Urban Node’, Primary Settlement Areas require towns to direct a significant portion of population and employment growth to the applicable areas. As stated in the Growth Plan, the exact location, uses, mix, areas and lots sizes in the Innisfil Heights Strategic Employment Area will be determined by the Minister of Infrastructure along with the municipalities and stakeholders.

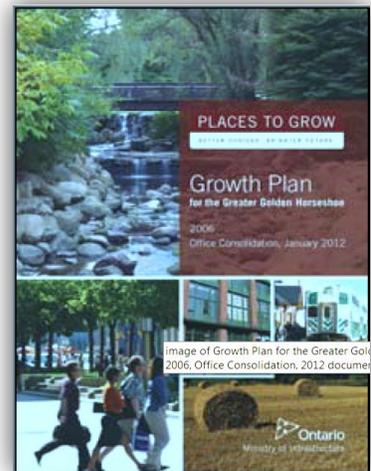




Exhibit 2-1: Ontario Growth Plan for the Simcoe Sub-area and the Town of Innisfil

2.1.2 GO Transit Rail Expansion from Bradford to Barrie, February 2005

This Class EA study prepared by McCormick Rankin Corporation examined necessary upgrades to the rail infrastructure between Bradford and Barrie, preferred sites of three new rail stations, and the preferred site of a proposed layover facility in Barrie.

Two of these stations will be located in Barrie, one on the east side of Yonge Street north of Maplevue Drive, and the other east of Tiffin Street south of Lakeshore Drive. The third station will be located within Innisfil, located south of Belle Aire Beach Road between 20 Sideroad and the rail corridor. This site was selected due to location within a planned future development area and site accesses along Belle Aire Beach Road with available capacity and potential expansion opportunities. The Innisfil TMP will assess the impacts of the proposed GO Station and make recommendations to support its development from a Town-wide network perspective.

2.2 The County Planning Context

2.2.1 County of Simcoe Official Plan, November 2008

In November 2008, the *Proposed Official Plan of the County of Simcoe* was released. This document provides a policy context for land use planning and development decisions.

Section 4.8 of the *Official Plan* outlines Transportation related Policy Statements for:

- Long-term transportation planning;
- Improving roads, intersection and traffic control devices;
- Constructing new road sections and widening existing road sections where warranted;
- Employing traffic management techniques to achieve more efficient use of roads;
- Requiring appropriate conditions of approval for development applications; and
- Considering the needs of pedestrians and cyclists in road design.

The Official Plan provides detailed guidance for the following transportation topics:

- Transportation Planning Policies
- Road Network
- County Roads
- Design of Development
- Corridors, Pathways, and Trails
- Transportation Demand Management
- Transit

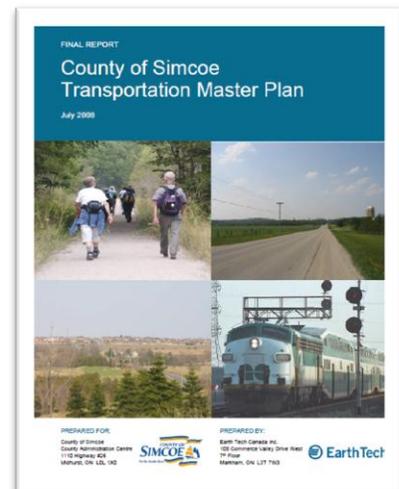
Building on the Growth Plan, Simcoe’s OP also directs most non-resource related growth and development to settlements. From the 2006 Census of Canada population of 272,200, the County is projected to grow by 61% to 439,500 in 2031. The Simcoe OP also projects a total population of 65,000 and a total employment of 13,100 for the Town of Innisfil by 2031.

2.2.2 Simcoe County TMP, July 2008

The County of Simcoe conducted a Regional Transportation Master Plan in July 2008 to create a future vision for transportation for all modes: pedestrian, cycling, transit and autos/trucks.

The recommended transportation strategy, summarized below, promotes a balanced approach to transportation that:

- Emphasizes need to promote and invest in alternative modes of travel,
- Establishes the principle of municipal leadership by example, particularly in promoting Transportation Demand Management measures,
- Actively promotes alternative transportation modes in the community through the use of policies, and standards
- Focuses on partnerships with local municipalities, the provincial government and private interests to build upon existing best practices to enhance services, and
- Requires an investment in incentives to encourage participation and remove barriers.



The TMP provided details on transferring control of roads from/to the Simcoe County to/from the Town of Innisfil. It also provided details in reclassifying and improving a variety of



roadways and intersections in Innisfil and throughout the County. The Barrie By-Pass and Bradford By-Pass corridors were also identified for long term protection.

This corridor and other long-term (> 20 years) transportation improvements are illustrated in Figure 5.11 of the Simcoe TMP, and in **Exhibit 2-2**. The Innisfil TMP will build upon the recommendations of the Simcoe TMP for improvements within the Town boundaries. A detailed listing of improvements affecting the Town of Innisfil is provided in **Section 5.3.1**.

The travel demand forecasting model utilized to support the recommendations in the Simcoe TMP study has been adopted for the Innisfil TMP. All population and employment projections inherent in the model were based on assumptions from the Simcoe TMP and updates to forecasts were required within the Town of Innisfil and City of Barrie. Additional details on the transportation model are provided in **Section 5.4.1**.

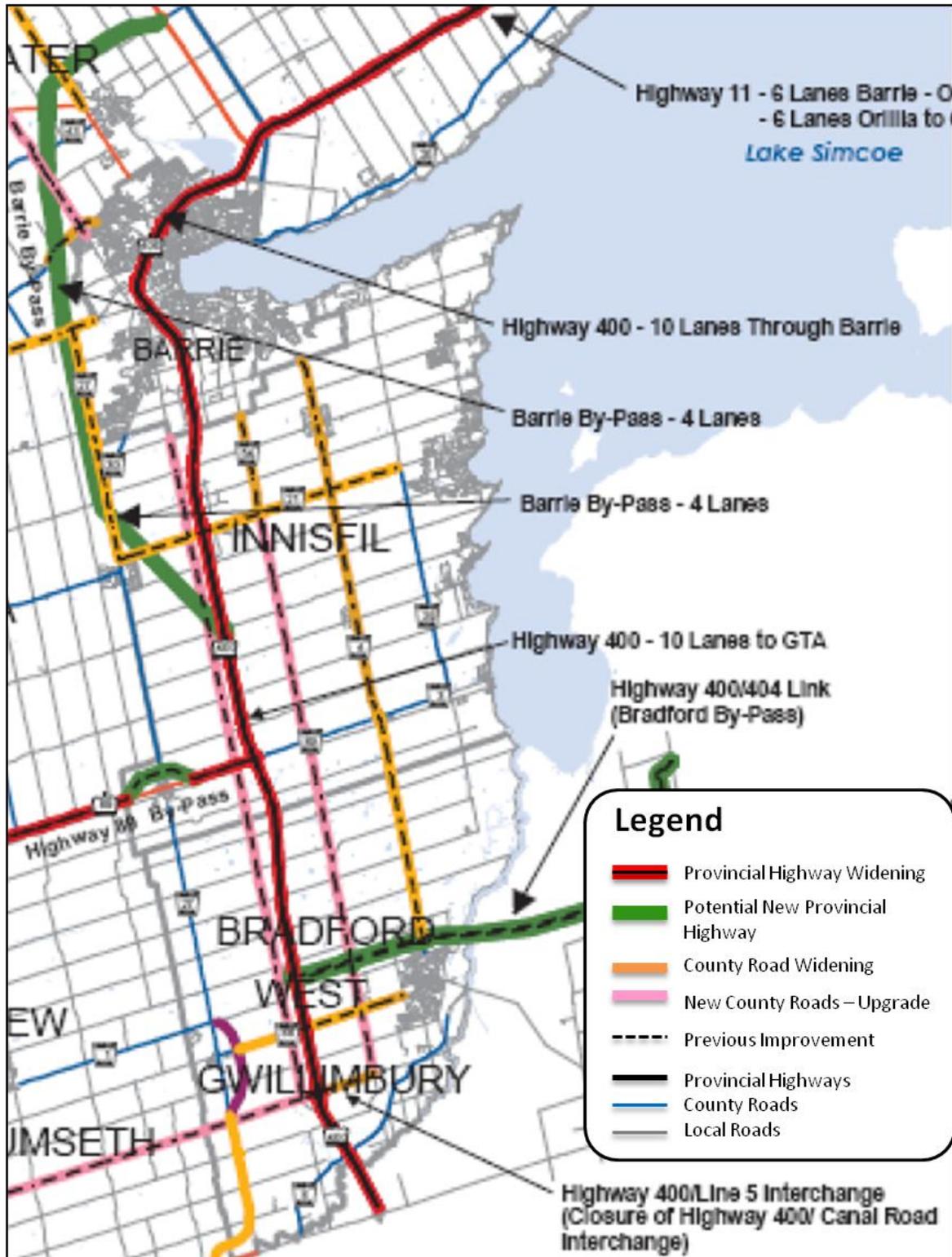


Exhibit 2-2: Simcoe County TMP Long Term Road Improvements Surrounding Innisfil

2.2.3 York-Simcoe Boundary Area Transportation Needs Study, June 2012

The York-Simcoe Boundary Area Transportation Needs Study reconfirmed the need for the Bradford Bypass corridor connecting Highways 404 and 400 by 2031. Due to the findings of this study, MTO has initiated the second phase of their Simcoe Area Transportation Study in support of Growth Plan Amendment 1 (January 2012).

The implications of this corridor on the Town of Innisfil are somewhat minor but have the potential to affect future travel patterns by decreasing traffic on County Road 89 and increasing traffic using Yonge Street. A volume difference plot (**Exhibit 2-3**) from the study illustrates the forecast travel demand shifting away from Simcoe County Road 89 and onto Yonge Street with the Bradford Bypass. Red links indicate increase volumes from the Bradford Bypass, and green bars indicate traffic diversion or volume decreases.

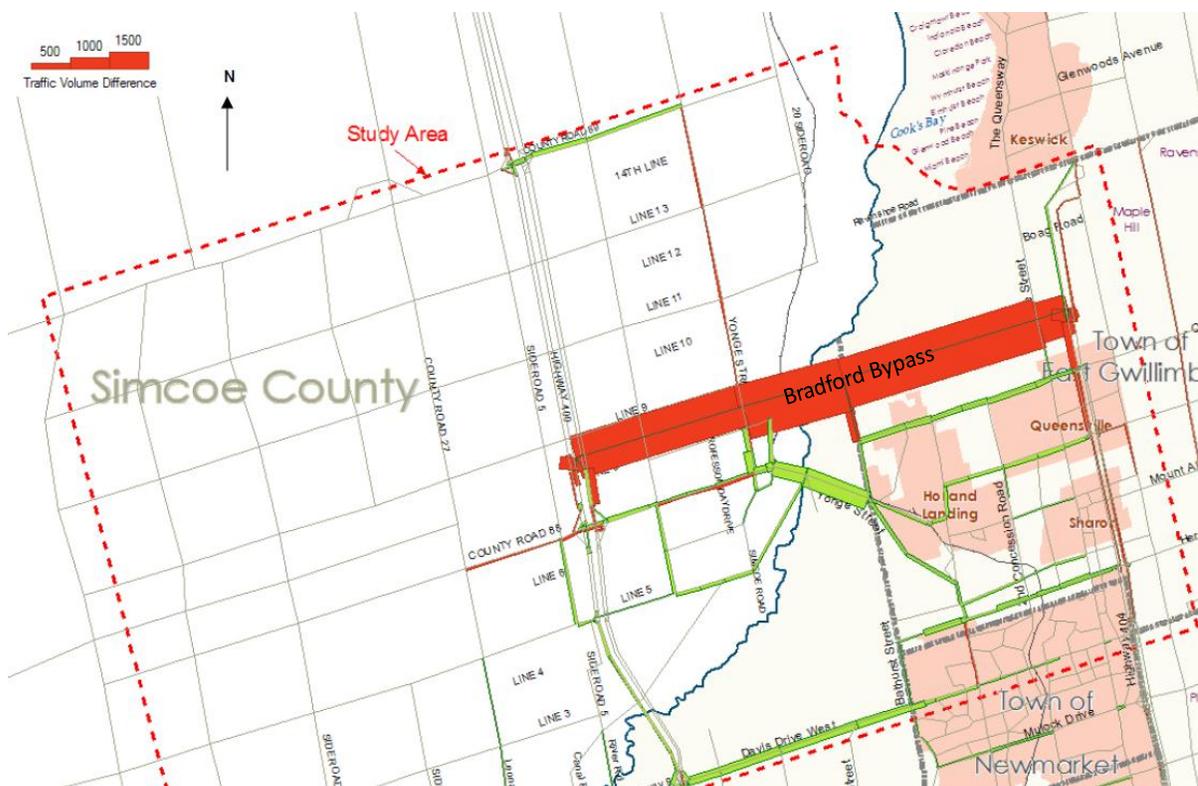


Exhibit 2-3: Bradford Bypass Travel Demand Shift

Based on the findings of this boundary area needs study, the Bradford Bypass will be assumed to be constructed and included as part of the base case 2031 road network for the purpose of analyzing future travel demands.

2.3 The Municipal Planning Context

2.3.1 Inspiring Innisfil 2020, February 2011

The strategic vision of *Inspiring Innisfil 2020* was developed based on three pillars: Community, Economic Development and Tourism and Culture.



Inspiring Innisfil 2020 was prepared in February 2011 and brought together residents and business owners to study future development opportunities for the Town of Innisfil. The study first developed a set of community values, then a vision for the future and finally an implementation plan to achieve this vision. Residents and businesses were asked to contribute ideas and feedback throughout the process. The recommendations in the final report provided strategies in three areas: economy, community, and culture and tourism.

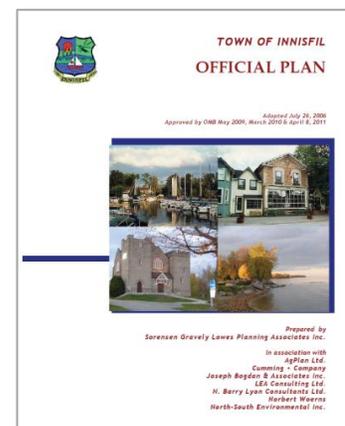
The final report outlined the following key priorities:

- Complete a review of the Town’s Official Plan
- Identify an urban core
- Complete strategic infrastructure servicing plan
- Develop long range financial plan
- Form a Community and Economic Development unit
- Develop tourism infrastructure

One of the key goals of Inspiring Innisfil is to invest wisely in infrastructure to build a stronger local business base. Priorities for infrastructure must be determined and developed accordingly, and the Innisfil TMP will be the first step towards this goal with respect to transportation infrastructure.

2.3.2 Innisfil Official Plan, July 2006

The Innisfil Official Plan was adopted in July 2006 and approved in April 2011. The Official Plan provides timing of development within the town to ensure services; resources and infrastructure do not put undue strain on the municipality and residents. Although the Official Plan was approved in April 2011 the background work was based on earlier assumptions and information dating back as early as 2006. Schedule C (Transportation Plan) of the OP provides an overview of the proposed new interchanges and future road upgrades. An Official Plan update will be undertaken by the Town later this year and the Transportation Master Plan findings will provide input into this update.





The recommendations of the Transportation Master Plan will be largely built upon the policies and schedules set forth by the Official Plan. Sections of the Official Plan directly relevant to various transportation modes, the transportation network, and settlement areas are summarized within the appropriate sections later on in this report.

It is noted that the April 2011 Innisfil Official Plan identifies a full build-out population of 55,500 by 2026 and a target employment of 1 job per 2 persons, or 27, 750. However the Plan goes on to state that the Simcoe Area Growth Plan and the Town's Growth Management Strategy shall be incorporated into the OP by a subsequent OPA and shall update these targets (Innisfil Official Plan 2.3.6).

The existing land uses within the Town of Innisfil are illustrated in Schedule B of the Official Plan, which is provided within this report as **Exhibit 2-4**. The majority of Innisfil's population resides in Settlement Areas interspersed throughout the Town, which is largely composed of rural and agricultural land. Settlement areas are located along the waterfront of Lake Simcoe and Kempenfelt Bay, along Yonge Street, and along Highway 400 and Highway 89.

In total there are 14 distinct settlement areas, five of which are designated as Urban Settlement Areas in the Official Plan. The remaining nine areas are a collection of villages, lakeside communities, and the Highway 400 and 89 residential and employment area. The largest Urban Settlement is Alcona, located on the waterfront and east of 20th Sideroad. To residents, "Downtown Innisfil" is located along Innisfil Beach Road within Alcona.

The Official Plan also provides further detailed planning guidelines specific to the urban areas of Alcona, Cookstown, Innisfil Heights, Sandy Cove, and Lefroy-Belle Ewart.

While the Town is expected to grow significantly by 2031, official population and employment forecasts are to be determined. Official Plan Amendment No. 1 (OPA #1) is a Town-initiated Amendment to the Town of Innisfil Official Plan providing a policy framework for guiding growth to 2031. It was adopted by Council in April 2009 and approved by the County of Simcoe in October 2009. However it has since been appealed to the Ontario Municipal Board in November 2009 and a hearing date has not yet been set. As such various sources for 2031 population and employment forecasts remain valid and are presented and discussed within the Transportation Master Plan study. Recent planning within the Town has identified two major developments anticipated to be complete by 2031 which are not included in the Growth Plan numbers. These include the residential component of Friday Harbour and the Sleeping Lion Town Settlement Lands which comprise about 4,240 and 5,000 persons, respectively.

The various Town-wide population and employment projections are summarized in **Table 2-1**.



Table 2-1: Town of Innisfil Population and Employment Estimates and Forecasts

Source	Population	Employment
Innisfil, 2011 Census and 2006 employment estimate	33,080	5,700
Innisfil Official Plan, 2031	55,500	27,750
Simcoe Official Plan, 2031	65,000	13,100
Provincial Growth Plan, 2031	56,000	13,100
Provincial Growth Plan, 2031 plus Friday Harbour and Sleeping Lion	65,240	13,100

It is noted that the Innisfil Official Plan states that the Simcoe Area Growth Plan and the Town's Growth Management Strategy shall be incorporated into the OP by subsequent Official Plan Amendments, such that these targets may be updated. Under the direction of Town of Innisfil staff, the Provincial Growth Plan totals plus the Friday Harbour and Sleeping Lion developments formed the basis of the future analysis carried out in the TMP. Sensitivity analyses were also conducted based on the OPA #1 targets in-line with the Simcoe Official Plan population total. Additional details on the Town of Innisfil population and employment forecasts used in the Transportation Model are provided in **Section 5.1.1**.

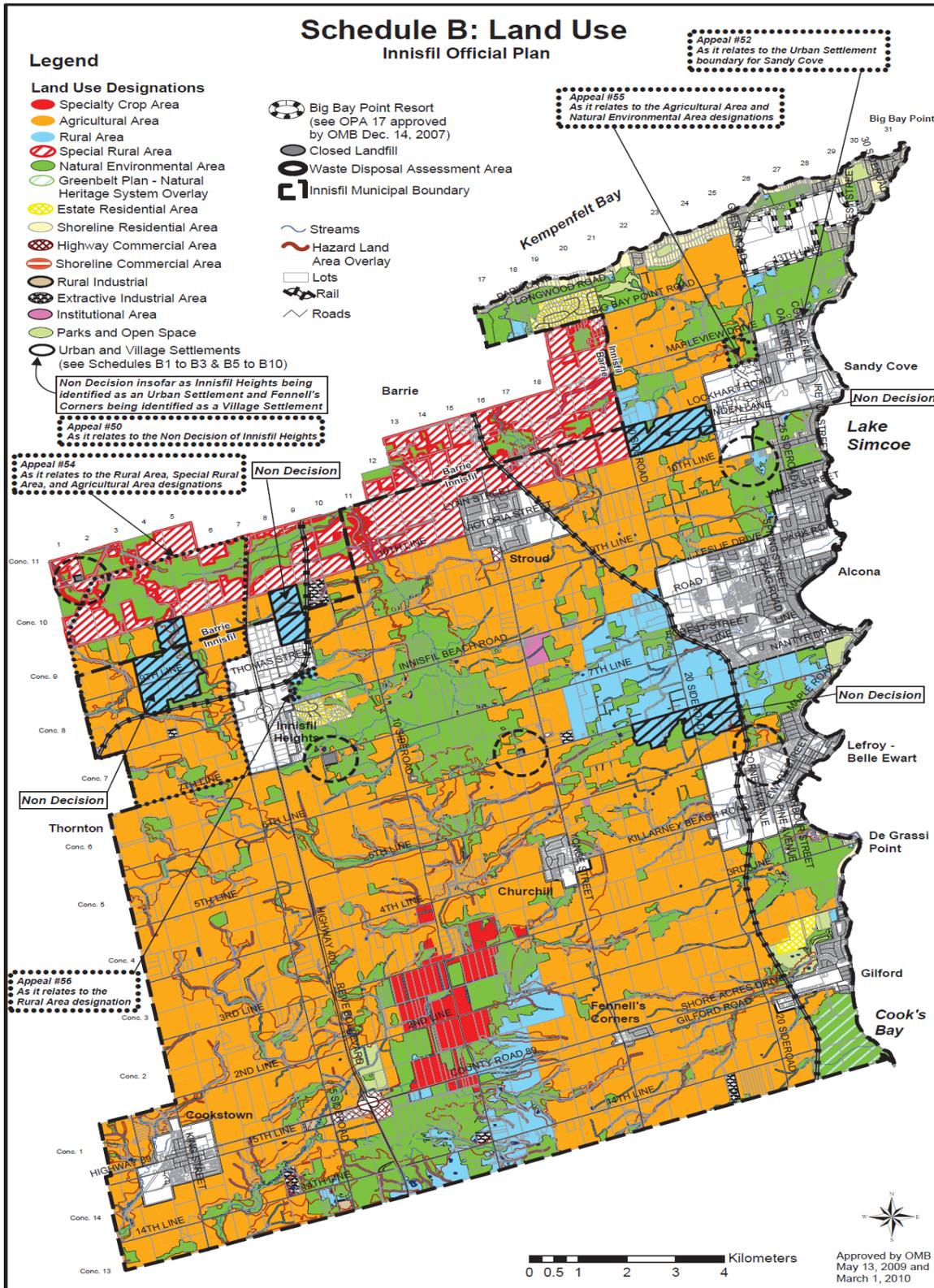


Exhibit 2-4: Town of Innisfil Official Plan Land Use



2.3.3 City of Barrie Annexed Lands Transportation Master Plan, April 2012

The City has recently completed a Master Plan for the Annexed Lands which were previously part of the Town of Innisfil. The plan identifies a recommended land use and transportation scenario for the development of the Annexed Lands. The recommended scenario is illustrated in **Exhibit 2-5** and **Exhibit 2-6**. Projected population and employment for these lands is summarized in **Table 2-2**.

Table 2-2: Barrie Annex Lands Population and Employment Projections

	Population			Employment		
	2021	2031	Ultimate	2021	2031	Ultimate
Annex Lands West (West of 400)	9,222	14,856	28,580	4,879	5,186	10,200
Annex Lands West (East of 400)	0	0	0	0	0	17,410
Annex Lands East (West of Yonge)	12,802	12,802	16,702	1,709	1,709	1,660
Annex Lands East (East of Yonge)	4,547	13,129	20,517	201	506	450
Total Annex Lands	26,571	40,788	65,799	6,789	7,401	29,720

The projected population and employment in the Annexed Lands and updated population and employment projections for the entire City of Barrie have been incorporated into the Innisfil Transportation Master Plan analysis and supersedes the City of Barrie projections from the Simcoe TMP.

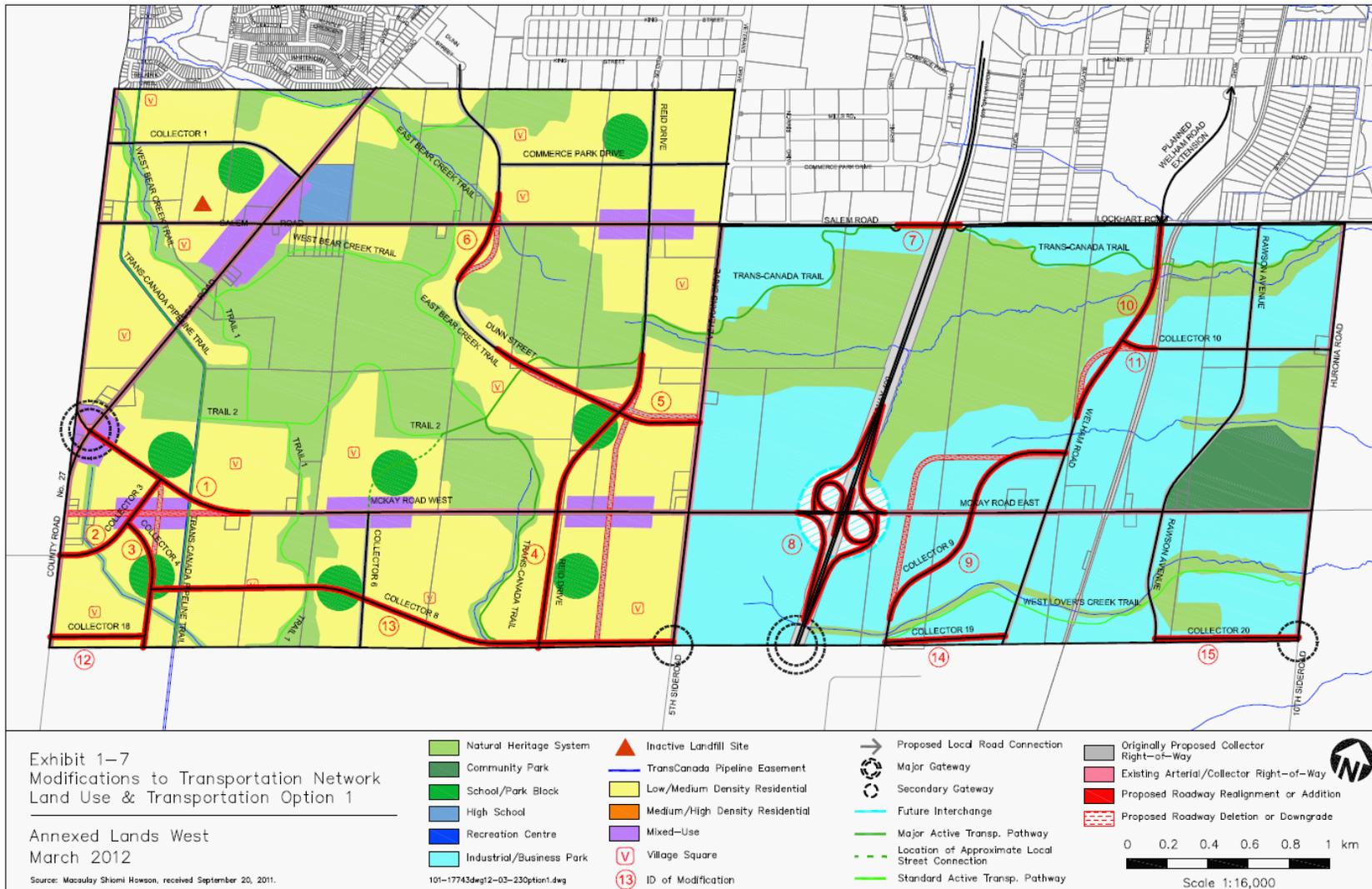


Exhibit 2-5: Barrie Annex Lands Recommended Land Use Option – West Annex Lands

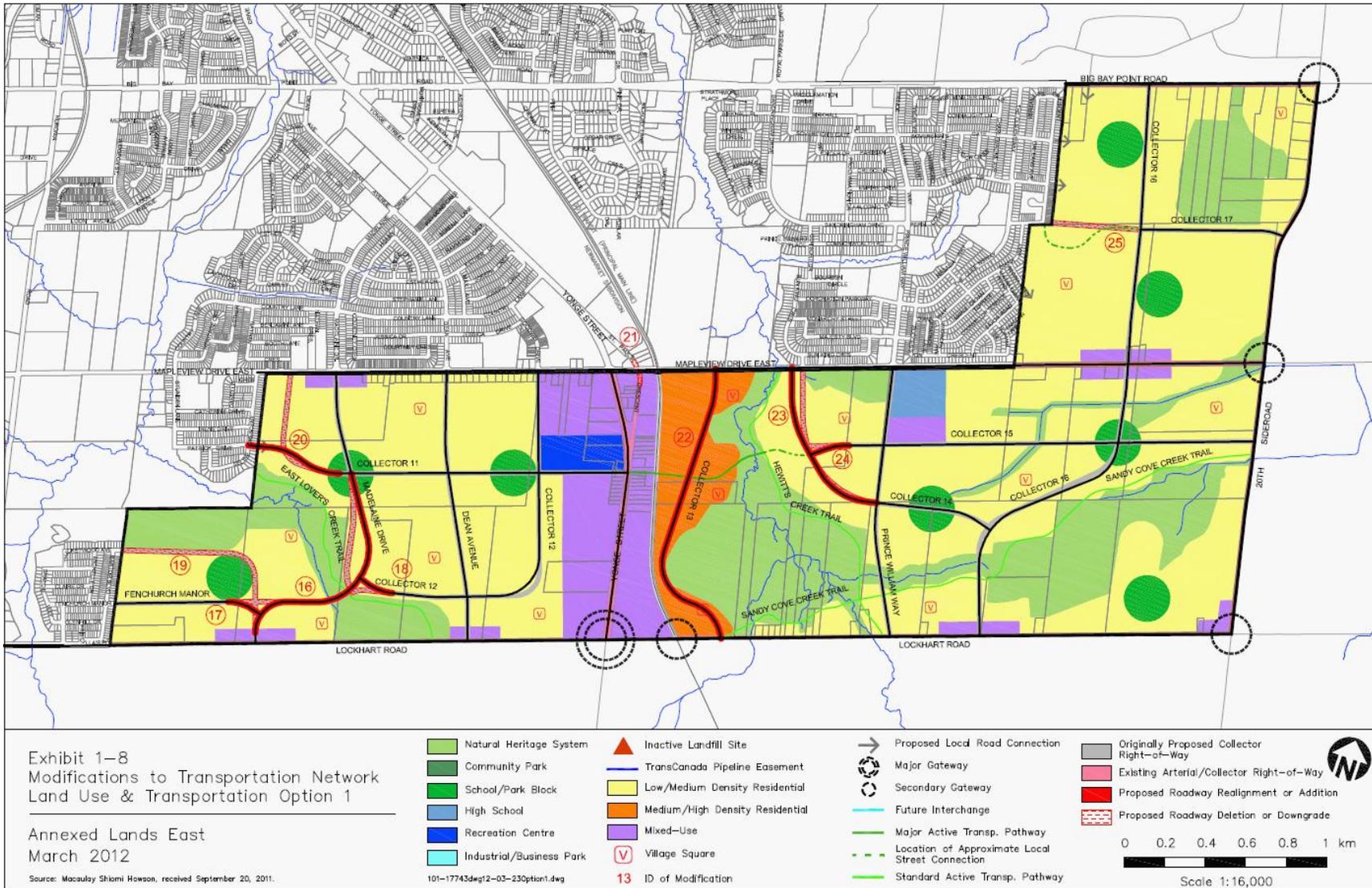


Exhibit 2-6: Barrie Annex Lands Recommended Land Use Option – East Annex Lands

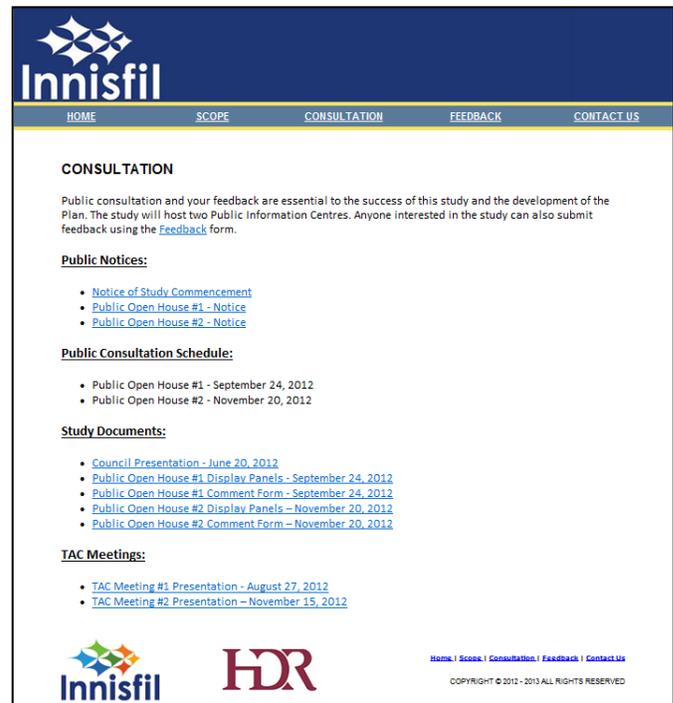
3. PUBLIC CONSULTATION

A key component of the Transportation Master Plan study is consultation with stakeholders, regulatory agencies, and the general public.

- Public consultation is designed to:
- Provide an open line of communication with the public, other municipalities, and agencies
- Provide information to the public as a basis for engaging in active dialogue with the public and ensuring public participation
- Seek the public's input on the identification of issues, the development of alternative solutions, and the selection of the preferred alternative
- Ensure that the plan has general support from the community

Public consultation in this study involved:

- Public notices of study commencement and public open houses
- A public opinion survey to understand the transportation needs and concerns of the Town residents and was available both online and at community events
- References to the study through the Town of Innisfil web site as well as a project specific website at <http://www.innisfilTMP.ca>
- Three public open houses held at Innisfil Town Hall in September 2012, November 2012, and May 2013
- Four Council Meetings held in council chambers in June and September 2012 and April and May 2013
- All presentations and display materials from the public open houses, council meetings, and TAC meetings have been uploaded to the study website



The screenshot shows the 'CONSULTATION' page of the Innisfil website. The page has a blue header with the Innisfil logo and navigation links: HOME, SCOPE, CONSULTATION, FEEDBACK, and CONTACT US. The main content area is white and contains the following sections:

- CONSULTATION**
Public consultation and your feedback are essential to the success of this study and the development of the Plan. The study will host two Public Information Centres. Anyone interested in the study can also submit feedback using the [Feedback](#) form.
- Public Notices:**
 - [Notice of Study Commencement](#)
 - [Public Open House #1 - Notice](#)
 - [Public Open House #2 - Notice](#)
- Public Consultation Schedule:**
 - Public Open House #1 - September 24, 2012
 - Public Open House #2 - November 20, 2012
- Study Documents:**
 - [Council Presentation - June 20, 2012](#)
 - [Public Open House #1 Display Panels - September 24, 2012](#)
 - [Public Open House #1 Comment Form - September 24, 2012](#)
 - [Public Open House #2 Display Panels - November 20, 2012](#)
 - [Public Open House #2 Comment Form - November 20, 2012](#)
- TAC Meetings:**
 - [TAC Meeting #1 Presentation - August 27, 2012](#)
 - [TAC Meeting #2 Presentation - November 15, 2012](#)

At the bottom of the page, there are logos for Innisfil and HDR, and a footer with navigation links: [Home](#) | [Scope](#) | [Consultation](#) | [Feedback](#) | [Contact Us](#). The copyright notice reads: COPYRIGHT © 2011 - 2013 ALL RIGHTS RESERVED.

3.1 Findings of the TMP Questionnaire

A public opinion survey was conducted to understand the transportation needs and concerns of the Town residents, particularly with regards to current issues with the transportation network and opportunities for active transportation and public transit improvements. The Transportation Master Plan Questionnaire was designed jointly by HDR and the Town of Innisfil. Residents within Innisfil were first notified of the survey through the Town's website, but were also notified at community events such as Family Fun Day and Celebrate Lake Simcoe Day where hard copies of the survey were available to complete.



A screen capture of the online version of the Transportation Master Plan Questionnaire is provided in **Exhibit 3-1**.

[Exit this survey](#)



Town of Innisfil Transportation Master Plan Questionnaire

Transportation Master Plan Questionnaire (June 2012)

The Town of Innisfil has initiated the Transportation Master Plan (TMP) Study. This Plan will guide the development of the Town's long-term transportation network. This study reflects the Town's desire to develop a sustainable transportation system with protection for future transit opportunities. We value your input on the Town's Transportation Master Plan. Please feel free to forward the questionnaire to others. Thank you for completing this questionnaire. For questions or comments, please contact:

Amber Parnell, B.Sc., C.E.T. Project Manager Town of Innisfil 2101 Innisfil Beach Rd. Innisfil, ON L9S 1A1 Phone: 705-436-3740 ext. 3234 Email: aparnell@innisfil.ca	Carl Wong, P.Eng. Consultant Project Manager HDR 100 York Boulevard, Suite 300 Richmond Hill, ON L4B 1J8 Phone: 905-882-4100 ext. 5234 Email: carl.wong@hdrinc.com
--	--

1. Which area of Innisfil do you live in?

<input type="radio"/> Big Bay Point	<input type="radio"/> Innisfil Heights
<input type="radio"/> Sandy Cove	<input type="radio"/> Cookstown
<input type="radio"/> Alcona	<input type="radio"/> Stroud
<input type="radio"/> Lefroy	<input type="radio"/> Churchill
<input type="radio"/> Belle Ewart	<input type="radio"/> Fennell's Corner
<input type="radio"/> Gilford	<input type="radio"/> Barclay
<input type="radio"/> Other	

2. What age group do you fall into?

18 and under
 19-25
 26-45
 46-65
 More than 65 years old

3. Please rank the importance to you of the following items.

	Very important	Important	Somewhat important	Not important
Road / traffic congestion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of sidewalks, trails and paths	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of cycling paths	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of transit services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Exhibit 3-1: Transportation Master Plan Questionnaire Online

A copy of the questionnaire and a detailed assessment of the survey results are provided in **Appendix B** to this report. A summary of the results, including excerpts from the detailed assessment, is provided in the following sections.

The survey results presented are based on completed online surveys and hard copy surveys from June 23, 2012 to June 6, 2013. The public opinion survey represents the opinions of the population across the Town of Innisfil. Although the survey was not intended to be statistically valid, the sample size of a total of 625 responses is statistically



representative (1.9% of the population of the Town). The survey findings were presented at the Public Open House #1 and at the Council Workshop Meeting, both held in late September. The online questionnaire was still available for the public to respond to after September 21 and by the time the second Public Open House was held in November 2012. A review of the subsequent survey responses did not significantly change the survey findings provided in **Appendix B**.

3.1.1 General Transportation Issues

Survey respondents were asked to rank the importance of four transportation issues: transit services, cycling paths, sidewalks, and traffic congestion. Based on the responses provided, each of these issues is of relatively equal high importance to the community with only cycling paths being of lesser concern. A summary of responses is illustrated in **Exhibit 3-2**.

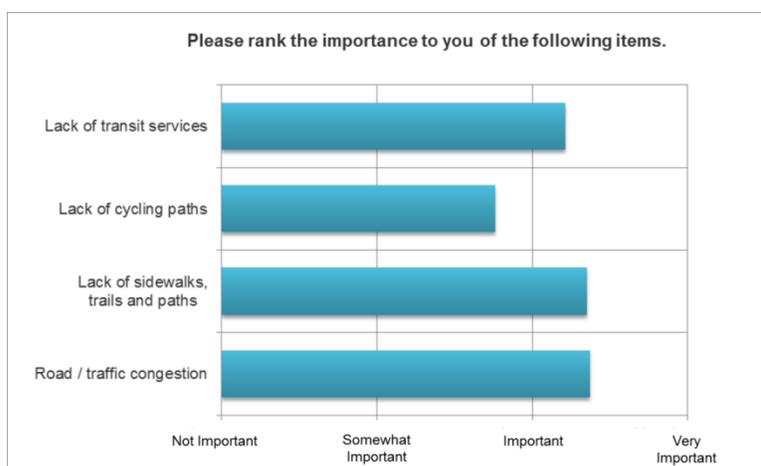


Exhibit 3-2: Importance of Transportation Issues

Based on these responses, the most important transportation issues facing the town are the lack of sidewalks, trails and paths – particularly road safety surrounding schools, and traffic congestion. The lack of transit services is also an important issue to the survey respondents.

3.1.2 Road Network

Respondents specifically identified main groups of concerns regarding the existing road network, including:

- Poor roadway maintenance
- Congestion
- Speeding
- Traffic infiltration to local roads
- Parking
- Poor pavement markings and signage
- Road safety surrounding schools



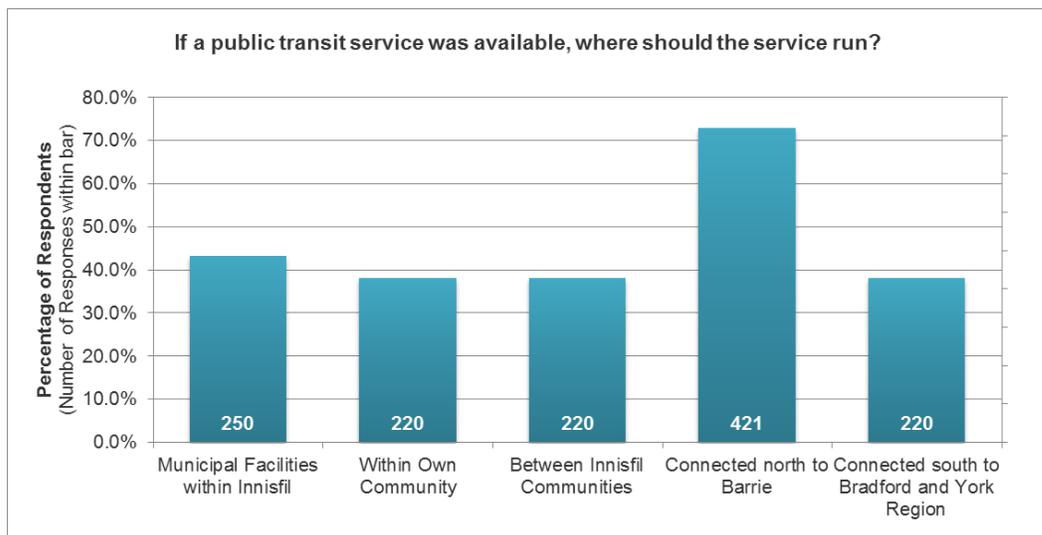
3.1.3 Public Transportation

There was positive feedback from many survey respondents. About 74% of respondents support local public transportation, stating that they would use the system if it were provided.

Numerous respondents noted that, although they do not currently use the existing GO Transit system since they currently own a vehicle for daily use, they expect that local transit service would be required to support their future mobility needs as they age.

Approximately 40% of respondents desire a local Innisfil public transportation system to support travel to municipal facilities within each community, and between the different communities in Innisfil. In addition, over 70% of respondents would like a public transit connection to the north to connect to Barrie, and approximately 40% of respondents would like a public transit connection to the south to Bradford and York Region. This distribution of desiring transit connections to the north and south were similar among respondents in each community, regardless of whether or not they resided in the northern or southern portion of Innisfil. A summary of where public transit service should run within and external to Innisfil is provided in **Exhibit 3-3**.

Although there was a large amount of interest for Innisfil to develop a public transportation network in the future, the respondents who were against public transit for Innisfil questioned the availability of sufficient funding to support the system.



Note: Respondents were able to provide more than one response.

Exhibit 3-3: Desired Public Transit Service Connections

3.1.4 GO Transit

There were numerous responses requesting a GO Train station be provided in Innisfil. This would significantly reduce travel time for commuters into Toronto who currently drive to the Barrie or Bradford stations, as well as reduce roadway congestion. Respondents were also



asked about a potential GO bus stop in Alcona and responses are summarized in **Exhibit 3-4**.

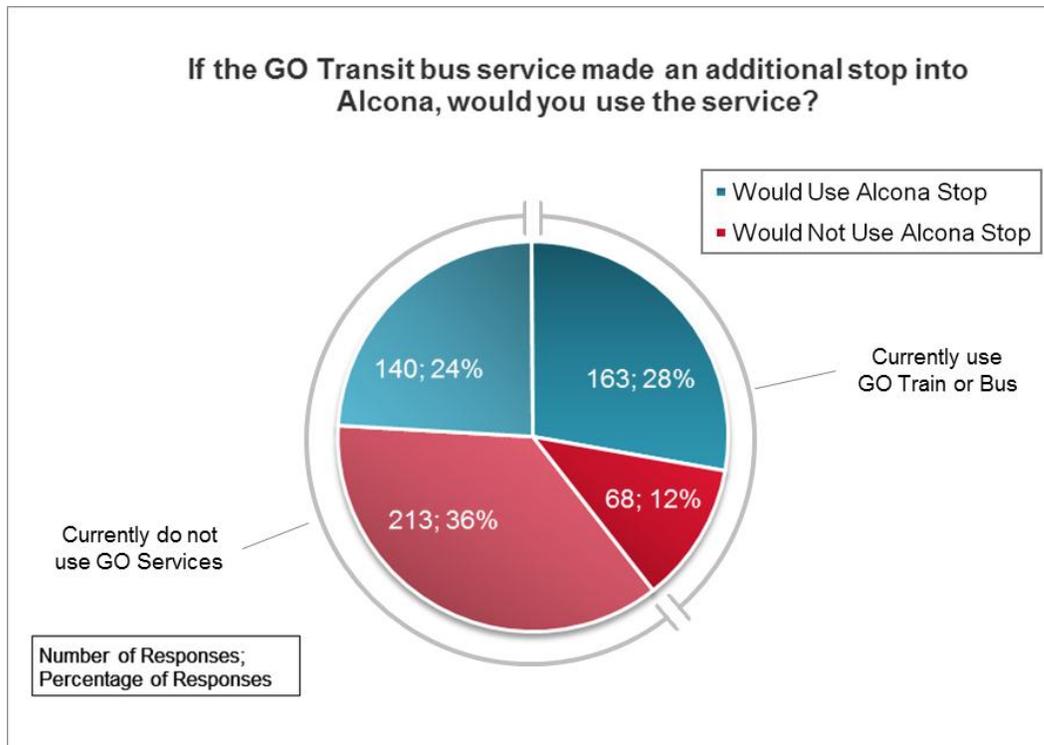


Exhibit 3-4: Percentage of Respondents Interested in a GO Bus Stop in Alcona

3.1.5 Active Transportation

The survey findings indicate that there is high public support for developing and promoting active transportation alternatives, including sidewalks, cycling lanes, and trails within the Town of Innisfil. When asked if they would use a walking or cycling trail to get around Innisfil, 74% responded yes.

Respondents feel that trails and paths are necessary for:

- Youth to travel throughout the town
- To allow improved access to schools, libraries, recreational centres, and extracurricular events
- Connections between the urban villages for recreational purposes including biking and walking in spring, summer and fall, and for snowmobiling in the winter.

Many respondents had concerns of the existing condition of many sidewalks, requesting that there could be better maintenance of deteriorating areas. There was strong desire for more sidewalks and bike paths to be constructed particularly around school zones, recreational centres and parks, as well as on major roads.

Respondents also suggested that paved and marked shoulders or bike trails need to be provided for a safer cycling environment as cyclists are often forced off the road due to



speeding, separation from vehicles, and driver behaviour. Suggestions were made to lower speed limits for these roads, as well as for greater enforcement.

Exhibit 3-5 illustrates the proportion of residents who are interested in using a walking or cycling trail to travel around Innisfil. At least 50% of respondents from each community (except Sandy Cove where the proportion of seniors are higher – 49%) indicated an interest in using walking or cycling trails, and in many cases, more than 70% or 80% of respondents were in favour of a walking or cycling trail.



Exhibit 3-5: Interest in Walking/Cycling Trails by Urban Village

3.2 Public Open House Consultation

Three public open house consultation sessions were held at the Town of Innisfil offices to gather valuable public input on the proposed Transportation Master Plan. Public notices, sign-in sheets, handouts, comment forms, and the display boards are documented within **Appendix C** to this report.

The objective of the first Public Open House was to present information to the public on existing traffic conditions on Town and County Roads within Innisfil, on the findings from the TMP online questionnaire, on the TMP study process and schedule, and to present and gain input on the Problem and Opportunity Statement.

In total, 16 persons attended Public Open House #1 on September 24, 2012 and the key feedback received from the public included the following:

- Big Bay Point will need transit services since many of the residents are elderly and taxi service would be cost prohibitive to get around.



- Large interest in trail connections (to the Innisfil recreational complex) and reviving the trails committee (including snowmobile trails).
- Taxpayers don't want to pay for services that are underutilized.

The objective of the second Public Open House was to present and solicit feedback on the problem statement, transportation network alternatives, preliminary recommendations, potential changes to traffic policies, and selection of a vision statement.

A total of 14 persons attended Public Open House #2 on November 20, 2012. Key discussion topics from the comment forms handed in and based on dialogue during the open house included:

- Reduce width of lanes on St. John's Road and install walking or cycle lanes on each side
- Need to slow traffic down – rubber speed bumps are acceptable
- Heavy truck traffic is an issue in Cookstown on weekends
- Imperative for the Town to be brought together via trails and transportation
- Short-term shuttle service to Barrie, Cookstown, Gilford, etc.
- Want action now
- Preference for a Balanced Approach (which supported that a combination of road and active transportation improvements should be implemented to address existing and future deficiencies)
- Support for paved shoulders as an interim, cost-effective solution to the lack of sidewalks in urban areas

The objective of the third Public Open House was to present the final recommendations of the TMP and address public comments from the April 10, 2013 Council Meeting in which the Draft Final Report findings were presented.

A total of 16 persons attended Public Open House #3 on May 22, 2013. Key input from the public included:

- Maintain proposed GO Station location on 5th Line
- Support for no Leslie Drive East Extension (Willard to Adullam)
- Support for Leslie Drive West Extension
- Support for 20th Sideroad Realignment
- Support for 6th Line interchange location

3.3 Summary of Key Issues and Findings from the Public

Based on the findings of the TMP Questionnaire and the two public open houses, key themes and categories of transportation issues can be summarized by the following:

- There is a desire for the new GO transit station and local transit service in Innisfil
- Local transit is needed for work, medical, school, recreation, and shopping trips especially for youth, adults and seniors without access to a vehicle
- Local transit is also needed because of road congestion and lack of sidewalks/trails
- Big Bay Point / Sandy Cove in particular will need transit services since many of the residents are elderly and taxi service would be cost prohibitive to get around.



- Residents recognize the potential cost burden of providing public transit service on town and residents. Taxpayers don't want to pay for services that are underutilized.
- Residents also want more trails and sidewalks (particularly to the recreation centre) including snowmobile trails
- Recognition that improved safety and mobility for youth, students, the elderly and those without access to vehicles is needed
- Key destinations for improved mobility and access:
 1. Barrie
 2. YMCA/Recreation Centre
 3. Connecting to GO bus along Yonge
 4. Downtown Alcona and Innisfil Beach Park
 5. New GO Station
 6. Connecting communities within Innisfil

3.4 Council Workshop Meeting

On September 26, 2012, a council workshop meeting was also held at the Town of Innisfil Council Chambers where Council, senior Town staff, and public were invited to provide feedback on the progress of the Transportation Master Plan study to date. The Council presentation slides are provided in **Appendix C**. Key discussion topics included the following:

- Review of public open house #1 comments
- Review of TMP online survey feedback
- Review and confirmation of existing transportation issues
- Review of draft Problem Statement and Opportunities
- Review of draft vision statement
- Review of future anticipated problems
- Review of potential realignment of 20th Sideroad at Innisfil Beach Road
- Review of draft recommendations for updating Town polices on traffic calming, posted speed limits, community safety zones, all-way stop warrants, and parking



4. THE CURRENT TRANSPORTATION SYSTEM

An understanding of the current transportation system is essential to addressing the problems and opportunities within the Town. This chapter documents Innisfil's existing transportation infrastructure, current levels of travel demand, its characteristics and influencing factors, and travel conditions observed on the existing transportation network in the Town of Innisfil.

4.1 Transportation Network

The Town of Innisfil's transportation network includes provincial, county and local roads, sidewalks and trails, and commuter transit service via GO rail and bus. The network is described in greater detail in the following sections.

4.1.1 Roads

The Town of Innisfil is serviced by a grid-based road network comprised of provincial freeways, County arterial roads, and the Town's system of arterial, major and minor collector, and local roads. Arterial Road concessions are approximately 1.4km apart for east-west roads and 3.1km apart for north-south roads.

Highway 400 passes through the western part of the Town providing a high-speed, high-capacity route to Barrie and municipalities to the north and to Bradford-West Gwillimbury and the GTA to the south. Highway 89 is a rural highway maintained by the province which provides a connection to towns to the west including New Tecumseth and Shelburne.

Simcoe County maintains a number of arterial roads in Innisfil. North-south county roads include Simcoe Road 27 along the western boundary of the Town, 10th Sideroad north of Innisfil Beach Road, Yonge Street, and 20th Sideroad. East-west county roads include Innisfil Beach Road between Simcoe Road 27 and 20th Sideroad and Simcoe Road 89 between Highway 400 and 20th Sideroad.

Innisfil's road classifications and planned right-of-way (ROW) widths based on the current **Official Plan Schedule C: Transportation Plan** are shown in **Exhibit 4-1**; while, the surface width of paved roads (Town Roads only) is shown in **Exhibit 4-2**.

In 2009 the Town had jurisdiction of over 398 road kilometers with 59% of roadways located in the rural area, 31% in semi-urban and 10% in urban areas. The Town's roadway inventory consists of high class bituminous hot mix asphalt (50%), intermediate to low bituminous surface treated roads (32%) and gravel roads (17%).

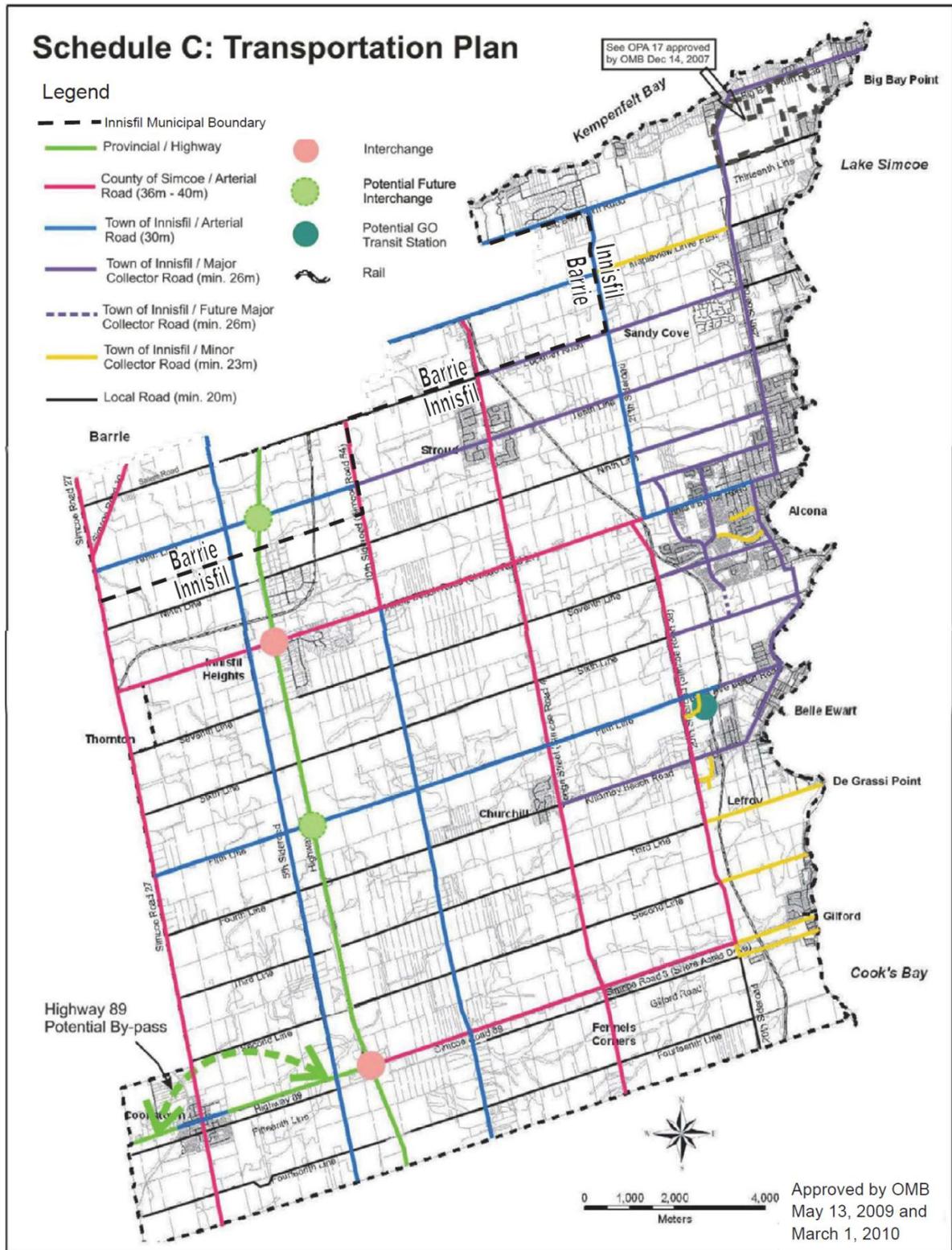


Exhibit 4-1: Innisfil Road Classification and Right-of-Way Widths (Official Plan)

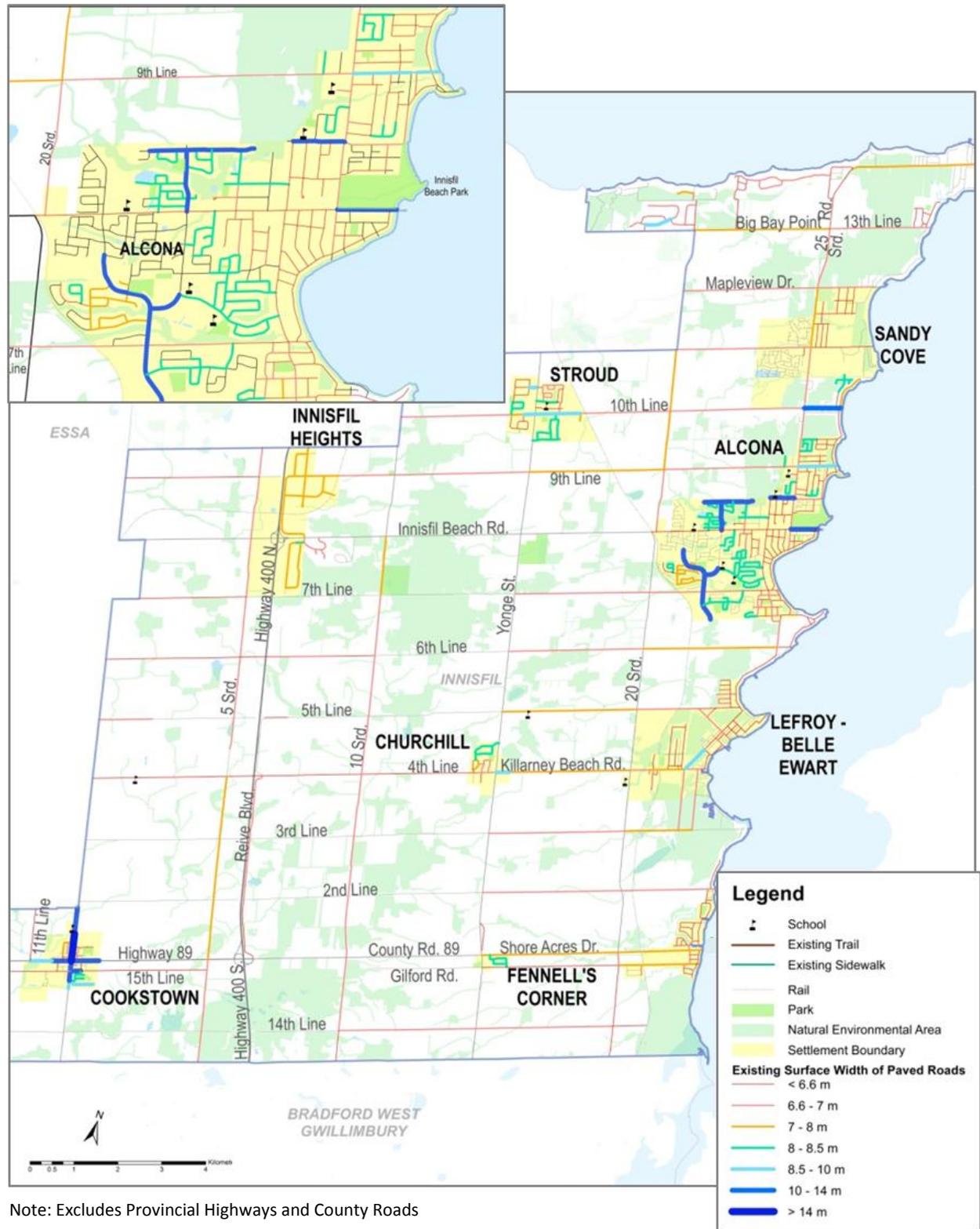


Exhibit 4-2: Innisfil's Transportation Network – Existing Pavement Width



4.1.2 Intersection Traffic Controls

Given the rural environment for much of the Town roads, the low volumes on these rural roads, and the road hierarchy within Innisfil, the majority of road intersections are stop-controlled on the minor road (when intersecting with a major road). Within the settlement areas and major arterial corridors, traffic signals, all-way stops, and flashing beacons at intersections are provided to control traffic flows. Signalized intersections within the Town of Innisfil are illustrated in **Exhibit 4-3**.

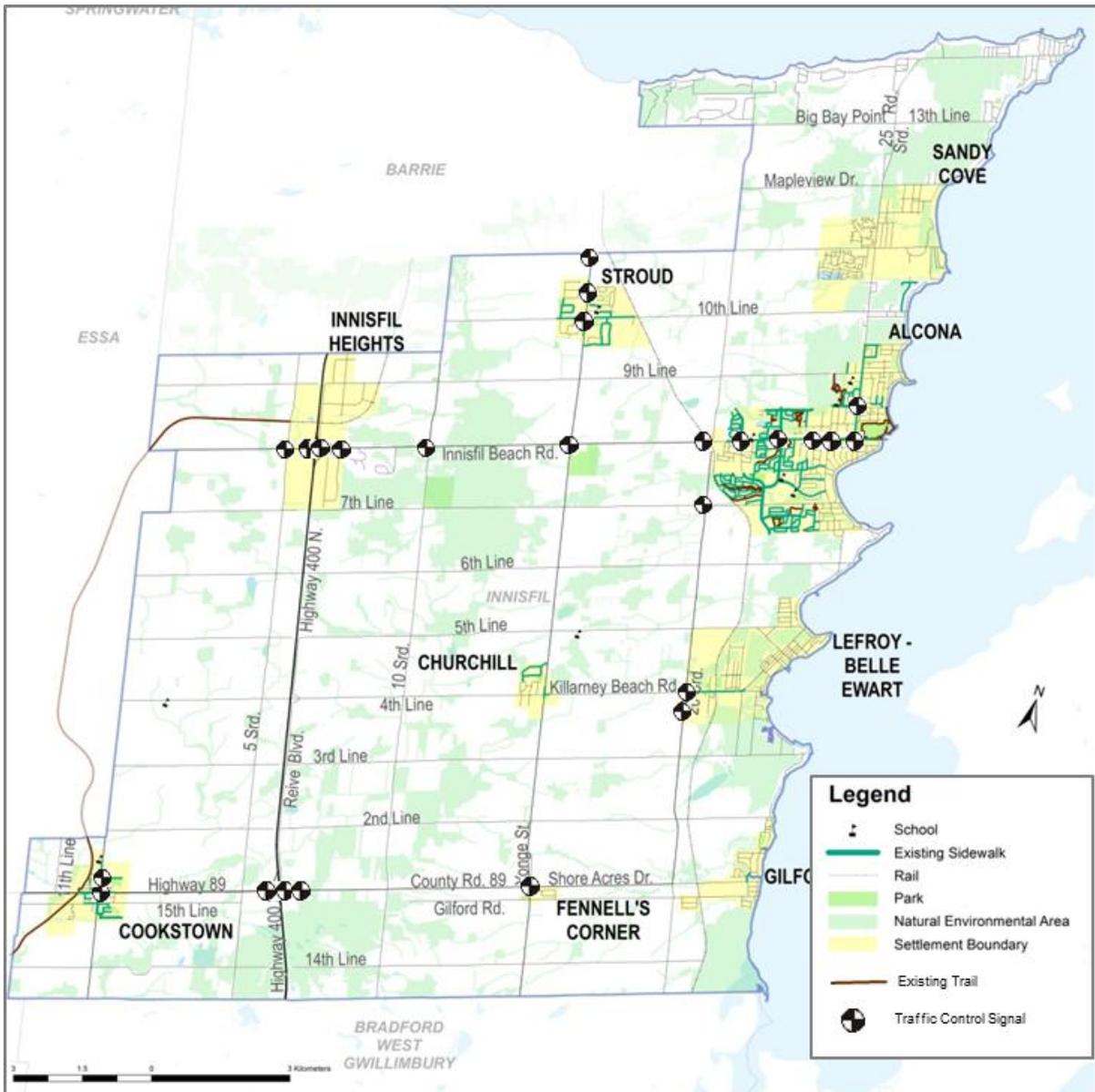


Exhibit 4-3: Signalized Intersections within Innisfil



4.1.3 Existing Active Transportation Facilities

The Town's active transportation facilities include sidewalks for pedestrians and trails for cyclists and pedestrians.

4.1.3.1 Existing Sidewalk Network

A sidewalk network inventory and condition appraisal was completed by the Town in December 2008. The 2008 inventory and appraisal report documented the existing sidewalk network and its condition. Since some new sidewalks have been installed since 2008, updated GIS data on existing sidewalks was obtained from the Town in Fall 2012. The existing 2012 sidewalk inventory is shown in green in **Exhibit 4-4**.

Exhibit 4-4 shows that there are clusters of sidewalks within the Town which serve the local communities in Stroud, Alcona, Churchill, Lefroy-Belle Ewart, Cookstown and Gilford. However, there is little sidewalk connectivity between Innisfil communities and within the smaller communities. The lack of sidewalk connectivity makes it difficult for pedestrians to walk throughout the Town to travel between communities and to access Town facilities and services. There is also a significant amount of natural environmental areas, open space, and parkland within Innisfil that lack active transportation connections.

4.1.3.2 Existing Trail Network

The existing trail inventory is also illustrated (in brown) in **Exhibit 4-4**, based on the same GIS data that the Town provided to HDR.

Similar to the sidewalk network, there are some existing trails in Alcona but they are not well connected. There are opportunities to make connections either on road or off road and these will be discussed further in Chapter 8.

The Thornton-Cookstown Trans Canada Trail is a 14 km point-to-point trail located along the abandoned rail line east of Simcoe County Road 27. This trail is a component of the Trans Canada Trail, the world's longest network of trails. Two committees of local volunteers appointed by the Municipal Councils of Essa and Innisfil are responsible for development and maintenance of the Thornton – Cookstown section of the Trans Canada Trail.

Within Innisfil boundaries, starting from the south, the trail passes through Cookstown and crosses Highway 89 and then crosses into Essa Township. The trail appears again in the northwest quadrant of the Town, crossing the hamlet of Thornton and travels easterly north of Innisfil Beach Road where it currently terminates at 5 Sideroad near Georgian Downs. East of 5 Sideroad, the rail line is active and used by trains travelling to and from Barrie. The trail surface is gravel and is primarily used for hiking, mountain biking, trail running and walking. Within Innisfil, there is no trail connectivity with other communities within the Town, making it difficult for cyclists and trail users to travel east-west across the Town.

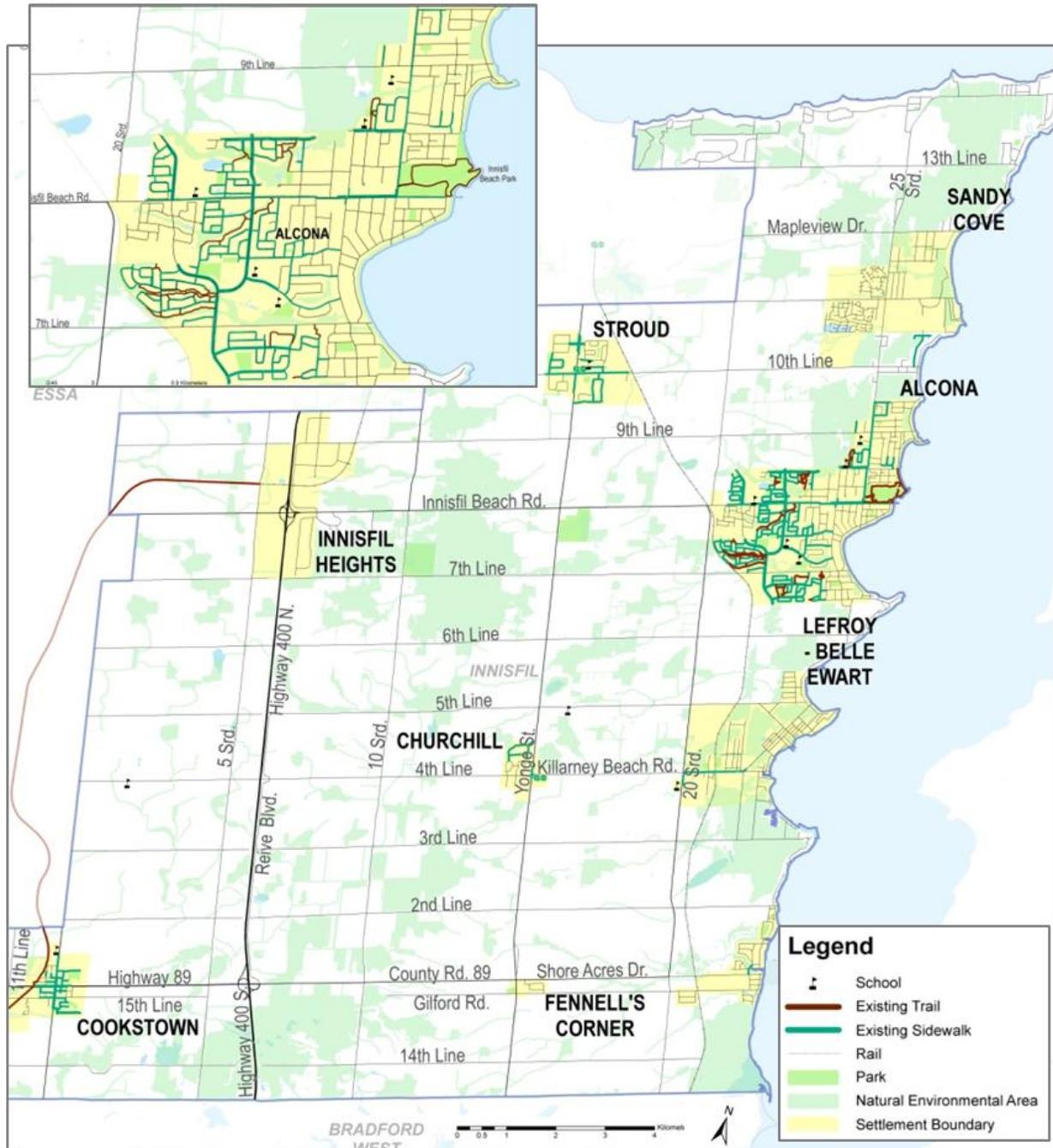


Exhibit 4-4: Existing Sidewalks and Trails

4.1.4 Public Transit within Innisfil

Inter-regional public transit service within the Town of Innisfil is currently provided through GO Transit’s bus services. However, there is no local transit service provided in the Town or in adjacent municipalities except for the City of Barrie, where several routes operate in the southeast portion of the City connecting to the Barrie South GO Station located at

Mapleview Road and Yonge Street. More information on GO Transit and Barrie Transit are documented in the preceding sections.

4.1.5 GO Transit

GO Transit services are illustrated below in **Exhibit 4-5**. GO Bus Route 68 services the County Road 4 (Yonge Street) corridor connecting Newmarket to the south and Barrie to the North with stops in Stroud (Yonge Street & Victoria Street) and Churchill (Yonge Street & Killarney Beach Road) and at the intersection of Yonge Street and County Road 21 (Innisfil Beach Road). Additional GO Bus connections in Newmarket allow passengers to continue south into Toronto.

Today, GO Transit’s rail services travel through Innisfil with no stops in the Town. However, the closest stations for Innisfil commuters traveling south to York Region and Toronto are Barrie South Station, just north of Mapleview Avenue/Yonge Street, and Bradford GO Station located in Downtown Bradford. A potential location for a GO Train station in Innisfil has been identified at Belle Aire Beach Road where it meets the existing rail corridor, which was identified in GO Transit’s Rail Expansion Environmental Assessment documented in **Section 2.1.2**. There are currently 5 southbound trains operating during the weekday AM peak period (5:30-7:30AM) and 5 northbound trains operating during PM peak period (5:42-7:37PM).



Exhibit 4-5: Existing GO Transit Services

The following summarizes the GO Transit Bus service that serves Innisfil:



Southbound (towards Newmarket, Toronto)

Weekday AM Peak (5:00 AM - 7:20 AM)

- Approximately 30 minute service to Newmarket Bus Terminal (Davis Drive and Eagle Street)

Weekday Service (7:20 AM to 9:15 PM)

- Approximately one hour service to Newmarket Bus Terminal

Weekends

- Approximately two hour service to Toronto between 7:15 AM to 5:15 PM
- Approximately one hour service to Toronto between 5:15 PM and 7:15 PM
- One final bus to Toronto at 9:15 PM

Northbound (towards Barrie)

Weekday Service (6:55 AM – 5:20 PM and 8:20 PM – 11:55 PM)

- Approximately 1 hour service from Newmarket Bus Terminal

Weekday PM Peak (5:20 PM – 8:20 PM)

- Approximately 30 minute service from Newmarket Bus Terminal

Weekends

- Approximately two hour service from Toronto beginning at 9:50 AM until 3:55 PM and 7:35 PM to 11:59 PM
- Approximately one hour service from Toronto beginning at 3:55 PM until 6:00 PM

Although the rail and bus service levels provided by GO Transit may be adequate today, the coverage offered is not adequate for meeting local resident and business needs in Innisfil throughout the day since GO bus service is limited to County Road 4 (Yonge Street). A significant portion of Innisfil's population resides along Lake Simcoe and essentially has no access to public transit and limited opportunities to connect with the GO bus service.

4.1.6 Barrie Transit

Barrie Transit provides transit service within the City of Barrie, with four transit routes operating in the southeast corner of the City adjacent to Innisfil:

- Route 30 Ardagh
- Route 32 Bayview
- Route 34 Yonge
- Route 39 Hurst

Transit routes in southeast Barrie are illustrated in **Exhibit 4-6**. Routes 30, 32 and 39 connect southeast Barrie to Downtown Barrie, while Route 32 loops through Southern Barrie linking the east end to the west end. Route 39's southern terminus is Barrie South GO station.

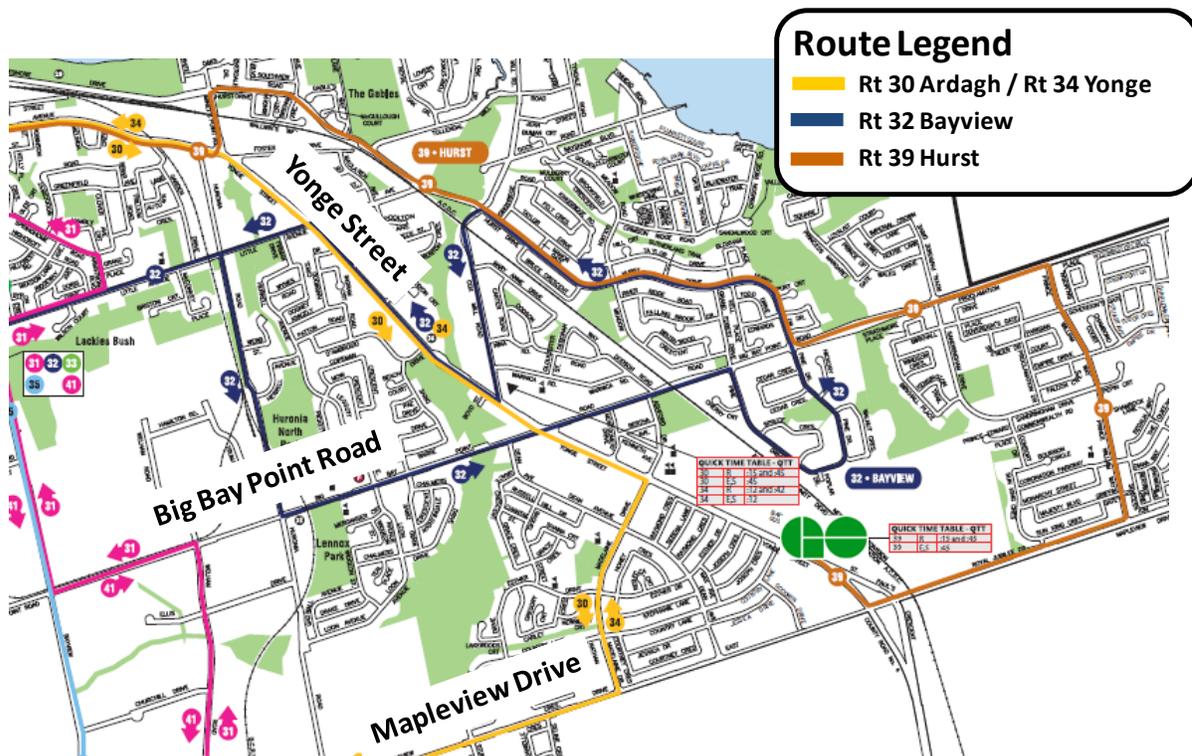


Exhibit 4-6: Barrie Transit Services

While the City of Barrie has not identified any plans to expand their service boundaries into Innisfil, the County of Simcoe has pledged that it will partner with its lower tier municipalities to expand transit service into rural areas. This TMP study has explored future opportunities for the Town of Innisfil and for the City of Barrie to work together to provide local transit service opportunities within Innisfil. These are discussed in Chapters 7 and 8.

4.1.7 Taxi Service within Innisfil

Private taxi service is currently offered by Innisfil Taxi and provides an additional mobility choice for Innisfil residents. Key trip purposes and destinations for taxi service include recreational trips to Georgian Downs, shopping trips to Tanger Outlets in Cookstown and No Frills grocery store in Alcona, and medical trips to hospitals and medical centres in Barrie.

4.2 Demographic and Travel Trends

Historic trends in population and travel growth and travel patterns are summarized within this chapter.

4.2.1 Historic Population Growth

Census information from Statistics Canada including the most recent 2011 Census was extracted to identify demographic trends for the Town.

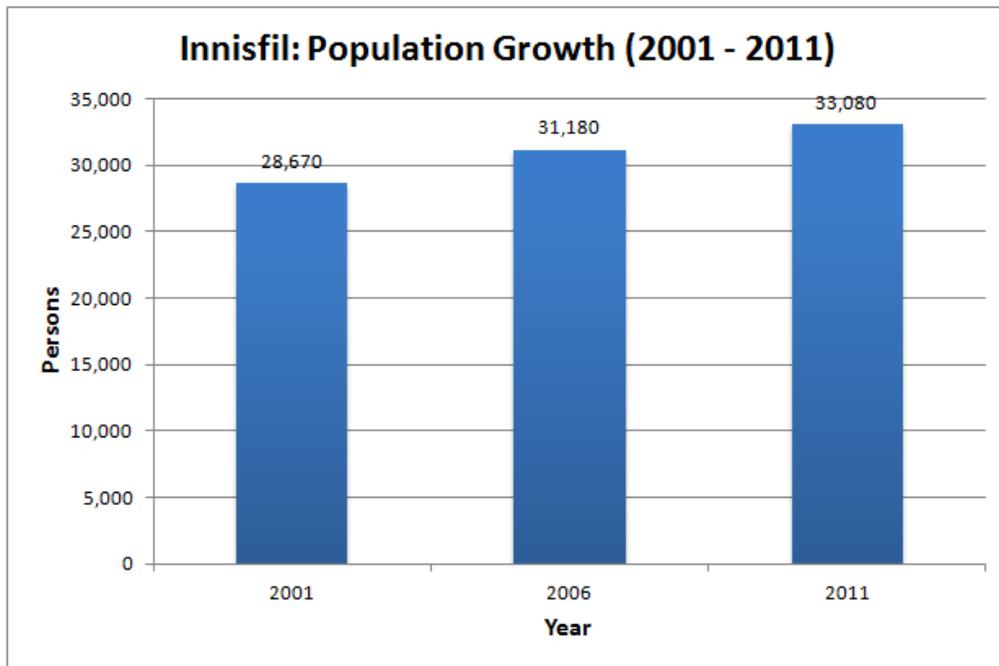


Exhibit 4-7: 2001 - 2011 Population Growth

As shown above, Innisfil’s population has grown to 33,080 persons in 2011 from 28,670 in 2001, representing overall growth of 15% over the ten year period, or 1.4% per annum. However, growth has slightly slowed in Innisfil when comparing the annual growth rates between 2006 and 2011. The Town has grown 6% over this five year period, or 1.2% per annum.

Innisfil’s population density (persons per square kilometer) has grown from 101 persons/km² to 116 persons/km² between 2001 and 2011. Similar to population growth, population density increased at a smaller rate between 2006 and 2011 than 2001 and 2006.

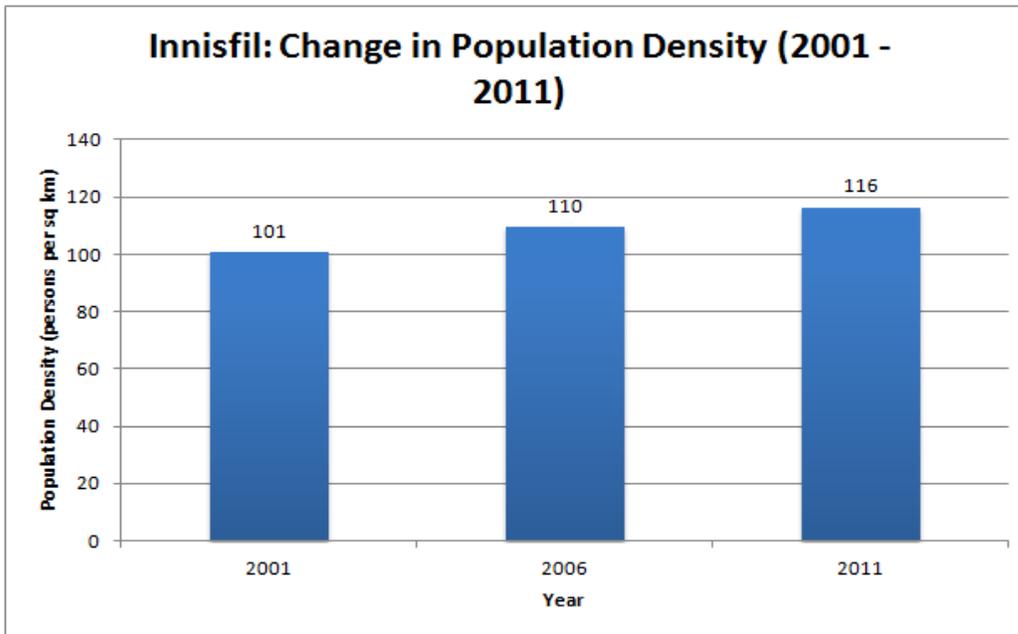


Exhibit 4-8: Change In Population Density

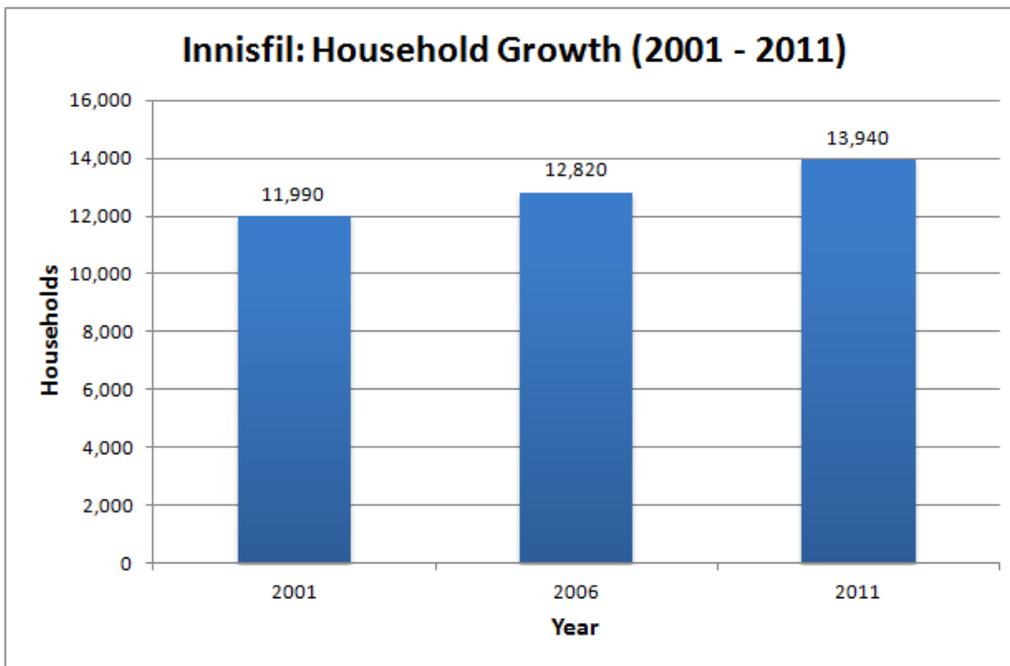


Exhibit 4-9: 2001 - 2011 Household Growth

The increase in households in Innisfil is comparable to that seen for population. As shown in **Exhibit 4-9**, there are 13,940 households in Innisfil today, an increase of 16% or 1.5% per annum when compared to 2001 levels. Unlike the population growth, the number of households in Innisfil is growing at a faster pace over the past five years. Between 2006 and 2011, the number of households in Innisfil has grown by nearly 9% or 1.7% per annum.

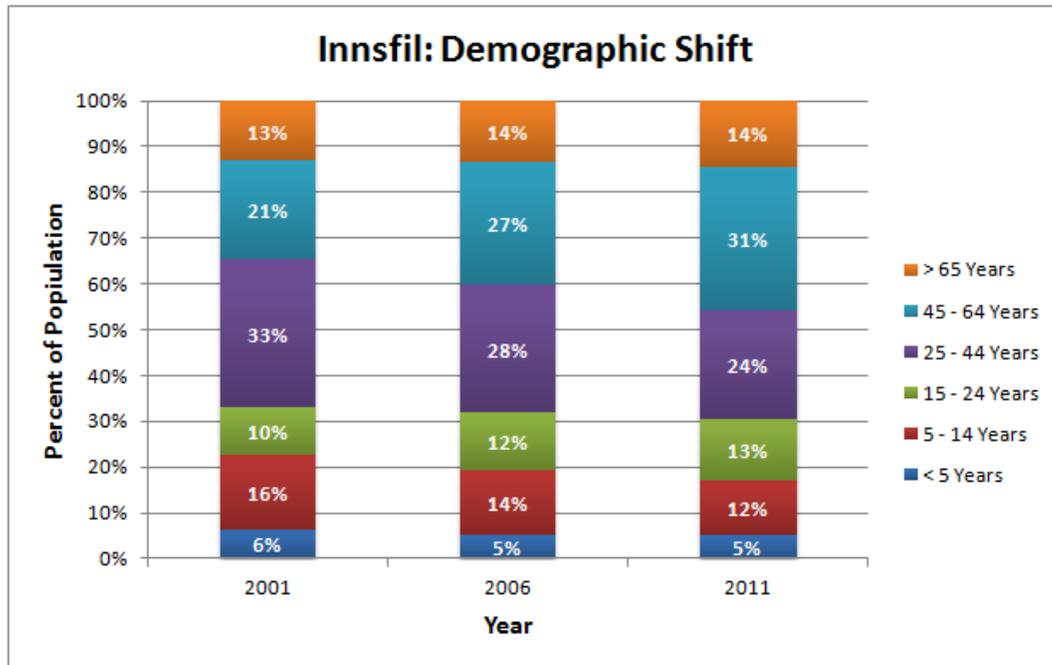


Exhibit 4-10: Demographic Shift

While population has grown consistently over this ten year period, it is interesting to note that there has been a shift in the Town’s demographic breakdown as seen in **Exhibit 4-10**.

Although the proportion of the population that is older than 65 years of age has remained constant (14%), the population segment aged between 25 – 44 years in 2001 has shifted into the next category of 45 – 64 years old by 2011. In 2001, 33% of Innisfil’s population was between 25 and 44 years of age, with 24% of the population between 45 and 64 years old. By 2011, these numbers have reversed with 31% aged between 45 and 64 years of age and 24% between 25 and 44 years of age.

Thus it can be surmised that the Town’s population is aging and within 10 – 20 years there will be an increased need for accessible and active transportation infrastructure including transit, safer sidewalks and improved walking trails.

4.2.2 Historic Travel Trends

The Transportation Tomorrow Survey (TTS) is a household travel survey conducted every 5 years in conjunction with the Census. Data from the 2001 and 2006 TTS has been extracted to establish various travel trend and pattern information for the Town. The 2011 TTS was conducted beginning in the fall of 2011, and a second phase is being conducted in the fall of 2012. Results will not be available until the very earliest end of 2012 and as such the Innisfil Transportation Master Plan will not be able to rely on up-to-date TTS survey results.

Innisfil households owned an average of 1.8 vehicles in 2006, slightly down from 1.9 vehicles in 2001 as shown in **Exhibit 4-11**. This value is comparable to similar geographic areas, such as Bradford West Gwillimbury, Northern York Region and the rest of Simcoe



County which share the same rural characteristics of Innisfil. The number of vehicles in these areas ranges from 1.8 to 1.95 vehicles per household. The City of Barrie, on the other hand, is slightly lower than Innisfil with 1.6 vehicles per household due to its more urban environment.

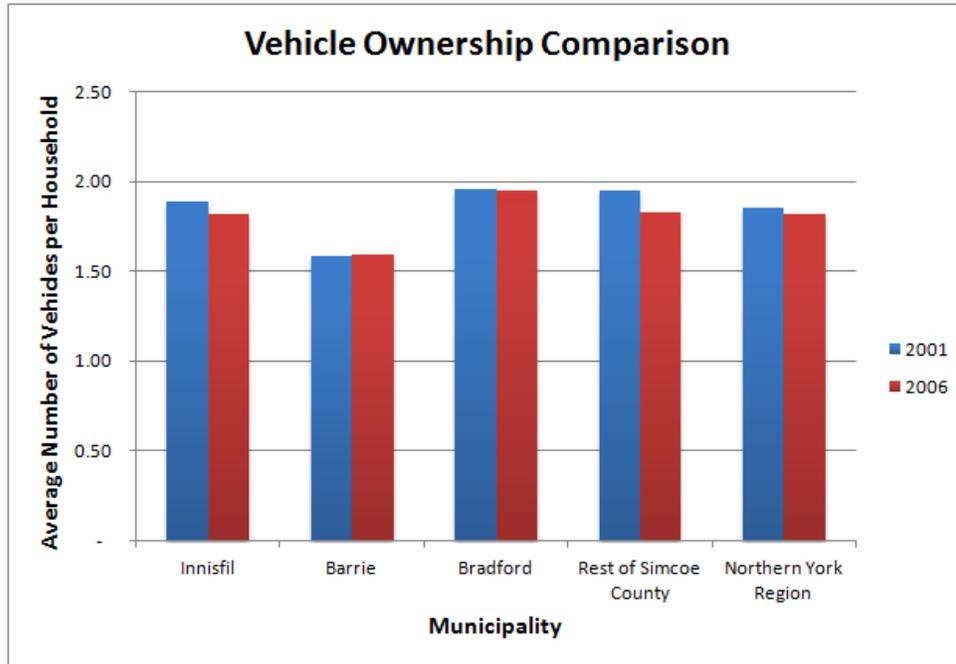


Exhibit 4-11: Vehicle Ownership

As seen in **Exhibit 4-12**, trips to or from Innisfil have grown from 14,090 in 2001 to 16,610 in 2006, representing a 17% increase or 3.3% per annum during the five-year period.

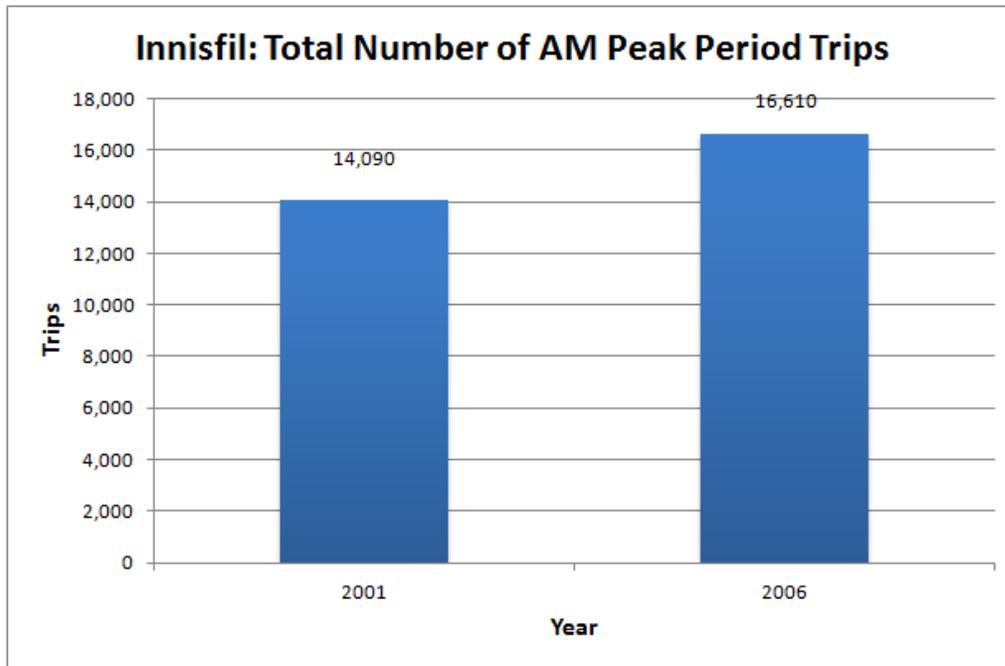


Exhibit 4-12: AM Peak Period Trips (All Modes)

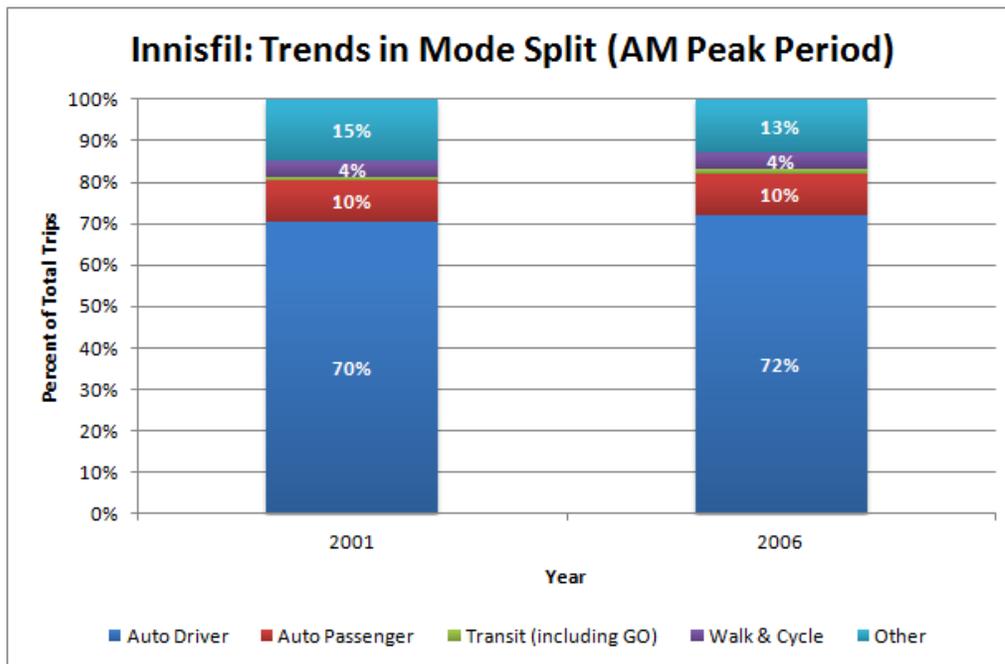


Exhibit 4-13: Mode Split

Mode split has remained relatively constant between 2001 and 2006. Auto Driver is the most used travel mode representing over 70% of AM peak period trips in 2006. Auto Passenger is the next most heavily used mode with 10% of AM peak period trips. Transit only represents 1% of AM peak period trips, all transit trips are made with GO Rail.

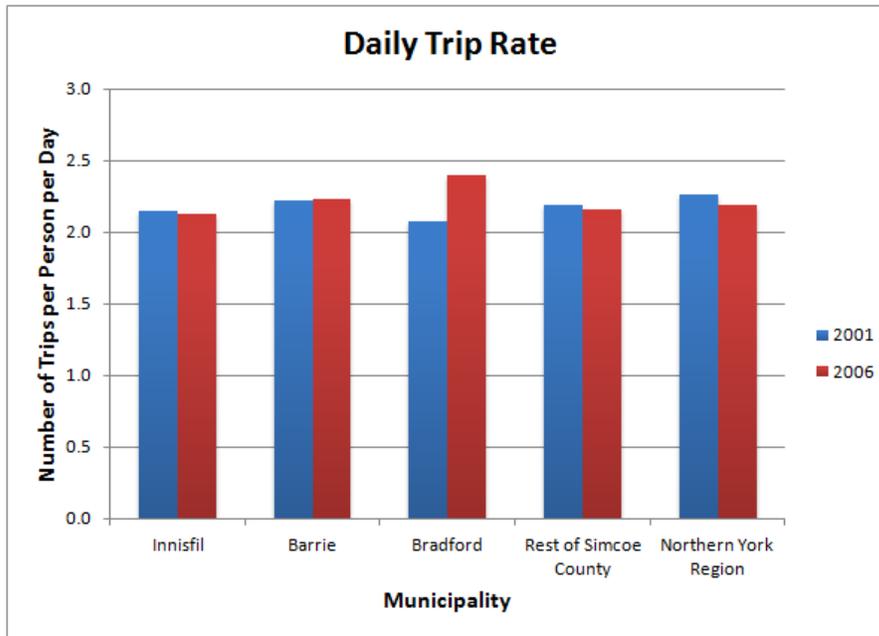


Exhibit 4-14: Daily Trip Rate Per Person

As demonstrated in **Exhibit 4-14**, the daily trip rate per person in Innisfil is comparable to nearby geographic areas with 2.1 trips per person per day in both 2001 and 2006. The average of the five geographic areas shown above was 2.2 trips per person per day in 2006.

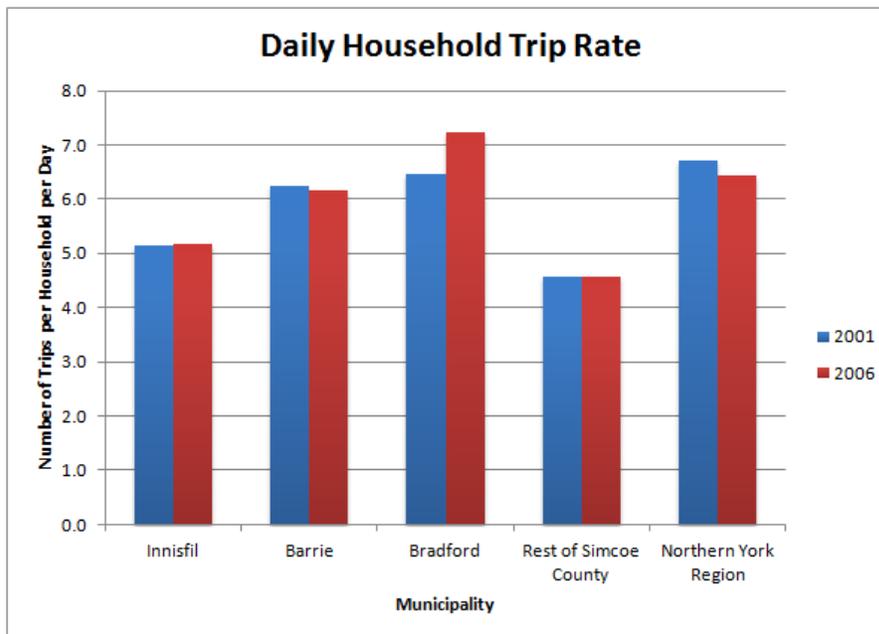


Exhibit 4-15: Daily Trip Rate per Household



The daily trip rate per household in Innisfil is below average when compared to nearby geographic areas with 5.2 trips per person per day in both 2001 and 2006. However it is greater than Simcoe County outside of Innisfil, Bradford and Barrie in which the average household generates 4.6 trips per day. The average of the five geographic areas shown above was 5.5 trips per person per day in 2006.

4.2.3 Travel Patterns

The Town today has strong commuter ties mostly with City of Barrie, Town of Bradford-West Gwillimbury, and York Region. According to the 2006 TTS, 44% of AM peak period work trips originating in the Town of Innisfil (i.e. trips made by Innisfil residents) are destined to those municipalities. Only 14% of trips stay within Innisfil while the remaining 22% is destined to either Peel Region or the City of Toronto. When all trips are considered (including recreational, medical, shopping, etc), the destination percentages significantly change as the internal trip portion increases from 14% to 33%. This indicates there are many short-distance local trips made by Innisfil residents for non-work purposes.

Of the work trips destined to Toronto's Downtown Core (one-sixth of Toronto trips), 60% drive; while, the remaining 40% use GO Transit (rail) from a GO station outside of Innisfil. As the Town continues to develop and grow, the percentage of internal trips should naturally increase. For comparison, 48% of trips made by Bradford residents are internal to Bradford; while, 74% of trips made by City of Barrie residents are internal to Barrie.

Exhibit 4-16 illustrates the destinations of trips made by Innisfil residents during the weekday AM peak period; while, **Exhibit 4-17** illustrates the percentage of trips destined to Innisfil.

Exhibit 4-17 demonstrates that the majority of trips destined to Innisfil during the AM peak period originate in the Town. About 52% of trips destined to the Town of Innisfil also begin in the Town, while just over 23% come from Barrie. Only 10% of trips that are destined to Innisfil come from municipalities to the south comprising York Region, Bradford and Toronto.

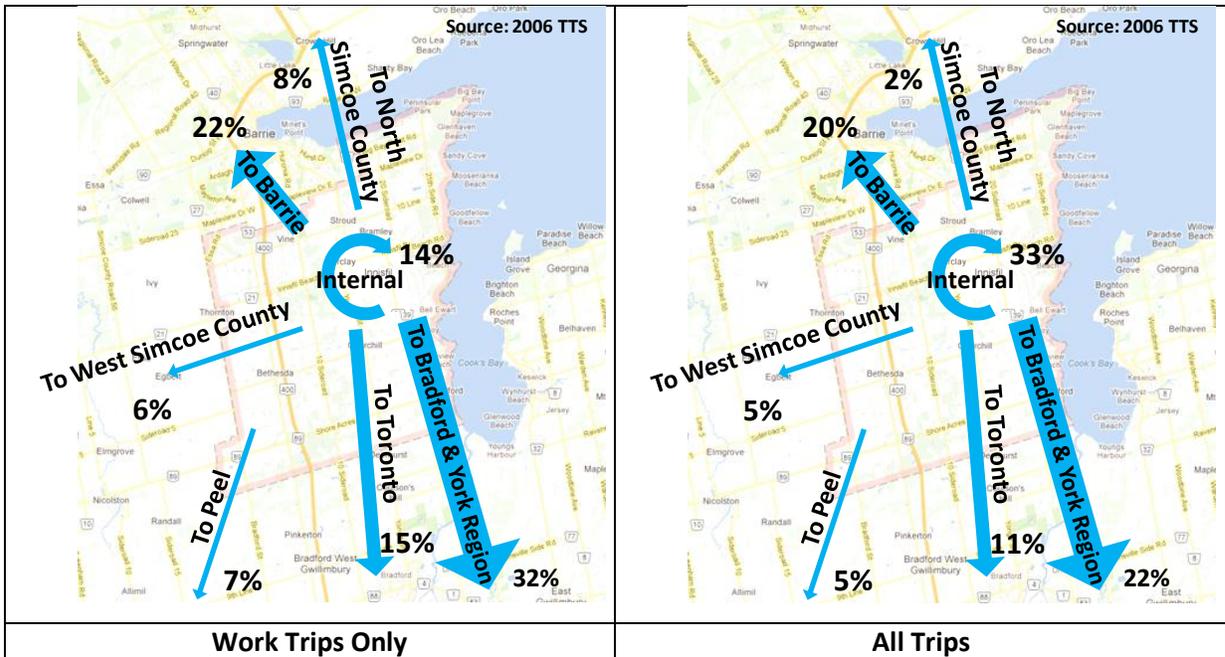


Exhibit 4-16: Destinations of Trips Made by Innisfil Residents – AM Peak Period

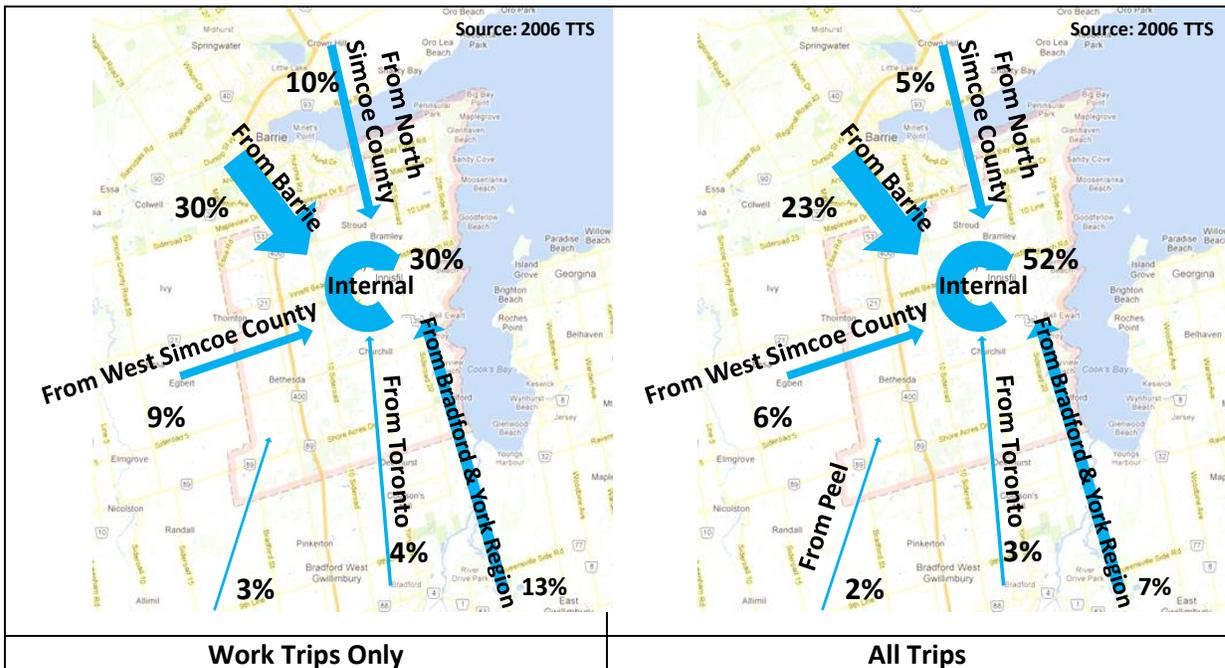


Exhibit 4-17: Trips Destined to Innisfil – AM Peak Period



4.3 Existing Travel Demand

4.3.1 Traffic Volumes

Historic daily traffic counts on Town roads between 2003 and 2009 were provided by the Town of Innisfil. Annual growth rates were calculated for each section and were plotted on a map in **Exhibit 4-18**.

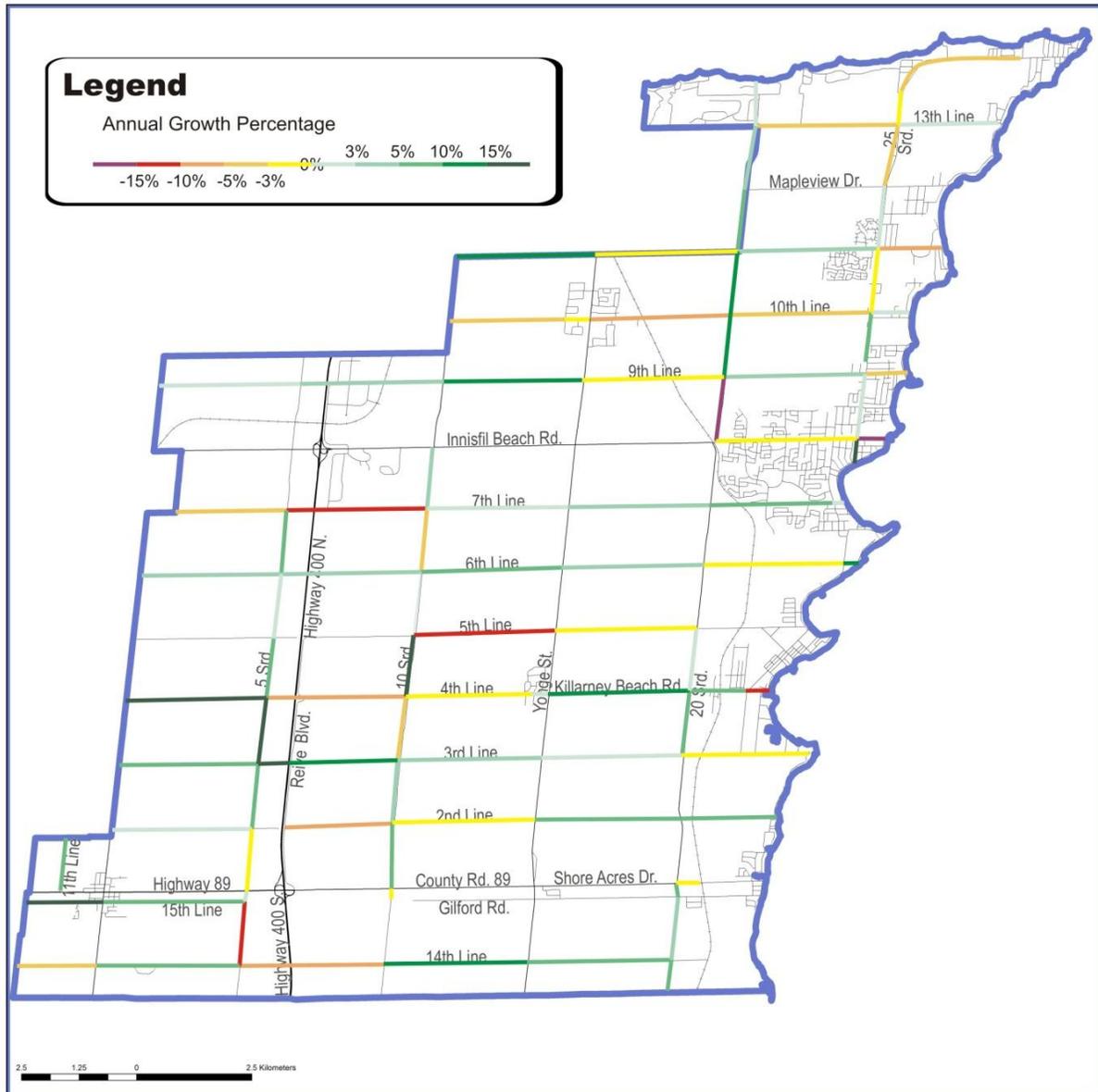


Exhibit 4-18: Historic Traffic Growth, Daily Traffic 2003-2009

Exhibit 4-18 illustrates historic increases based on available data and provides an overview of localized traffic increases and decreases at various locations within the Town. Generally



green and yellow colours are observed on most links, where green colours indicate growth while minor negative growth is illustrated by yellow. Major decreases are depicted by red colours which only occur at specific locations. On a Town-wide basis, total vehicle travel on each road link has growth steadily at 2.4% per year.

It is noted that certain roads depicted in **Exhibit 4-18** such as Lockhart Road west of 20th Sideroad is currently under jurisdiction of the City of Barrie, but is shown above because the road was previously under jurisdiction of the Town of Innisfil and the data was available.

Existing daily traffic volumes are shown in **Exhibit 4-19** to provide a snapshot of the roads that are primarily being utilized for commuting throughout the Town. For long distance north-south traffic, Highway 400 is the obvious choice followed by County Road 4. County Road 21 and Innisfil Beach Road accommodates the heaviest east-west traffic in the Town comprising a mix of local and through traffic and serves as the main corridor connecting Highway 400 and Alcona.

Traffic turning movement counts at select intersections within the Town were also conducted by HDR in September of 2012 to supplement the traffic data provided by the agencies and were assessed to determine existing operations and capacity deficiencies at these intersections. The results of this analysis are provided in **Section 4.4.3**.

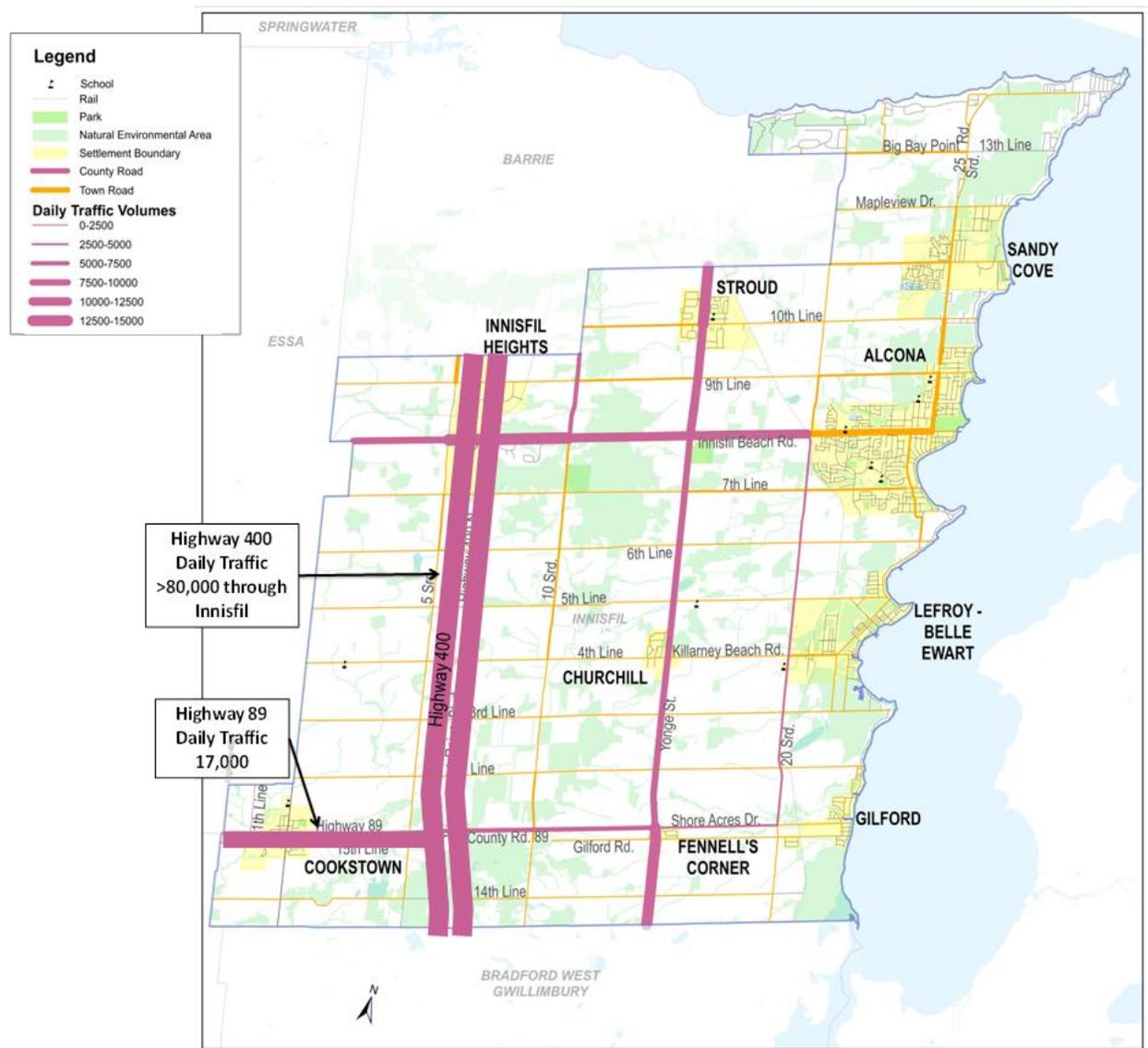


Exhibit 4-19: Existing Daily Traffic Volumes

4.3.2 Transit Demand

There were no existing passenger line counts available for the GO bus or rail services travelling through Innisfil; however, GO station passenger counts were available and extracted for the Barrie South and Bradford GO stations from the 2011 GO Rail Passenger Survey. The usage count information identified the number of trips originating from Innisfil using these two GO stations, as illustrated below in **Exhibit 4-20** and **Exhibit 4-21**.

From the survey data, an estimate of potential GO trips using the proposed Innisfil GO station at Belle Aire Beach Road could be calculated. Of the 66 GO rail passengers from Innisfil and 14 passengers from Essa Township (Thornton) using the Barrie South station



today, 73 of these 80 passengers could divert to the new GO station. The remaining 7 passengers from Big Bay Point would continue using the Barrie South GO station.

Similarly, of the 43 passengers from Innisfil and 9 passengers from Thornton using the Bradford GO station today, all 52 passengers could likely divert to the new GO station.

In total, there could be approximately 125 existing GO passengers from Innisfil using the new GO station. This demand is conservatively low as a new GO station will attract more trips including potential modal shifts from auto to transit.

BARRIE SOUTH STATION

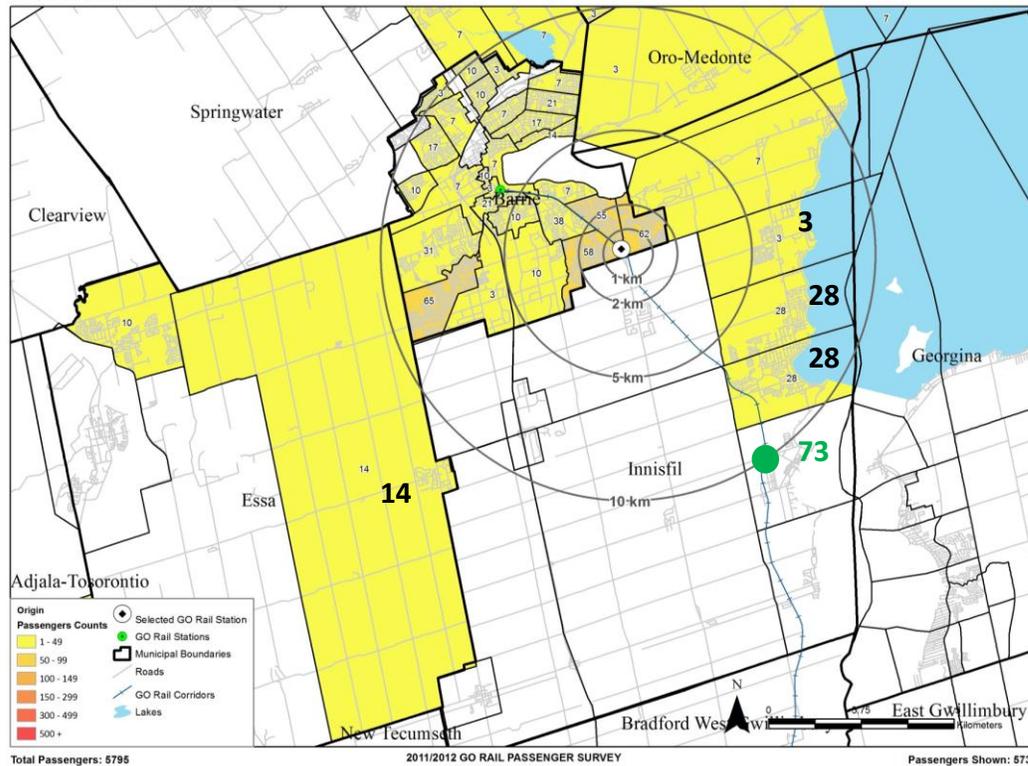


Exhibit 4-20: Existing GO Rail Passengers from Innisfil using Barrie South Station

BRADFORD STATION

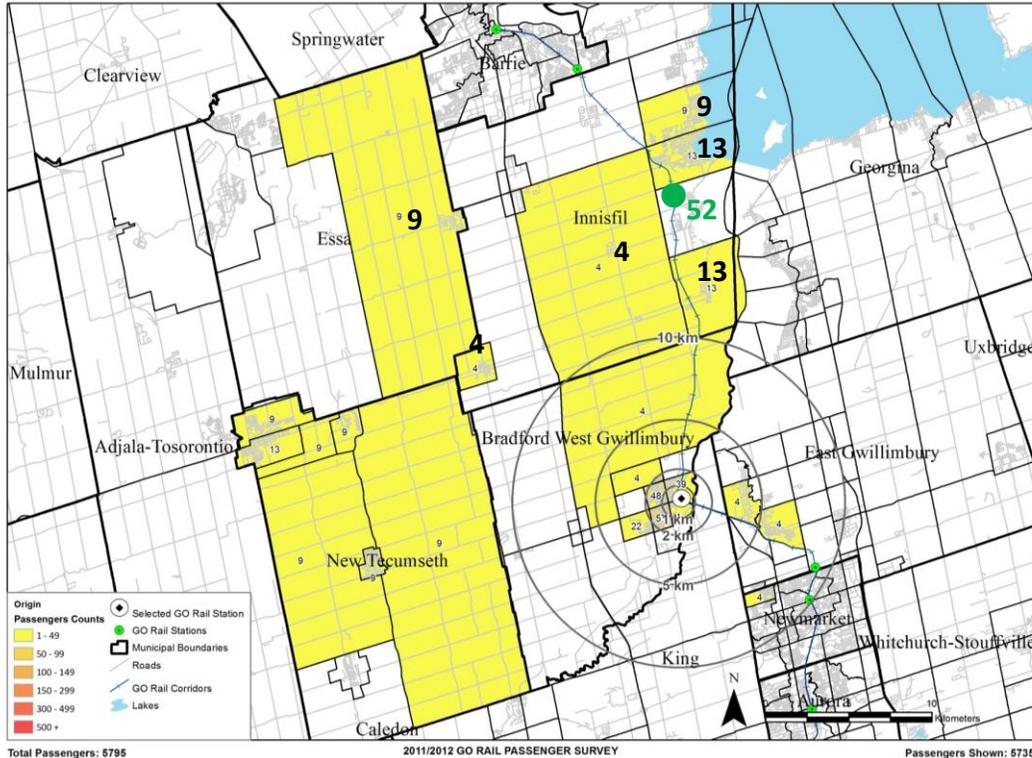


Exhibit 4-21: Existing GO Rail Passengers from Innisfil using Bradford Station

4.4 Transportation Deficiencies and Opportunities

4.4.1 Existing Screenline Analysis

Screenline analysis involves assessing the total amount of traffic crossing a physical or imagined boundary and comparing that total traffic against roadway capacity. The purpose of this analysis is to determine if any network-wide deficiencies exist in a grid-based road system. For this type of road network, congestion on a specific road may not necessarily warrant road improvements where a feasible alternative route exists. However, when the total traffic crossing a screenline indicates capacity deficiencies, there is a clear need for improvements. Localized congestion issues still need to be considered; however, only where the road network is not able to accommodate diverted traffic avoiding the localized congestion.

The ratio of travel demand versus travel supply (commonly referred to as volume to capacity ratio) is measured across these screenlines – the higher the volume to capacity ratio, the more congestion there is. This volume to capacity ratio on road and freeway links can also be described in terms of level of service. These definitions are summarized in **Table 4-1**.



Table 4-1: Link Volume to Capacity (V/C) Ratio Definitions

V/C Ratio	Level of Service	Operating Condition
Less than 0.85	LOS A-C	Free-flow, very little, to moderate delay
Between 0.85 and 0.99	LOS D-E	Approaching or at capacity, users experience delays and queuing
Greater than 1.00	LOS F	Over capacity, severe delays and queuing

For a particular road link or section, a v/c ratio of less than 0.85 represents flow conditions in which little or acceptable delay is experienced. Between 0.85 and 0.99, as the link reaches capacity, congestion and a high amount of delay are experienced. At a v/c ratio of 1.00 or higher, there are stop-and-go conditions and traffic flow breaks down.

The key performance measure for this analysis is the volume to capacity ratio, where the roadway capacity (expressed in vehicles per hour per lane) is based on the standardized road capacities in the Transportation Model. These capacities are based on the hourly capacities used by the Data Management Group at the University of Toronto for the GTA Model Network Coding Standard and which were also applied in the Simcoe TMP TransCAD model. Because this is a daily model, the capacities were converted to daily from hourly values. Using 24-hour traffic count data on County and Town roads, the peak hour traffic was approximately 10% of daily traffic, and supports the industry factor of 10 that was applied to derive daily capacities. Further professional judgment and knowledge of the study area assisted in determining an accurate value for per-lane capacity to be used in link and screenline calculations.

Daily capacity assumptions in the Innisfil TMP TransCAD model by road classification are summarized in **Table 4-2**.

Table 4-2: Innisfil TMP TransCAD Model Capacity Assumptions

Road Class	Daily 2-way Capacity (vehicles per day per lane)	Approximate Right-Of-Way Width, Official Plan Schedule C (metres)
Local Road	8,000	20
Collector Road	10,000	23
Minor Innisfil Arterial	13,000	26
Major Innisfil Arterial	16,000	30
Minor County Arterial	16,000	36
Major County Arterial	20,000	36-40
Provincial Highway	20,000	n/a
Provincial Freeway	36,000	n/a

Table 4-3 and **Table 4-4** summarize existing north-south and east-west traffic conditions across screenlines in the Town, respectively; while, **Exhibit 4-22** illustrates existing capacity issues on road sections. Volume to capacity ratios between 0.85 and 0.99 have been coloured yellow to indicate an approaching capacity condition with some travel delay (where



roads are “somewhat busy”), and V/C ratios 1.00 and above were coloured red to indicate severe congestion where drivers experience significant delay (where roads are considered to be “busy”). From a link capacity perspective, there is not much congestion on the roads with only Innisfil Beach Road and Highway 400 experiencing congestion today while the total screenline traffic is well under capacity. There may be localized congestion at intersections within the Town not captured at the screenline or link level; however, these are discussed in **Sections 4.4.2 and 4.4.3**.

Table 4-3: Existing Screenline Traffic Analysis – North-South Daily 2-way Traffic

No.	Link	Daily 2-way Capacity	Daily 2-way Traffic Volume	V/C Ratio
South of Mapleview Drive				
101	COUNTY ROAD 27	20,000	9,617	0.48
104	HIGHWAY 400 S	108,000	87,058	0.81
107	YONGE STREET	20,000	13,301	0.67
108	20 SIDEROAD	10,000	1,902	0.19
109	25 SIDEROAD	10,000	2,879	0.29
1	Total	168,000	114,757	0.68
North of Innisfil Beach Rd				
201	COUNTY ROAD 27	20,000	9,617	0.48
202	5 SIDEROAD	n/a	n/a	n/a
203	HIGHWAY 400 S	108,000	87,058	0.81
205	INDUSTRIAL PARK ROAD	10,000	5,066	0.51
206	10 SIDEROAD	20,000	7,367	0.37
207	YONGE STREET	20,000	11,459	0.57
208	20 SIDEROAD	10,000	7,367	0.74
209	25 SIDEROAD	n/a	n/a	n/a
2	Total	188,000	127,933	0.68
South of Innisfil Beach Rd				
301	BARRIE STREET	12,000	6,446	0.54
302	5 SIDEROAD	10,000	1,955	0.20
303	HIGHWAY 400 S	108,000	98,577	0.91
305	10 SIDEROAD	10,000	2,907	0.29
306	YONGE STREET	20,000	9,208	0.46
307	20 SIDEROAD	16,000	5,013	0.31
308	SAINT JOHNS ROAD	10,000	4,726	0.47
3	Total	186,000	128,832	0.69
North of Highway 89				
401	KING STREET N	10,000	6,446	0.64
402	5 SIDEROAD	10,000	1,496	0.15
403	HIGHWAY 400 S	108,000	98,577	0.91
405	10 SIDEROAD	10,000	2,803	0.28
406	YONGE STREET	20,000	8,963	0.45
407	20 SIDEROAD	16,000	4,911	0.31
4	Total	174,000	123,196	0.71
South of Highway 89				
501	KING STREET S	10,000	4,809	0.48
502	5 SIDEROAD	10,000	1,803	0.18
503	HIGHWAY 400 S	108,000	79,004	0.73
505	10 SIDEROAD	10,000	3,021	0.30
506	YONGE STREET	20,000	13,108	0.66
507	20 SIDEROAD	10,000	908	0.09
5	Total	168,000	102,653	0.61
V/C Ratio Legend			V/C Ratio between 0.85 and 1 (Somewhat Busy)	
			V/C Ratio > 1 (Busy)	



Table 4-4: Existing Screenline Traffic Analysis – East-West Daily 2-way Traffic

No.	Link	Daily 2-way Capacity	Daily 2-way Traffic Volume	V/C Ratio
West of Highway 400*				
602	INNISFIL BEACH ROAD	14,000	13,403	0.96
603	7TH LINE	10,000	302	0.03
604	6TH LINE	10,000	287	0.03
605	5TH LINE	10,000	299	0.03
606	4TH LINE	10,000	1,009	0.10
607	3RD LINE	10,000	92	0.01
609	HIGHWAY 89	20,000	16,700	0.84
6	Total	84,000	32,092	0.38
East of Highway 400				
701	9TH LINE	10,000	1,540	0.15
702	INNISFIL BEACH ROAD	20,000	14,324	0.72
703	7TH LINE	10,000	72	0.01
704	6TH LINE	10,000	281	0.03
705	5TH LINE	10,000	66	0.01
706	4TH LINE	10,000	1,145	0.11
707	3RD LINE	10,000	156	0.02
708	2ND LINE	10,000	108	0.01
709	COUNTY ROAD 89	20,000	7,367	0.37
710	14TH LINE	10,000	90	0.01
7	Total	120,000	25,149	0.21
West of 20 Side Road				
801	BIG BAY POINT ROAD	10,000	4,719	0.47
802	MAPLEVIEW DRIVE	10,000	1,662	0.17
803	LOCKHART ROAD	10,000	4,066	0.41
804	10TH LINE	10,000	3,502	0.35
805	9TH LINE	10,000	3,194	0.32
806	INNISFIL BEACH ROAD	20,000	11,357	0.57
807	7TH LINE	10,000	3,073	0.31
808	6TH LINE	10,000	876	0.09
809	5TH LINE	10,000	666	0.07
810	KILLARNEY BEACH ROAD	10,000	2,590	0.26
811	3RD LINE	10,000	270	0.03
812	2ND LINE	10,000	260	0.03
813	SHORE ACRES DRIVE	16,000	4,809	0.30
814	GILFORD ROAD	10,000	1,050	0.11
815	14TH LINE	10,000	90	0.01
8	Total	166,000	42,186	0.25
East of 20 Side Road				
901	BIG BAY POINT ROAD	10,000	3,879	0.39
902	MAPLEVIEW DRIVE	10,000	953	0.10
903	LOCKHART ROAD	10,000	4,177	0.42
904	10TH LINE	10,000	2,158	0.22
905	9TH LINE	10,000	2,614	0.26
906	INNISFIL BEACH ROAD	10,000	10,986	1.10
907	7TH LINE	10,000	5,985	0.60
908	6TH LINE	10,000	780	0.08
909	BELLE AIRE BEACH ROAD	10,000	1,109	0.11
910	KILLARNEY BEACH ROAD	10,000	3,515	0.35
911	3RD LINE	10,000	582	0.06
912	2ND LINE	10,000	642	0.06
913	SHORE ACRES DRIVE	10,000	1,760	0.18
914	GILFORD ROAD	10,000	1,016	0.10
915	14TH LINE	10,000	337	0.03
9	Total	150,000	40,494	0.27
V/C Ratio Legend			V/C Ratio between 0.85 and 1 (Somewhat Busy)	
			V/C Ratio > 1 (Busy)	

*Volumes on 9th Line, 2nd Line, and 14th Line west of Highway 400 were not available

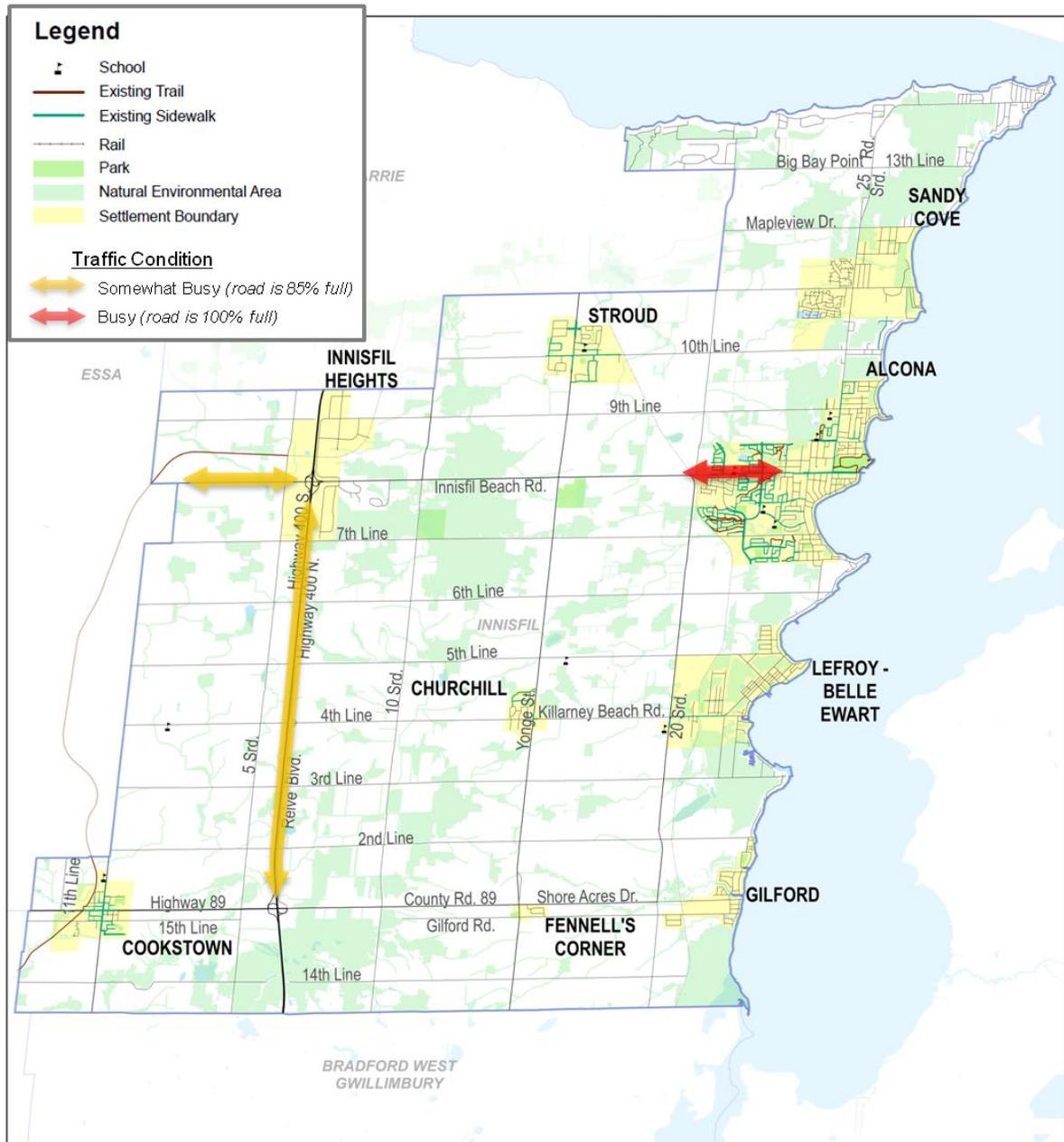


Exhibit 4-22: Existing Traffic Conditions

4.4.2 Existing Intersection Operations Review

A review and analysis of every intersection within the Town is beyond the scope of TMP studies; however, selected key intersections were identified for operations review and analysis. After discussions with the Town, a total of 20 intersections were identified and field reviews were conducted in July 2012 and again in September 2012 during the morning peak



period (6:30 a.m. to 9:30 a.m.). The field review involved a high-order assessment of the following 20 Town intersections, selected by Town staff:

- | | |
|--|---|
| 1. Yonge Street & 4 th Line | 11. 20 th Sideroad & 6 th Line |
| 2. Yonge Street & 6 th Line | 12. 20 th Sideroad & 5 th Line |
| 3. Yonge Street & 7 th Line | 13. 20 th Sideroad & Killarney Beach Road |
| 4. Yonge Street & 9 th Line | 14. St. John's Road & 6 th Line |
| 5. 10 th Sideroad & 9 th Line | 15. St. John's Road & 7 th Line |
| 6. 20 th Sideroad & Lockhart Road | 16. 25 th Sideroad & 9 th Line |
| 7. 20 th Sideroad & 10 th Line | 17. 25 th Sideroad & 10 th Line |
| 8. 20 th Sideroad & 9 th Line | 18. 25 th Sideroad & Lockhart Road |
| 9. 20 th Sideroad & Innisfil Beach Road | 19. 25 th Sideroad & Mapleview Drive |
| 10. 20 th Sideroad & 7 th Line | 20. 25 th Sideroad & Big Bay Point Road |

During the field review, observations of any capacity, operational and safety issues were conducted. It is possible that operational issues may have been missed during the field review as there may be peaking characteristics that are short-lived during the morning peak period.

In general, there were no capacity issues observed at any of the study intersections. All of the intersections were unsignalized, and there was no queuing on any approach that is indicative of a warrant for traffic control upgrades such as signalization. During the morning peak period, all intersections were deemed to operate adequately from a high-level review.

In regards to road safety, there were a few recurring safety issues and improvement opportunities identified throughout the study area:

- At several of the intersections, the stop bar pavement markings on the minor streets were missing or in disrepair. This is a general safety issue for drivers locating an appropriate position to stop their vehicle at a safe distance from the crossing traffic, and also helps approaching drivers identify important intersections. The stop bars should be maintained.
- At several of the intersections, the road designs were such that small turning radii are presented for drivers making right turns, both to and from the minor approaches. This can be problematic for drivers attempting to turn into a high speed lane from a stopped position.
- At many intersections – particularly along Yonge Street – the main street has a posted speed limit of 80 km/h through the intersection. This may pose a high-speed collision risk for turning vehicles from the intersecting minor street. In a few instances, the intersections are not perfectly visible to drivers traveling at 80 km/h due to the hilly terrain near the intersection. The introduction of flashing overhead beacons at these types of intersections could help reduce collision risk, particularly at intersections with a collision history. Detailed collision and safety analysis was not part of the TMP scope.



Exhibit 4-23: Missing Stop-bar at 20th Sideroad and 10th Line



Exhibit 4-24: Tight Turning Radius at Yonge Street & 9th Line

As part of the review, the unique operations at the Innisfil Beach Road intersection with 20th Sideroad were also monitored. This intersection presents a jogged alignment with a north-south rail crossing between the north and south legs of 20th Sideroad. This configuration is unorthodox and has been examined in previous Town studies where the realignment of 20th Sideroad has been recommended. During the specific morning peak hour visit, the intersection was observed to operate adequately with no queuing or dangerous manoeuvres made from drivers.

A few other notes observed at the study intersections:

- 10th Sideroad & 9th Line: Vegetation obstructing views on the eastbound approach, causing reduced sightlines.
- 20th Sideroad & Lockhart Road: Residential treelines causing obstructed views on the northbound and southbound approaches.
- 20th Sideroad & 10th Line: Residential fenceline causing obstructed views on the northbound southbound approaches.
- 20th Sideroad & 7th Line: Restricted sightline on WB approach.
- St. John's Road & 7th Line: Some sightline restrictions due to overgrown vegetation on all approaches.



Exhibit 4-25: Sightline Restrictions at St. John's Road & 7th Line

In general, the twenty intersections reviewed during this field visit did not reveal any traffic capacity deficiencies.

4.4.3 Existing Intersection Analysis

Of the 20 Town intersections surveyed in the field, a short-list of 12 locations was selected for detailed level of service and capacity analysis. The 12 intersections were identified as the local intersections with the highest traffic activity based on field observations, feedback from local residents, a review of the road network, and a limited set of historic traffic data. The selected intersections listed below are all stop-controlled (i.e. unsignalized):

- Yonge Street & 6th Line
- Yonge Street & 9th Line
- 20th Sideroad & Lockhart Road
- 20th Sideroad & 9th Line



- 20th Sideroad & Innisfil Beach Road
- 20th Sideroad & 5th Line
- St. John's Road & 7th Line
- 25th Sideroad & 9th Line
- 25th Sideroad & 10th Line
- 25th Sideroad & Innisfil Beach Road
- 25th Sideroad & Mapleview Drive
- 25th Sideroad & Big Bay Point Road

HDR commissioned traffic counts at the 12 analysis intersections for use in establishing baseline traffic volumes. The counts were undertaken on September 12, 2012 (Wednesday) from 7:00 AM to 9:00 AM, and 2:30 PM to 5:30 PM.

Using the September 2012 turning movement counts as representative existing volumes, a capacity analysis was completed for the 12 intersections using Highway Capacity Manual 2000 (HCM). The analysis was completed to determine basic performance of the town intersections under existing traffic levels, using the following measures of performance:

- Capacity of all intersection movements, which is based on a volume-to-capacity ratio and must be below 0.9 for left-turn movements and 0.85 for all other movements (consistent with Simcoe County's intersection service targets)
- Level of Service (LOS) for all intersection movements, which is based on the average control delay per vehicle for the various movements through the intersection and overall. Intersections should be monitored for improvements at LOS D-E and are recommended for improvements if operating at LOS F

As per HCM, the unsignalized level of service (LOS) criteria is outlined in **Table 4-5**.

Table 4-5: HCM Unsignalized LOS Criteria

Level of Service	Average Control Delay (sec/veh)	Recommended Improvement Criteria
A	0 – 10	Acceptable
B	>10 – 15	Acceptable
C	>15 – 25	Acceptable
D	>25 – 35	Monitor
E	>35 – 50	Monitor
F	>50	Unacceptable

Due to the relative complexity of the geometry, the analysis for the intersection of 20th Sideroad and Innisfil Beach Road was completed using Synchro 8 software. The remaining 11 intersections of the 12 short-listed above, were completed using Highway Capacity Software (HCS). Both software packages incorporate HCM methodologies and are used to produce similar outputs. The analysis results from the existing conditions are summarized in **Table 4-6**.



Table 4-6: Summary of 2012 Existing Traffic Conditions

Intersection and Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay	LOS	v/c	95 th Q	Delay	LOS	v/c	95 th Q
Yonge Street & 6th Line								
Northbound Left-Through	8.5	A	0.00	0.01	7.7	A	0.00	0.00
Northbound Through-Right	-	-	-	-	-	-	-	-
Southbound Left-Through	7.6	A	0.00	0.01	9.3	A	0.02	0.06
Southbound Through-Right	-	-	-	-	-	-	-	-
Westbound Left-Through-Right	19.7	C	0.31	1.32	18.2	C	0.11	0.37
Eastbound Left-Through-Right	17.9	C	0.11	0.38	23.5	C	0.30	1.28
Yonge Street & 9th Line								
Northbound Left-Through	8.6	A	0.02	0.05	8.2	A	0.01	0.03
Northbound Right-turn	-	-	-	-	-	-	-	-
Southbound Left-Through	7.9	A	0.03	0.08	9.2	A	0.07	0.22
Southbound Right-turn	-	-	-	-	-	-	-	-
Westbound Left-Through-Right	>60.0	F	0.85	>10.0	>60.0	F	0.98	>10.0
Eastbound Left-Through-Right	18.5	C	0.16	0.57	>60.0	F	>1.0	>10.0
20th Sideroad & Lockhart Road								
Eastbound Left-Through-Right	7.9	A	0.00	0.01	7.4	A	0.01	0.04
Westbound Left-Through-Right	7.3	A	0.01	0.03	7.9	A	0.01	0.03
Northbound Left-Through-Right	11.9	B	0.19	0.69	14.2	B	0.30	1.30
Southbound Left-Through-Right	11.2	B	0.16	0.57	15.1	C	0.28	1.16
20th Sideroad & 9th Line								
Northbound Left-Through-Right	7.5	A	0.03	0.09	7.5	A	0.02	0.05
Southbound Left-Through-Right	7.4	A	0.01	0.04	7.6	A	0.01	0.04
Westbound Left-Through-Right	13.8	B	0.30	1.27	15.8	C	0.25	0.99
Eastbound Left-Through-Right	11.4	B	0.13	0.45	20.2	C	0.57	3.90
20th Sdrd. S & Innisfil Beach Road								
Eastbound Through-Right	-	-	0.17	-	-	-	0.36	-
Westbound Left-Through	2.2	A	0.08	2.1*	2.9	A	0.10	2.6*
Northbound Left-Right	13.0	B	0.14	3.6*	18.2	C	0.38	18.2*
20th Sdrd. N & Innisfil Beach Road								
Eastbound Left-Through	1.5	A	0.04	1.0*	2.0	A	0.08	2.0*
Westbound Through-Right	-	-	0.39	-	-	-	0.28	-
Southbound Left-Right	21.6	C	0.34	11.0*	31.0	D	0.46	17.4*
20th Sideroad & 5th Line								
Northbound Left-Through-Right	7.8	A	0.00	0.00	7.5	A	0.00	0.00
Southbound Left-Through-Right	7.5	A	0.01	0.02	8.2	A	0.04	0.11
Westbound Left-Through-Right	11.7	B	0.10	0.33	13.4	B	0.10	0.32
Eastbound Left-Through-Right	12.3	B	0.02	0.07	15.3	C	0.13	0.44
St. John's Road & 7th Line								
Northbound Left-Through-Right	7.6	A	0.01	0.02	7.6	A	0.02	0.05
Southbound Left-Through-Right	7.7	A	0.00	0.01	7.5	A	0.00	0.01
Westbound Left-Through-Right	10.6	B	0.03	0.08	10.3	B	0.02	0.06
Eastbound Left-Through-Right	11.5	B	0.09	0.30	12.7	B	0.24	0.95
25th Sideroad & Innisfil Beach Road								
Eastbound Left-Through-Right	7.5	A	0.08	0.26	7.7	A	0.14	0.50
Westbound Left-Through-Right	7.3	A	0.00	0.00	7.3	A	0.00	0.00
Northbound Left-Through-Right	13.0	B	0.09	0.30	19.5	C	0.18	0.66
Southbound Left-Through-Right	10.0	A	0.17	0.61	12.5	B	0.32	1.41
25th Sideroad & 9th Line								
Northbound Left-Through-Right	7.9	A	0.08	0.27	7.9	A	0.05	0.17
Southbound Left-Through-Right	7.5	A	0.00	0.00	8.1	A	0.01	0.03
Westbound Left-Through-Right	15.7	C	0.16	0.57	17.5	C	0.12	0.40
Eastbound Left-Through-Right	11.0	B	0.11	0.38	17.6	C	0.44	2.34



Table 4-6 (Cont'd): Summary of 2012 Existing Traffic Conditions

Intersection and Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay	LOS	v/c	95 th Q	Delay	LOS	v/c	95 th Q
25th Sideroad & 10th Line								
Northbound Left-Through-Right	7.6	A	0.03	0.09	7.6	A	0.02	0.06
Southbound Left-Through-Right	8.0	A	0.00	0.01	7.7	A	0.01	0.04
Westbound Left-Through-Right	12.0	B	0.13	0.44	12.3	B	0.10	0.33
Eastbound Left-Through-Right	10.4	B	0.07	0.24	11.4	B	0.21	0.79
25th Sideroad & Mapleview Drive								
Northbound Left-Through-Right	7.4	A	0.02	0.06	7.4	A	0.02	0.06
Southbound Left-Through-Right	7.8	A	0.00	0.01	7.5	A	0.01	0.02
Westbound Left-Through-Right	10.3	B	0.07	0.24	10.5	B	0.05	0.15
Eastbound Left-Through-Right	9.4	A	0.04	0.11	10.5	B	0.11	0.35

Delay – s/veh;

LOS – Level-of-Service, as per the HCM definitions;

v/c – ratio of volume to available roadway capacity;

95th Q – 95th percentile queue length, measured in number of cars (assuming 7.5m car-length average)

* denotes 95th percentile queue lengths measured in meters

From **Table 4-6**, it is noted that nearly all intersections (except those noted below) are operating with acceptable levels of service and volume to capacity ratios. Individual movement delays are less than 24 seconds, and queue lengths do not extend longer than 4 cars. The following exceptions from the analysis results are:

AM Peak Hour:

- *Yonge Street & 9th Line, Westbound Left-Through-Right*: LOS F; 95th percentile queue length exceeds 10 cars

PM Peak Hour:

- *Yonge Street & 9th Line, Westbound Left-Through-Right*: LOS F; 95th percentile queue length exceeds 10 cars
- *Yonge Street & 9th Line, Eastbound Left-Through-Right*: LOS F; v/c ratio greater than 1.0; 95th percentile queue length exceeds 10 cars
- *Innisfil Beach Road & 20th Sideroad N, Southbound Left-Right*: LOS D

Since the Yonge Street & 9th Line intersection is under the jurisdiction of Simcoe County, we recommend that the Town pursue with the County the potential implementation of turning lanes on 9th Line and traffic signals as recommended short term improvements. It is also recommended to monitor the intersection operations at Innisfil Beach Road and 20th Sideroad N as the southbound movement is operating at LOS D during the PM peak hour.

The Levels of Service for the critical turning movement (movement with the highest v/c ratio) at the study intersections analyzed are summarized in **Exhibit 4-26**.

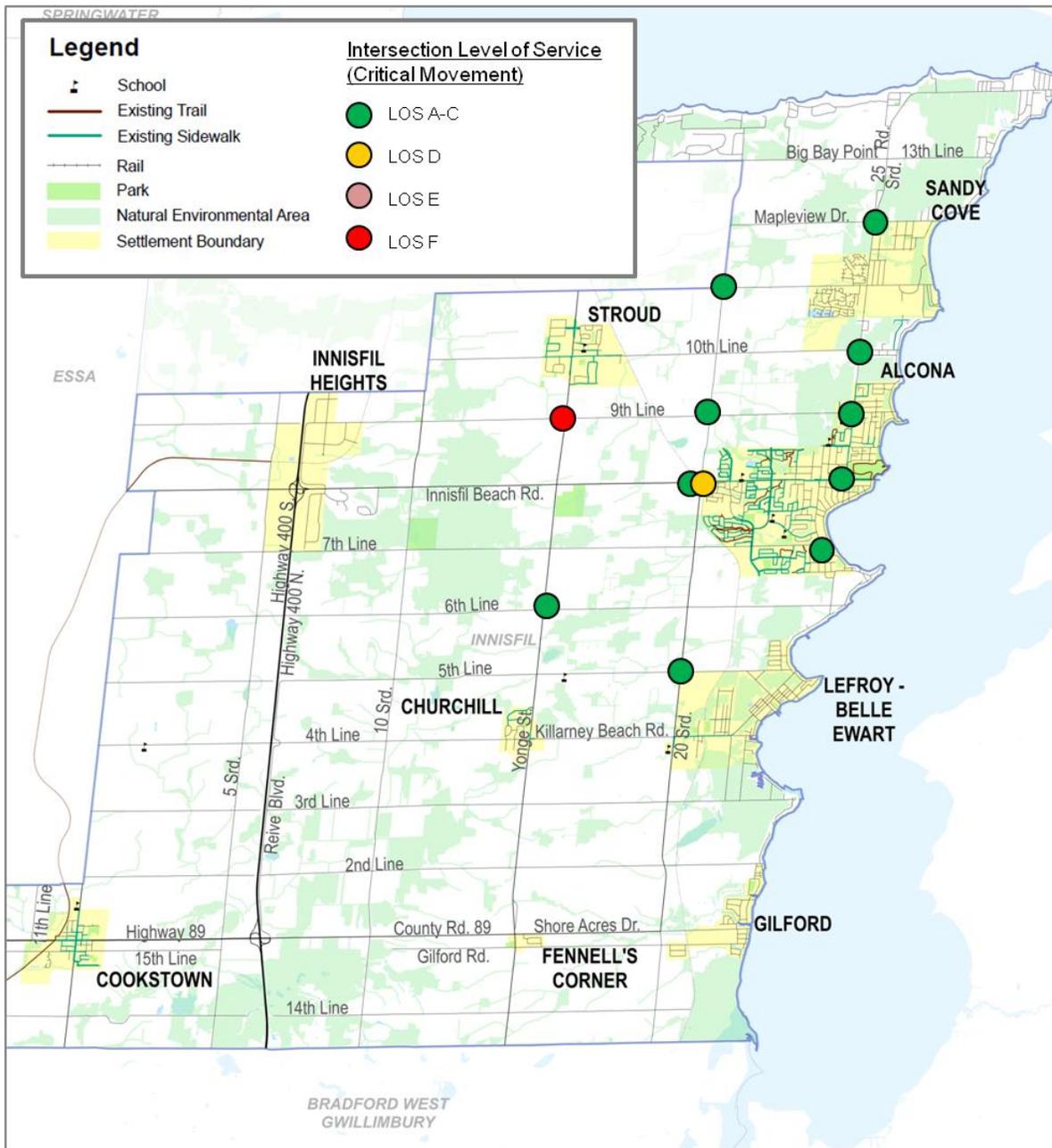


Exhibit 4-26: Intersection Level of Service (for Key Turning Movements Only)

4.4.4 Additional Investigations

During the public questionnaire process, there were particular concerns raised regarding the state of the active transportation network (i.e. sidewalks) immediately adjacent to two schools.



The first issue was raised at the Goodfellow Public School and the surrounding area. Goodfellow P.S. is located near the intersection of 25th Sideroad and 9th Line with many students and parents accessing the school on foot via 25th Sideroad and Joseph St. A field visit was completed to observe the pedestrian behaviour, and the vehicle-pedestrian interaction along the roads near the school. The following observations were found during the field visit:

Pedestrian Activity:

- Noticeably busier with increased pedestrian / auto / bus activity between 3:30 PM and 4:00 PM. School appeared to be adjourned at 3:30 PM.
- Good pedestrian adherence to east-west intersection pedestrian signal (IPS) near Joseph Street. Clusters of pedestrians were observed to cross 25th Sideroad during the Walk phase; minimal crossing was observed during the Don't Walk phase.
- Highest pedestrian activity observed north-south along 25th Sideroad → the only location near the school with continuous sidewalk.
- Very little (but *some*) pedestrian activity observed at 25th Sideroad & 9th Line intersection where there is almost no pedestrian facilities. Some pedestrians observed walking along roadway shoulders.
- No sidewalk at the following locations:
 - North and south side of Joseph St; west of 25th Sideroad.
 - West side of 25th Sideroad.
 - North and south side of 9th Line; east and west of 25th Sideroad.
- Overall, the only option for pedestrians accessing Goodfellow Public School, other than utilizing roadway shoulders, is the well-utilized sidewalk along the east side of 25th Sideroad.

Vehicular Activity:

- Cars observed waiting to pick up school children in retail parking lot on the east side of 25th Sideroad at the foot of Joseph St.; and along both shoulders of 9th Line near the school access driveway, west of 25th Sideroad.
- Some queuing observed in both directions along 25th Sideroad at the Joseph St. Intersection Pedestrian Signal (IPS) as a result of a pedestrian phase call; but queuing never exceeded 6-8 cars and no cars were observed to wait more than 1 cycle length.
- No queuing greater than 2-3 cars observed at 25th Sideroad & 9th Line intersection during school rush.

The second issue was raised at the Alcona Glen Elementary School and the surrounding area. Alcona Glen Elementary School is located at the northwest quadrant of the intersection of Swan Street and Innisfil Beach Road with many students and parents accessing the school on foot. The following observations were found during the field visit:

Pedestrian Activity:

- Noticeably busier with increased pedestrian / auto / bus activity between 3:00 PM and 3:30 PM. School appeared to be adjourned at 3:00 PM.
- Clusters of pedestrians were observed to cross Innisfil Beach Road during the Walk phase; minimal crossing was observed during the Don't Walk phase.
- Highest pedestrian activity observed north-south along Swan Street and east-west along Innisfil Beach Road.



- Sidewalk is provided at the following locations:
 - North side of Innisfil Beach Road; east and west of the Alcona Glen Elementary School.
 - East side of Swan Street.
 - Sidewalk is not provided at the school frontage.

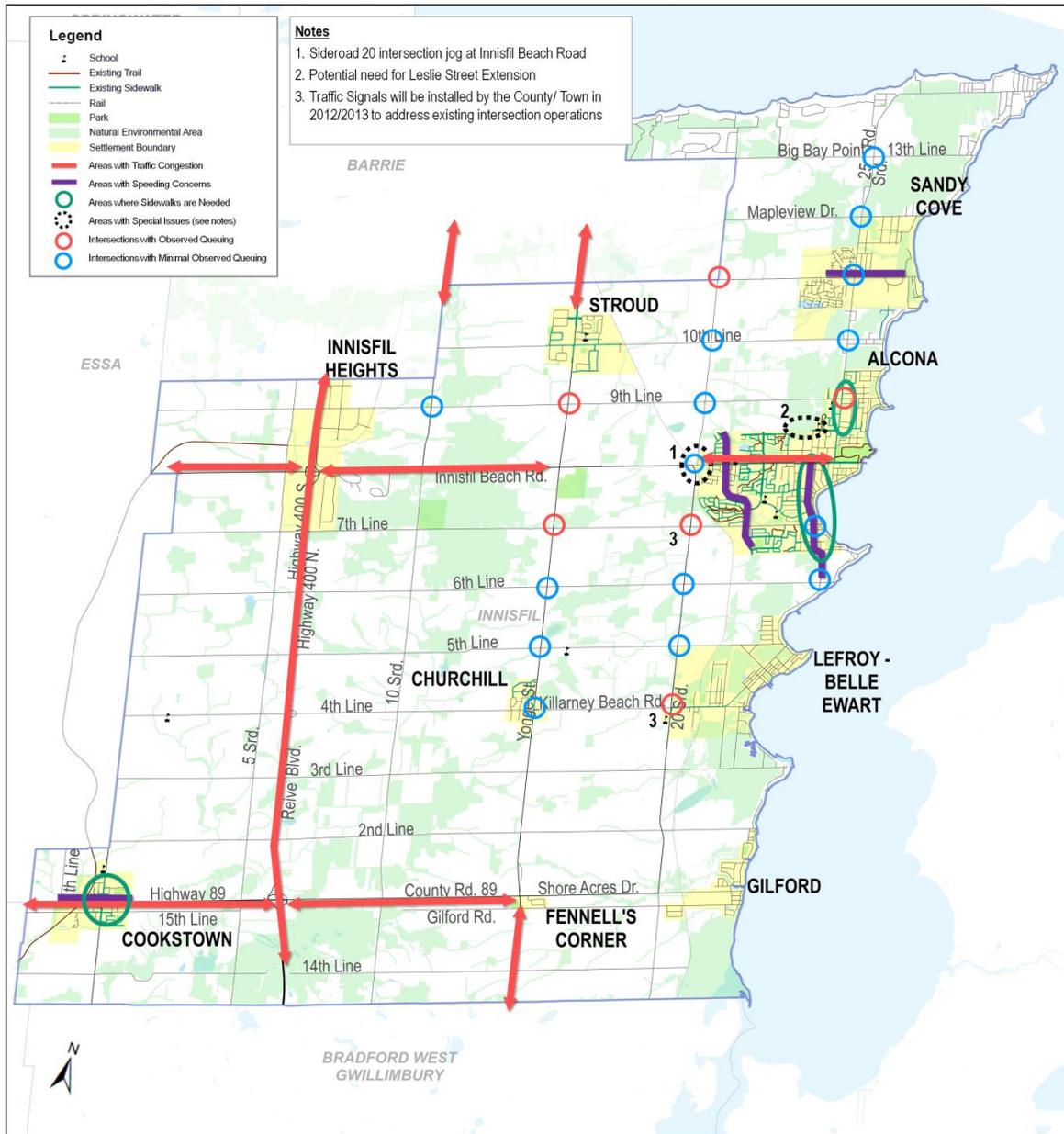
Vehicular Activity:

- Vehicles, except for school bus, were not allowed to enter the school driveway between 3:00pm to 3:30pm. Vehicles would have to park along on Swan Street to pick up their children.
- At the time of site visit, there was road construction on Innisfil Beach Road east of Swan Street. The eastbound and westbound lanes remained open, but with delays.
- The school had traffic peak conditions lasting approximately 15 to 20 minutes. The maximum queuing for the EB and WB were 10 vehicles with heavy pedestrian volumes crossing Innisfil Beach Road on the east side.

4.5 Summary of Key Transportation Issues

A summary map highlighting all of the key transportation issues gathered from the TMP online survey, field investigations, traffic analysis, and discussions with the Town was prepared to share with the public, TAC, Town staff and Council at all the public events. All comments and feedback received resulted in several updates to the map and the final version is shown in **Exhibit 4-27**.

The map highlights a wide range of regional, town, and local road issues that the TMP study has addressed and the findings are presented from Chapter 5 onwards. Several inter-regional and provincial issues are not addressed in the TMP, namely, the existing and future capacity deficiencies on Highway 400 and Highway 89. As previously stated, the MTO is currently undertaking the Simcoe Area Multi-Modal Transportation Strategy to address the potential provincial roads and highway improvements in this area, including widening of Highway 400 and the Highway 89 / Cookstown Bypass.



Note: See Exhibit 4-26: Intersection Level of Service (for Key Turning Movements Only) for level of service results corresponding to intersection related issues.

Exhibit 4-27: Current Transportation Issues



5. FUTURE GROWTH AND TRAVEL DEMAND

In addition to current transportation issues identified in the previous chapter, the Town of Innisfil is projected to grow significantly by 2031, which presents the Town with a new set of issues and challenges, but also opportunities, for the future. This chapter summarizes projected population and employment growth, current plans for transportation improvements within Innisfil and adjacent municipalities, and potential future issues and constraints.

5.1 Population and Employment Growth

Population and employment growth is directly related to growth in travel demand. The following section firstly summarizes population and employment growth within Innisfil, and secondly, examines the growth assumptions in the surrounding municipalities, especially in the City of Barrie.

5.1.1 Town of Innisfil Growth

The population and employment projections used for the Innisfil TMP are based upon the Provincial Growth Plan targets and allocated amongst the various settlement areas based on the Innisfil Town-Wide Water and Wastewater Master Servicing Plan, which projects a population of 56,200 and an employment of 13,100. Further to those totals, the proposed 1,600 residential units within Friday Harbour (Big Bay Point) are accounted for assuming a rate of 2.65 persons per unit and resulting in a total population of 4,240.

Furthermore, the “Sleeping Lion Town Settlement” lands within the Alcona South expansion area are also included assuming a population of 5,000. Both Friday Harbour and Sleeping Lion are assumed to be developed by 2021. The addition of these two development areas above and beyond the Provincial Growth Plan forecast results in a Town-wide total population of 65,420 by 2031. Employment remains unchanged at 13,100. The Town’s various settlement areas, Friday Harbour and the Sleeping Lion lands are illustrated in **Exhibit 5-1** and the population and employment projections to 2021 and 2031 for each area are summarized in **Table 5-1**.



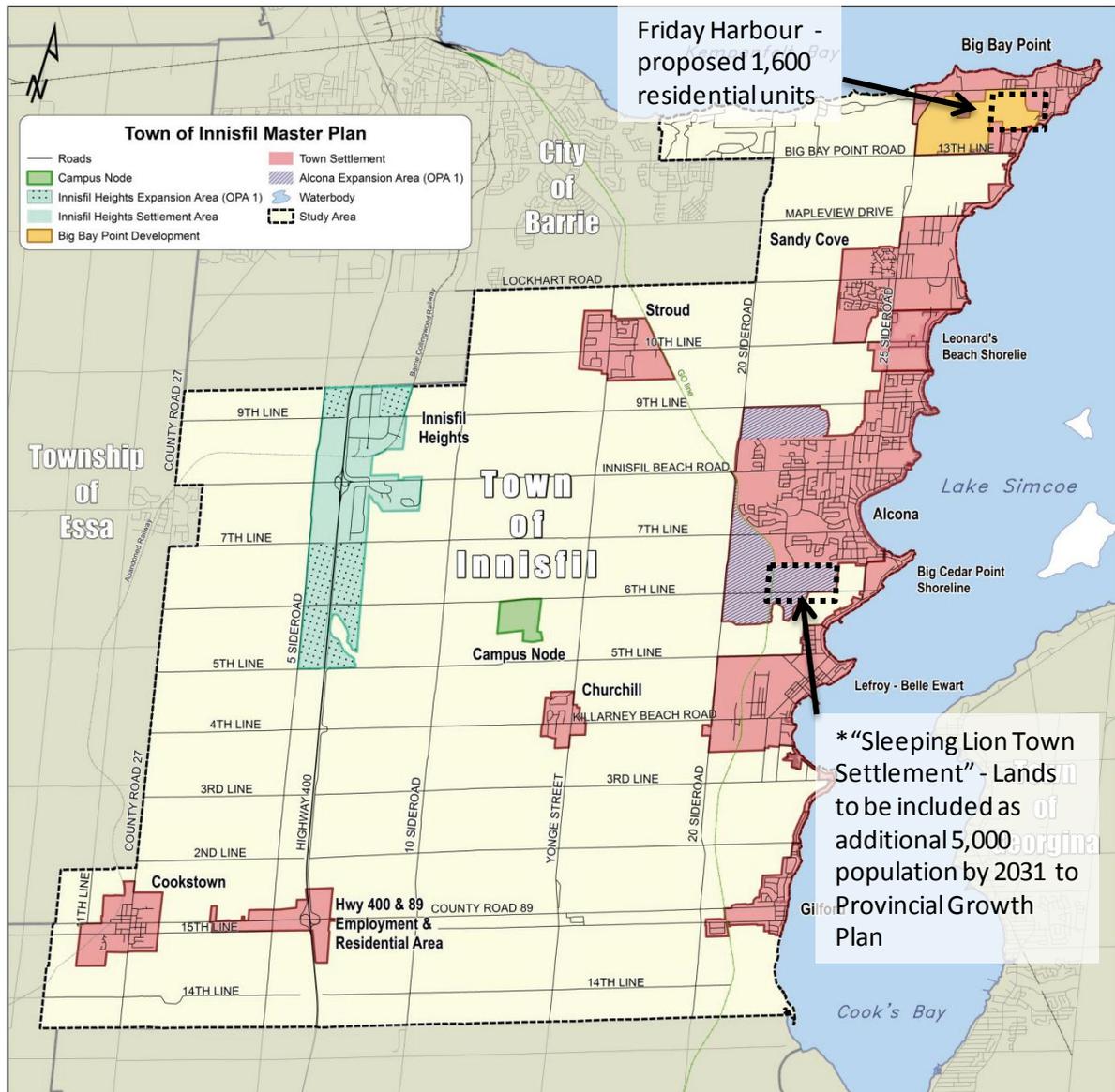
Table 5-1: Population and Employment by Settlement Areas

Settlement Area	Population			Employment		
	2006	2021	2031	2006	2021	2031
Big Bay Point	2,743	6,983	7,356	205	500	1,233
Sandy Cove	3,405	3,405	9,551	255	200	303
Leonard's Beach	1,232	1,237	1,238	0	0	0
Alcona North Expansion Area	0	0	0	0	0	0
Alcona North Existing Settlement	6,935	11,925	11,925	900	937	974
Alcona South Existing Settlement	6,935	11,925	11,925	730	742	755
Alcona South Expansion Area	0	5,000	5,000	0	0	0
Big Cedar Point	806	806	819	0	0	0
Lefroy - Belle Ewart	3,063	6,098	8,218	269	402	534
Gilford - Degrassi Pt	1,826	2,141	2,141	161	150	139
Fennel's Corners	196	196	196	0	0	0
Churchill	620	620	761	114	135	155
Campus Node	0	0	0	0	0	0
Stroud	2,239	2,494	2,494	413	461	509
Hwy 400 & 89 Employment Area	0	0	0	0	0	0
Cookstown	1,431	3,477	3,477	264	487	709
Innisfil Heights Expansion Area	0	0	0	0	0	2,400
Innisfil Heights	321	321	321	2,388	4,388	5,388
INNISFIL TOTAL	31,752	56,627	65,420	5,700	8,402	13,100

As seen in **Table 5-1**, population is projected to double by 2031, with the majority of growth occurring within Alcona as it is designated as a future growth node by the Provincial Growth Plan. Significant growth is also noted in the “Urban” settlement areas of Big Bay Point, Sandy Cove, Lefroy-Belle Ewart, and Cookstown, each of which, will more than double in population. On the employment side, almost all of the growth will occur within Innisfil Heights and the expansion areas to the north and south along the Highway 400 corridor.

The TMP study also addressed the OPA #1 land use scenario through a sensitivity test utilizing the transportation model.

As per OPA #1, the Alcona North and South Secondary Plan Areas (Alcona Expansion Area) located north and south of the existing developed area of Alcona and east of 20 Sideroad will accommodate approximately 8,800 future residents. It is assumed that the Sleeping Lion lands are included within this projection, and as such, the remaining 3,800 population was allocated to the Alcona North expansion area for the sensitivity test. No change to employment was assumed, despite additional land being available in the Innisfil Heights expansion areas, within the Highway 400 & 89 employment area, and the Campus Node.



(Source: Innisfil Town-Wide Water and Wastewater Master Servicing Plan)

Exhibit 5-1: Future Growth Areas

5.1.2 City of Barrie Growth

The City of Barrie is projected to grow from 133,500 to 210,000 residents between 2006 and 2031 and from 64,300 to 101,000 jobs during the same period.

A large portion of the growth to 2031 is expected in the “Annexed Lands” - two large parcels totalling 2300 hectares were annexed from the Town of Innisfil in 2009. These lands are located directly north of the existing border between the City of Barrie and Town of Innisfil, and were illustrated previously in **Exhibit 2-6**. The City is projecting significant growth in



these lands by 2031 – over 40,000 residents and 7,000 jobs and will have a significant impact on County of Simcoe and Town of Innisfil Roads connected to and serving the annexed lands. Generally north-south roads in the Town of Innisfil are expected to face additional through traffic originating and destined to Barrie and this will place additional pressures on the Town to manage this growth. A summary of the projections is provided in **Table 5-2**.

Table 5-2: Barrie Annex Lands Population and Employment Projections

	Population			Employment		
	2021	2031	Ultimate	2021	2031	Ultimate
Annex Lands West (West of 400)	9,222	14,856	28,580	4,879	5,186	10,200
Annex Lands West (East of 400)	0	0	0	0	0	17,410
Annex Lands East (West of Yonge)	12,802	12,802	16,702	1,709	1,709	1,660
Annex Lands East (East of Yonge)	4,547	13,129	20,517	201	506	450
Total Annex Lands	26,571	40,788	65,799	6,789	7,401	29,720

This level of development directly adjacent to the Town’s northern border will undoubtedly have a significant impact on traffic conditions within the Town.

5.1.3 Growth in other Municipalities

The population of Simcoe County is projected to grow from 440,350 to 667,000 residents between 2006 and 2031, while employment will grow from 183,800 to 254,000. The municipalities directly adjacent to Innisfil other than Barrie are also projected for strong growth, but would likely not have a major impact on Innisfil due to the proximity of their growth areas. **Table 5-3** summarizes 2006 to 2031 growth for Bradford West Gwillimbury, Essa Township, the Town of New Tecumseth, and the Simcoe County total (including Barrie and Orillia).

Table 5-3: Provincial Growth Plan Population and Employment Estimates for Adjacent Municipalities

	Population		Employment	
	2006	2031	2006	2031
Bradford West Gwillimbury	25,000	49,700	8,000	16,200
Essa Township	17,600	22,900	3,000	5,025
Town of New Tecumseth	28,800	49,000	19,700	26,300
Simcoe County Total (including Barrie and Orillia)	440,350	667,000	183,800	254,000



5.3 Currently Planned Improvements

With the expected growth outlined in **Section 5.1**, the Province, County of Simcoe, Town of Innisfil, and adjacent municipalities all have roadway, transit, and active transportation plans in place to meet future travel needs. Innisfil's TMP will build upon these current plans to determine whether additional improvements are required to meet the Town's needs and also to support the plans of others.

5.3.1 Roadway Improvements

The Ministry of Transportation of Ontario has identified Highway 400 in the Southern Highways Program for improvements beyond 2016. They are also currently conducting the Simcoe Area Multi-modal Transportation Strategy which will provide an update to the 2002 Simcoe Area Transportation Network Needs Assessment. Final recommendations from that study will not be available before completion of the Innisfil TMP. Thus, the following assumptions have been made for the future 2031 road network with respect to provincial improvements:

- Highway 400 widened to ultimate 5 lanes per direction
- Cookstown Bypass
- Bradford Bypass between Highway 400 and Highway 404
- No Barrie Bypass

The Ministry will be seeking input during their study from all area municipalities on their recommendations for future improvements. While this TMP has assumed the Cookstown Bypass and Bradford Bypass will be constructed and available by 2031, these two provincial facilities are subject to future Environmental Assessment (EA) studies. An alignment has not been assumed for the Cookstown Bypass and any mapping of the Bypass in this TMP will show both a northerly and southerly alignment as the future EA will determine the recommended alignment.

The decision to exclude the proposed Barrie Bypass was based on the anticipated timing for need which was not anticipated for 2031. In addition, the need for this facility should be assessed in the current MTO strategy study. A conceptual alignment was provided in the Simcoe County TMP and was assumed to connect to Highway 400 near 5th Line. The Town is proposing an interchange at 5th Line so this conceptual alignment does conflict with the Town plans. Any highway or road interchange connection to Highway 400 will be subject to future EA and detail design studies.

Simcoe County's 2008 Transportation Master Plan recommended a number of capacity improvements needed on County Roads within and surrounding Innisfil. A detailed list of County Roads identified for future improvements and affecting the Town of Innisfil is provided in **Table 5-4**.



Table 5-4: Simcoe County TMP Proposed Road Improvements Affecting Innisfil

Road	Limits	Type of Improvement	Comment
5 Sideroad Bradford West Gwillimbury/Innisfil	Line 5 BWG to Barrie City Limit	Upgrading to County Road Standards	Integral part of emergency detour route planning along the west side of Hwy. 400.
10 Sideroad Bradford West Gwillimbury/Innisfil	Line 5 BWG to CR 21 Innisfil	Upgrading to County Road Standards	Integral part of emergency detour route planning along the east side of Hwy. 400.
CR 4 Bradford West Gwillimbury / Innisfil	8th Line BWG to CR 89	Widening 2 to 4 lanes	Required to address future capacity deficiencies on County Road 4 due to growth in Bradford and Innisfil.
CR 4 Innisfil	CR 89 to Barrie City Limit	Widening 2 to 4 lanes	Best alternative to address future capacity deficiencies on County Road 4 due to growth in Innisfil and Barrie.
CR 21 Innisfil	Hwy 400 to 20 th Sideroad	Widening 2 to 4 lanes	Best alternative to address future capacity deficiencies on County Road 21 due to growth in Innisfil.
CR 21 Innisfil	CR 27 to Hwy 400	Widening 2 to 4 lanes	Together with improvements to CR 27 and Wilson Drive, this improvement will provide interim relief to congestion through Barrie.
CR 27 Innisfil	CR 21 to CR 90	Widening 2 to 4 lanes	Together with improvements to CR 21 and Wilson Drive, this improvement will provide interim relief to congestion through Barrie.
CR 54 Innisfil	CR 21 to Barrie City Limit	Widening 2 to 4 lanes	Improvements required to accommodate future growth in Barrie and Innisfil.

Intersection improvements were also identified and included the following intersections:

- County Road 54 – 9th/Lockhart Rd.(Innisfil)
- County Road 54 – Lockhart Rd.(Innisfil)
- County Road 30 – Salem Rd (Innisfil)
- County Road 4 – Innisfil 3rd Line
- County Road 4 – Innisfil 2nd Line
- County Road 21 – Innisfil 5th Sideroad
- County Road 21 – Innisfil 10th Sideroad
- County Road 4 – Innisfil 9th Line
- County Road 4 – Innisfil 7th Line
- County Road 4 – Innisfil 6th Line
- County Road 4 – Innisfil 5th Line
- County Road 4 – Innisfil 4th Line

The Town of Innisfil has identified the following improvements which are shown in the Official Plan Schedule C. These include:

- Innisfil Beach Road Urbanization and Widening (under construction in 2012)
- Leslie Drive Extension
- 5th Line interchange with Highway 400



Finally, the City of Barrie's Annexed Lands TMP has identified a collector road system to support its land use recommendation. There are opportunities to connect the road networks between the two municipalities should development require it.

Also identified in the Annexed Lands TMP are a number of improvements to support the projected population and employment growth. These improvements include:

- A Highway 400 crossing at Harvie Road / Big Bay Point Road by 2016 and full interchange by 2021
- 5 lanes on Harvie/Big Bay Point Roads between Essa Road and west of 20th Sideroad
- 7 lanes on Mapleview Drive between Welham Road and Yonge Street
- 5 lanes on Mapleview Drive between Yonge Street and Prince William Way
- 5 lanes on Lockhart Road between Bayview Drive and Huronia Road and from Yonge Street to Prince William Way
- 7 lanes on Lockhart Road between Huronia Road and Yonge Street
- 5 lanes on McKay Road midblock west of Veterans Drive to Veterans Drive
- 7 lanes on McKay Road between Veterans Drive and Huronia Road
- A freeway interchange at Highway 400 and MacKay Road

A summary of all currently planned improvements within the Town is provided in **Exhibit 5-2**.

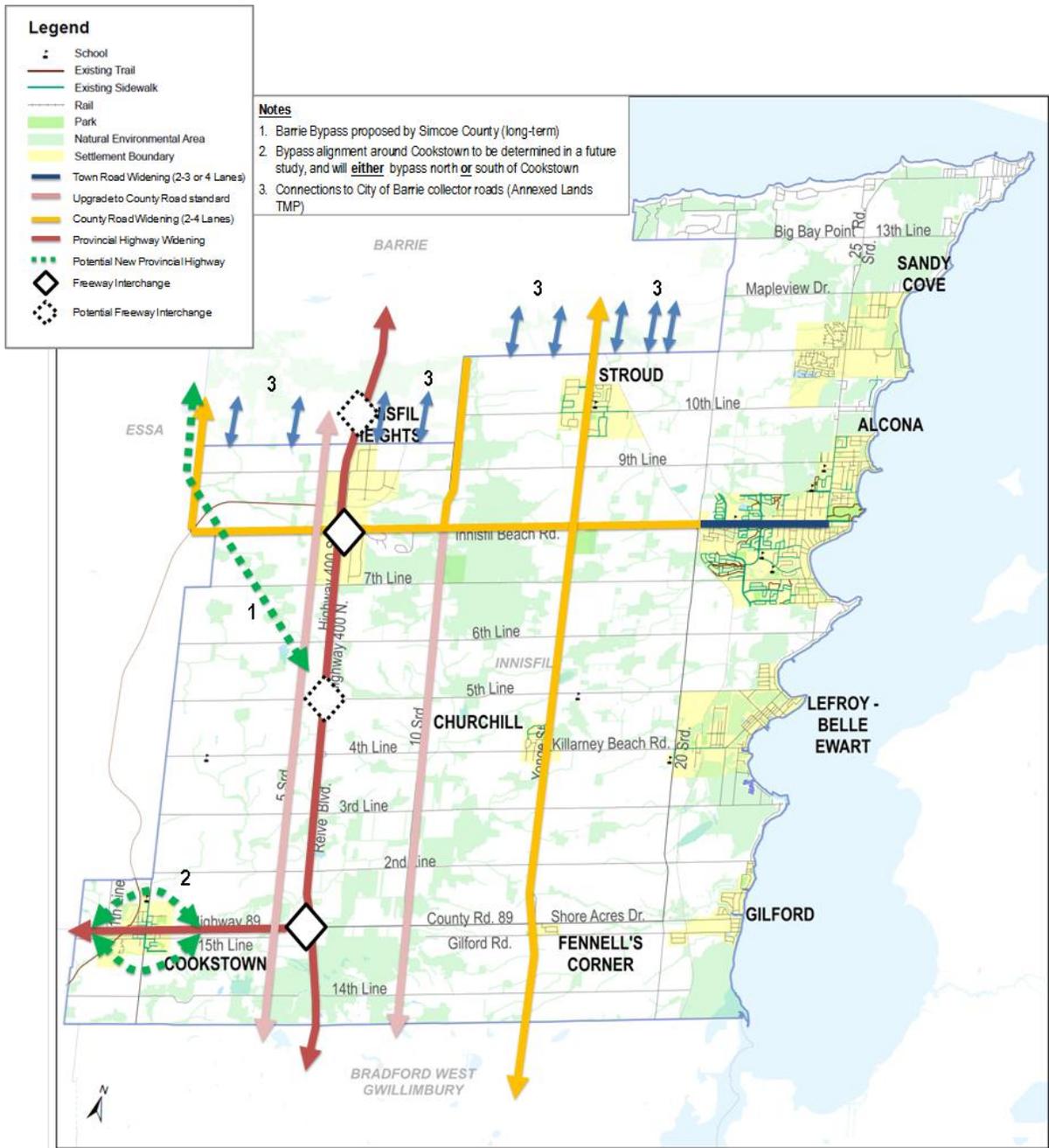


Exhibit 5-2: Currently Planned Road Improvements



5.3.2 Transit Improvements

While Innisfil itself does not provide its own transit service, the province, county and surrounding municipalities have plans in place which will influence Innisfil's plans.

5.3.2.1 GO Transit Plans

GO Rail service to Barrie based on the 2020 Strategic Plan will not change from today's 30 minute rail service in the peak direction and 1 hour bus service off-peak. GO has previously identified a new GO Station within Innisfil located at Belle Aire Beach Road in Lefroy.

5.3.2.2 County of Simcoe's Long Term Transit Vision

The County of Simcoe supports providing its residents with transit service, with particular focus on linking the lower tier municipalities together such as Innisfil and Barrie. The County's support comes in light of the fact that residents in rural areas, such as Innisfil, must travel to major centres to access basic goods and services including groceries and health care. As the population ages, there will be a larger proportion of residents who require these services to be accessible but they will not be able to drive or afford their own vehicle. The County has expressed its commitment to work with lower tier municipalities and transit providers to provide inter-municipal services and local transit service across County's area.

The County has identified the need to prepare a long term transit strategy that will enhance and expand the existing transit services in the county and provide new services in rural areas. The Simcoe County Transit Plan, as presented in the County's Transportation Master Plan (2008), lays out numerous routes and service areas to meet this goal. The plan is illustrated below in **Exhibit 5-3**.

The plan recommends supplementing existing GO Bus and Rail routes with an inter-municipal bus service along the County Road 4 (Yonge Street) corridor between Bradford and Barrie. While the route closely resembles the existing GO Bus route, it is envisioned that this service would have a higher level of service (frequency) than the existing GO services and it would tend to be more local in nature, directly serving major trip generators such as shopping areas, recreation centres and clinics.

In addition, the County's Transit Plan identifies possible local transit service areas in Innisfil at a high level. Generally the area includes the County Road 4 corridor as well as communities along the shore of Lake Simcoe including Alcona, Sandy Cove and Big Bay Point.

The Town of Bradford West Gwillimbury is one of the County's rural lower tier municipalities that has taken advantage of the County's support for transit service. Bradford West Gwillimbury is currently finalizing its own service and plans to launch in the first half of 2013.

The combined current transit plans within and surrounding the Town of Innisfil are summarized in **Exhibit 5-4**.

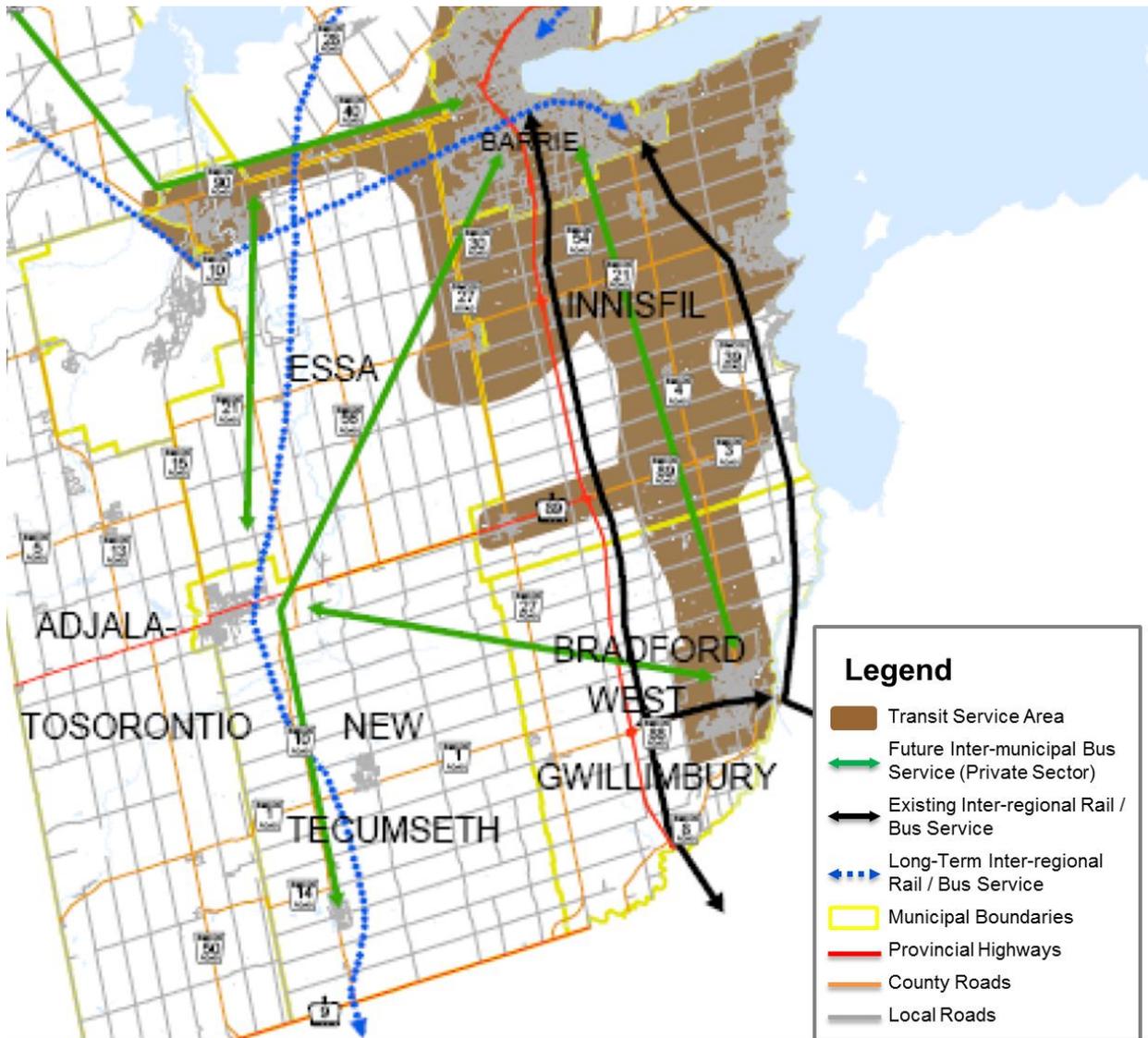


Exhibit 5-3: Simcoe County Transit Plan

5.3.2.3 Barrie Transit

Barrie Transit currently provides service up to the border with Innisfil, but there are no current plans to extend its service into Innisfil.

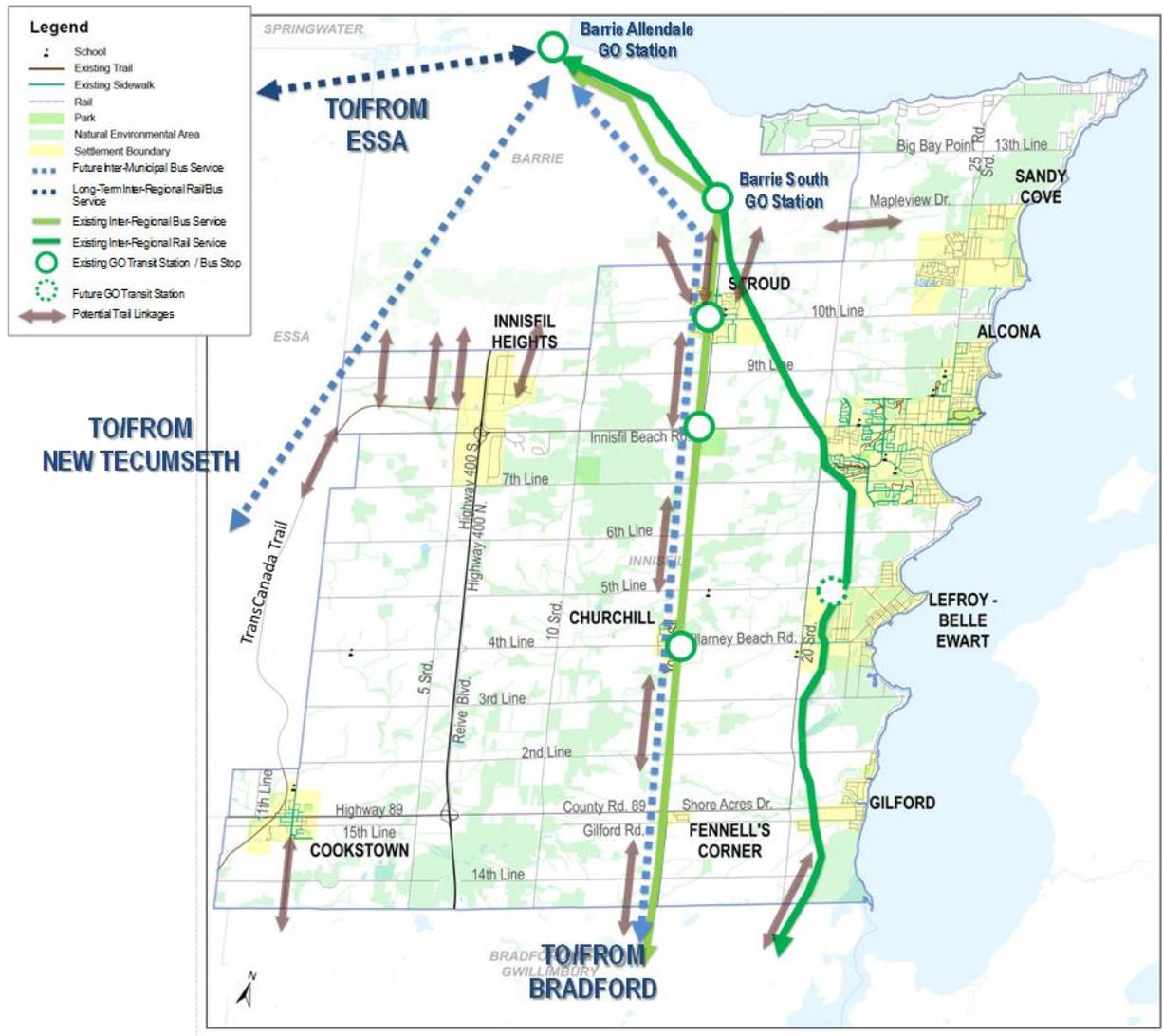


Exhibit 5-4: Currently Planned Transit Improvements

5.3.3 Active Transportation Improvements

5.3.3.1 Town of Innisfil

The *Official Plan of the Town of Innisfil* (2011) provides planning guidance for active transportation facilities within the Town. This includes pedestrians, cyclists and transit users. Some of the major themes for active transportation include maintaining a pedestrian-friendly scale and providing linkages and connections through parks and open space and natural heritage features to residential areas, commercial core areas, employment areas and community amenities. The intention is to link parks, natural environmental areas and other open space areas and, where possible, develop a continuous system of pedestrian trails and bicycle routes.



More user specific planning directions are as follows:

Pedestrians:

- Create and maintain a pedestrian-scale for new settlements that are urban and emphasize a walkable and pedestrian-friendly scale.
- Develop interconnected street and pedestrian systems for urban settlements to promote walkability and clarity of orientation.

Cyclists and Trail Users:

- The open space system that will be developed under the Bicycle Network and Transit Network plans should include a full range of open spaces including:
 - Neighbourhood parks
 - Community parks
 - Regional parks
 - Pedestrian links
 - A multi-use trail system

A multi-use trail system shall be developed as a major connecting element of the open space system for pedestrians and cyclists, and as a recreational feature of that system. The multi-use trail system should be planned to link together all the settlements and neighbourhoods within the Town of Innisfil. The system should connect to residential areas as well as commercial core areas, employment areas and community amenities. The multi-use trail system should be designed to include significant exposure to and integrate sections of the Lake Simcoe shoreline, whenever possible.

The Town has identified a prioritization of rehabilitating existing sidewalks, shown in **Exhibit 5-5**, that serves the local community needs and is aimed at improving accessibility, particularly around schools. The Town has already implemented some of these recommended sidewalk improvements, including the recent reconstruction and urbanization of Innisfil Beach Road from 20 Sideroad to Lakelands Avenue through Alcona.

The Innisfil Transportation Master Plan has incorporated these rehabilitation priorities and recommended updates to the overall active transportation network in Chapter 8.

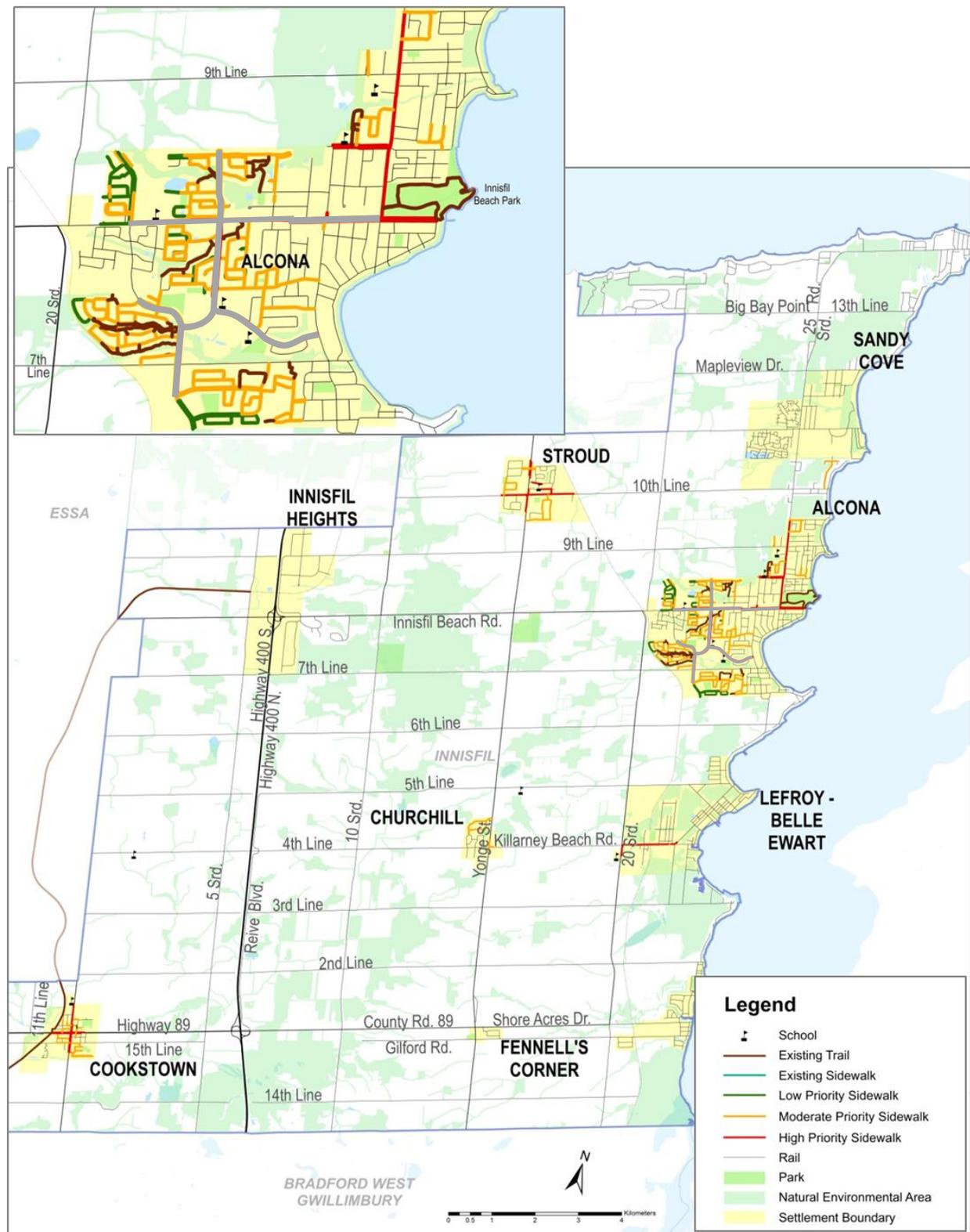


Exhibit 5-5: Existing Sidewalk Rehabilitation Schedule



5.3.3.2 Simcoe County

The *Draft Simcoe Trails Strategy* (2011) outlines a proposed schedule for the implementation of trails in Simcoe County and within the Town.

Phase 1 (1 – 3 years)

- Innisfil Beach Road from Yonge Street to 20th Sideroad

Phase 2 (4 – 7 years)

- Innisfil Beach Road from 10th Sideroad to Yonge Street
- Yonge Street from Lockhart Road to the Innisfil / Bradford West Gwillimbury boundary

Phase 3 (8 – 10 years)

- North on 20 Sideroad from the Innisfil / Bradford West Gwillimbury boundary to Gilford Road.
- Gilford Road from 20th Sideroad to the lakeshore.
- Along the lakeshore from Gilford Road to 13th Line.

5.3.3.3 City of Barrie

The Barrie Annexed Lands Transportation Master Plan identified active transportation as a priority for the annexed lands, where proposed road rights-of-way shown include some type of active transportation facilities, including pedestrian sidewalks, on-road cycling, and off-road cycling facilities.

A policy recommendation for the pedestrian network was identified such that all major and minor arterials and collectors will have sidewalks on both sides of the road with a minimum width of 2.0m.

Recommendations were also made for an on-road and off-road cycling network. Separated, unidirectional on-road bicycle lanes on each side of the roadway are recommended on all arterials in the annexed lands including:

- Big Bay Point Road
- Mapleview Drive East
- Salem Road/Lockhart Road
- McKay Road West/East
- Essa Road
- Veterans Drive
- Huronia Road
- Yonge Street

Because 20th Sideroad is under the jurisdiction of the Town of Innisfil, the Annexed Lands TMP has identified that the Town should look into active transportation infrastructure on this road to support Barrie's recommendations.

Along collector roads, conventional bicycle lanes will be provided along each curbside of the roadway without physical separation from vehicle lanes. Along local roads, dedicated cycling facilities are not suggested, but wider curb-lane widths will be provided for shared lanes.



A number of off-road facilities identified in the Annexed Lands TMP are identified and include a continuous Trans-Canada Trail and 12 other unique trails through the annexed lands which satisfy the vision for the lands and form part of an interconnected open space network that connects existing neighbourhoods and encourages active transportation. These trails are illustrated in **Exhibit 2-6**.

Innisfil's active transportation network should attempt to connect into the active transportation infrastructure proposed within the Barrie annexed lands where feasible.

5.3.3.4 Town of Bradford West Gwillimbury

The Town of Bradford West Gwillimbury completed its Trails System Master Plan in January 2010, developing a plan that:

- Connects existing neighbourhoods to the downtown
- Connects to the Thornton-Cookstown Trans-Canada Trail
- Develops long-term planning for on-road cycle system and pedestrian friendly crossings of major highways
- Develops policies and standards for trails in new communities
- Connects to trail systems in adjacent communities.

The proposed system is illustrated in **Exhibit 5-6**. Innisfil has opportunities to connect to Bradford's trails system through on-road facilities on Highway 27 and Yonge Street, a proposed multi-use trail along the waterfront, and along a potential "rails with trails" corridor along the existing GO corridor.

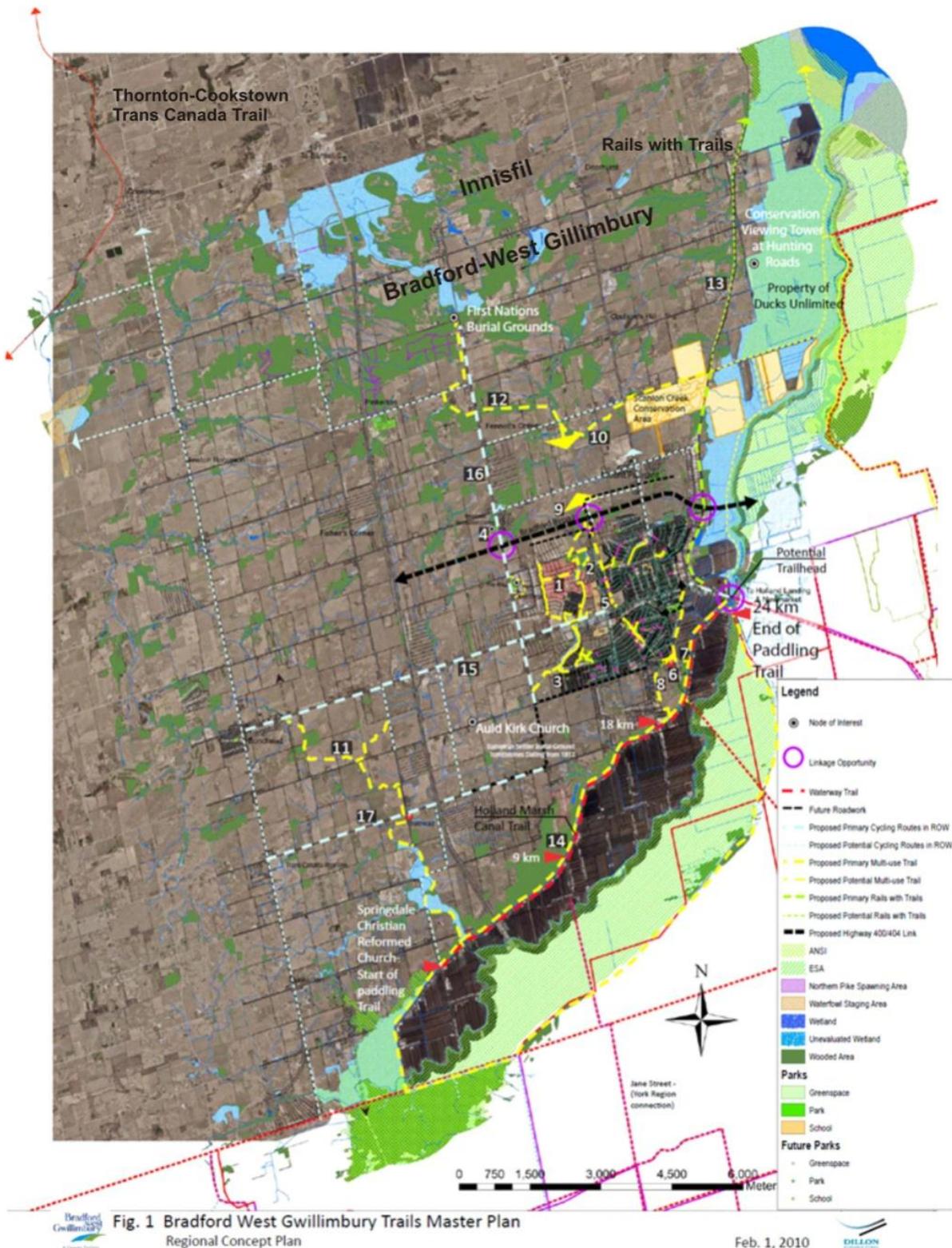


Exhibit 5-6: Bradford West Gwillimbury Proposed Trails System



5.4 Estimating 2031 Travel Demand

5.4.1 Travel Demand Forecasting Model

To assess future traffic conditions, a travel demand forecasting model was utilized. The Simcoe County TransCAD model used for the 2008 Simcoe TMP was obtained and modified for use on the Innisfil TMP. The model forecasts daily traffic and is meant to be used as a tool to guide decisions on the future needs of the Town.

The model covers the entire Greater Toronto Area plus Simcoe County, and is comprised of 150 traffic zones, 6 of which are within Innisfil. Traffic zone disaggregation was undertaken for the Innisfil TMP, and 35 zones were added, 4 of which were added in the Barrie Annexed Lands and the remainder within Innisfil. Of the 31 new Innisfil zones, 8 new zones were added within Alcona including the expansion areas.

Key inputs to the model were discussed earlier in this chapter and include population and employment forecasts and transportation network assumptions.

To ensure that the model is capable of providing accurate travel demand forecasts, a calibration exercise was undertaken in which the total traffic crossing screenlines throughout the Town are compared for observed traffic count data versus the model with existing population and employment data. This “model to observed” comparison is summarized in **Table 5-5**.

Table 5-5: Transportation Model Screenline Validation

Screenline	Observed Daily Traffic Volume	Modelled Daily Traffic Volume	Model / Observed Ratio
North-South Traffic			
South of Mapleview Drive	114,757	102,849	0.90
North of Innisfil Beach Rd	127,933	122,565	0.96
South of Innisfil Beach Rd	128,832	124,665	0.97
North of Highway 89	123,196	119,759	0.97
South of Highway 89	102,653	113,551	1.11
East-West Traffic			
West of Highway 400	32,092	25,195	0.79
East of Highway 400	25,149	30,628	1.22
West of 20 Side Road	42,186	40,222	0.95
East of 20 Side Road	40,494	42,166	1.04
Legend			
Acceptable model calibration (Screenline within 10%)			
Acceptable with some bias (Screenline within 20%)			
Adjustments required for calibration bias (Screenline > 20% difference)			



When conducting TMP studies, it is generally acceptable to have 10% difference on a screenline level, and the resulting model to observed ratios in the above table which meets these criteria are coloured green. Within a 20% difference, the model results remain acceptable with some bias in the results, and these cells are coloured in a yellow. Model to observed ratios with greater than 20% difference at the screenline level are shaded red indicating that at the screenline level, there could be room for improvement to the model. In this case, adjustments to forecasts may be required to account for model biases.

Based on the above calibration results, the model is reliable for all north-south traffic screenlines and the west of 20 Sideroad and east of 20 Sideroad screenlines. Calibration adjustments are recommended for the west of Highway 400 Screenline and East of Highway 400 screenline. The calibration adjustments and final adjusted volumes for all road links crossing the West of and East of Highway 400 screenlines are summarized in **Table 5-6**.

Table 5-6: Model Calibration Adjustments

Link	Observed Daily Traffic Volume	Modelled Daily Traffic Volume	Model / Observed Ratio	Absolute Adjustments to Achieve within 25% Difference	Modelled Daily Traffic Volume (adjusted)	Adjusted Model / Observed Ratio
West of Highway 400						
INNISFIL BEACH RD.	13,403	9,044	0.67	1,009	10,052	0.75
7TH LINE	302	-	0.00	226	226	0.75
6TH LINE	287	-	0.00	215	215	0.75
5TH LINE	299	-	0.00	225	225	0.75
4TH LINE	1,009	1,911	1.89	(649)	1,261	1.25
3RD LINE	92	-	0.00	69	69	0.75
HIGHWAY 89	16,700	14,241	0.85	-	14,241	0.85
Total	32,092	25,195	0.79		29,262	0.91
East of Highway 400						
9TH LINE	1,540	-	0.00	1,155	1,155	0.75
INNISFIL BEACH RD.	14,324	20,010	1.40	(2,105)	17,905	1.25
7TH LINE	72	-	0.00	54	54	0.75
6TH LINE	281	-	0.00	211	211	0.75
5TH LINE	66	-	0.00	50	50	0.75
4TH LINE	1,145	1,911	1.67	(479)	1,432	1.25
3RD LINE	156	-	0.00	117	117	0.75
2ND LINE	108	-	0.00	81	81	0.75
COUNTY ROAD 89	7,367	8,707	1.18	-	8,272	1.12
14TH LINE	90	-	0.00	67	67	0.75
Total	25,149	30,628	1.22		26,342	1.05
Legend						
Acceptable model calibration (Individual roads within 25%)				[Green background]		
Under-simulation by 25% or more				[Blue background]		
Over-simulation by 25% or more				[Red background]		



Adjustments illustrated in **Table 5-6** are based on a methodology of applying an addition or subtraction to the modelled volume for individual roadways comprising the screenline, which would result in meeting a criterion of 25% difference, and thus improving the overall screenline in the process. The 25% difference criterion was used for links because a higher percent difference can be tolerated at the link level compared with screenlines.

The absolute adjustments applied above will be carried forward to all future forecasts. It is not uncommon for a traffic model to under-simulate traffic volumes on rural roads particularly within a grid network layout, as traffic will be attracted to major arterial roads.

5.4.2 2031 Baseline Travel Demand Forecast

The baseline 2031 forecast for the Innisfil TMP is based on the assumptions set forth within this chapter including population and employment, current road improvements, and transportation model calibration adjustments.

As with the existing screenline analysis discussed in **Section 4.4.1**, volume to capacity ratios across a number of major arterial roads are calculated to determine network-wide deficiencies. Local deficiencies are also noted where congestion points cannot be distributed across a network.

Table 5-7 below summarizes screenline volume to capacity ratios across the Town, while **Exhibit 5-7** below illustrates the forecasted traffic congestion.

Table 5-7: Screenline Volume to Capacity Ratios, 2031 Base Forecast

Screenline	Capacity	Simulated Volume	Simulated V/C Ratio
North-South Traffic			
South of Mapleview Drive	482,000	282,237	0.59
North of Innisfil Beach Rd	324,000	263,985	0.81
South of Innisfil Beach Rd	280,000	238,296	0.85
North of Highway 89	274,000	251,134	0.92
South of Highway 89	258,000	241,956	0.94
East-West Traffic			
West of Highway 400	106,000	54,329	0.51
East of Highway 400	96,000	88,887	0.93
West of 20 Side Road	186,000	139,257	0.75
East of 20 Side Road	166,000	133,217	0.80

Based on the above table, it is clear that many screenlines within the Town will be approaching congestion for four out of nine screenlines. Localized congestion issues are more apparent in **Exhibit 5-7**. It is clear that a number of east-west roads east of 20 Sideroad are heavily congested, particularly in the north-east part of Innisfil. Pressures from the Barrie Annexed Lands development plus Friday Harbour are the likely key contributors



to the anticipated congestion. North-south traffic is also very heavy with all major north-south arterial roads within the Town approaching or at capacity. This baseline 2031 travel demand forecast findings provide key input into the problem statement and development of alternative solutions.

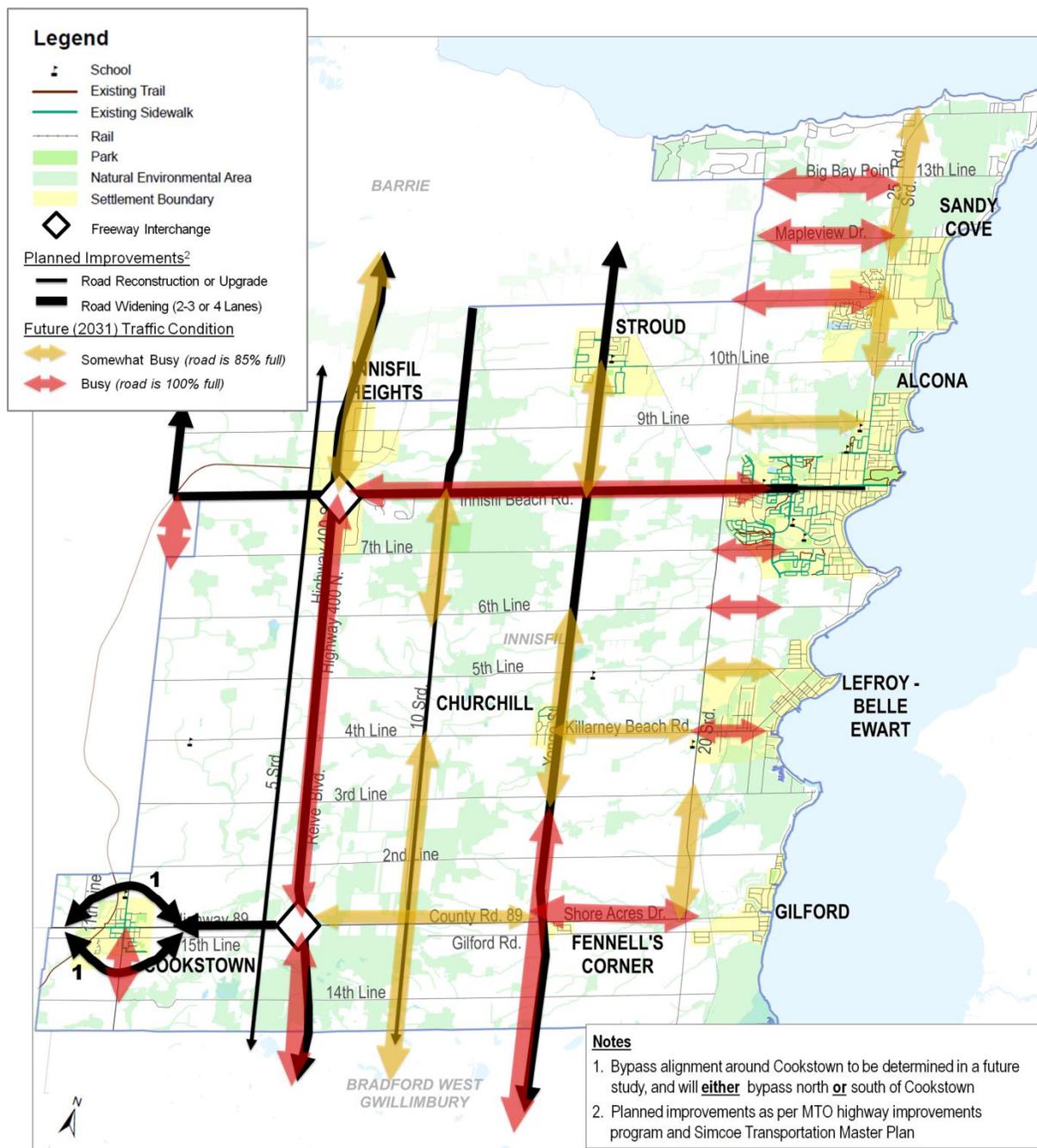


Exhibit 5-7: 2031 Baseline Traffic Conditions



5.4.3 2031 Intersection Analysis

Along with determining the 2031 capacity needs on a network level, intersection analysis was also conducted to determine intersection capacity deficiencies in 2031. Using the 2012 turning movement counts described in **Section 4.4.2** and the future growth rates based on the traffic model, 2031 traffic volumes were estimated for use in capacity analysis. The 2031 capacity analysis was completed in a similar vein to the existing capacity analysis and with the existing road network maintained. The short-listed 12 intersections analyzed in **Section 4.4.3** were also analyzed in the 2031 capacity analysis and the results are summarized in **Table 5-8**.

Table 5-8: Summary of 2031 Traffic Conditions

Intersection and Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay	LOS	v/c	95 th Q	Delay	LOS	v/c	95 th Q
Yonge Street & 6th Line								
Northbound Left-Through	10.5	B	0.02	0.05	8.2	A	0.00	0.00
Northbound Through-Right	-	-	-	-	-	-	-	-
Southbound Left-Through	8.1	A	0.00	0.01	13.0	B	0.07	0.23
Southbound Through-Right	-	-	-	-	-	-	-	-
Westbound Left-Through-Right	>60.0	F	>1.0	>10.0	-	F	-	-
Eastbound Left-Through-Right	-	F	-	-	>60.0	F	>1.0	>10.0
Yonge Street & 9th Line								
Northbound Left-Through	10.7	B	0.05	0.18	9.3	A	0.03	0.09
Northbound Right-turn	-	-	-	-	-	-	-	-
Southbound Left-Through	8.7	A	0.06	0.20	13.7	B	0.23	0.89
Southbound Right-turn	-	-	-	-	-	-	-	-
Westbound Left-Through-Right	>60.0	F	>1.0	>10.0	-	F	-	-
Eastbound Left-Through-Right	-	F	-	-	-	F	-	-
20th Sideroad & Lockhart Road								
Eastbound Left-Through-Right	8.4	A	0.01	0.02	7.6	A	0.03	0.08
Westbound Left-Through-Right	7.5	A	0.03	0.09	8.7	A	0.02	0.07
Northbound Left-Through-Right	31.3	D	0.63	4.79	-	F	-	-
Southbound Left-Through-Right	20.5	B	0.47	2.63	-	F	-	-
20th Sideroad & 9th Line								
Northbound Left-Through-Right	7.8	A	0.06	0.20	7.9	A	0.03	0.11
Southbound Left-Through-Right	7.7	A	0.03	0.08	8.3	A	0.03	0.09
Westbound Left-Through-Right	>60.0	F	>1.0	>10.0	-	F	-	-
Eastbound Left-Through-Right	40.6	E	0.71	6.42	>60.0	F	>1.0	>10.0
20th Sdrd. S & Innisfil Beach Road								
Eastbound Through-Right	-	-	0.46	-	-	-	0.99	-
Westbound Left-Through	12.4	B	0.41	15.5*	28.3	D	0.60	28.6*
Northbound Left-Right	Err	F	Err	Err	Err	F	Err	Err
20th Sdrd. N & Innisfil Beach Road								
Eastbound Left-Through	8.5	A	0.25	7.3*	16.7	C	0.52	22.9*
Westbound Through-Right	-	-	0.90	-	-	-	0.65	-
Southbound Left-Right	Err	F	Err	Err	Err	F	Err	Err
20th Sideroad & 5th Line								
Northbound Left-Through-Right	8.5	A	0.00	0.00	7.8	A	0.00	0.00
Southbound Left-Through-Right	8.5	A	0.19	0.69	9.8	A	0.10	0.32
Westbound Left-Through-Right	>60.0	F	0.94	>10.0	>60.0	F	>1.0	>10.0
Eastbound Left-Through-Right	>60.0	F	0.44	2.15	>60.0	F	>1.0	>10.0



Table 5-8 (Cont'd): Summary of 2031 Traffic Conditions

Intersection and Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay	LOS	v/c	95 th Q	Delay	LOS	v/c	95 th Q
St. John's Road & 7th Line								
Northbound Left-Through-Right	8.0	A	0.01	0.05	8.0	A	0.03	0.10
Southbound Left-Through-Right	8.1	A	0.01	0.02	7.7	A	0.01	0.03
Westbound Left-Through-Right	19.3	C	0.34	1.51	12.9	B	0.03	0.10
Eastbound Left-Through-Right	21.3	C	0.23	0.88	36.8	E	0.71	6.62
25th Sideroad & 9th Line								
Northbound Left-Through-Right	9.0	A	0.19	0.71	8.8	A	0.12	0.43
Southbound Left-Through-Right	7.8	A	0.00	0.01	8.9	A	0.02	0.06
Westbound Left-Through-Right	>60.0	F	>1.0	>10.0	>60.0	F	>1.0	>10.0
Eastbound Left-Through-Right	28.9	D	0.38	1.82	>60.0	F	>1.0	>10.0
25th Sideroad & 10th Line								
Northbound Left-Through-Right	7.9	A	0.06	0.20	7.9	A	0.04	0.13
Southbound Left-Through-Right	8.3	A	0.01	0.02	8.1	A	0.03	0.08
Westbound Left-Through-Right	17.9	C	0.24	0.96	19.0	C	0.20	0.75
Eastbound Left-Through-Right	12.8	B	0.12	0.41	16.6	C	0.36	1.69
25th Sideroad & Mapleview Drive								
Northbound Left-Through-Right	7.6	A	0.04	0.13	7.7	A	0.04	0.12
Southbound Left-Through-Right	8.0	A	0.01	0.02	7.6	A	0.01	0.04
Westbound Left-Through-Right	12.1	B	0.11	0.37	12.7	B	0.08	0.26
Eastbound Left-Through-Right	10.5	B	0.05	0.17	12.9	B	0.17	0.60
25th Sideroad & Big Bay Point Road								
Eastbound Left-Through-Right	10.8	B	0.45	38.6*	33.6	C	0.94	207.9*
Westbound Left-Through-Right	>60.0	F	>1.0	297.6*	19.2	B	0.76	110.5*
Northbound Left-Through-Right	>60.0	F	>1.0	106.1*	>60.0	E	0.93	109.3*
Southbound Left-Through-Right	31.9	C	0.42	35.8*	27.7	C	0.17	19.5*

Delay – s/veh;

LOS – Level-of-Service, as per the HCM definitions;

v/c – ratio of volume to available roadway capacity;

95th Q – 95th percentile queue length, measured in number of cars (assuming 7.5m car-length average)

* denotes 95th percentile queue lengths measured in meters

From **Table 5-8**, there are a number of movements at several intersections that are likely to operate with queuing and capacity issues and do not meet the service criteria for v/c ratio or LOS outlined in **Table 4-1**. Eight out of the 12 intersections analyzed warrant improvements, while two should be monitored and two are not anticipated to require improvements by 2031.

5.4.4 Other Intersections with Anticipated Deficiencies

As previously stated, the TMP cannot assess every intersection within the Town and other background studies were relied upon to identify other intersection deficiencies. The South Simcoe TMP, which was initiated at the same time as the Innisfil TMP, had identified that the signalized intersection of CR 27 (King Street) and Highway 89 (Queen Street / Church Street) in Cookstown will operate at capacity by 2017 and improvements will be required well before 2031. The intersection currently has single lane approaches but cannot be widened due to property constraints. This intersection will continue to experience congestion until a potential bypass improvement is implemented or until drivers change their travel patterns over time to avoid the congestion. The Ministry of Transportation is currently assessing the need for the Bypass.



6. A TRANSPORTATION VISION FOR THE TOWN

Based on the existing and future conditions documented in the previous sections of this report, the TMP identifies a Problem Statement and Transportation Vision to build alternative solutions and a recommended strategy.

6.1 Problem Statement

The transportation issues facing the Town of Innisfil are twofold. Firstly there is a need to address residents concerns today. Secondly, the Town is facing significant growth to 2031 and must plan for the future.

Today, almost all travel is made by car. Traffic has grown steadily by 2-4% per year over the past 10 years resulting in traffic congestion during peak periods; while only 14% of all Innisfil work trips stay within Innisfil. There needs to be a greater emphasis on non-auto travel choices such as cycling, walking and transit particularly for seniors, students, and those without access to a vehicle.

Communities within Innisfil are not well connected and the existing sidewalk and trail network is inadequate to accommodate future needs to travel within residential neighbourhoods, and to travel to access Town facilities and services. By 2031, people and jobs in the Town are expected to double. Without a balanced transportation strategy to handle the growth in travel, Innisfil residents will face town-wide traffic congestion and will not be able to attain its vision and goals.

6.2 The Transportation Vision

To address the problem statement and to guide the Transportation Master Plan's overall strategy and vision for the future, the study team developed three sample vision statements designed to meet the needs of the Town of Innisfil. These statements were presented at the first public open house and to Council:

1. *Innisfil has a safe, sustainable, and efficient multi-modal transportation system that provides for the mobility and accessibility of people, goods and services.*
2. *Innisfil's transportation network connects people and communities, fostering healthy living and operating efficiently across the Town as an environmentally and financially sustainable system.*
3. *Innisfil's transportation network provides the safe and efficient movement of people and goods, enhances economic vitality, and improves the quality of life for the people that live and visit our Town.*

Based on comments received from the public and Council, the second statement was selected.

Innisfil's transportation network connects people and communities, fostering healthy living and operates efficiently across the Town as an environmentally and financially sustainable system.



7. ALTERNATIVE PLANNING STRATEGIES

Alternative planning strategies were developed to satisfy Phase 2 the Environmental Assessment process as well as to meet the needs of the problem statement and satisfy the selected transportation vision for the Town.

Four planning alternatives were identified:

5. **Do-Nothing** – do not build any improvements
6. **Business As Usual** – build only currently planned road improvements by MTO and County
7. **Balanced Approach** – invest in Town road improvements but also build more trails, bike lanes, sidewalks and implement Travel Demand Management strategies (i.e. encourage carpools, working from home, etc.)
8. **Aggressive Approach** – Alternative 3 plus investment in local transit network and service



7.1 Alternative 1 – Do Nothing

Alternative 1 is a test of the transportation conditions in 2031 assuming that no road, transit, or active transportation improvements are made beyond the existing network. This test is also known as the “Do Nothing” scenario. The results of screenline analysis show that without any investments into road or transit networks all major roads within Innisfil would be significantly over-capacity by 2031. This test illustrates that improvements to the transportation network are necessary in support of the planned growth. 2031 traffic conditions are illustrated in **Exhibit 7-1**.

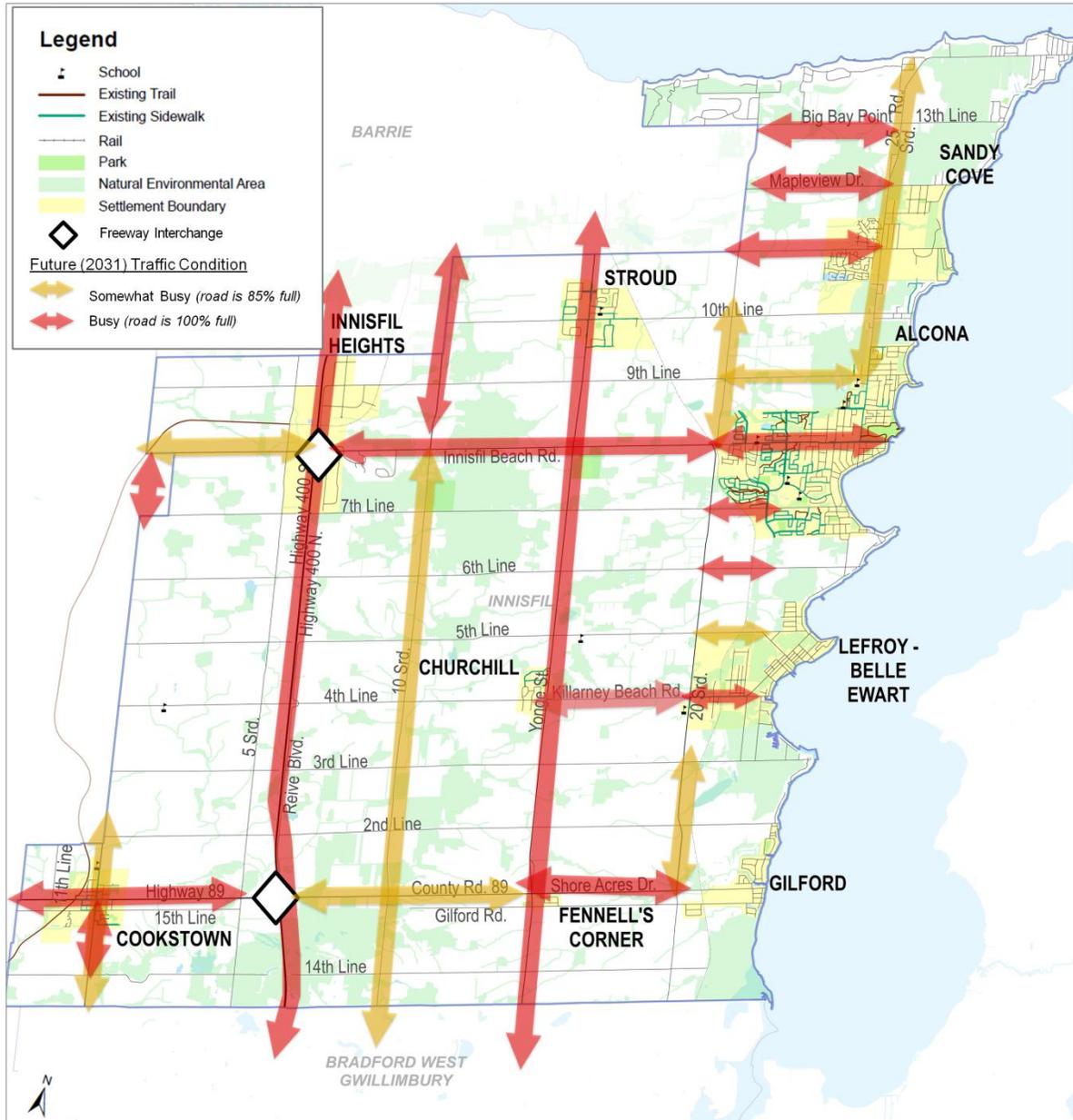


Exhibit 7-1: Alternative 1 – Do Nothing 2031 Traffic Conditions



7.2 Alternative 2 – Business as Usual

Alternative 2 analyzes 2031 transportation network performance assuming current provincial, county and municipal plans are carried out by 2031. Provincial plans such as widening Highway 400 and the Cookstown bypass take significant congestion off of Highways 400 and 89. Simcoe County road improvements are focused on north-south traffic with widenings of County Road 27 and 10th Sideroad north of Innisfil Beach Road and Yonge Street throughout the Town. Innisfil Beach Road is also proposed to be widened to 4 lanes but will continue to be congested by 2031. Projected future traffic conditions with this Alternative are illustrated in **Exhibit 7-2**.

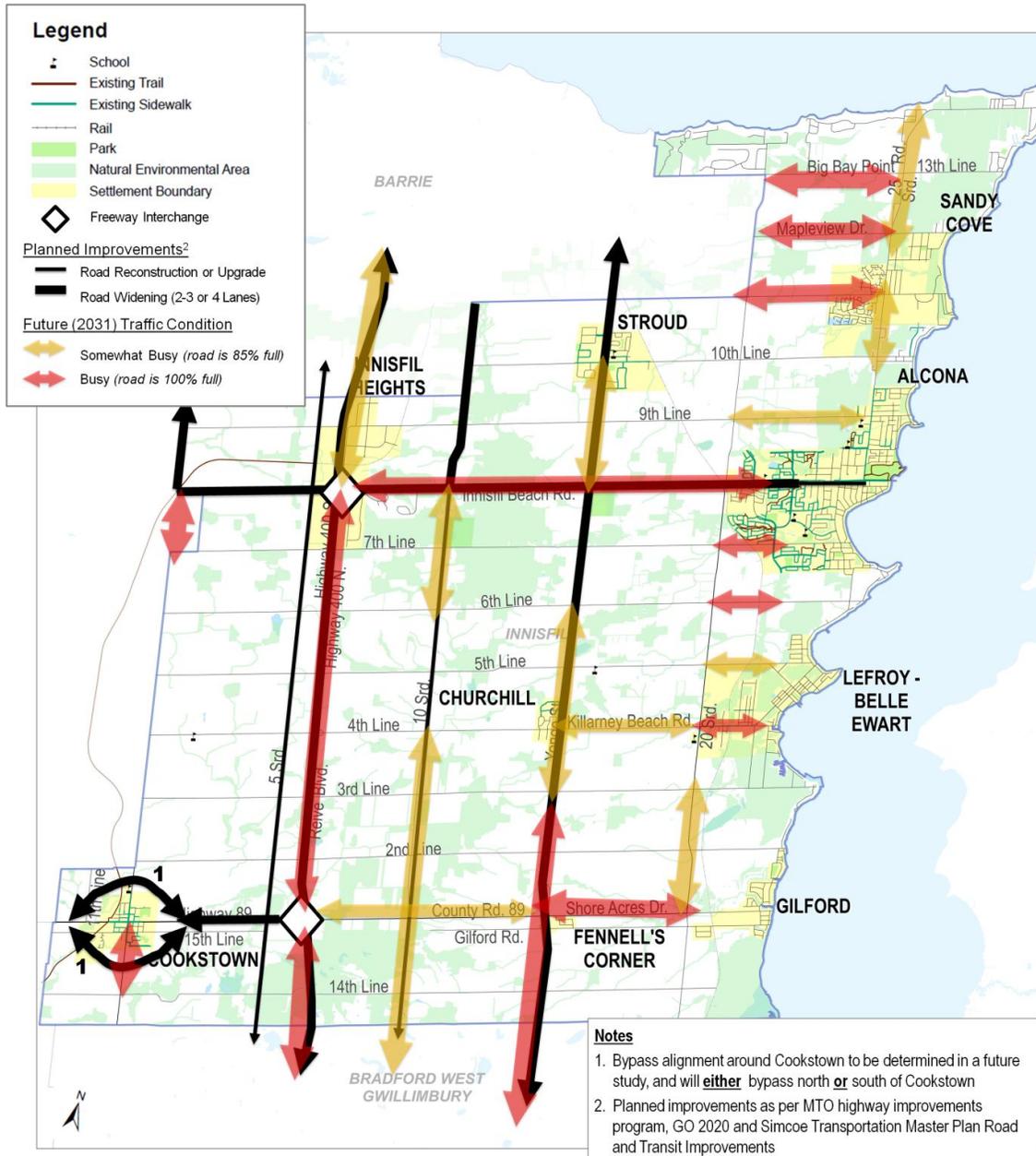


Exhibit 7-2: Alternative 2 – Business as Usual 2031 Traffic Conditions



7.3 Alternative 3 – A Balanced Approach

Alternative 3 builds upon current plans and includes Town of Innisfil investment in local transportation improvements including:

- Road improvements including reconstruction, urbanization, new construction and traffic signals to support future development and traffic demand
- Active Transportation infrastructure (sidewalks, trails, bike lanes, multi-use paths) to provide mobility and safety for non-motorists and to connect the Innisfil communities,
- Implement Travel Demand Management (TDM) measures including carpool, bike-to-work, work from home programs, etc., to help to reduce traffic

Projected future traffic conditions with this Alternative are illustrated in **Exhibit 7-3**.

One of the key road improvements in Alternative 3 is a new 5th line interchange with Highway 400. This interchange will take added pressure off of Innisfil Beach Road and Shore Acres Drive / County Road 89 which are currently the only two roads connecting with Highway 400. County Road 89 traffic condition improves with the new interchange and is no longer “somewhat busy”. While the interchange has been depicted at 5th Line in **Exhibit 7-3**, it may be more beneficial to the Town for the interchange to be located at 6th line instead to support future growth and provide better access to Innisfil Heights as well as the Sleeping Lion development in Alcona (if upgrades to 6th Line from Highway 400 to 20th Sideroad were also implemented). A more detailed discussion on this issue is provided in **Chapter 8**.

With much of the future development in the Town occurring east of 20th Sideroad, east-west arterial roads will need minor capacity upgrades in the form of reconstruction, urbanization, and traffic signal installation. The increased traffic and need for road improvements along 20th Sideroad also supports the recommendation from the Simcoe TMP to transfer jurisdiction of this road over to the Town as it will be handling mostly Town of Innisfil traffic in the future.

Development in the Barrie Annexed Lands and Friday Harbour will generate a significant amount of traffic on the east-west roads in the northeast part of the Town, particularly on Big Bay Point Road, Mapleview Drive, and Lockhart Road. North-south roads will also be affected by the increased development, particularly 5th Sideroad and 10th Sideroad which are projected to handle more County traffic in the future, and support the Simcoe TMP recommendation to transfer jurisdiction of these roads from the Town to the County.

In addition to road improvements, active transportation facilities are proposed both on-street and off-road with the goal of connecting communities. Facilities along 5th Sideroad, Yonge Street, 20th Sideroad, 25th Sideroad, Innisfil Beach Road, Killarney Beach Road, and County Road 89 are proposed, and may take the form of on-road exclusive bicycle lanes or off-road multi-use paths. Off-road trails are proposed to enhance natural heritage areas and to connect people and communities with these areas and with other communities. Connections with Barrie, New Tecumseth, and Bradford West Gwillimbury are also part of the proposed active transportation network.

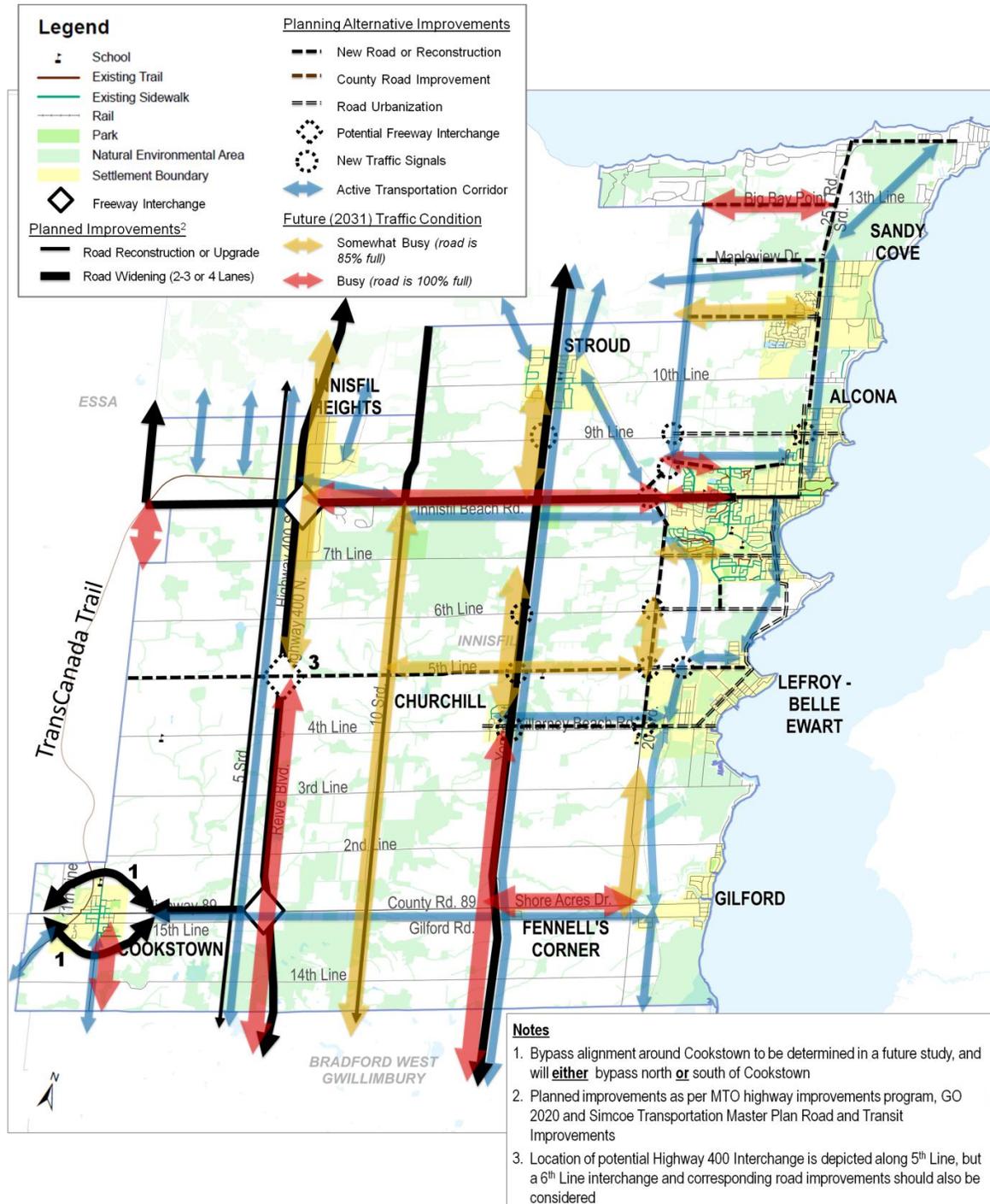


Exhibit 7-3: Alternative 3 – Balanced Approach 2031 Traffic Conditions



7.4 Alternative 4 – An Aggressive Approach

Alternative 4 builds upon the road improvements, active transportation and travel demand management recommendations and adds a transit service as a key component of Innisfil's transportation future. A very broad structure for service has been identified as part of this alternative, and includes the following major connections:

- North-south service along 25th Sideroad and other waterfront arterial roads, connecting all of the waterfront communities
- East-west service on Mapleview Road connecting Big Bay Point and Sandy Cove with key destinations within Barrie
- East-west service on Innisfil Beach Road, connecting Innisfil Heights employment with the Alcona Growth area
- East-west service on Killarney Beach Road or 5th Line, connecting Churchill with Lefroy and the potential GO Station on Belle Aire Beach Road
- East-west service on County Road 89, connecting Cookstown with Fennel's Corners and Gilford

Implementation of this service has the potential to improve traffic conditions along Big Bay Point Road, Innisfil Beach Road, and Shore Acres Drive.

Projected future traffic conditions with this Alternative are illustrated in **Exhibit 7-4**.



Exhibit 7-4: Alternative 4 – Aggressive Approach 2031 Traffic Conditions



7.5 Evaluation of Alternatives

Selection of the preferred Planning Alternative is based upon a detailed set of criteria that includes consideration for transportation service, impacts on the natural, policy, and socio-economic environments, and finally the financial implications.

Table 7-1 summarizes the detailed evaluation criteria used to assess the benefits and dis-benefits of each of the four planning alternatives considered for the Innisfil TMP.

Table 7-1: Evaluation Criteria

Transportation Service
<ul style="list-style-type: none"> ▪ Does the transportation network efficiently move both people and goods? ▪ Does the network provide access to all people and ensure their safety? ▪ Are there opportunities to walk and cycle throughout the Town?
Natural Environment
<ul style="list-style-type: none"> ▪ Protect natural environment areas, local streams and aquatic resources, and air quality
Policy Environment
<ul style="list-style-type: none"> ▪ Compatibility with provincial Growth Plan and Simcoe County objectives ▪ Meet's the Town's Official Plan, Inspiring Innisfil 2020, and other planning policy objectives
Socio-Economic Environment
<ul style="list-style-type: none"> ▪ Minimizes property requirements ▪ Supports the existing and potential business community ▪ Maximizes land development potential and provides opportunities for planned growth
Financial Implications
<ul style="list-style-type: none"> ▪ Minimize capital and maintenance costs, and impacts to the residential tax base

The findings of the evaluation based on the above criteria are summarized in **Table 7-2**.

As illustrated in **Table 7-2**, Alternative 3 and Alternative 4 are recommended to be carried forward.

Alternative 1, while having the least impact on the natural environment and with no financial implications, does not meet the objectives of the transportation service, policy and socio-economic criteria and is thus screened out.

Alternative 2, does provide additional capacity to the road network, but does not improve access to people and communities and does not increase opportunities to walk and cycle throughout the Town. Furthermore, growth objectives of the Town, County and Province are not met without additional improvements to support planned growth.



Alternative 3 provides strong transportation service while providing more access and opportunities for walking and cycling and also promotes connections between the various Innisfil communities. While the financial implications are high, the benefits to this alternative are strong, meeting fully the objectives of the Town’s planning policies.

Alternative 4 which builds on Alternatives 3 provides even stronger transportation service. However with financial implications being a factor, the feasibility of transit service in Innisfil is an issue. Because of the long-term benefits however, it is recommended that this option be carried forward for further study to determine if there are any cost-effective transit solutions that will work specifically for the Town of Innisfil.

Table 7-2: Evaluation Summary

Criterion	Alternative 1: Do Nothing	Alternative 2: Business As Usual	Alternative 3: Balanced Approach	Alternative 4: Aggressive Approach
Transportation Service				
Natural Environment				
Policy Environment				
Socio-Economic Environment				
Financial Implications				
Preliminary Findings:	Screened Out	Screened Out	Carried Forward	Carried Forward
Legend:	Does Not Meet Criterion      Meets Criterion			



8. RECOMMENDED TRANSPORTATION STRATEGY

Following the second public open house and TAC meeting, and based on the evaluation of options and all feedback and comments received, a recommended multi-modal transportation strategy was developed for the Town. The details of the strategy and supporting justification for improvements for all travel modes are documented below. Potential implementation processes and prioritizations are also discussed.

8.1 Active Transportation

8.1.1 Improving Connections

Given the current population densities in the Town and the construction costs for sidewalks and trails, it is more reasonable for the Town to take an incremental approach to improving active transportation facilities. This may include providing interim active transportation facilities (e.g., a paved shoulder) and multi-use (shared pedestrian and cycling) trails while continually looking for opportunities to expand its active transportation network through development applications and planned municipal capital works projects.

It is also recommended for the Town to participate in the coordination of the development and implementation of proposed trails in Simcoe County along key corridors in the Town (such as on Innisfil Beach Road, Yonge Street and along the lakeshore) over the next 10 years.

The recommended ultimate active transportation network is illustrated conceptually in **Exhibit 8-1** and will tie together all communities within the Town of Innisfil. For example, it will be possible to travel between Cookstown and Alcona through taking advantage of the existing Thornton-Cookstown TransCanada Trail and the proposed active transportation corridor proposed on Innisfil Beach Road (by the County) to connect Cookstown with the Recreational Complex and to Downtown Alcona.

In the central-eastern part of the Town, the recommended active corridor on 20th Sideroad will act as the main north-south spine and in combination with east-west trails will connect the southern communities with Alcona and the northeast part of the Town. An alternative “rails with trails” concept (based on Bradford West Gwillimbury’s Trails Master Plan) could be implemented along the existing GO rail corridor; however, property acquisition and costs will be significant. This corridor is shown in dashed blue to highlight that the priority for a north-south spine should be on 20th Sideroad in conjunction with upgrades to the road cross section. Provision for a connection to Bradford West Gwillimbury’s “rails with trails” initiative would be considered upon implementation of that facility by Bradford West Gwillimbury.

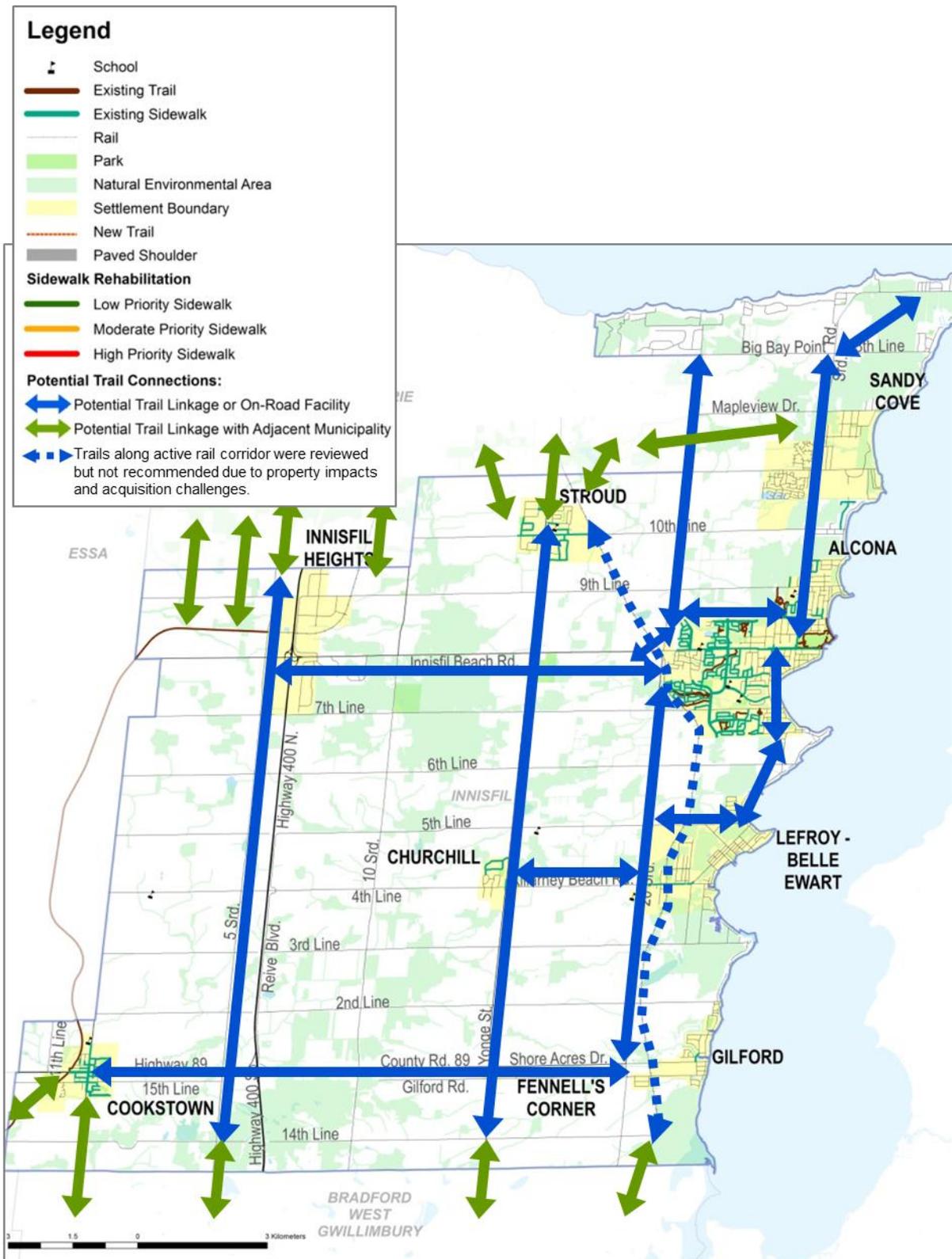
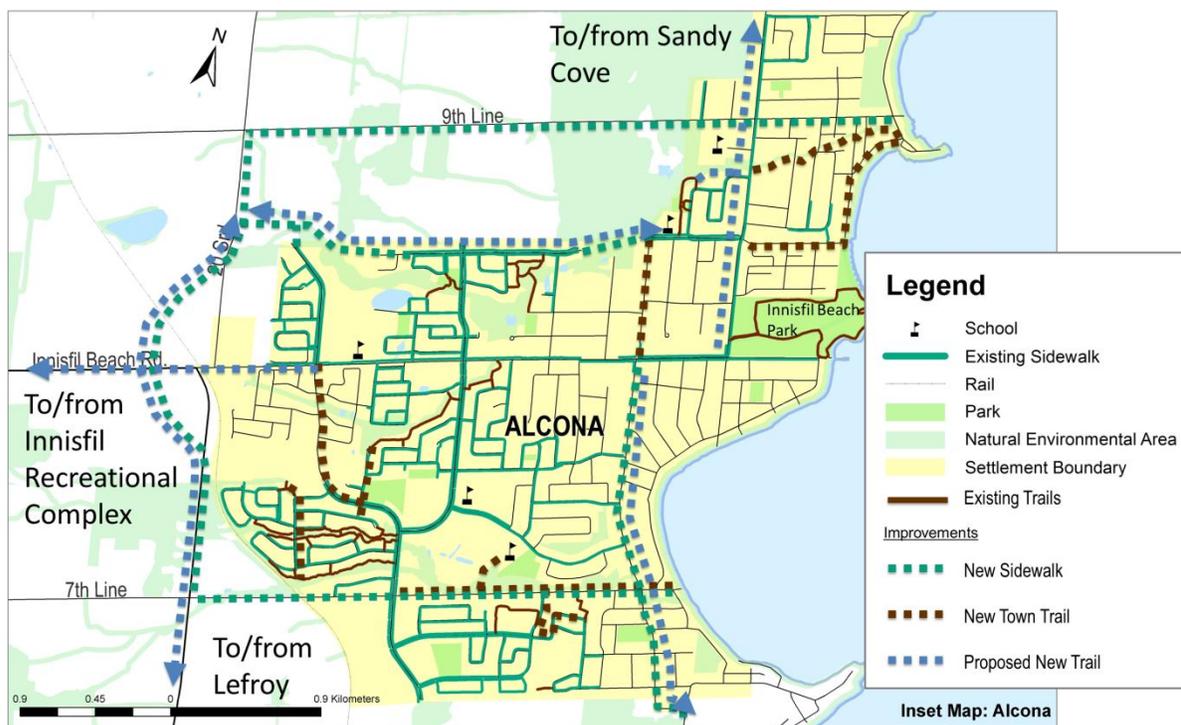


Exhibit 8-1: Proposed Active Transportation Connections



Alcona already has an existing and proposed network of sidewalks and trails. Building on this existing network will improve access and safety for all parts of Alcona. This also includes extending active transportation facilities to connect to other communities in Innisfil, as shown in **Exhibit 8-2**.



The proposed sidewalk on Leslie Drive extension between Adullam and Willard is contingent upon the recommendation of connecting the roadway. See Section 8-4. An off-road trail is still recommended without the roadway connection.

Exhibit 8-2: Proposed Active Transportation Improvements in Alcona

Active transportation facilities (sidewalks, on-road cycling lanes, or trails) should also be considered where possible but particularly in locations where the ultimate road configuration is planned to be widened to four lanes, such as on Innisfil Beach Road and Yonge Street (County Road 4). Designated facilities, such as sidewalks, trails and bike lanes, improve the safety of pedestrians and cyclists by providing these users with greater separation from vehicular traffic and greater visibility. Some concepts of an ultimate configuration for a rural arterial road (such as Innisfil Beach Road) or major collector road within the Town are illustrated in **Exhibit 8-3**.



Exhibit 8-3: Ultimate Configuration Concepts

A sidewalk or trail facility with an offset from the roadway is preferred for an ultimate roadway configuration. While shoulders are not substitutes for a well-designed active transportation facility, they can be paved and implemented in the interim to be used as shared active transportation facilities for both pedestrians and cyclists, where safety is a concern and roadside space is constrained.

When paved shoulders are used in such a manner, they should be designed so that pedestrians or cyclists are travelling while facing traffic and as well as consideration for crossing with clear demarcation of the edge of roadway. The width of the shoulder should be wide enough to accommodate pedestrians and cyclists but not so wide that drivers be tempted to use it as a parking lane, passing lane or travel at higher speeds.

These considerations are illustrated in **Exhibit 8-4** using St. Johns Road south of Innisfil Beach Road as an example where paved shoulders could be implemented before it is ultimately widened and urbanized in the long term. An additional 1.5m of paving could be implemented in combination with reducing the travel portion of the roadway through provision of a 0.5m buffer between the paved shoulder and edge of travel lane.

Once a paved shoulder is designated for active transportation, parking restrictions will have to be applied and enforced or else pedestrians and cyclists will have to divert onto the roadway defeating the purpose of a continuous facility and decreasing safety for all users.

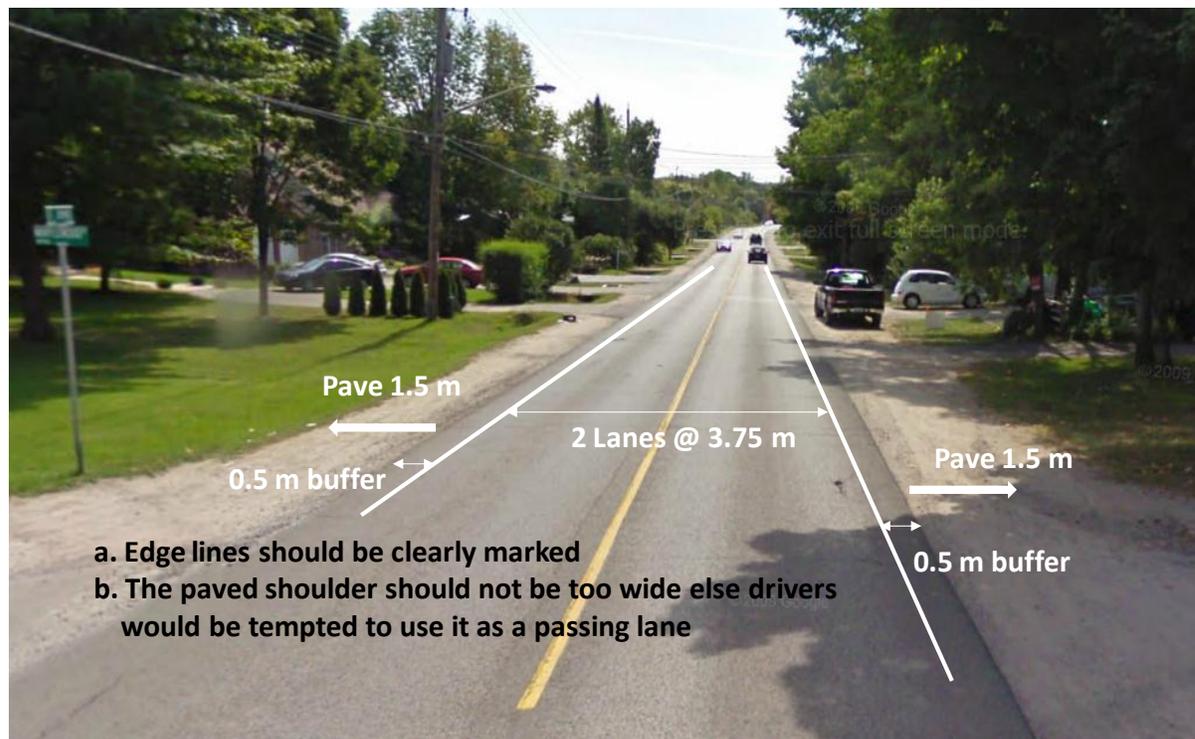


Exhibit 8-4: Interim Paved Shoulder Option Prior to Urbanization – St. Johns Road

8.1.2 Potential Road Cross Section Requirements

For existing roads that will be retrofitted with active transportation facilities (beyond paved shoulder options), three general active transportation cross sections were obtained from previous studies conducted by HDR and are listed as follows (in no particular order of preference):

- Designated boulevard bike facility (multi-use trail) - **Exhibit 8-5**
- Segregated bike facility (conventional bike lane) - **Exhibit 8-6**
- Shared bike facility (a shared lane or “sharrow”) - **Exhibit 8-7**.

Exhibit 8-5 shows a potential cross section comprising a 3-4m wide multi-use path with a 1.5-3.0m wide boulevard. Total boulevard width could vary from 4.5m to 7m. Based on the Town’s engineering standards for road cross sections (<http://www.innisfil.ca/toisd-200-road-ways>), only urban arterial roads with right-of-way widths greater than or equal to 30m could support multi-use trails. The Town’s urban arterial standard protects for a 1.5m bike lane, which when added to the 1.5m sidewalk could provide the available space for a multi-use path. In the medium term, 20th Sideroad, which has a right-of-way width of 30-36m, would be an excellent candidate for a multi-use trail.

Major collector roads with right-of-way of 26m would require additional property should 4 lanes be protected in combination with a multi-use trail or segregated bike lane. The Town’s standard only provides a 6 m boulevard and the multi-use trail or segregated bike lane would conflict with utilities and setbacks. A widening to 30m would be required.

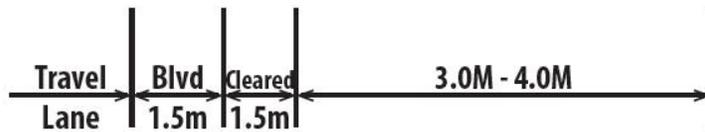
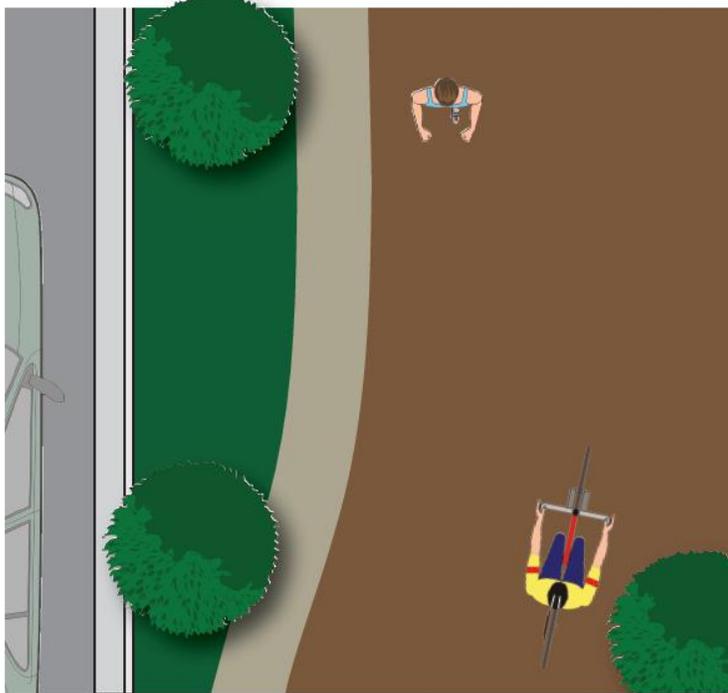


Exhibit 8-5: Designated Boulevard Bike Facility (Multi-Use Trail)



Exhibit 8-6: Segregated Bike Facility (Conventional Bike Lane)

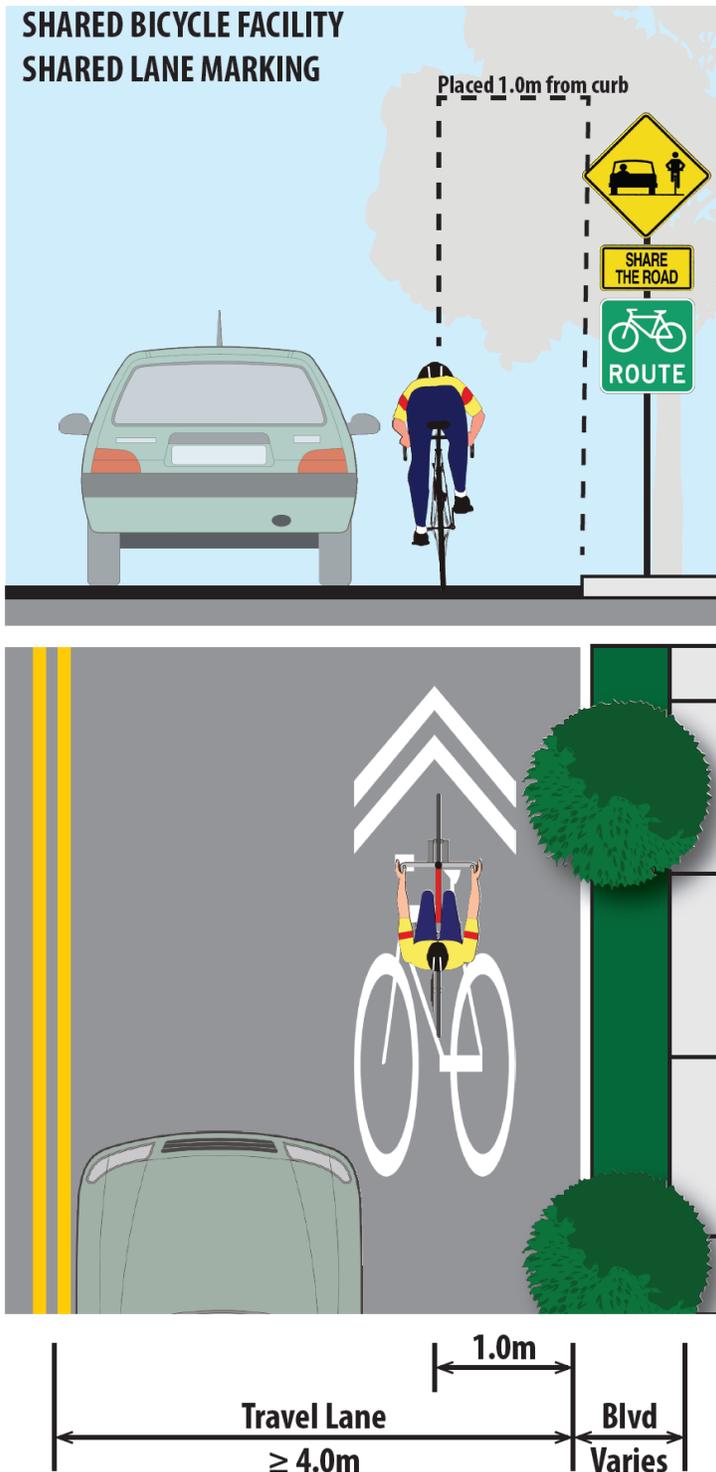


Exhibit 8-7: Shared Bike Facility (a Shared Lane or “Sharrow”)

A shared bike facility which requires a total curb lane width of 4m could be accommodated on any Town road including local road, minor collector, or major collector. The major collector road would require widening of the curb lane from 3.5m to 4m. The 0.5m required



could be taken off the 6.0m boulevard. For minor collector roads, where there is a 12m pavement width to accommodate travel lanes and on-street parking, a widening of 0.5m could also be taken from the 7.0m boulevard.

8.1.3 Implementation Schedule

Based on the current Town and Simcoe County planning documents and the existing issues raised during the study, the proposed implementation schedule of Town active transportation facilities are outlined as follows.

Short Term (1 to 5 years)

- Rehabilitate medium to high priority sidewalks identified by the Town
- Complete proposed sidewalks and trails within Alcona (except on St. Johns Road, 25th Sideroad and Leslie Drive extension, which has been identified separately)
- Pave shoulders along St. Johns Road between Innisfil Beach Road and Nantyr Drive
- Pave shoulders along St. John's Road / Maple Road between Nantyr Drive and Ewart Street
- Pave shoulders along Ewart Street from Maple Road to Killarney Beach Road
- Pave shoulders along Willard Avenue, Leslie Drive to Innisfil Beach Road
- Pave shoulders along the west side of 25th Sideroad between Innisfil Beach Road and Rose Lane
- Pave shoulders on the south side of 9th Line between 25th Sideroad and Leonard Street
- Pave shoulders along 25th Sideroad between Innisfil Beach Road and Rose Lane
- Discuss with County to pave shoulders along Innisfil Beach Road between Yonge Street and 20th Sideroad (*if widening of Innisfil Beach Road to accommodate a new active transportation corridor will not be constructed within 5 years*)
- Discuss with County to Pave shoulders along Yonge Street between Stroud and Innisfil Beach Road (*if widening of Yonge Street to accommodate a new active transportation corridor will not be constructed within 5 years*)
- New sidewalks and trail connections in conjunction with new subdivisions

Medium Term (5 to 10 years)

- Implement sidewalks and trail on Leslie Drive extension when extension to 20th Sideroad is constructed
- Pave shoulders along 20th Sideroad between 9th Line and 4th Line as interim improvement prior to implementation of multi-use trail
- Pave shoulders along 25th Sideroad between Rose Lane and Big Bay Point Road as interim improvement prior to reconstruction / urbanization
- Rehabilitate low priority sidewalks
- Coordinate with County, the implementation of multi-use trail along Innisfil Beach Road between Yonge Street and 20th Sideroad
- Work with County to implement multi-use trail along Yonge Street between communities of Stroud and Churchill
- New sidewalks and trail connections in conjunction with new subdivisions

Long Term (10+ years)

- Multi-use trail on 20th Sideroad between Big Bay Point Road and Shore Acres Drive in phases
- Multi-use trail on 25th Sideroad between Innisfil Beach Road and Maplevue Drive



- New off-road trail from 25th Sideroad at Mapleview Drive to Big Bay Point (and connecting with the multi-use trail along Friday Drive, which is being built to support the Friday Harbour development in the short term)
- Consult with County and MTO to implement multi-use trail along Highway 89 and County Road 89
- Implement sidewalks and trails on St. Johns Road when urbanized
- Multi-use trail along Maple Road / Ewart Street
- Multi-use trail along Bellaire Beach Road between 20th Sideroad and Maple Road and connect to trails proposed in Lefroy Secondary Plan
- Connection to the TransCanada Trail from Innisfil Beach Road at 5th Sideroad
- On road cycling facility on 5th Sideroad
- New sidewalks and trail connections in new subdivisions

8.1.4 Implementation Process

An implementation process is outlined in **Exhibit 8-8** and is detailed in the subsequent sections.

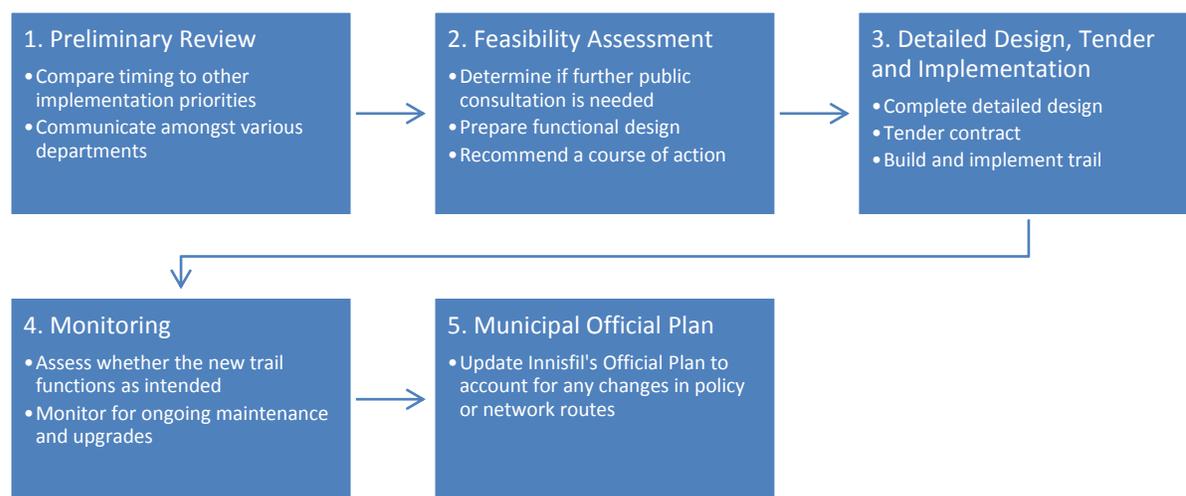


Exhibit 8-8: Implementation Process

8.1.4.1 Phase I: Preliminary Review

The first step in implementing segments of the network is to identify and communicate opportunities for construction trails in advance of the schedule in **Exhibit 8-8**. This includes monitoring municipal planning and infrastructure projects in the capital works forecast for both the Town and the County. This is to determine if a project being advanced to the planning stage includes any recommended pedestrian or cycling improvements as detailed in this study, or whether there is potential to establish a new route as a part of that project. A preliminary review of such projects should consider the following:

- Compare the timing of the project to the short, medium and long term implementation priorities identified in this document
- Determine whether the nature of the project can facilitate the implementation of the recommended pedestrian or cycling facility in a cost effective manner



- Inform the project lead and affected departments whether a feasibility assessment should be undertaken to confirm the feasibility and costs for implementing the proposed route as part of the subject project.

Town staff from various departments should report on all upcoming projects that may involve or impact a trail route. Similarly, the staff implementing the pedestrian and cycling improvements should also report on alternative or additional routes planned for the pedestrian and cycling network that may be coordinated with staff from other departments.

8.1.4.2 Phase II: Feasibility Assessment

If an opportunity to implement a network route is confirmed in Phase 1 (Preliminary Assessment), a brief feasibility assessment should:

- Consider the feasibility of the route and conduct a field check for off-road trails segments to identify any other issues that should be explored as a part of the functional design.
- Determine if further public consultation should be conducted and to what level it is required (e.g., if an Environmental Assessment is triggered in the case of watercourse crossings versus notification of neighbouring residents for a local connection or upgrade).
- Undertake a functional design for the segment and estimate implementation costs, including construction and signing.
- Identify any less costly alternatives and how they may fit within the intent of the overall network plan (e.g., consideration of alternative parallel routes that meet the intent of connectivity).
- Provide a recommended course of action.

8.1.4.3 Phase III: Detailed Design, Tender and Implementation

Once determination has been made to proceed with the trail implementation, the necessary detailed design should be completed. This phase includes tendering the project (if not designed in-house) and then construction / implementation.

Another possible outcome is that the detailed design cannot be implemented because Council directs Town staff not to proceed with the pedestrian or cycling facility; because of the cost or because of other constraints that are identified in the detailed design. If this occurs, the network plan should be updated and an alternative route should be proposed.

8.1.4.4 Phase IV: Monitoring Phase

Once pedestrian or cycling facilities have been constructed, their design and use should be monitored to ensure they function as intended. Monitoring of the facilities should also be ongoing to ensure carrying out of the necessary maintenance and upgrades to the facility.



8.1.5 Supportive Programs for Walking and Cycling

8.1.5.1 Education

Education is an important component to helping pedestrian and cycling network users understand the network in a way that supports a safe and inviting environment for walking and cycling in the Town. This may include:

- Educating pedestrians and cyclists on safe operating procedures for the different types of pedestrian and cycling facilities in the Town (e.g., a multi-use pathway versus a boulevard bike path).
- Enhancing and supporting walking and cycling advocacy, advisory and information groups and programs (e.g., Ontario Trails Council).
- Providing funding to existing and proposed pedestrian programs developed by the town or in partnership with the County and / or other private sector partners.
- Making a range of information related to cycling and walking (such as health, safety and community design information) available on the Town's website, as well as including references to other walking and cycling websites.
- Developing a way-finding and information signage system that establishes an identity of all Town pedestrian and cycling facilities.

Participating in networks/coalitions/committees to increase stakeholder and community awareness.

8.1.5.2 Promotion

People will consider walking or cycling for recreational or commuter purposes if it is convenient, safe and comfortable. The following are some ways of encouraging walking and cycling.

- Engaging the community to encourage and support walking and cycling
- Developing cycling maps as promotional tools for informing individuals about travel choices and opportunities to walk or cycle.
- Attaching incentives and disincentives to various travel modes to encourage residents to make more sustainable choices
- Establishing a Bike User Group within the Town.
- Collaborating with Public Health and other stakeholders to develop cohesive and sustainable strategies for promoting active and healthy lifestyles.

8.2 Potential Local Transit Opportunities

While detailed investigation and evaluation of transit options was not part of the scope of this TMP study, HDR assessed the feedback from the online questionnaire and public open house comments and developed a conceptual phased approach at implementing local transit service to demonstrate the opportunities available for the Town. These opportunities build on the recommendations of the Simcoe County Transit Plan and can be further considered in a separate Transit Strategy or Transit Master Plan Study for the Town.

Two conceptual transit network options were developed and both consist of a local, community bus service within the Town of Innisfil linking communities, such as Big Bay Point, Alcona, Stroud, Lefroy, Churchill, and Sandy Cove, with Barrie to the north and potentially Bradford in the south. The locations of communities within Innisfil make it difficult



to serve all residents from all communities without being cost prohibitive as the extended route distances require additional vehicles to keep route running times acceptable for passengers. Vehicles are the greatest expense for a municipality and therefore the largest barrier in instituting a service that serves resident needs. Therefore, a phased approach is recommended so that the Town can finance vehicle purchases over time.

Additionally, communities that are not served by the main “spine” route could be served by shared-ride fixed route taxi service which is a common start-up approach for rural and suburban transit markets. While these taxi services are not truly “conventional transit”, they are low cost solutions for outlying areas with low demand and provide a basic level of mobility for all Town residents, with focus on senior citizens and the disabled. Even a limited service with two or three return trips a day ensures that all residents will have links throughout Innisfil, including major destinations such as the waterfront, municipal offices, recreational complex, and the proposed GO station. The taxi services can be timed to feed both the proposed community bus and existing GO bus services so that residents in other communities still have access to conventional routes.

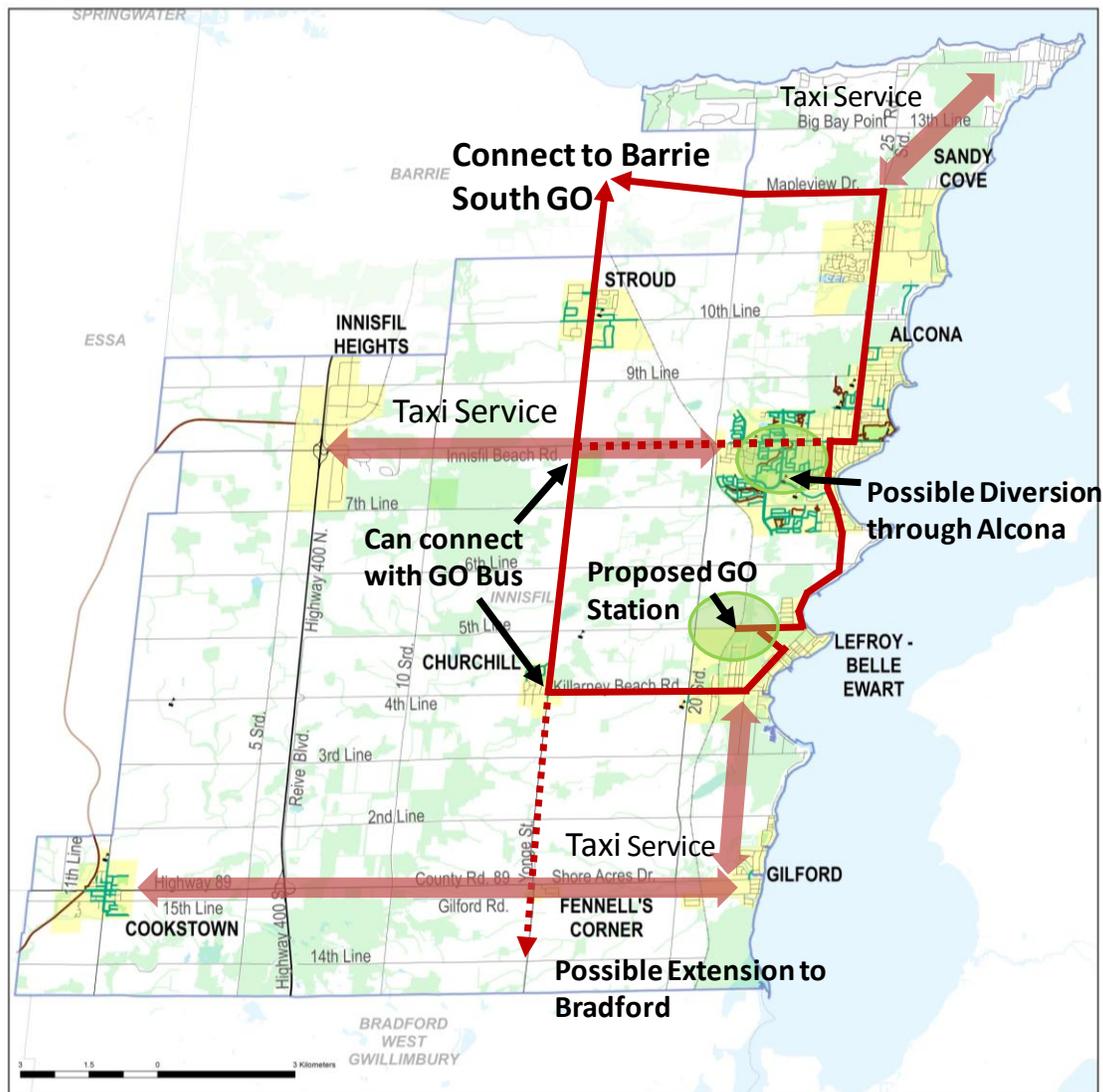
A potential short term opportunity, as illustrated in **Exhibit 8-9**, consists of a large loop that can be run in either direction with Barrie South GO station and Alcona as the two main anchor points. In the clockwise direction, the route will depart Barrie South GO Station and enter Innisfil via Mapleview Drive and then travel south along 25th Side Road through Sandy Cove and Alcona. Once in Alcona, the route will veer east via Innisfil Beach Road, with an opportunity for a small diversion through the new growth areas and subdivisions in Alcona. The route returns to Barrie via Yonge Street where connections can be made to the existing GO bus route. This loop can be completed in about an hour assuming a 25km/h to 30km/h average speed.



Note: Conceptual only. A separate Transit Strategy study will need to be conducted by Innisfil to provide transit route recommendations.

Exhibit 8-9: Conceptual Short Term Local Transit Network

It is possible that the route can alternate directions after completing a cycle to minimize in vehicle travel times for passengers on certain trips. This concept is a meant to be an initial phase that minimizes initial capital investment by minimizing the number of vehicles (one or two vehicles) required while establishing a transit presence in the Town. This transit service could also be an extension of Barrie Transit serving Innisfil and the Annexed Lands. As ridership grows over time and justifies the need for additional vehicles and service, it is envisioned that the Town could transition to an alternative transit network opportunity illustrated in **Exhibit 8-10**.



Note: Conceptual only. A separate Transit Strategy study will need to be conducted by Innisfil to provide transit route recommendations.

Exhibit 8-10: Conceptual Alternative Local Transit Network

The main route would be a larger loop than what was previously proposed (solid red line). It would travel through Sandy Cove and Alcona similar to the first option; however it would continue south on 25 Side Road, St. Johns Road and Maple Road to Lefroy-Belle Ewart with a stop at the proposed GO station. A connection with GO station would allow for multi-modal opportunities for the Town, foregoing the need for some residents to drive to the GO station. After departing Lefroy, the route would travel east along Killarney Beach Road to Churchill then return to Barrie via Yonge Street. This loop can be completed in less than 90 minutes assuming a 25km/h to 30km/h average speed.

This option could be operated with at least two vehicles (plus a spare). If a fourth vehicle is purchased, the transit network could be expanded to have a limited branch service from the loop heading south to Bradford. However, the priority would be to serve as many



communities within Innisfil before providing opportunities for inter-municipal service, which should be explored in Simcoe County's update to their TMP.

The large loop option could also be modified to generate two smaller loops with overlapping transit service on Innisfil Beach Road.

8.3 Proposed GO Station Location

As noted in **Section 2.1.2**, GO Transit's 2005 Rail Expansion from Bradford to Barrie Class EA identified a potential new GO Train station in Innisfil located south of Belle Aire Beach Road between 20th Sideroad and the rail corridor.

Based on the GO Transit Study, the Town of Innisfil has identified this potential GO Station in its Official Plan at the Belle Aire Beach Road and 20th Sideroad location. However, since 2005, the Town has been subject to the Ontario Growth Plan amendments which have designated Alcona as a Primary Settlement area. An important component of the transportation plan is the connectivity of the urban development with public transit services such as GO Transit. Therefore the Town TMP assessed the community transportation network to determine recommendations on the most appropriate location for the GO Transit station within Innisfil.

As part of this Transportation Master Plan, an alternative GO Station located closer to the Urban Growth node of Alcona was reviewed and compared with the Lefroy location. The potential Alcona station would likely be north of south of 6th Line at the rail line. The Belle Aire Beach Road location and 6th Line locations are illustrated in **Exhibit 8-11**.

This exhibit highlights growth areas adjacent to each location – the Sleeping Lion development in the Alcona South Secondary Plan adjacent to 6th Line and then Lefroy Secondary Plan adjacent to 5th Line. It also highlights the projected populations of Alcona as a whole and Lefroy as a whole. Although the two locations are only separated by one concession (1.4km), the settlement areas of Alcona and Lefroy are separated by a rural environmental area which currently has no plans for development in the future.

The locations of current GO Rail users based upon the 2011 GO Rail Passenger Survey are highlighted in **Exhibit 8-12** and **Exhibit 8-13**. Innisfil residents who use Barrie South GO are predominately Alcona residents - 56 out of 66 or 85% are from Alcona. Bradford GO Station users are mostly from Alcona as well, with 22 out of 43 or 51% from Alcona. Based on the data from the survey, it appears that there are no current users from Lefroy. However, this could be due to the sample size of the survey.

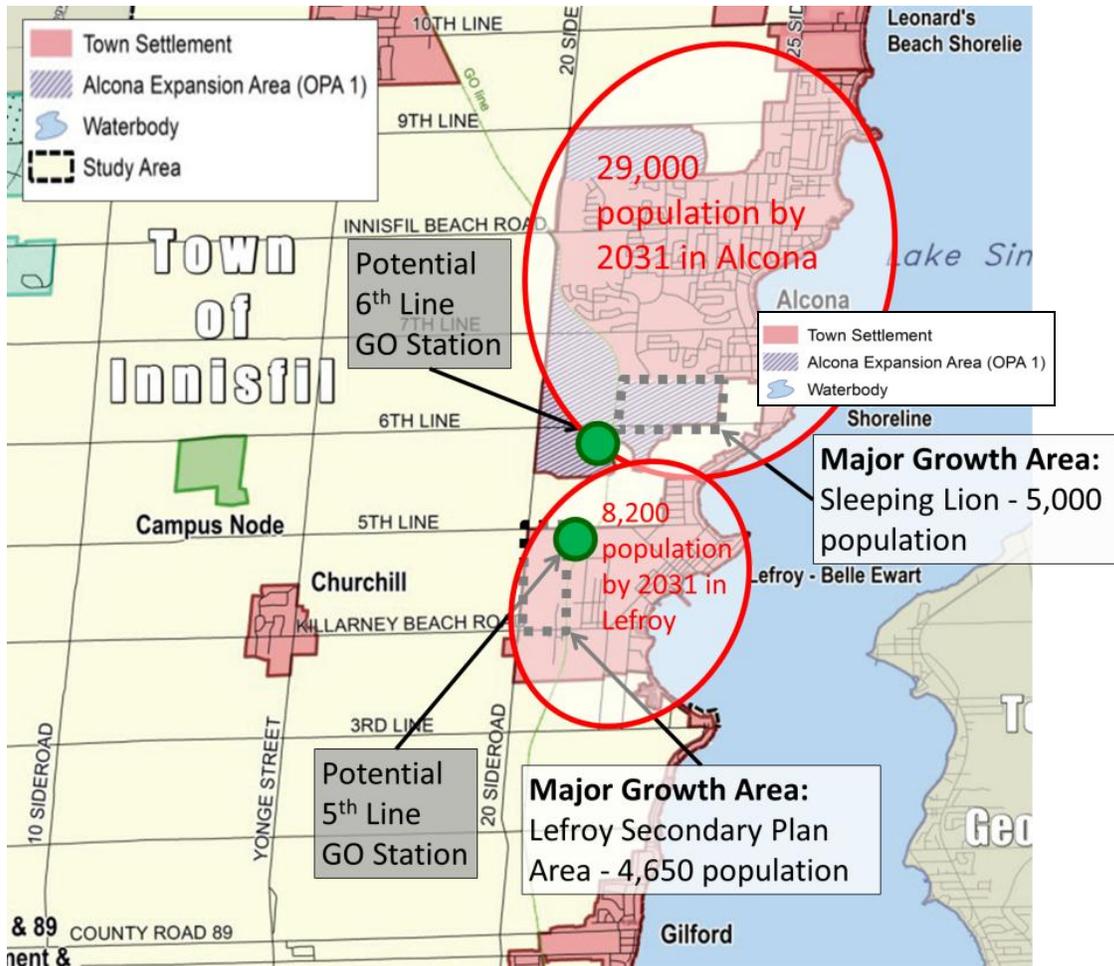


Exhibit 8-11: Potential GO Station Locations

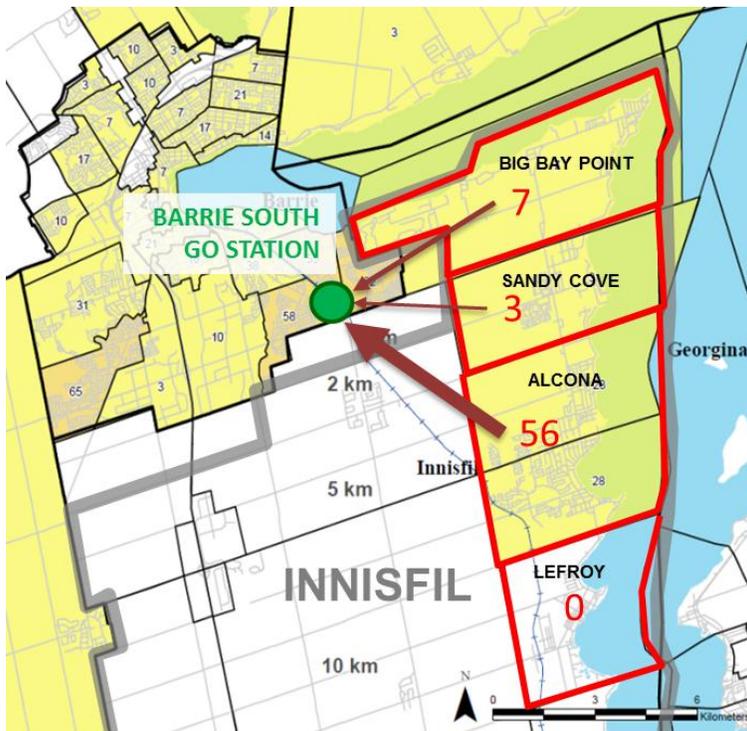


Exhibit 8-12: Location of Current Barrie South GO Users from Innisfil

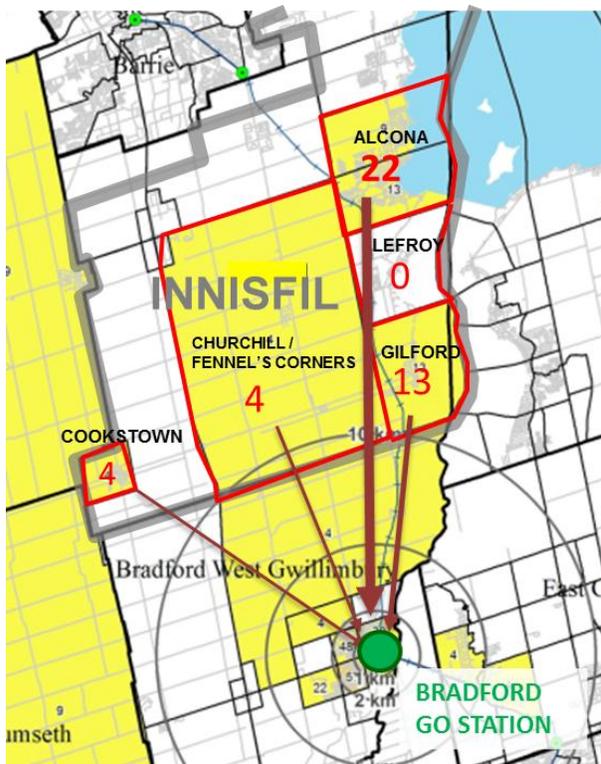


Exhibit 8-13: Location of Current Bradford GO Users from Innisfil



A comparative analysis table has been developed to assist in the determination of the optimal location for the Town, and is presented in **Table 8-1**, with the preferred location for each category identified with bold text. Each comparison was not necessarily weighted equally in determining the overall preferred location. Since this is a TMP, the comparison however considered the transportation issues as a priority.

Table 8-1: Potential GO Station Location Comparison

	Alcona (6th Line)	Lefroy (5th Line)
Location	Assumed to be southwest quadrant of Rail line / 6 th Line but could be located in other quadrants pending detail studies	Southwest quadrant of Rail line / Belle Aire Beach Rd
Proximity to Population Market	Approximately 29,000 residents within Alcona (2031 Growth Plan plus Sleeping Lion)	Approximately 8,200 residents within Lefroy-Belle Ewart
Current Plans	None - Located within OPA #1 Alcona south development	Currently shown in approved Lefroy Secondary Plan
Timing	Need further studies and approval of Metrolinx.	EA approved - Next stages can be approved sooner
Station Vehicular Access	Potential access via Webster Blvd, 20 Sdrd, and St Johns Rd onto 6 th Line	Potential access via 20 Sdrd and 5 th Line/Belle Aire Beach Rd, Maple Rd, and Arnold St
Potential Local Transit Access	Can be served by future local transit service if proposed on 20 th Sdrd or 6 th Line	Can be served by future local transit service if proposed on 20 th Sdrd or 5 th Line
Pedestrian and Cycling Access	Sidewalks and trails required on 20 th Sdrd, Webster, and 6 th Line. The larger population and more significant existing sidewalk system are located within Alcona; therefore, the 6 th Line site would provide better connectivity to walking and cycling.	Proposed trails along rail line and crossings leading to proposed GO station were identified in the Lefroy Secondary Plan; however trails on 20 th Sdrd and 5 th Line would also be required. Walk access likely not feasible from Alcona due to distance.
Supporting Improvements Required	<ul style="list-style-type: none"> • Signals at 20 Sideroad / 6th Line • Urbanization of 6th Line • Extension of Webster Blvd to 6th Line 	<ul style="list-style-type: none"> • Signals at 20 Sideroad / 5th Line • Urbanization of Belle Aire Beach Rd
Compatibility with Adjacent Development	The opportunity exists to provide High Density residential development adjacent to the 6 th Line station.	Low density residential and convenience commercial are already planned adjacent uses based on the Secondary Plan.



	Alcona (6 th Line)	Lefroy (5 th Line)
Location of Current GO Rail Users	78 from Alcona Users from Big Bay Point and Sandy Cove assumed to continue using Barrie South Station but could also access the 6 th Line location.	69 from Lefroy, Churchill, Gilford
Public Support from the TMP Survey	10 out of 15 unsolicited responses recommended the Alcona location	5 out of 15 unsolicited responses recommended the Lefroy location

Based on the factors identified in **Table 8-1**, the current plans and timing criteria support the Lefroy location, while proximity to existing population, planned growth, and the opportunity for better non-vehicular connectivity and high-density development would favour the Alcona location. Other criteria including vehicular and transit access, supporting improvements, and the number of current users that could divert to the proposed GO station are similar between the two locations.

The results from the TMP questionnaire were also reviewed. Approximately 25 *unprompted* responses were provided in support of a GO Rail Station in Innisfil and of those, ten specifically identified a desire for a station in Alcona, while five supported Lefroy and the existing GO Transit plans. The remaining portion did not identify a preferred specific location within Innisfil. It should be noted over 625 TMP survey responses were received and that the majority of respondents to the survey lived in Alcona.

Based on all the factors above and the evaluation summary in **Exhibit 8-14**, the results are too close to definitely screen out one location over another at this time. Since Metrolinx has not made any commitment to the timing of the station and there is no funding for it at this time, there is the opportunity for the Town to further consult with Metrolinx / GO Transit before making a final decision.

We recognize that Innisfil's current Official Plan shows the GO station at the 5th Line location in Schedule C, which incorporated the findings from the 2005 EA study; however, both the 2005 EA and Official Plan predated the Provincial Growth Plan Amendment, which necessitated this re-examination of the GO station location in this TMP. The cost and timing implications of changing the GO Station location from 5th Line to 6th Line are not yet known. However, the best candidate location should be selected based on the benefits and merits of the location to the community.

The recommendation for the Innisfil GO Station location will be deferred to a later date following further consultation with Metrolinx / GO Transit.



Criteria	6 th Line	5 th Line
Proximity to Population Market		
Current Plans		
Timing		
Station Vehicular Access		
Potential Local Transit Access		
Pedestrian and Cycling Access		
Supporting Improvements Required		
Compatibility with Adjacent Development		
Location of Current GO Rail Users		
Public Support from the TMP Survey		

Legend: Least Preferred Most Preferred

Exhibit 8-14: Evaluation Summary of Potential GO Station Locations

8.4 Road Improvements

To support the proposed active transportation and transit opportunities, road improvements remain an integral component of a balanced transportation strategy to support the Town’s development targets. Based on the findings of the travel demand modelling and input from Town staff, a road improvement plan and high-level implementation schedule has been developed.



Similar to the implementation plan for active transportation, the proposed improvements have been categorized into short, medium and long term:

- Short-term (ST): 1-5 years
- Medium-term (MT): 5-10 years
- Long-term (LT): 10+ years

The proposed road improvements are summarized in **Table 8-2**, **Table 8-3**, **Table 8-4**, and **Exhibit 8-15**.

With reference to these tables, the major improvements identified include urbanization, reconstruction, and multi-use trails or paved shoulders:

- Urbanization refers to reconstruction and widening to Town standards allowing for proper pavement width, curb&gutters, utilities, boulevards, and sidewalks.
- Reconstruction refers to pavement rehabilitation and widening of pavement width to Town standards (as necessary) but maintains a rural cross section with shoulders (paved and unpaved) and ditches. Sidewalks, curbs, gutters, and boulevards are not provided.
- Multi-use trails or use of paved shoulders for active transportation needs can be accommodated depending on the planned right-of-way and pavement widths.

Table 8-2: Proposed Short-Term Road Improvements

Map Item#	Road	From	To	Improvement Type
35	St. Johns Rd / Maple Rd	Nantyr Drive	Ewart Street	Paved Shoulders
32	St. John's Road	Innisfil Beach Road	Nantyr Drive	Paved Shoulders
29	13th Line	Big Bay Point Road / 25th Sideroad	Friday Drive	Reconstruction
30	25th Sideroad (West Side)	Rose Lane	Leslie Drive	Paved Shoulders
31	25th Sideroad (West Side)	Leslie Drive	Innisfil Beach Road	Paved Shoulders
2	Big Bay Point Road	20th Sideroad	25th Sideroad	Reconstruction
36	Ewart Street	Maple Road	Killarney Beach Road	Paved Shoulders
38	Willard Ave	Leslie Drive	Innisfil Beach Road	Paved Shoulders
39	Adullam Ave	Lebanon Drive	Innisfil Beach Road	Urbanization
33	25th Sideroad	Big Bay Point Road	Rose Lane	Paved Shoulders
37	9th Line (South Side)	25th Sideroad	Leonard Street	Paved Shoulders
2	Big Bay Point Road	20th Sideroad	25th Sideroad	Reconstruction
36	Ewart Street	Maple Road	Killarney Beach Road	Paved Shoulders



Table 8-3: Proposed Medium-Term Road Improvements

Map Item#	Road	From	To	Improvement Type
34	20th Sideroad	9th Line	4th Line	Paved Shoulders
7	Leslie Drive West Extension	20 Sideroad	Oriole Crescent	New Construction
9	20th Sideroad (bypass)	Leslie Drive	South of Innisfil Beach Rd	New Construction
11	St. John's Road	Innisfil Beach Road	Nantyr Drive	Urbanization
17	Ewart Street	Killarney Beach Road	300 metres north of Killarney Beach Road	Urbanization
16	Killarney Beach Road	20th Sideroad	Ewart Street	Urbanization
1	Big Bay Point Road	Big Bay Point	25th Sideroad	Reconstruction
14	Killarney Beach Road / 4th Line	John Street	Yonge Street	Urbanization
25	6th Line	20 Sideroad	St Johns Road	Urbanization
7	Leslie Drive West Extension	20 Sideroad	Oriole Crescent	New Construction
9	20th Sideroad (bypass)	Leslie Drive	South of Innisfil Beach Rd	New Construction
11	St. John's Road	Innisfil Beach Road	Nantyr Drive	Urbanization
17	Ewart Street	Killarney Beach Road	300 metres north of Killarney Beach Road	Urbanization
16	Killarney Beach Road	20th Sideroad	Ewart Street	Urbanization
1	Big Bay Point Road	Big Bay Point	25th Sideroad	Reconstruction
14	Killarney Beach Road / 4th Line	John Street	Yonge Street	Urbanization
25	6th Line	20 Sideroad	St Johns Road	Urbanization
5	Lockhart Road	100m west of Main St (Sandy Cove)	25th Sideroad	Urbanization



Table 8-4: Proposed Long-Term Road Improvements

Map Item#	Road	From	To	Improvement Type
3	Mapleview Drive	25th Sideroad	20th Sideroad	Reconstruction
4	Lockhart Road	20th Sideroad	100m west of Main St (Sandy Cove)	Reconstruction
8	20th Sideroad	Leslie Drive	Big Bay Point Road	Reconstruction
6	25th Sideroad	Innisfil Beach Road	Leslie Drive	Urbanization
13	Belle Aire Beach Road	East of GO Transit Station (Proposed)	Maple Road	Urbanization
23	25th Sideroad	Rose Lane	Leslie Drive	Urbanization
10	7th Line	20th Sideroad	St Johns Road	Urbanization
19	25th Sideroad	Big Bay Point Rd	Mapleview Drive East	Reconstruction
20	25th Sideroad	Mapleview Drive East	Henderson Drive	Reconstruction
12	Belle Aire Beach Road	Sideroad 20	GO Transit Station (Proposed)	Urbanization
21	25th Sideroad	Henderson Drive	Lockhart Road	Urbanization
22	25th Sideroad	Lockhart Road	Rose Lane	Urbanization
18	Ewart Street / Maple Rd / St. Johns Rd	300 metres north of Killarney Beach Road	Nantyr Drive	Urbanization
26	6th Line	County Road 27	20 Sideroad	Reconstruction
27	7th Line	Yonge Street	20 Sideroad	Reconstruction
15	Killarney Beach Road	Yonge Street	20th Sideroad	Reconstruction
24	9th Line	20 Sideroad	25th Sideroad	Urbanization
28	9th Line	Yonge Street	20 Sideroad	Reconstruction

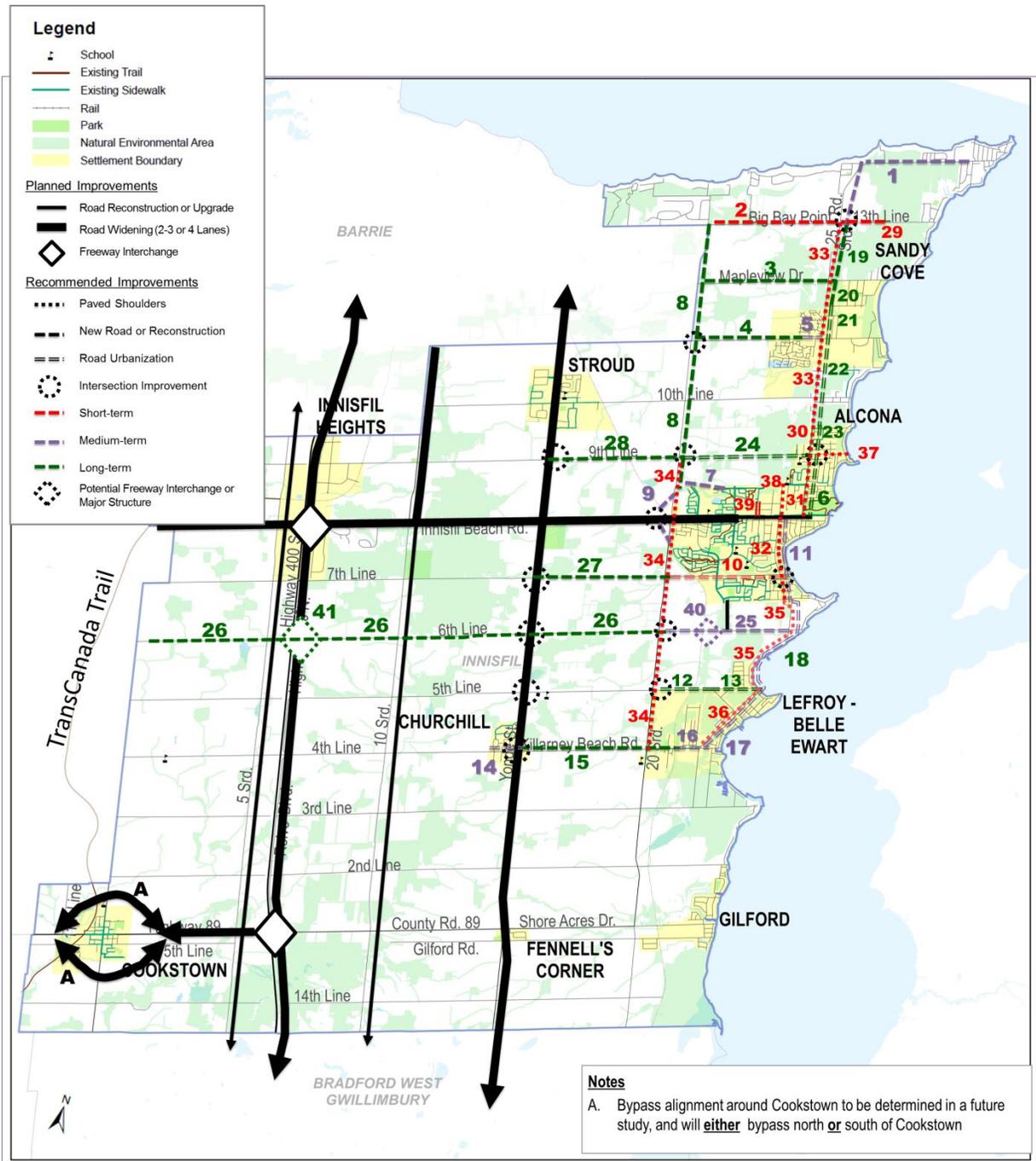


Exhibit 8-15: Proposed Road Improvements

A detailed discussion of specific proposed new road construction improvements is provided in the following sections.



8.4.1 New Road Improvements in Alcona

Three new roads within Alcona were identified to improve transportation connections, increase safety, and to support growth, including:

- 20th Sideroad realignment
- Leslie Drive West Extension (20th Sideroad to Oriole Crescent)
- Leslie Drive East Extension (Adullam Avenue to Willard Avenue)

These potential improvements are illustrated in **Exhibit 8-16**.

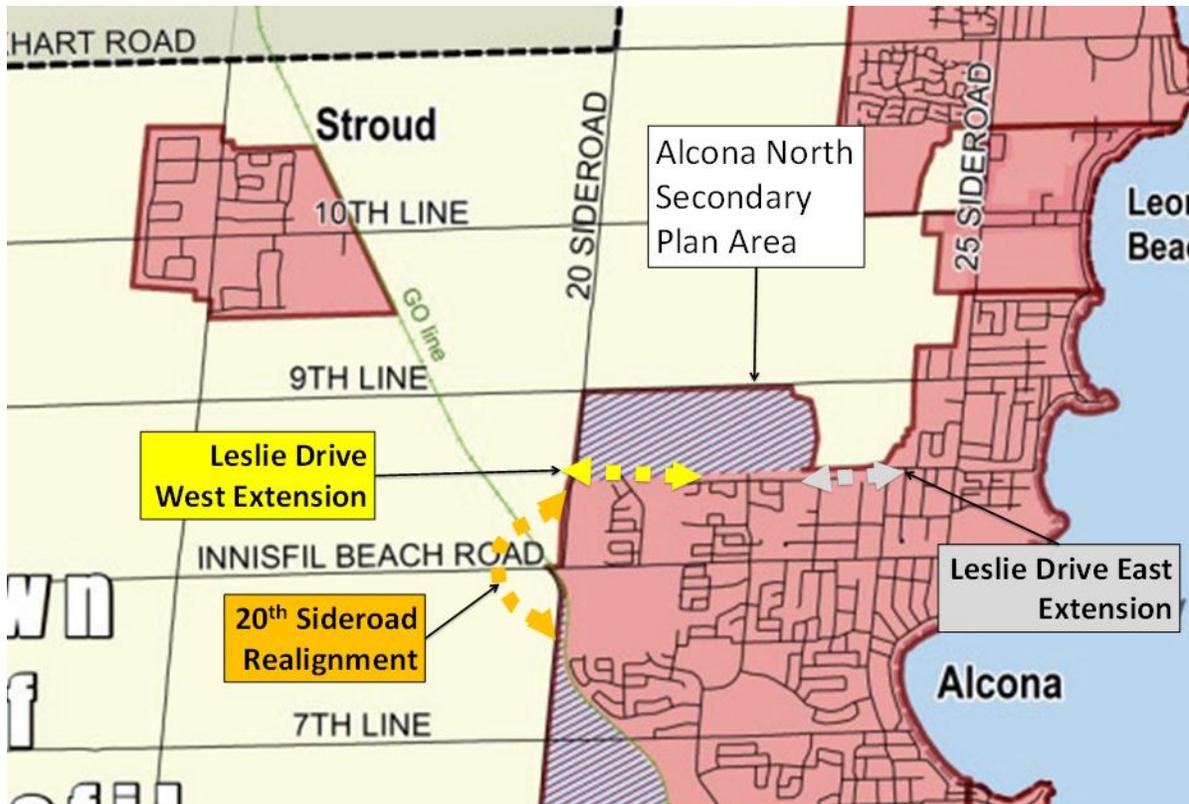


Exhibit 8-16: Potential Alcona Road Network Improvements

The following sections will discuss each of these three improvements in further detail including an assessment and evaluation based on the following criteria:

- Transportation benefits
- Community benefits
- Support for growth
- Environmental impacts
- Financial impacts

8.4.1.1 20th Sideroad Realignment

The existing intersection of 20th Sideroad at Innisfil Beach Road is jogged due to the presence of the GO Rail tracks which crosses Innisfil Beach Road at grade between the north and south legs of 20th Sideroad. This configuration poses a significant traffic safety

issue particularly with projected traffic growth on Innisfil Beach Road by 2021 and 2031. Anticipated traffic queues on Innisfil Beach Road would extend across the rail tracks and pose a major safety issue.

To mitigate this safety issue and to provide other benefits such as improving 20th Sideroad to be a continuous north-south corridor and providing an alternative route to Innisfil Beach Road entering and exiting Alcona, the 20th Sideroad Realignment was identified. The proposed 20th Sideroad realignment along with the Leslie Drive West Extension are conceptually illustrated in **Exhibit 8-17**.

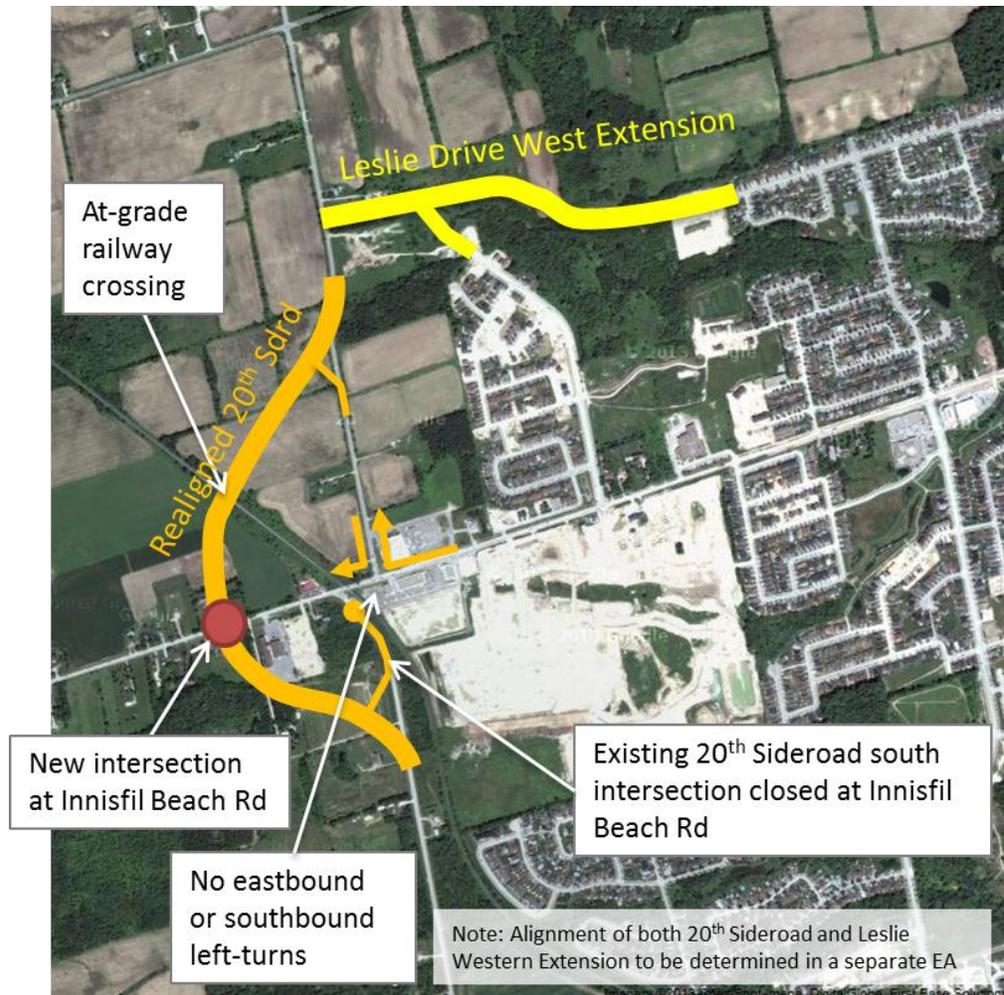


Exhibit 8-17: 20th Sideroad Realignment

A new signalized intersection with Innisfil Beach Road will be constructed west of the Innisfil Community Church. The existing driveway onto Innisfil Beach Road may have to be reconfigured or relocated to the 20th Sideroad (to provide adequate spacing between a new traffic signal required at the intersection and the church driveway). Details of the realignment are subject to future EA and detail design studies.



The north leg of this intersection will cross the the GO rail tracks perpendicularly and at grade. In the foreseeable future there should be sufficient storage for traffic stopped by a crossing train. The 20th Sideroad Realignment would then continue north east until it meets the existing 20th Sideroad roughly halfway between Innisfil Beach Road and 9th Line, and become continuous with 20th Sideroad to the north. The existing north leg of 20th Sideroad connecting to Innisfil Beach Road would remain open and continue to provide access to the No Frills development. At Innisfil Beach Road, eastbound and southbound left turn movements would be prohibited to maintain traffic flow and avoid conflicts through this area. Eastbound left turn access to the No Frills would be made at the main signalized driveway to the development.

The south leg of the realignment would curve around the Innisfil Community Church and become continuous with 20th Sideroad. The existing 20th Sideroad south leg at Innisfil Beach Road would be closed in a cul-de-sac to maintain traffic flow and improve safety along Innisfil Beach Road.

Together with the westerly extension of Leslie Drive from Oriole Crescent to 20th Sideroad, the 20th Sideroad Realignment provides an alternative route to Innisfil Beach Road with the potential to accommodate an active transportation corridor.

Furthermore, 20th Sideroad will be a key north-south arterial road in the future. The significant development planned in the Barrie Annexed Lands and Friday Harbour will create north-south traffic demand and increase traffic on Highway 400, 10th Sideroad, and Yonge Street. Improving the ability of 20th Sideroad to handle north-south traffic will improve anticipated future traffic conditions across the Town.

The 20th Sideroad Realignment was compared to the Do Nothing scenario to evaluate this improvement. The results of this evaluation are provided in **Table 8-5**.

Table 8-5: 20th Sideroad Realignment – Evaluation Summary

Criteria	Do-Nothing	20 th Sideroad Realignment
Network-Wide Traffic Benefits		
Community Benefits		
Supports Future Growth Areas		
Environmental Impacts		
Financial Impacts		
Recommendation	Screen Out	Carry Forward

Legend: Least Preferred Most Preferred



8.4.1.2 Leslie Drive West Extension (20th Sideroad to Oriole Crescent)

As discussed in the previous section, the Leslie Drive West Extension combined with the 20th Sideroad realignment would provide an alternative route to Innisfil Beach Road for traffic entering and existing Alcona. For traffic from the north, it would also provides access to the residential areas north of Innisfil Beach Road from 20th Sideroad, which currently can only be accessed from Innisfil Beach Road.

The need for this extension is primarily driven by network connectivity and providing convenient routes and travel options, including the support of active transportation improvements. This corridor, along with the Leslie Drive East Extension was identified in Schedule C of the Innisfil Official Plan as a major collector road serving the residential areas north of Innisfil Beach Road and providing access to both 20th Sideroad and 25th Sideroad. This corridor can also serve as a continuous active transportation corridor that would enhance the livability and connectivity of the Alcona community. In addition, this corridor would connect to proposed cycling facilities on 20th Sideroad which extend further north and connect with the proposed cycling facilities within the Barrie Annexed Lands.

Another driver for this road is the planned Alcona North Secondary Plan area, bounded by 9th Line to the north, 20th Sideroad to the west, Leslie Drive to the south, and a provincially significant wetland to the east. This road would provide an east-west connection between 9th Line and Innisfil Beach Road with direct access to 20th Sideroad.

The Leslie Drive Western Extension (20th to Oriole) was compared to the Do Nothing scenario to provide a needs assessment and evaluation for this road improvement. The results of the evaluation are provided in **Table 8-5**.

Table 8-6: Leslie Drive Western Extension – Evaluation Summary

Criteria	Do-Nothing	Leslie Drive West Extension (Oriole to 20 th)
Network-Wide Traffic Benefits		
Community Benefits		
Supports Future Growth Areas		
Environmental Impacts		
Financial Impacts		
Recommendation	Screen Out	Carry Forward

Legend: Does Not Meet Criterion      Meets Criterion

8.4.1.3 Leslie Drive East Extension (Adullam to Willard)

The Leslie Drive East Extension (Adullam to Willard) was previously studied in an Environmental Assessment completed in March 2012, which only recommended a servicing corridor along the proposed Leslie Drive Extension alignment. The road connection was deferred for further study in the TMP due to environmental concerns. The location and alignment of the Leslie Drive Extension are illustrated in **Exhibit 8-18**.



The Innisfil Transportation Master Plan has assessed the need and justification given new population and employment assumptions and a broader network perspective.

Based on the new analysis in this TMP, the extension alone does not provide significant transportation benefits as a potential east-west alternative to Innisfil Beach Road considering that daily traffic forecasts in 2031 with and without the extension as shown in **Exhibit 8-19** and **Exhibit 8-20** do not demonstrate a strong need. However, when combined with the westerly Leslie Drive extension to 20th Sideroad, Leslie Drive can be a more attractive alternative to Innisfil Beach Road and can influence travel pattern changes to alleviate congestion on Innisfil Beach Road.

Exhibit 8-18: Leslie Drive East Extension

The combination of the two extensions can also provide alternative access to the future Alcona North Secondary Plan Area from east Alcona without having traffic use 9th Line or Innisfil Beach Road.

Another potential scenario is to extend Leslie Street westerly to 20th Sideroad but without the connection between Adullam and Willard. If the Adullam / Willard connection was not constructed, the westerly extension may not be as attractive for traffic originating east of Willard Avenue, and traffic diversion from Innisfil Beach Road may not be sufficient to prevent Innisfil Beach Road from eventually reaching capacity on the 2/3-lane sections between Jans Boulevard and 25th Sideroad or preventing increased traffic on local roads. However, if the Town and residents are willing to accept some increase traffic on the local roads to avoid the significant environmental impacts (on the provincially significant wetland) from the Leslie Drive east extension, the east extension can be recommended for removal from the Official Plan. In consideration of no east extension, we would also recommend designating Adullam and Willard as minor collectors (including provision of paved shoulders where sidewalks have not been constructed) as they will likely carry increased traffic leading to Leslie Drive on both sides of the provincially significant wetland.



Exhibit 8-19: 2031 Daily Traffic without Leslie Drive Extension

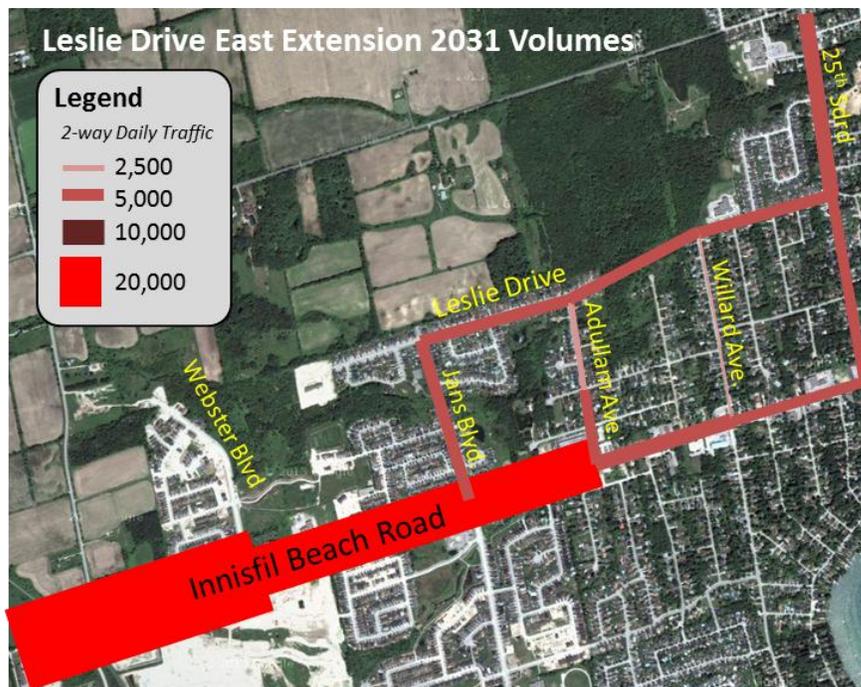


Exhibit 8-20: 2031 Daily Traffic with Leslie Drive East Extension

The table below shows the forecasts across 20th and 25th Sideroads to demonstrate the lack of significant transportation benefit of the Leslie Street East Extension by itself in



comparison to the westerly extension to 20th Sideroad in reducing volumes on Innisfil Beach Road.

Based on the forecast results in **Table 8-7**, the east extension only results in diverting 400 vehicles per day from Innisfil Beach Road and in consideration of the significant environmental impact, the east extension is not recommended.

Table 8-7: Proposed Leslie Drive and 20th Sideroad Improvement Scenarios

Daily Traffic Volumes	Without Leslie Drive Connection	With Leslie Drive Connection	With Leslie Drive Connection and Westerly Extension to 20 Sideroad
9 th Line West of 25 Sdrd	7,400	7,300	5,100
Leslie Dr West of 25 Sdrd	1,600	2,500	6,400
IBR West of 25 Sdrd	8,500	8,100	7,400
Total West of 25 Sdrd	17,500	17,900	18,900
9 th Line East of 20 Sdrd	7,400	7,300	5,100
Leslie Dr East of 20 Sdrd	-	-	8,700
IBR East of 20 Sdrd	34,900	35,000	30,900
Total East of 20 Sdrd	42,300	42,300	44,700

Based on all the analysis and impacts considered above, the evaluation summary is presented below and the TMP will not be recommending the east extension.

Table 8-8: Leslie Drive East Extension Evaluation Summary

Criteria	Do Nothing	Leslie Drive East Extension (Willard to Adullam)
Network-Wide Traffic Benefits		
Community Benefits		
Supports Future Growth Areas		
Environmental Impacts		
Financial Impacts		
Recommendation	Carry Forward	Screen Out

Legend: Least Preferred Most Preferred



8.4.2 Friday Harbour Road Improvements

With the proposed development of Friday Harbour briefly noted in **Section 5.1.1**, improvements related to or required by this development were also identified as part of this Transportation Master Plan. Based on the Draft Plan of Subdivision (**Exhibit 8-21**), the main road access to Friday Harbour will be via “Street A” (also known as Friday Drive) which connects to 13th Line east of Big Bay Point Road and 25th Sideroad.

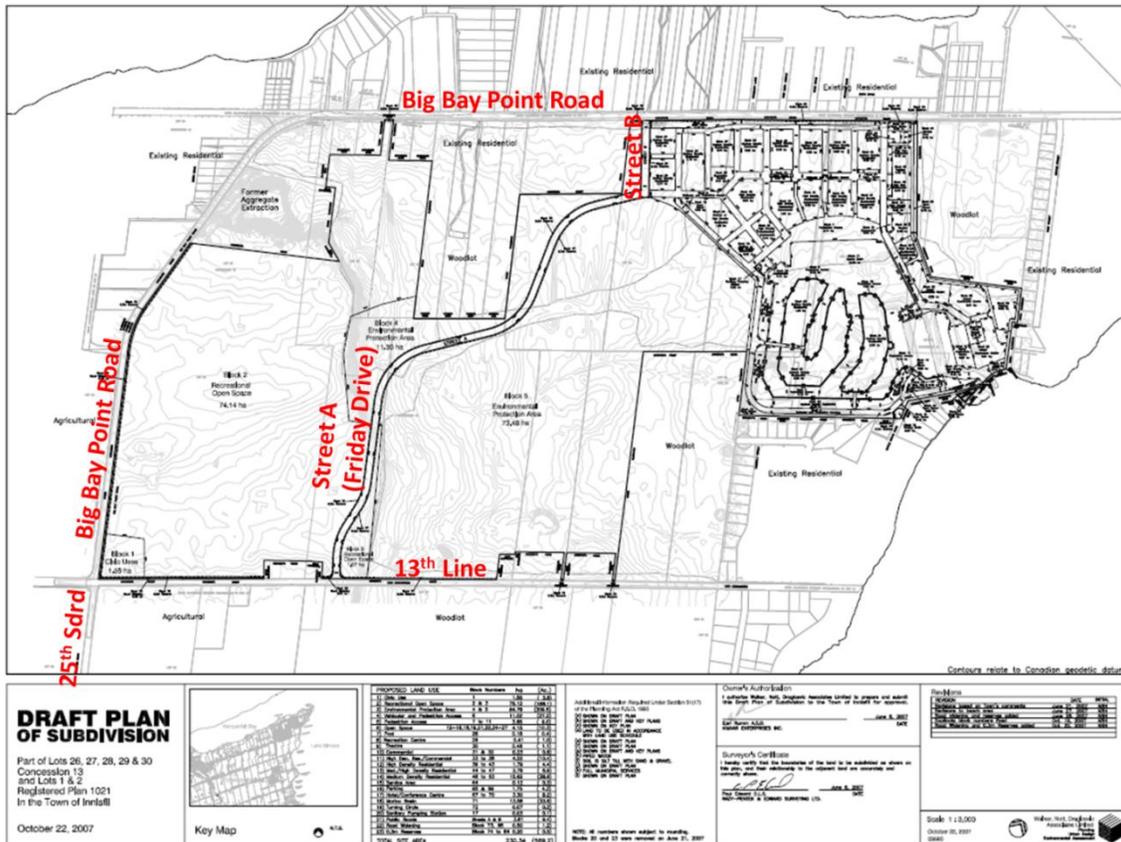


Exhibit 8-21: Friday Harbour Draft Plan of Subdivision

Based on the Transportation Model, approximately 13,000 daily trips are produced to and from the proposed development, related to the planned 1,600 residential units (estimated 4,240 persons). Assuming that the majority trips (90-95%) to and from Friday Harbour utilize Street A and 13th Line (as opposed to Street B and Big Bay Point Road), this level of traffic would exceed the capacity of 13th Line in its current state, which is approximately 5,000 vehicles per day in each direction or 10,000 2-way vehicles per day.

Based on this assessment, a reconstruction (pavement rehabilitation and minor widening) of 13th Line is recommended to accommodate the projected level of traffic. Anticipated intersection improvements (turning lanes) at the 25th Sideroad, Big Bay Point Road and 13th Line intersection will be required and these are addressed in **Section 8.5.1**. To accommodate the turning lanes, a widening of the basic 20 m right-of-way will be required at the intersection approaches. The road classification can remain as a local road (20 m) or be upgraded to a minor collector road (23 m).



8.4.3 New Highway 400 Interchange Location

While Alternative Strategies 3 and 4 presented in **Section 7** depict the proposed new Highway 400 interchange with a reconstructed 5th Line based on the current Town of Innisfil Official Plan Schedule C, the Town of Innisfil would like to assess the benefits of providing this interchange at 6th Line as opposed to 5th Line.

To assess the traffic impacts of the interchange location options, a high-level analysis was performed using the transportation model and based on the Alternative Strategy 3 scenario with the interchange at 5th Line versus 6th Line.

Reviewing the link V/C ratios estimated by the model, the 6th Line interchange appears to have some clear transportation benefits with respect to network traffic and congestion. The 2031 traffic conditions for both the 5th Line scenario and the 6th Line scenario are provided in **Exhibit 8-22** for 5th Line and **Exhibit 8-23** for 6th Line.

In **Exhibit 8-22**, localized congestion on 20th Sideroad is anticipated between 6th Line and 5th Line, with a projected 14,000 vehicles approaching the capacity of 16,000. Similarly, Yonge Street will be approaching its capacity of 40,000 vehicles per day with projected daily traffic at about 34,000 between 7th Line and 4th Line.

In **Exhibit 8-23** with the 6th Line interchange, it appears that the capacity issues observed on 20th Sideroad and Yonge Street could be alleviated. While still anticipated to be busy (20th Sideroad at 11,000 vehicles and Yonge Street at 32-33,000 vehicles for the same road sections), the provision of the interchange at 6th Line results in traffic staying on 6th Line to access Highway 400, and removing the localized congestion issue on 20th Sideroad. This and allows more north-south traffic to use 20th Sideroad, and freeing up capacity on Yonge Street. This impact is also observed on Highway 400 which would exceed capacity approaching Highway 89 with the 5th Line interchange but will operate slightly under-capacity with the 6th Line interchange.

Further to the traffic analysis from the transportation model, 6th Line's proximity to Innisfil Beach Road allows it to provide a viable alternative route during congested or emergency situations which might require lane closures. 6th Line can also better serve the Alcona Urban Growth node, projected to grow by 10,000 persons by 2031 plus an additional 5,000 in the Sleeping Lion lands directly adjacent to 6th Line. In contrast, Lefroy Belle Ewart is proposed to grow by 5,000 persons with growth areas identified both adjacent to 5th line and 4th line.

The Innisfil Heights expansion area identified in OPA#1 is another major growth area which supports the need for a new interchange. This area will be a two-phased expansion with the first labelled as the "Economic District Expansion Area" south from 7th Line to 6th Line, and the "Future Economic District Expansion Area" from 6th Line to 5th Line. No development is planned south of 5th Line. Because of the location of this development, a 6th Line interchange would have the opportunity to support development north and south of 6th Line, while a 5th Line interchange would only have development on the north side.

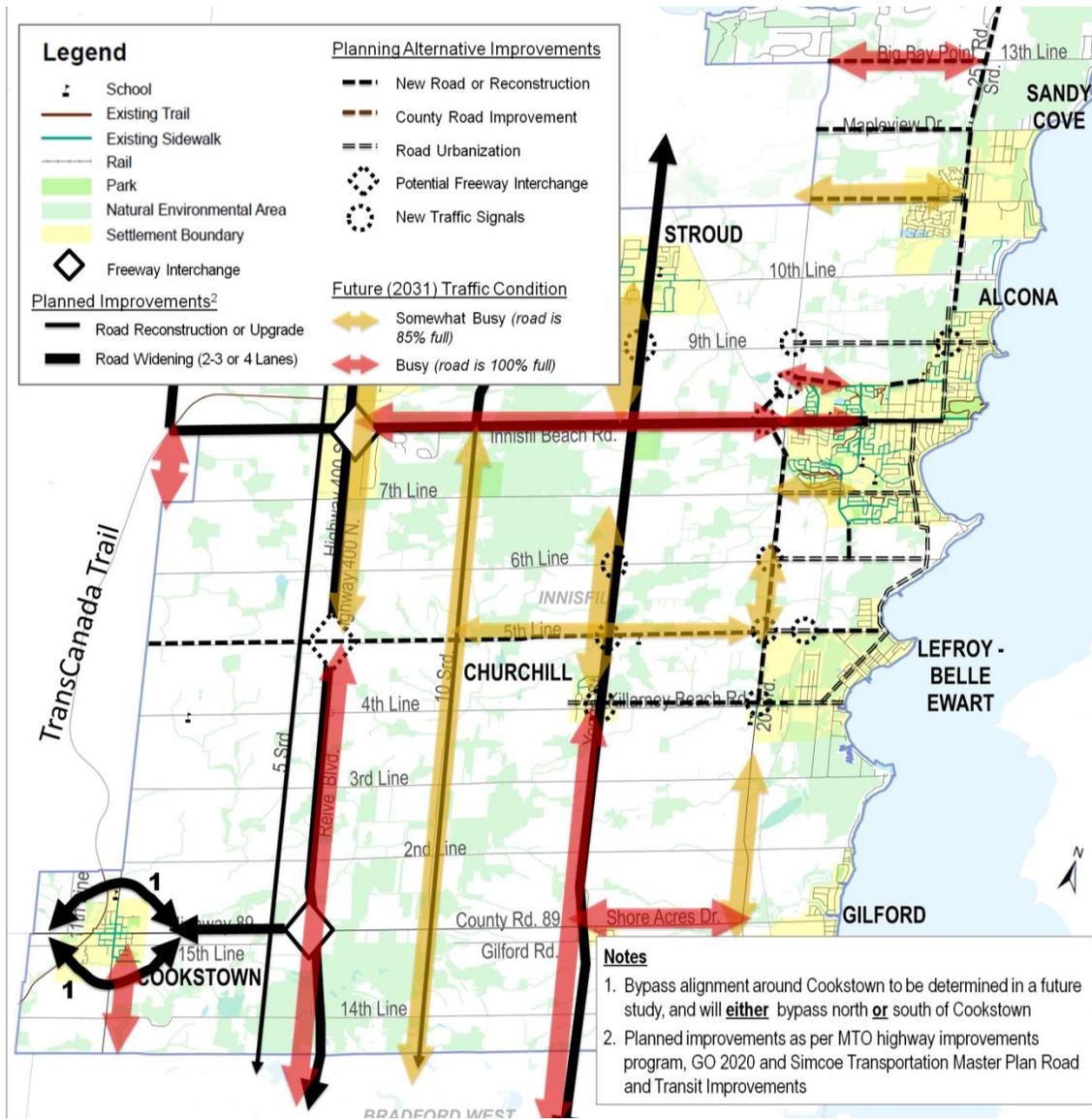


Exhibit 8-22: 2031 Traffic Conditions with 5th Line Interchange at Highway 400

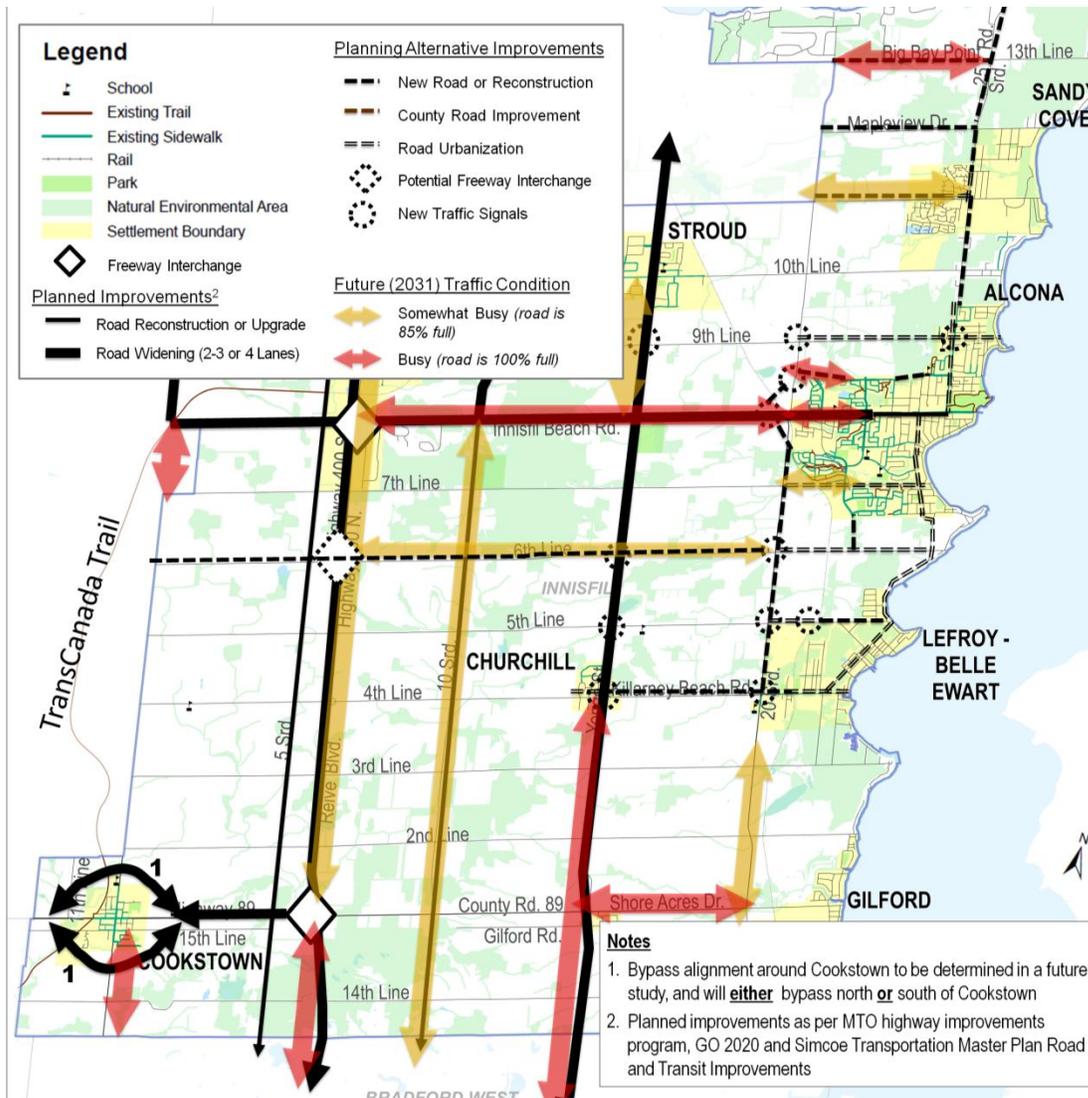


Exhibit 8-23: 2031 Traffic Conditions with 6th Line Interchange at Highway 400

From an environmental perspective, a portion of Innisfil’s Natural Heritage System (NHS) approaches the potential location of the Highway 400 and 6th Line interchange, about 180m south of 6th Line. There does not appear to be any conflict at the 5th Line location. The interchange would require upgrades to 6th Line and 5th Line between County Road 27 and 20th Sideroad and as such potential environmental constraints for these sections are briefly addressed. Both of these roads pass through Innisfil’s NHS identified in the Official Plan. For comparison, the length of roadway adjacent to the NHS is measured on both sides of each road. Along 6th Line, 6.4km of roadway on either side of the road are adjacent to the NHS compared to 4.6km. Ultimately it appears from this review that the 6th Line interchange would have a greater environmental impact with respect to the NHS.

The Sleeping Lion Lands, Innisfil Heights Economic District Expansion Areas and the NHS impacting 6th Line and 5th Line are illustrated in **Exhibit 8-24**.

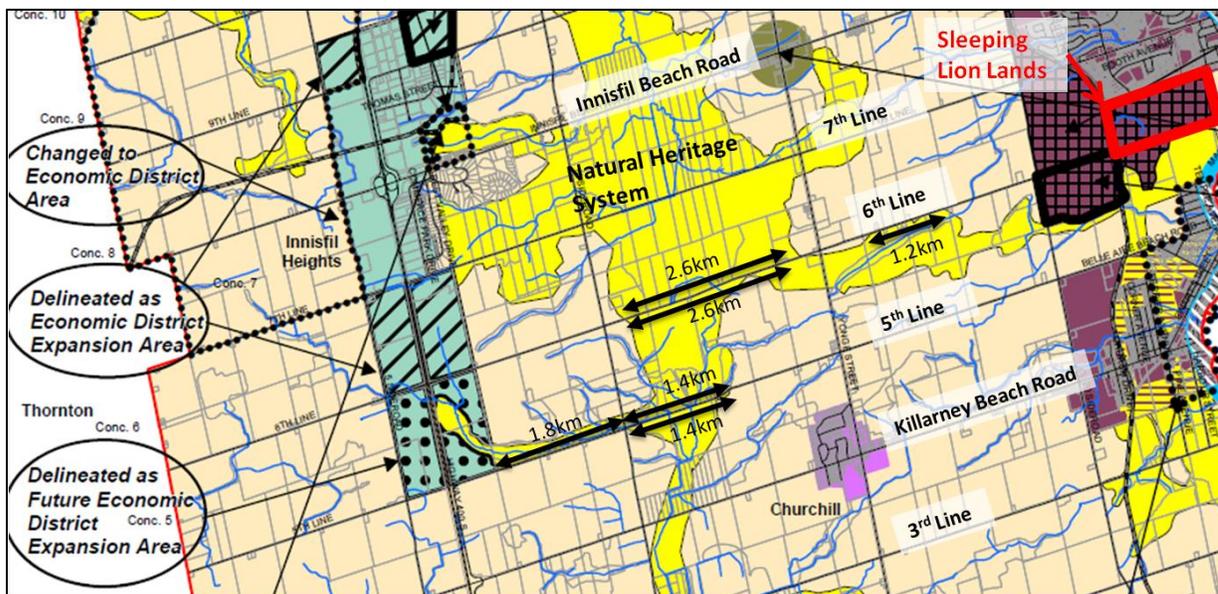


Exhibit 8-24: 5th Line versus 6th Line Interchange Constraints

Cost-wise both 5th Line and 6th Line have similar roadway lengths requiring reconstruction and upgrade to an arterial road standard between 27 Sideroad and 20th Sideroad. However, 5th Line between 5th Sideroad and Highway 400 is a gravel road requiring some extra cost to build a new roadway. On the other hand, 6th Line has an existing underpass across Highway 400 while 5th Line does not currently cross Highway 400. At 6th Line, a new structure may be required as the existing structure can only accommodate two traffic lanes. A wider structure to fit the arterial road standard plus shoulders, sidewalks, and auxiliary lanes would be both expensive and require closure of traffic lanes on Highway 400 during construction. Similarly, a brand new overpass needs to be constructed for 5th line. From a cost standpoint, both 5th Line and 6th Line bear significant costs; however, the construction staging for a 5th Line structure would be less complex if widening the existing underpass at 6th Line is needed. Further engineering feasibility studies are required to determine the structural improvements.

Because the options discussed above involve improvements to a provincial freeway, the above findings are subject to review by the Ministry of Transportation Ontario's (MTO's) and their own independent detailed analysis. The MTO typically requires a minimum distance of 2-3km between interchanges in urban areas and 3km in rural areas. A 6th Line interchange would be about 2.7km away from Innisfil Beach Road; while, 5th Line is 4.1km away from Innisfil Beach Road. The interchange spacing provided with a 6th Line interchange is similar to the spacing provided between Innisfil Beach Road and the proposed interchange at McKay Road / 10th Line in the City of Barrie.

Based on the analysis presented above, ***the Town of Innisfil's preference is for an interchange at 6th Line by 2031.*** The analysis is summarized in **Table 8-9.**



Table 8-9: 5th Line versus 6th Line Interchange Evaluation Summary

Criteria	5 th Line Interchange	6 th Line Interchange
Network-Wide Traffic Benefits		
Supports Future Growth Areas		
Environmental Impacts		
Constructability and Cost		
Interchange Spacing		
Recommendation	Screen Out	Carry Forward

Legend: Least Preferred Most Preferred

Beyond 2031, an interchange at 6th Line would also provide greater flexibility with respect to the provision of another new Highway 400 interchange within Innisfil, north of Highway 89. An interchange could be provided at 4th Line or 3rd Line while a 5th Line interchange would limit future interchanges to 3rd Line. Because the previously proposed Barrie Bypass was previously located within Innisfil connecting to Highway 400 at 5th Line, providing this extra flexibility can be seen as a positive should the need for this Bypass become apparent in the future (beyond 2031 or 2041).

8.4.4 Road Transfers

One of the Simcoe TMP’s medium-term recommendations was to transfer jurisdiction of 5th Sideroad and 10th Sideroad within Innisfil from the Town to the County, and to download control of 20th Sideroad (County Road 39) from the County to the Town. Innisfil’s TMP endorses these recommendations plus two additional road sections for download from County to Town. These include Innisfil Beach Road (County Road 21) between Yonge Street (County Road 4) and 20th Sideroad and Shore Acres Drive (County Road 89) between Yonge Street and 20th Sideroad.

To support the TMP’s recommendations, select link analysis was carried out using the Transportation Model to identify future users of each of the above noted facilities. Through-trips or trips that neither start nor end within Innisfil are a strong indicator that a certain road’s role and function is more regional in nature and would thus support transfer to a higher level jurisdiction such as the County. Similarly, roads with a very low number of through-trips serve adjacent development and this is a strong indicator that a road should be under lower level jurisdiction such as the Town.

The results of the select link analysis for Innisfil through-trips are provided in **Table 8-10**.



Table 8-10: Estimated 2031 Through-trips on Innisfil Roads

Road	Limits	Current Jurisdiction	Total 2031 Daily Trips	Through trips
5th Sideroad	North Town limit to south Town limit	Town of Innisfil	8,000	3%
10th Sideroad	North Town limit to south Town limit	Town of Innisfil	21,100	31%
20th Sideroad	Innisfil Beach Road to Shore Acres Drive	Simcoe County	23,900	4%
Innisfil Beach Road	Yonge Street to 20th Sideroad	Simcoe County	41,500	4%
Shore Acres Drive	Yonge Street to 20th Sideroad	Simcoe County	16,400	3%

Based on the analyses, a significant portion of traffic using 10th Sideroad in the future will not end or begin within Innisfil, while a very low proportion, under 5%, are through-trips on the other roadways mentioned. The data supports the recommended transfer of 10th Sideroad to the County and the download of 20th Sideroad, Innisfil Beach Road and Shore Acres Drive to the Town. The data does not support the recommended upload of 5th Sideroad; however, many of the trips on 5th Sideroad are indeed long distance trips as they use 5th Sideroad to access Highway 400 at Innisfil Beach Road or at Highway 89. The recommendations for road jurisdiction transfers are summarized in **Exhibit 8-25**, and additional discussion regarding each of the road transfers is provided in the following sections

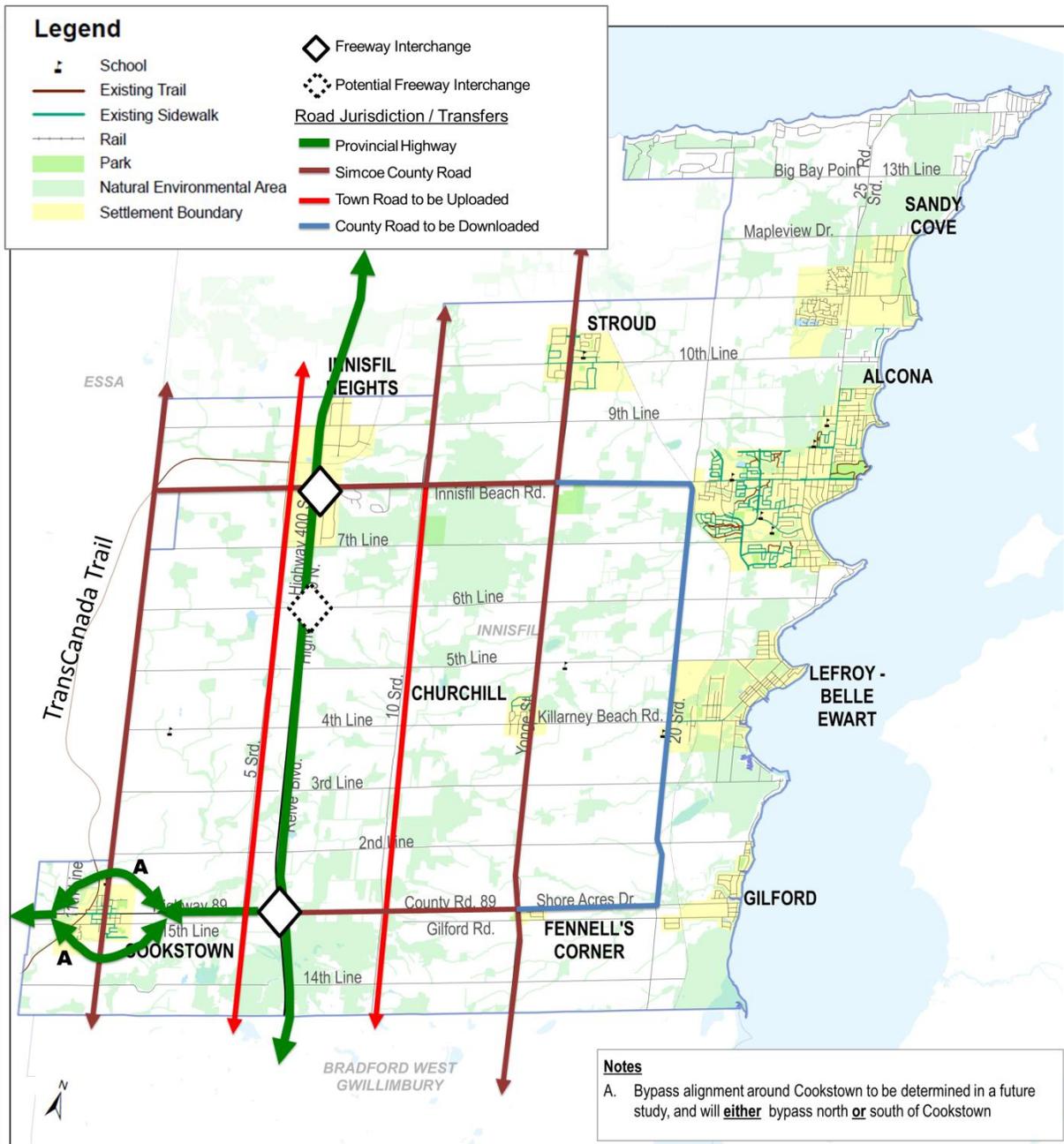


Exhibit 8-25: Recommended Road Jurisdiction Transfers

8.4.4.1 Town of Innisfil Road Transfers to the County

North-south traffic through the town is increasing, especially with the projected level of development in the Barrie Annexed Lands directly north of the Town and adjacent to 5th Sideroad and 10th Sideroad. Increased north-south traffic demand and congestion is anticipated by 2031 as illustrated in the Alternative Strategies mapping in **Section 7**. Because of the projected increase in travel demand and congestion, detour routes for



regular congestion as well as emergency situations are critical in managing projected growth in the Town and County. Although 5th Sideroad is not projected to handle a significant amount of traffic with a high proportion of through-traffic in the future, transferring this road to the County and upgrading it to County Road standards will allow the Road to handle high traffic volumes in certain situations. The current detour route is Highway 27 (County Road 27), but this road represents a significant detour away from Highway 400 compared to the location of both 5th Sideroad and 10th Sideroad.

A plot of the select link analysis from the 2031 daily traffic transportation model illustrates the interaction between 5th Sideroad and Highway 400, in **Exhibit 8-26**. Based on the thickness of the red bars that indicate the traffic volume, a significant proportion of traffic that uses 5th Sideroad also uses Highway 400.

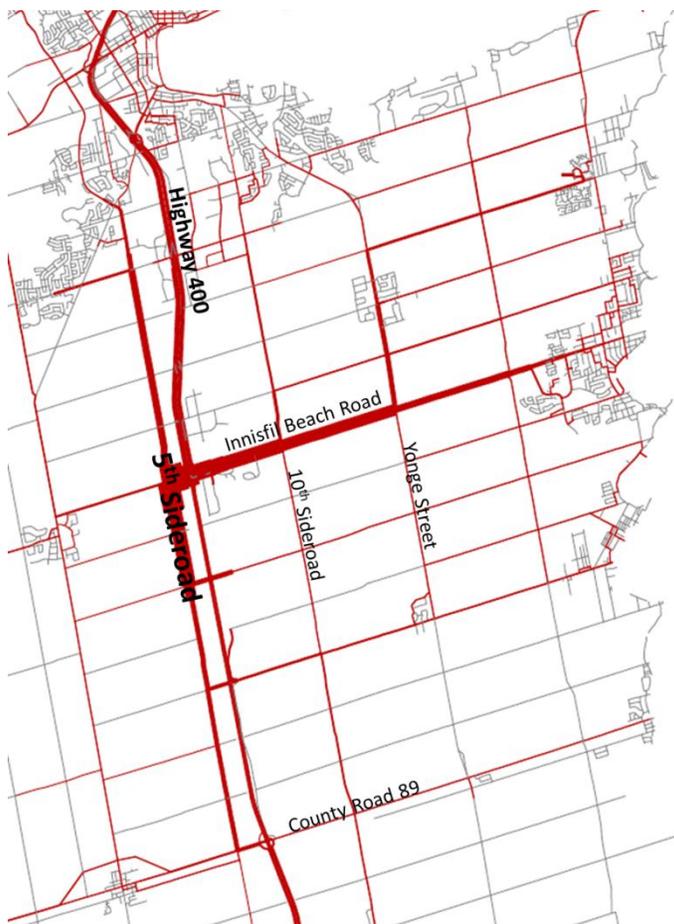


Exhibit 8-26: 5th Sideroad 2031 Daily Traffic Select Link Analysis

8.4.4.2 County Road Transfers to the Town

20th Sideroad (County Road 39) between Innisfil Beach Road and Shore Acres Drive) on the other hand will take on a more local role in the future in terms of the traffic that it will serve. Much of the planned growth in the Town is occurring east of 20th Sideroad, including Friday Harbour, the Alcona north and south expansion areas and the Sleeping Lion lands, as well as the proposed GO Station in Lefroy/Alcona. This growth will likely use 20th Sideroad to

travel between the urban areas of the Town on the waterfront as well as to access the major east-west roads that connect to Highway 400. Transfer of control of this road from the County to the Town will support the Innisfil TMP’s recommendations to provide on-road trail linkages on this street as well as to reconstruct the road in the long-term, 2031 horizon. A plot of the select link analysis of 2031 daily traffic using 20th Sideroad is provided in **Exhibit 8-27**.

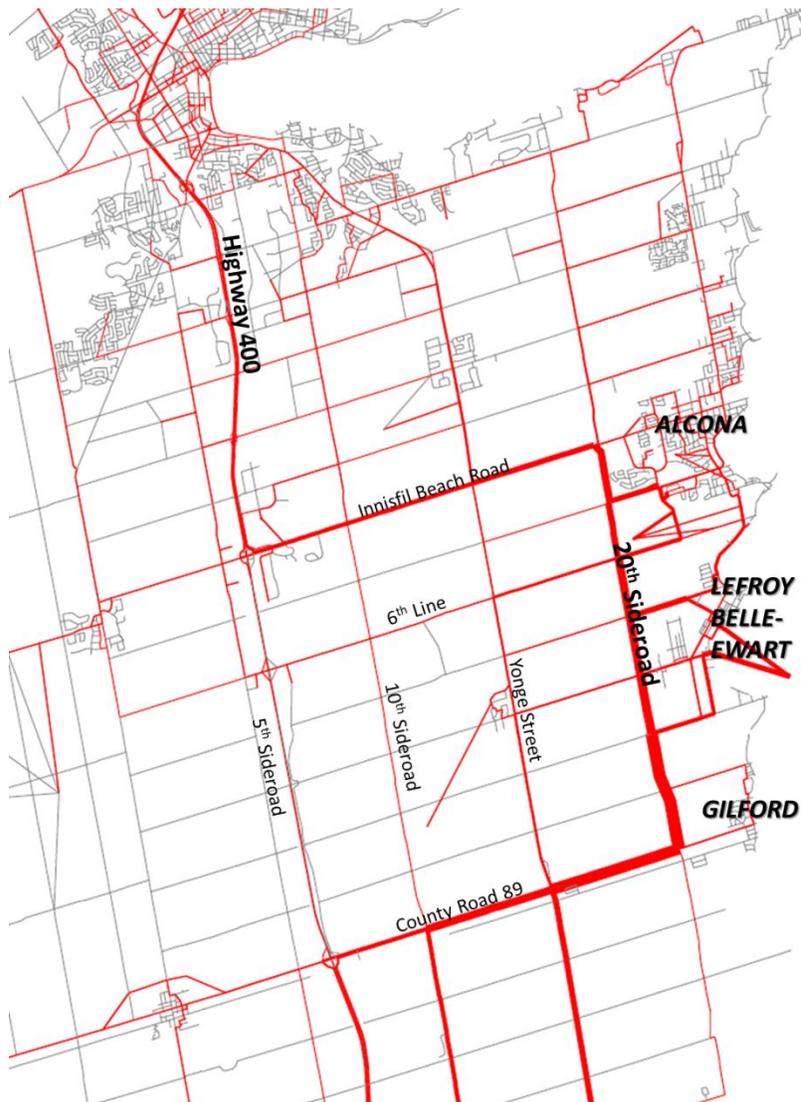


Exhibit 8-27: 20th Sideroad 2031 Daily Traffic Select Link Analysis

As illustrated in **Exhibit 8-27**, much of the traffic using 20th Sideroad originates or is destined to the growth areas of the Town east of 20th Sideroad, particularly Alcona and Lefroy Belle-Ewart. Also evident in the plot is that the majority of traffic does not use 20th Sideroad as a continuous route through the County. At the south end, the vast majority of trips turn from or onto County Road 89 / Shore Acres Drive. At the north end, some trips are continuous north of Innisfil Beach Road destined to Sandy Cove, Big Bay Point, or Barrie, but the majority



turn onto Innisfil Beach Road to Access Yonge Street, 10th Sideroad, 5th Sideroad, or County Road 27.

Further, with the transfer of 20th Sideroad from Simcoe County to the Town of Innisfil, the continuity of the County Road network has changed since there are no longer any County Roads east of Yonge Street in Innisfil. The changing nature of 20th Sideroad means that the section of Innisfil Beach Road (County Road 21) east of Yonge Street (County Road 4) will also serve more trips local to the Town. Similarly, Shore Acres Drive (County Road 89) east of Yonge Street would also serve trips that are more local in nature, and it is thus recommended that the above described sections of County Road 21 and County Road 89 be transferred to the Town.

Because of the planned County Road widening improvements on Innisfil Beach Road (CR 21), we recommend that the transfer not occur until the County has completed their current capital program to widen the road to accommodate 4 lanes and the active transportation corridor.

Beyond 2031, further investigations should be undertaken to determine the need for further road transfers between jurisdictions.

8.5 **Intersection Improvements**

As discussed previously in **Section 5.4.3**, intersection improvements will be required by 2031 in addition to upgrades to the road network documented in the previous section. From the 2031 analysis, the following 10 intersections warranted improvements:

- Yonge Street & 9th Line
- Yonge Street & 6th Line
- 20th Sideroad & Lockhart Road
- 20th Sideroad & 9th Line
- Innisfil Beach Road & 20th Sideroad (North Leg)
- Innisfil Beach Road & 20th Sideroad (South Leg)
- 20th Sideroad & 5th Line
- 25th Sideroad & Big Bay Point Road / 13th Line
- 25th Sideroad & 9th Line
- St. John's Road & 7th Line

Since the TMP did not analyze every intersection, the projected traffic growth from the transportation model was utilized to guide decisions on other intersections that would have similar order of magnitude of traffic volumes on the main street (i.e. Yonge) and the minor streets, and thus may also require intersection improvements. The following intersections are also anticipated to require potential improvements:

- Yonge Street & 7th Line
- Yonge Street & 5th Line
- Yonge Street & 4th Line / Killarney Beach Road
- 20th Sideroad and 6th Line

Required improvements for 2031 were first assessed using the Synchro 7 intersection capacity analysis software to improve traffic operations. This analysis was limited to signalized intersection and all-way stop control improvements. However, roundabout analysis should also be considered where traffic signals are warranted, and this is discussed further in **Section 8.5.3**. Identifying candidate locations for conversion to roundabout was beyond the scope of the TMP.



8.5.1 2031 Intersection Capacity Improvements

Based on the projected traffic volumes, the following intersection improvements are recommended and analyzed in this Section:

- Implementation of traffic signals at Yonge Street & 9th Line with exclusive turning lanes at all approaches.
- Implementation of traffic signals at Yonge Street & 6th Line.
- Implementation of traffic signals at 20th Sideroad & Lockhart Road
- Implementation of traffic signals at 20th Sideroad & 9th Line with exclusive right turn lanes for eastbound and northbound
- Implementation of traffic signals at 20th Sideroad & 5th Line
- Implementation of traffic signals at 25th Sideroad & Big Bay Point Road with exclusive left turn lanes for eastbound, westbound and northbound, and an exclusive right turn lane for southbound
- Implementation of traffic signals at 25th Sideroad & 9th Line
- Implementation of all-way stop control at St. John's Road & 7th Line

The following intersections will likely require traffic signals, but were not analyzed:

- Yonge Street & 7th Line
- Yonge Street & 5th Line
- Yonge Street & 4th Line / Killarney Beach Road
- 20th Sideroad and 6th Line

Capacity analyses were completed at each of the intersections with proposed improvements to verify the effectiveness of the improvements. Similar to pre-improvement, the capacity analysis was completed per HCM standards; however, due to the proposed improvements involving the implementation of traffic signals at various intersections, the HCM criteria for signalized intersections shown previously in **Table 4-5** and copied in this section in **Table 8-11** merits applicability in the analyses.

Table 8-11: HCM Unsignalized LOS Criteria

Level of Service	Average Control Delay (sec/veh)	Recommendation Criteria
A	0 – 10	Acceptable
B	>10 – 15	Acceptable
C	>15 – 25	Acceptable
D	>25 – 35	Monitor
E	>35 – 50	Monitor
F	>50	Unacceptable

The results of the capacity analysis for 2031 with proposed improvements with respect to the HCM signalized LOS criteria are summarized in **Table 8-12**.

Table 8-12: Summary of 2031 Traffic Conditions with Improvements

Intersection and Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay	LOS	v/c	95 th Q	Delay	LOS	v/c	95 th Q
Yonge Street & 6th Line								
Eastbound Left-Through-Right	21.5	C	0.14	18.8	33.3	C	0.46	49.0
Westbound Left-Through-Right	27.3	C	0.50	57.0	28.7	C	0.18	20.4



Northbound Left-Through-Right	11.8	B	0.27	26.7	11.2	B	0.61	81.8
Southbound Left-Through-Right	15.9	B	0.60	76.0	7.8	A	0.28	25.3
Yonge Street & 9th Line								
Eastbound Left turn	27.4	C	0.05	3.1	29.9	C	0.08	9.2
Eastbound Through	27.3	C	0.14	19.0	79.7	E	0.99	117.3
Eastbound Right-turn	26.1	C	0.03	7.9	31.0	C	0.17	17.5
Westbound Left turn	33.3	C	0.45	39.5	66.7	E	0.66	27.8
Westbound Through	45.9	D	0.81	103.3	32.3	C	0.27	28.0
Westbound Right-turn	27.8	C	0.17	19.1	29.2	C	0.04	9.6
Northbound Left turn	11.8	B	0.25	8.2	8.7	A	0.07	5.3
Northbound Through	10.3	B	0.45	59.8	44.4	D	0.99	257.4
Northbound Right-turn	6.5	A	0.01	2.5	9.5	A	0.20	20.1
Southbound Left turn	7.6	A	0.13	9.3	47.4	D	0.74	18.8
Southbound Through	20.5	C	0.83	175.9	9.1	A	0.51	70.6
Southbound Right-turn	6.6	A	0.03	4.7	5.1	A	0.01	2.1
20th Sideroad & Lockhart Road								
Eastbound Left-Through-Right	18.2	B	0.15	14.7	18.7	B	0.74	129.2
Westbound Left-Through-Right	65.5	B	0.46	44.6	10.2	B	0.26	30.9
Northbound Left-Through-Right	46.5	C	0.38	34.4	33.6	C	0.63	73.4
Southbound Left-Through-Right	39.1	B	0.29	29.1	33.5	C	0.60	63.0
20th Sideroad & 9th Line								
Eastbound Left-Through	12.2	B	0.17	24.2	20.6	C	0.74	122.8
Eastbound Right-turn	11.2	B	0.05	6.5	10.2	B	0.11	7.6
Westbound Left-Through-Right	18.2	B	0.58	84.2	15.1	B	0.45	40.2
Northbound Left-Through	25.9	C	0.50	58.7	30.8	C	0.62	74.7
Northbound Right-turn	18.8	B	0.01	0.8	21.7	C	0.10	11.5
Southbound Left-Through-Right	23.5	C	0.38	48.8	29.6	C	0.57	67.6
20th Sideroad & 5th Line								
Eastbound Left-Through-Right	30.4	C	0.13	14.5	27.1	C	0.29	34.4
Westbound Left-Through-Right	34.6	C	0.38	34.6	34.4	C	0.61	67.1
Northbound Left-Through-Right	6.2	A	0.20	21.0	17.4	B	0.73	137.0
Southbound Left-Through-Right	19.1	B	0.83	164.4	17.3	B	0.63	69.0
25th Sideroad & 9th Line								
Eastbound Left-Through-Right	29.1	C	0.09	13.9	34.3	C	0.66	76.8
Westbound Left-Through-Right	33.8	C	0.40	40.8	22.9	C	0.08	11.5
Northbound Left-Through-Right	12.8	B	0.63	76.8	22.8	C	0.78	126.7
Southbound Left-Through-Right	7.9	A	0.37	44.9	13.1	B	0.47	65.6
St. John's Road & 7th Line								
Northbound Left-Through-Right	9.7	A	0.11		12.8	B	0.43	
Southbound Left-Through-Right	10.0	B	0.20		9.0	A	0.03	
Westbound Left-Through-Right	11.4	B	0.39		12.2	B	0.43	
Eastbound Left-Through-Right	12.3	B	0.50		12.7	B	0.48	
25th Sideroad & Big Bay Point Road								
Eastbound Left-Through-Right	18.0	B	0.66	54.1	16.0	B	0.79	140.9
Westbound Left-turn	9.9	A	0.32	23.3	7.9	A	0.32	18.9
Westbound Through	22.0	C	0.85	146.9	6.2	A	0.26	31.3
Westbound Right-turn	7.4	A	0.07	3.9	5.0	A	0.06	4.0
Northbound Left-turn	55.9	E	0.79	53.8	34.6	C	0.30	23.0
Northbound Through-Right	27.2	C	0.18	15.7	43.6	D	0.63	62.4
Southbound Left-Through-Right	30.6	C	0.40	34.9	32.3	C	0.20	21.2

Delay – s/veh; LOS – Level-of-Service, as per the HCM definitions;

v/c – ratio of volume to available roadway capacity; 95th Q – 95th percentile queue length, measured in meters

From **Table 8-12**, the 7 intersections identified as candidates for the implementation of signalized traffic control and intersection geometric improvement would subsequently operate with all movements yielding acceptable v/c ratios and levels of service.

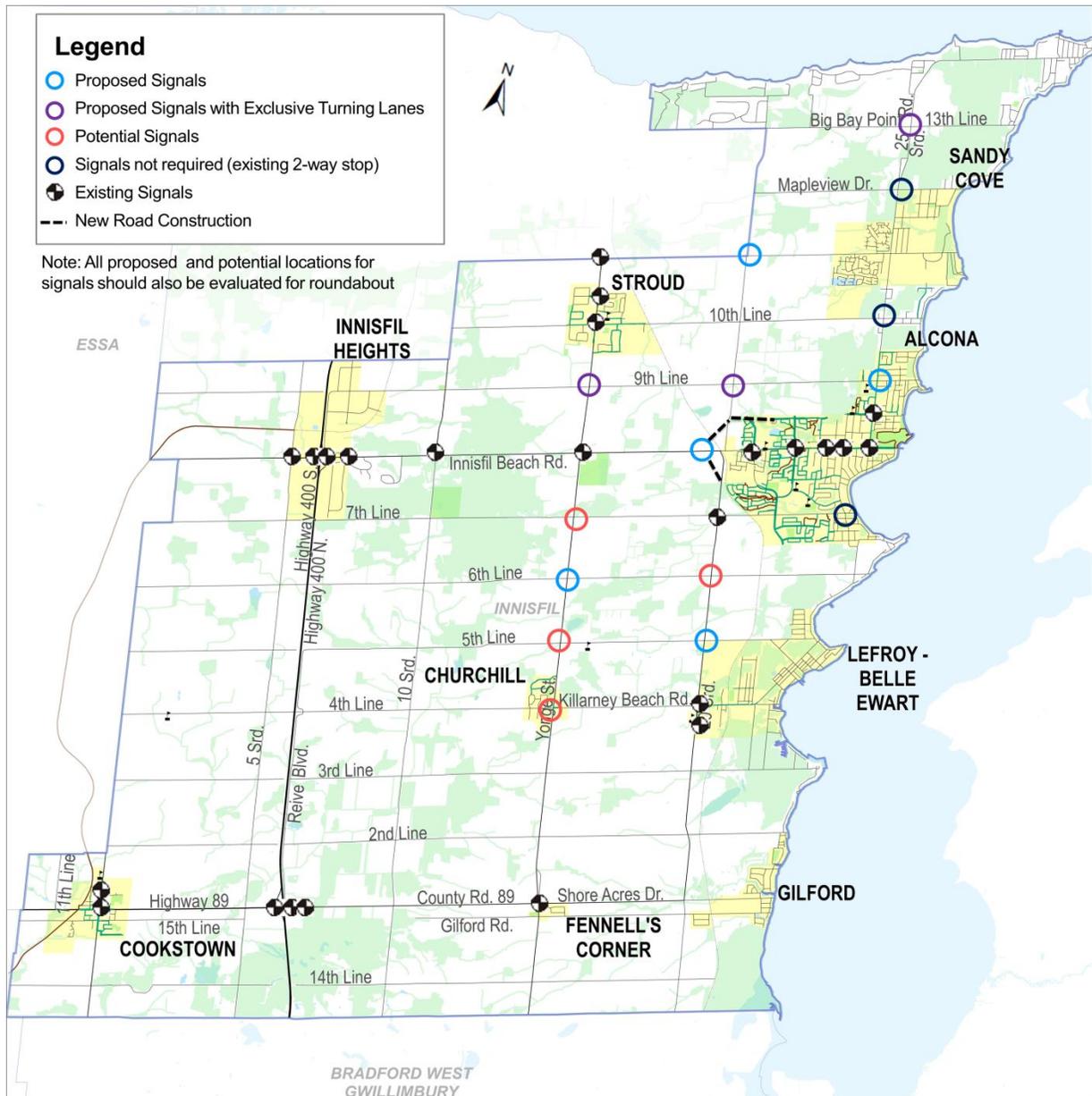


The future recommended intersection improvements are shown in **Exhibit 8-28**.

At intersections where traffic signals are introduced, all signal timing plans were optimized to best accommodate anticipated traffic levels while maintaining cycle lengths of 90 seconds.

In the future, the Town may also consider the option of installing roundabouts at intersections under the jurisdiction of the Town. It is recommended that a new policy be introduced that would involve the assessment and evaluation of both signals and roundabouts before any decisions are made to have signals installed. This is discussed further in **Section 8.5.3**.

The timing for new signals on Yonge Street, which is under the jurisdiction of the County, will depend on the timing of development in Innisfil's growth areas and external to the Town, particularly within the Barrie Annexed Lands which will contribute significant increase in traffic along Yonge Street. A 2021 analysis based on development assumed to occur by that time is provided in the following section.



Note: Realignment of 20th Sideroad and extension of Leslie Drive are shown to provide context for the recommended signals at 20th Sideroad and Innisfil Beach Road

Exhibit 8-28: Future Intersection Improvement Locations

8.5.2 Timing for Intersection Improvements

Based on growth anticipated in a 2021 version of the transportation model developed for the Innisfil TMP (and documented in **Section 5.1.1**), intersection analysis was undertaken for each of the recommended improvement locations to determine the appropriate timing based on short, medium, and long-term, similar to the road improvement recommendations in the **Section 8.4**.



Based on this analysis, all recommended intersection improvements for 2031 are required by 2021. That is, all intersection improvements will be medium term improvements with the exception of Yonge Street / 9th Line, which has previously been identified as a short-term improvement.

The detailed analysis table supporting the intersection improvements is provided in **Table 8-13**.

Table 8-13: Summary of 2021 Traffic Conditions

Intersection and Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay	LOS	v/c	95 th Q	Delay	LOS	v/c	95 th Q
Yonge Street & 6th Line								
Northbound Left-Through	9.8	B	0.01	0.04	8.0	A	0.00	0.00
Northbound Through-Right	-	-	-	-	-	-	-	-
Southbound Left-Through	8.0	A	0.00	0.01	11.5	B	0.05	0.16
Southbound Through-Right	-	-	-	-	-	-	-	-
Westbound Left-Through-Right	>60.0	F	>1.0	>10.0	>60.0	F	0.80	6.51
Eastbound Left-Through-Right	47.1	E	0.38	1.76	>60.0	F	>1.0	>10.0
Yonge Street & 9th Line								
Northbound Left-Through	9.9	A	0.04	0.11	8.9	A	0.02	0.07
Northbound Right-turn	-	-	-	-	-	-	-	-
Southbound Left-Through	8.4	A	0.05	0.15	11.7	B	0.16	0.58
Southbound Right-turn	-	-	-	-	-	-	-	-
Westbound Left-Through-Right	>60.0	F	>1.0	>10.0	-	F	-	-
Eastbound Left-Through-Right	-	F	-	-	-	F	-	-
20th Sideroad & Lockhart Road								
Eastbound Left-Through-Right	8.2	A	0.00	0.01	7.6	A	0.02	0.08
Westbound Left-Through-Right	7.4	A	0.02	0.06	8.5	A	0.02	0.07
Northbound Left-Through-Right	17.4	C	0.40	1.99	55.1	F	0.81	9.67
Southbound Left-Through-Right	14.7	B	0.32	1.41	>60.0	F	0.86	>10.0
20th Sideroad & 9th Line								
Northbound Left-Through-Right	7.7	A	0.05	0.16	7.8	A	0.03	0.09
Southbound Left-Through-Right	7.6	A	0.02	0.06	7.9	A	0.02	0.07
Westbound Left-Through-Right	34.6	D	0.72	6.96	-	F	-	-
Eastbound Left-Through-Right	16.1	C	0.32	1.42	>60.0	F	>1.0	>10.0
20th Sdrd. S & Innisfil Beach Road								
Eastbound Through-Right	0.0	-	0.30	0.0	0.0	-	0.66	0.0
Westbound Left-Through	4.5	A	0.18	5.0*	7.4	A	0.28	8.6*
Northbound Left-Right	Err	F	>1.0	Err	>60.0	F	>1.0	>10.0
20th Sdrd. N & Innisfil Beach Road								
Eastbound Left-Through	3.2	A	0.12	3.0*	6.9	A	0.20	5.7*
Westbound Through-Right	0.0	-	0.69	0.0	0.0	-	0.50	0.0
Southbound Left-Right	>60.0	F	>1.0	>10.0	Err	F	Err	Err
20th Sideroad & 5th Line								
Northbound Left-Through-Right	8.3	A	0.00	0.00	7.7	A	0.00	0.00
Southbound Left-Through-Right	7.7	A	0.01	0.03	9.2	A	0.07	0.32
Westbound Left-Through-Right	15.9	C	0.24	0.92	24.6	C	0.30	>10.0
Eastbound Left-Through-Right	16.4	C	0.06	0.20	35.6	E	0.45	>10.0
St. John's Road & 7th Line								
Northbound Left-Through-Right	7.9	A	0.01	0.04	7.8	A	0.03	0.08
Southbound Left-Through-Right	7.9	A	0.01	0.02	7.6	A	0.01	0.02
Westbound Left-Through-Right	12.1	B	0.03	0.10	11.7	B	0.03	0.08
Eastbound Left-Through-Right	14.1	B	0.13	0.45	17.4	C	0.36	1.65



Intersection and Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay	LOS	v/c	95 th Q	Delay	LOS	v/c	95 th Q
25th Sideroad & Big Bay Point Road								
Eastbound Left-Through-Right	8.7	A	0.05	0.14	7.9	A	0.10	0.32
Westbound Left-Through-Right	7.8	A	0.06	0.20	8.1	A	0.05	0.17
Northbound Left-Through-Right	>60.0	F	>1.0	>10.0	47.8	E	0.75	7.51
Southbound Left-Through-Right	20.1	B	0.45	2.38	16.1	C	0.23	0.91

Delay – s/veh;

LOS – Level-of-Service, as per the HCM definitions;

v/c – ratio of volume to available roadway capacity;

95th Q – 95th percentile queue length, measured in number of cars (assuming 7.5m car-length average)

* denotes 95th percentile queue lengths measured in meters

8.5.3 Roundabouts

Where new traffic signals are found to be warranted, the Town should consider undertaking a comparative assessment and evaluation of signals versus roundabouts to ensure that the most appropriate means of intersection traffic control is provided. **Exhibit 8-29** shows a rendering of an intersection with traffic signal and geometric improvements compared with roundabout improvements. The rendering is for a 4-lane land road example.

A roundabout policy is recommended that states that an Intersection Control Study be conducted when design work is being considered for:

- A new intersection on an Innisfil road
- An existing intersection where traffic signals are warranted
- An existing Town road intersection that is programmed for improvements to address an identified safety or capacity problem;
- Any other location as determined by Town staff or Town Councillors.

The decision between installing roundabout and signals at each intersection should be based on comparing a wide range of criteria/factors including the following:

- Vehicular, Cyclist, and Pedestrian volumes
- Traffic operations
- Collision history
- Intersection geometry
- Grade of approaching roads
- Movement conflicts
- Adjacent driveways
- Adjacent traffic controls of intersections
- Natural environment
- Property and right-of-way requirements
- Capital Cost
- Maintenance Cost
- Accessibility
- Constructability
- Social factors (severity of accidents, fuel costs, etc.)

Based on previous studies by HDR for other municipalities in Ontario, the Innisfil TMP has proposed similar detailed comparison tables of many of these criteria. These comparison tables are provided on the next several pages.



Rendering of a 4 legged Signalized Intersection



Rendering of a Roundabout



Exhibit 8-29: Signalized Intersection vs. Roundabout – Aerial Rendering



Table 8-14: Signalized Intersection vs. Roundabout – Functionality and Operations

Functionality / Operations		
Description	Signalized Intersection	Roundabout
Level of Service (LOS)	The Volume/Capacity ratio governs the LOS. This is related to the number of lanes required for the anticipated traffic volume.	The LOS for a two lane roundabout is considerably higher than that of a signalized intersection with two through lanes.
Delay	Delay due to the signal control such as stopping at red light is unavoidable. Separate turning lanes & additional through lanes will reduce the delays.	Reduced delays due to the continuous flow of traffic including the left turn movements.
Queuing	Separate left turn lanes might be required to reduce queues and delays in through traffic.	Less queue & continuous queue move up due to moving traffic.
Traffic Flow assignment/control	Signal controlled flow. Controls assignment of vehicular flow by pre-timing operations.	Yield controlled. Vehicles entering must yield to traffic which is already inside the roundabout. Channelized approach & one way traffic eliminates the need for exclusive left turn lanes.
Speed Limits	Traffic speed controlled by posted speed limits.	Road geometry ensures vehicles slow down when entering, circulating & exiting the roundabout.

● Diverging
● Merging
○ Crossing



Table 8-15: Signalized Intersection vs. Roundabout – Environment, Public Education, and Aesthetics

Environmental Impact		
Description	Signalized Intersection	Roundabout
Air Quality	The idle running of vehicle engines at red signals and the acceleration process has a considerable impact on the air quality.	Absence of the need to speed up or slow down abruptly reduces vehicle emissions.
Noise levels	The noise levels will be higher due to higher speed limits and accelerating vehicles from zero point speed.	Less noise due to continuous traffic flow, slower vehicle speeds & reduced zero point speed acceleration.
Fuel savings	Increased fuel consumption of vehicles due to idle times at red light, breaking, accelerating, etc.	Considerable fuel savings due to the continuous flow.
Electrical power savings	Signals require electrical power for their operation.	Considerable savings in electrical power because signals are not necessarily required for roundabout operations.

Public Education		
Description	Signalized Intersection	Roundabout
Resources	The public is familiar with signalized intersections and therefore no additional user education is required.	Will require public education for the local community prior to and after implementation.

Aesthetics/Community enhancements		
Description	Signalized Intersection	Roundabout
Aesthetics	Aesthetic enhancements available at the perimeter of the intersection.	Aesthetic enhancements available at the perimeter & on the central island (i.e. gateway feature).



Table 8-16: Signalized Intersection vs. Roundabout – Safety

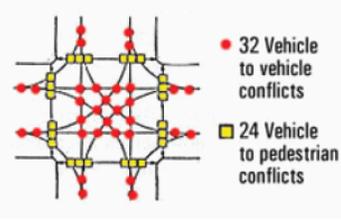
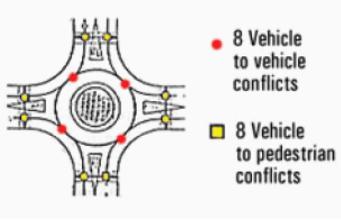
Safety Impact		
Description	Signalized Intersection	Roundabout
Conflict points	32 vehicle to vehicle & 24 vehicle to pedestrian conflict points 	8 vehicle to vehicle and 8 vehicle to pedestrian conflict points 
Severity of Collisions	The higher speed of vehicles entering the intersection could lead to severe collisions in situations such as driving through red light, late left turns, etc.	Reduces injury collisions by 76%. Lesser occurrence of severe collisions due to lower speed limits & ROW/Yield for vehicles that are inside the roundabout.
Frequency of collisions	Higher than roundabouts due to higher number of conflict points, high vehicle speeds, etc.	Less than signalized intersections due to lower speeds that result in shorter breaking distances, longer decision making times, etc.
Pedestrian safety	Designated pedestrian signal phase facilitates pedestrian crossing.	Delay in securing acceptable gaps to cross the road. Travel path for a roundabout is longer and does not accommodate visually impaired users. The pedestrian need to be aware of vehicles at the roundabout.
Cyclists safety	Dedicated lanes can be provided.	No dedicated lanes provided. Cyclists are encouraged to use pedestrian crossings.
Driver attention at the approaches	Driver needs to be aware of all the surrounding traffic movements.	Driver needs to be aware of vehicles to the left before entering the roundabout.

Table 8-17: Maintenance and Property Impacts

Maintenance		
Description	Signalized Intersection	Roundabout
Maintenance	Similar costs as that for other road intersections, including maintenance of surrounding boulevards & ditches, signal heads & loops repairs.	Will likely have an extra cost on labour & equipments. Landscaped interior circle would require maintenance.
Electrical power	Signals are susceptible to power outages & malfunctions.	No impact due to power outages. Electrical power not necessarily required at roundabout.

Property Impact		
Description	Signalized Intersection	Roundabout
Land Acquisition	Require land for the turning lanes along the complete length of tapers.	The roundabout circle will require a wider area. However the total area of land required will be less than that for signalized intersections.



8.6 Proposed Revisions to Official Plan Schedule C

Based on a review of the 2031 travel demands from the traffic modelling, future travel patterns, the proportion of long distance through trips on roads within Innisfil, and the recommended strategy, the TMP supports the following changes to the Official Plan Schedule C: documented in **Table 8-18**.

Table 8-18: Recommended Road Classification and Jurisdiction Changes to Innisfil OP

Road	Current Road Classification and Jurisdiction	Recommended Road Classification and Jurisdiction
5 th Sideroad (entire length)	Town Arterial	County Arterial
10 th Sideroad (entire length)	Town Arterial	County Arterial
20 th Sideroad (Innisfil Beach Rd. to Shore Acres Dr.)	County Arterial	Town Arterial
Mapleview Drive (20 th to 25 th Sideroad)	Town Minor Collector	Town Major Collector
9 th Line (Yonge to 20 th Sideroad)	Town Local Road	Town Major Collector
Innisfil Beach Road (Yonge to 20 th Sideroad)	County Arterial	Town Arterial
7 th Line (Yonge to 20 th Sideroad)	Town Local Road	Town Major Collector
6 th Line (County Road 27 to 20 th Sideroad)	Town Local Road	Town Arterial
5 th Line (County Road 27 to 20 th Sideroad)	Town Arterial	Town Local Road
5 th Line (20 th Sideroad to Proposed GO Station)	Town Arterial	Town Major Collector
Shore Acres Drive (Yonge to 20 th Sideroad)	County Arterial	Town Arterial
Add Westerly Realignment of 20 th Sideroad	Town Arterial	Town Arterial

A summary of the justification is provided below:

As documented in **Section 8.4.4**, the Town of Innisfil supports the Simcoe TMP recommendation to transfer jurisdiction of the entire length of 5th Sideroad and 10th Sideroad from the Town to Simcoe County because the role and function of these roads will change in the future, and are projected to serve an increasing number of longer distance trips between municipalities.

As previously discussed, 20th Sideroad will become the main north-south spine connecting communities to the north with those to the south and will experience an increase in local traffic as Lefroy and Alcona grow. In addition, the Innisfil GO station will also generate and attract trips that will use 20th Sideroad (via east-west streets from 9th Line down to 6th Line) to access the GO station. Based on this, 20th Sideroad is recommended for download from Simcoe County jurisdiction to the Town of Innisfil.

Similarly, the east-west County roads connecting to 20th Sideroad are also recommended for download – Innisfil Beach Road and Shore Acres Drive between Yonge Street and 20th Sideroad.

All east-west roads in northeast Innisfil will experience an increase in traffic due to the Barrie Annexed Lands and development of Friday Harbour. Mapleview Drive is justified to be upgraded to a major collector supporting the tourist and local trip connections between Barrie and Innisfil.



With the growth anticipated in Alcona both north and south of Innisfil Beach Road, all three east-west roads: Innisfil Beach Road, 9th Line, and 7th Line will see an increase in local traffic and cycling/pedestrian activity particularly to accommodate the short distance trips between the town offices and recreational complex with Alcona. These roads will also carry local trips destined to Yonge Street as they continue either north to Barrie or south to Bradford.

With the recommendation in **Section 8.4.3** for the proposed new interchange at Highway 400 to be located on 6th Line instead of 5th Line as previously indicated in the Town's Official Plan, it is recommended to update OP Schedule C to show this interchange at 6th Line. To support the interchange, 6th Line should be classified as an Arterial Road, while 5th Line would be downgraded back to a Local Road.

Finally, the westerly realignment of 20th Sideroad, recommended in **Section 8.4.1.1** should be included in the updated Official Plan Schedule C.

Exhibit 8-30 illustrates these changes on an updated version of Official Plan Schedule C – Transportation Network.

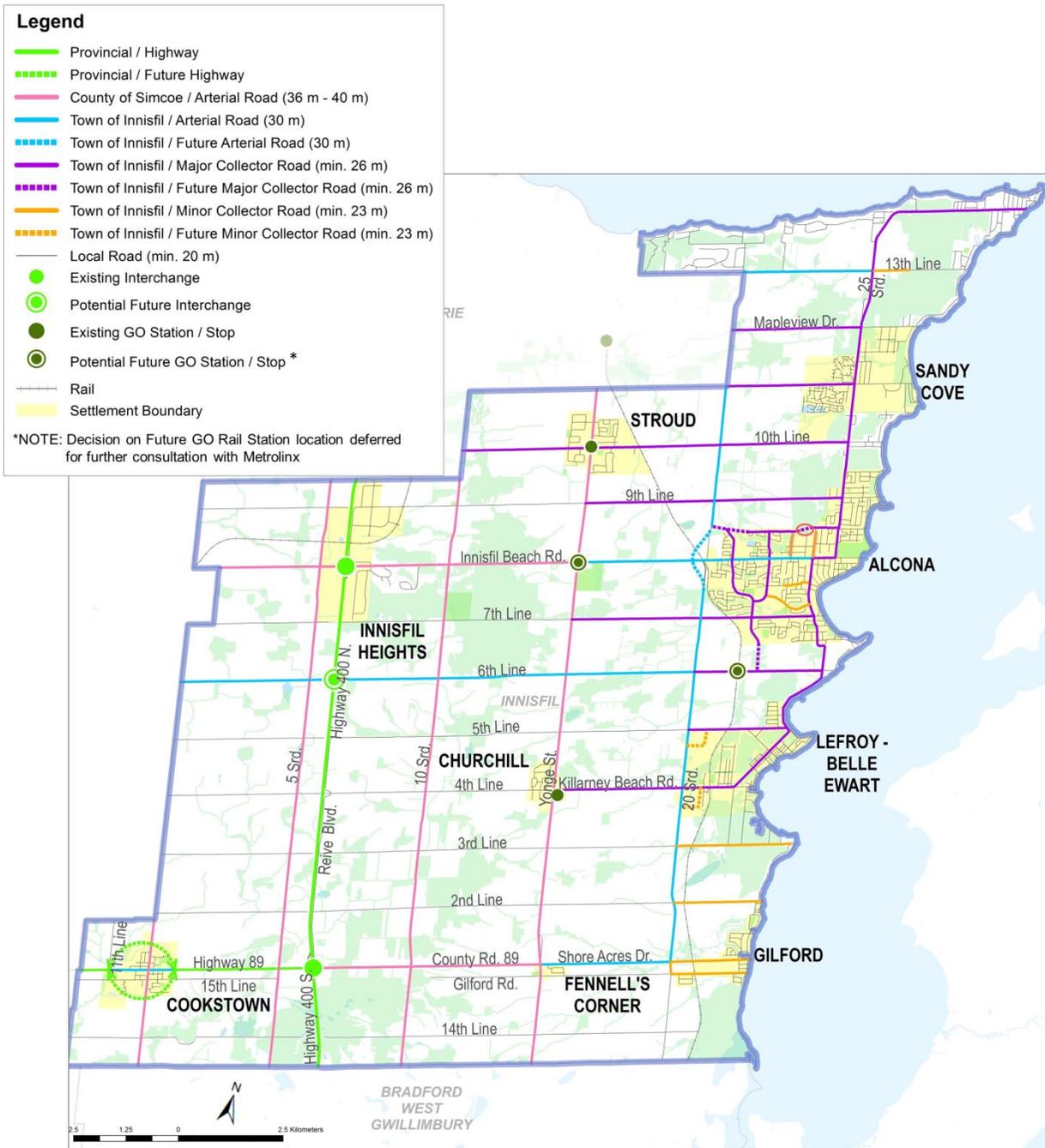


Exhibit 8-30: Recommended Revisions to Official Plan Schedule C – Transportation Network



9. TRANSPORTATION POLICIES

The TMP process typically develops comprehensive support policies, principles and guidelines to support and implement the preferred transportation strategy. These supporting policies and guidelines assist Town staff in implementing the TMP, responding to citizens' requests and concerns, guiding future decisions pertaining to traffic operations and implementation of traffic measures for the years to come. In this regard, Town policies have been developed and updated for the following.

- Traffic Calming
- All-way Stop Control Warrants
- Speed Limits
- Parking / Stopping Regulations
- Community Safety Zones

Town staff had previously consulted guidelines and policies from the Ontario Traffic Manuals (OTM) which were originally developed for province-wide application. Some municipalities have developed their own guidelines and policies to address local issues that were not well defined in the OTM or well suited for application of the OTM. The Town was seeking to develop an Innisfil Traffic Manual to handle issues common to smaller communities.

Each of the five new policies includes guidance on handling concerns as well as a handy and transparent checklist to be used by Town staff. These policies and checklists collectively represent the "Made in Innisfil" Traffic Manual. The policies, checklists, and the background research behind the development of these policies are contained in **Appendix D**. The intent of developing policies and checklists in this TMP was not to apply them to specific current issues identified by the public and through the assessment of existing conditions but to develop a consistent set of tools (derived and supported by research) that Town staff can apply today and in the future for discussions with Town Council and the public.

A very brief summary of each policy is provided below.

9.1 All-way Stop Control Warrants

The following conditions are recommended for an all-way stop warrant:

- The OTM warrant should continue to be used for Arterial and Collector roadways.
- The OTM warrant criteria thresholds should be changed for local roads as follows:
 - The total volume entering the intersection exceeds 200 vehicles per hour for the highest hour of the day.
 - The total volume entering the intersection from the side street exceeds 70 vehicles per hour for the same hour of the day.
 - The ratio of the traffic volume on the main street to the total traffic volume not exceeding 65% for four-legged intersections and 75% for three legged intersections.
- All way stop control should be considered if the intersection has experienced four or more preventable collisions annually for three out of five years.



- The sight distance to the stop sign on the main street should meet the minimum distance criteria (see **Table 2-2** in the All-way Stop Control Warrant Policy in **Appendix D**).
- Pedestrian volumes crossing the major street in the vicinity (within one block) of elementary schools and senior citizens facilities should be factored using two vehicles for each pedestrian equivalency.

In the absence of 8-hour volumes for arterials and collector roads, the warrant should be based on 4-hour volume thresholds during the two highest hours of the morning and afternoon peak periods.

9.2 Speed Limits

Separate policies are recommended for the setting of speed limits on urban and rural roads as follows.

9.2.1 Urban Speed Limits

Urban road speed limits should be set at the speed that is closest to the 85th percentile speed (keeping in mind a preferred speed of 60 km/h for arterial roads and 50 km/hr for local and collector roads), or at 20 km/h below the design speed, unless reduced speed designation is appropriate due to:

- School zone or proximity of schools
- Geometric characteristics contributing to road elements with design speed (sight distance or horizontal or vertical curvature)
- Where Town roads are within the area of influence (1.5 km) of a County Road with lower posted speeds, a reduction of 10km/hr on the Town road is to be considered.

Transitions between one speed limit and another shall be no less than 500m apart for arterial roads and 250m for collector and local roads. The speed differential between to speed limits within the transition shall be no greater than 10 km/h.

9.2.2 Rural Speed Limits

Rural road speed limits should be set at 80 km/hr or at 20 km/h below the design speed, unless reduced speed designation is appropriate due to:

- School zone or proximity of schools.
- Geometric characteristics contributing to road elements with design speed (sight distance or horizontal or vertical curvature) of 90 km/hr or less.
- Where Town roads are within the area of influence (1.5 km) of a Regional Road with lower posted speeds, a reduction of 10km/hr on the Town road is to be considered.

Transitions between one speed limit and another should be no less than 1.0 km apart for arterial roads and 500m for collector and local roads. The speed differential between the speed limits within the transition should be no greater than 20 km/h.



9.2.3 School Zone Speed Limits

Where it is determined that a reduced speed zone is required in a School Zone, the speed limit should be set at no lower than 40 km/hr. Signage notifying of the speed reduction should be accompanied by a flashing signal indication. Signage should indicate that the reduced speed limit is only in force when the indications are flashing. The indications should be programmed to flash only on those days and at those times when the adjacent school is in operation. This would generally be between 8:00am and 5pm on a weekday.

9.3 Parking / Stopping Regulations

There are mechanisms within Town By-law 070-11 to control most of the parking and stopping of vehicles on streets. However, the following recommendations are provided.

9.3.1 Enforcement

Enforcement should occur on a complaint basis and where there have been identified areas of concern by Town staff. Enforcement should be increased during those times of the year that complaints are typically received in relation to the tourist peak seasons in the winter and summer. Sections 7, 8, 9, 10 and 11 of By-law 070-11 should have special increased enforcement during these times.

9.3.2 Parking and Stopping Within the Vicinity of Elementary Schools

Stopping should be prohibited on the opposite side of the street of all elementary schools and parking should be prohibited along the frontage of all elementary schools. These prohibitions should be signed. This parking restriction shall be evaluated on a case by case basis.

9.3.3 Parking and Stopping Within the Vicinity of Pedestrian Crossovers

Parking should be prohibited within thirty metres of the approach side and within fifteen metres of the departure side of any cross walk that is not located at an intersection. These prohibitions should be signed.

9.3.4 Parking in Paved Shoulder Areas Reserved for Pedestrians and Cyclists

The prohibition of parking should be considered in conjunction with the design of these facilities. Depending upon the roadway's characteristics, the prohibition should be limited to certain times of the day and certain days of the week. The time and day limitations should be tailored to the specific location in consultation with abutting property owners. These prohibitions should be signed.



9.4 Community Safety Zones

Community Safety Zones (“CSZ”) should be used on "parts of a roadway" where public safety is of special concern to a community. The CSZ warrant outlines two major components. The first component, Warrant 1, Designated Areas of Special Concern, must be satisfied before continuing onto Warrant 2. Warrant 2 considers collision and risk components. One of these components should be satisfied in order for a CSZ to be implemented.

9.5 Traffic Calming

The recommended traffic calming policy is based on a review of traffic calming policies throughout Ontario. The process for implementing traffic calming should be traceable and transparent such that it is understandable to the public and provides guidance to Town staff. While the process is intended to be clear and consistent, it is recognized that each location and traffic issue may be unique. It should be noted that various solutions are often available, and that this traffic calming policy is intended as a guide to aid Town staff in applying their professional judgment. The traffic calming policy takes a reactive approach (in other words on a complaint basis only). It also concentrates on speeding concerns and not cut-thru concerns.

The policy suggests that if a traffic calming measure is warranted, that temporary measures be implemented first. If follow-up studies confirm the effectiveness of a measure, then a permanent measure should be considered. Temporary measures would include:

- Radar Speed Advisory Boards
- Rubber Speed Cushions

Permanent traffic calming measures would be restricted to the following:

- Textured Crosswalks (Pavement Markings / Zebra Striping)
- Raised Intersections
- Curb Extensions
- Curb Radius Reductions
- Raised Median Islands
- Traffic Circles.

As traffic calming requests increase, a more involved traffic calming policy may be more appropriate as shown in **Appendix D**.



10. FINANCING REQUIREMENTS AND OPTIONS

The capital cost of the recommended transportation strategy over the next 20 years, 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 \$259 million.

Of the \$259 million, 6% or \$15 million is needed for short-term improvements (<5 years), 30% or \$78 million for medium term (5-10 years), and 64% or \$167 million for long-term (> 10 years).

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 65% of the capital improvement cost will be eligible for cost recovery through the DC mechanisms. The remaining 35% of expenditures could be financed from the residential tax base. A summary of the costs by timing and by BTE and BTG is provided in **Table 10-1**.

Table 10-1: Cost of Recommended Transportation Strategy by Timing and Growth Allocation

Timing	Total Cost (BTE+BTG)	Benefit to Existing (BTE)	Benefit to Growth (BTG)
Short-term (<5 years)	\$15,031,419	\$9,107,386	\$5,924,033
Medium-term (5-10 years)	\$77,547,294	\$15,385,732	\$62,161,562
Long-term (> 10 years)	\$166,538,781	\$66,985,785	\$99,552,996
Combined	\$259,117,494	\$91,478,903	\$167,638,591

The overall estimated cost of capital improvements specific to road infrastructure (excluding trails) and inclusive of signalization and planning studies is \$248 million. By treatment type, road reconstruction and urbanization is approximately \$229 million and accounts for 88% of the road infrastructure costs. The Town will have to construct new roads at an estimated cost of \$11 million. The summary of the investments in Town’s road infrastructure is provided in **Table 10-2**.



Table 10-2: Cost of Required Road Infrastructure by Treatment Type and Road Classification

Summary by Treatment	Cost
Urbanization	\$146,096,678
Reconstruction	\$83,262,410
Widening	\$0
New Construction	\$11,102,413
Paved Shoulders	\$5,756,633
Signalization	\$1,224,000
Planning studies	\$500,000
Total:	\$247,942,134
Summary by Road Class (excluding signalization and studies)	Cost
Arterial Road	\$65,941,857
Major Collector	\$172,278,239
Minor Collector	\$7,998,038
Total:	\$246,218,134
Summary by Road Environment (excluding signalization and studies)	Cost
Urban	\$11,102,413
Rural	\$235,115,721
Total:	\$246,218,134

The Capital Plan recommendations will add 10 lane-kilometers of roadways and increase Town’s operations and maintenance costs by additional \$60,000 annually. This additional maintenance cost is based on an annual maintenance cost of \$6000 per lane-km as provided by the Town of Innisfil.

Included in the roadway costs is the new interchange at Highway 400 and 6th Line which has been assumed to cost approximately \$20-22M. As part of the Town’s cost, a one-third share has been allocated to the Town and incorporated into the total costs in **Table 10-2**. Cost sharing has not been determined for this new interchange and future negotiations with the Province and County will determine any required updates to the Town’s total costs.

Cost of investments in multi-use trails, on road cycling lanes, and off-road trails recommended by 2031 are estimated at a total of \$24.5 million with \$11.1 million attributed to the Town of Innisfil. These investments will include construction of soft and hard surface off-road trails.

Costs of intersection traffic signalization are estimated to be \$2.2 million attributable to the County with \$1.1 million attributable to the Town.



10.1 Capital Cost Calculation

The capital cost calculations presented in this Chapter are based on construction cost information extracted from the bid documents and the Road Needs Study Report provided by the Town of Innisfil and supplemented by information obtained from other sources such as the construction prices for capital projects within the Town of Aurora, York Region and City of Brampton.

Roadway benchmark costs reflect the typical cross sections and roadway design standards for the arterial and collector roads under the jurisdiction of the Town of Innisfil. Structure and culvert benchmark costs were derived from the Road Needs Studies and from other sources municipal sources. All costs reflect the 2008 – 2012 average costs. The construction unit price assumptions and the resulting benchmark cost by road type and treatment are documented in **Table 10-3** and **Table 10-4**.

Table 10-3: Construction Unit Price Table

Construction Unit Cost	Unit	2012 Cost
Excavation	m ³	\$12
Hot Mix HL3	tonne	\$65
Hot Mix HL4	tonne	\$69
Granular A	tonne	\$15
Granular B	tonne	\$13
Concrete Curb & Gutter	m	\$39
Catchbasin Leads	m	\$250
Storm Sewer Pipes	m	\$243
Manhole & Maintenance Holes	each	\$3,800
Catchbasins	each	\$2,307
Stormceptors	km	\$55,000
Pavement Markings and Symbols	m	\$40.11
Concrete Sidewalk (including Granular A)	m ²	\$53.00
Street Lighting	\$/km	\$373,729
Landscaping	\$/km	\$353,936
EA Study (sections <1.5km long)	each	\$150,000
EA Study (sections >1.5km long)	each	\$300,000 to \$500,000
Signalized Intersection (Traffic Signals, Light Poles, Turning Lanes)	each	\$255,000
Culverts (average size)	each	\$100,000
Utility relocation	\$/km	\$300,000
Multi-use pathway - soft surface	\$/km	\$140,000
Multi-use pathway - hard surface	\$/km	\$250,000

The resulting benchmark cost assumptions by treatment are presented in **Table 10-4**.



Table 10-4: Benchmark Cost by Treatment

Improvement Type	Road Class	Road Environment	No of lanes	Code	Roadwork cost (\$/km)
New Construction	Arterial	Urban	2	NC-UArt2	\$2,154,700
New Construction	Arterial	Urban	4	NC-UArt4	\$2,578,100
New Construction	Major Collector	Urban	2	NC-UMajC	\$2,445,000
New Construction	Minor Collector	Urban	2	NC-UMinC	\$2,197,400
Urbanization	Arterial	Urban	3	UR-UArt2	\$2,362,300
Urbanization	Collector	Urban	2	UR-Ucol	\$2,216,394
Widening	Arterial	Urban	3	W2-3-UArt	\$2,362,300
Widening	Arterial	Urban	4	W2-4-UArt	\$2,572,900
New Construction	Arterial	Rural	2	NC-RArt2	\$1,800,000
Reconstruction	Arterial	Rural	2	R-RArt2	\$1,036,800
Reconstruction	Collector	Rural	2	R-RColl2	\$976,300
Widening	Arterial	Rural	4	W2-4-RArt	\$1,670,150
Widening	Collector	Rural	4	W2-4-RCol	\$1,446,300
Paved Shoulders	Collector	Rural	2	RRSHD-Rcol	\$79,490

10.2 Benefit to Existing Development

The Town is entering a phase of rapid growth 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 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. Approximately 65% of the capital improvement cost is eligible for cost recovery through the DC mechanisms. The remaining 35% of expenditures could be financed from the residential tax base.

All new construction and road widening projects have been determined to be 100% 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 10-5** outlines the percentage allocation and the rationale behind attributing whole or a portion of an improvement type to existing development.



Table 10-5: Benefit to Existing Development Rationale

Improvement Type	Benefit to Existing Development (Non-Growth Component)	Benefit to Existing
Road Urbanization	Assumed 10% deduction to cover the estimated cost of the rehabilitation of existing asset.	10%
Road Reconstruction	A road reconstruction typically serves to increase road capacity. The capacity gains are relating to improvements in alignment, road reconfiguration, pavement structure, and in some cases, to address road damage caused by heavy construction traffic. An 80% allocation has been made to appropriately address benefits to existing community.	80%
New construction	No deduction understanding that the need for new construction is entirely driven by the need to accommodate new growth.	0%
Road widening	No deduction understanding that the need for road widening and additional capacity is entirely driven by the need to accommodate new growth.	0%
Signalization	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%
Off-road multi-use pathways and trails	A 50/50 split has been allocated due to a strong desire for active transportation improvements from the existing community We also recognize that these improvements will strongly benefit new growth as well.	50%
Paved Shoulders	An interim measure to provide safe walking and cycling space along existing roadways, this improvement is entirely beneficial to the existing community.	100%

10.3 Capital Costs

Total road related investments needs forecasted up to the year 2031 include road widening, construction of new roadways, road urbanization, intersection signalization, construction of grade separated interchange with Highway 400 and other improvements. Total road related investments by item are summarized in **Table 10-6**. The split between non-growth and growth costs (also known as Benefit to Existing and Benefit to Growth or BTE and BTG) are also identified in this table. As previously stated, costs for the Highway 400 interchange were estimated for 1/3 of the overall estimated cost with the remaining 2/3 allocated to Simcoe County and the Ministry of Transportation. This is only an assumption for this study and future negotiations between all three parties will determine the agreed cost allocation.

A summary of the estimated trail capital costs by jurisdiction is provided in **Table 10-7**, while a summary of signalized intersection capitalized costs also by jurisdiction is provided in **Table 10-8**.



Table 10-6: Roads Capital Projects by 2031

Item#	Road	From	To	Improvement Type	Road Class	Exist. Cross-section	Exist # of Lanes	Ultimate # of Lanes	Section length (km)	No. of intersections	Length with intersections (km)	Improvement Code	Benchmark cost (\$)	Roadwork subtotal (\$)	No. of new signals	Signal cost	Structures	Culvert #	Culverts \$	Utility relocation	EA Study	Subtotal	Engineering (10%)	Contingency (10%)	Total cost	BTE%	Benefit to Existing (non-growth related)	BTG%	Growth Related	
1	Big Bay Point Road	Big Bay Point	25th Sideroad	Reconstruction	Major Collector	Rural	2	2	5	10	8.0	R-RCol2	\$ 976,332	\$ 7,810,654					\$0			\$7,810,654	\$781,065	\$781,065	\$9,372,784	80%	\$7,498,227	20%	\$1,874,557	
2	Big Bay Point Road	25th Sideroad	25th Sideroad	Reconstruction	Arterial Road	Rural	2	2	3.4	3.5	4.5	R-RArt2	\$ 1,036,793	\$ 4,613,729					\$0				\$4,613,729	\$461,373	\$461,373	\$5,536,475	80%	\$4,429,180	20%	\$1,107,295
3	Mapleview Drive	25th Sideroad	20th Sideroad	Reconstruction	Minor Collector	Rural	2	2	3.3	2	3.9	R-RCol2	\$ 976,332	\$ 3,807,694				1	\$49,500				\$3,857,194	\$385,719	\$385,719	\$4,628,632	80%	\$3,702,906	20%	\$925,726
4	Lockhart Road	20th Sideroad	100m west of Main St (Sandy Cove)	Reconstruction	Major Collector	Rural	2	2	3	2	3.6	R-RCol2	\$ 976,332	\$ 3,514,794				3	\$300,000				\$3,814,794	\$381,479	\$381,479	\$4,577,753	80%	\$3,662,202	20%	\$915,551
5	Lockhart Road	100m west of Main St (Sandy Cove)	25th Sideroad	Urbanization	Major Collector	Rural	2	2	1.1	2	1.7	UR-Ucol	\$ 2,216,394	\$ 3,767,869					\$0	\$510,000	\$150,000	\$4,427,869	\$442,787	\$442,787	\$5,313,443	10%	\$531,344	90%	\$4,782,099	
6	25th Sideroad	Innisfil Beach Road	Leslie Drive	Urbanization	Major Collector	Rural	2	2	1	3	1.9	UR-Ucol	\$ 2,216,394	\$ 4,211,148				1	\$100,000	\$570,000	\$150,000	\$5,031,148	\$503,115	\$503,115	\$6,037,378	10%	\$603,738	90%	\$5,433,640	
7	Leslie Drive West Extension	20 Sideroad	Oriole Crescent	New Construction	Major Collector	Urban	0	2	1.1	1	1.4	NC-UMajC	\$ 2,445,012	\$ 3,423,017				1	\$100,000		\$150,000	\$3,673,017	\$367,302	\$367,302	\$4,407,621	0%	\$0	100%	\$4,407,621	
8	20th Sideroad	Leslie Drive	Big Bay Point Road	Reconstruction	Arterial Road	Rural	2	2	6.3	4	7.5	R-RArt2	\$ 1,036,793	\$ 7,775,948				4	\$400,000				\$8,175,948	\$817,595	\$817,595	\$9,811,138	80%	\$7,848,910	20%	\$1,962,228
9	20th Sideroad (bypass)	Leslie Drive	South of Innisfil Beach Rd	New Construction	Arterial Road	Urban	0	2	2	1.5	2.5	NC-UArt2	\$ 2,154,691	\$ 5,278,994							\$300,000	\$5,578,994	\$557,899	\$557,899	\$6,694,792	0%	\$0	100%	\$6,694,792	
10	7th Line	20th Sideroad	St Johns Road	Urbanization	Major Collector	Rural	2	2	3	4.5	4.4	UR-Ucol	\$ 2,216,394	\$ 9,641,312				2	\$200,000	\$1,305,000	\$300,000	\$11,446,312	\$1,144,631	\$1,144,631	\$13,735,575	10%	\$1,373,557	90%	\$12,362,017	
11	St. John's Road	Innisfil Beach Road	Nantyr Drive	Urbanization	Major Collector	Rural	2	2	2.3	9.5	5.2	UR-Ucol	\$ 2,216,394	\$ 11,414,427				3	\$300,000	\$1,545,000	\$300,000	\$13,559,427	\$1,355,943	\$1,355,943	\$16,271,313	10%	\$1,627,131	90%	\$14,644,182	
12	Belle Aire Beach Road	Sideroad 20	GO Transit Station (Proposed)	Urbanization	Arterial Road	Rural	2	2	1.2	1	1.5	UR-Ucol	\$ 2,216,394	\$ 3,324,590						\$450,000	\$150,000	\$3,924,590	\$392,459	\$392,459	\$4,709,509	10%	\$470,951	90%	\$4,238,558	
13	Belle Aire Beach Road	East of GO Transit Station (Proposed)	Maple Road	Urbanization	Major Collector	Rural	2	2	1.7	1	2.0	UR-Ucol	\$ 2,216,394	\$ 4,432,787				1	\$100,000	\$600,000	\$300,000	\$5,432,787	\$543,279	\$543,279	\$6,519,345	10%	\$651,934	90%	\$5,867,410	
14	Killarney Beach Road / 4th Line	John Street	Yonge Street	Urbanization	Major Collector	Rural	2	2	0.8	3.5	1.9	UR-Ucol	\$ 2,216,394	\$ 4,100,328				1	\$100,000	\$555,000	\$150,000	\$4,905,328	\$490,533	\$490,533	\$5,886,394	10%	\$588,639	90%	\$5,297,755	
15	Killarney Beach Road	Yonge Street	20th Sideroad	Reconstruction	Major Collector	Rural	2	2	3.4	2	4.0	R-RCol2	\$ 976,332	\$ 3,905,327				1	\$100,000				\$4,005,327	\$400,533	\$400,533	\$4,806,392	80%	\$3,845,114	20%	\$961,278
16	Killarney Beach Road	20th Sideroad	Ewart Street	Urbanization	Major Collector	Rural	2	2	1.2	3	2.1	UR-Ucol	\$ 2,216,394	\$ 4,654,427						\$630,000	\$150,000	\$5,434,427	\$543,443	\$543,443	\$6,521,312	10%	\$652,131	90%	\$5,869,181	
17	Ewart Street	Killarney Beach Road	300 metres north of Killarney Beach Road	Urbanization	Major Collector	Rural	2	2	0.4	1	0.7	UR-Ucol	\$ 2,216,394	\$ 1,551,476						\$210,000	\$150,000	\$1,911,476	\$191,148	\$191,148	\$2,293,771	10%	\$229,377	90%	\$2,064,394	
18	Ewart Street / Maple Rd / St. Johns Rd	300 metres north of Killarney Beach Road	Nantyr Drive	Urbanization	Major Collector	Rural	2	2	4.6	8.5	7.2	UR-Ucol	\$ 2,216,394	\$ 15,847,215				2	\$200,000	\$2,145,000	\$300,000	\$18,492,215	\$1,849,221	\$1,849,221	\$22,190,658	10%	\$2,219,066	90%	\$19,971,592	
19	25th Sideroad	Big Bay Point Rd	Mapleview Drive East	Reconstruction	Major Collector	Rural	2	2	1.7	2.5	2.5	R-RCol2	\$ 976,332	\$ 2,392,013				2	\$200,000				\$2,592,013	\$259,201	\$259,201	\$3,110,415	80%	\$2,488,332	20%	\$622,083
20	25th Sideroad	Mapleview Drive East	Henderson Drive	Reconstruction	Major Collector	Rural	2	2	1.2	2	1.8	R-RCol2	\$ 976,332	\$ 1,757,397				1	\$100,000				\$1,857,397	\$185,740	\$185,740	\$2,228,876	80%	\$1,783,101	20%	\$445,775
21	25th Sideroad	Henderson Drive	Lockhart Road	Urbanization	Major Collector	Rural	2	2	0.7	2	1.3	UR-Ucol	\$ 2,216,394	\$ 2,881,312				1	\$100,000	\$390,000	\$150,000	\$3,521,312	\$352,131	\$352,131	\$4,225,574	10%	\$422,557	90%	\$3,803,017	
22	25th Sideroad	Lockhart Road	Rose Lane	Urbanization	Major Collector	Rural	2	2	2.4	5	3.9	UR-Ucol	\$ 2,216,394	\$ 8,643,935				1	\$100,000				\$8,743,935	\$874,394	\$874,394	\$10,492,722	80%	\$8,394,178	20%	\$2,098,544
23	25th Sideroad	Rose Lane	Leslie Drive	Urbanization	Major Collector	Rural	2	2	1.6	6	3.4	UR-Ucol	\$ 2,216,394	\$ 7,535,738				2	\$200,000	\$1,020,000	\$300,000	\$9,055,738	\$905,574	\$905,574	\$10,866,886	10%	\$1,086,689	90%	\$9,780,198	
24	9th Line	20 Sideroad	25th Sideroad	Urbanization	Major Collector	Rural	2	2	3	3	3.9	UR-Ucol	\$ 2,216,394	\$ 8,643,935				2	\$269,500	\$1,170,000	\$300,000	\$10,383,435	\$1,038,344	\$1,038,344	\$12,460,122	10%	\$1,246,012	90%	\$11,214,110	
25	6th Line	20 Sideroad	St Johns Road	Urbanization	Major Collector	Rural	2	2	3.3	2	3.9	UR-Ucol	\$ 2,216,394	\$ 8,643,935						\$1,170,000	\$300,000	\$10,113,935	\$1,011,394	\$1,011,394	\$12,136,722	10%	\$1,213,672	90%	\$10,923,050	
26	6th Line	County Road 27	20 Sideroad	Reconstruction	Arterial Road	Rural	2	2	12.2	4.5	13.6	R-RArt2	\$ 1,036,793	\$ 14,048,546				16	\$1,600,000		\$500,000	\$16,148,546	\$1,614,855	\$1,614,855	\$19,378,256	80%	\$15,502,604	20%	\$3,875,651	
27	7th Line	Yonge Street	20 Sideroad	Reconstruction	Arterial Road	Rural	2	2	3.1	2	3.7	R-RArt2	\$ 1,036,793	\$ 3,794,663				0	\$0				\$3,794,663	\$379,466	\$379,466	\$4,553,595	80%	\$3,642,876	20%	\$910,719
28	9th Line	Yonge Street	20 Sideroad	Reconstruction	Arterial Road	Rural	2	2	3.1	2	3.7	R-RArt2	\$ 1,036,793	\$ 3,794,663				2	\$200,000				\$3,994,663	\$399,466	\$399,466	\$4,793,595	80%	\$3,834,876	20%	\$958,719
29	13th Line	Big Bay Point Road / 25th Sideroad	Friday Drive	Reconstruction	Arterial Road	Rural	2	2	0.8	1.5	1.3	R-RCol2	\$ 976,332	\$ 1,220,415				0	\$0				\$1,220,415	\$122,041	\$122,041	\$1,464,498	10%	\$146,450	90%	\$1,318,048
30	25th Sideroad (West Side)	Rose Lane	Leslie Drive	Paved Shoulders	Major Collector	Rural	2	2	1.6	6	3.4	RRSHD-Rcol	\$ 79,490	\$ 270,264									\$270,264	\$27,026	\$27,026	\$324,317	100%	\$324,317	0%	\$0
31	25th Sideroad (West Side)	Leslie Drive	Innisfil Beach Road	Paved Shoulders	Major Collector	Rural	2	2	1	3	1.9	RRSHD-Rcol	\$ 79,490	\$ 151,030									\$151,030	\$15,103	\$15,103	\$181,236	100%	\$181,236	0%	\$0
32	St. John's Road	Innisfil Beach Road	Nantyr Drive	Paved Shoulders	Major Collector	Rural	2	2	4.6	9.5	7.5	RRSHD-Rcol	\$ 79,490	\$ 592,197									\$592,197	\$59,220	\$59,220	\$710,637	100%	\$710,637	0%	\$0
33	25th Sideroad	Big Bay Point Road	Rose Lane	Paved Shoulders	Major Collector	Rural	2	2	1.1	9.5	13.9	RRSHD-Rcol	\$ 79,490	\$ 1,100,930									\$1,100,930	\$110,093	\$110,093	\$1,321,116	100%	\$1,321,116	0%	\$0
34	20th Sideroad	9th Line	4th Line	Paved Shoulders	Major Collector	Rural	2	2	1.5	6	16.8	RRSHD-Rcol	\$ 79,490	\$ 1,335,424									\$1,335,424	\$133,542	\$133,542	\$1,602,509	100%	\$1,602,509	0%	\$0
35	St. Johns Rd / Maple Rd	Nantyr Drive	Ewart Street	Paved Shoulders	Major Collector	Rural	2	2	5.6	5	7.1	RRSHD-Rcol	\$ 79,490	\$ 564,376									\$564,376	\$56,438	\$56,438	\$677,251	100%	\$677,251	0%	\$0
36	Ewart Street	Maple Road	Killarney Beach Road	Paved Shoulders	Major Collector	Rural	2	2	4.2	4.5	5.6	RRSHD-Rcol	\$ 79,490	\$ 441,167									\$441,167	\$44,117	\$44,117	\$529,400	100%	\$529,400	0%	\$0
37	9th Line (South Side)	25th Sideroad	Leonard Street	Paved Shoulders	Major Collector	Rural	2	2	0.8	4.5	2.2	RRSHD-Rcol	\$ 79,490	\$ 170,903									\$170,903	\$17,090	\$17,090	\$205,083	100%	\$205,083	0%	\$0
38	Willard Ave	Leslie Drive	Innisfil Beach Road	Paved Shoulders	Minor Collector	Rural	2	2	1.4	2.5	2.2	RRSHD-Rcol	\$ 79,490	\$ 170,903									\$170,903	\$17,090	\$17,090	\$205,083	100%	\$205,083	0%	\$0
39	Adullam Ave	Lebanon Drive	Innisfil Beach Road	Urbanization	Minor Collector	Rural	2	2	0.3	3	1.2	NC-UMinC	\$ 2,197,446	\$ 2,636,936									\$2,636,936	\$263,694	\$263,694	\$3,164,323	10%	\$316,432	90%	\$2,847,890
40	6th Line	Bridge Expansion over Railway		Urbanization	Major Collector	Rural	2	2			0.0	UR-Ucol	\$ 2,216,394	\$ -							\$0	\$2,726,360	\$272,636	\$272,636	\$3,271,632	0%	\$0	100%	\$3,271,632	



Table 10-7: Trails Capital Projects by 2031

No.	Trail	From	To	Jurisdiction	Approx. Distance (km)	Benchmark cost (\$)	Roadwork subtotal (\$)	Engineering (10%)	Contingency (10%)	Total cost	BTE%	Benefit to Existing (non-growth related)	BTG%	Growth Related	
Soft Surface Trails															
1	Railroad North	Innisfil Beach Road	Barrie Border	Town	4.7	\$ 140,000	\$ 658,000	\$ 65,800	\$ 65,800	\$ 789,600	50%	\$ 394,800	50%	\$ 394,800	
2	Railroad South	Shore Acres Drive	Bradford Border	Town	2.4	\$ 140,000	\$ 340,200	\$ 34,020	\$ 34,020	\$ 408,240	50%	\$ 204,120	50%	\$ 204,120	
3	Greenfield (west of Innisfil Heights)	TransCanada Trail	Barrie Border	Town	1.5	\$ 140,000	\$ 204,400	\$ 20,440	\$ 20,440	\$ 245,280	50%	\$ 122,640	50%	\$ 122,640	
4	Greenfield (west of Stroud)	Stroud	Barrie Border	Town	1.4	\$ 140,000	\$ 200,200	\$ 20,020	\$ 20,020	\$ 240,240	50%	\$ 120,120	50%	\$ 120,120	
					Total Soft Surface	10.0	\$ 140,000	\$ 1,402,800	\$ 140,280	\$ 140,280	\$ 1,683,360	50%	\$ 841,680	50%	\$ 841,680
					Province	0.0	\$ 140,000	\$ -	\$ -	\$ -	\$ -	50%	\$ -	50%	\$ -
					County	0.0	\$ 140,000	\$ -	\$ -	\$ -	\$ -	50%	\$ -	50%	\$ -
					Town	10.0	\$ 140,000	\$ 1,402,800	\$ 140,280	\$ 140,280	\$ 1,683,360	50%	\$ 841,680	50%	\$ 841,680
Hard Surface Trails															
5	25 Sideroad BBP - Sandy Cove	Sandy Cove Border	Water boundary	Town	6.1	\$ 250,000	\$ 1,512,500	\$ 151,250	\$ 151,250	\$ 1,815,000	50%	\$ 907,500	50%	\$ 907,500	
6	25 Sideroad Sandy Cove - Alcona	Alcona Border	Sandy Cove Border	Town	1.4	\$ 250,000	\$ 340,000	\$ 34,000	\$ 34,000	\$ 408,000	50%	\$ 204,000	50%	\$ 204,000	
7	St. Johns Rd	Lefroy Border	Alcona Border	Town	1.8	\$ 250,000	\$ 450,000	\$ 45,000	\$ 45,000	\$ 540,000	50%	\$ 270,000	50%	\$ 270,000	
8	County Rd 27	Cookstown Border	Bradford Border	County	1.7	\$ 250,000	\$ 417,500	\$ 41,750	\$ 41,750	\$ 501,000	50%	\$ 250,500	50%	\$ 250,500	
9	Mapleview Drive	25 Sideroad	Barrie Border	Town	3.1	\$ 250,000	\$ 770,000	\$ 77,000	\$ 77,000	\$ 924,000	50%	\$ 462,000	50%	\$ 462,000	
10	Innisfil Beach Rd	Innisfil Heights Border	Alcona Border	County	7.9	\$ 250,000	\$ 1,977,500	\$ 197,750	\$ 197,750	\$ 2,373,000	50%	\$ 1,186,500	50%	\$ 1,186,500	
11	Highway 89	King Street	Highway 400	Province	3.9	\$ 250,000	\$ 975,000	\$ 97,500	\$ 97,500	\$ 1,170,000	50%	\$ 585,000	50%	\$ 585,000	
12	County Road 89 / Shore Acres Drive	Highway 400	20th Sideroad	County	8.5	\$ 250,000	\$ 2,125,000	\$ 212,500	\$ 212,500	\$ 2,550,000	50%	\$ 1,275,000	50%	\$ 1,275,000	
13	Yonge St	Barrie Border	Bradford Border	County	16.2	\$ 250,000	\$ 4,050,000	\$ 405,000	\$ 405,000	\$ 4,860,000	50%	\$ 2,430,000	50%	\$ 2,430,000	
14	Killarney Beach Rd	Churchill Border	Lefroy Border	Town	2.8	\$ 250,000	\$ 690,000	\$ 69,000	\$ 69,000	\$ 828,000	50%	\$ 414,000	50%	\$ 414,000	
15	20 Sideroad	Shore Acres Drive / Gifford Border	Innisfil Beach Rd	Town	9.6	\$ 250,000	\$ 2,410,000	\$ 241,000	\$ 241,000	\$ 2,892,000	50%	\$ 1,446,000	50%	\$ 1,446,000	
16	20 Sideroad	Innisfil Beach Road	Big Bay Point/13 th	Town	7.0	\$ 250,000	\$ 1,737,500	\$ 173,750	\$ 173,750	\$ 2,085,000	50%	\$ 1,042,500	50%	\$ 1,042,500	
17	Innisfil Beach Rd and 5 Sideroad	Highway 400	Railroad/existing trail	County	2.0	\$ 250,000	\$ 497,500	\$ 49,750	\$ 49,750	\$ 597,000	50%	\$ 298,500	50%	\$ 298,500	
					Total Hard Surface	71.8	\$ 250,000	\$17,952,500	\$1,795,250	\$1,795,250	\$21,543,000	50%	\$ 10,771,500	50%	\$ 10,771,500
					Province	3.9	\$ 250,000	\$ 975,000	\$ 97,500	\$ 97,500	\$ 1,170,000	50%	\$ 585,000	50%	\$ 585,000
					County	36.3	\$ 250,000	\$ 9,067,500	\$ 906,750	\$ 906,750	\$10,881,000	50%	\$ 5,440,500	50%	\$ 5,440,500
					Town	31.6	\$ 250,000	\$ 7,910,000	\$ 791,000	\$ 791,000	\$ 9,492,000	50%	\$ 4,746,000	50%	\$ 4,746,000
					Total Trails	81.8	\$ 250,000	\$20,457,500	\$2,045,750	\$2,045,750	\$24,549,000	50%	\$ 12,274,500	50%	\$ 12,274,500
					Province	3.9	\$ 250,000	\$ 975,000	\$ 97,500	\$ 97,500	\$ 1,170,000	50%	\$ 585,000	50%	\$ 585,000
					County	36.3	\$ 250,000	\$ 9,067,500	\$ 906,750	\$ 906,750	\$10,881,000	50%	\$ 5,440,500	50%	\$ 5,440,500
					Town	41.7	\$ 250,000	\$ 9,312,800	\$ 931,280	\$ 931,280	\$11,175,360	50%	\$ 5,587,680	50%	\$ 5,587,680


Table 10-8: Intersection Signalization Capital Projects by 2031

No.	Intersection	Intersection Traffic Signal Subtotal (\$)	Engineering (10%)	Contingency (10%)	Total cost	BTE%	Benefit to Existing (non-growth related)	BTG%	Growth Related
Town									
1	20th Sideroad and Lockhart Road	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
2	20th Sideroad and 9th Line	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
3	25th Sideroad and Big Bay Point Road	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
4	25th Sideroad and 9th Line	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
	Total Town	\$ 1,020,000	\$ 102,000	\$ 102,000	\$ 1,224,000		\$ 122,400		\$ 1,101,600
County									
5	Yonge Street (CR4) & 9th Line	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
6	Yonge Street (CR4) & 7th Line	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
7	Yonge Street (CR4) & 6th Line	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
8	Yonge Street (CR4) & 5th Line	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
9	Yonge Street (CR4) & 4th Line / Killarney Beach Road	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
10	20th Sideroad and 6th Line	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
11	20th Sideroad (CR39) and 5th Line	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
12	20th Sideroad (CR39) Realignment and Innisfil Beach Road	\$ 255,000	\$ 25,500	\$ 25,500	\$ 306,000	10%	\$ 30,600	90%	\$ 275,400
	Total County	\$ 2,040,000	\$ 204,000	\$ 204,000	\$ 2,448,000		\$ 244,800		\$ 2,203,200
	Total Intersection Traffic Signals	\$ 3,060,000	\$ 306,000	\$ 306,000	\$ 3,672,000		\$ 367,200		\$ 3,304,800



10.4 Transit and Active Transportation Financing Options

Financing implementation of the transit services and active transportation could be supported by a variety of provincial and federal transit financing programs. One of the most widely used programs is the **Gas Tax Fund (New Deal for Cities and Communities) initiative consists of** an ongoing transfer of funds from the federal government to municipalities. The funds are generally allocated to municipalities on a per capita basis and are to be used for “environmentally sustainable municipal infrastructure.” Eligible expenditures include public transit, water, wastewater, solid waste, community energy systems, as well as local roads, bridges and tunnels, and active transportation infrastructure (e.g. bike lanes) that enhance sustainability outcomes. Funds must result in net incremental capital spending on public transit infrastructure. There cannot be any reduction in capital funding provided by the municipality and the funds must be used within three years of receipt.

A similar program to the Federal Gas Tax Fund is offered by the province of Ontario. The Ontario Gasoline Tax is an ongoing transfer of funds to municipalities exclusively for public transit that has risen from one cent per litre of the provincial gas tax in 2004-05 to two cents per litre in 2006-07, to continue at approximately that level in the future. The allocation is based upon each municipality’s proportionate share of the province’s population and transit ridership. The funds can be used for either operating or capital costs.

10.4.1 **Funding Options for Active Transportation Improvements**

To assist in reducing taxpayer costs on active transportation improvements, the Town should pursue outside funding opportunities such as:

- Federal / Provincial Gas Tax (as identified above)
- Transport Canada’s MOST (Moving on Sustainable Transportation) and ecoMobility (TDM) grant programs
- Federation of Canadian Municipalities Green Municipal Fund
- Federal / Provincial infrastructure stimulus funding
- Ontario Ministry of Health and Long Term Care grant programs
- Ontario Ministry of Environment Community Go Green Fund (CGGF)
- Ontario Ministry of Transportation Demand Management (TDM) Municipal Grant program
- Partnership funding with Simcoe County for infrastructure and health promotion related initiatives
- The Communities in Action Fund available through the Ontario Ministry of Health and Long Term Care for programming and promotional initiatives related to health/active living/active transportation
- The Canada-Ontario Infrastructure Program
- Ontario Trillium Foundation that was recently expanded in response to the money collected throughout the Province by casinos
- Human Resources Development Canada program that enables personnel positions to be made available to various groups and organizations. For example, the Ontario Trails Council has been able to hire two people under this program



- Corporate Environmental Funds such as Shell and Mountain Equipment Co-op that tend to fund small, labour-intensive projects where materials or logistical support is required
- Corporate donations which may consist of money or services in-kind, and have been contributed by a number of large and small corporations over the years
- Potential future funding that might emerge from the Province in rolling out the Ontario Trails Strategy
- Service clubs such as the Lions, Rotary and Optimists have assisted with a number of high visibility projects at the community level
- Private citizen donations / bequests, that can also include a tax receipt for the donor where appropriate.