TOWN OF GEORGINA
PROJECT NUMBER: OID2022-091

LAKE DRIVE FUNCTIONAL ASSESSMENT STUDY

FINAL REPORT

NOVEMBER 13, 2023

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PROJECT NO.: 231-01772-00
CLIENT REF:OID2022-091
DATE: NOVEMBER 13, 2023

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REPORTS AND REVISION HISTORY

Technical Memorandum #1

First issue		
May 1, 2023	First Draft	
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REVISION 1		
May 15, 2023	Second Draft	
Prepared by	Reviewed by	Approved by
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REVISION 2		
June 20, 2023	Third Draft	
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Technical Memorandum #2

First issue		
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Prepared by	Reviewed by	Approved by
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Final Report

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Prepared by Olivia Falcone, Transportation Planner	Reviewed by Jay Goldberg, Project Manager	Approved by
REVISION 1		
November 1, 2023	Second Draft	
Prepared by	Reviewed by	Approved by
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REVISION 2		
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REVISION 3		
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TABLES

FIGURES

APPENDICES

1 INTRODUCTION

The Town of Georgina, in coordination with their consultant, WSP Canada Inc., carried out a Functional Assessment Study for several segments of Lake Drive and Hedge Road. This project is herein referred to as the "Lake Drive Functional Assessment Study".

Lake Drive and Hedge Road are popular corridors in the Town of Georgina, attracting motorists, cyclists and pedestrians who use it for both leisure and commuting. Its stunning views of Lake Simcoe and access to various communities and public parks make it a popular choice for residents and tourists. However, with increasing development and more road users and pedestrians, concerns about mixed road usage have become more common. As such, this Study was initiated to explore, evaluate and recommend solutions to improve the operational and safety aspects of Lake Drive and Hedge Road for all users.

1.1 Study Objectives

The purpose of the Functional Assessment Study is to determine the best ways to make Lake Drive and Hedge Road safer and functional for all road users. The Town is developing a sustainable vision for the waterfront, addressing park overcrowding, vehicular and pedestrian access, parking and other infrastructure requirements in the Waterfront Parks Master Plan (2020-on-going). Access to the waterfront is a key issue to the residents of Georgina, as is balancing the needs of the residents and seasonal populations. The function of Lake Drive is a key factor in the development of the full potential of the waterfront. By re-imagining the usage of this roadway, the Town can better serve its residents and tourists by providing a safe mixed-use corridor that promotes active transportation, while not compromising on access or traffic operations.

This Study is limited to improvements within the existing paved road areas. This was communicated throughout the Study's consultation program.

The following tasks were completed as part of this study:

- Consultation and engagement process in **Chapter 2**;
- Planning and policy review in **Chapter 3**;
- Existing conditions including socio-economic environment, typical cross-sections, existing active transportation, sightline review, traffic data summary, parking restrictions, transit routes, collisions and base mapping in **Chapter 4**;
- Overview of the Complete Streets strategy in **Chapter 5**:
- Initial problem and opportunity statement in **Chapter 6**;
- Development, assessment and evaluation of alternatives in **Chapter 7**; and

- Recommended Plan for implementation in **Chapter 8**.

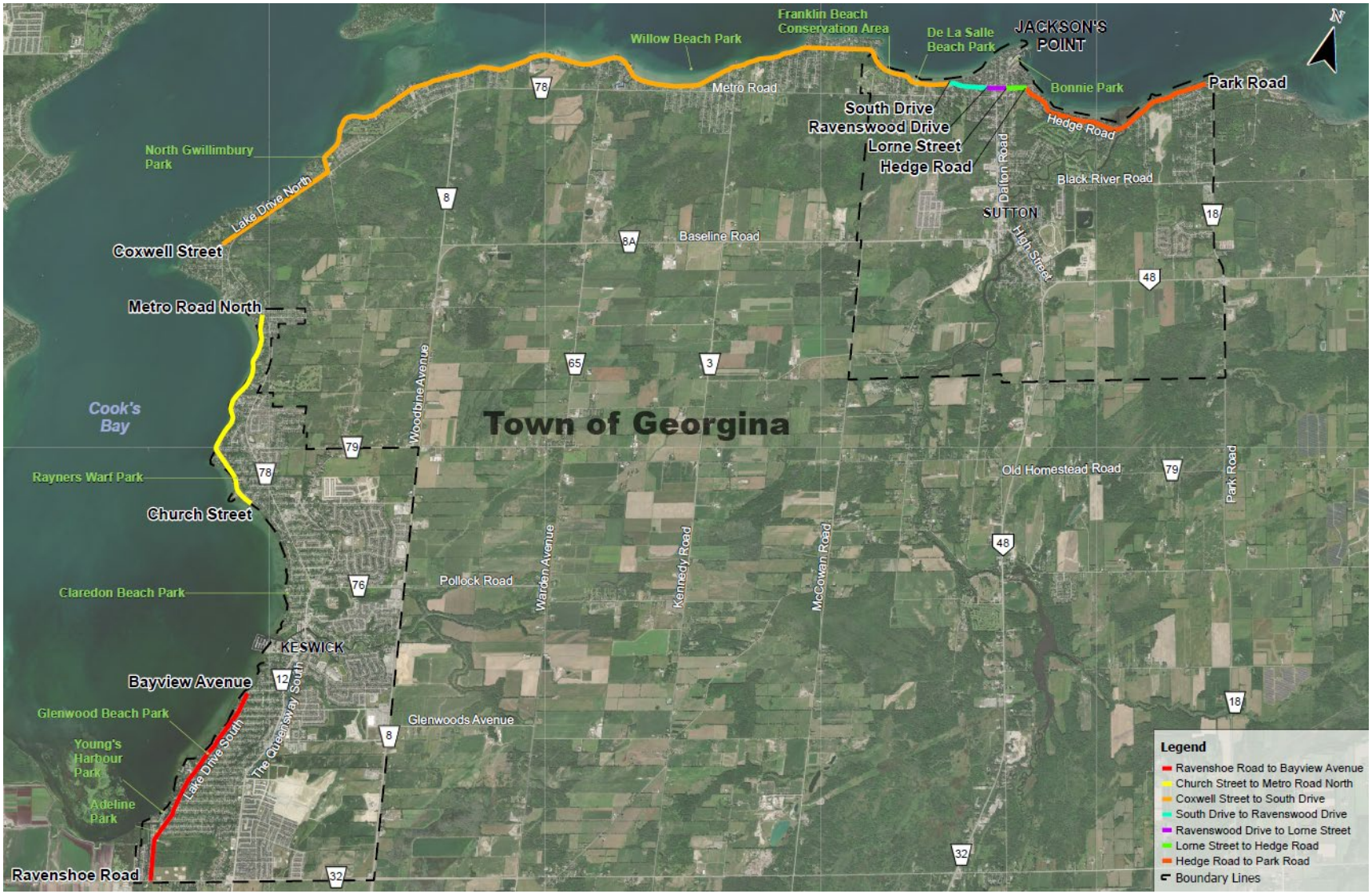
1.2 Study Area

Lake Drive and Hedge Road travel through a predominantly rural and scenic community. In Keswick, Lake Drive traverses through a suburban community, characterized by low-density, single dwelling units on either side of the road. Though low-density, this segment of Lake Drive has a higher density than the rest of the study area. The remaining and majority of the sections of Lake Drive and Hedge Road are adjacent to even lower density, rural residential communities, some parklands, and some commercial areas. Additionally, various sections of this segment have a direct, unobstructed view of Lake Simcoe.

Lake Drive and Hedge Road are not only roads that travels through the Town of Georgina; they are popular destinations for residents and visitors alike, and a key landmark for the Town. The Study Area includes the following sections of Lake Drive and Hedge Road, as illustrated on **Figure 1-1**:

- Lake Drive South between Ravenshoe Road and Bayview Avenue;
- Lake Drive North between Church Street and Metro Road North;
- Lake Drive North and East between Coxwell Street and South Drive;
- Lake Drive East between South Drive and Hedge Road;
- Hedge Road between Lake Drive East and Park Road.

Figure 1-1: Study Area Map



1.2.1 STUDY AREA SEGMENTS

Lake Drive travels through different communities within the Town. The character of the road and surrounding community changes from one end of the corridor to another. Given the drastic change in the character of the study area and the roadway conditions, to improve and provide the safe and comfortable travel along the corridor for pedestrians, cyclists and motorists, a granular approach will be taken. A “one-size-fits-all” approach is inappropriate for this study given its varying street typology, character and existing and planned conditions. As such, the study area was divided into sections to provide a more localized solution to each area of the study. Given that the length of each section, some sections were further broken down into “segments” based on its neighbourhood, land uses and roadway characteristics and typology. The three (3) Sections of the Study Area are shown in **Figure 1-2** below.

The Lake Drive South section starts at Ravenshoe Road and concludes at Bayview Avenue. This section is not broken down into further segments. The Lake Drive North and East sections are subdivided into multiple segments, each distinguished by their unique neighbourhoods, communities, land uses, and roadway features. The segments and their unique characteristics are summarized in **Table 1-1** below.

Figure 1-2: Sections of the Study Area

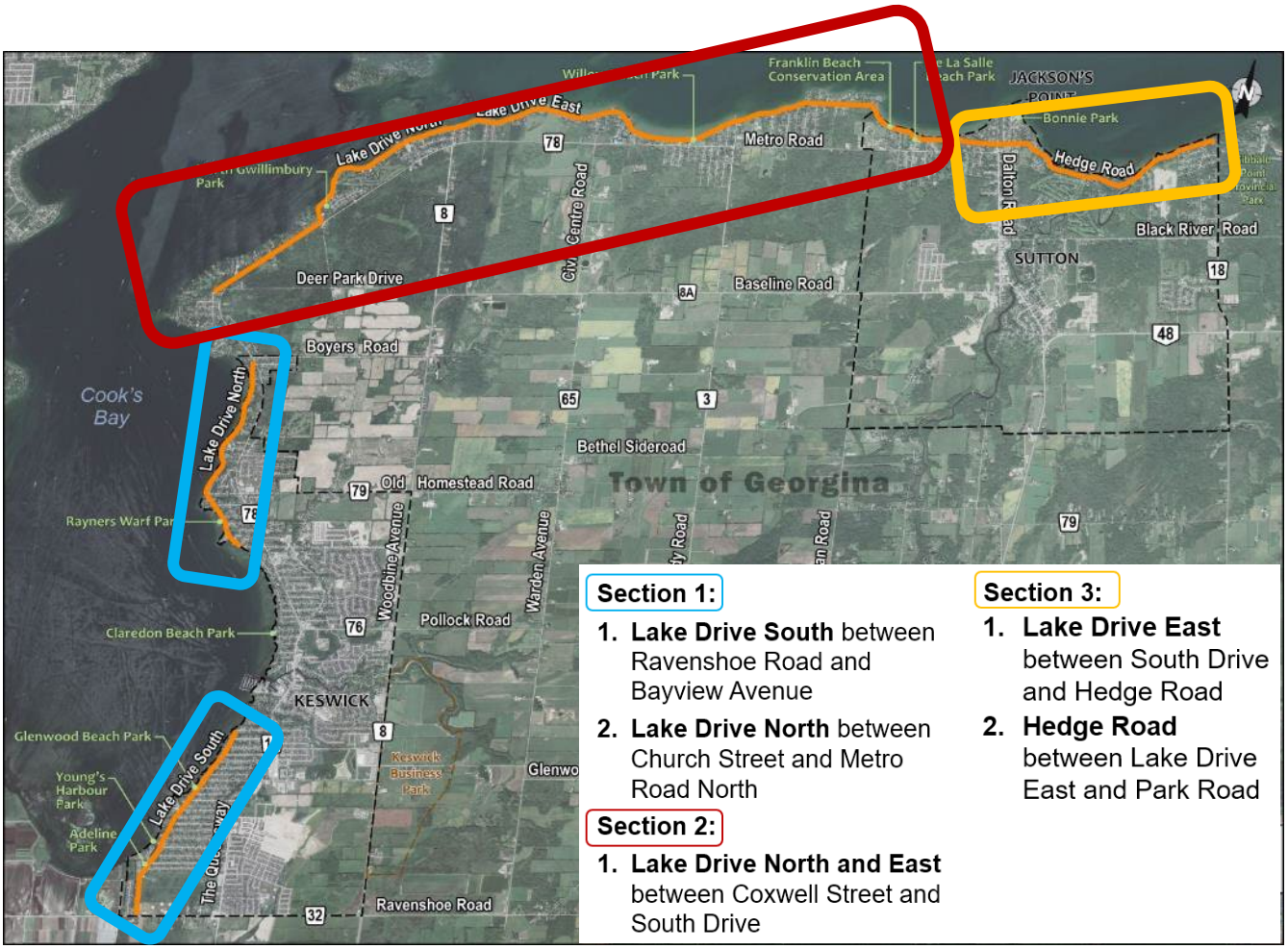


Table 1-1: Study Area Segment Characteristics

Section	Segment	Adjacent Community Characteristics	Land Use and Socio-Economic Character	Photo of Typical Conditions
Lake Drive South	Ravenshoe Road to Bayview Avenue	No Curbs or Sidewalks, unpaved shoulder	Community of Keswick Suburban Denser residential neighbourhood	
Lake Drive North	Church Street to Metro Road North	No Curbs or Sidewalks	Community of Keswick Transition from suburban to rural community	

Section	Segment	Adjacent Community Characteristics	Land Use and Socio-Economic Character	Photo of Typical Conditions
Lake Drive North - Lake Drive East	Coxwell Street to South Drive	No Curbs or Sidewalks	Scenic, rural stretch Access to various waterfront parks	
Lake Drive East	South Drive to Ravenswood Drive	Sidewalks, Curbs	Scenic, rural community Quieter than Keswick and Sutton Low density	

Section	Segment	Adjacent Community Characteristics	Land Use and Socio-Economic Character	Photo of Typical Conditions
Lake Drive East	Ravenswood Drive to Lorne Street	Parking lane, Sidewalks, Curbs	Jackson's Point More commercial properties	
Lake Drive East	Lorne Street to Hedge Road	Sidewalks, Planting strip, Curbs	Widest ROW of the study area Road more developed and suburban in nature	

Section	Segment	Adjacent Community Characteristics	Land Use and Socio-Economic Character	Photo of Typical Conditions
Hedge Road	Lake Drive East to Park Road	No curbs or Sidewalks	Community of Sutton Lower density More natural heritage features leading up to Sibbald's Point Provincial Park	

1.3 Municipal Class Environmental Assessment Study

Municipal infrastructure projects are subject to the Ontario Environmental Assessment Act (EA Act). The Municipal Class EA (Municipal Engineers Association October 2000, as amended in 2023) is an approved self-assessment process under the EA Act that applies to municipal infrastructure projects including roads, water and wastewater.

The Municipal Class EA outlines a planning process to consider the environmental and technical advantages and disadvantages of alternatives in order to determine a preferred solution for addressing problems and opportunities.

- The three categories of projects/activities to which the Municipal Class EA applies are:
  - Exempt: Includes normal or emergency operational and maintenance activities, which are limited in scale and have minimal adverse environmental effects and therefore exempt from the MCEA.
  - Schedule B: Includes projects that have the potential for adverse environmental effects. This includes improvements and minor expansions of existing facilities. These projects are approved subject to a screening process which includes consulting with stakeholders who may be directly affected and relevant review agencies.
  - Schedule C: Includes the construction of new facilities and major expansions to existing facilities. These undertakings have the potential for significant environmental effects.

The anticipated environmental impacts of the improvements and recommendations from the Lake Drive Functional Assessment Study are limited in scale and will have minimal adverse environmental effects, as any and all recommendations will be implemented within the existing pavement area. Therefore, the Study meets the criteria for an “Exempt” project.

However, recognizing the high public profile of this project and the value of community engagement, the Town of Georgina is going above and beyond the MCEA requirements by engaging the community and generally following a Schedule ‘B’ MCEA process, completing Phases 1 and 2 of the MCEA process.

1.4 Functional Assessment Study

A Functional Assessment Study is a process used to evaluate the operational and safety characteristics of a roadway based on its needs and opportunities.

By following the MCEA process, the Lake Drive Functional Assessment Study will:

- review the existing and planned conditions of the corridor,
- consider the best practices for road design as it relates to safety and operations for this roadway,
- identify potential roadway design alternatives that can address the identified issues and opportunities,
- develop a context-appropriate evaluation criteria,
- evaluate the alternatives, and
- recommend a series of alternatives that are localized and context-sensitive to each segment of the Study Area.

This Study is limited to improvements within the existing paved road areas. This was communicated throughout the Study's consultation program.

Various aspects of the road will be examined to determine how well it meets the intended purpose and accommodates the needs of different road users, such as pedestrians, cyclists, and motorized vehicles. For the Lake Drive Functional Assessment Study, all road users will be considered.

The Study aims to identify the potential issues and the areas for improvement, including the design, traffic flow, signage, traffic calming, road markings, visibility/sightlines, parking restrictions, speed limits and other factors that affect road functionality and safety. The findings and recommendations from the Lake Drive Functional Assessment Study will be used to implement operational improvements, plan road maintenance or upgrades, enhance road safety measures, and optimize the overall functionality of Lake Drive and Hedge Road.

2 CONSULTATION AND ENGAGEMENT

Consultation is a key component of this Study. The Project Team engaged with various stakeholder groups to solicit feedback based on their level of understanding of the Study, as well as considering how they would be impacted by the potential direction suggested further in the project. The intent of the consultation process was to ensure that all stakeholders and Indigenous Communities are given the opportunity to provide input on the transportation needs and existing environment along the Lake Drive and Hedge Road corridor, as well as on the assessment of alternatives, and preferred design. The following section documents the key consultation events with stakeholders and Indigenous Communities during this Study.

The following table is an overview of the consultation, engagement and communication tools and tactics that were carried out to inform the Study process at each of the project phase. The strategy was built together upon discussions with the Town of Georgina.

Table 2-1: Consultation Phases and Descriptions

Project Phase	Objective	Engagement Activities to Meet Objectives
TM #1: Problem Statement and Background Review	• Collect feedback from the identified stakeholder groups based on the context and the potential impacts on the stakeholders • Identify stakeholder preferences • Confirm approach and milestone • Formally commence the project • Preliminary information gathering and promotion • Develop Problem Statement	• Communications and Consultation Management Plan • Project webpage • Public and Council surveys • Mailing list • Risk workshop • TAC meeting • Council 1:1 meetings
TM #2: Identification and High-Level Evaluation of Alternative Solutions	• Collect feedback from the identified stakeholder groups based on the context and the potential impacts on the stakeholders • Collect feedback from the identified stakeholder groups • Provide critical background information • Demonstrate work completed and how input has been used • Inform identification of alternatives • Identify evaluation criteria	• Virtual workshop for residents, public, and open all stakeholder groups • Public online survey • Beach pop-ups

Project Phase	Objective	Engagement Activities to Meet Objectives
	• Gather feedback on preliminary solutions • Establish buy-in to the preferred design	
TM #3: Detailed Evaluation of Alternatives	• Collect feedback from the identified stakeholder groups based on the context and the potential impacts on the stakeholders • Demonstrate stakeholder commitment • Provide overview of final documentation and recommendations • Establish buy-in and adoption	• Notice of PIC • Public Information Centre (PIC) • Circulation of final preferred concept to TAC and stakeholders • Presentation to Council • Record of consultation and engagement • Notice of Study Completion • 30-day public review

2.1 Study Notifications

A joint Notice of Study Commencement and Public Information Centre (PIC) for the Lake Drive Functional Assessment Study was issued on September 12, 2023, to provide notification of the Study's initiation and provide details on how to participate.

2.2 Indigenous Communities

Indigenous Communities were engaged during this Study as they are rights-holders to this land. Though there are no adverse environmental impacts being considered, Indigenous Communities have special interest in studies near waterways and bodies of water. The Town of Georgina has an existing relationship with the Chippewas of Georgina Island, who were consulted during this process. The Town of Georgina notified the Chippewas of Georgina Island on September 22, 2023 of the project and PIC. The Town will continue to notify and engage the community as they move towards Detailed Design and further associated studies.

2.3 Consultation During Project Phase 1: Problem and Background Review

During Phase 1: Technical Memorandum #1 – Problem and Background Review, the following consultation activities were carried out as **Engagement Round #1 Consultation:**

1. TAC Meeting #1
2. Stakeholder Round #1
3. Council On-On-One Meetings Round #1

A summary of these meetings is provided in the follow Sections.

2.3.1 TECHNICAL ADVISORY COMMITTEE (TAC) MEETING

A Technical Advisory Committee (TAC) was convened to provide technical guidance on the proposed alternatives for the route. The TAC meeting was designed to build awareness behind the purpose of the project and to identify existing conditions and restrictions early on. The formal invitation was shared with the following agencies:

- Ontario Ministry of Transportation
- York Region
- York Region Public Health Services
- York Region Transit
- York Region Emergency Services
- York Region School Boards
- Lake Simcoe Region Conservation Authority

The Project Team met with the Lake Simcoe Region Conservation Authority (LSRCA) and the York Catholic District School Board (YCDSB) on May 31, 2023.

2.3.2 COUNCIL MEETINGS

Individual, one-on-one meetings with each of the Town's Councillors were held on May 31 and June 7, 2023 to present the purpose of the study and seek their understanding of the problems and opportunities in each of the corridors. Throughout the session, the Project Team collected feedback on Council's vision for the corridor, and what how the public space on the corridor should be allocated to different modes and serve the community.

2.4 Consultation During Project Phase 2: Identification and High-Level Evaluation of Alternative Solutions

During Phase 2: Technical Memorandum #2 – Identification and High-level Evaluation of Alternative Solutions the following consultation activities were carried out as **Engagement Round #2 Consultation:**

1. Public Survey
2. Virtual Public Workshop
3. Beach Pop-Up Event

A summary of these meetings is provided in the follow Sections.

2.4.1 PUBLIC SURVEY

Between August 3 and August 27, 2023, a public survey, designed on an interactive platform Mentimeter, was posted on the Town of Georgina website that allowed residents to identify their priorities for the proposed Lake Drive and Hedge Road alternatives. The survey was posted on the Town's website and was mailed out to all residents that front Lake Drive East, North, South, and Hedge Road with access to the survey via a QR code and the webpage link. Advertisement for this survey was also provided via the Town's website and social media channels.

The main structure of the survey broke down the three sections of study area and collected a response on each section separately. A paper version of the survey was also prepared and was available to the public in the in-person beach pop-up events. A copy of the survey questions is provided in **Appendix A**. It collected respondents' vision and preferred priorities for each Section.

For each Section, participants were asked to identify their relationship to the corridor and were offered a chance to leave comments on their vision for each respective section of the study area. Participants were then allocated a "budget" of 100 points per Section to distribute towards a selection of pre-identified outcomes to measure residential priorities for each section of the corridor. The combined scores from all respondents were then used to help the Project Team determine the priorities for the corridor. Finally, at the end of each of the three sections respondents were asked to evaluate a series of statements by ranking their level of agreement on a 5-point scale, where 1 signified 'not agreeable' and 5 indicated 'most agreeable'.

The results of the survey data and data analysis is broken down for each Section of the Study Area, from Section 1 to 3, and is provided in the following sections, respectively.

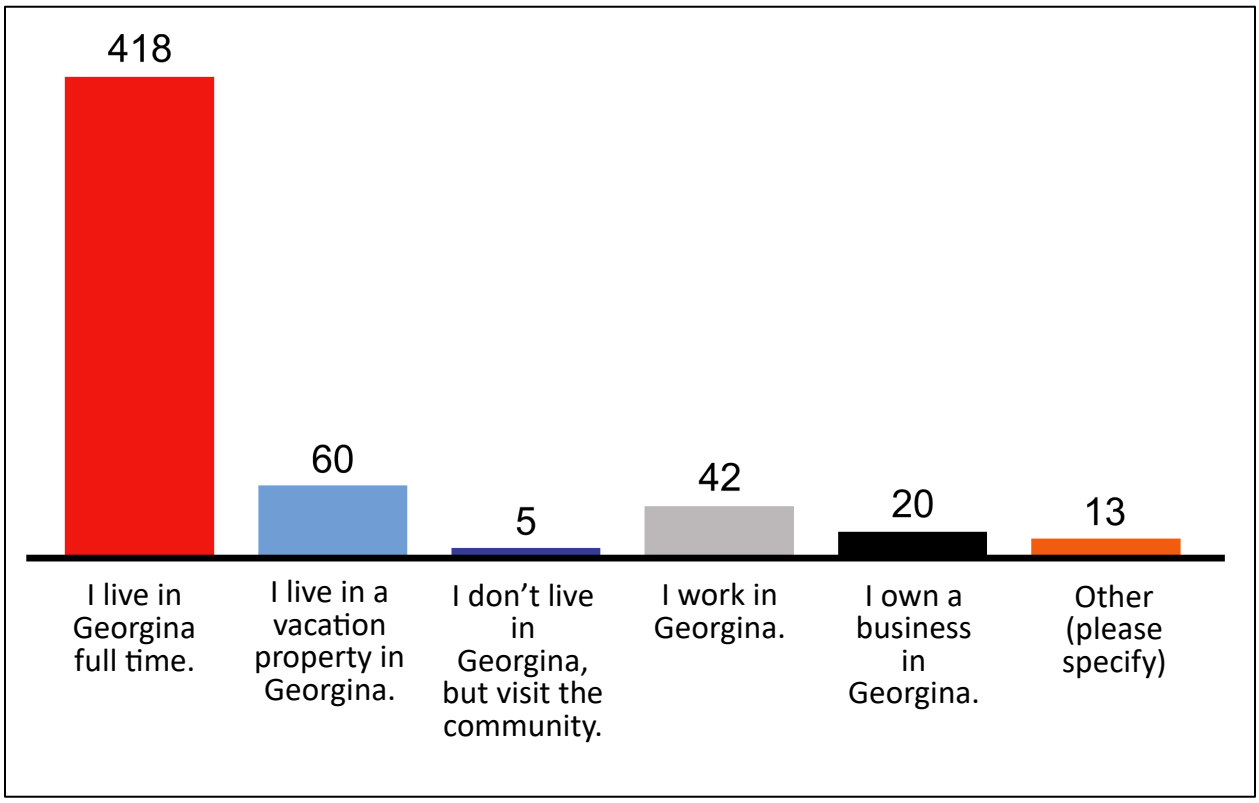
558 people responded to the online survey on the Study webpage, including:

- 86 residents directly living in Section 1
- 121 residents directly living in Section 2
- 53 residents directly living in Section 3

Based on how respondents identified their relationship with each section of the study area, the total number of respondents in each section of the study area is as follows:

- A total of 197 respondents living in Section 1
- A total of 229 respondents living in Section 2
- A total of 128 respondents living in Section 3

Figure 2-1: Relationship of Respondents to the Town of Georgina



2.4.1.1 SECTION 1

The most common ideas expressed in the comments for Section 1 are:

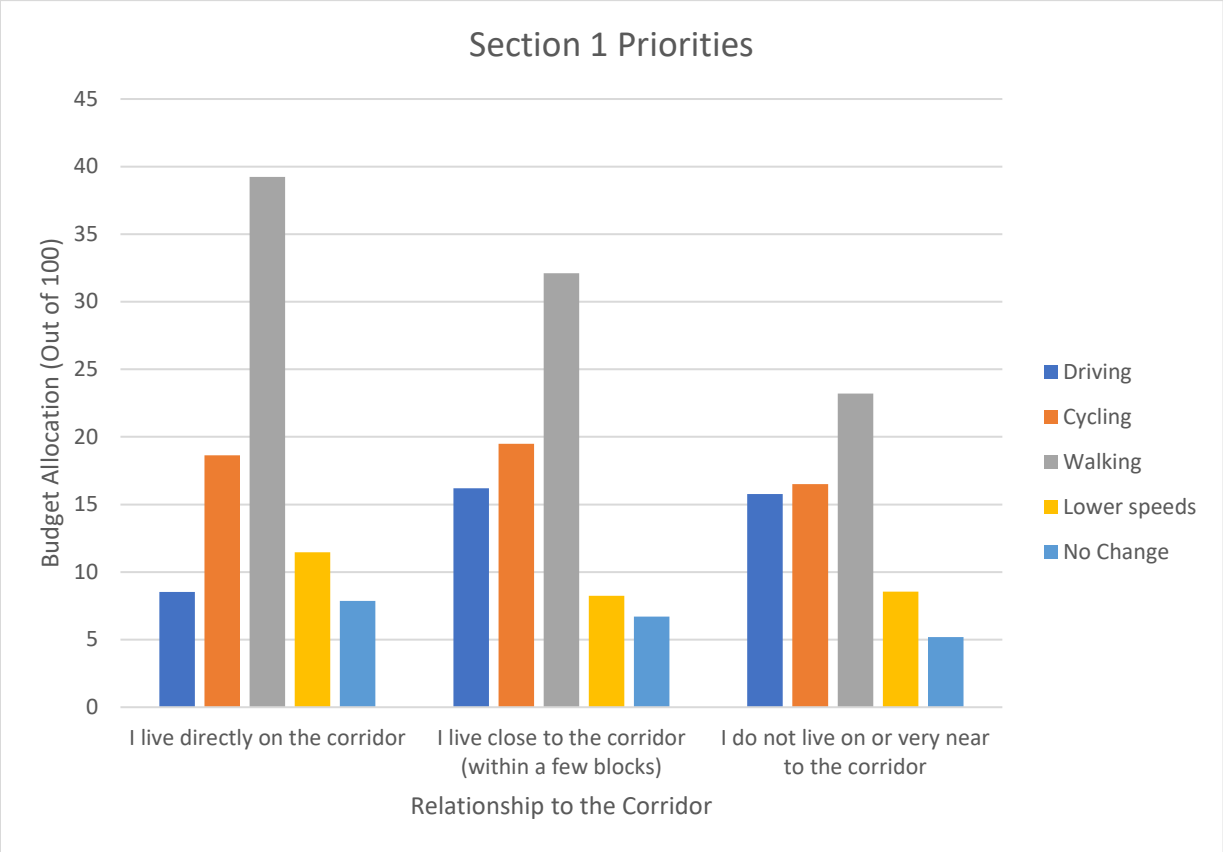
1. Making the road one-way to reduce congestion and improve safety. (43 mentions)

2. Adding speed humps to reduce speeding and improve safety. (17 mentions)
3. Creating a separate lane or sidewalk for pedestrians and cyclists to improve safety and reduce congestion. (20 mentions)

When residents on the corridor, residents adjacent to the corridor, and non-residents were asked to identify their vision and priority for improving Lake Drive South and North, their identified priorites ranked as shown in **Figure 2-2**. Key takeaways are:

- The key priorities for all three groups of respondents were walking, cycling, and driving respectively, with "No Change" as the least desired option for this section.
- Traffic calming and lower speeds were identified as means to improve the safety on this section of study area.
- Walking and cycling were given increasingly higher priority compare to driving, when living close to or directly on the corridor.

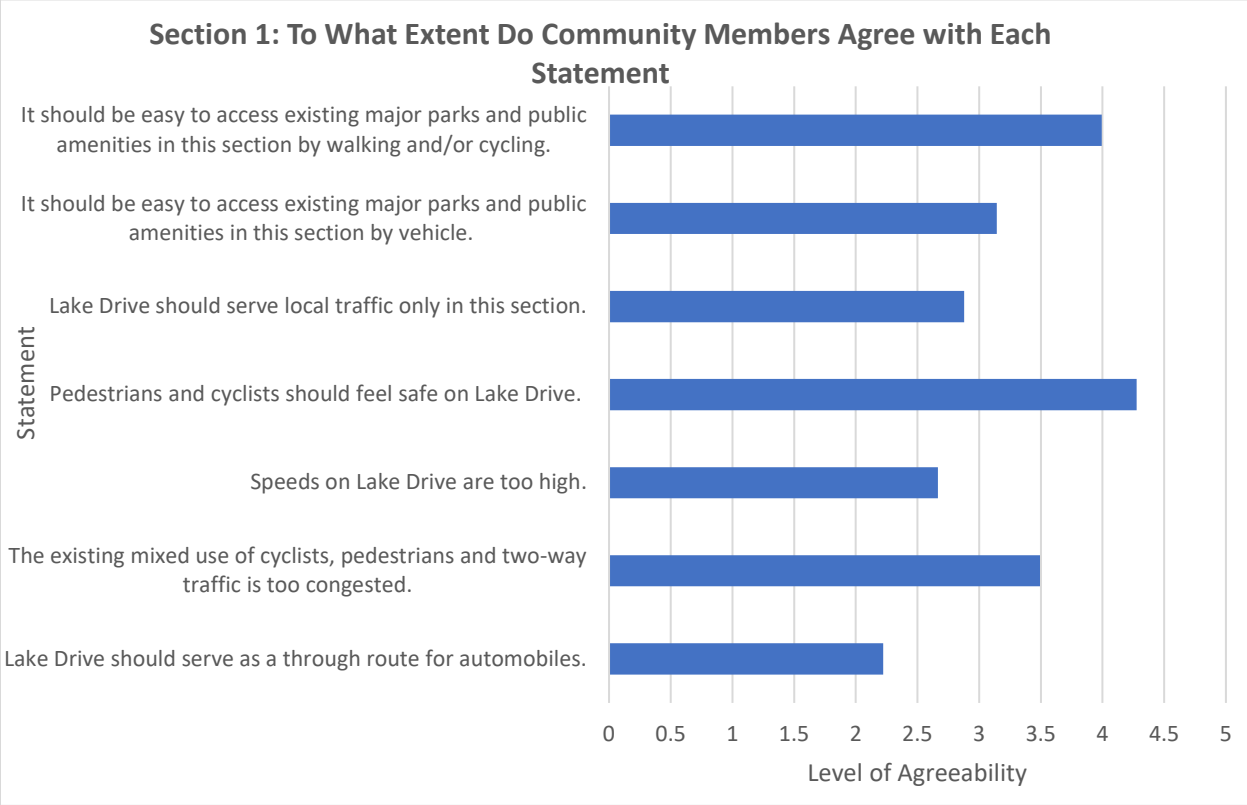
Figure 2-2: Section 1 Priorities by Relationship to Corridor



When respondents were asked to rank their agreeability to 7 statements pertaining to the corridor, they indicated the following, and illustrated in **Figure 2-3**:

- All three groups of residents on the corridor, residents adjacent to the corridor, and non-residents supported making the corridor safer for pedestrians and cyclists to traverse and to improve access to major parks and amenities along the corridor.
- Respondents agreed that the existing conditions of the corridor were not suitable for any particular user of the corridor as it is far too congested for vehicles, pedestrians and cyclists.
- The average results between all three groups of respondents indicated that there was the least amount of support for making Section 1 of Lake Drive a through-route for automobiles, e.g., no change.

Figure 2-3: Section 1 Ranking of Agreeability to Statements



2.4.1.2 SECTION 2

The most common ideas expressed in the comments for Section 2 are:

- Making Lake Drive a **one-way street** for vehicles, with several comments suggesting this idea. (43 suggestions)
- Creating **dedicated lanes** for pedestrians and cyclists, with several comments suggesting the creation of sidewalks, bike lanes, or multi-use paths. (21 comments)
- **Enforcing speed limits** and increasing police presence to monitor speeding. (14 comments)

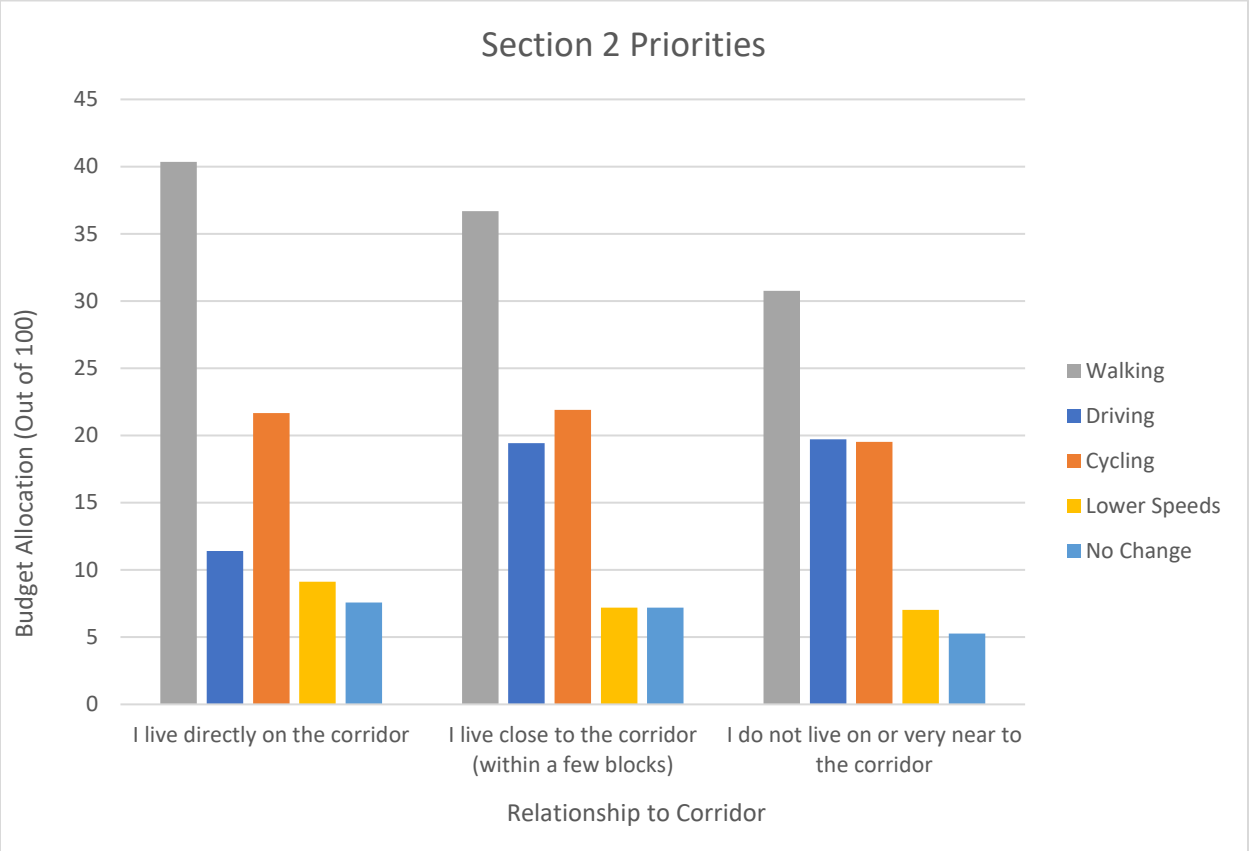
- Adding **speed humps** or other traffic calming measures to slow down vehicles. (10 comments)

Only 6 comments indicated that Lake Drive should continue to prioritize driving.

When residents on the corridor, residents adjacent to the corridor, and non-residents were asked to identify their vision and priority for improving section 2 of the study area, their identified priorites ranked as shown in **Figure 2-4.** Key takeaways are:

- All three groups of respondents overwhelmingly supported wanting to improve walking along Section 2. Residents who live directly on the Section 2 area allocated 40 points out of 100 on average towards improving walking conditions, the highest allocation of points among any of the values demonstrated in the chart.
- Residents who live directly on or adjacent to the corridor, prioritized walking and cycling as two main modes of transportation on section 2.
- Respondents who do not live near the corridor indicated that they would like to see driving and cycling access improved along the corridor following the strong desire to improve walking conditions.
- Residents in all three categories limitedly supported lowering vehicle speeds along the corridor or changing the corridor at all.

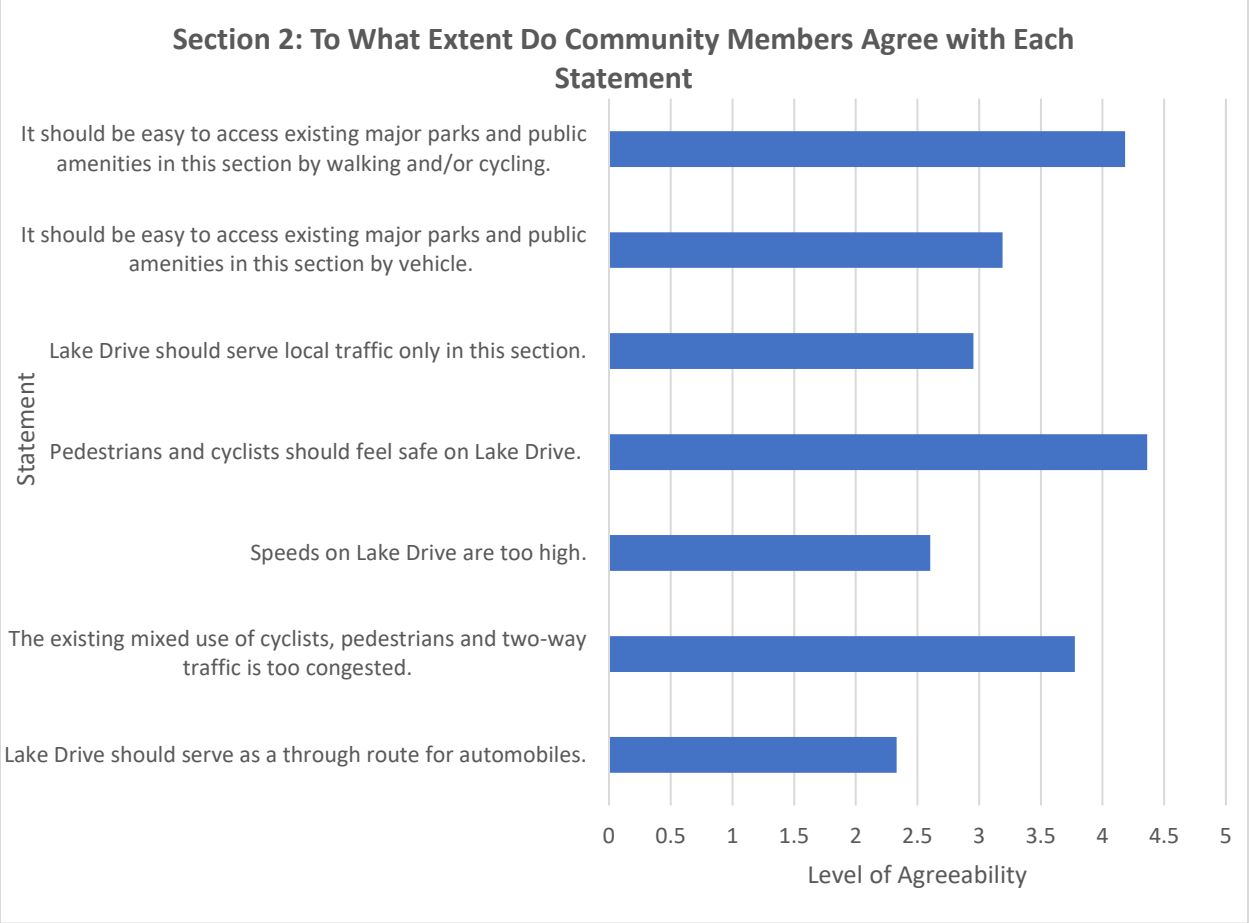
Figure 2-4: Section 2 Priorities by Relationship to Corridor



When respondents were asked to rank their agreeability to 7 statements pertaining to the corridor, they indicated the following, and illustrated in **Figure 2-5**:

- Residents living along the corridor, those adjacent to it, and non-residents all expressed a strong desire to enhance pedestrian and cyclist safety along the corridor.
- Respondents unanimously agreed that the current state of the corridor does not cater effectively to any particular mode of transportation due to constrained right of way and severe congestion, making it challenging for vehicles, pedestrians, and cyclists to navigate.
- When averaging the responses from all three groups of participants, it became evident that there was the lowest level of support for the idea of designating Section 2 of Lake Drive as a through route.

Figure 2-5: Section 2 Ranking of Agreeability to Statements



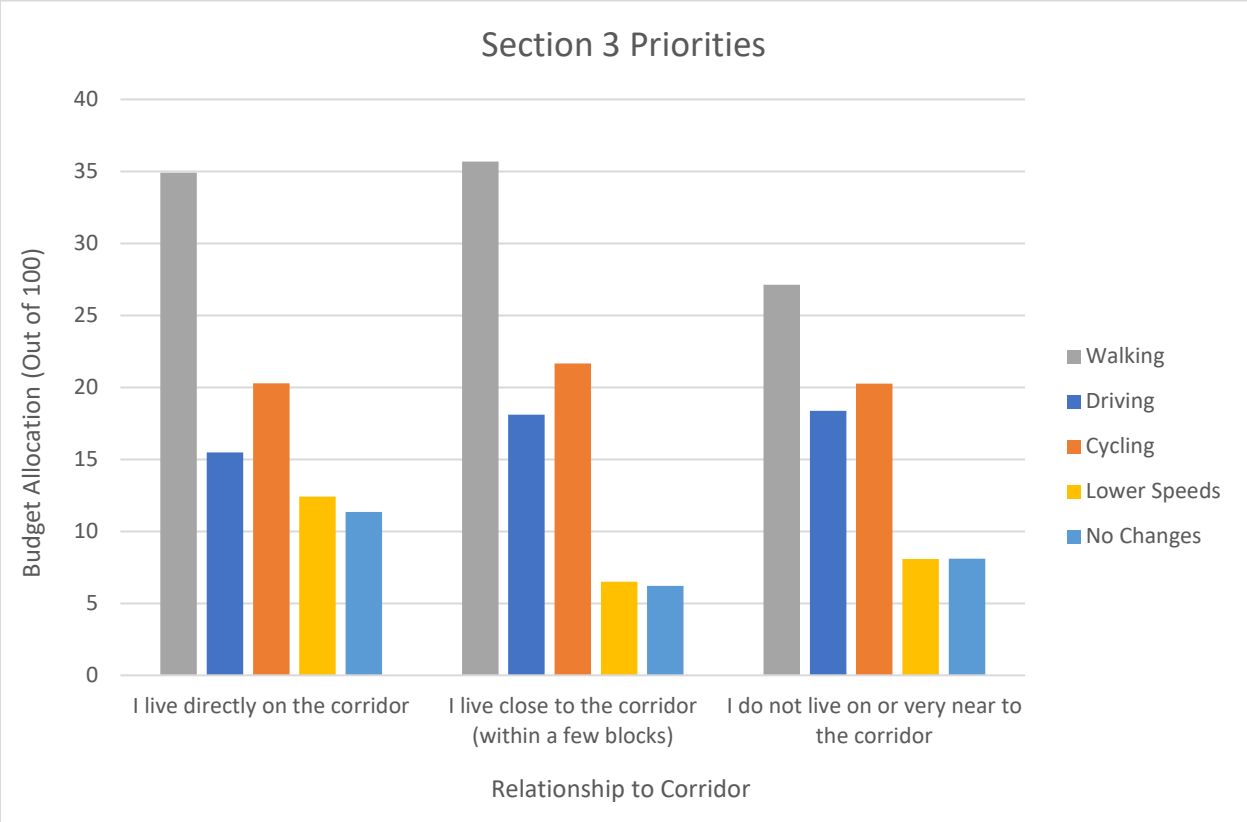
2.4.1.3 SECTION 3

The most common ideas expressed in the comments for Section 3 are:

- The addition of sidewalks and bike paths to improve safety for pedestrians and cyclists.
- The installation of speed bumps and the enforcement of speed restrictions to slow down traffic.
- The monitoring and enforcement of rules for visitors and tourists.
- The consideration of one-way traffic on Lake Drive.

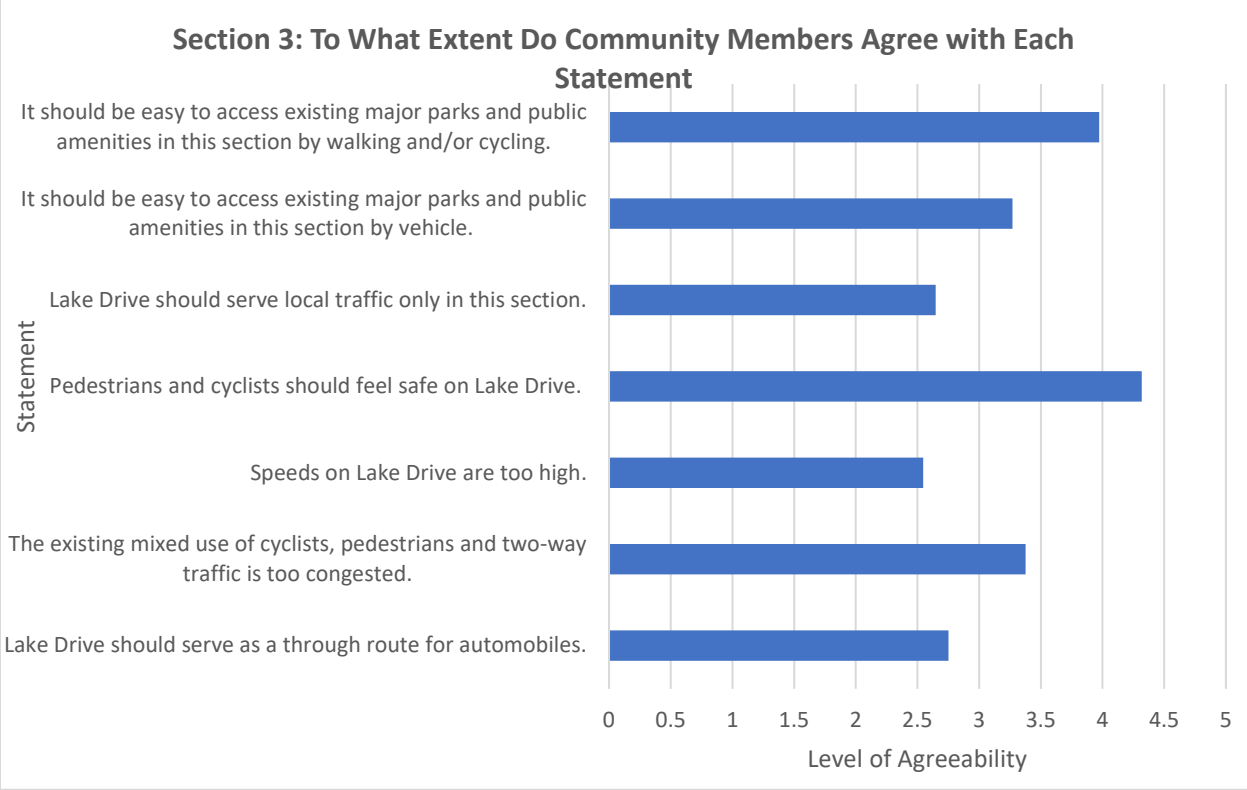
The trends observed from respondents in Section 1 and 2 remain consistent for Section 3. Respondents from all three sections shared the same vision and priorities for improving the conditions for walking along the corridor. The priorities for Section 3 are shown in **Figure 2-6**. Following this there was a strong support for improving the safety of those cycling.

Figure 2-6: Section 3 Priorities by Relationship to Corridor



A similar trend occurred in Section 3 where most respondents agreed that the section of Lake Drive and Hedge Road should have enhanced pedestrian and cycling facilities to improve the safety of their respective users. When respondents were asked to rank their agreeability to 7 statements pertaining to the corridor, they indicated the following, and illustrated in **Figure 2-7**.

Figure 2-7: Section 3 Section 1 Ranking of Agreeability to Statements



2.4.2 VIRTUAL PUBLIC WORKSHOP

A virtual Public Workshop was held on at 6:00 pm on August 15 and 17, 2023, and allowed residents to gain a complete overview of the project, learn about the best practices and analysis used on the corridor, and to learn about the proposed alternatives. Registration for the sessions was posted on the Town's website. Advertisement for this presentation was completed via the Town's website and social media channels. 14 and 8 people attended the workshop sessions on August 15th and August 17th respectively. The sessions were recorded and posted on Town's YouTube channel, with 56 views on the video as of November 1st, 2023. Towards the end of the engagement an open discussion period was held where members of the public could have their questions answered by the Project Team.

2.4.3 BEACH POP-UP EVENT

On August 20, 2023, the Project Team hosted 2 pop-up events with the first being held at Willow Beach from 10:00 am to 12:00 pm and the second held on the same day at De La Salle Park from 1:00 pm to 3:00 pm. The objective of these sessions was to provide a high-level overview of the project via board displays and handouts including a link to the public survey and engage discussions with stakeholders regarding their challenges and opportunities with Lake Drive and Hedge Road. The Project Team presented the proposed alternatives for Lake Drive on

poster boards at both events. Members of the public were able to interact and encouraged to provide their feedback directly to the Project Team.

2.5 Consultation During Project Phase 3: Detailed Evaluation of Alternatives

2.5.1 PUBLIC INFORMATION CENTRE

A Public Information Centre was an opportunity for the Town's stakeholders to provide comments and feedback on the preferred alternatives. The PIC was held on September 26, 2023, in De La Salle Park Chapel, between 6:00 pm and 8:00 pm, by the Town and the Project Team. Comments were collected from the public during this session that were recorded discussions and written comments. The PIC displays were also available on the Town's website following the PIC, and comments were accepted until October 10, 2023. Approximately 42 people attended the in-person event.

A summary of the comments received, as well as how these comments were incorporated into the decision-making process, is discussed in **Section 7.3**.

3 PLANNING AND POLICY

This Chapter reviews the planning and policy framework applicable to the Lake Drive Functional Assessment Study. The planning and policy framework guides infrastructure planning, land use planning, and strategic financial decisions to support Provincial, Regional and Local objectives in growth and transportation.

It is important to understand the existing policy framework within which the study resides, so that the identification of the study area problems and opportunities and the final recommendations are consistent with Provincial, Regional and Local policies and objectives.

3.1 Provincial Policy Statement (2020)

The Provincial Policy Statement ("PPS"), 2020, is issued under the Planning Act and supports the planning of land uses across the Province of Ontario. The PPS provides policy direction for the use and management of land, as well as infrastructure while protecting the environment and resources and to ensure opportunities for employment and residential development. The section of the PPS that is applicable to the planning of transportation infrastructure is as follows:

Part IV Vision for Ontario's Land Use Planning System – the development of land should be optimized to promote efficient use of land, resources and public investment in infrastructure and public service facilities. These land use patterns promote mixed uses including residential, employment, recreation, parks and open space. **The supporting transportation infrastructure is to provide choices and promote increased use of active transportation as well as transit before other modes of travel.** This is in support of building livable and healthy communities.

Part V Policies – Specifically, Section 1.6.7 Transportation Systems outlines the policies for infrastructure and public service facilities under transportation systems and policies for transportation and infrastructure corridors. The policies state that:

- "Transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs."
- "As part of a multimodal transportation system, connectivity within and amongst the transportation systems and modes should be maintained and, where possible, improved including connections which cross jurisdictional boundaries." and
- "A land use pattern, density and mix of uses should be promoted that minimize the length and number of vehicle trips and support current and future use of transit and active transportation."

An update to the PPS is expected in 2023. If the PPS is updated and adopted during this Study, this section will be updated with the applicable policies.

The Province is promoting and guiding for safe and sustainable transportation across the province, including in the Town of Georgina. Consistent to the policies as prescribed in the PPS, this study will seek to enhance the transportation mode choices along the corridor by reviewing opportunities for dedicated active transportation facilities and applying safety recommendations. By considering the PPS in the background review, the study can proceed while remaining consistent so that its recommendations align with the broader provincial goals of promoting safe and sustainable transportation.

3.2 Greenbelt Plan (2017)

Adopted under the Greenbelt Act (2005), the Greenbelt Plan (2017) guides the protection of environmentally sensitive areas and agricultural lands from urban development and sprawl. The Greenbelt Plan is a cornerstone of the Growth Plan, that identifies where growth should and should not occur, and how new or expanding infrastructure should be designed and constructed to mitigate negative impacts.

The Greenbelt Plan builds upon the ecological protections provided by the Niagara Escarpment Plan ("NEP"), (2017), and the Oak Ridges Moraine Conservation Plan (ORMCP), (2002). The Greenbelt Plan includes the lands within the NEP and ORMCP.

This study area is within the Greenbelt Plan Area, but outside the NEP and ORMCP areas. As depicted in **Figure 3-1**, the entirety of the Study Area is located within the Protected Countryside designation. Additionally, there are two sections of the Lake Drive Study Area that are located within a town/village designation: Keswick and Sutton.

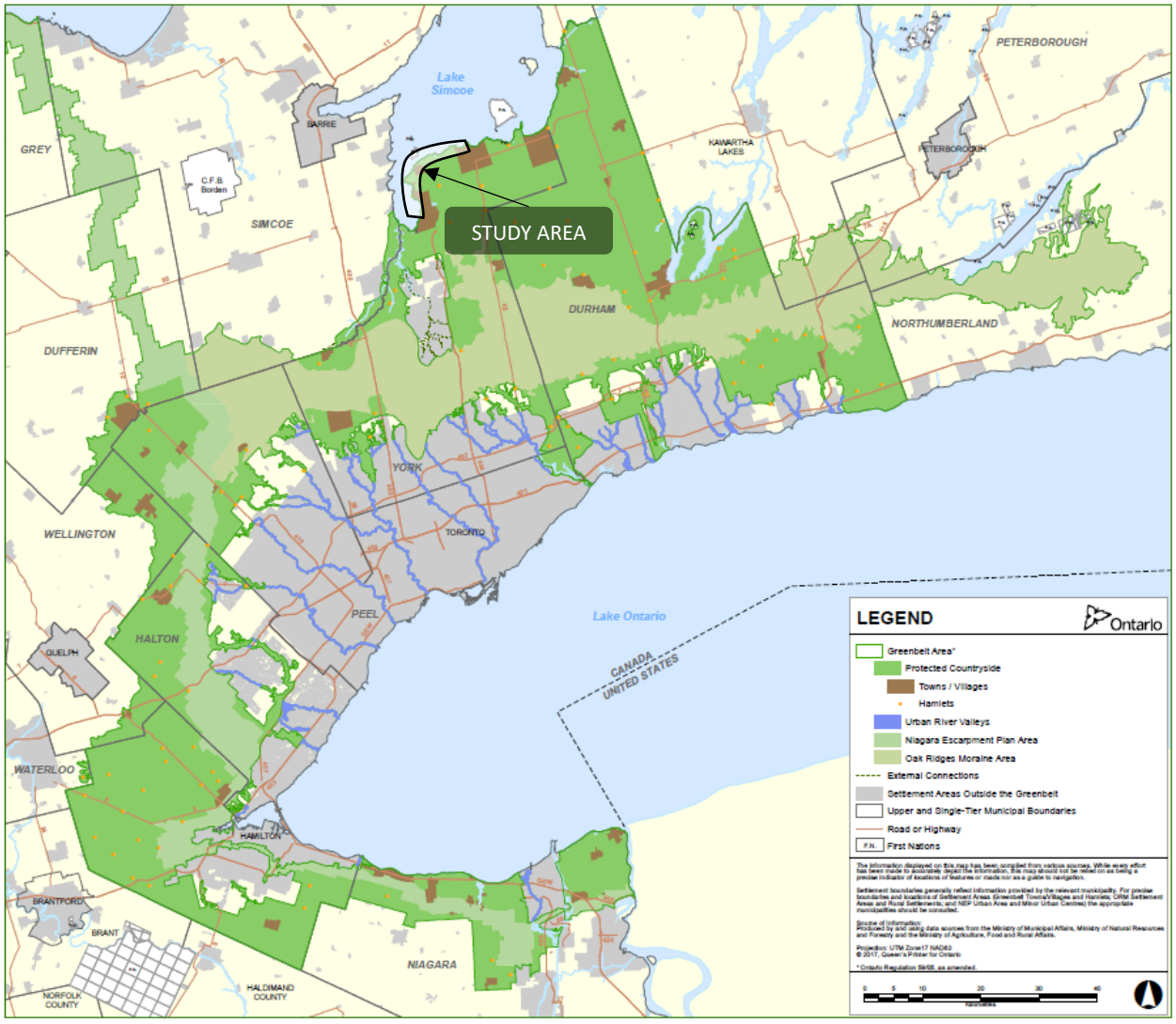
The Greenbelt Plan provides policy direction on transportation and waterfront parks as it relates to environmental protection, culture, recreation and tourism, as well as settlement areas and climate change. Most applicable to this Study are the following policies prescribed in the Greenbelt Plan:

2. Culture, Recreation and Tourism
    b. Provision of a wide range of publicly accessible built and natural settings for recreation, including facilities, parklands, open space areas, trails and water-based/shoreline uses that support hiking, angling and other recreational activities.
3. Settlement Areas
    d. Serving as centres for the development of community hubs where compatible services are co-located to address local needs in convenient locations that are accessible by active transportation and, where available, transit.
6. Climate Change

b. Integrating climate change considerations into planning and managing growth that includes incorporating techniques to reduce greenhouse gas emissions, and increasing the resilience of settlement areas and infrastructure within the Greenbelt.

The Greenbelt Plan provides a strong justification for this Study, as the goals of this Study, which are centered around safety, active transportation and access to waterfront parks, are consistent to the wider, provincial strategy to improve trails and access to recreation at parklands and water-based/shoreline uses.

Figure 3-1: Greenbelt Plan (2017) - Schedule 1: Greenbelt Area



3.3 York Regional Official Plan (2022)

The Regional Official Plan ("ROP", 2022) provides clear direction with respect to long-term growth management balancing the protection and enhancement of its agricultural and natural systems. The Plan builds upon the important planning foundations enshrined in previous iterations, while responding to societal, environmental, and economic changes that have occurred and continue to evolve. The Plan provides a long-term vision for York Region's physical form and community structure.

The major elements of the Plan are based on various Key Guiding Planning Principles, including Enhanced mobility systems using a "people and transit first approach" to connect land use and transportation planning utilizing York Region Master Plans for all modes of transportation including, transit and active transportation.

Chapter 4 of the ROP provides guidance on the Urban Structure of the Region. A portion of the Study Area is located within the "Community Area": Keswick and Sutton (see **Figure 3-2**). Keswick is also designated as an urban area (see **Figure 3-3**). Further, Sutton is also designated as a "Towns and Village", subject to a Town Secondary Plan, as discussed in **Section 3.5**.

The Region identifies Community Areas that cover a significant portion of York Region's Urban System. These areas are where most of the housing, personal services, retail, institutional, cultural and recreational services will locate. **An important objective for York Region's Community Areas is to ensure they are walkable, pedestrian-oriented, and amenity rich locations** which provide residents with a range of services and open spaces within a 15-minute walk or cycle of their home.

Chapter 6 of the ROP provides direction on servicing York Region, including transportation. York Region's approach to transportation planning is focused on making efficient use of existing and future transportation infrastructure, and is one of the key components addressing impacts of a changing climate. At the forefront of this approach are **York Region's comprehensive Transportation Demand Management and Sustainable Mobility Measures that promote walking, cycling, transit use and a per capita reduction in trips taken.**

The ROP notes that to reduce automobile dependence, alternative transportation options need to be innovative, convenient, and reliable. Diverting automobile trips towards more sustainable modes of transportation will improve travel options, enhance air quality, and protect York Region's natural heritage. This goal requires a combination of infrastructure investment, supportive policies, and partnerships.

The ROP directs the expansion of cycling facilities, which is depicted in **Figure 3-3**. This includes cycling facilities on Metro Road, The Queensway and Black River Road as well as streets intersecting Lake Drive. Lake Drive is not included in the ROP as it is a local road; rather, planned improvements to Lake Drive and Hedge Road are found in the local policy documents in **Section 3.5** and **Section 3.6**.

The ROP also provides the plans for a future Regional Trail Network, which includes sections of Lake Drive. This is depicted in **Figure 3-4**.

The York Region Transportation Master Plan provides further, more detailed direction on transportation infrastructure in York Region, as discussed in the following Section.

3.4 York Region Transportation Master Plan (2022)

York Region is one of Canada's fastest growing areas and it is projected to grow by 630,000 people and 325,000 jobs by 2041. The transportation networks within York Region must be optimized and expanded to meet its future growth and intensification. York Region's Transportation Master Plan ("Regional TMP") sets out the infrastructure and policy requirements to create an interconnected system of mobility for the next 25 years. The interconnected mobility system encourages active transportation which is supported by compact, connected, and complete communities.

Adding new Regional roads will not solve traffic congestion issues and in most cases, this will increase automobile dependency. The TMP aims to provide more sustainable transportation options to influence travel behavior, in which transit and active transportation will be become more competitive and accessible. **Enhanced active transportation systems are needed to increase connectivity between neighbourhoods and major destinations, without the reliance of driving on roads.** The purpose statement for the 2022 TMP is to "plan, build, operate and maintain a connected transportation network for all travellers that is safe, reliable, future-ready, sustainable and balances the needs of the unique communities we serve". In addition, the TMP sets out the following five objectives:

- **Make the best use of infrastructure and services** by maximizing the effectiveness of the existing road network;
- **Encourage all types of travel** by designing Regional roads to accommodate all ages, abilities and modes of travel, including AT, transit, passenger vehicles and goods movement;
- **Provide a resilient and adaptable transportation network** that reflects changing social, environmental, financial and technological landscapes;
- **Enhance partnerships** by recognizing the importance of collaborating with the public, business, non-profit organizations and public sector to provide transportation infrastructure, programs and services;
- **Actively engage and share information** to learn from all residents and stakeholders; and

- **Aligned project costs** to ensure project costs are consistent with the Regional fiscal strategy and the 10-year capital plan and are approved by Regional Council annually.

Although Lake Drive is not a Regional Road, it is parallel to York Regional Road 78 (Metro Road) and Lake Drive provides Regional trail connections as a destination along the waterfront. The Regional TMP recommendations that are applicable to this Study are:

- E3.1 A larger, more integrated active transportation network
- E3.3 A more strategic approach to the road network
- E3.4 Transportation needs continue to evolve to support changing land use
- F2. Safety for all travelers
- F3. Transportation equity and inclusion; and
- F4. Reduce car travel, especially during rush hours

The TMP identifies a proposed Region-wide trail network route along Lake Drive consistent to those found in the ROP, as discussed in **Section 3.3**, and as shown in **Figure 3-3** and **Figure 3-4**.

Figure 3-2: York Regional Official Plan (2022) - Map 1A Land Use Designations

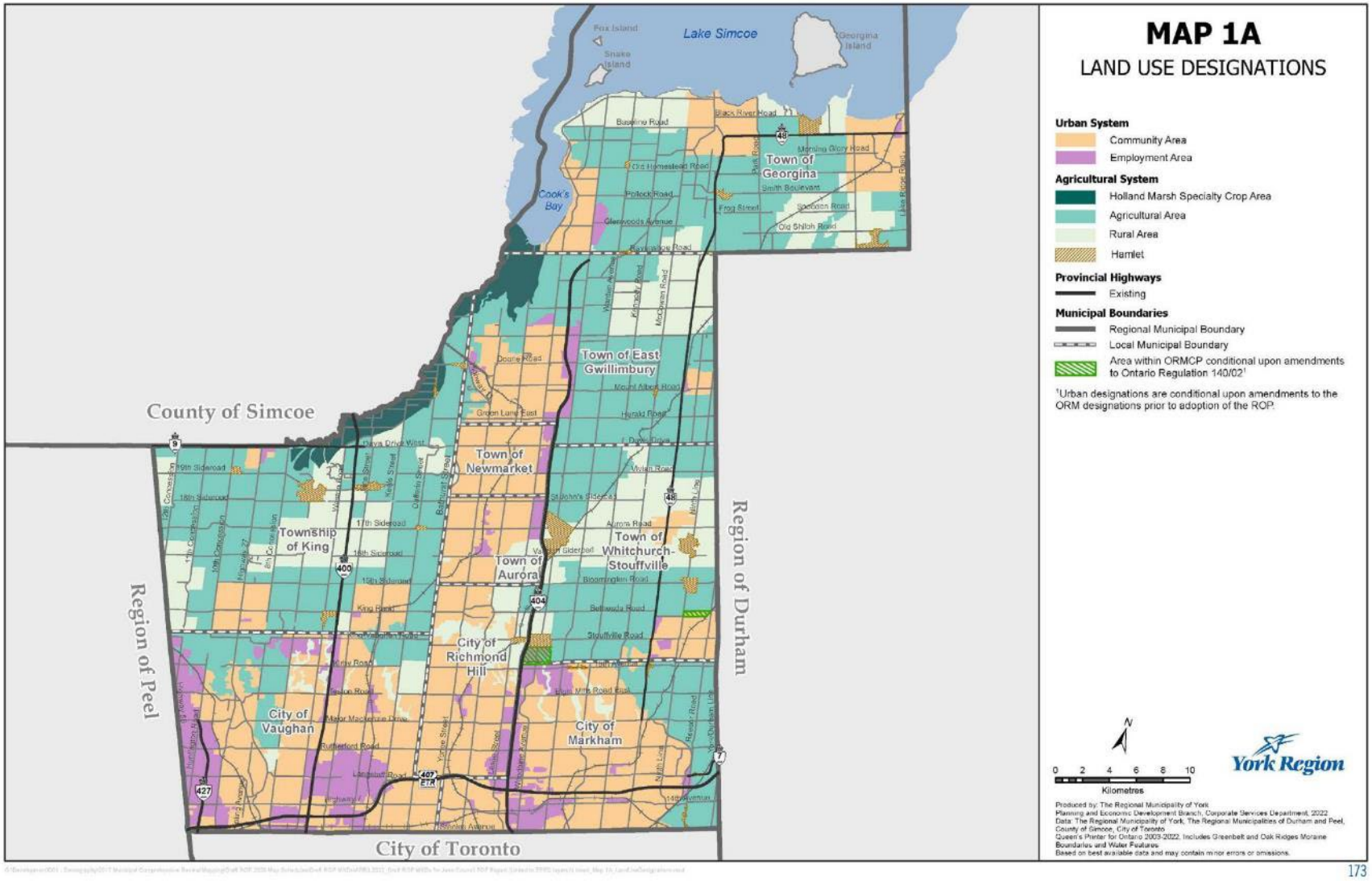


Figure 3-3: York Regional Official Plan (2022) - Map 9A Regional Road Cycling Network

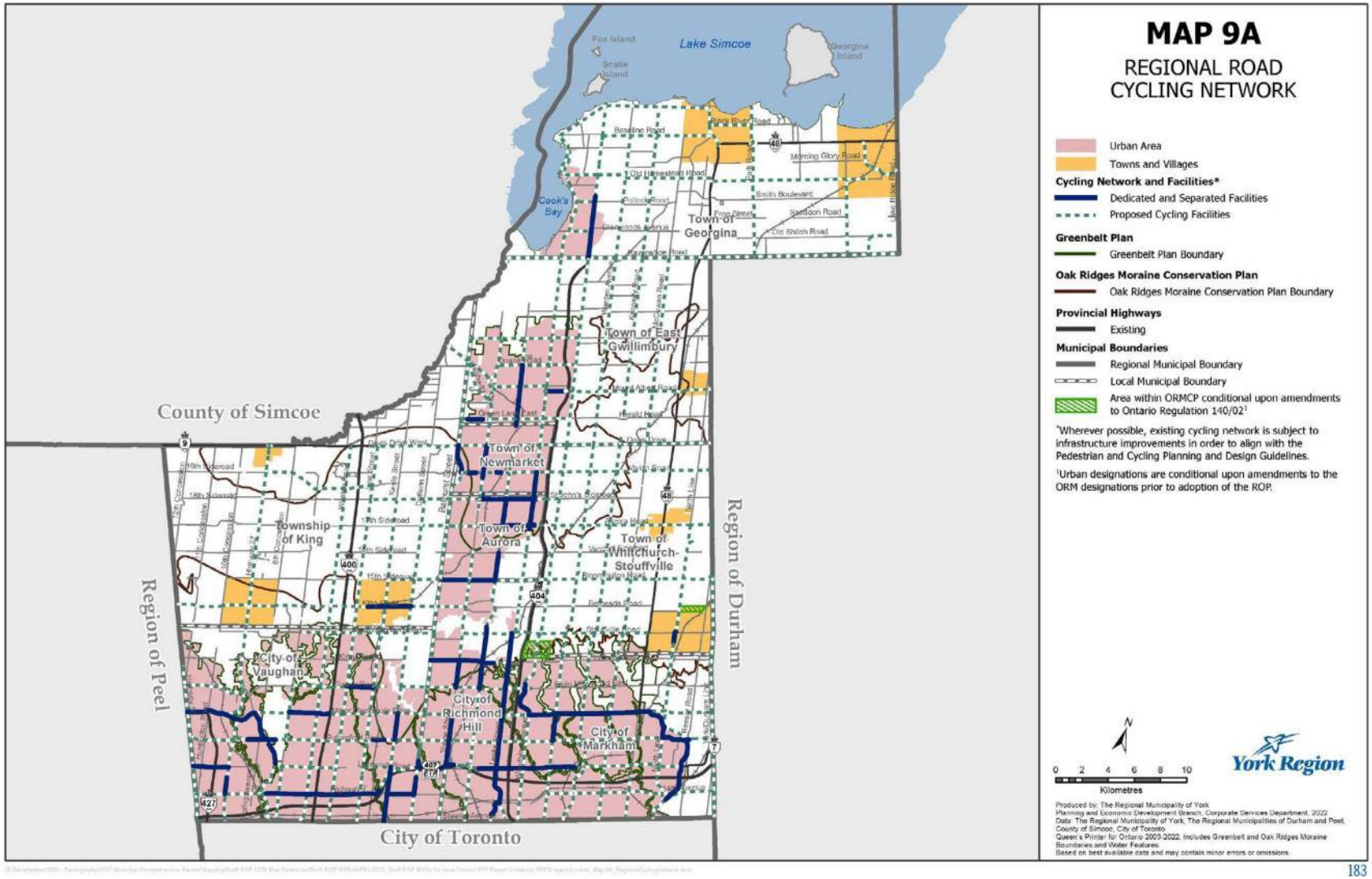
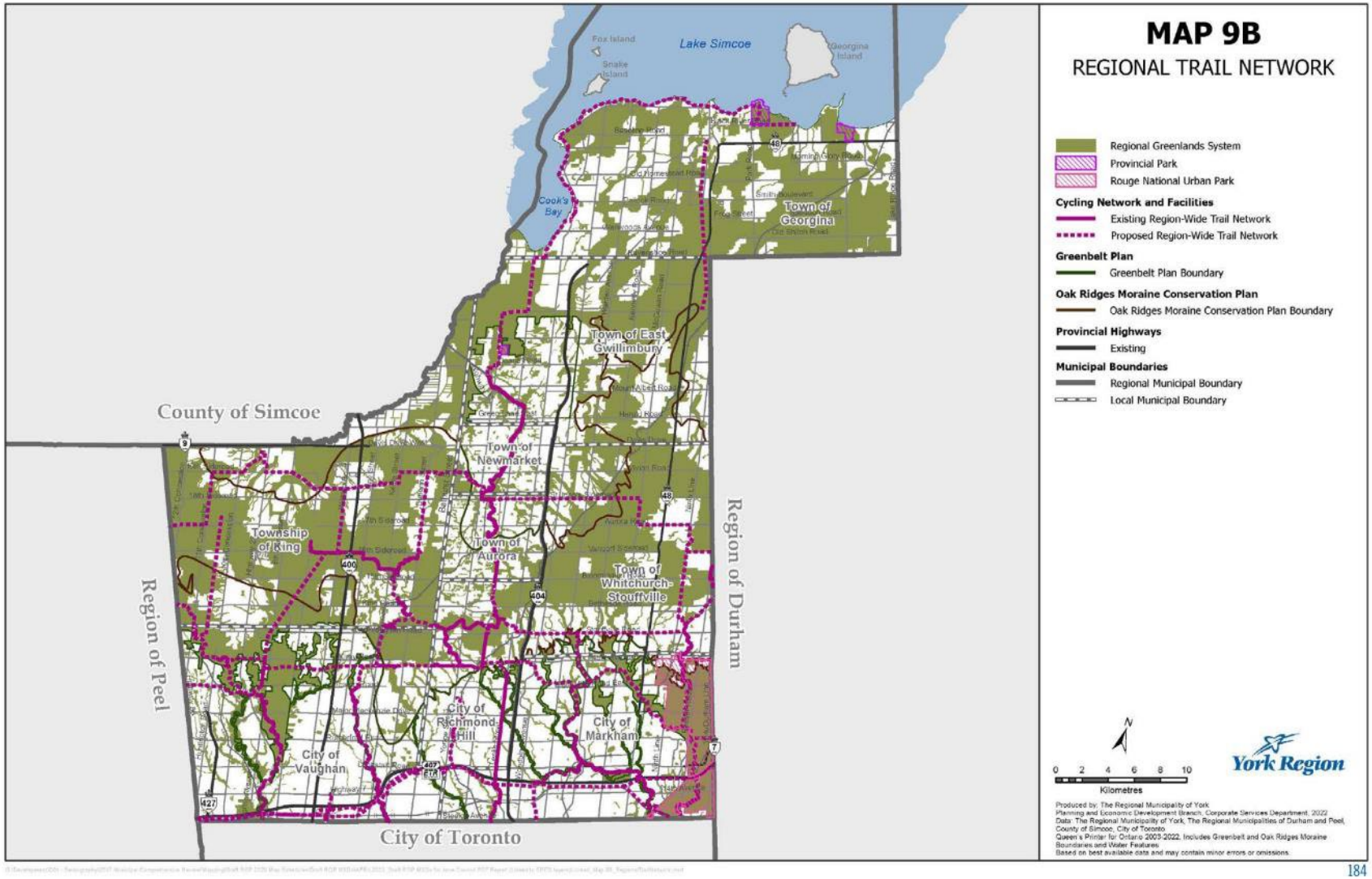


Figure 3-4: York Regional Official Plan (2022) - Map 9A Regional Trail Network



3.5 Town of Georgina Official Plan (2020)

The Town of Georgina Official Plan ("Town OP"), 2020, contains a vision, guiding principles, objectives, and policies which are intended to manage and direct land use, future growth, physical change and the effect on the social, economic and natural environment of the municipality. This Plan supports an ecosystem approach to planning **to ensure that environmental, economic, social and cultural factors are considered and balanced in the decision-making process** that affects the use and development of land, water and air.

The Town OP prescribes the following Guiding Principles and Objectives that are applicable to this Study:

2.2.1 Sustainability Guiding Principle

- To be responsible and efficient in the use of land, resources, services and infrastructure in order to meet the needs of the present without compromising the ability of future generations to meet their own needs.

2.2.2 Sustainability Objectives

- To provide for safe and accessible active transportation linkages between, workplaces, homes, shopping, services, schools, public facilities, points of interest and areas of scenic agriculture or environmental significance, by incorporating appropriate urban design measures such as the provision of walkways, sidewalks, more direct street patterns, and adequate illumination of such facilities in communities to be served by transit.

2.2.11 Healthy and Complete Communities Guiding Principle

- To improve the health and well-being of the people who live, work and play in Georgina, through the development of strong, liveable, safe, accessible and resilient urban and rural communities and the provision of a variety of opportunities for housing, employment, learning, social activity, culture and recreation, and **active transportation** while protecting the natural environment.

8.2 Recreation and Parkland

The Town OP notes that the Town contains a wide range of parks and recreational facilities for the use and enjoyment of the community. The following extracted policies are intended to provide an integrated system of municipally owned parks and other publicly accessible open space areas and trails:

- The feasibility of the development of an extensive pedestrian/bicycle trail system that will follow the Lake Simcoe shoreline where appropriate, and be connected with trails within the Secondary Plan Areas and the Countryside. In addition, where possible this trail system should connect with trails being developed elsewhere in York Region such

as the Lake to Lake Cycling Route and Walking Trail, the Oak Ridges Moraine Trail and the Nokiidaa Trail; and (c) The location of appropriate recreational facilities in the Town.

9.2.4 Trails and Active Transportation

The Town OP notes that a safe and integrated transportation system is essential for the efficient movement of people, goods and services in Georgina.

As depicted in **Figure 3-5**, Lake Drive is designated as a "Local Road" within the Town. Local Roads are designed to serve residential neighbourhoods and other non-major traffic generating areas, provide land access to abutting properties and have a right-of-way width of 20 metres, or a lesser right-of-way width subject to approval of the Town.

The existing and proposed primary cycling network outside of the Secondary Plan Areas is shown on Schedule F – Active Transportation Plan (**Figure 3-5**). The following policies applicable to this Study are intended to achieve this, while also attempting to reduce reliance on the private automobile and encourage active transportation:

- The existing and proposed primary cycling network outside of the Secondary Plan Areas is shown on Schedule F – Active Transportation Plan (**Figure 3-6**). The primary network for active transportation in the Rural Area shall consist of cycling routes along roadways and the trail system. Sidewalks and cycle trails are the primary system for pedestrian and cyclist movement within the Secondary Plan Areas. Where physically and financially feasible, these systems are to be integrated with each other. Where this system cannot be accommodated on public lands, the Town will attempt to secure a right-of-way sufficient to accommodate the system. Therefore, this system shall be co-ordinated with adjacent municipalities and York Region.
- Multi-use trails will be encouraged both as a means of travel and for recreational purposes.
- Bicycle movement shall generally be accommodated in the street right-of-way or on defined cycle routes or trails. Consideration shall be given to the inclusion of bicycle lanes in rights-of-way for new arterial and collector roads. On existing arterial and collector roads, the addition of facilities for bicycles shall be considered when such roads are reconstructed, or where it is physically and financially feasible to do so.
- Linkages along the shoreline of Lake Simcoe [shall] support tourism, and in particular promote active transportation between the major beachfront areas and the business community.

The Lake Drive Functional Assessment Study will be guided by these principles and policies to be consistent to Town-wide objectives as they relate to transportation infrastructure and growth. Particularly, the Study will develop and evaluate alternatives based on their consistency to the Town's overall vision for active transportation along Lake Simcoe. As with the intent of this OP, the Study will ensure that environmental, economic, social and cultural factors are considered and balanced in the decision-making process.

The parallel roads to Lake Drive are Metro Road, The Queensway and Black River Road, which are Regional Roads, subject to the York Regional Transportation Master Plan policies, as discussed in **Section 3.4**.

Figure 3-5: Town of Georgina Official Plan (2020) - Schedule E: Roads Plan

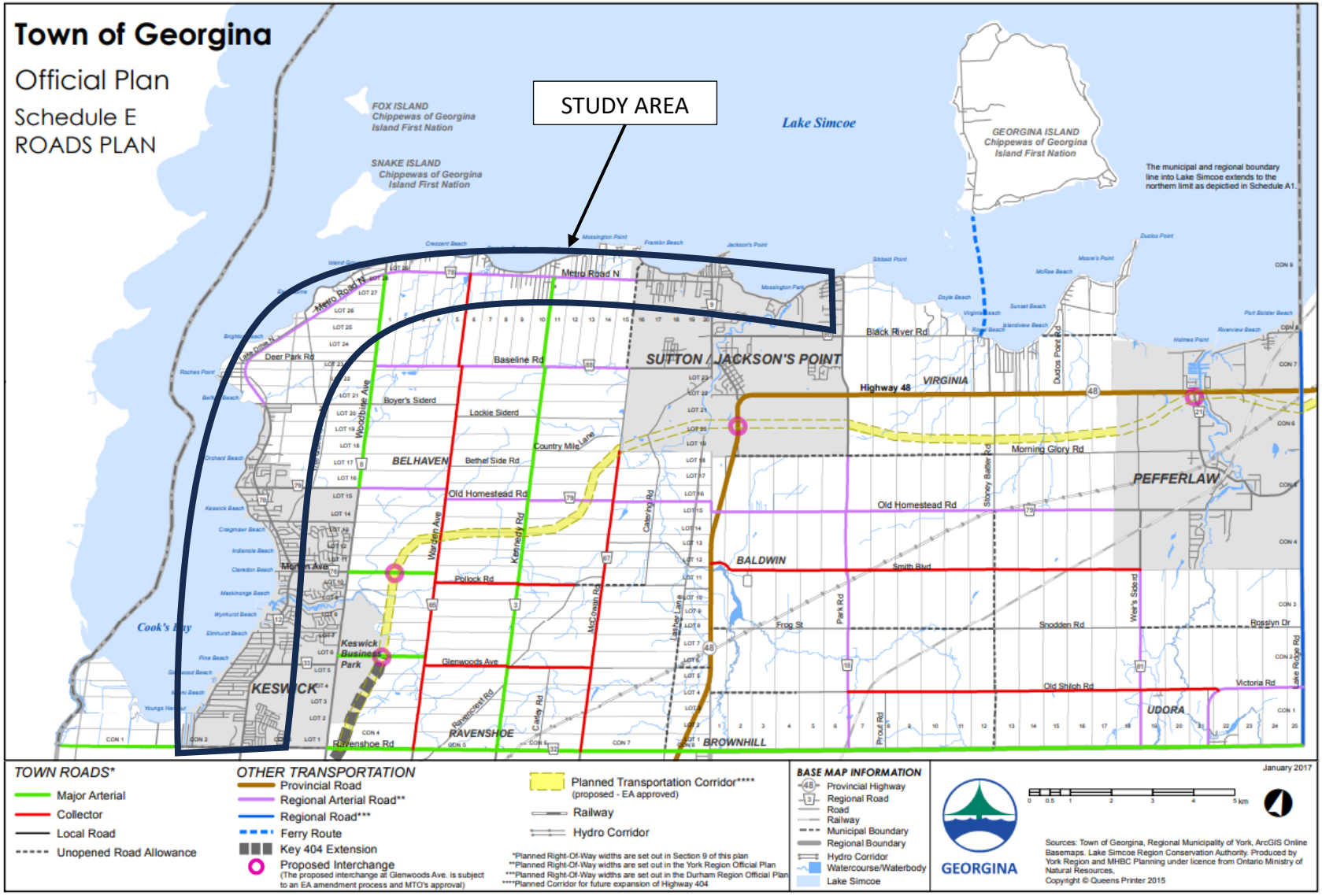
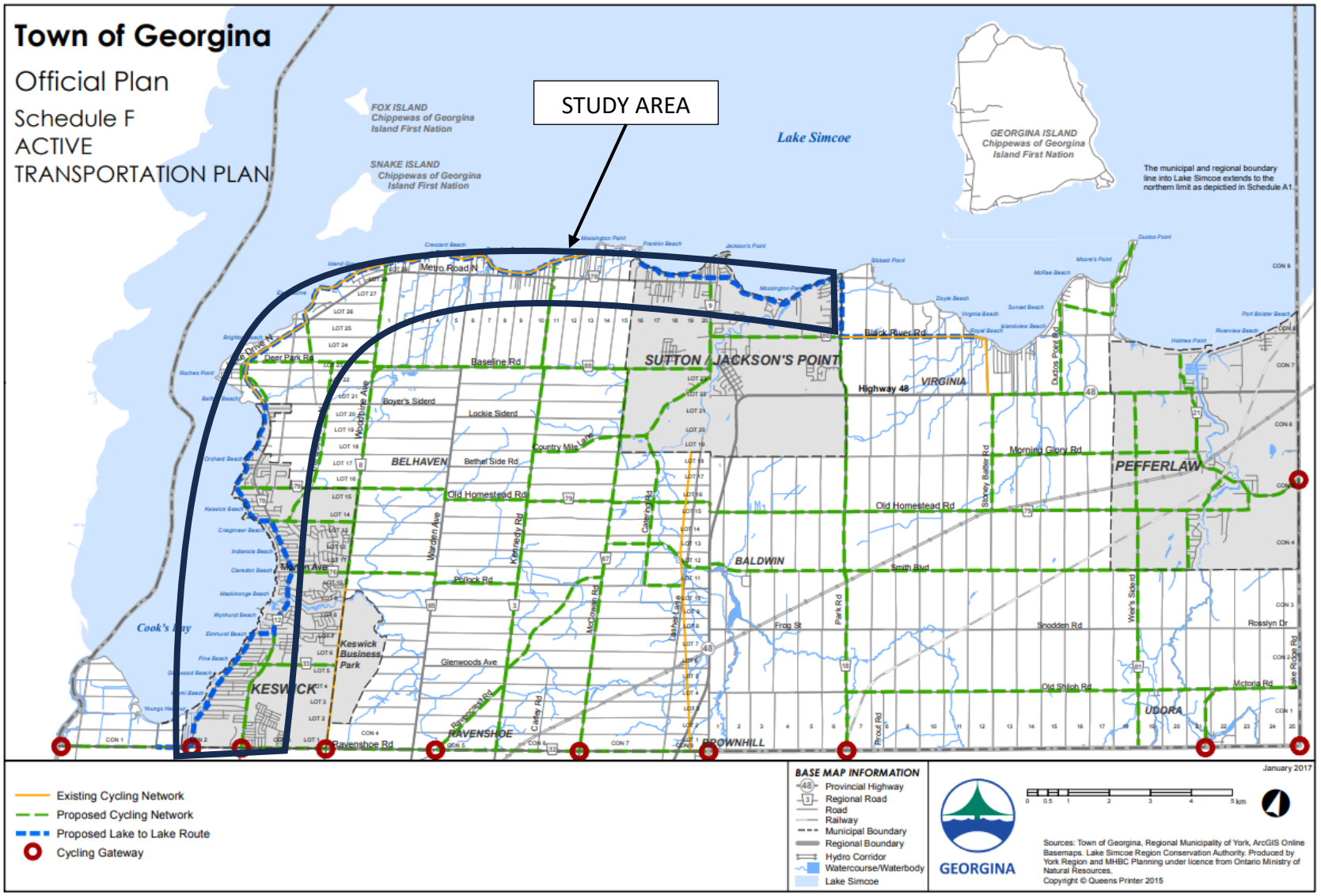


Figure 3-6: Town of Georgina Official Plan (2020) - Schedule F: Active Transportation Plan



3.6 Town of Georgina Trail & Active Transportation Master Plan (2014)

The 2014 Town of Georgina Trail and Active Transportation Master Plan ("Town ATMP") identifies a system of trails and active transportation routes and facilities that is supported by policies and recommendations.

The Town of Georgina has committed to developing a strategic long-term master plan geared at increasing levels of active transportation for recreational as well as utilitarian purposes to help increase community safety, encourage healthy lifestyles and improve the Town's already existing tourism attractions. It builds upon active transportation and trail related plans which have already been developed by the Region of York, existing and already proposed Town trails, as well as key trail linkages such as the Lake to Lake Cycling Route and Walking Trail.

An equally important part of the Plan is the promotion and use of trails and active transportation facilities. Promotion can include education, outreach and encouragement initiatives which are used to raise awareness of all the community benefits which can be realized from increased investment in soft and hard infrastructure. By combining and integrating all of these elements into the master plan and into day-to-day community planning and design practices, the Town will help to initiate the cultural shift and change required to increase levels of walking and cycling and to enhance the quality of life for residents and visitors.

The long-term strategic vision for Trails and Active Transportation in the Town of Georgina is as follows: "**The Town of Georgina recognizes the health, economic and quality of life benefits associated with Trails and Active Transportation (AT) and supports connecting local (urban and rural) communities with key destinations including areas of natural, recreational and cultural significance and surrounding municipalities through a continuous system of on and off-road Trails and Active Transportation (walking and cycling) routes for the use of residents and visitors of all ages and abilities.**"

This vision is supported by a number of more specific objectives which the master plan is intended to help achieve through implementation. The objectives include:

- Increase trail and active transportation facility use;
- Improve access to urban and rural communities;
- Improve connectivity and continuity between gaps and barriers in the existing system;
- Increase Trail and AT (on and off-road facilities) options for recreational and utilitarian trips;
- Improve Processes to facilitate Trail and AT facility implementation; and
- Increase funding and partnership opportunities to support Trail and AT facility development.

The proposed trails and AT network for the Town is provided in **Figure 3-7**.

Input provided as part of the Trails and AT Master Plan indicated a strong demand and priority for a more formal pedestrian and cycling facility along Lake Drive, especially during the peak summer season. The Plan identified the section of Lake Drive North from Salvation Army Road to Dalton Road, an approximately 1.7km stretch, and reviewed it for a possible pilot project.

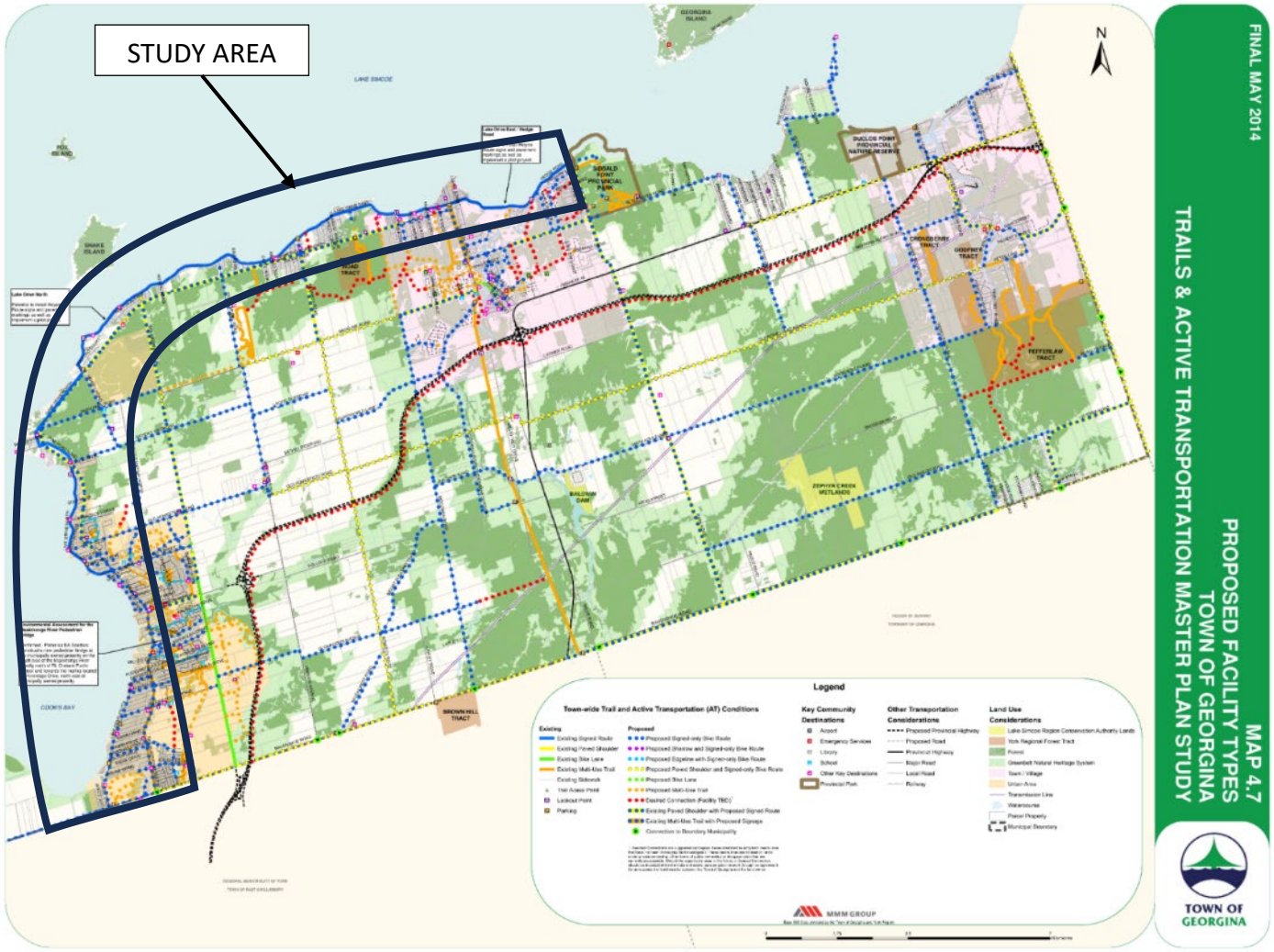
Two design options were considered:

- **Option 1:** Convert part of Lake Drive from a two-way to a one-way road for motorists from June through October and convert the lane into a separated pedestrian and cycling facility on the side of the road abutting the shoreline of Lake Simcoe.
- **Option 2:** Reducing speed limits along the segment and implement sharrows to indicate shared space between cyclists and motorists.

Feedback during the consultation showed support for Option 1, which was ultimately the preferred alternative noted in the Plan. It was recommended that the Town work with the Region to leverage the Lake-to-Lake route and explore the opportunity to develop this pilot project.

The Town's Trails and Active Transportation Plan prescribes direct and detailed guidance and policies in planning for a robust active transportation network that is safe and sustainable. The Lake Drive Functional Assessment Study will consider and build on these policies, as well as the two recommended options as presented in the Town's Trails and Active Transportation Plan. The Town's Trails and Active Transportation Plan is scheduled to be updated soon.

Figure 3-7: Town of Georgina Trails and ATMP (2014) – Map 4.7: Proposed Facility Types



3.7 Sutton / Jackson's Point Secondary Plan (2013)

Sutton / Jackson's Point is a community subject to the Sutton / Jackson's Point Secondary Plan, 2013. Sutton is generally bounded by Lake Simcoe to the North, Latimer Road to the south, McCowan Road to the west and Park Road to the east.

Today, Sutton/Jackson's Point remains a relatively small community primarily consisting of a number of distinct stable residential neighbourhoods, a variety of seasonal/tourist related uses, and two historic commercial core areas connected by a mixed-use corridor that is evolving along Dalton Road. Sutton/Jackson's Point has a rich cultural heritage and strong sense of community. It is an attractive place to live, and pressure for new development is increasing due to its "small town" character, lakeside location, recreational/cultural amenities, and its proximity to major urban centres to the south.

A principle of the Secondary Plan is "**to develop a well-connected, multi-modal, active transportation system that promotes walking, cycling and transit usage, as well as providing an efficient road network for motor vehicles.**"

The recommendations from the Lake Drive Functional Assessment Study will be consistent with this principle and will consider the context of Sutton / Jackson's Point.

3.8 Lake to Lake Cycling Route and Walking Trail (2013)

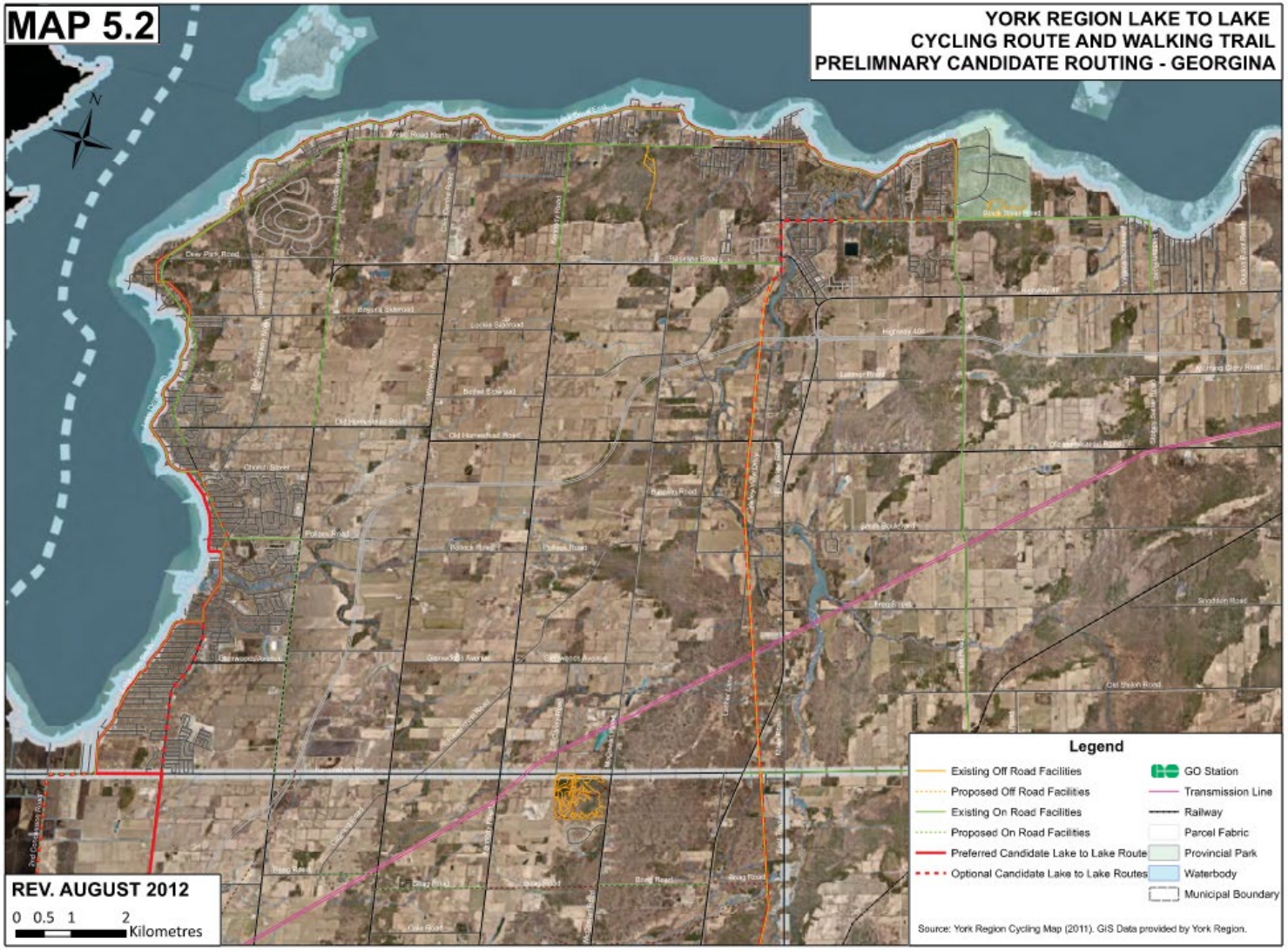
The Lake to Lake Route was first proposed in the 2008 York Region Pedestrian and Cycling Master Plan as a on and off-road route from Lake Simcoe at the northern edge of York Region and the Town of Georgina to Lake Ontario through the City of Toronto.

This cycling and walking route is intended to be a major regional recreational and commuter trail. The study objectives are to:

- Link the route to transit facilities;
- Provide connections between routes and points of interests throughout the Region; and
- Establish a recreational cycling route and walking trail to allow people to experience the natural and cultural heritage in York Region.

The Lake-to-Lake route in the Town of Georgina relevant to this study is along the south shore of Lake Simcoe. Sibbald Point Provincial Park is identified as one end of the route, connecting along the waterfront using the existing on road facilities on Lake Drive (**Figure 3-8**).

Figure 3-8: York Region Lake to Lake Cycling Route and Walking Trail – Map 5.2: Preliminary Candidate Routing – Town of Georgina



3.9 Lake Drive Shoreline Jurisdiction Action Plan (On-Going)

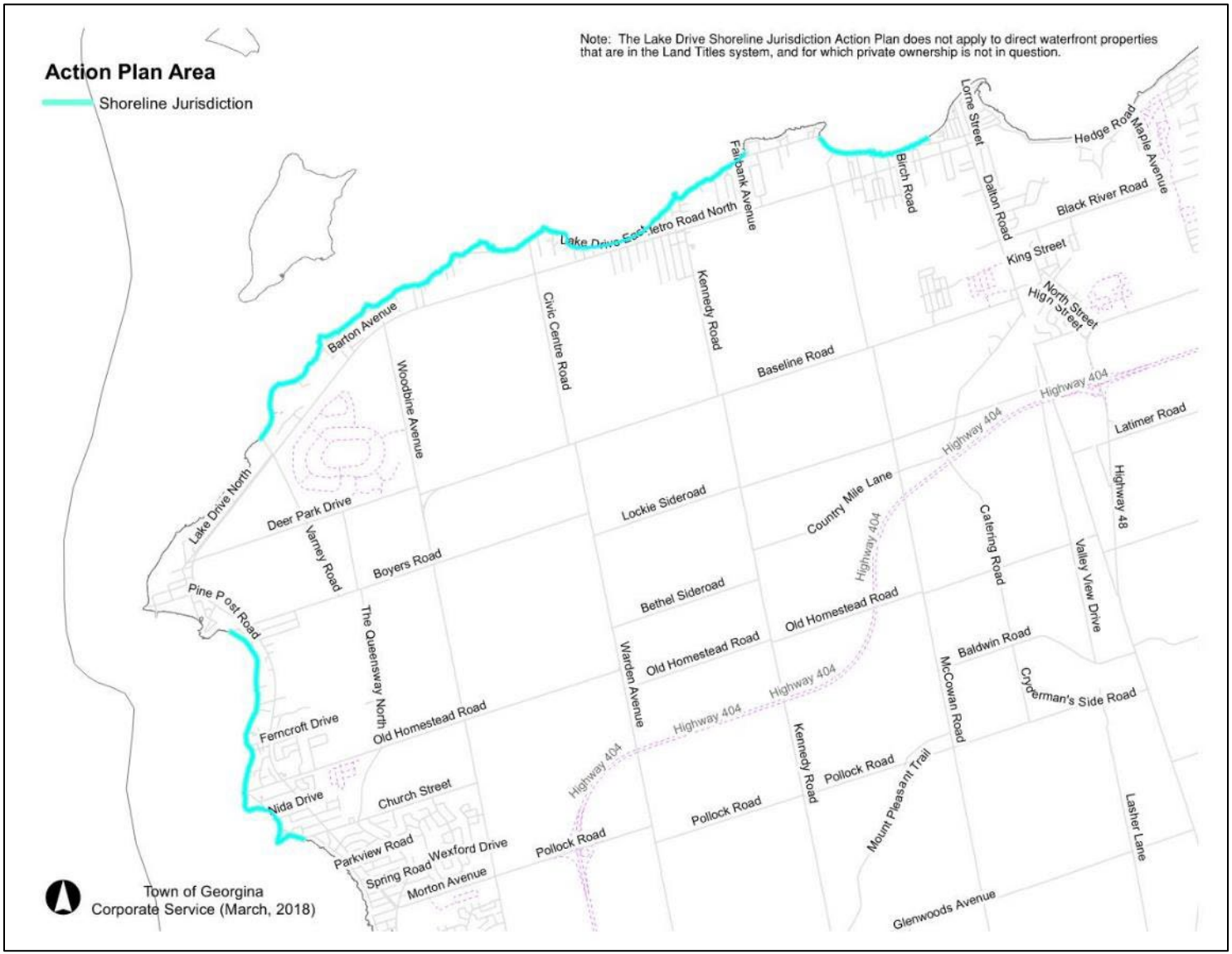
A significant portion of the land along Lake Drive East is being used by residents located between Lake Drive and the water. To address this decades-old matter in a collective, open and equitable manner, Town Council initiated the Lake Drive Shoreline Jurisdiction Ad-hoc Committee (LDSJC) in 2015 comprised of residents, Council and Town staff to come up with options that would seek to satisfy all stakeholders involved.

In 2017, after receiving recommendations from the LDSJC, the Lake Drive Action Plan was developed, outlining a process of operational and policy decisions geared towards moving the discussion forward to determine a resolution. Town Council has been moving through each step of the Action Plan, acknowledging public feedback as work proceeds towards a solution.

The areas subject to the Lake Drive Shoreline Action Plan can be found in **Figure 3-9**.

This work is being completed concurrently to the Lake Drive Functional Assessment. Recommendations from the Study will be consistent to the outcomes of the Lake Drive Shoreline Action Plan. It is noted that there are some structures and vegetation within the right-of-way that cause some safety concerns related to sightlines throughout the Study area, which have been placed by local area residents. However, it is not the intent of this Study to alter these obstructions, nor is it the direction of the Town to widen the existing pavement area of the corridor.

Figure 3-9: Lake Drive Shoreline Action Plan Subject Areas



3.10 Waterfront Parks Master Plan (2020-on-going)

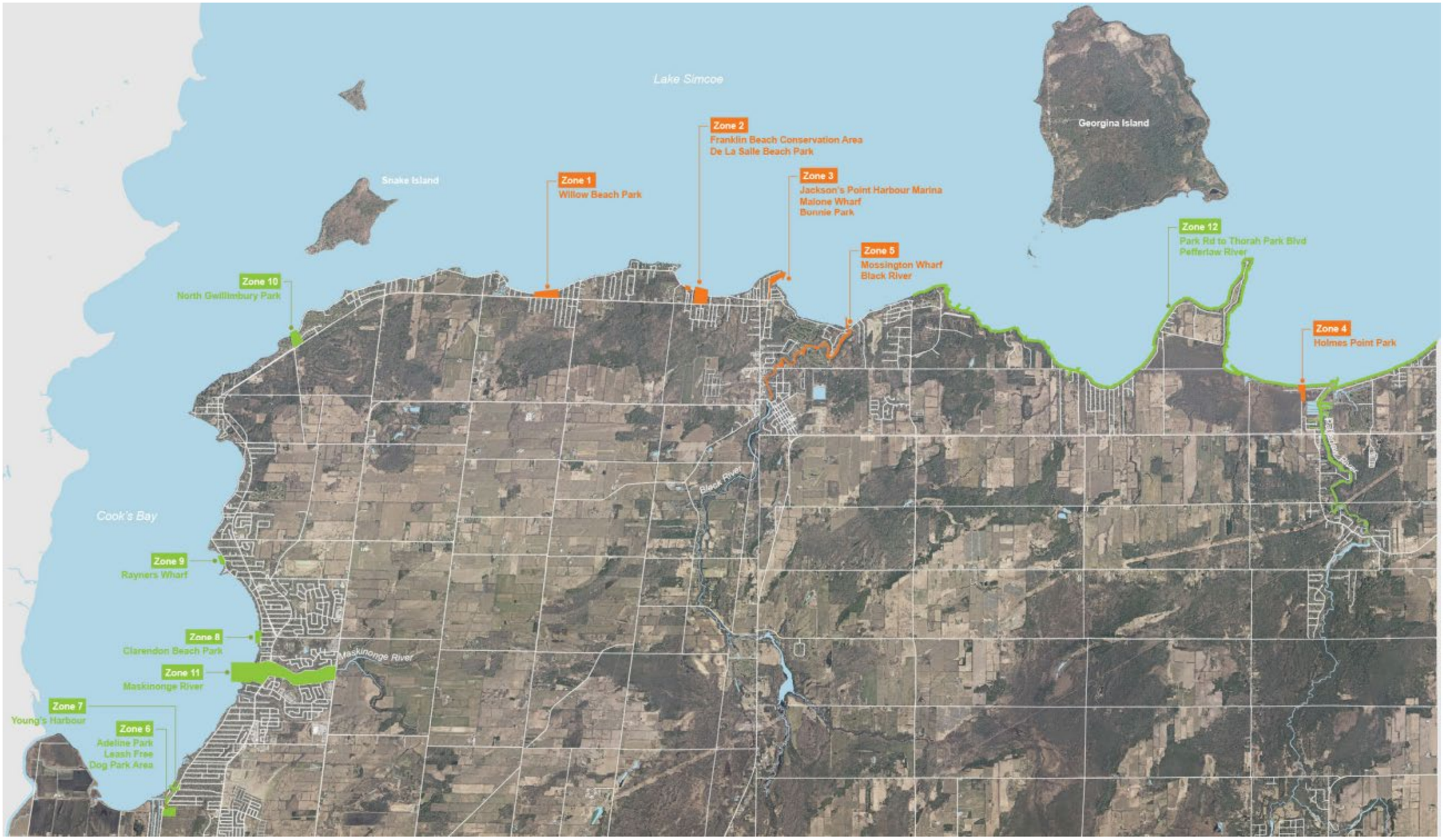
The Town of Georgina is completing the Waterfront Parks Master Plan ("WPMP"), 2020-on-going, to create a vision and framework to provide direction for the operation and management of Georgina's waterfront parks. The plan is being done in three parts over three years, beginning in 2020. All waterfront lands along the entire Town of Georgina shoreline will be included in the study. This includes wharves, piers, beaches, parks, road ends, shorelines, road allowances, mouths of rivers and wetlands, including Town-owned and privately owned properties. There will be a focus on the following key locations, including conceptual designs, as shown in **Table 3-1**. Waterfront Parks that are adjacent to the Lake Drive Functional Assessment Study are denoted with an asterisk (*):

Table 3-1: Waterfront Parks Master Plan Study Areas

Zones	Parks
1	• Willow Beach Park*
2	• Franklin Beach Conservation Area* • De La Salle Beach Park*
3	• Jackson's Point Harbour Marina* • Malone Wharf* • Bonnie Park*
4	• Holmes Point Park
5	• Mossington Wharf* • Black River from the lake to High Street*
6	• Adeline Park* • Leash Free Dog Park Area (West Park)*
7	• Young's Harbour Park*
8	• Claredon Beach Park
9	• Rayners Wharf*
10	• North Gwillimbury Park*
11	• Maskinonge River from the lake to Woodbine Avenue
12	• Pefferlaw River from the lake to the dam • Shoreline from Park Road to Thorah Park Boulevard

The waterfront parks in zones 1, 2, 3, 5, 6, 7, 9 and 10 abuts the Lake Drive Functional Assessment Study area. The Project is on-going. It is the intent of this Study to assess alternatives based on the current existing conditions of Lake Drive and Hedge Road. Transportation recommendations of the WPMP, including any preliminary recommendations for closure of roads at waterfront parks while redirecting to Metro Road, may be integrated with the recommendations of this Study.

Figure 3-10: Waterfront Parks Master Plan Study Areas



3.11 Council Report OI-2020-0015 (2020)

The Town proposed a reduction in the speed limit from 40 km/h to 30 km/h along Lake Drive North, Lake Drive East and Hedge Road. The Town also recommended Community Safety Zone designations.

This proposed reduction in the speed limit was reviewed by Jacobs and presented to Town Council, as documented in Council Report OI-2020-0015, and summarized below:

Speed Limit Reduction

Based on a cursory review completed by Jacobs, the existing maximum speed limit of 40 km/h is considered appropriate and responds well to driver expectations in these areas. However, the consultant noted that with pedestrians and motorists sharing the narrow roadway width and a high potential for pedestrian crossings at random locations along the subject roadways, a reduction in the maximum speed limit to 30 km/h would be in keeping with traffic management policies and practices that prioritize pedestrian movements over vehicular traffic. Further, it was noted that recent studies and road safety initiatives have also demonstrated that a reduction in the maximum speed limit to 30 km/h can mitigate the risk of serious injuries from collisions involving vehicles and pedestrians. Given that traffic speeds are already low along the subject roadways, there were no anticipated significant operational concerns from this reduction of speed limit along the corridor of Lake Drive West, Lake Drive East and Hedge Road.

Community Safety Zones

Community Safety Zones are used to identify roadways where traffic safety is of particular concern and where the implementation of traffic calming measures would be of benefit. This includes roadways near schools, day care centres, playgrounds, hospitals and senior residences. Community Safety Zones may also include a section of roadway where there is a high collision rate and where extra caution may be required. Community Safety Zone signs are installed at the beginning and end points of a section of roadway where certain fines for traffic offences have been increased.

The following areas were identified and recommended potential Community Safety Zones in the following areas:

- Lake Drive East between Brule Lakeway and Sina Street. (4.9 km – De La Salle Park, Franklin Beach, Willow Wharf, Willow Beach Park and Marina)
- Lake Drive North – between Woodbine Avenue and Metro Road North. (2.7 km – Island Grove Marina, East Point Marina, Sheppard Park and Wharf, North Gwillimbury Park)
- Lake Drive North – between Metro Road North and Church Street/Shoreline Place. (3.5 km – Rayners Park, Joy Marritte Parkette)
- Hedge Road – between Lake Drive East and Dunkirk Avenue (1.8 km = Briars Resort, Mossington Bridge)

The limits of each potential Community Safety Zone were selected to include as many public facilities as possible, where higher pedestrian volumes can be expected. The York Regional Police (YRP) is in favour of these Community Safety Zones and requested the addition of the section on Hedge Road.

These initiatives were carried forward and in line with the then applicable Town Strategic Plan's Priority 2: "Promote a high quality of life" – Build a healthy, safe and accessible community. The staff report noted that implementing Community Safety Zones, and reducing the speed limit in the Lake Drive area will contribute to a traffic calming effect that will provide an added level of safety for all users.

While these initiatives have been proven to improve the safety of roadways, there are additional opportunities that will be explored in the Lake Drive Functional Assessment Study. Building on the Town's direction to create safer and more comfortable environments on Lake Drive and Hedge Road, this Study will review additional safety and traffic calming measures that can be incorporated into the design of Lake Drive and Hedge Road.

4 EXISTING CONDITIONS

Following the summary of existing planning context and policies in **Chapter 3**, this Chapter summarizes the overall existing conditions of the physical road corridor environment, land use context, and other relevant data collected, including:

- socio-economic environment,
- existing design and typical road cross-sections,
- existing active transportation facilities,
- sightlines,
- traffic volumes,
- pedestrian counts,
- parking restrictions,
- transit routes,
- collision history, and
- Town owned properties.

This Chapter will highlight the existing constraints and deficiencies within the roadway, as well as some of the data gaps, where additional investigations would be required or recommended to complete for the benefit of the future assessment and evaluation of alternatives.

4.1 Socio-Economic Environment

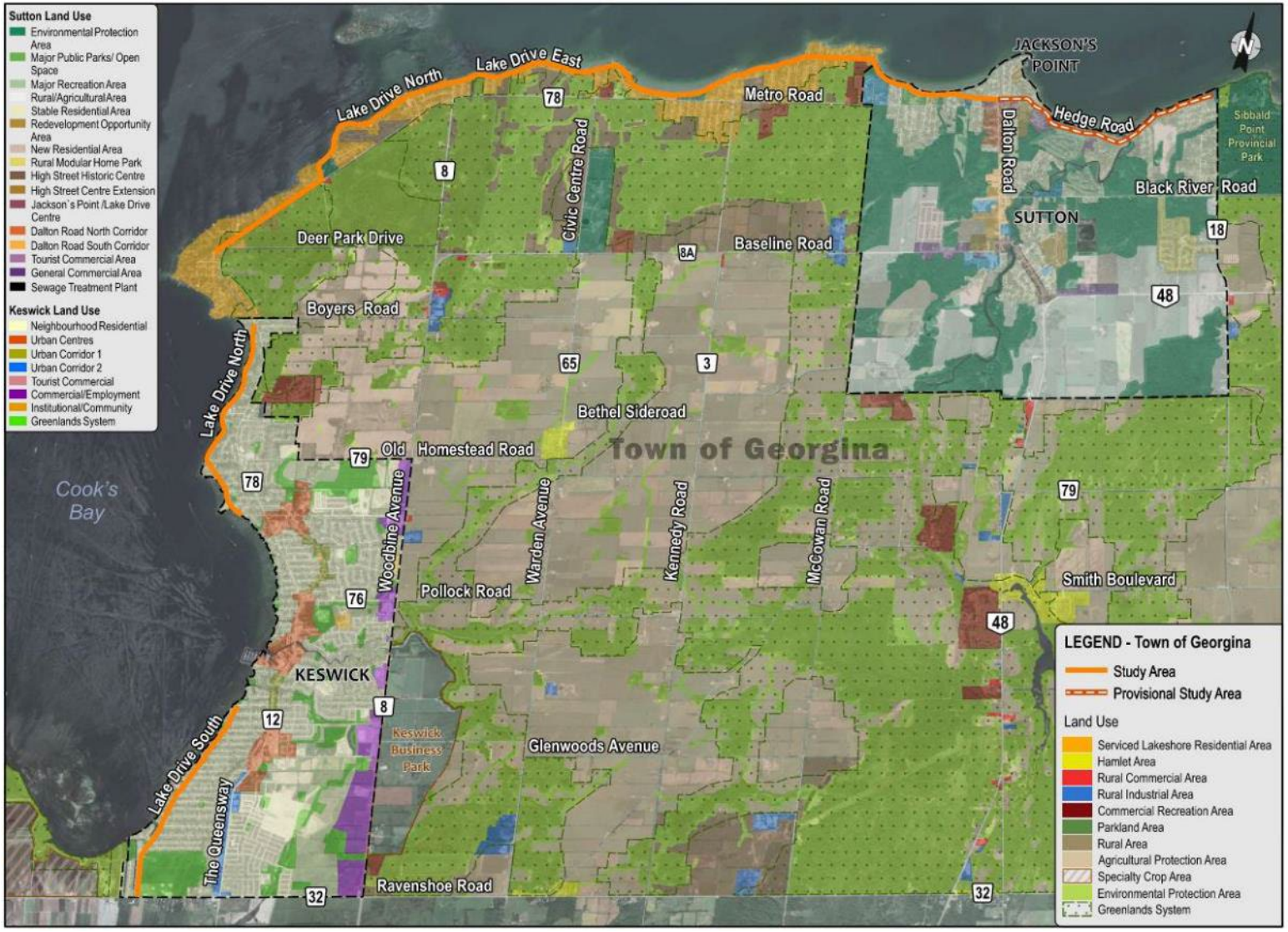
Lake Drive travels through a predominantly rural and scenic community. In Keswick, Lake Drive traverses through a suburban community, characterized by low-density, single dwelling units on either side of the road. Though considered low-density in general, this segment of Lake Drive has a higher density than the rest of the study area. The remaining and majority of the sections of Lake Drive are adjacent to even lower density, rural residential communities, some parklands, and some commercial areas. Additionally, various section of this segment has a direct, unobstructed view of Lake Simcoe.

Lake Drive is not only a road that travels through the Town of Georgina; Lake Drive is a popular destination for residents and visitors alike, and a key landmark for the Town.

The existing condition and planned growth, including land use designations and future transportation infrastructure adjacent to the corridor is discussed in **Chapter 2.3**.

A preliminary land use map is found in **Figure 4-1**.

Figure 4-1: Socio-Economic Map



4.2 Existing Design and Typical Road Cross-Sections

4.2.1 EXISTING DESIGN AND CHARACTER

The existing design of Lake Drive and Hedge Road is rural in character. Aside from various suburban sections in Keswick and in Sutton, the majority of the Study area roadway is a paved road with no curbs nor adjacent sidewalks. The condition of the roadway pavement is good – though functional and in good shape, there are various sections where the pavement is cracked, or there are potholes.

4.2.2 DESIGN CRITERIA

Table 4-1 below summarizes the draft Design Criteria that have been developed for the proposed realignment of Lake Drive, which have been reviewed against the Transportation Association of Canada (TAC) 2017 standards for Canadian Roads and Town of Georgina's Design Criteria.

Table 4-1: Design Criteria

Criteria	Existing Conditions	TAC Guideline Practical	TAC Guideline Recommended	Town of Georgina Geometric Design Standards	Project Recommendation
Road Classification and Speed:					
Road Right-of-Way (R.O.W.) (m)*	12-20m	n/a	n/a	8.5	Keep existing pavement width
Pavement Width (m) (edge to edge)	6-11.5	n/a	n/a	8.5	Keep existing pavement width
Road Classification	Local Road	n/a	n/a	Local Road	Local Road
Posted Speed Limit (km/h)	30	n/a	n/a	n/a	30
Design Speed Limit (km/h)	n/a	n/a	n/a	50	50
Vehicular Roadway Design Elements:					
Travel Lane (m)	3-3.5	2.7-3.0	3-3.7	n/a	3-3.5
Shoulder (m)	0.50-1	1	1	n/a	1
Curb Width (m)**	0.5	n/a	n/a	n/a	0.5
Sidewalk and Multi-Use Path (MUP) Roadway Design Elements:					
Sidewalks***	1.5-1.8	Two pedestrians: 1.5-1.8 Three Pedestrians: 2.25-3.0	Two pedestrians: 1.5-1.8 Three Pedestrians: 2.25-3.0	n/a	2-3
Multi-Use Path Width	n/a	2.7-6.0	3.0-6.0 m	n/a	3.0-6.0 m

Criteria	Existing Conditions	TAC Guideline Practical	TAC Guideline Recommended	Town of Georgina Geometric Design Standards	Project Recommendation
Cycling/Active Transportation Roadway Design Elements:					
Buffered Bicycle Lane Width (bike lane and buffer)	n/a	1.8-3.5	2.1-3.0 m	n/a	2.1-3.0 m
Buffered Bicycle Lane Width (bike lane component) (m)	n/a	1.5-2.1	1.8-2.1 m	n/a	1.8-2.1
Buffered Bicycle Lane Width (buffer marking) (m)	n/a	0.3-1.4	0.3-0.9 m	n/a	0.3-0.9
Cycle Track Width (beside sidewalk) (m)	n/a	1.5-3.0	1.8-2.5 m	n/a	1.8-2.5
Advisory Bike Lanes Width (m), roadway with advisory bikelane	n/a	6.0-11.1	6.6-9.9	n/a	6.6-9.9
Advisory Bike Lanes Width (m) Bike Lane Component (one-way)	n/a	1.5-2.1	1.8-2.1m	n/a	1.8m-2.1m
Advisory Bike Lanes Width (m) Two-way centre travel lane component, for use with advisory bikelanes on both side	n/a	3.0-5.7	3.0-5.7	n/a	3.0-5.7
Geometric Design Elements:					
Minimum Horizontal Radius (m)	Estimate based on available GIS data: 30m (avg.)			80	

*The typical ROW is for a Local Road in the Town's OP. It refers to the Town's-owned corridor and does not refer to the pavement width.

** Existing curbs are located on Lake Drive between South Drive and Hedge Road.

*** Existing sidewalks are located on Lake Drive between South Drive and Hedge Road.

4.2.3 TYPICAL CROSS-SECTIONS

Typical cross-sections of existing conditions were identified across the Study corridor by carrying out a desktop review via Google Maps (i.e., aerial imagery and “streetview”). The existing features included the width of the road, roadway conditions, such as whether there are curbs or not, sidewalks, parking lanes, median, shoulders, and verges etc. These features vary throughout the study area. The Streetmix software was used to develop these cross-sections across the study corridor. **Figure 4-2** to **Figure 4-7** illustrate the typical cross-sections.

Figure 4-2: Lake Drive South: Ravenshoe Road – Bayview Avenue

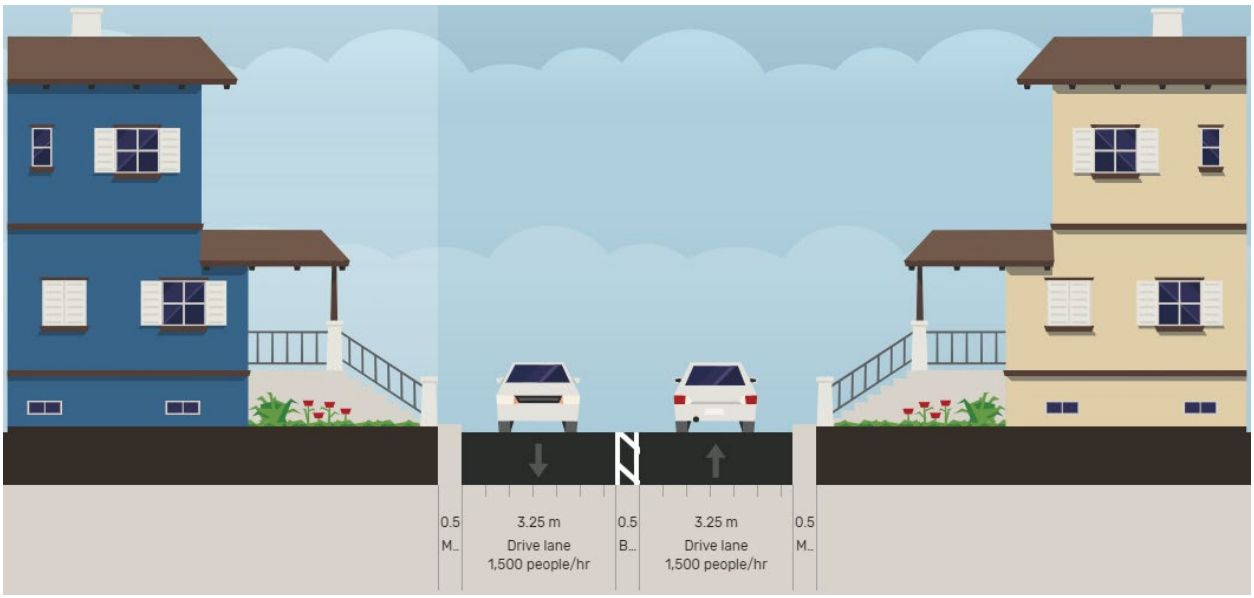


Figure 4-3: Lake Drive South, North, East: Church Street – Metro Rd North & Coxwell Street – South Drive

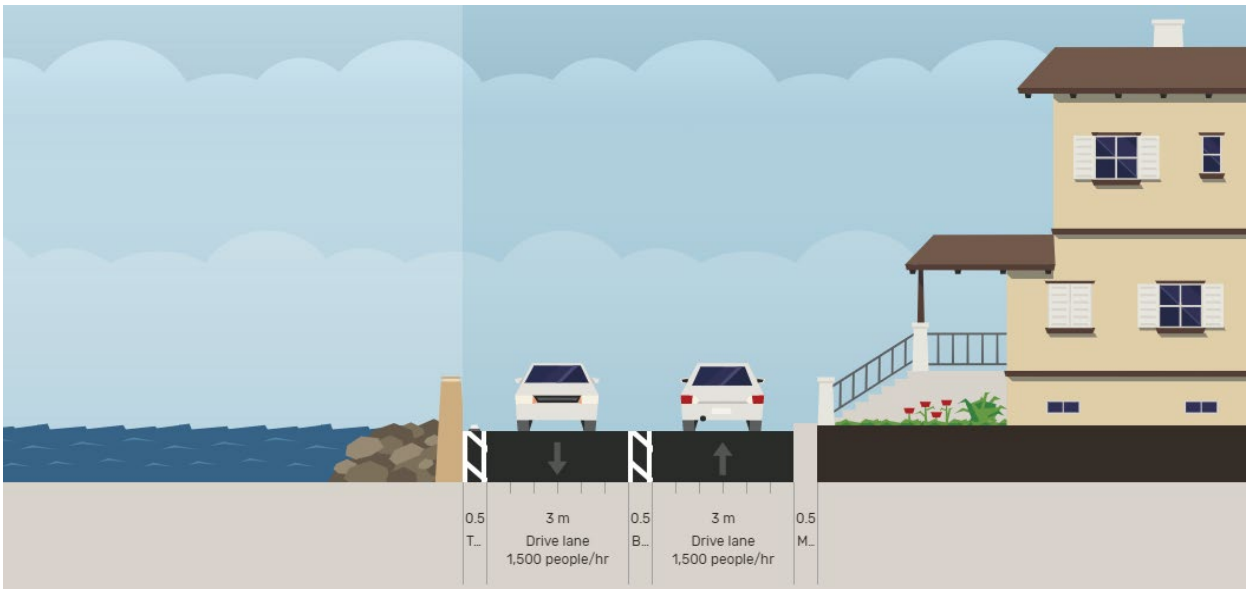


Figure 4-4: Lake Drive East: South Drive – Ravenswood Drive

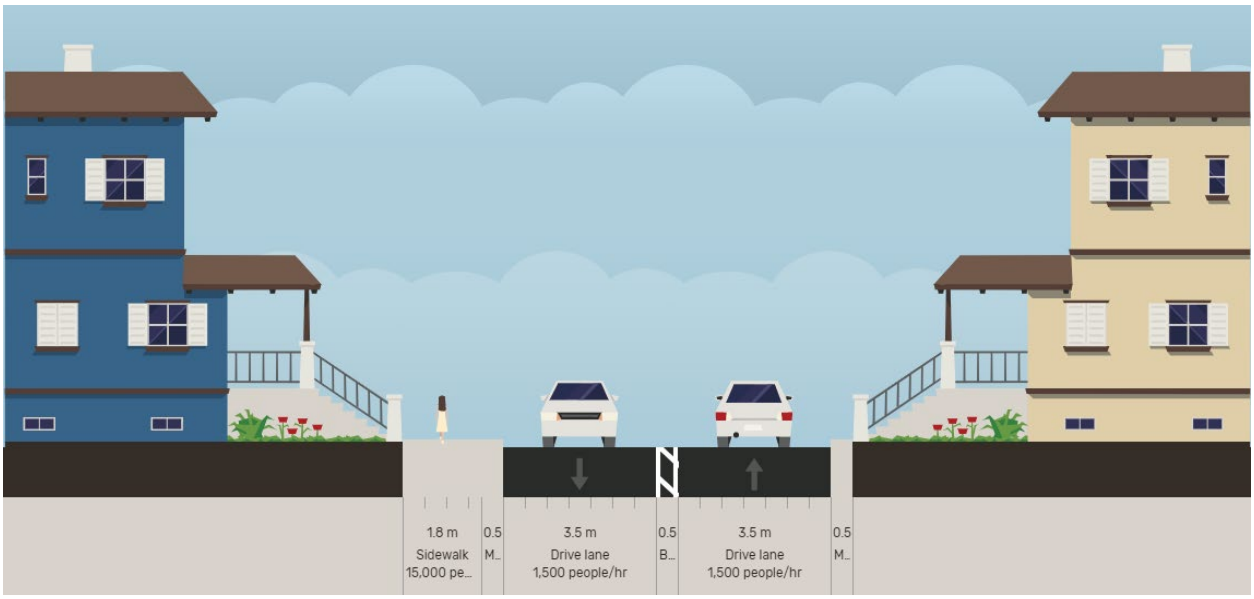


Figure 4-5: Lake Drive East: Ravenswood Drive – Lorne Street

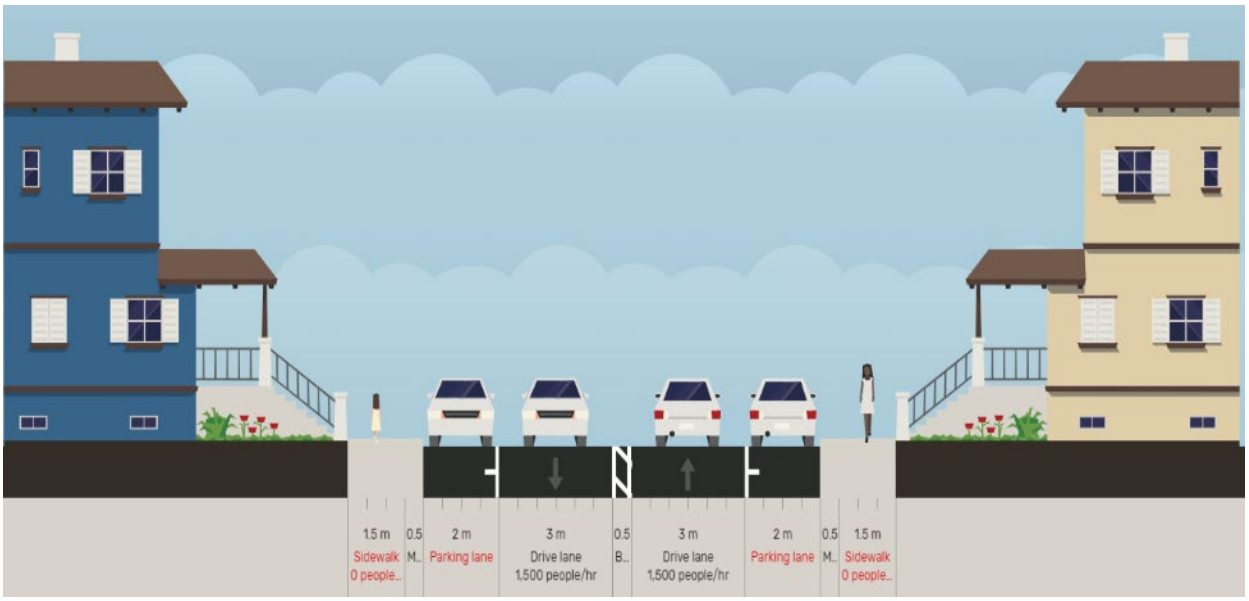


Figure 4-6: Lake Drive at Lorne Street – Hedge Road

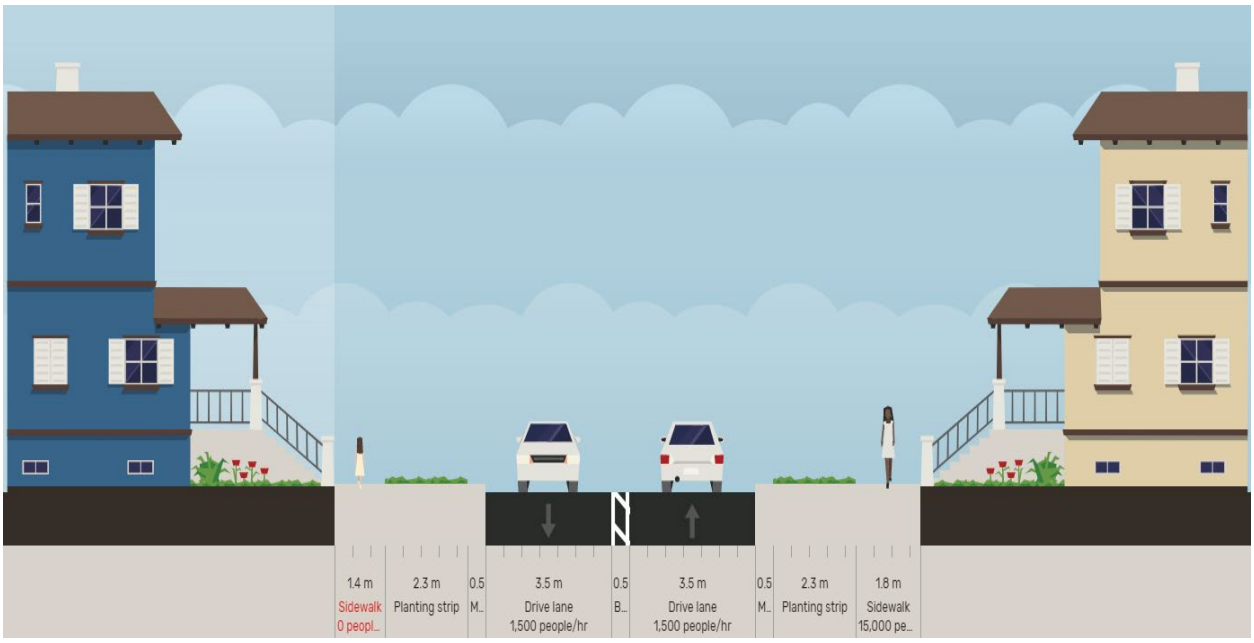
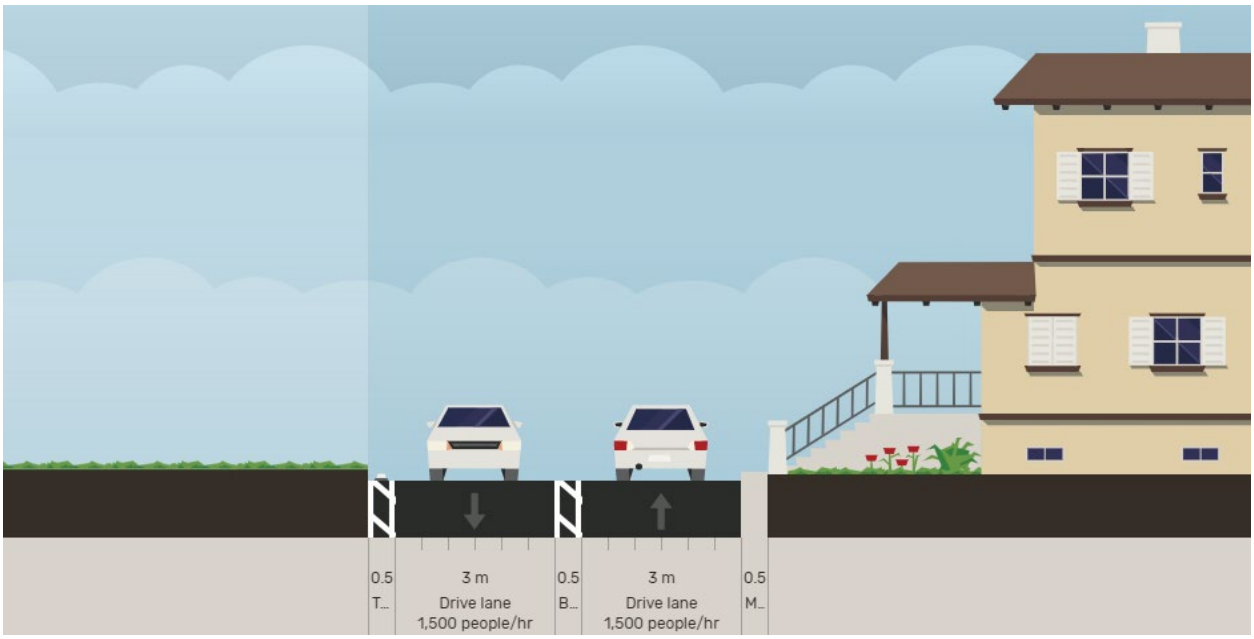


Figure 4-7: Hedge Road at Lake Drive E – Park Road



4.3 Active Transportation

4.3.1 LAKE DRIVE AND HEDGE ROAD

At present, Lake Drive is signed as a shared route and does not have a dedicated cycling facility. Therefore, cyclists are operating in mixed traffic conditions. The corridor is part of the Lake Simcoe Trail and Lake to Lake Trail as an on-road route. There is a segment of sidewalk (approximately 1 kilometre) along Lake Drive from east of South Drive to west of Ravenswood Drive on the north side and west of Ravenswood Drive to west of Hedge Road on both sides. Outside of this segment, there are no sidewalks or pathways and pedestrians are likely using the existing gravel shoulder, as well as the driving lanes, to walk along Lake Drive.

This route is very popular for walking, cycling and other forms of active transportation as it is right along the Lake Simcoe waterfront.

This study explored active transportation opportunities within the existing roadway. The 2014 Trails and AT Master Plan recommended potential enhancements to Lake Drive through a pilot project, which would include installing potential bicycle route signs and pavement markings to enhance the shared facility or converting the road to one-way to implement above-curb facilities.

4.3.2 ACTIVE TRANSPORTATION NETWORK

The existing and planned active transportation routes that connect to the Study Area are mapped in **Figure 3-7** and include:

- Existing shared routes on The Queensway South;
- Existing paved shoulders on Metro Road North, Woodbine Avenue and Kennedy Road;
- Existing off-road trails in the Metro Road Tract Regional Forest and to the ROC Trails; and
- Proposed Regional cycling routes on Metro Road, Woodbine Avenue, Kennedy Road and Dalton Road (facilities to be determined per the 2022 York Region TMP).

There is an opportunity to strengthen the connections between Lake Drive and the surrounding AT network to provide a continuous route between the waterfront and other key destinations.

Pedestrian and/or cyclist counts can be collected to inform which segments have high active transportation activity and should be prioritized when reviewing the potential design options for Lake Drive. It is expected that there is significantly higher pedestrian and cyclist traffic at the public beaches and parks, however it would be important to understand the volumes adjacent and leading into to these key sites. Active transportation counts for Lake Drive will also support and guide the facility selection for what is most appropriate based on the demand and usage.

4.4 Sightlines and Structure Restrictions

Visibility and sightlines are essential features of a corridor, access, junction or intersection as it allows traffic users on the road to see cyclists, vehicles and pedestrians, and other potential conflict points on the main road. Fixed objects, such as trees, buildings, signs, hedges, fences, and street furniture, are deemed to inhibit the visibility of drivers and create safety concerns.

Sightlines are required along the road to detect obstructions in one's path, such as at curvatures in the roadway, as well as at intersections or accesses to determine if there are approaching vehicles/pedestrians and if it is safe to proceed through. The minimum requirement for sight line distance is for drivers to have the ability to recognize a potential conflict and make a decision to accelerate, decelerate or stop in sufficient time to avoid a collision. This is known as the stopping sight distance, or decision sight distance (**Figure 4-8**).

There are considerable sightline concerns due to vegetation and structures that have been placed by residents along Lake Drive and Hedge Road over many years. Many of these obstructions are placed and infringing within the road's right-of-way.

For the Lake Drive Functional Assessment study, based on TAC "Geometric Design Guide for Canadian Roads" several areas were identified by carrying out a desktop review via Google Streetview which had obstructed sight lines (see **Table 4-2**). This desktop analysis is based on a site visit and Google Imagery. This will continue to be reviewed based on the updated ortho-imagery.

A site visit was conducted on April 26, 2023, to observe, experience and gather photographic documentation of the existing conditions of the Study Area. Additional sightline concerns can be found in **Appendix B**.

Figure 4-8: Sight Lines on Curves and at Intersections With and Without Obstructions

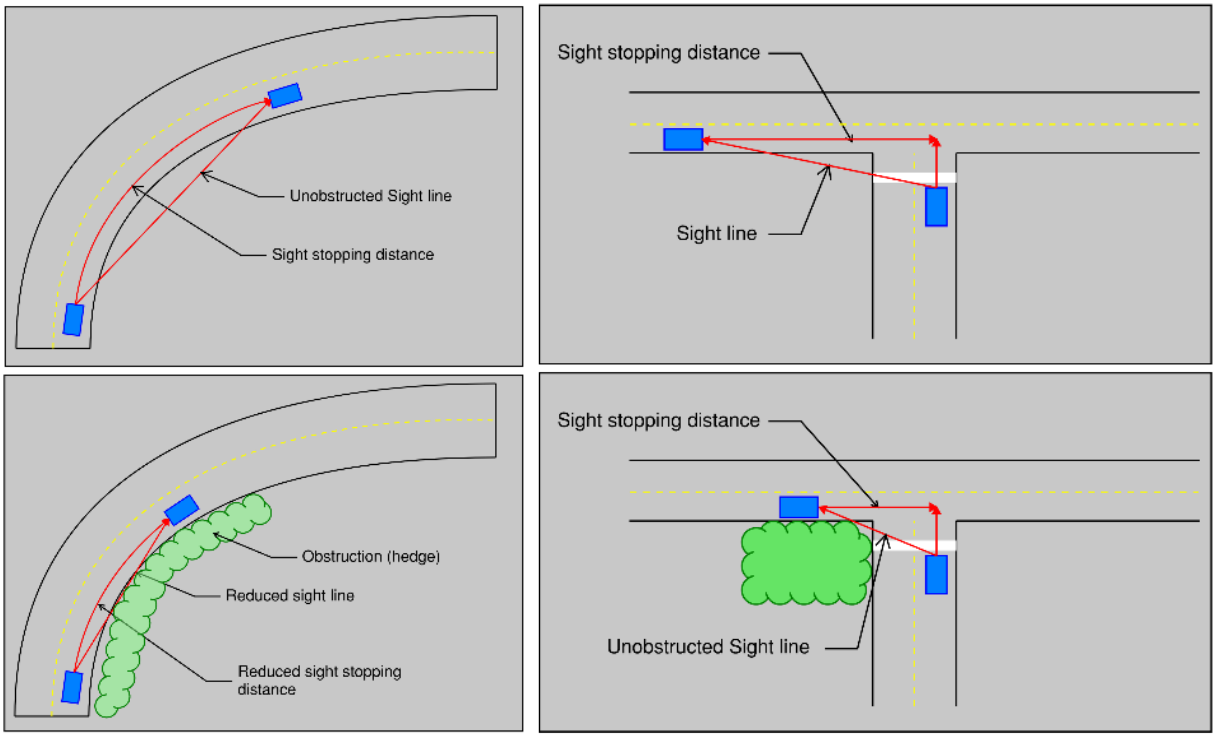


Table 4-2: Photolog of Sight Line Concerns

Sightline Photolog for Lake Drive FA Study	
	
Sightline Concern: Sharp turn Sightline obstructed by trees on right side Location: Lake Drive South – Bayview Avenue Intersection	Sightline Concern: Sharp turn Sightline obstructed by trees Location: Lake Drive North – Old Homestead Road Intersection

Sightline Photolog for Lake Drive FA Study	
	
Sightline Concern: Sharp turn Sightline obstructed by trees on left side Location: Lake Drive North – Orchard Beach Intersection	Sightline Concern: Sharp turn Sightline obstructed by trees on right side Location: Lake Drive North – Clarlyn Drive Intersection
	
Sightline Concern: Access Sightline obstructed by trees on right side Location: Lake Drive North – Elm Tree Ln Intersection	Sightline Concern: Intersection Sightline obstructed by trees on left side Location: Lake Drive North – Walkers Ln Intersection

Sightline Photolog for Lake Drive FA Study	
	
Sightline Concern: Sharp turn Sightline obstructed by trees on left side Location: Lake Drive North – Elmwood Road Intersection	Sightline Concern: Sharp turn on right Sightline obstructed by trees on left and right side Location: Lake Drive North – Mays Wharf Road Intersection
	
Sightline Concern: Sharp turn on right Sightline obstructed by trees on right side Location: Lake Drive North – Near Eastbourne	

4.5 Traffic Volumes

The Town provided the following traffic and transportation data for various segments of Lake Drive and Hedge Road: the posted speed limit, the 85th percentile speed, the annual average daily traffic (AADT) and the approximate road pavement width. The raw data was provided to WSP.

The AADT studies were completed and calculated based on a 14-day period. The date shown in the table below indicates the final day of the study. This data is summarized in **Table 4-3**.

Table 4-3: Traffic Data

Road	From	To	Posted Limit	85th Percentile	AADT	Study Completion Date Range	Pavement Width (approx.)
Lake Drive South	Ravenshoe	Bayview	30km/hr	47 km/hr	731	August 26 – September 9, 2020	6.4m – 6.6m varies
Lake Drive North	Church St	Metro	30km/hr	47 km/hr	135	November 12 – November 26, 2022	5.7m
Lake Drive North	Coxwell	Woodbine	30km/hr	NA	373	NA	6.1m
Lake Drive East	Woodbine	Dalton	30km/hr	40 km/hr	1709	July 8 – July 22, 2022	6.2m
Lake Drive East	Dalton	Hedge	30km/hr	44 km/hr	1394	August 18 – September 1, 2020	9m – 11m varies
Hedge Road	Lake Dr E	Park Rd	30km/hr	44 km/hr	401	October 12 – October 26, 2022	6.1m

In general, the operating speeds along Lake Drive are consistently 10-17 km/hr above the posted speed limits. As would be expected, the volumes along Lake Drive are highest in the summer season, and much lower in the winter season.

However, there are a few gaps in this data, such as:

- There is only a single count along Lake Drive South, which does not permit the opportunity to establish where demand is highest; moreover, the data does not reflect summer conditions when demand is likely highest.
- There is only a single count along each of the Lake Drive North segments, between Church Street and Metro Road and between Coxwell Street and Woodbine Avenue. This does not permit the opportunity to establish where demand is highest; moreover, the data for the segment between Church Street and Metro Road does not reflect summer conditions when demand is likely highest.
- The survey date for the data for the segment between Coxwell Street and Woodbine Avenue is unknown, but cannot be assumed to have been during the peak summer months.

- There is only a single count along the entire Lake Drive East project limits between Woodbine Avenue and Dalton Road, which includes more than 40 intersections. While this data was collected during the summer months, the specific location has not been identified and there would be no opportunity to establish what the magnitude of the potential impacts of improvement strategies might be. Similarly, the volume could not be used to establish where demand is highest, as a means of justifying the location(s) of alternative improvement strategies.
- There are only single counts for each of Lake Drive East between Dalton Road and Hedge Road, and Hedge Road between Lake Drive East and Park Road, and at least the Hedge Road survey was not undertaken during the peak summer months when demand is likely highest.

It is recommended to undertake supplementary summer mid-block traffic data collection surveys at a sufficient number of locations, to be able to support the identification and location, as well as the justification for the anticipated alternative improvement strategies. Further details on the recommended data collection for traffic volumes are further discussed in **Section 4.12**.

4.6 Pedestrian and Cyclist Counts

The Town does not have pedestrian and cyclist counts for the study area. Pedestrian and cyclist counts are used to measure pedestrian and cycle movements, demonstrating usage patterns and trends within a study area. This data can be used for the decision-making process for various road-related projects, including this Study. By understanding the users of the road, a stronger more defendable justification can be made for implementing a more complete street design.

For the data to be optimized to address the problems and opportunities of this Study, pedestrian and cyclist count data should be taken from the summer months at strategic locations, including the waterfront parks, established communities (i.e. Keswick and Sutton), or areas where there is a higher number of commercial establishments. Further details on the recommended data collection for pedestrian and cyclist counts are further discussed in **Section 4.12**.

4.7 Parking Restrictions

The entirety of the Study Area is subject to the parking restrictions of the Waterfront Park Buffer Zone. The Waterfront Park Buffer Zone (WPBZ) is a defined area in the Town of Georgina that encompasses neighbourhoods where tourism has the potential to cause safety concerns and/or property conflict. It was developed after many public, staff-related and Council-related inquiries related to public parking conflict, parking fees, and overall tourism impact to local neighbourhoods along the waterfront throughout Georgina. As a result, the Waterfront Park Buffer Zone was created in 2020. It includes the entire shoreline area of Lake Simcoe and Town

roads in lakeside neighbourhoods. A section along the Black River north of High Street in Sutton is also included.

The Waterfront Park Buffer Zone is a tool used to apply to other by-laws. It defines the area in which the Town can assess specific increases, specific infractions or specific rules.

A map of the areas subject to the WPBZ is depicted in **Figure 4-9**.

Based on supplementary information provided by the Town of Georgina, these regulations are in place along the study areas. It is prohibited to park vehicles on either side of the majority of Lake Drive throughout the year, and fines are increased during the summer months, including within community safety zones.

Only areas with existing no-parking and/or no-stopping restrictions are affected by the fines increase within the Waterfront Park Buffer Zone.

In 2021, the Town received approval from the Regional Senior Justice to increase no-parking and no-stopping fines in the Waterfront Park Buffer Zone. Beginning May 22, 2021, no-parking fines increased from $30 to $100 and no-stopping fines increased from $50 to $150. The fines apply to all motorists only in the event they are parked or stopped in restricted areas within the Waterfront Park Buffer Zone.

Based on a desktop review, the following areas permit parking on Lake Drive, with restrictions as noted in **Table 4-4**:

Table 4-4: Parking Restrictions Along Lake Drive (Desktop Review)

Road	From	To	Parking Restrictions	Comment
Lake Drive East	Melody Lane	Dalton Road	Parking on the sides: 2 hours	Fines increased during summer months (also community safety zone)
	Dalton Road	Lorne Street	Parking on the sides: 1 hour	Fines increased during summer months (also community safety zone)

The Town provided the following information on parking infractions summarized in **Table 4-5**. The information provided by the Town consists of records of parking violations from 2021 and 2022, specifically on Lake Drive (North, South, and East) roads, Hedge Road, and Waterfront parks. However, the data lacks details such as specific dates, times of the day, and the types of infractions committed.

As noted by the Town, there was a decrease in the number of parking infractions issued on Lake Drive (North, South, and East) and Hedge Road in 2022. This decline was due to a shift in

enforcement at and surrounding Waterfront Parks. The majority of parking tickets on the south section of Lake Drive were issued in the vicinity of Adeline Park and Young's Harbour. On the north section of Lake Drive, the primary locations for ticket issuance were Joy Marritt Parkette, Rayner's Park and North Gwillimbury Park. Similarly, on the east section of Lake Drive, the majority of tickets were given out near Willow Beach, Franklin Beach and De la Salle Park.

Given that there are many vehicles that are illegally parking near popular waterfront parks, it can be inferred that there may be insufficient parking to these recreational destinations, which may continue to encourage illegal parking along the Study area. Further, the lack of dedicated active transportation facilities may discourage walking or cycling to these parks, resulting in a higher access to these sites via vehicles.

The Lake Drive and Hedge Road Functional Assessment Study will develop and evaluate design alternatives that considers and incorporates roadway designs that can discourage and decrease these illegal parking patterns. These auto-dependant behaviours may continue following the eventual recommendations of the Lake Drive and Hedge Road, and additional educational campaigns and/or enforcement efforts may be required.

Table 4-5: Parking Infractions on Lake Drive, Hedge Road and Waterfront Park

Road / Park Name	Parking tickets issued in 2021	Number of parking tickets issued in 2022
Lake Drive South	199	34
Lake Drive North	74	35
Lake Drive East	129	119
Hedge Road	63	15
North Gwillimbury Park	262	108
Willow Beach	336	565
De la Salle Park	397	1058

4.8 Transit Routes

York Region Transit (YRT) is the local transit agency that operates at the Regional scale (i.e. within York Region). YRT operates two routes in the Town of Georgina:

- **Route 50 – Queensway**. This is the only regularly scheduled route in the Town of Georgina, travelling between Keswick and Sutton, predominantly on Metro Road. This

route operates Monday through Sunday, and on the holidays. YRT also provides seasonal service on this route on Civic Centre Drive from Metro Road to the Recreational Outdoor Campus (ROC). This route is depicted in **Figure 4-10.**

- **Route 424 – Keswick**. This route is a school special route connecting various areas of the community to Keswick High School. This route operates once in the morning towards Keswick High School, and once in the afternoon in the reverse direction during regular school days. This route is depicted in **Figure 4-11**.

Transit routes travel on the Study area corridor on Lake Drive South between Ravenshoe Road and Walter Drive. As such, the recommendations from the Functional Road Assessment Study will have to ensure that this stretch of the Study area would be functional for YRT busses. The Project Team will review whether there are any future plans to provide transit route along Lake Drive and Hedge Road.

Figure 4-9: Waterfront Park Buffer Zone

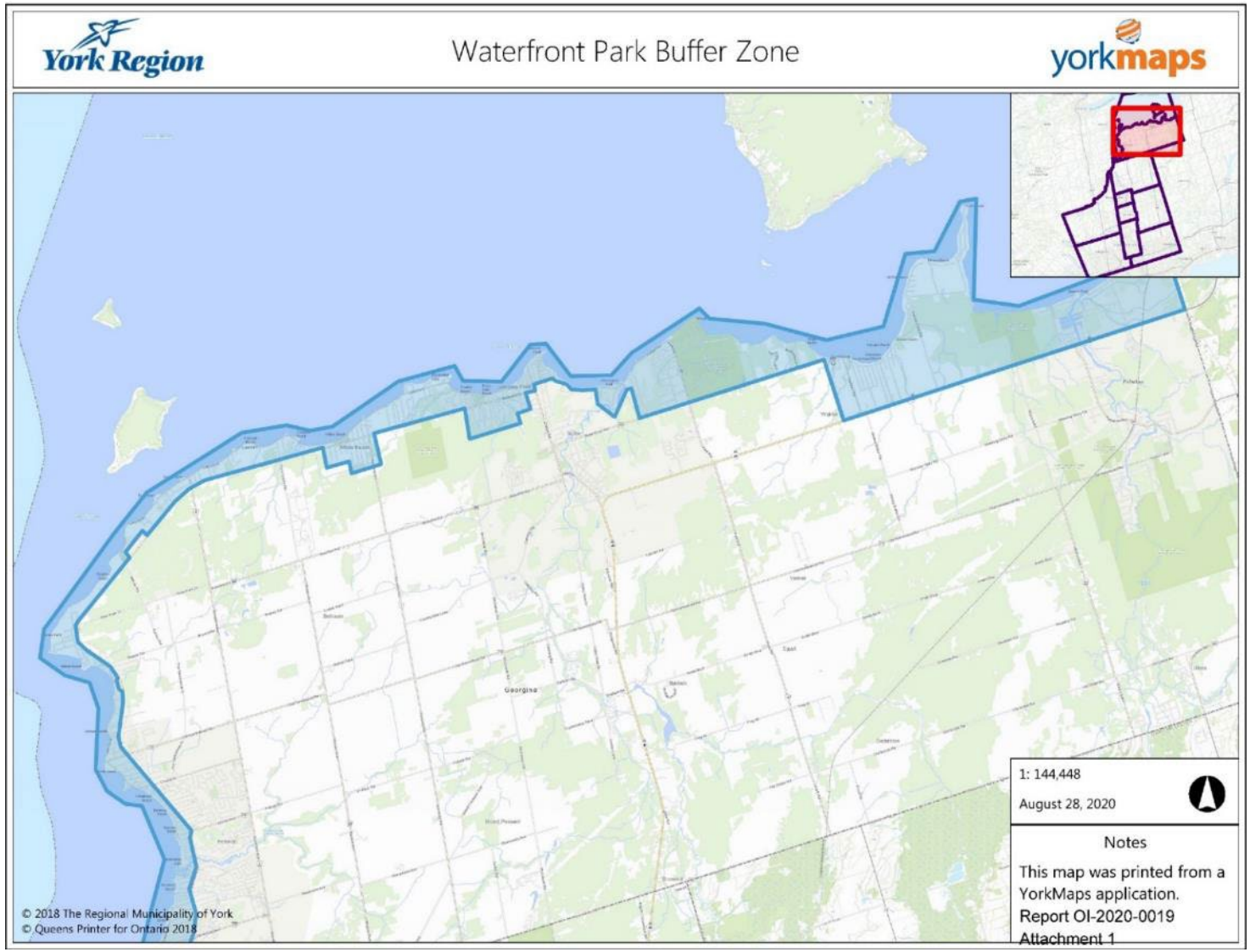


Figure 4-10: YRT System Map (April 20, 2023) – Route 50 – Queensway

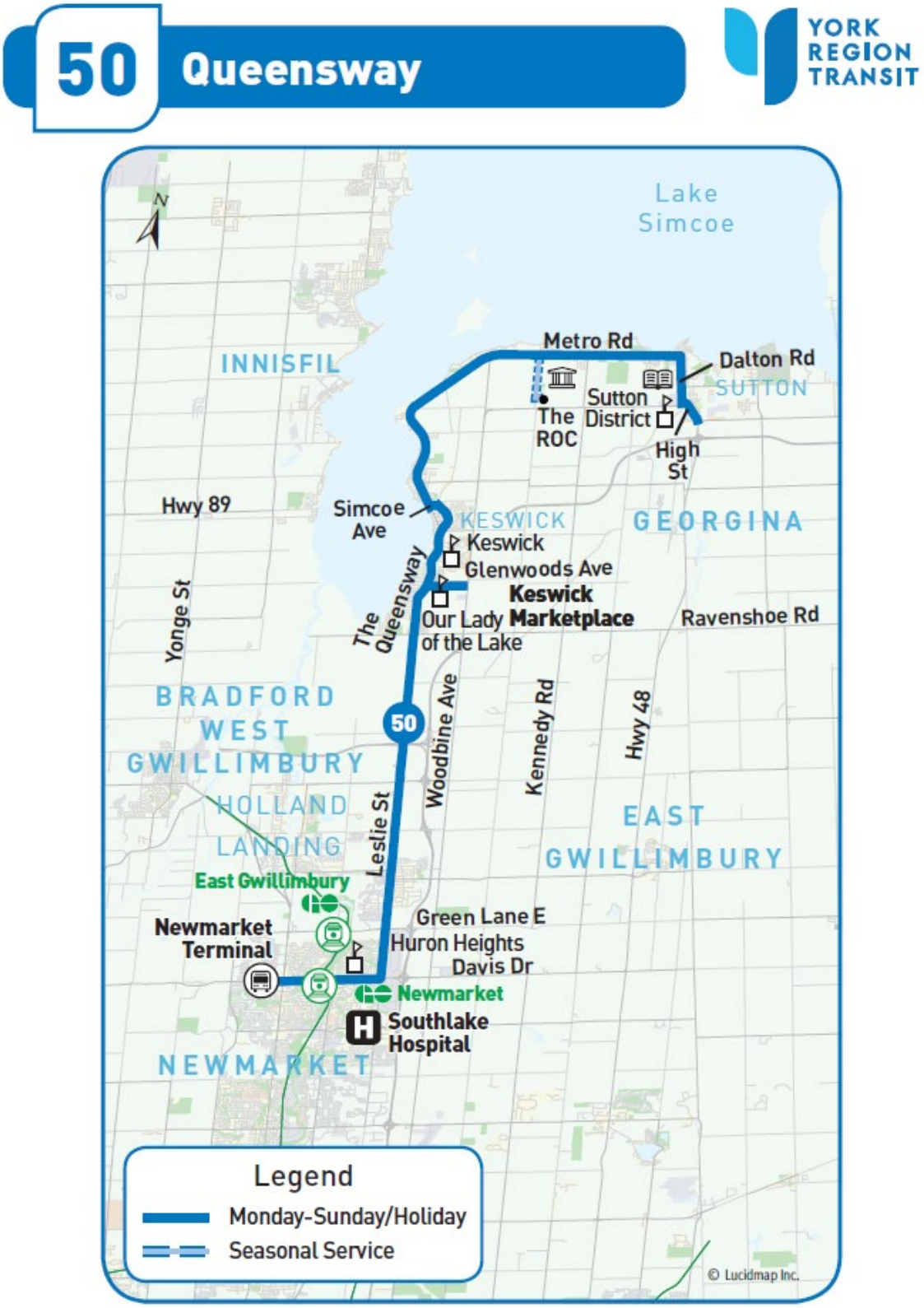


Figure 4-11: YRT School Special System Map – Route 424 – Keswick High School

4.9 Collisions

The collision data received from Town of Georgina provides information about collision location, and **Figure 4-12** shows the collision locations proximity to the study area. The collision data provided by Town of Georgina includes collisions which have occurred only within the Lake Drive South project limits. There is no data for study area segments of Lake Drive North, Lake Drive East, and Hedge Road. The information provided by the Town is limited and does not allow for a comprehensive assessment of potential causes, mitigations, or improvements. The Town also provided information about parking infractions (obtained from York Regional Police) that occurred on Lake Drive South, Lake Drive North, Lake Drive East, and Hedge Road. After analyzing a five-year period, it becomes evident that the majority of parking infractions occurred in the study areas of Lake Drive East and Hedge Road.

Figure 4-13 illustrates number of collisions per year in the Town of Georgina over a period of 5 years. The Figure indicates that highest number of collisions occurred in 2018. Collisions likely dropped in 2019/2020/2021 due to COVID and have been steadily rising again as communities are reopening.

Figure 4-14 shows number of collisions occurred each day of the week in Town of Georgina. As would have been expected, that highest proportion of collisions occurred on Saturday and Sunday.

Figure 4-15 shows time of day (hours) of collision. The hour 14:00 was the time of the day that experience the highest number of collisions over the period of 5 years from 2018-2022.

Figure 4-156 shows number of parking infractions from 2018-2022 in Lake Drive South, Lake Drive North, Lake Drive East and Hedge Road.

Figure 4-12: Collision Locations

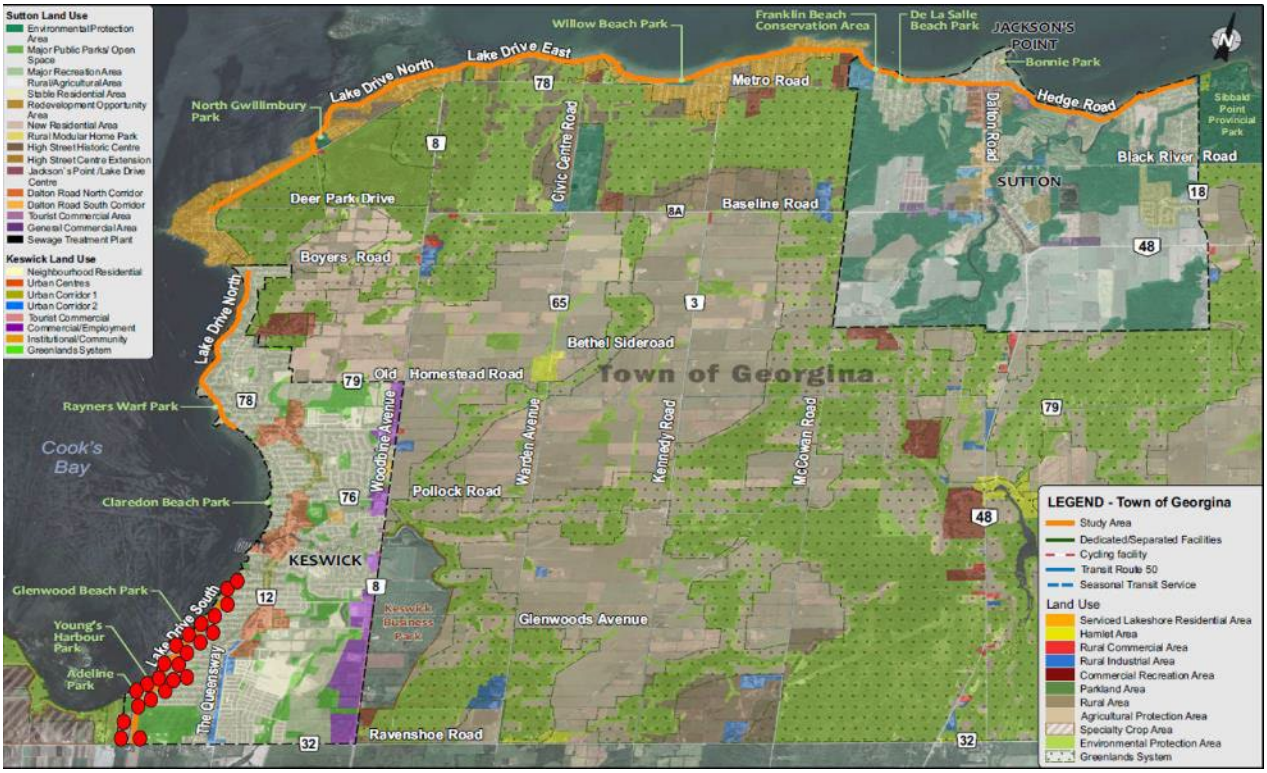


Figure 4-13: No. of Collisions per Year

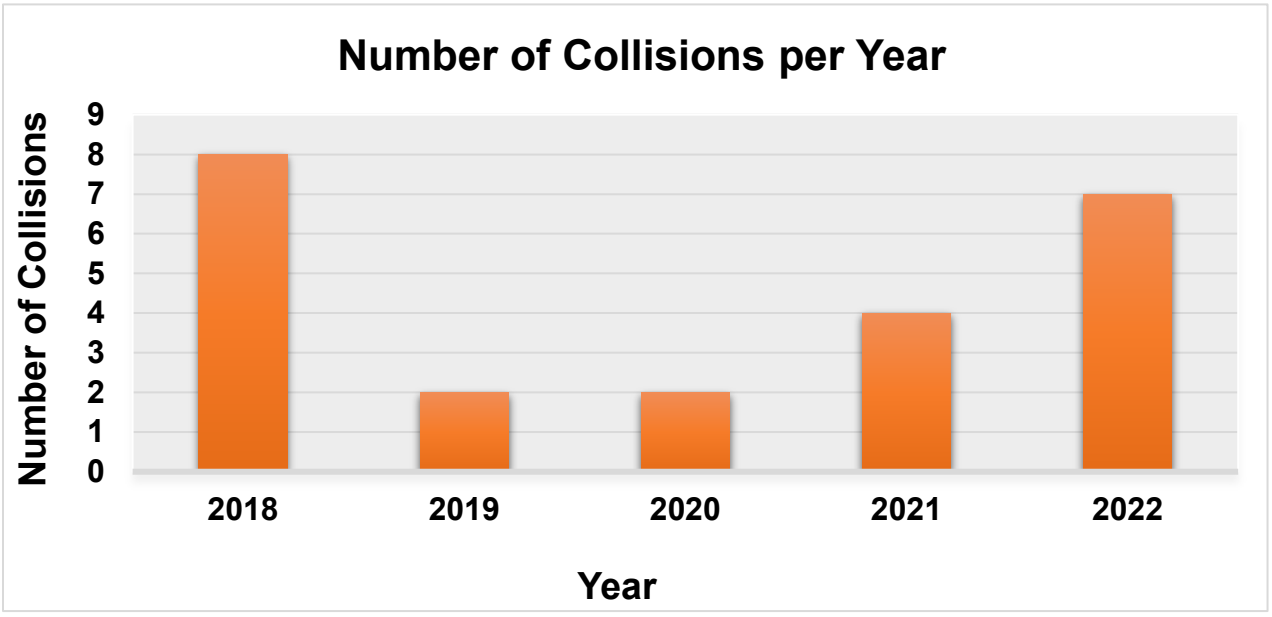


Figure 4-14: No. of Collisions per Day

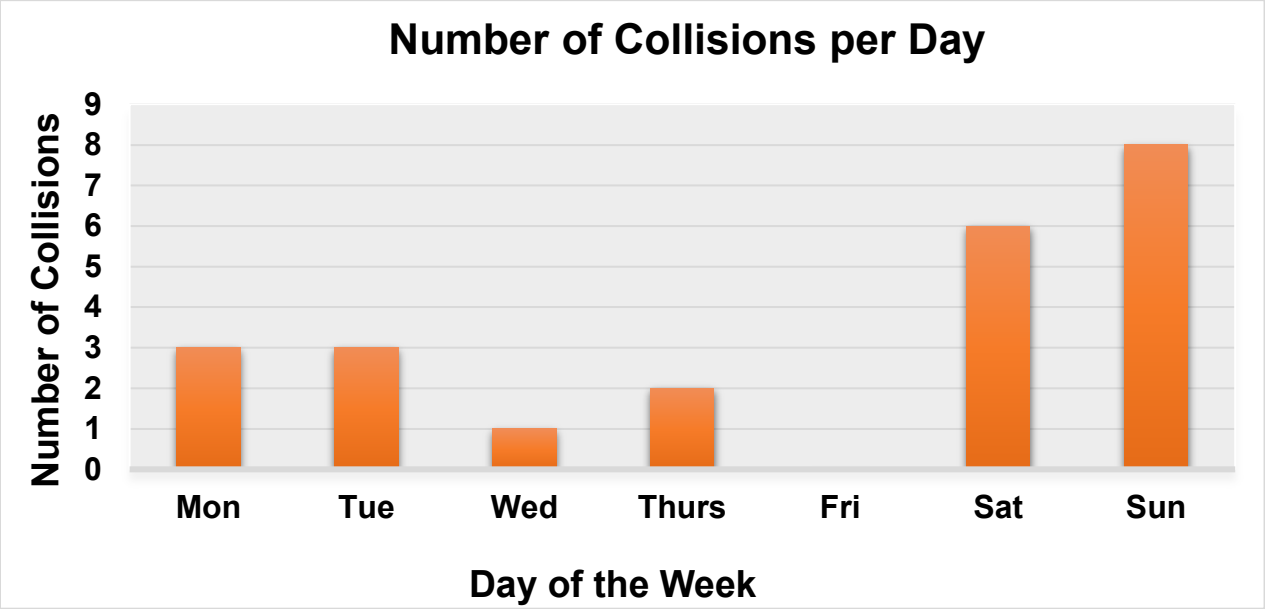


Figure 4-15: Time of Day vs Number of Collisions

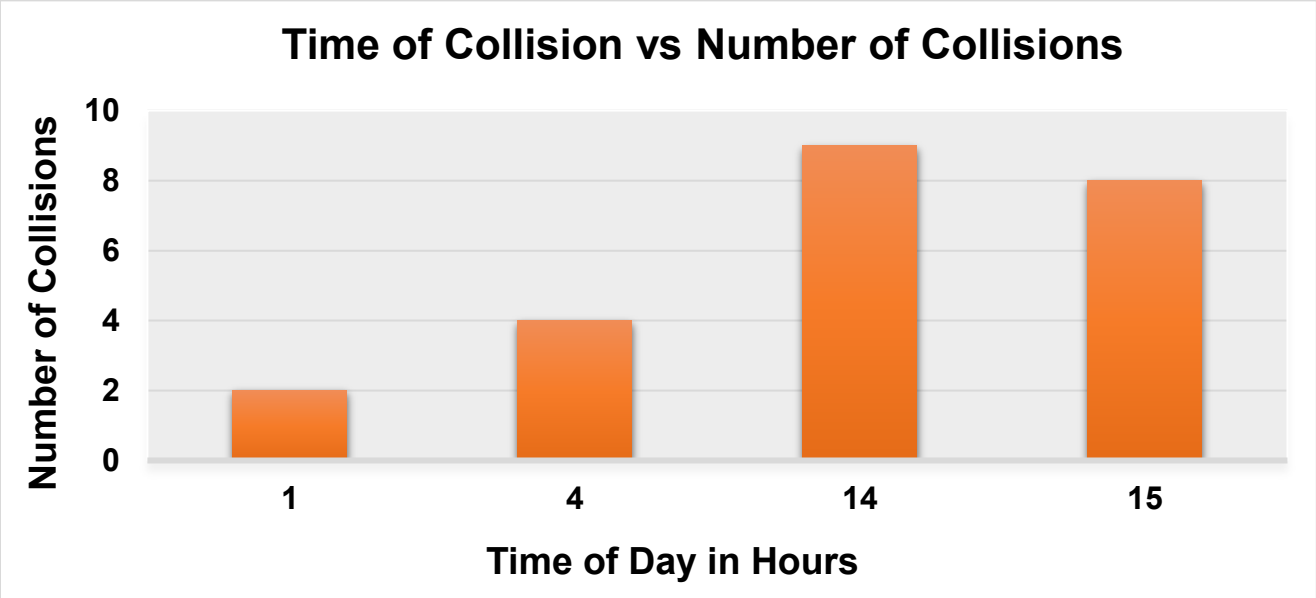
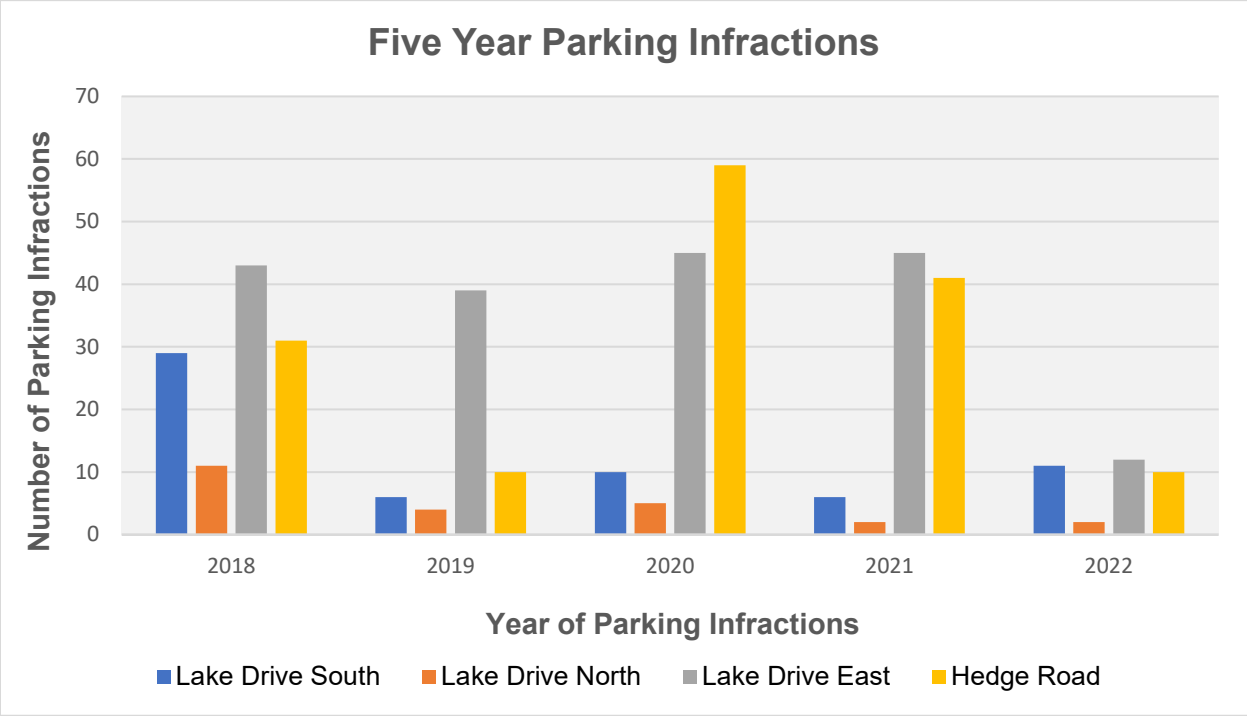


Figure 4-16: Five Year Parking Infractions



4.10 Town Owned Property

There may be an opportunity to leverage the existing roadway on parcels owned by the Town on the side opposite Lake Simcoe to improve safety along Lake Drive. However, it should be noted that some of these properties are park lands. These opportunities will be further examined as both study progresses and in the development of the alternative solutions to address the problems and opportunities of Lake Drive.

Further, these Town-owned properties are destinations along the corridor, particularly for beaches and parks, where there are higher numbers of pedestrians and cyclist movements to and from these land parcels.

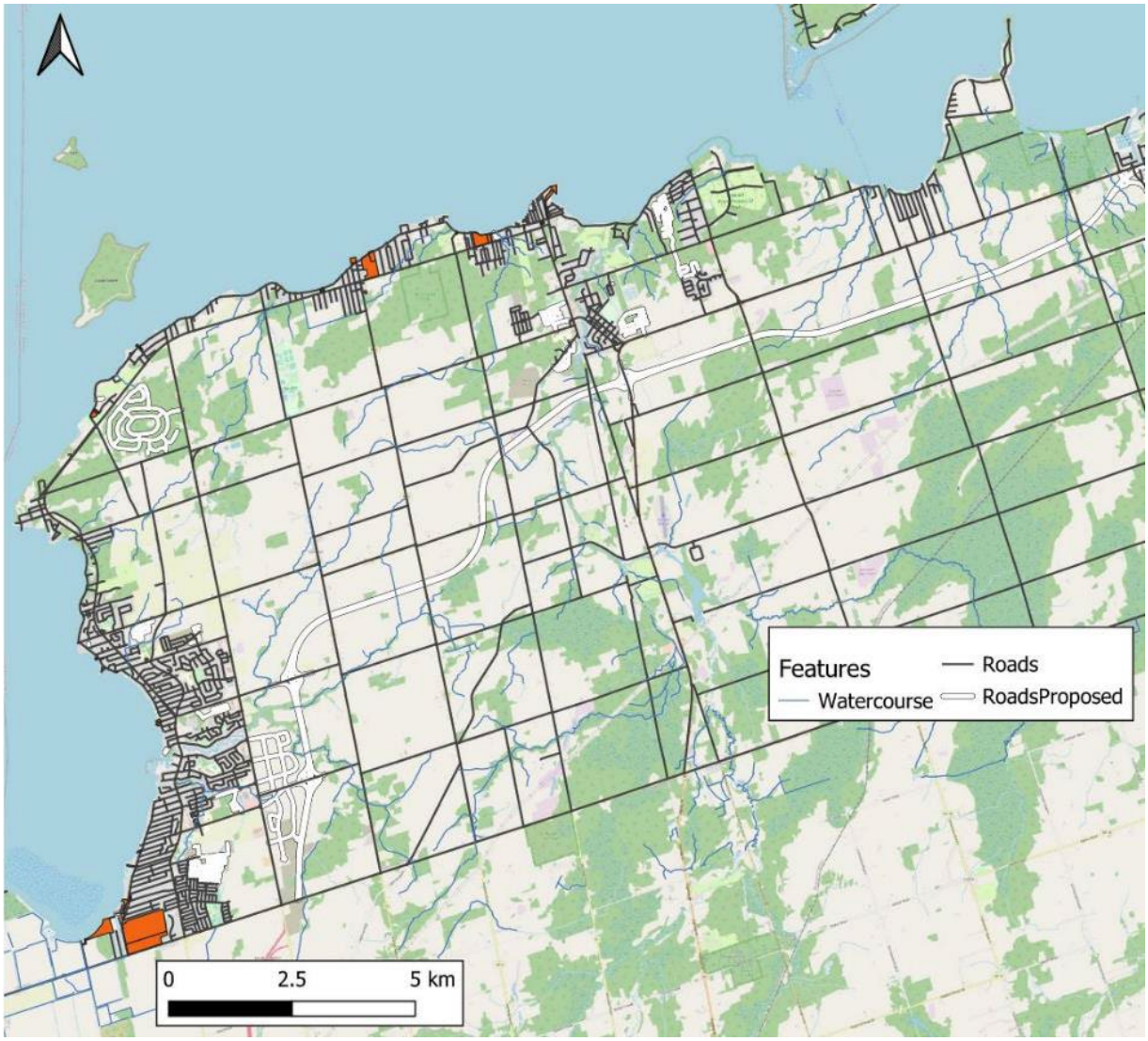
Town-owned properties adjacent to Lake Drive are depicted in the figures listed below. The roll number of each property is listed. The Town-Owned Properties Adjacent to the Study Area are shown in **Figure 4-16.**

A list of the available properties is provided in **Table 4-6.** Where there is a municipal address available, it is noted in brackets following the corresponding roll number.

Table 4-6: Town Owned Properties with Roll Numbers

1. 14017900 (1210 Ravenshoe Road)	**2.** 12268200
3. 14202200	**4.** 12227590
5. 14200600	**6.** 12227600
7. 14179800	**8.** 12227585
9. 14250500	**10.** 13212300 (363 Lake Drive East)
11. 14250600	**12.** 13212900 (353 Lake Drive East)13778220 (481 Lake Drive East)
13. 14084800	**14.** 13778200 (481 Lake Drive East)
15. 14195400 (524 Lake Drive South)	**16.** 13205000
17. 14193000	**18.** 8160700
19. 14211300 (515 Lake Drive South)	**20.** 8161925
21. 9400550 (50 Lake Drive North)	**22.** 8068800 (21093 Dalton Road)
23. 9161500 (275 Church Street)	**24.** 13746610
25. 9386500 (102 Lake Drive North)	**26.** 13740300 (1940 Metro Road North)
27. 9400500	**28.** 8174400 (1 Bonnie Boulevard)
29. 12246300 (795 Sheppard Avenue)	**30.** 8174400 (1 Bonnie Boulevard)
31. 12331500	**32.** 13740200 (807 Lake Drive East)
33. 12331600	**34.** 8156300 (945 Lake Drive East)

Figure 4-16: Town Owned Properties Adjacent to the Lake Drive FA Study Area (Full Study Area)



4.11 2023 Speed Hump Pilot Program

In September 28, 2022, Council approved the Speed Hump Pilot Program for 2023. The Speed Hump Pilot Program was proposed in response to Council requests and traffic concerns from local residents.

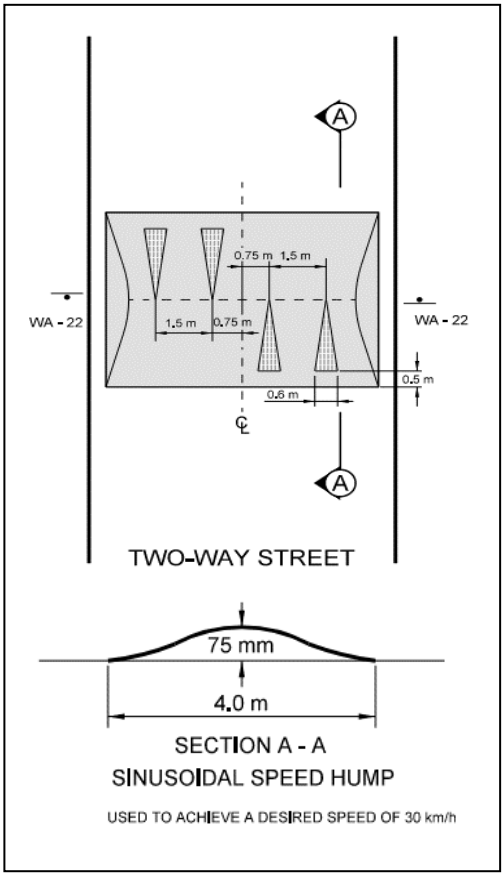
Initial site visits propose three locations as part of the pilot program, including two locations on Lake Drive East, at De La Salle Park and Willow Beach.

The Town is using permanent humps as part of this pilot project. Their benefits include:

1. Increased smoothness: important as part of a first trial, considering not only vehicular traffic, but pedestrian and cyclist traffic that is prominent in Georgina;
2. Year-round application: permanent humps can remain in place over all 12 months, providing a good range for monitoring and analysis throughout different seasons; and
3. Maintenance-free: A permanent hump requires almost no maintenance during the first five years of installation. Temporary humps require constant maintenance ensuring they have not moved/deteriorated while installed.

The permanent hump design mimics the City of Toronto Standard T504.02, modified to suit road width. A wheel path modification should be tested on Lake Drive East for cyclists. Wheel path modifications include a depression in the middle of the hump to the existing grade.

Figure 4-17: Standard Detail City of Toronto Standard T504.02



The implementation of the Speed Hump Pilot Project began in the second quarter, 2023. This pilot project will be incorporated into the recommendations for traffic calming for this Study.

4.12 Missing Data Gaps

The following data gaps are either required or would be necessary in future depending on the direction taken in order to carry out the Lake Drive Functional Assessment Study.

Data Set	Requirement	Benefit to the Study
Mid-block traffic movement counts in the summer	Strongly Preferred	The potential benefits of undertaking supplementary summer mid-block traffic data collection surveys at a sufficient number of locations, to be able to support the identification and location, as well as the justification for the anticipated alternative improvement strategies.
Pedestrian counts in the summer	Strongly Preferred	Pedestrian and cyclist count data should be taken during the summer months at strategic locations, including the waterfront parks, established communities (i.e., Keswick and Sutton), or areas where there is a higher number of commercial establishments. Pedestrian and cyclist counts can be used for the decision-making process for various road-related projects, including this Study. By understanding the users of the road, amore defendable justification can be made for implementing a more complete street design.
Parking infractions from the Waterfront Park Buffer Zone	Preferred	Data on parking infraction., including date, time of day and infraction type, could be useful in determining where illegal parking is occurring the most, and can help inform the decision-making process.
Land Use GIS Layers	Lightly Preferred	Provides an easily accessible visual land use data; however, this missing data has already been supplemented by Official Plan data.

The Project Team was comfortable proceeding with the development of design concept alternatives based on the information available to us at the Project Team, with the understanding that there is some degree of inaccuracy in relying on aerial imagery.

5 OVERVIEW OF COMPLETE STREETS

The field of transportation is rapidly evolving with emerging technologies such as electrification, micromobility, telework, ridesharing and more; therefore, it is important to take stock of what trends should be accounted for in new studies. This section summarizes the emerging trends, such as Complete Streets, Vision Zero, and Transportation Equity, that should be considered in the development and evaluation of design alternatives for Lake Drive. Following these summarizes, this Chapter outlines the relevant design guidelines for active transportation facilities, and the method of selecting appropriate facilities for Lake Drive.

5.1 Complete Streets

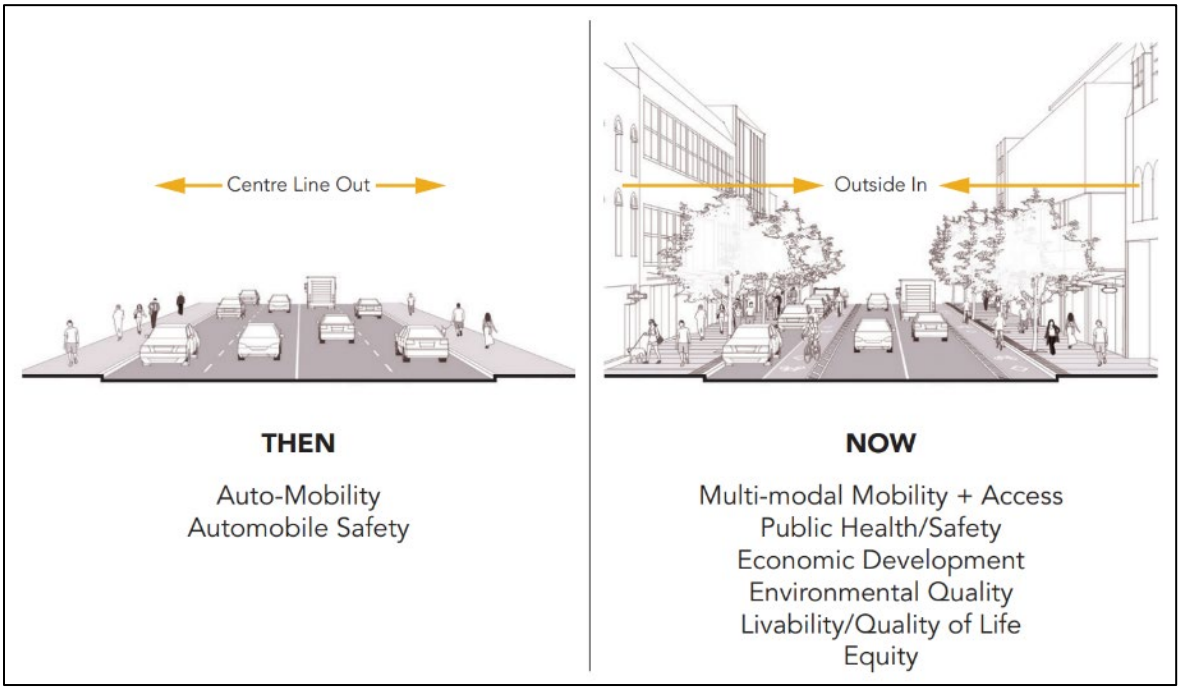
Streets are interconnected to build a system that allows physical movement, connecting people to different areas and destinations within the Town. Town streets are important public spaces that provide various social and recreational uses. Well-designed streets shape the urban fabric and image of a municipality with its own identity, economic function, and social importance.

In shifting away from streets that prioritize only motor traffic and movement, **the Complete Streets approach is designed to balance the needs of all road users, including people who cycle, walk, take transit, and drive on that roadway (Figure 5-1).** This approach creates a safe and welcoming environment for all ages, abilities, and mode of travel. The Complete Streets concept is closely related to the Safe Systems and Vision Zero approaches on road safety. It aims to design a transportation system that anticipates human error and accommodates human injury tolerance with the ultimate goal of eliminating death or serious injury on roadways.

The City of Toronto developed Complete Streets Guidelines which provided a new approach for how we design our city streets. Complete Streets build on many of the City's existing policies, guidelines and recent successful street design and construction projects. The Complete Streets Guidelines provide an expanded toolbox of ways to improve Toronto's streets.

There is no singular solution to implement the Complete Street concept. Every street is different with its own defining elements and characters, in considering the street's location, context, and role within the transportation system. While it may not be appropriate to accommodate every type of user on the street, the overall objective is to create a well-functioning street network that provides road safety, accessibility, and diverse activities and uses. More information about Complete Streets can be found on City of Toronto website and the link to the Complete Streets guideline document can be found under reference section.

Figure 5-1: Complete Streets Design (Source: City of Toronto)



The following will guide the design approach to incorporate complete streets on Lake Drive:

Consider the Street Context	Where is it located? Who are the main users of this street? Is the street designed for access or movement? Every street is designed differently to align with its land-use context, function, and environment. A residential local road has different design features compared to a rural collector.
Create attractive, vibrant places	Attractive and vibrant streets that support pedestrian access create a strong sense of place and identity. Designing the streets with appealing streetscaping and multiple functions encourage pedestrian movement and future visits.
Prioritize transit and active transportation	A street with high mobility is directly linked to the provision and convenient access to transit and active transportation infrastructure. Enhancing pedestrian and cyclists with comfortable, safe, and accessible routes and facilities will discourage the use of private vehicles.

 **Provide safe and accessible options**	Complete Streets aims to improve safety and accessibility for transit users, pedestrians, and cyclists, so they may feel as an equal part of the roadway design. A sense of safety and ease of access increase the desire to walk leisurely along the street.
 **Prioritize connectivity**	New streets should not be isolated from the rest of the road network. The City's roads must be cohesive and well-connected to other roads to encourage new active transportation users. It is important to provide active transportation infrastructure and facilities along streets with many connections to retail, community spaces, and green space.
 **Consider cost effectiveness**	The environmental, social, and economic benefits and costs should be considered in designing a Complete Street. Consider the direct and indirect costs of construction, operation, and maintenance. Designing the street with long-term use can reduce the number of retrofit projects needed in the future.

5.2 Vision Zero

The Vision Zero program was initiated by the Swedish government to eliminate death and serious road injuries. It has a simple and clear goal **to have zero fatalities or serious injuries on roadways, creating the conditions where no loss of life is seen as an acceptable trade-off for mobility.** Vision Zero assumes that human error is a natural part of the road safety equation, shifting the burden of responsibility from individual road users to those who design and build the road systems. Although drivers and humans make mistakes, this approach recognizes that road deaths and injuries can be prevented through education, enforcement, engineering, evaluation, and engagement.

Traditional Approach 	**Vision Zero Approach** 
• Deaths are inevitable • Focus on overall collision rates • Human error identified as the cause of collisions • Focus on perfecting human behavior on an imperfect road system • Safety initiatives are costly • Individual road users are responsible	• Deaths are preventable • Focus on fatalities and serious injuries • Flaws in the transportation system identified as the cause of collisions • Focus on designing a road system that accounts for human error • Safety initiatives reduce societal costs

	• Road users and system designers have shared responsibility

When instituting a Vision Zero approach, close collaboration between system designers and government decision-makers are required since this approach requires a foundational shift in the understanding of road safety. Vision Zero is a continuous process to create safe roads through engineering changes, new policies, interim safety treatments and educational strategies. Monitoring and evaluation of performance is also essential to assess the conditions of the applied treatments or improved designs.

Vision Zero uses a data-driven and targeted approach to focus on locations that need geometric improvements. This approach recognizes the disproportionate harm caused by our current transportation system to vulnerable users of the road, such as pedestrians, cyclists, children, older adults, and persons with disabilities and takes deliberate action to improve their safety. Streets with enhanced safety that are designed to be pedestrian- or bicycle-friendly will support active transportation and increased mobility while also improving safety for all road users, including drivers. As roads begin to feel safer for these vulnerable users, more people feel comfortable using them for transportation and recreation, creating more vibrant public spaces and further reducing the burden placed on these groups.

While the Town has not adopted formal safety policies, the Vision Zero approach is considered best practice and can be applied to this Study.

5.3 Transportation Equity

The transportation system has not been designed in a value-neutral way and underprivileged and marginalized communities have been neglected by implicit and explicit bias in the transportation planning process. Transportation inequities can apply to many groups of the population and some examples are:

- **Women:** Many women report being afraid of being harassed in public spaces. Women who are caregivers walk and take public transit more often.
- **Indigenous People and People of Colour:** These groups may not have benefitted as much as other groups in the past in terms of good access to public transit and active transportation infrastructure.
- **Low-income Households:** These households have less financial ability to purchase and maintain a vehicle and may even have difficulty covering the cost of public transit.
- **Older Adults:** May struggle with walking up hills and across long intersection crossings and may also find themselves with reduced mobility choice as they age and are unable to continue to drive.
- **Persons with Disabilities:** They are disproportionately impacted by transportation amenities that are solely designed for able-bodied persons, such as sidewalks without

curb cuts, a bus stop without accessible boarding or trails that are not maintained in the winter.

- **Language Challenged Populations:** English or French may not be their first language, and this could create a language barrier to obtain and understand travel information.
- **People Walking and Cycling:** Pedestrians and cyclists are disproportionately impacted by traffic deaths and accidents are worsened by the rise in SUVs and pickup trucks.

The best practices in addressing transportation inequities are summarized below:

	**Start by defining equity and embedding it into policy goals** • Define what an 'equity-deserving community' is in your Town • Embed equity into transportation capital budgeting process • Include equity strategies in road safety • Enhance public engagement with a focus on equity
	**Treat equity as a process** • Continue to build relationships with equity-deserving communities • Consult with public members by "going to where the communities gather", such as attending upcoming community events
	**Pursue equitable engagement practices** • Deliberately reach out to communities who have been marginalized and prevented from accessing public consultations • Go to the community, have flexible community engagement events, establish accountability groups with underrepresented demographics, and build an understanding of the history of the neighbourhood
	**Apply quantitative and qualitative approaches** • Collect data and assess the current public engagement outcomes • Identify equity-seeking communities or populations and focus on areas that need improvements and are at risk of displacement
	**Develop methods to prioritize transportation funding and projects to underserved areas** • Adopt policies to provide more public investments in equity-seeking areas. For example, 30% of funds could be spent in neighbourhoods with lower equity scores and lower access to mobility options

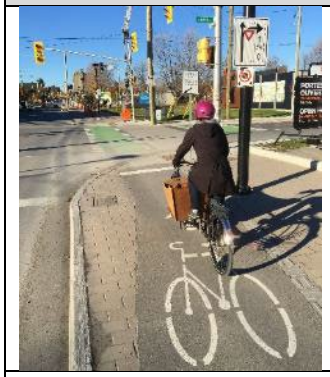
	Regularly measure and report on progress • Report on progress to make sure that the desired outcomes are achieved • Publish progress reports with the public to build trust • Acknowledge shortcomings and celebrate successes

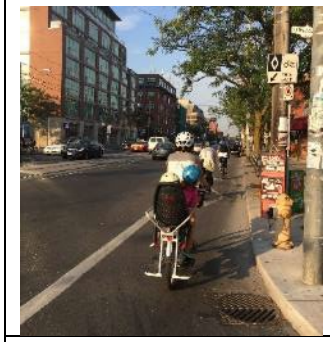
5.4 Active Transportation Facility Overview

There are different active transportation facility types that will be reviewed and considered for Lake Drive. While all facility types serve the purpose of providing safe, comfortable, and convenient active travel, they each have their own design standards and considerations. Some key guidelines that inform the selection and design of different active transportation facilities are found in **Table 5-1** below.

Table 5-1: Active Transportation Facility Types

Facility	Description	Traffic Volumes	Operating Speed (km/h)	Facility Width (m)	Applicable References
Off-Road Multi-Use Trail 	An Off-Road Multi-Use Trail is a shared facility located outsider the road right-of-way for use by cyclists, pedestrians and other non-motorized users. If permitted by municipal by-law, multi-use trails may also be used by recreational motorized vehicles.	N/A	N/A	3.0 – 4.0	MTO Bikeways, Design Manual section 5.0 AODA – Built Environment Standards, section 2.2
Physically Separated Bikeways					
Physically Separated Cycling Lane 	A portion of a roadway which has been designated for the exclusive use of cyclists, and which is separated from adjacent motor vehicle lanes by a horizontal buffer and separation elements that restrict encroachment of traffic.	≥ 1,500	≥ 40	One-way: 1.5 – 1.8 + 0.3 – 1.0m buffer Two-way: 2.7 – 3.5 + 0.3 – 1.0m buffer	OTM Book 18 Section 4.3.2
Cycle Track	A physically separated bikeway that is horizontally and vertically separated from the travelled portion of the roadway by a curb and buffer. Cycle tracks are designated exclusively for use by people riding bikes, and often travel parallel to a sidewalk.	≥ 1,500	≥ 40	One-way: 1.5 – 2.5 Two-way: 3.0 – 4.0	OTM Book 18 Section 4.3.3

Facility	Description	Traffic Volumes	Operating Speed (km/h)	Facility Width (m)	Applicable References
					
In-Boulevard Multi-Use Path 	A two-way path that is horizontally and vertically separated from the travelled portion of the roadway by a curb and buffer. Multi-use paths are shared by cyclists and pedestrians. In-boulevard multi-use paths are distinct from multi-use trails, which run in a dedicated corridor separate from the road right-of-way.	≥ 1,500	≥ 40	≥ 3.0 – 3.5	OTM Book 18 Section 4.3.4
Bicycle Lanes					

Facility	Description	Traffic Volumes	Operating Speed (km/h)	Facility Width (m)	Applicable References
Conventional Bike Lane 	A portion of a roadway that has been designated by pavement markings and signage for preferential or exclusive use by people riding bikes. Bicycle lanes are separated from motor vehicle lanes solely by a white painted line. This facility type is for one-way bicycle travel only. A typical configuration on a two-way roadway includes a conventional bicycle lane on each side.	≤ 4,000	≤ 50	1.5 – 2.0	OTM Book 18 Section 4.4.1
Buffered Bike Lane 	Similar to a conventional bicycle lane, but adds a painted buffer to create additional horizontal separation between the bicycle lane and the adjacent motor vehicle lane. No vertical separation elements are used.	≤ 4,000	≤ 60	1.5 – 1.8 + 0.3 – 1.0m buffer	OTM Book 18 Section 4.4.2
Contraflow Bike Lane 	A bicycle lane that operates in the opposite direction of motor vehicle traffic, enabling two-way bicycle travel on a roadway that has one-way operation for motor vehicles. Contraflow bicycle lanes can be separated from motor vehicle lanes by a painted line only, by a buffer or by a form of physical separation.	≤ 4,000	≤ 50	1.8 – 2.0	OTM Book 18 Section 4.4.3

Facility	Description	Traffic Volumes	Operating Speed (km/h)	Facility Width (m)	Applicable References
Shared Cycling Facilities					
Advisory Bike Lanes 	A shared roadway facility that visually delineates space for cycling by dashed lane lines. The roadway contains no centreline, and motor vehicles share the centre roadway space for two-way travel.	≤ 4,000	≤ 40	1.5 – 2.0	OTM Book 18 Section 4.5.1
Neighbourhood Bikeways 	Low-volume, low-speed streets that prioritize bicycle travel using treatments such as traffic calming, traffic reduction, signage, pavement markings and intersection crossing treatments. These treatments encourage through movements for people riding bikes while discouraging or prohibiting similar through trips by motorized traffic.	≤ 2,500	≤ 40	N/A 3.0-4.5 metre vehicle travel lane	OTM Book 18 Section 4.5.2
Mixed Traffic Operation / Signed Route 	Unless cycling is specifically restricted, people riding bikes are permitted to travel on all roadways, whether designated as a bicycle route or not. Designating a route where cyclists operate in mixed traffic is generally undesirable, unless the street is low-speed and low-volume. Where appropriate conditions are present for mixed traffic operation, supportive signs and pavement marking treatments, such as sharrows, can be added to the route to support wayfinding and promote safer interactions between cyclists and motorists.	≤ 2,500	≤ 40	N/A 3.0-4.5 metre vehicle travel lane	OTM Book 18 Section 4.5.3

Facility	Description	Traffic Volumes	Operating Speed (km/h)	Facility Width (m)	Applicable References
Paved Shoulder 	A portion of a roadway which is contiguous with the travelled way, and is used to accommodate stopped motor vehicles, emergency uses, pedestrians and cyclists, as well as for lateral support of the pavement structure. On higher-speed and higher-volume roads, paved shoulders should typically include a buffer zone to provide greater separation between motorists and people riding bikes travelling in the same direction.	≥ 1,000	≥ 40	1.2 – 2.0	OTM Book 18 Section 4.5.4
Buffered Paved Shoulder	Similar to a conventional paved shoulder, but adds a painted buffer to create additional horizontal separation between the paved shoulder and the adjacent motor vehicle lane. No vertical separation elements are used.	≥ 1,000	≥ 40	1.2 – 2.0 + 0.5 – 1.0m buffer	OTM Book 18 Section 4.5.4

5.5 Active Transportation Design Guidelines

A number of international, national and provincial guidelines should be used by Town staff and its partners while planning, designing and implementing active transportation infrastructure. The following are a few of the resources that can be used for facility design reference as part of this Study.

International Sources

- American Association of State Highway and Transportation Official Guide for the Development of Bicycle Facilities;
- Institute of Transportation Engineers (ITE) Micromobility Facility Design Guide; and
- National Association of City Transportation Officials (NACTO) Urban Bikeways Design Guide and Urban Street Design Guide.

National Sources

- Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads;
- Transportation Association of Canada (TAC) Pedestrian Crossing Control Guide;
- Transportation Association of Canada Bikeway (TAC) Traffic Control Guideline for Canada; and
- Transport Canada's At-Grade Railway Crossing Guidelines.

Provincial Sources

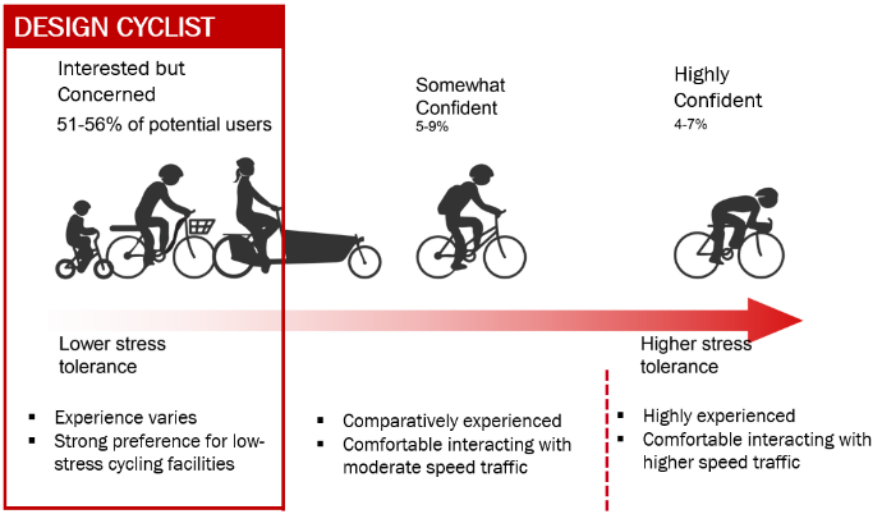
- Ontario Traffic Manual (OTM) Book 18: Cycling Facilities;
- Ontario Traffic Manual (OTM) Book 15: Pedestrian Crossings;
- Ministry of Transportation Ontario (MTO) Bikeway Design Guidelines; and
- Accessibility for Ontarians with Disabilities Act (AODA) – Built Environment Standards.

5.5.1 ONTARIO TRAFFIC MANUAL (OTM) BOOK 18

OTM Book 18 should be the primary reference for cycling infrastructure, including the framework to selecting the most appropriate cycling facility type based on urban/suburban context, and road speed and traffic volume. Key takeaways from Book 18 include:

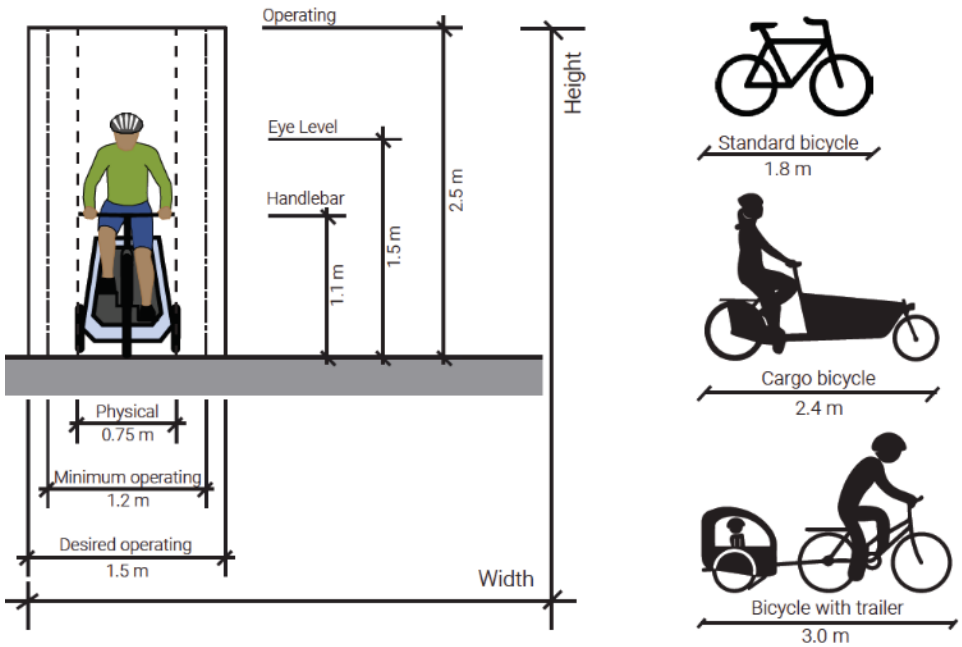
- **Defining the design user (Section 2.1):** When designing a cycling facility, defining who the users are and how they will be using the facility will guide how to design infrastructure that will be used by as many people as possible. Cyclists are typically categorized on the scale shown in **Figure 5-2.** Given the size of the "Interested but Concerned" category, this group is considered the "design cyclist".

Figure 5-2: Types of Cyclists (Source: OTM Book 18)



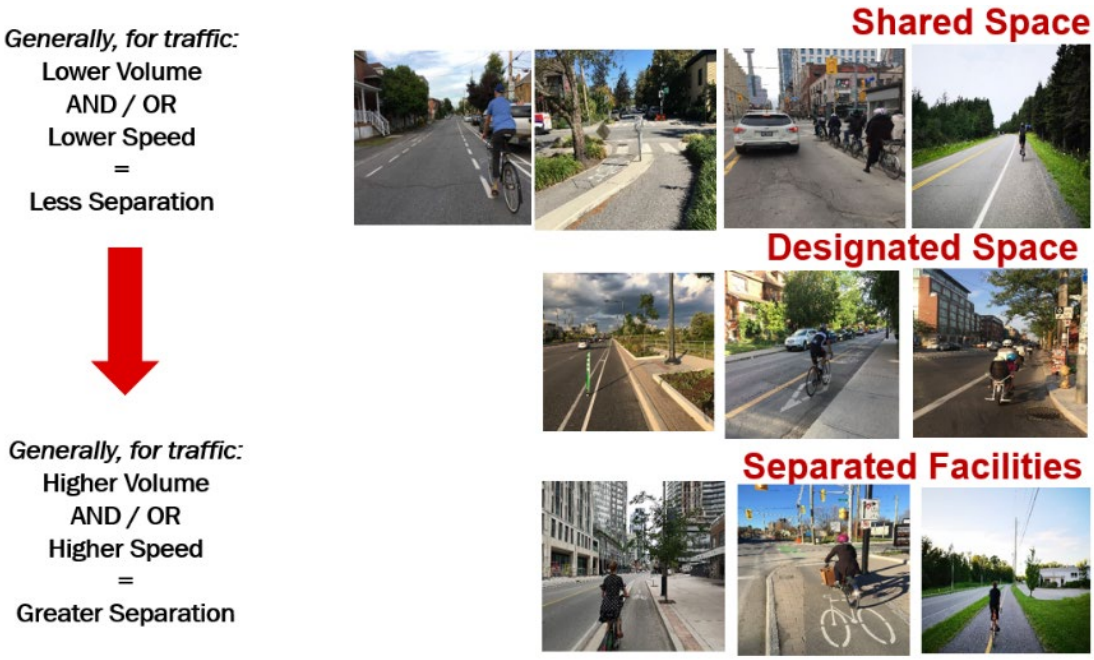
- **Understanding the operating space (Section 2.1):** The amount of space required for cyclists to manoeuvre comfortably is referred to as the operating space. The desired operating width from OTM Book 18 is 1.5m, with a minimum of 1.2m where there are constraints. The operating length varies depending on the type of bicycle but it is recommended that a length of 2.5m be used where cyclists are required to queue. (**Figure 5-3**)

Figure 5-3: Cyclist Operating Space Requirements (Source: OTM Book 18)



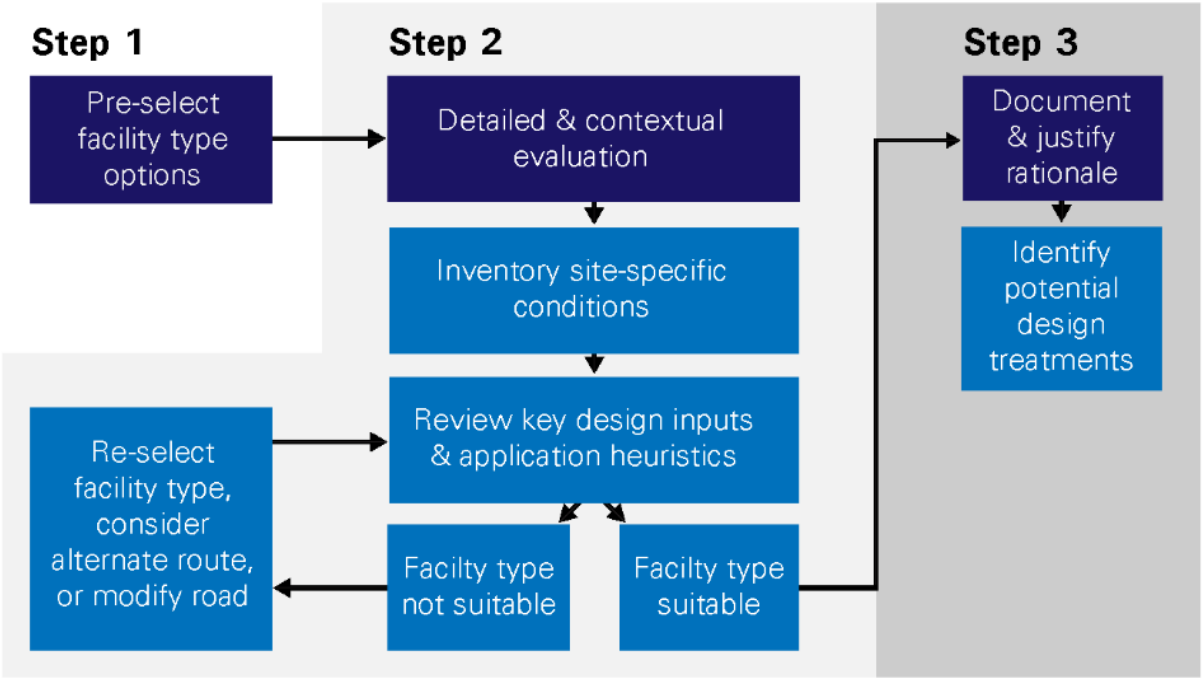
- **Identifying cycling facility types (Section 4.1):** Cycling facility types can be summarized in 3 categories. Separated bikeways use elements such as curbs, planters or bollards to provide separation between cyclists and motor vehicles. Designated spaces include bike lanes that have a dedicated space for cyclists but no physical buffer. Shared facilities do not provide distinct operating spaces for cyclists but are supported by amenities such as traffic calming and wayfinding to enhance the user experience.

Figure 5-4: Overview of Types of Cycling Facilities (Source: OTM Book 18)



- **Apply the Three Step Facility Selection Tool (Section 5.2):** OTM Book 18 outlines a three-step approach, summarized in **Figure 5-5**, to determine the most appropriate facility type based on the site specific contexts.
    - Step 1 uses either a rural or urban/suburban nomograph to pre-select desirable facility types based on the motor vehicle speed and the average daily traffic volume.
    - Step 2 includes a thorough desktop study with available data and field investigations to understand site-specific contexts compared to a set of application heuristics.
    - Step 3 documents the rationale for the recommended design treatment.

Figure 5-5: Three Step Facility Selection Flow Chart (Source: OTM Book 18)



6 PROBLEM STATEMENT

Lake Drive and Hedge Road are not only two roads that traverse the Town of Georgina; they also serve as well-liked destinations for both residents and visitors, making them significant landmarks within the Town. Over the years, this corridor has seen an increase in active transportation users and pedestrians, especially during the peak summer seasons.

However, the road was not designed for this level of vehicle, active, and pedestrian volumes. Design deficiencies include safety and comfort concerns for pedestrians and cyclists, sightline concerns for all roadway users and a pattern of parking infractions. As such, Lake Drive and Hedge Road require a re-evaluation of their designs based on the existing and planned context, current best practices and policies.

Recognizing the opportunity to enhance and improve the roadway experience for all users, York Region and the Town of Georgina have already prescribed and directed for the safe, comfortable, and functional incorporation of active transportation facilities onto Lake Drive and Hedge Road in many of their policy plans and guiding documents, including the Town of Georgina's Trails and Active Transportation Master Plan. To implement and explore the recommendations of the Master Plan, the Lake Drive and Hedge Road Functional Road Assessment Study has been initiated to develop and evaluate active transportation design alternatives, alternate lane arrangements, and traffic calming/safety controls that can be implemented for all road users along the corridor.

Considering the changes to the study area over the past decades, increase in popularity of the key destination facilities, and corresponding increase in vehicle, active, and pedestrian volumes, the goal of the Lake Drive and Hedge Road Functional Assessment Study is to identify and recommend a conceptual design within the existing paved area of the roadway that will permit the safe and comfortable travel of Lake Drive and Hedge Road for all road users.

7 ALTERNATIVE SOLUTIONS

As discussed in **Chapter 1**, the Lake Drive Functional Assessment Study is generally following a Schedule 'B' MCEA process. Phase 1 of this Functional Assessment Study process involved the identification of the problems and/or opportunities being addressed by the study, which has been captured in Chapters 1 through 5. Phase 2 of the Municipal Class EA process involves identifying alternative solutions (i.e., planning alternatives) to address the problems and/or opportunities.

Alternatives Solutions represent reasonable means of addressing the Problem Statement stated in **Chapter 6**, as well as achieving the project objectives. In addition to 'doing nothing', alternatives are developed to provide a complete street approach including a review of the motor vehicle lane arrangements, addition of active transportation, and traffic calming opportunities.

The alternative planning solutions are assessed against their ability to reasonably address the identified Problem Statement, with consideration of the constraints identified in the early stages of the study, to identify a preferred solution(s).

7.1 Evaluation Process Methodology and Study Area Sections

As captured in Chapters 1 through 5, the Study Area is long. Its context and local character vary from one section to another. As such, a multi-criteria analysis was carried out in order to provide a comprehensive evaluation that is context-sensitive to each Section of the Study Areas below:

Section 1:

1. **Lake Drive South** between Ravenshoe Road and Bayview Avenue
2. **Lake Drive North** between Church Street and Metro Road North

Section 2:

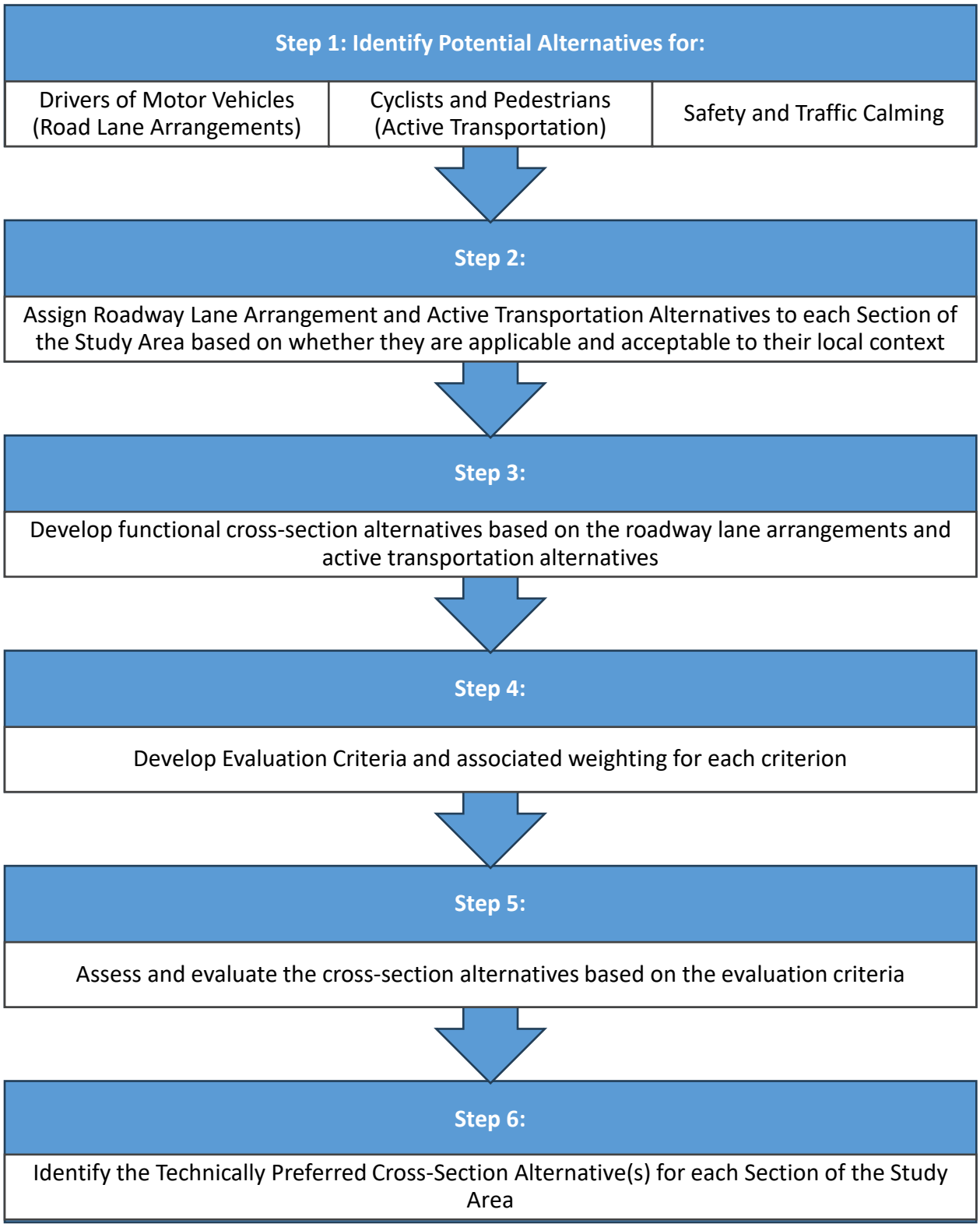
1. **Lake Drive North and East** between Coxwell Street and South Drive

Section 3:

1. **Lake Drive East** between South Drive and Hedge Road
2. **Hedge Road** between Lake Drive East and Park Road

The methodology for the multi-criteria analysis is summarized in **Figure 7-1**. Each step of evaluation in the multi-criteria analysis for this Study is detailed in **Section 7.2**.

Figure 7-1: Methodology for the Evaluation of Alternatives



7.2 Multi-Criteria Analysis: Evaluation of Solutions

The following describes the methodology and approach that was carried out in the development and evaluation of the alternative solutions for this Study to address the Problem Statement.

7.2.1 STEP 1: IDENTIFY POTENTIAL ALTERNATIVES FOR EACH USER TYPE AND FOR TRAFFIC CALMING

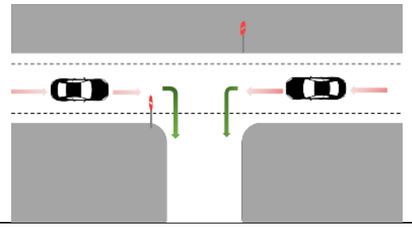
During Step 1, to address the Problem Statement in **Chapter 6,** the potential solutions were identified for each type of roadway user to improve the safety and comfort of all roadway users and provide a more balanced and complete street. The roadway users for the study area are drivers, pedestrians, and cyclists.

Potential alternative solutions were developed for each user:

1. For drivers of motor vehicles, potential motor vehicle lane arrangement alternatives were developed, and are identified and defined in **Table 7-1**.
2. For pedestrians and cyclists, potential active transportation facility alternatives were developed, and are identified and defined in **Table 7-2**.

Table 7-1: Potential Alternative Lane Arrangement Solutions for Motor Vehicle Lanes

Drivers of Motor Vehicles			
Potential Motor Vehicle Lane Arrangement Alternatives	**Definition**	**Why this Alternative was Developed for this Study**	**Benefits of the Alternative in How they Address the Problem Statement**
1. Two-vehicular lane (i.e. Do Nothing to the existing vehicular lane roadway configuration)	A type of roadway designed to accommodate traffic traveling in two separate lanes, one in each direction. This configuration allows for vehicles to move in opposite directions simultaneously. This option is also the "Do Nothing" alternative during Step 1 of the overall evaluation of solutions, as it maintains the existing vehicular roadway configuration. 	"Do Nothing" is considered the status quo, maintaining the existing road network as is. "Do Nothing" is considered as part of the MCEA process in order to determine whether developed alternatives evaluate better than maintaining the status quo to address the Problem Statement.	Cost effective: Maintaining the status quo is cost effective, as any costs would be limited to maintenance of the corridor as it is now. There would not be any cost associated with implementing changes to the corridor, such as roadway line painting and signage.
2. One-vehicular lane	A type of roadway that accommodates traffic moving in only one direction. It is designed to allow vehicles to travel in a single file, typically with no room for passing or overtaking other vehicles within the same lane. 	This alternative would functionally fit within the pavement width of the Study Area, which varies to as narrow as 6.5 m in width in some areas. Due to this constraint and in order to explore a wider range of cross-section alternatives that include a larger variety of potential active transportation facility alternatives, the one-vehicular lane arrangement is included. This will allow for the development and evaluation of safer active transportation facility alternatives, such as multi-use paths, in order to address the Problem Statement.	Heightened Awareness and Safer Driving: Due of the limited width and passing opportunities, motorists often drive with heightened awareness of their surroundings to navigate safely and efficiently. Caution Required: Drivers on one-lane roads exercise caution, stay alert, and are prepared to yield to pedestrians and cyclists when necessary. Safety: one directional roads remove the risk of head-on collisions.

Drivers of Motor Vehicles			
Potential Motor Vehicle Lane Arrangement Alternatives	**Definition**	**Why this Alternative was Developed for this Study**	**Benefits of the Alternative in How they Address the Problem Statement**
3. Alternating one-vehicular lane	Same as above, but the one-way motor vehicle lane does not travel in the same direction the entirety of the Study Area. Rather, this alternates from eastbound to westbound, with traffic entering and exiting the Study Area from Regional Roads. 	Same as above. This alternative provides an additional traffic calming measure: by alternative the one-way travel direction, drivers are less likely to use Lake Drive as a scenic drive / through route, encouraging lower volumes of through traffic and non-local traffic.	Same as above.
4. Advisory Lane *	Advisory bicycle lanes are a shared roadway facility that visually delineates space for cycling on a narrow roadway by dashed outer lane lines. The roadway contains no centreline, and motor vehicles share the centre roadway space for two-way travel. The centre travel lane width is narrower than two conventional travel lanes and may be as narrow as a single travel lane. Motor vehicles yield to oncoming traffic by entering the advisory bicycle lane. If a cyclist is present, motorists should slow and yield to the cyclist prior to entering the advisory bicycle lane. Motorists must always yield to cyclists and overtake with caution. An example of an advisory lane is shown below:  Additional resources are found below: **Advisory Cycling Lanes in Ottawa** https://www.youtube.com/watch?v=0zdDIvKXMxY	This alternative would functionally fit within the pavement width of the Study Area, which varies to as narrow as 6.5 m in width in some areas. Further, advisory lanes are appropriate in rural areas with existing low volumes and low speeds. As such, it was identified as a potential motor vehicle lane arrangement alternative based on its applicability. Advisory lanes are a flexible traffic management tool used to improve road safety and accommodate all road user types in situations where standard lanes are not sufficient.	Cyclist and Pedestrian Accommodation: Advisory lanes are designed to provide space for pedestrians to walk / run, and cyclists to ride safely alongside motorized traffic. Enhanced Safety: Advisory lanes are typically used in situations where safety is a concern, such as navigating tight curves or other slow-moving vehicles.

Drivers of Motor Vehicles			
Potential Motor Vehicle Lane Arrangement Alternatives	**Definition**	**Why this Alternative was Developed for this Study**	**Benefits of the Alternative in How they Address the Problem Statement**
	YouTube Video from Road Guy Rob https://www.youtube.com/watch?v=zeynqnirofE **Advisory Bike Lanes in North America** https://altago.com/wp-content/uploads/Advisory-Bike-Lanes-In-North-America_Alta-Planning-Design-White-Paper.pdf		
5. Road closure (in specific locations)	Temporary or full closure of partial segments of a roadway to vehicular traffic. Emergency vehicles and maintenance vehicles are permitted to travel the corridor as needed. In some instances, local traffic may be permitted, based on whether the road closure abuts any privately-owned properties. 	Roadway closures are being considered as part of the Town's Waterfront Parks Master Plan (WFMP), discussed in **Section 3.10**. To compliment that Study, which is being carried out concurrently, this Study has identified this roadway closures to indicate and document that the recommendations from this Study can accommodate the potential recommendations of the WFMP.	Enhanced Safety: Road closures to vehicular traffic eliminates the potential for conflicts between motorists and active transportation users (i.e., pedestrians and cyclists). Improved Access to Waterfront Parks: Road closures to vehicular traffic provide safe, comfortable and unobstructed access to the Waterfront Parks.

** Identified for both the potential motor vehicle lane arrangement alternatives and the potential active transportation facility alternatives.*

Table 7-2: Potential Alternative Solutions for Active Transportation Facilities- Cyclists and Pedestrians

Cyclists and Pedestrians			
Potential Active Transportation Facility Alternatives	**Definition**	**Why this Alternative was Developed for this Study**	**Benefits of the Alternative**
1. Signed Route (i.e., Do Nothing – maintain current existing cycling signage as-is without adding additional cycling facilities)	A road where motorists, pedestrians and cyclists share the same vehicular travel lane. Pedestrians and cyclists riding bikes are permitted to travel on the roadway, whether designated as a bicycle route or not. Supportive signs are erected adjacent to the roadway to support wayfinding and promote safer interactions between pedestrians, cyclists and motorists. This option is also the "Do Nothing" alternative during Step 1 of the overall evaluation of solutions, as it maintains the existing cycling signage without providing for additional active transportation facility feature(s). 	"Do Nothing" is considered the status quo, maintaining the existing road network as is, in which the transportation system would be limited to the implementation of approved municipal, regional, and provincial initiatives outside this Study. "Do Nothing" is considered as part of the MCEA process in order to determine whether developed alternatives evaluate better than maintaining the status quo to address the Problem Statement.	Cost effective: Maintaining the status quo is cost effective.
2. Multi-Use Path (MUPs)	A two-way path is separated from the travelled portion of the roadway by a buffer (e.g. bollards, curb, paint lines, etc.). Multi-use paths are shared by cyclists and pedestrians. In-boulevard multi-use paths run within a dedicated corridor within the road right-of-way. For this Study, the potential multi-use path would be buffered from the vehicular roadway, but travel along the existing pavement of the Study area. 	Multi-use paths (MUPs) alternative could be accommodated within the constrained pavement width of the Study area. It is identified as a potential active transportation facility alternative for this study due to its benefits.	Ability to accommodate diverse users: MUPs are designed to accommodate a wide range of users, including pedestrians, cyclists, joggers, wheelchair users, and recreational enthusiasts engaging in various activities. Safe and accessible design: MUPs are designed with safety in mind, often featuring wide, smooth surfaces, gentle slopes, and barrier-free access to ensure accessibility for all users, including those with disabilities. Scenic and recreational: MUPs located in scenic settings make them popular choices for recreational activities, exercise, and leisurely walks or rides with active transportation encouraged.

Cyclists and Pedestrians			
Potential Active Transportation Facility Alternatives	**Definition**	**Why this Alternative was Developed for this Study**	**Benefits of the Alternative**
3. Paved Shoulder	A designated and paved area that runs parallel to a road, adjacent to the travel lanes intended for active transportation use. A paved shoulder is primarily designed to provide additional space for cyclists and pedestrians. 	This Study is evaluating alternatives within the existing as-built pavement of the Study Area, which varies to as narrow as 6.5 m in width in some areas. As such, paved shoulders are included in the development of active transportation facility alternatives to address the Problem Statement. Paved shoulders provide some designated space for pedestrians and cyclists, though it is not as preferred as dedicated cycling and pedestrian facilities.	Cost effective: This alternative is easy to implement by designating the existing shoulder with paint. Safety: Provides some safety to cyclists and pedestrians by providing a designated space.
4. Sidewalks (i.e., Do Nothing – maintain existing sidewalks, limited to Jackson's Point)	A pedestrian pathway or walkway alongside a road or street, sidewalks are typically horizontally and vertically separated from the motor vehicle roadway lanes, and intended for the exclusive use of pedestrians, including walkers, joggers, and individuals using mobility aids like wheelchairs or scooters. They provide a safe and designated route for people to travel on foot while keeping them separate from vehicular traffic. Sidewalks are not shared with cyclists. 	This alternative does not intend to add sidewalks along the length of Lake Drive, but to maintain the existing sidewalks that are already in place, mainly through Jackson's Point.	Cost effective: Maintaining the status quo is cost effective, as any costs would be limited to maintenance of the corridor as it is now. There would not be any cost associated with implementing changes to the corridor, such as roadway line painting and signage.
5. Shared Facilities / Sharrows	A designated vehicular travel lane that is intended for shared use by motorists, pedestrians, and cyclists. It is often marked with a "sharrow" symbol. This active transportation facility is similar to the signed route alternative, but may include additional features, including delineated paint lines and the "sharrow symbol".	This alternative is cost effective and easy to incorporate into the existing signed route facilities. It is appropriate to consider sharrows given the rural context of the Study Area.	Cost effective: This alternative is easy to implement by converting the signed route into a sharrow. Safety: Provides additional safety to cyclists with additional features, including "sharrow" pavement markings.

Cyclists and Pedestrians			
Potential Active Transportation Facility Alternatives	**Definition**	**Why this Alternative was Developed for this Study**	**Benefits of the Alternative**
			
6. Advisory Lane *	Advisory bicycle lanes are a shared roadway facility that visually delineates space for cycling on a narrow roadway by dashed outer lane lines. The roadway contains no centreline, and motor vehicles share the centre roadway space for two-way travel. The centre travel lane width is narrower than two conventional travel lanes and may be as narrow as a single travel lane. Motor vehicles yield to oncoming traffic by entering the advisory bicycle lane. If a cyclist is present, motorists should slow and yield to the cyclist prior to entering the advisory bicycle lane. Motorists must always yield to cyclists and overtake with caution. An example of an advisory lane is shown below:  Additional resources are found below: **Advisory Cycling Lanes in Ottawa** https://www.youtube.com/watch?v=0zdDIvKXMxY **YouTube Video from Road Guy Rob** https://www.youtube.com/watch?v=zeynqnirofE **Advisory Bike Lanes in North America**	This alternative would functionally fit within the pavement width of the Study Area, which varies to as narrow as 6.5 m in width in some areas. Further, advisory lanes are appropriate in rural areas. As such, it was identified as a potential motor vehicle lane arrangement alternative based on its applicability. Advisory lanes are a flexible traffic management tool used to improve road safety and accommodate all road user types in situations where standard lanes are not sufficient.	Passing Opportunities: In some cases, advisory lanes may be used for passing slower vehicles. Drivers can briefly enter the advisory lane to pass another vehicle when it is safe and legally permitted. Cyclist Accommodation: Advisory lanes are designed to provide space for cyclists to ride safely alongside motorized traffic. Enhanced Safety: Advisory lanes are typically used in situations where safety is a concern, such as navigating tight curves or other slow-moving vehicles.

Cyclists and Pedestrians			
Potential Active Transportation Facility Alternatives	**Definition**	**Why this Alternative was Developed for this Study**	**Benefits of the Alternative**
	https://altago.com/wp-content/uploads/Advisory-Bike-Lanes-In-North-America_Alta-Planning-Design-White-Paper.pdf		

** Identified for both the potential motor vehicle lane arrangement alternatives and the potential active transportation facility alternatives.*

To further address the Problem Statement, which identifies safety as a concern in the Study area, the following potential Traffic Calming alternatives were also identified:

1. **Centre Bollards**: A sturdy but flexible, vertical post or pillar strategically placed in the center of a roadway, parking lot, or other traffic area to slow down vehicular traffic.
2. **Curb** outs or "curb extension": Street design elements that involve extending the sidewalk or pedestrian area into the roadway, usually at intersections or mid-block locations. They are traffic-calming and pedestrian-friendly features used in urban and street design. They can be implemented through the use of bollards. Curb outs serve several purposes, including improving pedestrian safety, reducing crossing distances, and slowing down vehicular traffic.
3. **Stop Sign/Flashing Light**: A stop sign with a flashing light or a warning amber flashing beacons, is a traffic control device used at intersections or specific locations to regulate vehicular traffic. Drivers encountering a stop sign with a flashing light must obey it as they would a standard stop sign, coming to a complete stop, checking for cross traffic and pedestrians, and proceeding only when it is safe to do so. This traffic control device is an important tool for managing traffic and promoting safety at intersections and crossings.
4. **Traffic Mirror/Safety Mirror**: A specialized curved mirror designed for traffic management and safety purposes. These mirrors are typically installed at various locations on roadways, parking lots, and intersections to improve visibility for drivers, especially in areas with limited sightlines or blind spots. Traffic mirrors are valuable tools for improving road safety and traffic management by eliminating blind spots and enhancing drivers' ability to make informed decisions when navigating challenging or obstructed areas.
5. **Speed humps**: A raised, contoured traffic calming device placed on a roadway or parking lot to reduce vehicle speeds. Speed humps are typically made with durable materials and are designed to force drivers to slow down as they approach. Speed humps are a widely used traffic management tool to promote safer driving speeds and enhance road safety in specific locations where slowing down vehicle traffic is a priority.
6. **Signage**: Road signs and markings designed to reduce vehicular speeds and improve safety in specific areas, such as residential neighborhoods, recreational zones, or areas with high pedestrian or cyclist activity. These signs convey messages and warnings to drivers, encouraging them to slow down, yield to pedestrians, and follow speed limits. Traffic calming signage plays a crucial role in promoting safe and responsible driving behavior. It serves to remind drivers to be mindful of their speed, watch for pedestrians, and adapt their driving behavior to the specific conditions of the road, ultimately reducing the risk of accidents and promoting road safety.
7. **Education Campaign**: A coordinated and structured effort aimed at raising awareness and educating the public, particularly road users like drivers, pedestrians, and cyclists, about the principles, benefits, and importance of traffic calming measures and practices. Education campaigns related to traffic calming are vital components of comprehensive road safety

programs, helping communities create safer road environments by fostering a culture of responsible and considerate road use among all stakeholders.

8. **Increased enforcement**: The implementation of stricter or more frequent law enforcement measures to ensure that traffic laws and regulations, particularly those related to traffic calming, are adhered to by road users. This heightened enforcement is often used as a strategy to improve road safety, deter speeding and reckless driving, and encourage compliance with traffic calming measures. By combining physical traffic calming measures with stricter enforcement, communities can work to reduce speeding and improve road safety, ultimately benefiting all road users and promoting a culture of responsible driving.

In summary, the following potential alternatives were developed and identified during Step 1 of the multi-criteria analysis:

Motor Vehicle Lane Arrangements:	Potential Active Transportation Facility Alternatives:	Potential Traffic Calming Alternatives:
1. One-vehicular lane arrangement 2. Two-vehicular lane arrangement (i.e. Do Nothing to the existing vehicular lane roadway configuration) 3. Advisory Lane * 4. Road closure (in specific locations)	1. Signed Route (i.e., Do Nothing – maintain current existing cycling signage as-is without adding additional cycling facilities) 2. Multi-Use Path (MUPs) 3. Paved Shoulder 4. Sidewalks (i.e., Do Nothing – maintain existing sidewalks, including at Jackson's Point) 5. Shared Facilities / sharrows 6. Advisory Lane	1. Centre Bollards 2. Curb outs 3. Stop Sign/Flashing Light 4. Mirrors 5. Speed humps 6. Signage 7. Education Campaign 8. Increased enforcement

* Included both as a motor vehicle lane arrangement alternative and active transportation facility alternative.

7.2.2 STEP 2: EVALUATE THE APPLICABILITY OF THE POTENTIAL ALTERNATIVES FOR EACH SECTION

During Step 1 of the multi-criteria analysis, potential alternatives for motor vehicle lanes, active transportation facilities and traffic calming were identified. In Step 2, the appropriateness and the applicability of each set of alternatives are evaluated for each of the three Sections of the Study Area, based on their local character and local context. As such, a more localized evaluation is required. The alternatives that are identified as appropriate and applicable to each Section in Step 2 are carried forward to Step 3 for further evaluation under the multi-criteria analysis, are shown in **Table 7-3**.

Table 7-3: Applicable Alternatives for Each Section

Category	Alternatives	Section 1	Section 2	Section 3
Motor Vehicle Lane Arrangements	Two Lanes / Do Nothing	✓	✓	✓
	One way	✓	✓	✓
	Alternating one way	✗	✓	✗
	Advisory Lanes	✓	✗	✓
	Partial road closures (permanent or seasonal)	✗	✓	✗
Active Transportation Facilities	Do Nothing / Signed Route	✓	✓	✓
	Shared / Sharrows	✓	✓	✓
	Paved Shoulders	✓	✓	✓
	Multi Use Path	✓	✓	✓
	Advisory Lanes	✓	✗	✓
Traffic Calming	Do Nothing	✗	✗	✗
	Centre Bollards	✓	✓	✓
	Curb outs	✓	✓	✓
	Stop Sign/Flashing Light	✓	✓	✓
	Speed humps	✓	✓	✓
	Signage	✓	✓	✓
	Education Campaign	✓	✓	✓
	Enforcement	✓	✓	✓
	Local Traffic Only	✓	✓	✓

Most of the alternatives identified in Step 1 were deemed appropriate for each of the Sections with the following exceptions:

- Alternating one-way was removed from Sections 1 and 3 as they are shorter sections with fewer regional road connections at which to implement the alternating direction.
- Partial road closures were also removed from Section 1 and 3 as this is more related to the Waterfront Parks Master Plan recommendations at the larger beach attractions.
- Advisory lanes were removed from Section 2 as it has the highest volume of traffic and pedestrians, which would be inappropriate for advisory lanes.

- Do Nothing was maintained for the lane arrangements and active transportation for all Sections as part of the EA process; however, it was removed from the Traffic Calming alternatives.

7.2.3 STEP 3: DEVELOP FUNCTIONALLY FEASIBLE CROSS-SECTION ALTERNATIVES

During Step 3 of the multi-criteria analysis, functionally feasible alternative cross-sections were developed for each section of the Study Area. These cross-sections were developed through two steps:

1. Combining the appropriate and acceptable alternatives for motor vehicle lane arrangements, with the appropriate and acceptable alternatives for active transportation facilities as recognized in Step 2 of the multi-criteria analysis, to create typical cross-sections; and
2. Carrying forward the cross-sections that could be functionally feasible and implemented **within the existing pavement width** of each respective section of the Study Area.

Step 3 was carried out in accordance with established best practices and design criteria, as discussed in **Section 4.2.2**. The functionally feasible cross-sections for each Section of the Study Area are listed below:

Section 1

1. **S1-1 – Do Nothing**: Maintain a two-motor vehicle lane roadway with a signed route for cycling
2. **S1-2 – Two Lanes – Sharrows**: A two-motor vehicle lane roadway with a signed route for cycling, and add pavement markings
3. **S1-3 – One Lane - Paved Shoulders**: A two-motor vehicle lane roadway with delineated paint for dedicated cycling in the shoulders
4. **S1-4 – One Lane - Multi-Use Path:** A one-way, one-motor vehicle lane roadway with a abutting buffered multi-use path for cycling and walking
5. **S1-5 – Advisory Lanes:** A two-way, one-lane advisory lane, with shoulders for cyclists and pedestrians that can be used by motorists to yield for oncoming traffic

Section 2

1. **S1-1 – Do Nothing**: Maintain a two-motor vehicle lane roadway with a signed route for cycling
2. **S2-2 – Two Lanes – Sharrows**: A two-motor vehicle lane roadway with a signed route for cycling, and add pavement markings
3. **S2-3 – One Lane - Paved Shoulders**: A two-motor vehicle lane roadway with delineated paint for dedicated cycling in the shoulders

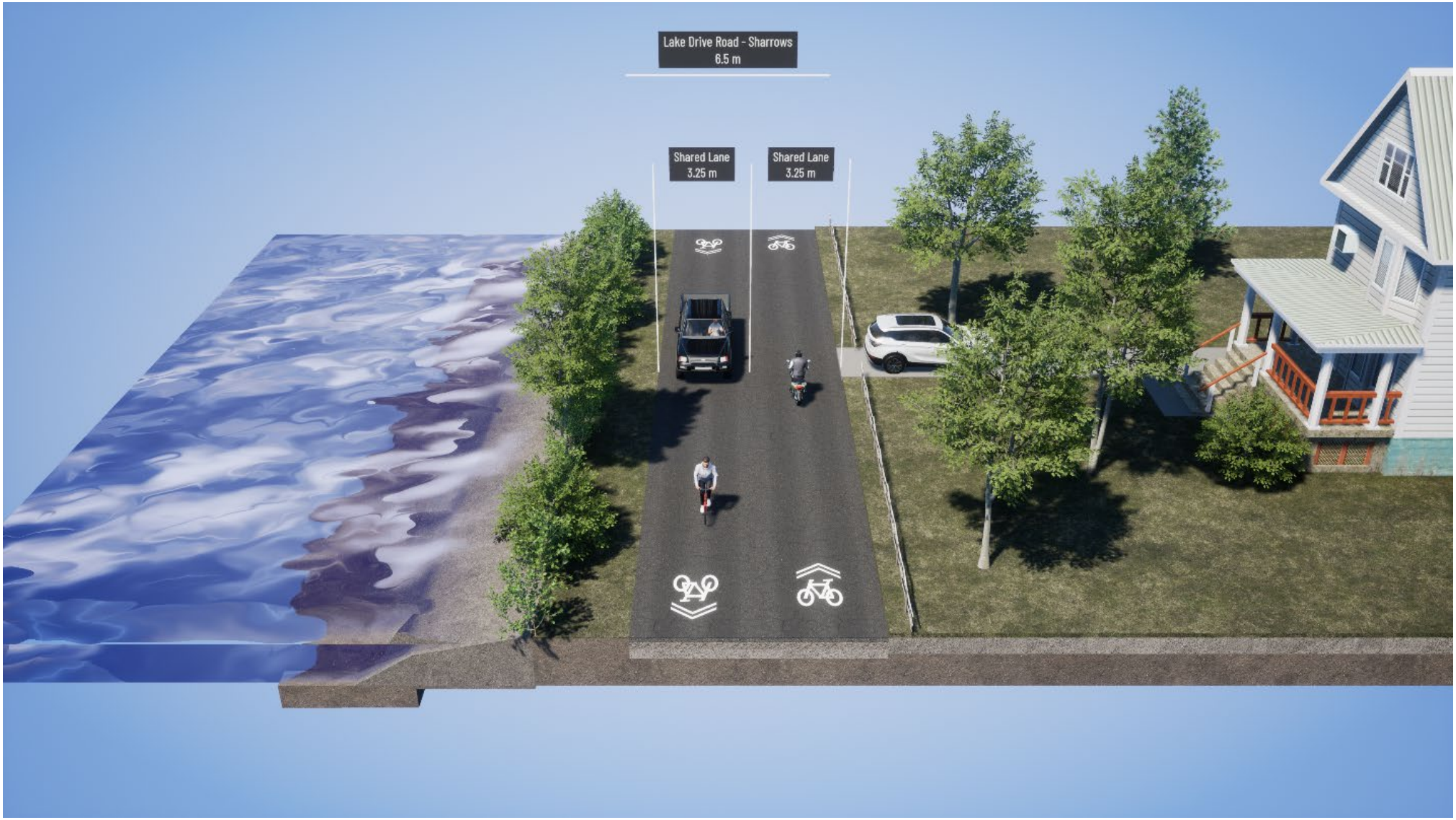
4. **S2-4 – One Lane - Multi-Use Path:** A one-way, one-motor vehicle lane roadway with an abutting buffered multi-use path for cycling and walking
5. **S2-5 – Alternating One Lane - Paved Shoulders**: A one-way, one-motor vehicle lane roadway, which alternates travel direction between Regional intersecting roads, and an abutting buffered multi-use path for cycling and walking
6. **S2-6 – Alternating One Lane - Multi-Use Path**: A one-way, one-motor vehicle lane roadway, which alternates travel direction between Regional intersecting roads, and an abutting buffered multi-use path for cycling and walking
7. **S2-7 - Partial Road Closures**: Road closures to vehicular traffic at select locations along the Study Area, including at Waterfront Parks

Section 3

1. **S3-1 – Do Nothing**: Maintain a two-motor vehicle lane roadway with a signed route for cycling
2. **S3-2 – Two Lanes – Sharrows**: A two-motor vehicle lane roadway with a signed route for cycling, and add pavement markings
3. **S3-3 – One Lane - Paved Shoulders**: A two-motor vehicle lane roadway with delineated paint for dedicated cycling in the shoulders
4. **S3-4 – One Lane - Multi-Use Path:** A one-way, one-motor vehicle lane roadway with a abutting buffered multi-use path for cycling and walking
5. **S3-5 – Advisory Lanes:** A two-way, one-lane advisory lane, with shoulders for cyclists and pedestrians that can be used by motorists to yield for oncoming traffic

To illustrate the potential alternatives, visualizations of some of the alternative typical cross-sections were developed with the narrowest pavement widths of 6.5 m, to demonstrate their feasibility. Additionally, they were overlayed onto Google Streetview to provide a better visualization of each of the various alternatives in a 7 m pavement width, in **Figure 7-2** to **Figure 7-5**.

Figure 7-2: Two-Lane Roadway with Shared Roads / Sharrows Rendering




Lake Dr - Two-way Motor Vehicle Travel (Shared Lanes)
7 m
Shared Lane
3.5 m
Shared Lane
3.5 m

Figure 7-3: One-Lane Roadway with Paved Shoulders Rendering


Lake Drive - Bike Lane
6.5 m
Contraflow
Bike Lane
1.75 m
Drive Lane
3.25 m
Bike Lane
1.5 m

Figure 7-4: One-Lane Roadway with Multi-Use Path Rendering

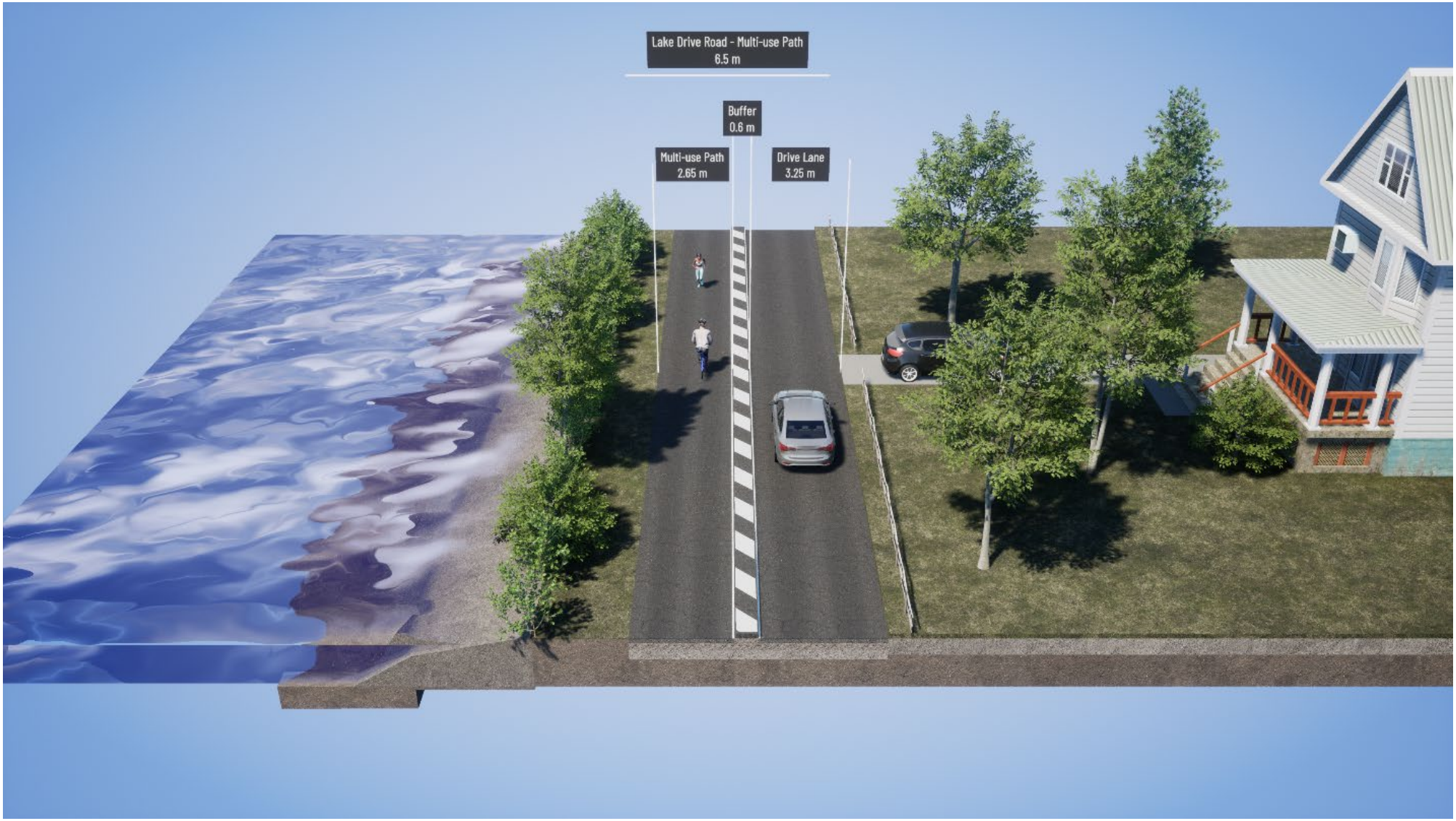

Lake Drive Road - Multi-use Path
6.5 m
Buffer
0.6 m
Multi-use Path
2.65 m
Drive Lane
3.25 m

Figure 7-5: Advisory Lane Rendering


Lake Drive - Advisory Lane
6.5 m
Advisory Lane
1.5 m
Drive Lane
3.5 m
Advisory Lane
1.5 m

7.2.4 STEP 4: DEVELOP A WEIGHTED CRITERIA FOR EVALUATION

In Step 4, the criteria for the evaluation of alternative cross-sections was developed with associated weighing for each criterion. Each criterion was quantified with a weighing that ranged from 1 to 5, with 5 being highest in terms of their ability and their importance in addressing the Problem Statement and the feedback received from the public survey and other public engagements. The total weight of the evaluation is out of 52.

The evaluation criteria, as well as their respective weighting, is shown in **Table 7-4** below. The evaluation criteria are used to evaluate the functional cross-section alternatives developed in Step 3.

Table 7-4: Criteria for Evaluation and the Weighing of Each Criterion

Objectives (overall total weight -52)	Evaluation Criteria and Factors	Weighting of individual criteria and factors)	Rationale
Planning **(total weight- 5)**	**Consistency to Provincial, Regional and Municipal Planning Objectives** Policy documents guides the decision-making process. Applicable policies include: • **Municipal**: Official Plan, Waterfront Parks Plan, AT/Trails Master Plan • **Regional**: Official Plan, Transportation Master Plan (TMP), Lake to Lake Route • **Provincial**: MTO CycleON/Cycle Tourism Plan, Greenbelt Plan, Provincial Policy Statement	**5**	This project is a result of the recommendations of the Town of Georgina Trails & Active Transportation Master Plan. Consistency to guiding documents is a priority for all roadway projects, including this Study.
User Safety **(total weight- 13)**	**Cyclists** • Minimize conflicts for cyclists • Enhances safety and comfort for cyclists	**5**	Improving the safety and comfort for cyclists is required to address the problems and opportunities identified in Phase 1 of this Study. The results from the survey indicated "pedestrians and cyclists should feel safe on Lake Drive" as the highest average priority for each section of the Study Area.

Objectives (overall total weight -52)	Evaluation Criteria and Factors	Weighting of individual criteria and factors)	Rationale
	Pedestrians • Minimize conflicts for pedestrians • Enhances safety and comfort for pedestrians	**5**	Improving the safety and comfort for pedestrians is required to address the problems and opportunities identified in Phase 1 of this Study. The results from the survey indicated "pedestrians and cyclists should feel safe on Lake Drive" as the highest average priority for each section of the Study Area.
	Vehicles • Minimize conflicts for drivers • Minimize vehicular delay • Enhances safety and comfort for motorists • Traffic calming opportunities	**3**	Some vehicular delays are acceptable if they improve the safety and comfort of cyclist and pedestrians. The results from the survey indicated "Lake Drive should serve as a through route for automobiles" as the lower average priority than safety for pedestrians and cyclists in all three sections of the Study Area. The results from the survey indicated "Speeds on Lake Drive are too high" as the lowest average priority, and "Lake Drive should serve local traffic only" as the second lowest priority in each section of the Study Area, indicating an overall lower priority and emphasis on vehicular traffic compared to cycling and walking.

Objectives (overall total weight -52)	Evaluation Criteria and Factors	Weighting of individual criteria and factors)	Rationale
Active Transportation Network **(total weight-15)**	• Build on Existing & Planned Trail Networks • Build on existing & planned trail networks • Direct access to adjacent communities and key destinations for all modes	**5**	This project is a result of the recommendations of the Town of Georgina Trails & Active Transportation Master Plan. Access to the broader active transportation network and to key destinations addresses the problems and opportunities identified in Phase 1 of this Study.
	Tourism and Recreation • Improves tourism, economic development and recreation use • Promotes access to Town Waterfront Parks	**5**	Improving economic development and access to waterfront parks is a major priority for the Town, but not the ultimate driver for this Study. The results from the survey indicated that "It should be easy to access existing major parks and public amenities" by "walking and or cycling" as the second highest average priority in each Section of the Study area.
	Transportation Equity • Provides fair and accessible environment for users Provides infrastructure and transportation options for all ages and abilities	**5**	Transportation equity addresses the problems and opportunities of this Study. The results from the survey also indicated that "The existing mixed use of cyclists, pedestrians and two-way traffic is too congested" as the third highest concern in each of the Study Area, indicating a need to provide fair and accessible environment for all users.
Transportation Network	**Network Connectivity** • Changes to road network connectivity • Ensure sufficient connectivity between local and regional roads	**4**	Need to maintain a robust network of regional and local road connections.

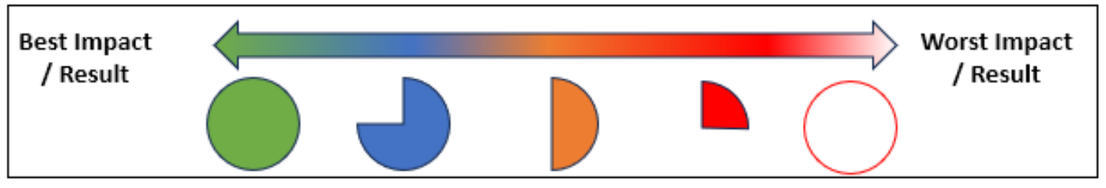
Objectives (overall total weight -52)	Evaluation Criteria and Factors	Weighting of individual criteria and factors)	Rationale
(total weight- 14)	**Impacts to Residents and Visitors** • Minimizes impacts (disruption and nuisance) to residents and business access and out-of-way travel	**5**	The Study area is long for this corridor, and many businesses and residents will be affected by changes. As such, this Study aims to minimizing impacts.
	• Emergency Services • Changes to emergency response	**5**	Maintaining existing emergency response times.
Natural and Cultural Environmental Impact (total weight- 2)	• Minimize impacts on vegetation and trees • Minimize impacts on climate change and Indigenous Histories • Wildlife protection and crossing opportunities	**2**	Minor impacts are anticipated because as the Study is not considering widening the pavement surface area of the roadway
Constructability and Cost **(total weight- 3)**	• Prefer options that fit within the existing pavement width • Minimize impacts to utilities and surrounding land use • Feasible and practical to construct • Maintenance efforts and cost • Capital cost and lifecycle cost • Complexity of permitting	**3**	The cost is an important factor in the decision-making process. In relative comparison, the safety and comfort to roadway users is more valuable to the overall decision-making process

7.2.5 STEP 5: EVALUATION OF FUNCTIONAL CROSS-SECTION ALTERNATIVES

In Step 5, an evaluation of the cross-section alternatives against the evaluation criteria was carried out for each Section of the Study Area. The alternative planning solutions were assessed based on their ability to address the problems and opportunities through the evaluation criteria listed in Step 4 above. The detailed assessment and evaluation of alternative solutions is provided in **Table 7-5** to **Table 7-7**. The detailed evaluation table, with quantitative weighting, can be found in **Appendix C**.

Table 7-5: Evaluation of Alternatives – Section 1

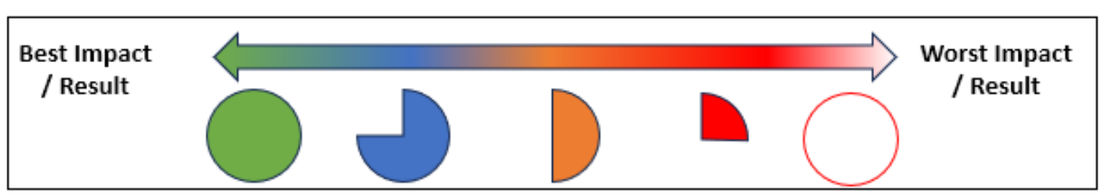
Possible Alternatives		Possible Alternatives	Evaluation Criteria						Recommendations
			Planning	User Safety	Active Transportation (AT) Network	Transportation Network	Natural and Cultural Environmental Impact	Constructability and Cost	
Possible Alternatives	Section 1 – Alternative 1 (S1-1)	Do nothing	Not aligned with planning objectives	Does not improve user safety	Does not improve the AT network	Maintains excellent vehicular network	Does not protect natural / cultural resources	No cost nor implementation	Do Not Carry Forward
	Section 1 – Alternative 2 S1-2	Two Lanes – Sharrows	Slightly aligned to planning objectives	Does not improve user safety	Slightly improves the AT network	Provides for excellent vehicular network	Slightly protects natural / cultural resources	Easy to implement, $$	Do Not Carry Forward
	Section 1 – Alternative 3 S1-3	One Lane – Paved Shoulders	Well aligned with planning objectives	Considerably improves user safety	Considerably improves the AT network	Provides for constrained vehicular network	Strongly protects natural / cultural resources	Easy to implement, $$	Do Not Carry Forward
	Section 1 – Alternative 4 S1-4	One Lane – Multi-Use Path	Strongly aligned with planning objectives	Considerably improves user safety	Significantly improves the AT network	Provides for a good vehicular network	Strongly protects natural / cultural resources	Moderate effort to implement, $$$	Carry Forward
	Section 1 – Alternative 5 S1-5	Advisory Lanes	Somewhat aligned with planning objectives	Slightly improves user safety	Somewhat improves the AT network	Provides for a good vehicular network	Slightly protects natural / cultural resources	Easy to implement, $$	Do Not Carry Forward



Rationale: Section 1 – Alternative 4: One Lane with Multi-Use Path provides the best benefits for Section 1 through Lake Drive North and Lake Drive South for active transportation and user safety.

Table 7-6: Evaluation of Alternatives – Section 2

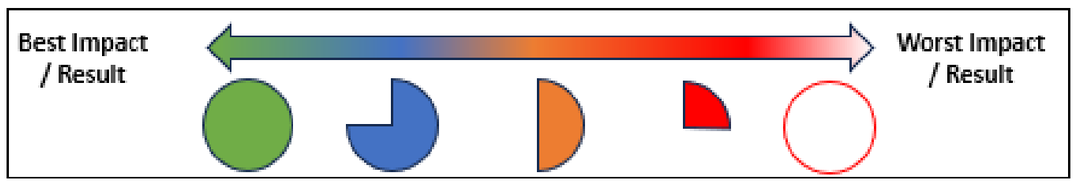
Possible Alternatives		Possible Alternatives	Evaluation Criteria: Planning	User Safety	Active Transportation (AT) Network	Transportation Network	Natural and Cultural Environmental Impact	Constructability and Cost	Recommendations
Possible Alternatives	Section 2 – Alternative 1 (S2-1)	Do nothing	Not aligned with planning objectives	Does not improve user safety	Does not improve the AT network	Maintains excellent vehicular network	Does not protect natural / cultural resources	No cost nor implementation	Do Not Carry Forward
	Section 2 – Alternative 2 S2-2	Two Lanes – Sharrows	Slightly aligned to planning objectives	Does not improve user safety	Slightly improves the AT network	Provides for excellent vehicular network	Slightly protects natural / cultural resources	Easy to implement, $$	Do Not Carry Forward
	Section 2 – Alternative 3 S2-3	One Lane – Paved Shoulders	Well aligned with planning objectives	Considerably improves user safety	Considerably improves the AT network	Provides for constrained vehicular network	Strongly protects natural / cultural resources	Easy to implement, $$	Do Not Carry Forward
	Section 2 – Alternative 4 S2-4	One Lane – Multi-Use Path	Strongly aligned with planning objectives	Considerably improves user safety	Significantly improves the AT network	Provides for constrained vehicular network	Strongly protects natural / cultural resources	Moderate effort to implement, $$$	Carry Forward
	Section 2 – Alternative 5 S2-5	Partial Closures	Somewhat aligned with planning objectives	Slightly improves user safety	Somewhat improves the AT network	Provides for constrained vehicular network	Strongly protects natural / cultural resources	Little cost to implement	To be informed by the Waterfront Parks Master Plan Study



Rationale: Section 2 – Alternative 4: One Lane with Multi-Use Path provides the best benefits for Section 2 through Lake Drive for active transportation and user safety. The Waterfront Parks Master Plan Study will inform whether partial road closures at waterfront parks will be appropriate.

Table 7-7: Evaluation of Alternatives – Section 3

Possible Alternatives		Possible Alternatives	Evaluation Criteria						Recommendations
			Planning	User Safety	Active Transportation (AT) Network	Transportation Network	Natural and Cultural Environmental Impact	Constructability and Cost	
Possible Alternatives	Section 3 – Alternative 1 (S3-1)	Do nothing	Not aligned with planning objectives	Does not improve user safety	Does not improve the AT network	Maintains excellent vehicular network	Does not protect natural / cultural resources	No cost nor implementation	Do Not Carry Forward
	Section 3 – Alternative 2 S3-2	Two Lanes – Sharrows	Slightly aligned to planning objectives	Does not improve user safety	Slightly improves the AT network	Provides for excellent vehicular network	Slightly protects natural / cultural resources	Easy to implement, $$	Carry Forward (Riley Avenue to Hedge Road)
	Section 3 – Alternative 3 S3-3	One Lane – Paved Shoulders	Well aligned with planning objectives	Considerably improves user safety	Considerably improves the AT network	Provides a poorly connected vehicular network	Strongly protects natural / cultural resources	Easy to implement, $$	Do Not Carry Forward
	Section 3 – Alternative 4 S3-4	One Lane – Multi-Use Path	Strongly aligned with planning objectives	Considerably improves user safety	Significantly improves the AT network	Provides a poorly connected vehicular network	Strongly protects natural / cultural resources	Moderate effort to implement, $$$	Carry Forward (South Drive to Riley Avenue)
	Section 3 – Alternative 5 S3-5	Advisory Lanes	Somewhat aligned with planning objectives	Slightly improves user safety	Somewhat improves the AT network	Provides for a good vehicular network	Strongly protects natural / cultural resources	Easy to implement, $$	Carry Forward (Hedge Road – Lake Drive to Park Road)



Rationale: Section 3 has varying contexts. It continues the residential landscape from Section 2, passes through Jackson's Point, and transitions back to residential along Hedge Road. There is also less adjacent connectivity with parallel streets, specifically along Hedge Road. Each of these segments requires a unique design.

7.2.6 STEP 6: SELECT THE TECHNICALLY PREFERRED CROSS-SECTION ALTERNATIVE FOR EACH SECTION OF THE STUDY AREA

Based on the evaluation of alternative cross-sections carried out in Step 5, the Technically Preferred Cross-Section Alternative for each Section of the Study Area are confirmed below:

Section 1 & 2: **One-way travel lane with a multi-use path.** These facilities provide safe and comfortable travel for all roadway users. Considerations and recommendations for these alternatives which can be made on their implementation, include:

- The direction of vehicular travel;
- Whether the direction of vehicular movement will alternate east to west, or north to south at intersecting Regional Roads; and/or,
- Whether the roadway configuration will be implemented permanently or seasonally.

Section 3 has varying contexts. It continues the residential landscape from Section 2, passes through Jackson's Point, and transitions back to residential along Hedge Road. There is also less adjacent connectivity with parallel streets, specifically along Hedge Road. Each of these sections requires a unique design.

- **Lake Drive from South Drive to Riley Avenue – One-Way travel lane with a multi-use path –** this section continues the residential context from Section 2. Although Lake Drive transitions to an urban road with a sidewalk on the north side, the land use, transportation, and active transportation are the same as in Section 2.
- **Lake Drive from Riley Avenue to Hedge Road – Two shared lanes with Sharrows –** Jackson's Point is an urbanized section of the overall Study Area where there are many local businesses. Based on the context of the area, sharrows were determined to be the most preferred for Lake Drive in this area to best provide access to the existing businesses and on-street parking spaces.
- **Hedge Road from Lake Drive to Park Drive – Advisory Bike Lanes –** Hedge Road does not have a parallel regional road or many local connecting streets. A one-way alternative would create undo out-of-way travel. There are fewer vehicles and pedestrians traveling in/through this area. This section also already goes down to one lane at the Black River bridge. For these reasons the advisory lanes are preferred as they allow two-way travel, and still provide designated space for pedestrians.

Considerations and recommendations for these alternatives which can be made on their implementation, include:

- Whether the roadway configuration will be implemented permanently or seasonally.

The transition areas for Section 3 will be reviewed following the confirmation of the preferred alternative and during design.

The preferred alternative solutions address the problems and opportunities by:

1. Redistributing the car-centric design of a two-lane motor vehicle roadway to a roadway design that is safe and comfortable for all roadway users by dedicating the pavement space to one-lane motor vehicle lane roadway and an abutting dedicated active transportation supportive facility (i.e. multi-use path) for pedestrian and cyclists, that is buffered and separated from vehicular road travel;
2. Transforming Lake Drive and Hedge Road to be an in inviting destination and corridor for all roadway users; and,
3. Redistributing roadway spaces to cycling and pedestrian travel to reduce congestion, promote active transportation in the community, encourage the slow and safe scenic travel on Lake Drive and Hedge Road, and improve traffic calming.

The recommendations are generally supported by the survey. Further, it provides consistent travel for all roadway users throughout the Study Area. The decision-making process up to Step 6 was presented at the PIC on September 26 with comments received until October 10, 2023.

7.3 Public Feedback on Alternatives

Through previous engagement opportunities that were carried out, such as the Workshop, Beach Pop-ups and online survey, the Project Team sought to ensure that the Technically Preferred Alternative reflected the desires of technical advisors, stakeholders, councillors, and members of the public. Feedback solicited directly resulted in the Technically Preferred Alternative as described in this Chapter.

Following the selection of the Technically Preferred Alternative, a PIC was held on September 26, 2023, at De La Salle Park in the Town of Georgina. Information presented at the Public Information Centre included:

1. Purpose of Study
2. Study Process and Schedule
3. Existing Conditions
4. Alternatives and Assessment Methodology
5. Technically Preferred Alternative
6. Next Steps And Discussion

A full summary of the PIC, as well as other engagement opportunities that were carried out as part of this Study, can be found in the Engagement Summary in **Appendix A**.

In total, 43 comments were received during and after the PIC. Comments largely reflected the same concerns that have been raised throughout the project, but also a lower degree of

agreement than the survey regarding the challenges and proposed solutions. Key concerns from residents raised at the PIC were:

- Traffic speed and volume, with many suggesting the implementation of speed bumps, speed cameras, and increased enforcement of speed limits to slow down traffic.
- Safety for pedestrians, cyclists, and other road users, with suggestions for separated lanes, traffic calming measures, and improved visibility.
- Some residents expressed concerns that one-way operations would lead to confusion and may cause an increase in collisions.
- Residents identified potential risks if ATVs and other motorized vehicles are permitted within the multi-use path in Sections 1 and 2.
- Concerns about the operations of Advisory Lanes in Section 3 were raised.
- The proposed one-way traffic plan generated several comments, with some feeling that it would improve safety and reduce congestion, while others felt that it would increase traffic speed, restrict access to the lake, and create inconvenience for residents.

While agreement on solutions varied, the common theme of all comments received remained consistent that the existing conditions of the Study Area needs to be changed. While several commenters expressed disagreement with the technically preferred alternative, as is common with roadway reconfiguration projects, all commenters provided alternative solutions that included traffic calming or operational changes that could enhance the safety of Lake Drive and Hedge Road.

Following the PIC, the following consideration/revisions were made based on the feedback received.

In Section 2, a clerical error was made in the PIC display materials, which mispresented Section 2 to be Lake Drive North and East between Coxwell Street and Dalton Road. The correct limits of Section 2 are between Coxwell Street and South Drive. The Lake Drive East between South Drive to Dalton Road are within Section 3, discussed immediately below.

Regarding Section 3, based on comments received from the Town of Georgina following the Public Information Centre, the segments were revised as follows (depicted in **Figure 7-6**):

- Section 3 – Segment 1: South Drive to Ravenswood Drive
- Section 3 – Segment 2: Ravenswood Drive to Hedge Road
- Section 3 – Segment 3: Hedge Road – Lake Drive to Park Road

Figure 7-6: Revised Segments for Section 3

This revision in the Segments was made in consideration to the areas of transition between the recommendation of sharrows in Section 3 – Segment 2 and Advisory Lanes in Section 3 – Segment 3. Whereas the technically preferred design presented at the PIC shows a transition from a cross-section of 1 eastbound general purpose lane with a two-way multi-use path, into a cross-section of 2 lanes with sharrows in Jackson's Point at Riley Avenue, the recommended concept plan for this Project File was revised to provide a recommendation for a transition at Ravenswood Drive instead . This revision was made with the assumption that Ravenswood Drive can better accommodate higher volumes of traffic that are expected to detour back to Dalton Road to access Metro Road for the purposes of travelling eastbound.

This recommendation on the transition area is preliminary. It is recommended that the Town of Georgina confirm and / or revise this transition point as needed based on preliminary and/or detailed design, or through further studies, such as a traffic study, to inform and support a data-based decision.

Concerns regarding the implementation of Advisory Lanes in Section 3 – Segment 3 were specifically discussed by the Project Team following the PIC. Concerns regarding this recommendation generally noted that this was a new type of lane arrangement that people

were not familiar with, which could lead to increased accidents. Some comments preferred to keep the lanes as is, but provide traffic calming features. The Project Team decided to keep the recommended alternative as Advisory Lanes along Hedge Road; as stated in the evaluation of alternatives above, although it is not the highest form of separation between cyclists and pedestrians, and cars, it is the only available alternative for the context of Hedge Road that at least offers some designated space for pedestrians and cyclists. It was noted that the Advisory Lanes do not significantly change the current use of the road, as pedestrians and cyclists would tend to use the shoulders, and cars would need to drive into the oncoming lane to get around them; if there is a car coming in another direction, the drivers would 'negotiate' who has the right-of-way to maneuver around the pedestrians. The Project Team did identify that a public education campaign would help residents and visitors to understand the new lane arrangements.

No further revisions were made to the Technically Preferred Plan. Through incorporating the revisions to the transition areas as noted above, the Recommended Plan was confirmed and is described in **Section 7.3**.

The Technically Preferred Alternatives to the corridor reflect the desires of what the project Team heard through multiple rounds of public engagement. The alternatives for the corridor prioritize pedestrian safety and walkability first and foremost while simultaneously improving the safety of cyclists. Retaining vehicular flow was also balanced to ensure that two-way traffic flow was applied where necessary and removed where alternative routing existed. This demonstrates a pragmatic approach of separating the corridor into segments and applying different treatments demonstrates an awareness of the needs of the community.

8 RECOMMENDED PLAN

The Recommended Plan for Section 1, Section 2 and Section 3 of the Study Area for Lake Drive is described in this Chapter and depicted on the concept plan plates provided in **Appendix D**. The Recommended Plan was confirmed based on feedback received following the Public Information Centre.

The conceptual design and transition points are subject to further refinement during the future preliminary and detailed design, at which time, there will be further consultation with relevant technical agencies, utilities, stakeholders, community groups and affected property owners.

This chapter should be viewed in conjunction with **Chapter 7** of this Project File which discusses the various design alternatives evaluated and describes the approach to developing the Recommended Plan.

8.1 Typical Road Cross-Section

Figure 8-1, Figure 8-2, and **Figure 8-3** illustrate the proposed typical road cross-sections for the Recommended Plan. The actual road cross-sections will vary due to specific site conditions such as accommodation for emergency vehicles, bollards and buffer widths and locations, and parking locations.

The following summarizes the basic road cross-section features for each section. The three Study Area sections are shown in **Figure 7-6**.

Section 1: Lake Drive South between Ravenshoe Road and Bayview Avenue and Lake Drive North between Church Street and Metro Road North

The following summarizes the basic road cross-section features for Section 1 of the Study Area:

- 1 northbound general purpose lane at 3.25 m in width
- A buffer with bollards at 0.6 m in width
- One multi-use path (lake side) at 3.15 m in width

This cross-section is illustrated in **Figure 8-1**.

Section 2: Lake Drive North and East between Coxwell Street and South Drive

The following summarizes the basic road cross-section features for Section 2 of the Study Area:

- 1 eastbound general purpose lane at 3.25 m in width
- A buffer with bollards at 0.6 m in width
- One multi-use path (lake side) at 3.15 m in width

This cross-section is illustrated in **Figure 8-2**.

Section 3: Lake Drive East between South Drive and Hedge Road and Hedge Road between Lake Drive East and Park Road

As discussed in **Section 7.2.6**, Section 3 of the overall Study area has varying contexts. It continues the residential landscape from Section 2, passes through Jackson's Point, and transitions back to residential along Hedge Road. There is also less connectivity with parallel streets, specifically along Hedge Road. As such, each of these sections requires a unique design.

In the technically preferred alternative for Section 3 of the Study Area, as presented in **Section 4.2.2**, and as presented at the Public Information Centre, the technically preferred alternative for Section 3 of the Study Area were divided as follows:

- Section 3 – Segment 1: South Drive to Ravenswood Avenue
- Section 3 – Segment 2: Ravenswood Avenue to Hedge Road
- Section 3 – Segment 3: Hedge Road – Lake Drive to Park Road

As discussed in **Section 7.3**, the transition areas between the segments were revised following the PIC. This recommendation on the transition area is preliminary. It is recommended that the Town of Georgina confirm and / or revise this transition point as needed based on preliminary and/or detailed design, or through further studies, such as a traffic study, to inform and support a data-based decision.

The following summarizes the basic road cross-section features for Section 3 of the Study Area:

<u>Section 3 – Segment 1: South Drive to Ravenswood Drive</u>

- 1 eastbound general-purpose lane at 3.25 m in width
- A buffer with bollards at 0.6 m in width
- One multi-use path (lake side) at 3.15 m in width

This typical cross-section is illustrated in **Figure 8-1**.

<u>Section 3 – Segment 2: Ravenswood Drive to Hedge Road</u>

- Maintain existing 2 general purpose (1 eastbound and 1 westbound) shared lane at 3.5 m in width, with added painted sharrows

This typical cross-section is illustrated in **Figure 8-2.** As detailed in **Section 5.4** and **Section 7.2.1**, and as reiterated here, sharrows are a roadway type with mixed traffic operation for both cyclist and motorists, with supportive signs and pavement marking treatments that support wayfinding and promote safer interactions between cyclists and motorists. This active transportation facility is similar to the existing signed route of the corridor, but may include additional features, including delineated paint lines and the "sharrow symbol".

Section 3 – Segment 3: Hedge Road – Lake Drive to Park Road

- Advisory bike lanes – 1 two-way general purpose driving lane at 3.5m in width and 2 dedicated cycling lane at 1.75m in width on either side (i.e., 1 eastbound and 1 westbound)

This typical cross-section is illustrated in **Figure 8-3**. As detailed in **Section 5.4** and **Section 7.2.1**, and as reiterated here, advisory lanes are a shared roadway facility that visually delineates space for cycling on a narrow roadway by dashed outer lane lines. The roadway contains no centreline, and motor vehicles share the centre roadway space for two-way travel. The centre travel lane width is narrower than two conventional travel lanes and may be as narrow as a single travel lane. Motor vehicles yield to oncoming traffic by entering the advisory bicycle lane. If a cyclist is present, motorists should slow and yield to the cyclist prior to entering the advisory bicycle lane. Motorists must always yield to cyclists and overtake with caution. An example of an advisory lane is shown below:

Additional resources are provided in **Table 7-1**.

Figure 8-1: Rendering of Recommended One-Lane Roadway with Multi-Use Path Cross-Section for Section 1, Section 2 and Section 3 – Segment 1 of the Study Area

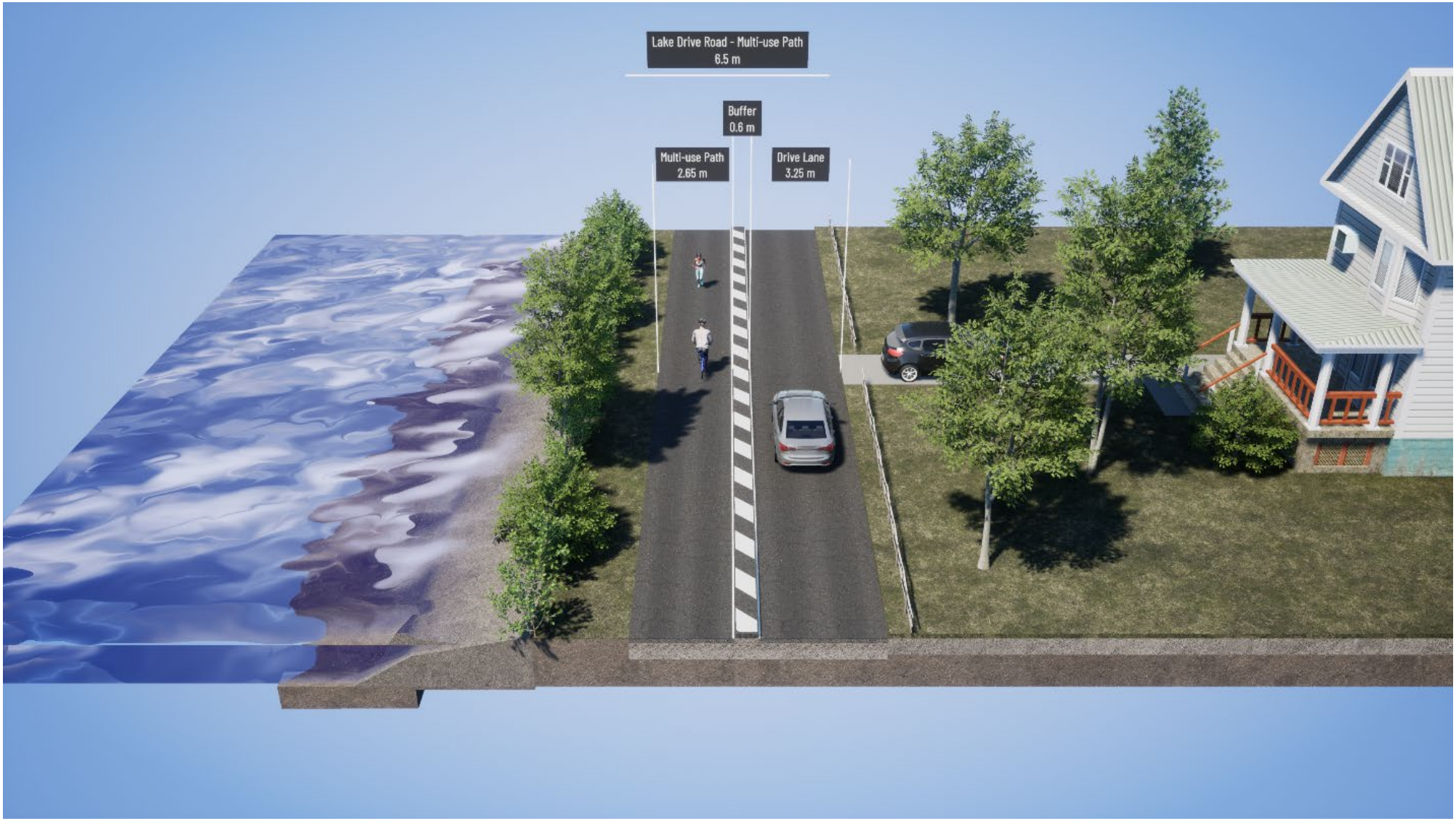

Lake Drive Road - Multi-use Path
6.5 m
Buffer
0.6 m
Multi-use Path
2.65 m
Drive Lane
3.25 m

Figure 8-2: Rendering of Recommended Two-Way Shared Lanes (i.e. Sharrows) for Section 3 – Segment 2 of the Study Area

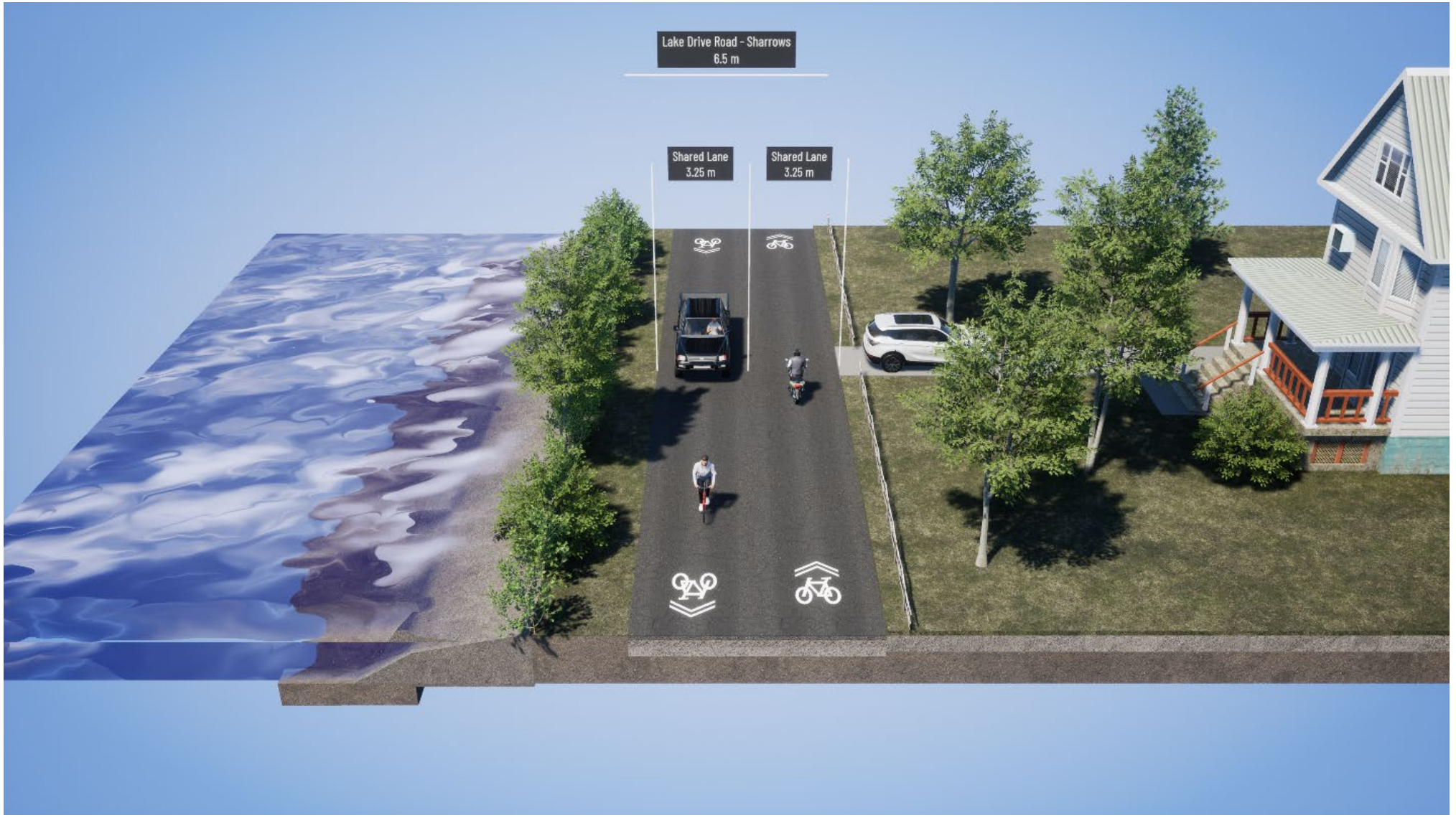

Lake Drive Road - Sharrows
6.5 m
Shared Lane
3.25 m
Shared Lane
3.25 m

Figure 8-3: Rendering of Recommended Advisory Lanes for Section 3 – Segment 3 of the Study Area


Lake Drive - Advisory Lane
6.5 m
Advisory Lane
1.5 m
Drive Lane
3.5 m
Advisory Lane
1.5 m

8.2 Horizontal and Vertical Alignment

The horizontal and vertical alignment of Lake Drive and Hedge Road will remain as existing.

8.3 Intersection and Access

All signalized and stop controlled intersections along Lake Drive and Hedge Road are anticipated to remain as existing, except for improvements to cross-sections as noted previously. All existing street and local accesses will be maintained.

Further discussed in **Section 8.6**, all-way stop controlled intersections can be implemented at a few major intersecting roads such as Woodbine Avenue, Civic Centre Road and Kennedy Road for additional traffic calming measures. It is recommended that the implementation of stop-controlled measures be informed through a traffic calming study and the monitoring of the implemented recommended design.

Potential road closures at popular waterfront parks will be informed by the Waterfront Parks Master Plan Study, discussed in **Section 3.10**.

8.4 Active Transportation

The following is a summary of the active transportation recommendations:

- Section 1: Lake Drive South between Ravenshoe Road and Bayview Avenue and Lake Drive North between Church Street and Metro Road North: a 3.15 m multi-use path on the lake side.
- Section 2: Lake Drive North and East between Coxwell Street and South Drive: a 3.15 m multi-use path on the lake side.
- Section 3 – Segment 1: South Drive to Ravenswood Drive: a 3.15 m multi-use path on the lake side.
- Section 3 – Segment 2: Ravenswood Drive to Hedge Road: shared road with painted sharrows on existing 2 lane road.
- Section 3 – Segment 3: Hedge Road – Lake Drive to Park Road: advisory lanes – an eastbound 1.75 m delineated cycle travel lanes on the north side and south side of the road.

8.5 Parking

On-street parking within the entirety of the Study Area will continue to be subject to the parking restrictions of the Waterfront Park Buffer Zone, which is discussed in **Section 4.7**. The following areas will continue to permit parking on Lake Drive, with restrictions as noted in **Table 8-1**:

Table 8-1: Parking Restrictions Along Lake Drive (Desktop Review)

Road	From	To	Parking Restrictions	Comment
Lake Drive East	Melody Lane	Dalton Road	Parking on the sides: 2 hours	Fines increased during summer months
	Dalton Road	Lorne Street	Parking on the sides: 1 hour	Fines increased during summer months

8.6 Traffic Calming

The following design-based traffic calming features were integrated into the Recommended Plan in the following manner:

- Reducing the number of vehicular travel lanes in Section 1, Section 2 and Section 3 – Segment 1 from 2 lanes to 1 lane provides increased friction between vehicles and painted/bollard buffer and results in reduced speeds. Also, it reduces/eliminates opportunity for head-on collisions, greatly reducing the risk of fatalities.
- Introducing pavement markings to transform Section 3 – Segment 2 from signed route to sharrows provides increased friction between vehicles and heightens driver awareness of oncoming opposing traffic and cyclists, which forces drivers to slow down.
- Introducing advisory lanes in Section 3 – Segment 3 heightens driver awareness of oncoming opposing traffic, cyclists and pedestrians, which forces drivers to slow down.

Based on the recommended roadway alternatives, as well as comments received from the survey and from the PIC feedback forms, some or all of the following traffic calming measures are proposed to be implemented:

- Centre bollards for the buffered area for the recommended design in Section 1, Section 2 and Section 3 – Segment 1, where a one-way vehicular travel is buffered from an adjacent multi-use path;
- Speed humps, which may be appropriate at various sections along the Study Area, which had a high support from the public;

- Stop signs at intersecting Regional Roads such as Woodbine Avenue, Civic Centre Road, and Kennedy Road;
- Warning signs / lights, where there are areas of high pedestrian and cyclist traffic, which can be further informed by a potential traffic study, and where there are sightline issues, as identified in Section 4.4 of this Project File; and,
- An educational campaign for the recommended changes, particularly with focus on advisory lanes for Section 3 – Segment 3.

The traffic calming measures listed above are not exhaustive and does not preclude further traffic calming measures to be explored and implemented. Additional broader traffic calming measures can be implemented as needed or as directed by other studies, such as a potential traffic study and through further consultation with the public and with stakeholders and agencies. These measures can include, but are not limited to:

- Increased enforcement; and,
- Curb outs.

It is recommended that the Town of Georgina continuously monitor the safety and traffic speeds along the Study Area in order to develop and plan for the implementation of appropriate traffic calming measures.

8.7 Emergency Access

The current cross-section design may accommodate emergency vehicles by providing standard lane width designs. Further consultation with the emergency services should be conducted. Some concerns have been discussed, including emergency response time and access in the cross-section design of a one-way roadway lane arrangement with a multi-use path. Two potential options were identified to help accommodate this emergency scenario:

- Emergency vehicles may be permitted to travel in either direction on the one-way roadway;
- Emergency vehicles may enter the multi-use path should the need arise.

Emergency vehicles are expected to travel most of their route on Metro Road, and to access Lake Drive for only short distances. As such, travelling either way on the one-way roadway or encroaching onto the multi-use path is acceptable. These options should be further reviewed in the detailed design phase, including additional consultation with emergency services for the purposes of identifying and ensuring that emergency vehicles could be accommodated on Lake Drive and Hedge Road during detailed design. As the Sections recommended for 1 vehicle travel lane have frequent local streets connecting to parallel Regional Roads, the change in response time would be minimal, also given the above accommodations.

8.8 Property Requirements

There are no permanent property requirements as a result of the Recommended Plan for this functional roadway study. Some temporary property may be required during construction, which will be reviewed during detailed design.

8.9 Preliminary Cost Estimate

The preliminary cost estimate for the proposed improvement of Lake Drive and Hedge Road is estimated to be approximately $782,900. A summary of the cost estimate is provided in **Table 8-2**. The preliminary cost estimate is based on the conceptual design, with the assumption that improvements will be limited to roadway painting and installation of bollards (i.e., no roadway resurfacing, widening, etc.). Seasonal implementation costs have not been considered.

Table 8-2: Cost Estimate

Section	Item Description	Quantity	Unit	Unit Price / Kms	Total Price in CAD
Section 1	Buffered Bicycle Lane with Hatched Pavement Markings Includes bollards in the buffer	6.4	linear KM	$ 19,100	$122,200
Section 2		12.5	linear KM	$ 19,100	$238,800
Section 3 - Segment 1		0.56	linear KM	$ 19,100	$10,700
Section 3 - Segment 2	Signed Bike Route with Sharrow Lane Markings	0.56	linear KM	$ 17,100	$9,500
Section 3 - Segment 3	Advisory Lanes	3.2	linear KM	$ 12,200	$39,000
				Total Capital Cost	**$ 420,268**
Additional Studies					
ALL	Traffic Calming Measures		Lump Sum		$50,000
ALL	Educational Program		Lump Sum		$30,000
ALL	Traffic Study		Lump Sum		$45,000
ALL	Detailed Design	23.2	linear KM	$ 3,000	$69,700
				Total with Additional Studies	**$ 194,700**
ALL	Contingency, Permitting, Contract Administration and Inspections			30%	$126,000
ALL	Installation			10%	$42,000
				Grand Total	**$782,900**

8.10 Operation & Maintenance

Operations and maintenance of Lake Drive and Hedge Road were considered as part of the evaluation process, however are not expected to substantially impact the functionality or cost of current activities beyond the direct implementation discussed in the next Section. Changes to these activities can be implemented, and would not detract from the overall benefits of the recommended plans as discussed in the multi-criteria analysis described in **Chapter 7**.

Activities such as garbage collection, winter ploughing and salting, emergency services, street sweeping, school bus routes, mail delivery, etc. will need to be adjusted in accordance with the new recommended plan. Garbage collection routes, school bus routes and other similar activities will need to be adjusted to the new one-way lane arrangements recommended for those sections of Lake Drive. Consideration for practical changes to garbage collection from a two-way street to a one-way street will need to be reviewed and discussed with the Town's staff.

8.11 Implementation

8.11.1 PILOT

It is recommended that the implementation of the recommended designs be carried out as a pilot project. As part of the phased implementation detailed in **Section 8.11.2** below, each Section implemented will be considered as part of the pilot project.

Through monitoring of quantitative data, such as collisions and traffic volumes and speeds over each year of implementation, as well as qualitative data, such as a public survey on residents' and visitors' sentiments before and after each implemented Section or Segment, the Town can make a data-based decision on its permanent implementation.

8.11.2 PHASED IMPLEMENTATION

Given that the Study Area is lengthy at over 23-24 kilometers, it is recommended that the implementation of the recommended design be carried out in a phased approach, in the order as follows:

i. Section 2 and Section 3 – Segment 1 and 2
ii. Section 1
iii. Section 3 – Segment 3

Section 2 of the Study Area is the highest priority for implementation, as the popular waterfront parks and higher traffic volumes result in higher concerns to pedestrian and cyclist safety. As such, priority to implement the recommended design and other potential traffic calming measures should prioritize Section 2, and in particular the roadway leading to and from the popular waterfront parks, including De La Salle Park and Willow Beach Park with

implementation taking into consideration the Water Fronts Parks Master Plan, once completed. Section 3 – Segment 1 has the same context as Section 2 and should be done together. Also, Segment 2 is maintaining existing conditions with the additional of painted sharrows and can be completed at the same time.

Given that there are lower risks in implementing Section 1 and provides for pedestrian and cyclist safety in this area it can be completed following Section 2.

Finally, it is recommended that the Town implements the advisory lanes for Section 3 – Segment 3, to provide more time for the Town to carry out a consultation and educational campaign on how to use advisory lanes.

Based on the phased implementation approach detailed above, as well as considerations to the further studies that have been identified in **Section 8.12** below, it is recommended that the Town carries out these additional studies and the phased implementation of the corridor improvements through the following timelines:

- 2024: Complete Traffic Study and Detailed Design Studies and Educational Program. The Traffic Study should occur in the summertime to gather traffic, cyclist and pedestrian data that would be the most meaningful to inform and confirm the recommendations of the Lake Drive Functional Assessment Study.
- 2025: Implement corridor improvements to Section 2, Section 3 – Segment 1 and Section 3 – Segment 2.
- 2026: Implement corridor improvements to Section 1 and Section 3 – Segment 3.

This strategic approach to completing further studies and for implementation was developed based on the following rationale:

1. This phased approach and timeline from 2024 to 2026 disperses the annual capital costs;
2. This phased approach and timeline prioritizes Section 2 for implementation, which has been identified to have the highest concerns for user safety;
3. This phased approach and timeline allows for the Detailed Design and Traffic Study to be completed with adequate time prior to implementation and installation; and
4. This phased approach and timeline allows the Town to monitor the implementation and success of the one-way with multi-use path configuration on Section 2 in 2025, and to adjust the implementation and educational campaign based on feedback from residents and visitors for the remainder of the Sections, including the more ambitious advisory lanes.

The cost estimate for the phased implementation by year is:

2024	$144,700
2025	$412,550
2026	$225,650

8.12 Further Studies and Works

8.12.1 TRAFFIC AND PEDESTRIAN STUDY

A traffic and pedestrian survey should be completed prior to implementation to quantify traffic speed and volumes, and pedestrian and cyclist usage. This includes but not limited to the following additional and required datasets:

Data Set	Benefit to the Study
Mid-block traffic movement counts in the summer	The potential benefits of undertaking supplementary summer mid-block traffic data collection surveys at a sufficient number of locations, to be able to support the identification and location, as well as the justification for the anticipated alternative improvement strategies.
Pedestrian counts in the summer	Pedestrian and cyclist count data should be taken during the summer months at strategic locations, including the waterfront parks, established communities (i.e., Keswick and Sutton), or areas where there is a higher number of commercial establishments. Pedestrian and cyclist counts can be used for the decision-making process for various road-related projects, including this Study. By understanding the users of the road, a more concrete and defendable justification can be made for implementing a more complete street design.
Parking infractions from the Waterfront Park Buffer Zone	Data on parking infraction., including date, time of day and infraction type, could be useful in determining where illegal parking is occurring the most, and can help inform the decision-making process.

8.12.2 DETAILED DESIGN

The designs provided as part of this Lake Drive Functional Assessment Study are conceptual only. The designs will have to be further refined through Detailed Design, refining and outlining the specifications of the segment configurations, prior to implementation that was recommended as part of Section 8.10.2.

Additional studies that may be required for the completion of a Detailed Design Study will be confirmed during Detailed Design. Associated permits will be reviewed and confirmed during detailed design.

Additionally, operations and maintenance, including snow removal and garbage pickups, will be reviewed and planned accordingly during detailed design. Garbage operations may be updated based on the new recommended plan (i.e. one-way Lake Drive direction) and winter maintenance changes will be dependent the implementation of the roadway improvements are permanent or seasonal, which will be further reviewed by the Town during detailed design.

8.12.3 PUBLIC CONSULTATION AND EDUCATION CAMPAIGN

Given that the recommendations of the Functional Assessment Study are roadway configurations that are different than what residents and visitors are accustomed to, an awareness and educational campaign should be carried out by the Town. These include:

- Direct mailers to residents;
- Social media advertisement;
- Educational signage, including "coming soon" (example: https://www.flickr.com/photos/multi-modal/45125316724) and,
- A professional short animated video.

Further, it is recommended that that Town carries out a public survey before and after each implementation of a Section or Segment.

REFERENCES

- Province of Ontario. Provincial Policy Statement (2020). Retrieved April 2023, from Province of Ontario: https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf
- Province of Ontario. Greenbelt Plan (2017). Retrieved April 2023, from Province of Ontario: https://files.ontario.ca/greenbelt-plan-2017-en.pdf
- Province of Ontario. Lake Simcoe Protection Plan (2009). Retrieved April 2023, from Province of Ontario: https://rescuelakesimcoe.org/wp-content/uploads/2021/02/Lake-Simcoe-Protection-Plan.pdf
- York Region. York Regional Official Plan (2022), Retrieved April 2023, from York Region: https://www.york.ca/york-region/regional-official-plan
- York Region. York Region Transportation Master Plan (2022). Retrieved April 2023, from York Region: https://www.york.ca/york-region/plans-reports-and-strategies/transportation-master-plan
- Town of Georgina. Town of Georgina Official Plan (2020). Retrieved April 2023, from Town of Georgina: https://www.georgina.ca/sites/default/files/page_assets/consolidated_august_24-2020.pdf
- Town of Georgina. Town of Georgina Trails & Active Transportation Master Plan (2014). Retrieved April 2023, from Town of Georgina: https://www.georgina.ca/sites/default/files/page_assets/trails_georginatrailsandatmasterplan.pdf
- Town of Georgina. Sutton / Jackson's Point Secondary Plan (2013). Retrieved April 2023, from Town of Georgina: https://www.georgina.ca/sites/default/files/page_assets/web_sjpsp_revised_for_opa140_october_23_2019_0.pdf
- York Region. Lake to Lake Cycling Route and Walking Trail (2008). Retrieved April 2023, from York Region: https://www.york.ca/transportation/cycling/lake-lake-cycling-route-and-walking-trail
- Town of Georgina. Lake Drive Shoreline Action Plan (ongoing). Retrieved April 2023, from Town of Georgina: https://www.georgina.ca/living-here/roads-and-sidewalks/lake-drive-shoreline-action-plan#:~:text=The%20Lake%20Drive%20Action%20Plan%2C%20developed%20in%202017%2C%20outlines%20operational,beaches%2C%20parks%2C%20and%20more.
- Town of Georgina. Waterfront Parks Master Plan (2020-ongoing). Retrieved April 2023, from Town of Georgina: https://www.georgina.ca/sites/default/files/page_assets/waterfront_parks_master_plan_-_part_1_final_report.pdf
- Town of Georgina. Council Report – Retrieved April 18, 2023. from the Town of Georgina. Report on file with the Town.
- Transportation Association of Canada. Geometric Design Guide for Canadian Roads (2017), from the Transportation Association of Canada. Retrieved May 2023. Guidelines on file with WSP.
- Town of Georgina. Development Design Criteria (2013). Retrieved May 2023, from the Town of Georgina: https://www.georgina.ca/sites/default/files/page_assets/design_criteria_2013_update_2022_1.pdf.
- Ontario Traffic Council. Ontario Traffic Manual, Book 18 (2021). Retrieved April 2023, from Ontario Traffic Council: https://ontario-traffic-council.s3.amazonaws.com/uploads/2021/11/cwug-OTM-Book-18-Oct-5-2021-Digital-final.pdf.
- City of Toronto. Toronto Complete Streets Design Guidelines (2017). Retrieved April 2023, from City of Toronto: https://www.toronto.ca/wp-content/uploads/2017/11/906b-Chapter-1.pdf.
- City of Ottawa. Advisory Cycling Lanes in Ottawa (2016). Retrieved October 23, 2023, from YouTube: https://www.youtube.com/watch?v=0zdDIvKXMxY&ab_channel=CityofOttawa
- Road Guy Rob. These new BIKE LANES didn't last two weeks! (2022). Retrieved October 23, 2023, from YouTube: https://www.youtube.com/watch?v=zeynqnirofE&ab_channel=RoadGuyRob

— Alta Planning and Design. Advisory Bike Lanes in North America (2017). Retrieved, from Alta Planning and Design: https://altago.com/wp-content/uploads/Advisory-Bike-Lanes-In-North-America_Alta-Planning-Design-White-Paper.pdf

APPENDIX

APPENDIX A – CONSULTATION SUMMARY

APPENDIX

APPENDIX B – PHOTO LOG

APPENDIX B

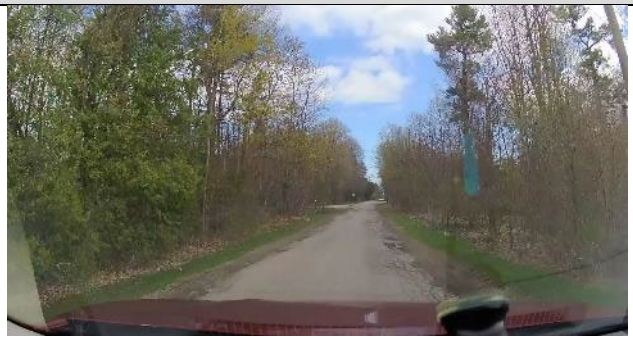
While comprehensive desktop review of study areas is suitable for the inventory and analysis of existing conditions, a site visit provides the opportunity for capturing further detailed observations on the opportunities and constraints of a study area.

A site visit was conducted on April 26, 2023. The purpose of the site visit was to observe, experience and gather photographic documentation of the existing conditions of the Study Area. Video footage of the existing conditions of the Study Area was captured by a dashboard camera. The following sections provides a summary of the documented observations, as well as the opportunities and issues noted for the Study.

A detailed photolog highlighting site condition issues are included in the table below:

Site Conditions Photolog for Lake Drive FA Study	
	
Sightline Concern: **1.** Uphill driving: Vertical sight obstruction **Location:** Lake Drive North – Elmview Gardens Intersection	**Sightline Concern:** **1.** Sharp turn on right **2.** Sightline obstructed by trees **Location**: Lake Drive North – Clarlyn Drive Intersection
	
Observation: **1.** Not enough space to pass garbage truck **Location:** Lake Drive North – Orchard Beach Intersection	**Observation:** **1.** Lots of Potholes **Location:** Along Lake Drive North Road

APPENDIX B

Site Conditions Photolog for Lake Drive FA Study	
	
Concern: **1. Stop sign visibility issue on the right side.** **Location:** Lake Drive North – Walkers Ln Intersection	**Observation:** **1.** Cracked Pavement **Location:** Lake Drive North – Coxwell St Intersection
	
Observation: **1. Cracked Pavement** **Location:** Lake Drive North – Mays Wharf Road Intersection	**Observation:** **1.** Lots of Potholes **Location:** Along Lake Drive North Road
	
Observation: **1.** Drainage ditches on the right **Location:** Along Lake Drive North Road	**Concern:** **1.** Shared road with cyclists and pedestrians **Location:** Along Lake Drive North Road

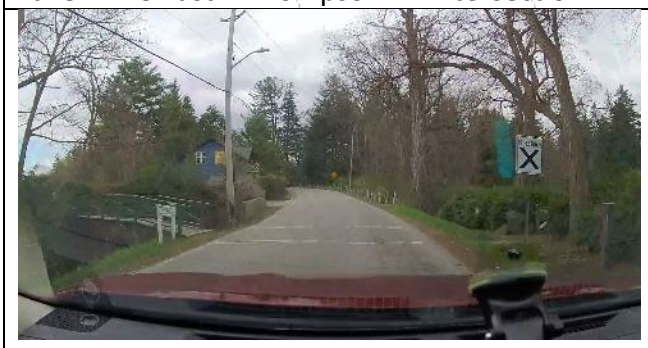
APPENDIX B

Site Conditions Photolog for Lake Drive FA Study	
	
Observation: **1.** Long driveway Access **Location:** Along Lake Drive North Road	**Sightline Concern:** **1.** Sightline obstructed by trees on the right **Location:** Lake Drive North – Sina Street Intersection
	
Observation: **1.** Structural Culvert **Location:** Lake Drive East – Red Robin Road Intersection	**Observation:** **1.** Structural Culvert on the right side **Location:** Lake Drive East – Red Robin Road Intersection
	
Sightline Concern: **1.** Sightline obstructed by trees on the right **Location:** Lake Drive East – Red Robin Road Intersection	**Observation:** **1.** Cracked Pavement **Location:** Lake Drive East – McNeil Road Intersection

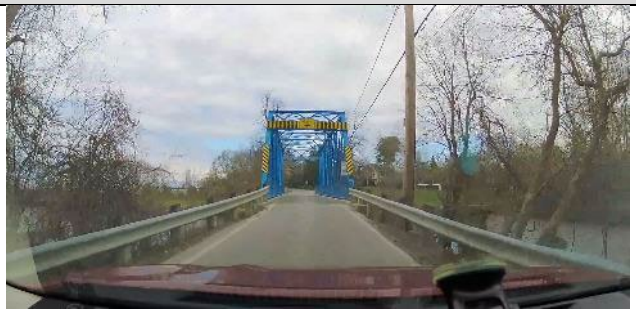
APPENDIX B

Site Conditions Photolog for Lake Drive FA Study	
	
Sightline Concern: **1.** Sightline obstructed by trees on the right **Location :** Lake Drive East – Sedore Avenue Intersection	**Observation:** **1.** Lots of potholes **Location:** Along Lake Drive East Road
	
Sightline Concern: **1.** Sightline obstructed by trees on the right **Location:** Lake Drive East – Montsell Avenue Intersection	**Sightline Concern:** **1.** Sightline obstructed by trees on the right **Location:** Lake Drive East – South Drive Intersection
	
Observation: **1. Local businesses** **Location:** Lake Drive East near Jackson's Point	**Observation:** **1.** Local businesses **Location:** Lake Drive East near Jackson's Point

APPENDIX B

Site Conditions Photolog for Lake Drive FA Study	
	
Observation: **1.** Cracked Pavement **Location:** Lake Drive East – Jackson Point Ave Intersection	**Observation:** **1.** Sidewalks on both sides **Location:** Lake Drive East – Grew Blvd Intersection
	
Observation: **1.** Cracked Pavement **Location:** Lake Drive East – Thompson Dr Intersection	**Observation:** **1.** Cracked Pavement **Location:** Lake Drive East – Hedge Road Intersection
	
Observation: **1.** Pedestrian Crossing **Location:** Along Hedge Road	**Sightline Concern:** **1.** Sightline obstructed by trees on the right **Location:** Hedge Road – Sibbald Cres. Intersection

APPENDIX B

Site Conditions Photolog for Lake Drive FA Study	
	
Sightline Concern: **1.** Sightline obstructed by trees on both sides **Location:** Hedge Road – Sibbald Cres. Intersection	**Observation:** **1.** 35m long Bridge **Location:** Hedge Road – Sibbald Cres. Intersection
	
Sightline Concern: **1.** Sightline obstructed by trees on the right **Location:** Hedge Road – Dunkirk Avenue Intersection	**Sightline Concern:** **1.** Sightline obstructed by trees on the right **Location:** Hedge Road – Seaward Drive Intersection

APPENDIX

APPENDIX C – DETAILED EVALUATION TABLE

APPENDIX

APPENDIX D – CONCEPTUAL DESIGN PLATES