Muskoka Lakes Transportation Master Plan

October 2023

TOWNSHIP OF MUSKOKA Lakes™

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Township of Muskoka Lakes Transportation Master Plan

Township of Muskoka Lakes
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Port Carling, ON, P0B 1J0

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October 2023
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Acknowledgements

Thank you to the key Township staff, stakeholders and project team that helped inform and create the Muskoka Lakes Transportation Master Plan.

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Executive Summary

The Township of Muskoka Lakes (Township) is one of six lower-tier municipalities situated within the District of Muskoka. The Township has an interspersed population within a community structure consisting of the waterfront, urban centers, resort villages, communities, and rural areas. Unique to the demographic of the Township is the second home owner population it attracts during the summer months, which can be quadruple that of the year-round residents, as well as with the magnitude of visitors that the Township's "cottage-country" lifestyle can attract.

The Township's existing transportation network consists of Provincial highways, District roads, Township roads, sidewalks concentrated within urban centres and community areas, active transportation in the form of paved shoulders and trails, District-operated inter-municipal transit, and waterbody accesses.

The Township initiated its first Transportation Master Plan (TMP) to outline a strategy to plan for future transportation infrastructure and services over the next 25 years. Similar to the Township's Parks and Recreation Plan and Fire Master Plan, this TMP is future focused to address growth needs. As such, this TMP differs from the Asset Management Plan, which focusses on the state and inventory of the Township's existing infrastructure and resources.

This TMP includes planning for existing and future cycling, parking, lake access, pedestrian, vehicular and transit needs within Muskoka Lakes. The plan is guided by Federal policies and commitments to mitigate climate change, Provincial and Township policies, and infrastructure and services provided by other agencies or governing bodies.

Through the identification of transportation trends and anticipated growth, this Transportation Master Plan aims to provide a transportation system that is mindful of climate change objectives and protects natural and cultural features while striving to be sustainable, multi-modal, safe, well-connected, and financially responsible.

As part of the master plan process, a comprehensive consultation plan was undertaken to gather community and stakeholder input through public information centres, technical advisory committee meetings and interactive mapping tools housed on the Township engagement website. A public opinion survey was also posted to collect information on residents' travel behaviour, preferences, and priorities, along with their key transportation issues. The results of the stakeholder consultation highlight key issues such as the demand for lake accesses to island and mainland properties, lack of parking to access island properties, insufficient parking in the downtown centres and transit accessibility.

The Environmental Assessment (EA) process requires that alternative strategies be developed to determine a preferred transportation solution. The four alternative

strategies below were established by grouping proposed improvements into low, medium and high investment categories. These categorizations do not inform prioritization and phasing of specific projects and serve only as a means of grouping projects to create alternative strategies.

- **"Do Nothing" Scenario** – Maintaining the status quo / "business-as-usual"
- **Low-Investment Scenario** – Investing in high-priority infrastructure
- **Medium-Investment Scenario** – Investing in high-priority infrastructure along with additional active transportation, lake access and parking infrastructure
- **High-Investment Scenario** – Contains the highest level of infrastructure improvement

The alternative strategies were assessed against evaluation criteria, including sustainability, financial, safety, environmental / cultural and network efficiency, to determine the preferred solution. The results of the assessment indicated that the high-investment scenario was deemed the most desirable transportation. Key network improvements are illustrated in the figures below, which depict road and intersection projects (ES-1), active transportation projects (ES-2), and lake access improvements (ES-3). These improvements reflect the future ultimate condition and are subject to short-term (1-5 years), medium-term (6-10 years) and long-term (11-15 years or beyond) phasing along with supporting studies, as summarized in the tables that follow.

The Transportation Master Plan was developed recognizing the need to protect the Township's cultural and natural environment. The Township is home to several environmental features and protected properties, including the Hardy Lake Provincial Park, Muskoka Conservancy properties, heritage properties, wetlands, woodlands, wildlife habitat, significant Areas of Natural and Scientific Interest (ANSIs), locations of archaeological potential, and protected habitats. Future transportation projects recommended by the Transportation Master Plan will need to consider impacts to these features and associated mitigation measures as part subsequent studies and future phases of the Environmental Assessment (EA) process.

Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

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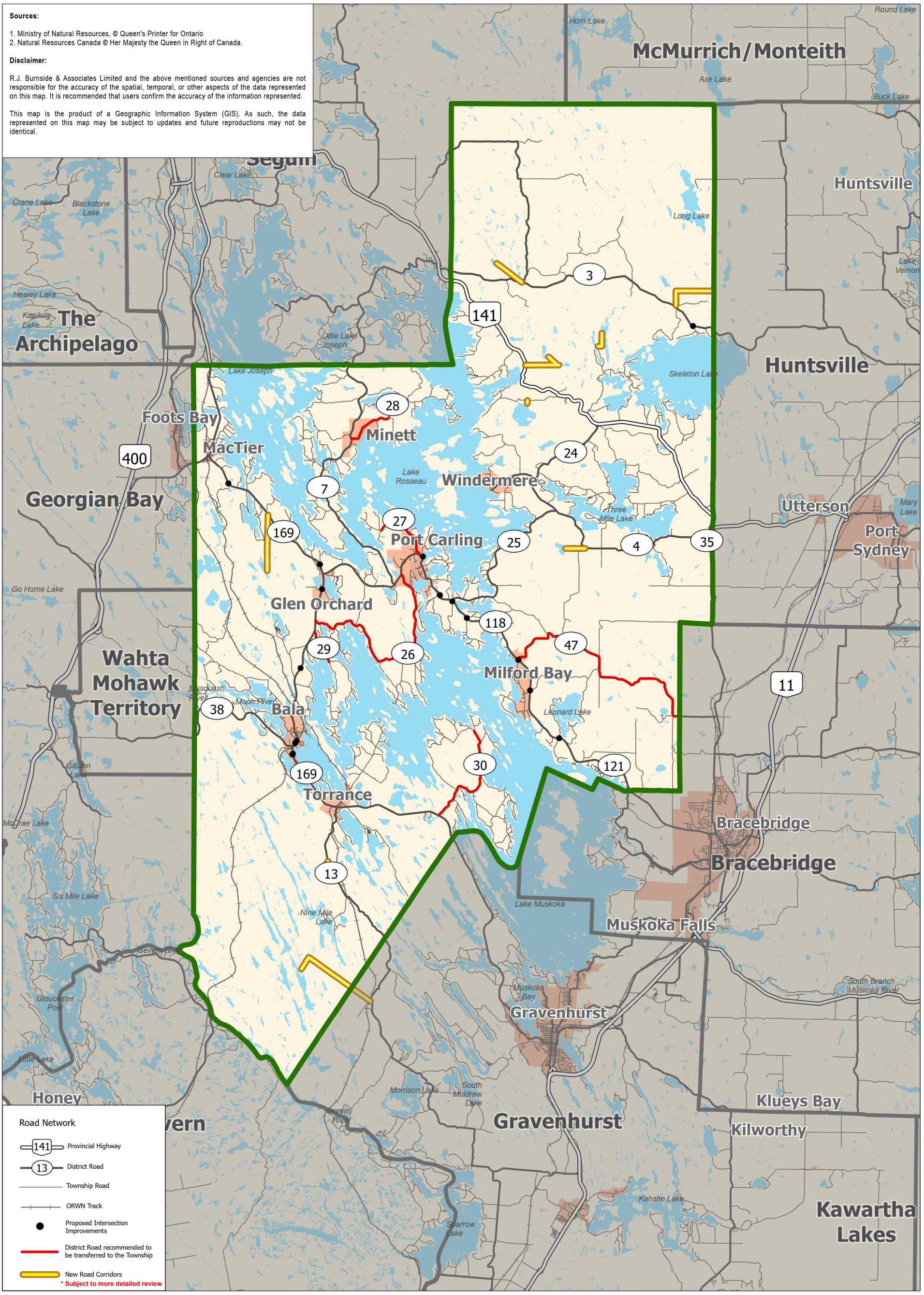

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Kilometers
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Client
TOWNSHIP OF MUSKOKA LAKES

Map Title
ROAD AND INTERSECTION RECOMMENDATIONS

FIGURE ES-1

Sources:

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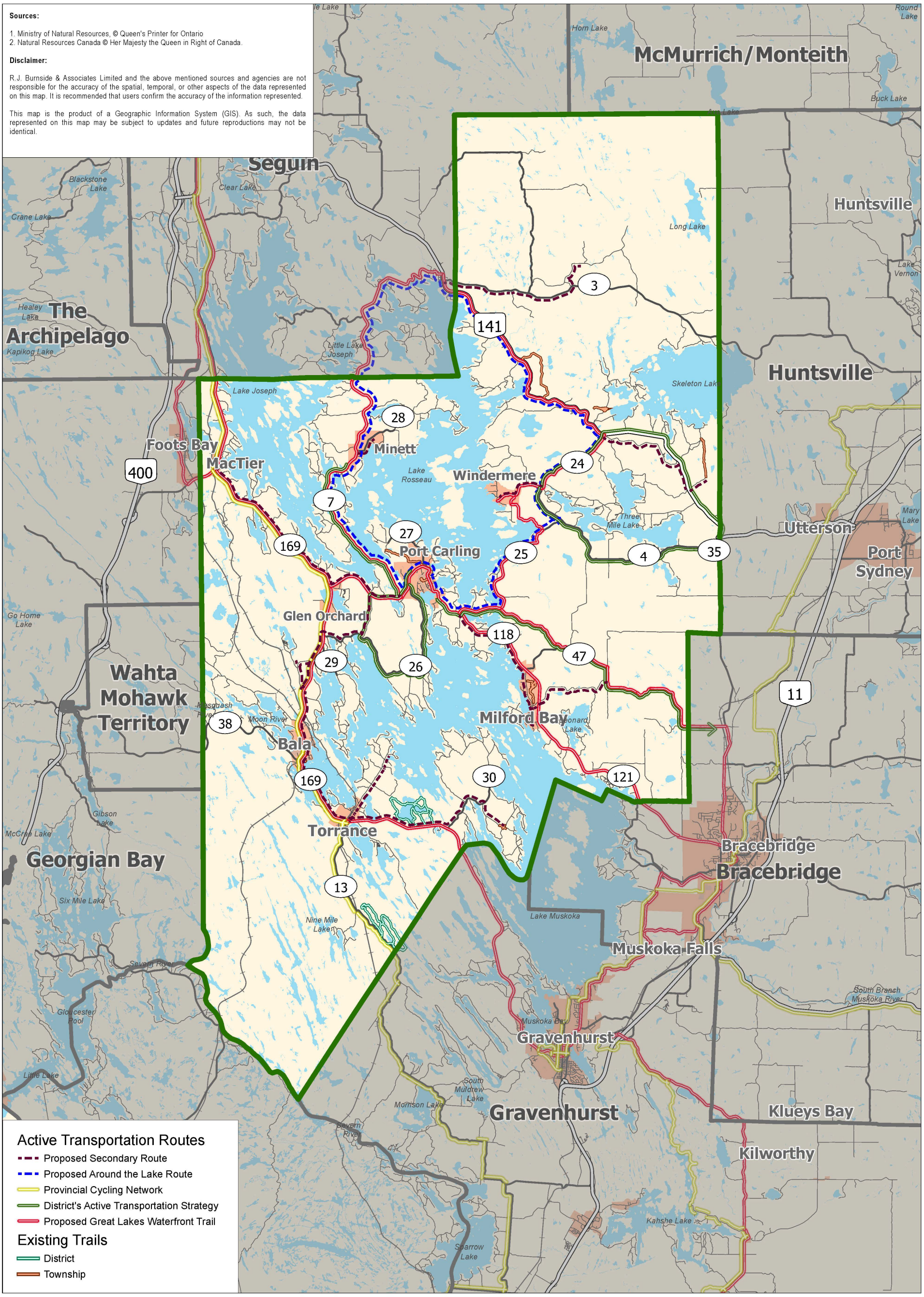

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TOWNSHIP OF MUSKOKA LAKES

Map Title
PROPOSED ACTIVE TRANSPORTATION NETWORK

FIGURE ES-2

Sources:

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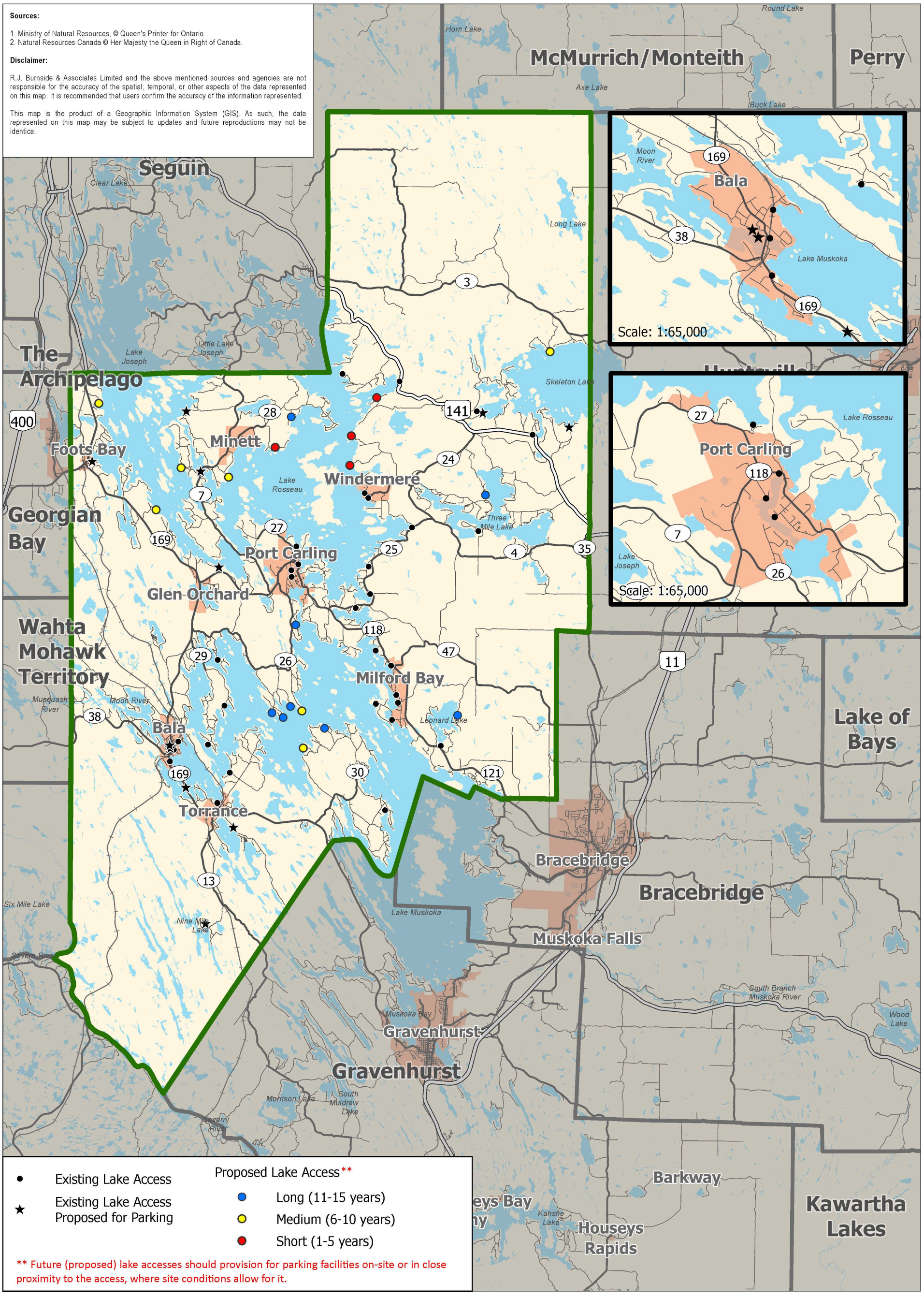

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Map Title

LAKE ACCESS RECOMMENDATIONS

Client

TOWNSHIP OF MUSKOKA LAKES

FIGURE ES-3

Table ES-1: Proposed Roads and Bridges Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
1	District	Collaborate with the District on an Emergency Services Route Study to identify alternative emergency service detour routes and intersections requiring traffic signal pre-emption	Study	**Immediate (1-5 years)**
2	Township	Conduct a Speed Study to investigate Township roads with speeding concerns and identify traffic control improvement measures	Study	**Immediate (1-5 years)**
3	District	Collaborate with the District on an Intersection Improvements Study (16 locations) to identify and address operational, sightline and safety concerns	Study	**Immediate (1-5 years)**
4	Township	Include roads listed in Table 7-4 as part of the municipally-maintained road inventory, subject to legal review	Road Maintenance Inventory	**Immediate (1-5 years)**
5	Township	Adopt the Township Typical Road Cross-Sections as part of the Township's Engineering Design Standards **(Section 8.2)**	Policy	**Immediate (1-5 years)**
6	Township	Adopt Road Rationalization Policy (**Section 8.3)**	Policy	**Immediate (1-5 years)**
7	Township	Adopt Township Speed Policy (**Section 8.4)**	Policy	**Immediate (1-5 years)**
8	Township	Adopt Township Roundabout Policy **(Section 8.5)**	Policy	**Immediate (1-5 years)**
9	District	Collaborate with the District to consider downloading of select District roads to the Township **(Section 8.3)**	Road Ownership Transfer	**Immediate (1-5 years)**
10	District	Collaborate with the District on a Port Carling Alternate Route Study to investigate the feasibility of providing an alternate route connecting District Road 118 east and west of Port Carling	Study	**Immediate (1-5 years)**
11	Township	Conduct a New Corridors Study to support active transportation and lake access (Table 7-2)	Study	**6-10 years**
12	Township	Installation of 'Narrow Structure' and 'One Lane' signage, and consideration for 'Yield' signage at eight Township Bridges (Medora Lake Road, Doherty Road, Dee River, Rosseau Lake Road 3, Rosseau River, Island Park Road, Clear Lake Road, Bala Bay Dock)	Signage Installation	**6-10 years**

No.	Project Lead	Project / Location	Improvement Type	Time of Need
13	Township	'SLOW' Pavement Markings at three Township Bridges (Medora Lake Road, Dee River, Rosseau Lake Road 3)	Pavement Markings	**6-10 years**
14	Township	'SHARROW' Pavement Markings at Milford Bay Bridges	Pavement Markings	**6-10 years**
15	District	District to investigate the feasibility of widening bridges under District jurisdiction to permit two-way travel	Study	**6-10 years**

Table ES-2: Proposed Transit Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
16	District	Collaborate with the District to investigate opportunities for Township Transit Connections and On-Demand Routes as part of the District Community Transportation Plan Update	Study	**Immediate (1-5 years)**

Table ES-3: Proposed Active Transportation Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
17	District	District Road 118 between Brackenrig Road and Peninsula Road	Paved Shoulders	**Immediate (1-5 years)**
18	District	Peninsula Road between District Road 118 and Highway 632	Paved Shoulders	**Immediate (1-5 years)**
19	MTO	Highway 632 between Peninsula Road and Highway 141	Paved Shoulders	**Immediate (1-5 years)**
20	MTO	Highway 141 between Highway 632 and Deebank Road	Paved Shoulders	**Immediate (1-5 years)**
21	District	Deebank Road between Highway 141 and Windermere Road	Paved Shoulders	**Immediate (1-5 years)**
22	District	Windermere Road between Deebank Road and Brackenrig Road	Paved Shoulders	**Immediate (1-5 years)**
23	District	Brackenrig Road between Windermere Road and District Road 118	Paved Shoulders	**Immediate (1-5 years)**
24	District	District Road 118 between Brackenrig Road and Milford Bay Road	Paved Shoulders	**6-10 years**
25	Township	Milford Bay Road between District Road 118 and 1020 Beaumaris Rd	Shared Route	**6-10 years**
26	Township	Butter and Egg Road between Milford Bay Road and District Road 47	Shared Route	**6-10 years**
27	District	District Road 118 between Peninsula Road and District Road 169	Paved Shoulders	**6-10 years**
28	District	District Road 169 between District Road 118 and Lake Joseph Road	Paved Shoulders	**6-10 years**

No.	Project Lead	Project / Location	Improvement Type	Time of Need
29	Township	Eveleigh Road between District Road 118 and District Road 26	Shared Route	**6-10 years**
30	Township	Mortimer's Point Road between Eveleigh Road and District Road 169	Shared Route	**6-10 years**
31	District	District Road 169 between Mortimer's Point Road and Walker's Point Road	Paved shoulders	**6-10 years**
32	Township	Walkers Point Road between District Road 169 and Walker's Point Lookout Trail	Paved shoulders	**6-10 years**
33	Township	Medora Lake Road between District Road 169 (north leg) and District Road 169 (south leg)	Shared Route	**6-10 years**
34	Township	Juddhaven Road between Peninsula Road and Paignton House Road	Paved shoulders	**6-10 years**
35	District	District Road 3 between Highway 141 and Gross Road	Paved shoulders	**6-10 years**
36	Township	Gross Road between District Road 3 and Hekkla Road	Shared Route	**6-10 years**
37	Township	Hekkla Road between Gross Road and 1448 Hekkla Road	Shared Route	**6-10 years**
38	Township	Old Parry Sound Road between Deebank Road and Highway 141	Shared Route	**6-10 years**
39	MTO	Highway 141 between Old Parry Sound Road and 2013 Highway 141	Paved Shoulders	**6-10 years**
40	Township	Skeleton Lake 2 Road between Highway 141 and Raymond Trail Head	Shared Route	**6-10 years**
41	District	Windermere Road between Deebank Road and Fife Avenue	Shared Route	**6-10 years**
42	Township	Torrance Road / East Bay Road between Muskoka Road 169 and Packers Bay Road	Paved Shoulders	**Immediate (1-5 years)**
43	Township	Designate and provision for the Around the Lake Trail as a “Scenic Corridor” in the Official Plan	Official Plan	**Immediate (1-5 years)**
44	Township	Conduct an Off-Road Trails Study, recommended to include a feasibility review of converting snowmobile trails to active transportation trail during summer months	Study	**Immediate (1-5 years)**
45	Township	Advisory Bike Lane Pilot Project Study to identify desirable locations to implement advisory bike lanes as a pilot project	Study	**Immediate (1-5 years)**
46	Township	Collaborate with the MTO to investigate the opportunity for a pilot project to allow golf carts on Township roads	Study	**Immediate (1-5 years)**

Table ES-4: Proposed Parking Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
47	Township	McDonalds Road, Foot's Bay (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
48	Township	Appian Way, Glen Orchard (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
49	Township	Carlingford Road, Minett (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
50	Township	Gregory Road, Minett (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
51	Township	Simms Road, Ullswater (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
52	Township	Skeleton Lake Road 2 / Wilson's Lodge (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
53	Township	Muskoka Road #169, Bala (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
54	Township	1201 Nine Mile Lake Road, Torrance (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
55	Township	1132 Clear Lake Road, Torrance (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
56	Township	Portage Street, Bala (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
57	Township	River Street, Bala (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
58	Township	Downtown Parking Utilization Study (Bala and Port Carling)	Study	**Immediate (1-5 years)**
59	Township	Pave existing gravel lots and delineate stalls	Parking Facility Improvement	**Immediate (1-5 years)**
60	Township	Conduct a Zoning By-law review of non-residential parking rates for new developments	Study	**Immediate (1-5 years)**
61	Township	Installation of bulletin boards illustrating parking inventory at major tourist attractions	Signage / Wayfinding	**6-10 years**
62	Township	Develop a publicly-accessible, interactive online map with an inventory of parking locations and parking supply indicated	Signage / Wayfinding	**6-10 years**

Table ES-5: Proposed Lake Access Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
63	Township	Along Morinus Road	New Lake Access	**Immediate (1-5 years)**
64	Township	End of Rosseau Lake Road 1	New Lake Access	**Immediate (1-5 years)**
65	Township	End of Unnamed Road off of Rostrevor Road (near Treasure Island)	New Lake Access	**Immediate (1-5 years)**
66	Township	Along Purdy Road	New Lake Access	**Immediate (1-5 years)**

No.	Project Lead	Project / Location	Improvement Type	Time of Need
67	Township	Adopt Lake Access Policy **(Section 8.1)**	Policy	**Immediate (1-5 years)**
68	Township	Investigate the feasibility of issuing parking permits for existing and future parking facilities at lake accesses	Study	**Immediate (1-5 years)**
69	Township	Along Cooper Point Road	New Lake Access	**6-10 years**
70	Township	End of Stroud Beach Road	New Lake Access	**6-10 years**
71	Township	End of Glencoe Heights Road	New Lake Access	**6-10 years**
72	Township	End of Woodington Road	New Lake Access	**6-10 years**
73	Township	Along Renley Road	New Lake Access	**6-10 years**
74	Township	End of Hemlock Hill Road	New Lake Access	**6-10 years**
75	Township	End of Unnamed Road off of Riverdale Road (near Moss Rock)	New Lake Access	**6-10 years**
76	Township	Along Bluff Road / Juddhaven Road (west of Marie Avenue)	New Lake Access	**11-15 years or beyond**
77	Township	Along North Shore Road (north of Sandwood Road)	New Lake Access	**11-15 years or beyond**
78	Township	Along Mortimers Point Road	New Lake Access	**11-15 years or beyond**
79	Township	End of Heather Lodge Road	New Lake Access	**11-15 years or beyond**
80	Township	Along Martins Cove	New Lake Access	**11-15 years or beyond**
81	Township	End of Pleasant View Point Road	New Lake Access	**11-15 years or beyond**
82	Township	Along Woodwinds Road	New Lake Access	**11-15 years or beyond**
83	Township	Along Glen Gordon Road	New Lake Access	**11-15 years or beyond**

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Tables

Figures

Appendices

1.0 Introduction

1.1 What is the Muskoka Lakes Transportation Master Plan?

The Township of Muskoka Lakes (Township) has initiated a Transportation Master Plan (TMP) under the Municipal Class Environmental Assessment (MCEA) to outline a strategy to plan for future transportation infrastructure and services.

This TMP prescribes a short (1 to 5 years), medium (5 to 10 years), and long-term (11 to 15 years or beyond) plan to accommodate future transportation needs on a Township-wide level through the identification of transportation trends and anticipated growth. This involves developing a strategy for investment and implementation that is cost-effective, environmentally responsible, and future ready. Transportation Master Plans are typically reviewed and updated every 5 years to ensure relevancy and to plan for a future horizon year.

1.2 Study Approach

This Transportation Master Plan has been developed within the context of relevant planning policies. It is consistent with the Provincial Policy Statement (PPS 2020) and relevant District and Township policies. It has referenced best practices for master plans and is in accordance with approaches of the Sustainable Planning Guidelines report developed by Transport Canada and the Transportation Association of Canada (TAC). The strategy has been based on a vision of transportation solutions that are integrated with growth in a manner that is environmentally, operationally and financially sustainable.

This study has been carried out in accordance with the requirements outlined in the Municipal Engineers Association Municipal Class Environmental Assessment (MCEA) Manual (Amended 2015), which is an approved process under the Ontario Environmental Assessment (EA) Act. The study will be undertaken through an open public process as a Master Plan study under the EA Act to serve as direct input to any subsequent EA studies that may be deemed appropriate.

The scope of the study followed Section 2.7 (Master Plans) in the Municipal Class EA guidelines, Master Plan Approach #1. This study addresses Phases 1 and 2 of the five-phase Municipal Class EA process. Phase 1 defines the problem and/or opportunity; Phase 2 identifies alternative solutions to the problem, considers environmental implications, and consults with the public and affected agencies.

The MCEA guidance document was updated in April 2023. Therefore, any projects proposed within the Master Plan will be subject to EA requirements of this new guidance document.

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

The Township has recorded consultation with any subsequent applications to the Ministry of Environment Conservation and Parks associated with any substantial changes to this Transportation Master Plan or any subsequent permits.

1.3 Consultation Process

A consultation process was followed for this Transportation Master Plan (TMP) in accordance with the master planning process identified in the Municipal Class Environmental Assessment Document (October 2000, as amended in 2007, 2011 and 2015). A wide range of stakeholders were identified and contacted at the onset of the study and during the study process including relevant review agencies and organizations and Indigenous communities who may be affected or have interest in the study. As members of the public became aware of the study and expressed interest, they were added to the Project Contact List. These stakeholders were contacted through direct distribution of notices, media release through social media, and through the Township of Muskoka Lakes website. The Township's TMP website was also periodically updated to keep the public informed.

Outreach was conducted through a variety of methods, including:

- Email;
- Public surveys;
- Interactive mapping for public input;
- Interactive surveys during consultation events;
- Public and social media posts; and
- The Township website at https://engagemuskokalakes.ca/transportation-master-plan, which includes information on study updates, upcoming public events, presentations, key documents, and contact information for the Township project manager.

The sections below provide a summary of the consultation process with public, agencies and Indigenous communities. Presentation material provided for public consultation and engagement, including input received, is documented in **Appendix A.**

1.3.1 Public Consultation

The Transportation Master Plan (TMP) was initiated on October 4, 2022 through a Notice of Commencement published on the Township's website, sent out via e-mail, and advertised through a media release. Along with the Notice of Commencement, an online survey was conducted from October 4, 2022 to November 7, 2022. A total of 18 responses were collected.

During the study, two virtual Public Information Centres (PICs) were held. The first PIC was held on January 31, 2023 to provide an overview of the study process and goals. A mapping engagement activity was posted on the Township website after the PIC which allowed residents to pin transportation issues on a map.

The second virtual PIC was held on May 16, 2023, to provide information on the study to the public and solicit further feedback. The second PIC material focused on presenting the draft vision and objectives as well as Phase 1 findings.

1.3.2 External Stakeholder Consultation

During the study, project notices were provided to 10 provincial agencies or organizations, the District of Muskoka, Simcoe Muskoka District Health Unit, 7 local (area) municipalities, and several school boards, associations, and utilities. Two agencies responded with comments and a school board had asked to be kept informed.

The project team organized a Technical Advisory Committee (TAC) consisting of Township staff and external stakeholders represented by staff from adjacent local municipalities and the District. The project team met with the TAC on November 23, 2022 to provide updates on the status of the Study and receive input from TAC members on issues or concerns relevant to their jurisdictions. The second TAC meeting was held on April 1 2023. The TAC meetings were held in a virtual format on Microsoft Teams and were followed by a discussion period where attendees could ask questions and receive further information. The District and local municipalities provided study context and input that was considered through the study.

1.3.3 Indigenous Consultation

During the study, nine Indigenous communities were contacted and provided project notices. The study team also made follow-up calls to communities that had not responded, following the email of Notices to confirm receipt of Notice and ascertain level of interest in the study. The Indigenous communities contacted include:

- Beausoleil First Nation
- Chippewas of Mnjikaning First Nation (Rama)
- Chippewas of Georgina Island

- Huron-Wendat Nation
- Métis Nation of Ontario
- Georgian Bay Métis Council
- Moon River Métis Council
- Wahta Mohawks
- Wasauksing First Nation

2.0 Planning and Policy Context

This section provides a summary of the Federal, Provincial, District, and Township policies and plans. With each document serving a different purpose, their relevance and applicability to this Transportation Master Plan will vary. On a high-level, the policies, planning principles and recommendations from these documents will all generally inform and provide direction for the Township's transportation system.

These plans and policies are all interrelated. Federal, Provincial and District / Township Official Plans aid in establishing the vision and objectives of this plan. Strategic plans provide guidance on implementable actions required to achieve overarching Township goals. Plans such as the Transportation Master Plan, Parks and Recreation Plan and Fire Master Plan are future-focused (identify needs to address growth) and serve to support the Official Plans and strategic plans to assure alignment with the vision of the Township. The Township Asset Management Plan highlights the existing municipal inventory to inform current and future servicing needs.

The detailed policy review is provided in **Appendix B**.

2.1 Federal Climate Change Plan

In December 2020, the Government of Canada introduced A Healthy Environment and a Healthy Economy, a climate plan that builds off the 2016 Pan-Canadian Framework on Clean Growth and Climate Change (PCF). This plan aims to exceed its 2030 Paris Agreement emission reduction target and aims for a net-zero emission future by 2050.

A major component to this updated plan is making clean, affordable transportation and power available in every Canadian community. The commitments made by the Government of Canada include expanding the supply of clean electricity, investing in next-generation clean energy and technology, encouraging cleaner modes of transportation such as zero-emission vehicles, transit, and active transportation.

Federal targets on zero-emission vehicles include:

- 10% of light-duty vehicle sales are zero-emission by 2025,
- 30% of light-duty vehicle sales are zero-emission by 2030, and
- 100% of light-duty vehicle sales are zero-emission by 2035.

As the Township continues to evolve, it is crucial to recognize and respond to emerging transportation trends, the pressing challenges of sustainability and climate change, and to align with federal commitments. The need to support electric vehicles (eVs) and clean energy solutions has become increasingly paramount in achieving a more sustainable and environmentally responsible transportation system.

Consumer preferences are shifting towards more sustainable and eco-friendly options in various aspects of their lives, including transportation. This paradigm shift is driven by a growing awareness of the detrimental impacts of traditional internal combustion engine vehicles (ICEVs) on the environment, coupled with the desire to reduce carbon emissions. As a result, the demand for electric vehicles is expected to experience significant growth in the coming years.

Supporting electric vehicles and clean energy infrastructure aligns with the Township's goal of fostering local economic development. By embracing EV technology and facilitating the necessary infrastructure, the Township can position itself as a forward-thinking and sustainable community, attracting environmentally conscious residents, businesses, and tourists. This, in turn, can stimulate local job creation, investment opportunities, and promote overall economic prosperity.

Transportation is a major contributor to greenhouse gas (GHG) emissions, significantly impacting climate change and air quality. Electric vehicles offer a viable solution to reduce emissions, as they produce zero tailpipe emissions when powered by renewable energy sources. By encouraging the adoption of eVs, the Township can play a vital role in mitigating the environmental consequences associated with transportation-related emissions.

Traditional vehicles powered by fossil fuels contribute to air pollution, negatively affecting human health and the overall well-being of residents. By transitioning to electric vehicles, the Municipality can contribute to improving air quality, particularly in densely populated areas. This shift can positively impact public health by reducing harmful pollutants such as nitrogen oxides, particulate matter, and volatile organic compounds.

Electric vehicles are inherently more energy-efficient compared to ICEVs. The conversion of electrical energy to power eVs is significantly more efficient than the internal combustion process, resulting in reduced energy waste. Embracing eVs, coupled with the use of clean and renewable energy sources for charging infrastructure, can help optimize energy consumption, reduce reliance on non-renewable resources, and enhance the overall energy efficiency of the transportation system. Numerous surveys have shown that "range anxiety", i.e. concern over access to charging stations, is a barrier to electric vehicle use.

Supporting electric vehicles and clean energy technologies is of importance for the Township in addressing future consumer demand, sustainability, and climate change challenges. Providing electric vehicle charging stations on Township lands, at Township parking spaces or in partnership with private partners are opportunities to support climate change mitigation.

2.2 Provincial Guiding Documents

The Muskoka Lakes Transportation Master Plan (TMP) builds upon and implements the existing policy framework provided by several Provincial planning policies. The following is a summary of the overarching Provincial policies and initiatives considered in the preparation of the Transportation Master Plan.

2.2.1 Provincial Policy Statement (2020)

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

Section 1.5 of the PPS provides specific direction for the planning and development of public spaces, recreation, parks, trails, and open space, including the following transportation related policies:

- Healthy, Active Communities (Section 1.5.1)
- Transportation Systems (Section 1.6.7)
- Transportation and Infrastructure Corridors (Section 1.6.8)

Additional policies related to Natural Heritage and Water policies are included in Section 2.1 of the PPS.

2.2.2 Eastern Ontario Transportation Plan Draft (April 2022)

The draft Eastern Ontario Transportation Plan, which covers the District of Muskoka, aims to build a safe, convenient, and connected transportation network that addresses the needs of the eastern region. The plan contains actions that will help connect local communities, fight gridlock on busy highways and roads and keep them safe and reliable. In addition, to add more public transit and active transportation routes. The area is bounded by the District of Muskoka to the west and Counties of Prescott and Russell to the east.

The actions are organized into the following goal areas:

- **Connecting People and Places**
  - Transportation systems are primarily about providing people and businesses with connections to get where they need to go as easily and efficiently as possible. Actions in this section will plan to help connect people and places by investing in infrastructure capacity, including improvements along Highway 401. Other

actions include introducing a technical study of the region's transportation system that will include the review of transportation needs and options for Muskoka District and Haliburton County.

- **Supporting a Competitive and Open for Business Environment**
  - An efficient and reliable multimodal transportation system is critical to the economy. The actions under this goal will improve the functioning of key corridors and support the trucking industry by reducing red tape and making it accessible for truckers to find parking where and when they need it. Actions also explore opportunities to leverage other modes including air and marine for greater flexibility and responsiveness to market demand.
- **Providing More Choice and Convenience**
  - Whether in a city, small town, agricultural area or the highlands, access to different travel options that are convenient means more people can get where they need to go. The actions in this section fill in service gaps in smaller communities and increase choices in larger ones. The actions also add choices and connections for tourism and recreation.
- **Improving Safety and Inclusion**
  - Ontario's transportation network is among the safest in North America, but there remain areas for improvement. Actions in this section are intended to increase safety and help the transportation system to better serve all users. In addition, the intention is to make more real-time information available concerning road conditions which supports safer travel decisions.

2.2.3 Provincial Housing Policies – Bill 23 / 109

Bill 109, More Homes for Everyone Act, 2022, received Royal Assent on April 14, 2022. The Bill modifies local decision-making time with respect to the development application process. The Act requires the Township to:

- Provide refunds between 25-50% of Site Plan application fees if not approved within 60 days, and
- Partially refund zoning by-law amendment fees if they fail to make a decision on an application within 90 days (or 120 days if the decision is concurrent with an official plan amendment application).

On November, 28, 2022, Royal Assent was given to Bill 23, the More Homes Built Faster Act, 2022. The Act includes the following key changes to the planning process:

- Removal of a municipality's ability to impose site plan control and control landscaping on residential development with 10 or fewer units; this in effect will limit the municipality's ability to set the location of hard surfaces such as driveways and pathways through the planning process, and

- As of right zoning to permit up to three residential units per lot (two in the main building and one in an accessory building), with no minimum unit sizes and a maximum requirement of one parking space per additional unit.

These changes may require the Township to be able to process transportation impacts and requirements of development applications more expeditiously. It may also require the Township to manage driveway approval through the development process through the Township's entrance permit process allowed through other legislation such as the Municipal Act.

2.3 District of Muskoka Guiding Documents

2.3.1 Official Plan

The District of Muskoka Official Plan was consolidated in June of 2019. The Official Plan contains "goals, objectives and policies primarily to manage and direct physical change and the effects on the social economic built and natural environment" of the District of Muskoka. The purpose of the Muskoka Official Plan is to provide direction and a policy framework for managing growth and land use decisions over the planning period of 2038.

The overall goals of the District Official Plan are as follows:

- Establish a broad, upper tier policy framework that provides guidance to Area Municipalities in the preparation of updated Area Municipal Official Plans, Official Plan Amendments, and zoning and community planning permit by-laws;
- Implement the Provincial Policy Statement at the District level in a manner that is intended to reflect the Muskoka context to the greatest extent possible while being consistent with the Provincial Policy Statement;
- Establish a policy framework that is outcome-oriented and evidence based; and,
- Establish a framework for coordination and cooperation amongst the Area Municipalities and the District on planning, including watershed planning and development issues that cross municipal boundaries.

Section D of the Official Plan provides direction and policies for growth management, servicing and healthy communities within the District including the following specifically related to transportation:

- Manage growth in a sustainable way that will make the most efficient use of land infrastructure, public services and facilities;
- Encourage the further intensification and use of the lands within the Urban Centres and the efficient use of lands in designated growth areas, as appropriate;
- Ensure that all urban development is appropriately phased and in conjunction with required infrastructure improvements where appropriate;

Section K of the Official Plan provides direction and policies for Transportation within the District. The objective of this plan is to:

- Maintain and improve transportation networks to provide a variety of options to connect people and places;
- Facilitate the safe and efficient movement of people and goods within Muskoka and to and from adjacent municipalities;
- Establish an integrated transportation system that safely and efficiently accommodates carious modes of transportation including trains, automobiles, trucks, water, air, public transit and active transportation;
- Develop a transportation system that will encourage unity within Muskoka, will satisfy Area Municipal transportation demands, and support economic development;
- Promote public transit and active transportation as energy efficient, affordable and accessible forms of travel and to assist in mitigating the impacts of climate change.

2.3.2 Regional Climate Change Adaption Plan

The District of Muskoka Regional 2023 Climate Change Adaption Plan details the actions that each lower tier municipality within the District needs to take to address impacts of climate change. The Township of Muskoka Lakes is one of the participating municipalities committed to advancing climate change adaptation planning across their municipal departments and throughout their communities.

Recent impacts in Canada as a result of climate change include flooding, ice storms, wildfires, heat domes and other weather extremities. Projected climate change impacts in Muskoka specifically include increases in annual mean temperatures, heat waves, water surface temperatures, annual precipitation, extreme precipitation events and others. Muskoka has also recently experienced tornado storm events over the last three years that have, among other repercussions, damaged homes and infrastructure. A recent 2019 flood caused the Township of Muskoka Lakes to declare a state of emergency.

This plan focuses on adaptation efforts to combat these inevitable impacts of climate change, which can include changing individual behaviours, updating municipal by-laws and policies, enhancing the capacity of physical infrastructure and improving ecological services.

Much of Muskoka's existing municipal infrastructure, such as roads, bridges, buildings, drinking water/wastewater systems, and stormwater management systems, were not constructed to withstand the climate the District is anticipated to have in the near future. Key initiatives and actions are outlined below.

- Assess the resilience of existing Municipal infrastructure (i.e., buildings, roads, water/wastewater infrastructure, etc.) to climate-related risks:

  - Immediate Action: Research best practices on how to incorporate climate resilience into asset management.
  - Supporting Action: Explore mobile infrastructure – shared services to reduce duplication.
- Ensure municipal policies encourage community food, water retention (rain garden, bioswales, etc.) and pollination gardens:
  - Immediate Action: Investigate partnership opportunities.
  - Supporting Action: Research and implement best practices to increase community involvement in developing community food, water retention and pollination gardens.
  - Supporting Action: Continue to promote communications and awareness of opportunities through the Municipality.
- Implement flood hazard policy in Official Plans through provisions in the Comprehensive Zoning by-law:
  - Immediate Action: Research best practices and tailor to Muskoka.
  - Supporting Action: Review results of second phase of the floodplain mapping project to identify more at-risk parts of the community.
  - Supporting Action: Incorporate updated mapping into Comprehensive Zoning by-law.

The Township will take the initiative in carrying out the actions detailed in the Climate Adaptation Plan. This effort is noted to require coordination, support and engagement from many key departments and leaders within each organization. The implementation of these action plans needs to be considered a priority.

2.3.3 Community Transportation Plan

The District of Muskoka 5-Year Transportation Needs Assessment and Growth and Sustainability Plan project was undertaken to solicit input from the community on transportation issues and opportunities and develop a Community Transportation Plan (CTP) that will meet the community needs.

The CTP provides recommendations for transportation needs within the District of Muskoka including the following:

- Individual Transportation Solutions
- Accessible Rural Transportation Solutions
- East-West Connectivity & Expansion of Inter-Community Corridor 11 Bus
- Seamless Transportation Network in Muskoka
- Long-term Growth and Financial Sustainability

2.3.4 Growth Strategy

The District of Muskoka's 2019 Growth Strategy (GS) was updated from the previous version that was prepared in 2013. The update includes population, housing, and employment forecasts for the District of Muskoka from 2016 to 2046 horizon along with local allocations of forecast growth to its six Area Municipalities. The forecast has been prepared to guide the development of policies related to planning and growth management. In addition, this forecast, and growth allocation report will summarize the current context of year-round population, seasonal population, dwelling unit and employment growth in the District and Area Municipalities.

2.3.5 Master Aging Plan

The District of Muskoka developed a Master Aging Plan in 2016 with the assistance from an Age-Friendly Community (AFC) grant provided by the Government of Ontario. An AFC is where policies, services and structures related to physical and social environments support and enable older people to live in a secure environment, enjoy good health and continue to participate fully in their communities.

2.4 Township of Muskoka Lakes Guiding Documents

2.4.1 Official Plan

The Township of Muskoka Lakes Official Plan, adopted by Council in October 2022, prescribes policies for land-use changes and decisions in the Township. The plan has been updated to be consistent with the Provincial Policy Statement (2020) and conform with the District of Muskoka Official Plan. Note that this Official Plan is not yet approved and still subject to change.

The Official Plan is divided into the operative sections listed below and prescribes general transportation-related objectives along with area-specific policies distinguished by land use designations.

- Applicability, Purpose and Organization of the Official Plan (Part A)
- Vision and Objectives (Part B)
- Growth Management (Part C)
- Natural Heritage and Water Resources (Part D)
- Waterfront Area Land Use Designation (Part E)
- Tourist Accommodation (Part F)
- Minett Resort Village (Part G) – To be included in the future through a separate Official Plan Amendment process
- Rural Land Use Designation (Part H)
- Urban Centre Land Use Designations (Part I)

- Community Area Land Use Designations (Part J)
- Mineral Aggregate Resources Area (Part K)
- General Development Policies (Part L)
- Special Site Policies (Part M)
- Implementation and Administration (Part N)

2.4.2 Strategic Plan 2021-2024

The Strategic Plan contains a number of goals to protect the unique features of the Township of Muskoka, as well as continuously improve the services and programs that meet the needs and priorities of the community.

The Strategic Plan identifies three strategic goals with associated objectives:

1. Preserve and Protect the Natural and Cultural Environment
    a. Preserve, protect, and promote the heritage and culture features that make Muskoka Lakes unique
    b. Leverage local and regional relationships to strengthen our response to climate change, and ensure that Muskoka Lakes remains adaptable and resilient in its effects
    c. Communicate, market, and promote the use of preservation of our natural environment, including creating dynamic downtowns that highlight the natural environment and highlighting access to the waterfront
    d. Enhance the clarity of understanding and enforceability of septic management policies, practices, and infrastructure and support these through education, and communication to users.

2. Strengthen and Diversify Muskoka Lakes' Economy
    a. Prioritize the implementation of the economic development strategy, including the housing, workforce, broadband and transportation enablers of economic development
    b. Set an economic development vision and establish criteria to assess and prioritize desired types of economic growth for the Township, particularly light industrial, commercial, knowledge based and year-round amenities and activities.

3. Enhance and Sustain Public Services and Infrastructure
    a. Develop and implement an actionable recreation and trails master plan that improves community and visitor usage of the Township's infrastructure and natural features
    b. Development and implement a transportation master plan that identifies opportunities to maintain and enhance the Township's vital multi modal transportation infrastructure

2.4.3 Other Plans

Table 2-1 briefly summarizes the other plans considered within the Township.

Table 2-1: Other Township Plans

Plan	Description
Economic Development Strategy	The Economic Development Strategy is intended to clarify the Township's role in the Economic Development and identify available Economic Development resources. The strategy is the outcome of the 2015-2018 Township of Muskoka Lakes Strategic Plan.
Asset Management Plan	The Township of Muskoka Lakes has developed an Asset Management Plan for its Core Service Infrastructure to ensure that long term consideration for sustainable reinvestment in the assets that are more relied upon by residents are implemented and consistent.
Parks and Recreation Plan	The Parks and Recreation Master Plan is a policy document that assists in determining parks, trails and recreation requirements for the Township and together with other policy documents advises about future investments.
Fire Master Plan	The Fire Master Plan (FMP) is based on the review of Muskoka Lakes Fire Department (MLFD) facilities, programs, and services. The FMP is being developed to guide the Township of Muskoka Lakes and its Council in the delivery of fire and emergency services to the year 2032.
IT Strategic Plan	In 2021, the Township of Muskoka Lakes developed an Information Technology (IT) strategic plan. The plan involved an assessment of the current IT environment, consideration for requirements of the Township and consultation with peers.

3.0 Study Context

This section documents the study context which consists of the natural environment, cultural heritage, archaeological resource, socio-economic demographics, and the Township's community structure. The study context provides an understanding of the characteristics of the Township and potential natural, cultural, and archaeological constraints. A more detailed review of the environmental and heritage context is provided in **Appendix C,** along with the associated maps.

3.1 Environmental Context

The Township is home to a variety of environmental features, protected properties, and natural features which have been identified based on a review of available provincial and municipal databases including the following data sources:

- Township of Muskoka Lakes Official Plan (2022);
- Muskoka District Official Plan Official Plan (2018);
- Ministry of Natural Resources and Forestry, Land Information Ontario (LIO) Make a Map: Natural Heritage Areas;
- Natural Heritage Information Centre (NHIC) database;
- Ministry of the Environment, Conservation and Parks (MECP): Source Water Protection Information Atlas;
- Department of Fisheries and Oceans (DFO), Aquatic species at risk map;
- Muskoka Conservancy;
- Ontario Nature Ontario Reptile & Amphibian Atlas; and
- Birds Canada Ontario Breeding Bird Atlas.

3.1.1 Protected Properties

Protected properties are properties under public ownership that are protected for the purposes of conservation and nature-based recreation.

Hardy Lake Provincial Park and Torrance Barrens Conservation Reserve are protected properties within Muskoka Lakes.

The Muskoka Conservancy is a registered charity and Canadian corporation that functions as a land trust by acquiring properties and legally registered agreements with private property owners to protect land.

The Muskoka Conservancy has a total of 48 properties including 34 nature reserves and 14 conservation easements. These properties total over 3,231 acres of land. These properties are illustrated in **Appendix C** (Figure 1).

3.1.2 Natural Heritage

The Township of Muskoka Lakes is subject to a variety of land use plans and policies that shape how transportation systems are to be developed within, and around, natural features. The Provincial Policy Statement, Township and District Official Plans all include policies to protect significant natural features, including the following:

- Provincially Significant Wetlands;
- Coastal Wetlands;
- Significant Woodlands;
- Significant Valleylands;
- Significant Wildlife Habitat;
- Significant Areas of Natural and Scientific Interest (ANSIs);
- Fish Habitat; and
- Habitat of Endangered and Threatened Species.

Although policies exist to protect these features, not all features have been identified. For example, habitats of species at risk are not always known. However, the majority of the listed features are protected under the PPS and Official Plans.

Most of the Township's Natural Heritage policies and mapping mirror that of the District and Provincial Growth Plan.

3.1.3 Areas of Natural and Scientific Interest (ANSI)

ANSIs are areas of land and water containing unique natural landscapes or features. These features have been scientifically identified by the Province of Ontario as having life or earth science values related to protection, scientific study or education.

ANSI - Earth Science:

One Earth Science ANSI was identified in the Township. Earth Science ANSIs are defined as geological in nature and contain significant examples of bedrock, fossils, landforms, or ongoing geological processes.

- Skeleton Lake ANSI (Provincial)

ANSI - Life Science:

One Life Science ANSIs was identified in the Township. Life science ANSIs represent biodiversity and natural landscapes. They include specific types of forests, valleys, prairies, wetlands, native plants, native animals and their supportive environments. Life Science ANSIs contain relatively undisturbed vegetation and landforms and their associated species and communities.

- Axe Lake ANSI (Provincial)

In addition to these two ANSIs, there are several Candidate ANSIs within the Township. The location of these ANSIs is illustrated in **Appendix C** (Figure 3).

3.1.4 Wetlands

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

Provincially Significant Wetlands and other wetlands have been mapped by the province and are illustrated **Appendix C** (Figure 4).

3.1.5 Woodlands

Significant Woodlands are not identified or defined within the Township of Muskoka Lakes or the District of Muskoka. Much of the Township is covered by Woodlands as shown in **Appendix C** (Figure 5).

3.1.6 Significant Valleylands

The Township Official Plan recognizes Steep Slopes and constraints for development in such areas but does map this feature and does not identify any Significant Valleylands.

3.1.7 Significant Wildlife Habitat

The Ministry of Natural Resources and Forestry (MNRF) has identified the following Significant Wildlife Habitat:

- Great Blue Heron Nesting Site/Colony
- Moose Aquatic Feeding Area
- White-tailed Deer Wintering Area (Stratum 2)

Significant Wildlife Habitat within the Township of Muskoka Lakes is illustrated in **Appendix C** (Figure 7)

3.1.8 Protected Habitat

Known Species at Risk (SAR) habitat within the Township is identified as part of the Regulated Habitat, illustrated in **Appendix C** (Figure 8).

3.1.9 Environmental Protection

Lands designated as Environmental Protection Area are subject to Part D of the Muskoka Lakes OP (Draft) and are shown in **Appendix C** (Figure 8).

3.2 Cultural Environment Context

3.2.1 Built Heritage Resources and Cultural Heritage Landscapes

Cultural heritage features and protected properties have been identified based on a review of available provincial and municipal databases, including the following existing data sources:

- Township of Muskoka Lakes Official Plan (2022)
- Muskoka District Official Plan
- Bala Heritage Conservation District Study
- Bala Heritage Conservation District Properties (Part V)
- Ontario Heritage Trust Ontario Heritage Act Register

Heritage designation is public recognition of the heritage value of buildings, sites or cultural features in a community. The Ontario Heritage Act helps a community to either designate individual buildings or features (under Part IV of the Act) or as part of a larger area through a Heritage Conservation District (under Part V of the Act). In the Township of Muskoka Lakes, there are:

- 9 designated properties (Part IV, Section 29 OHA)
- Bala Heritage Conservation District (Part V, OHA)

Any transportation projects recommended by the Transportation Master Plan update will need to consider impacts to cultural heritage, which will be investigated as part of future Environmental Assessment (EA) studies for individual transportation projects. Projects on the smaller (e.g., individual property or intersection) scale should be screened against the Criteria for Evaluating for Potential Built Heritage Resources and Cultural Heritage Landscapes checklist, or in the case of municipal bridges the Municipal Bridges - Criteria for Evaluating Potential for Cultural Heritage Resources checklist, to determine whether a cultural heritage evaluation report and/or heritage impact assessment by a qualified person is necessary. For projects at the corridor scale, a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment may be carried out by a

qualified professional to make recommendations for individual properties of potential cultural heritage value or interest.

3.2.2 Archaeological Resources

The Township of Muskoka Lakes has identified lands with moderate to high or high to very high Archaeological Potential available on Appendix H of the Official Plan. This map can be used to help determine the need for archaeological assessment in advance of soil disturbance. Areas of archaeological potential or known sites are not shown due to the sensitivity of this information with respect to the location of significant archaeological resources.

Future transportation projects recommended in the Township of Muskoka Lakes Transportation Master Plan within and located in an area of archeological potential will require (at minimum) a Stage 1 archaeological assessment to determine if archaeological potential survives within the area. Public development projects (i.e., highway or road construction) require an archaeological assessment under the requirements of the Environmental Assessment Act or through a Class Environmental Assessment. An environmental assessment often will determine the need for an archaeological assessment, and it is completed as part of the overall environmental assessment process.

3.3 Socio-Economic Context

3.3.1 Population

The Township's population consists of permanent and seasonal (or second home) residents. According to Census, the Township's permanent population in 2021 was 7,652, which amounts to a 16% increase from the 6,588 population in 2016 despite experiencing negative year-round population growth (approximately -1.8%) between 2011-2016, recognizing that the notable increase in residents is likely attributed, in part, to the COVID-19 pandemic that began in 2020 and resulted in a greater desire to move to more suburban/rural areas. The Township's permanent population accounts for 11% of the District's total population.

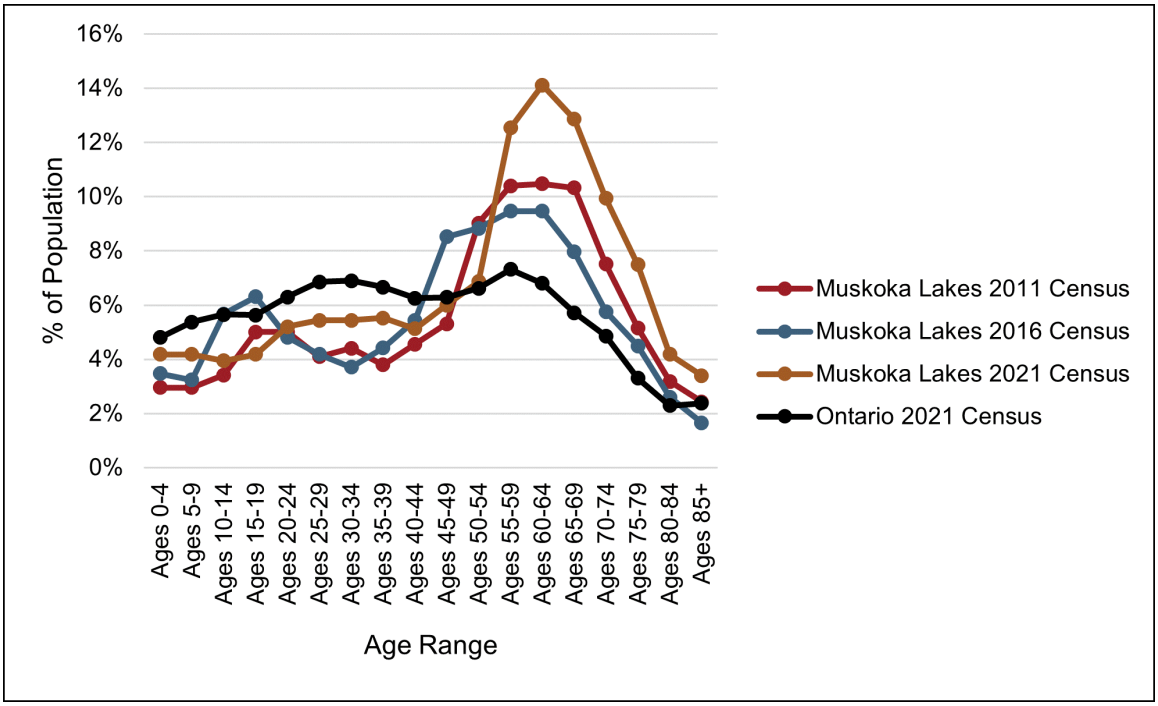
The Township's seasonal peak population in 2016 was approximately 27,300 according to the District's 2019 Growth Strategy Study, which is more than quadruple that of the year-round population that year (6,600).

3.3.2 Aging Population Trend

The Township's senior citizen population has grown over the last 10 years. Since the onset of the pandemic, the Township has seen a greater increase in the proportion of seniors residents, which can be attributed both to the aging population and the increased movement out of the Greater Toronto Hamilton Area (GTHA). Between 2011 and 2016, the median age stayed approximately the same at 55 years old compared to the Provincial median of 42. By 2021, the median age of Township residents increased to 57 years old, while the Provincial median remained at 42.

Figure 3-1 illustrates the historical change in population proportion by age group.

Figure 3-1: Township Aging Population Trend



3.3.3 Dwellings

The primary type of residential dwelling in the Township is single-detached homes, which made up 97.9% of private households in 2016. This proportion decreased slightly in 2021 to 96.7%. There are currently no apartment buildings in the Township that are five storeys or greater.

3.3.4 Labour Force

In 2021, the Township of Muskoka Lakes had a labour participation rate of 59%, an employment rate of 54% and an unemployment rate of 10%. The participation rate represents the percentage of Township residents who are in the labour force and either employed or seeking a job. A summary of employment statistics between 2006 and 2021 is provided in Table 3-1.

The participation and employment rate remained relatively the same between 2016 and 2021. The unemployment rate experienced a 2.7% increase during the pandemic, but this increase is still lower than the 3.6% rise in employment between 2006 to 2016.

Table 3-1: Township Employment Statistics between 2006 to 2021

	2006	2016	2021
Participation Rate	66%	59%	59%
Employment Rate	63%	55%	54%
Unemployment Rate	3.6%	7.2%	9.9%

A comparison of top industries employing the labour force in the Township, District and the Province is provided in Table 3-2. Relative to the District and the Province, the Township's labour force has a greater proportion of employees in the construction industry. There is also a higher proportion of Township residents in the arts, entertainment and recreation labour force compared to other areas due to the greater tourist attractions offered.

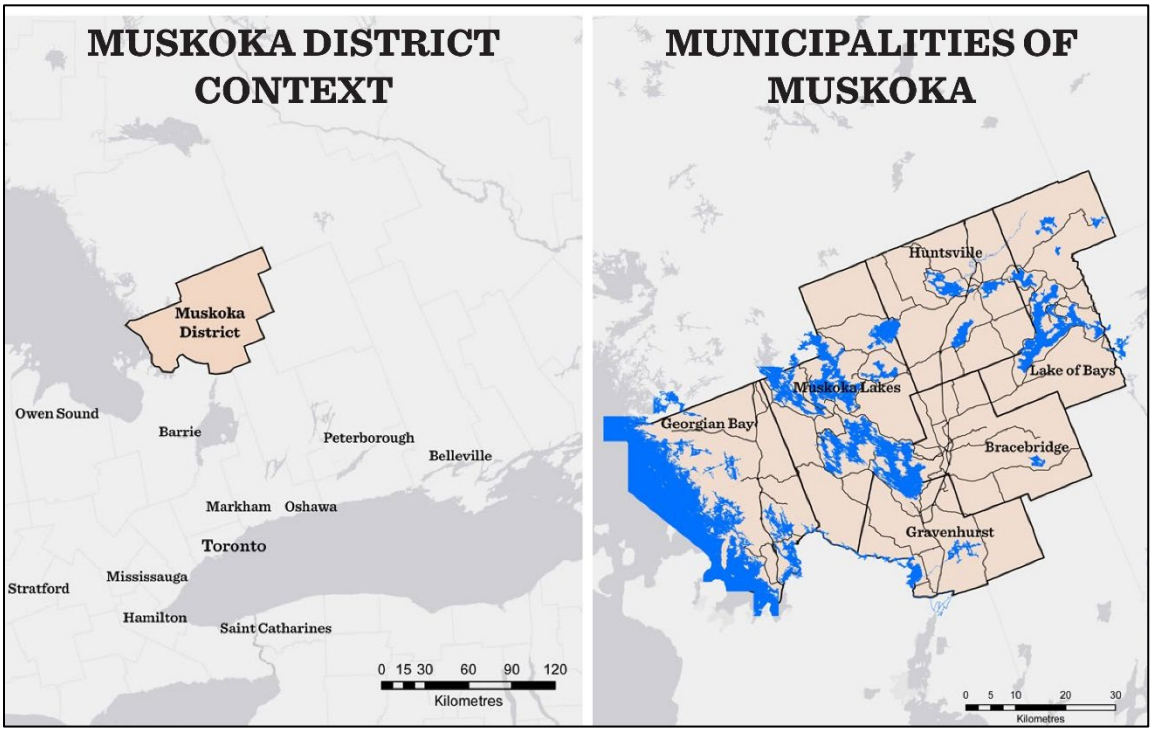
Table 3-2: Comparison of Most Employed Labour Force by Industry (2021)

	Township of Muskoka Lakes	District of Muskoka	Province of Ontario
Construction	22%	17%	7%
Retail Trade	13%	14%	11%
Accommodation and food services	6%	7%	5%
Arts, entertainment, and recreation	5%	3%	2%
Administrative and support, waste management and remediation services	6%	6%	5%
Health Care	7%	11%	12%
Real estate and rental and leasing	5%	3%	2%
Other	34%	39%	56%

3.4 Land Use Structure

The Township of Muskoka Lakes is situated within the District of Muskoka, which is comprised of six lower-tier municipalities—Town of Huntsville, Town of Bracebridge, Town of Gravenhurst, Township of Muskoka Lakes, Township of Lake of Bays and Township of Georgian Bay—as illustrated in Figure 3-2. The Township of Muskoka Lakes has an interspersed population within a community structure consisting of the waterfront, urban centers, resort villages, communities, and rural areas. These areas are described briefly below and illustrated in Figure 3-3. Details and policies that govern each type of land use can be found in the Township's Official Plan.

Figure 3-2: District of Muskoka Lower-Tier Municipalities



Source: Agriculture in Muskoka; Tools for a Sustainable Future (Ryerson University School of Urban and Regional Planning, 2011)

3.4.1 Waterfront

Waterfront designations are generally represented by islands and lands nearby any standing waterbody greater than 8 hectares in area, along with any major river and/or waterbody forming part of the District's recreational water quality monitoring program. The Waterfront setting consist of open space and low-density residential land uses on mainland and island shorelines, interspersed with some commercial development.

3.4.2 Urban Centers

Urban Centres are defined as areas that provide a nucleus for community facilities and services at a more intensive level and at higher densities than expected in a community and provide a greater range of housing opportunities. Port Carling and Bala are identified as Urban Centres.

3.4.3 Resort Village

Minett is identified as a Resort Village, which is a planned community in which the focus of use is for season tourist commercial recreational resort and related commercial activities.

3.4.4 Communities

Areas designated as Communities are existing settlements which function as small-scale residential notes and, to varying degrees, serve as focal points for commercial, industrial, institutional, and recreational activities which serve a wider area. Communities of Muskoka Lakes include Foot's Bay, Glen Orchard, Milford Bay, Torrance, and Windermere. A key distinction between the Township's Urban Centres and Communities is the provision of municipal water and sewer services and the communities' lack thereof.

3.4.5 Rural

Rural designation shall be defined as all lands not defined, designated, or mapped as a part of the Waterfront, Urban Centres or Community designations.

Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

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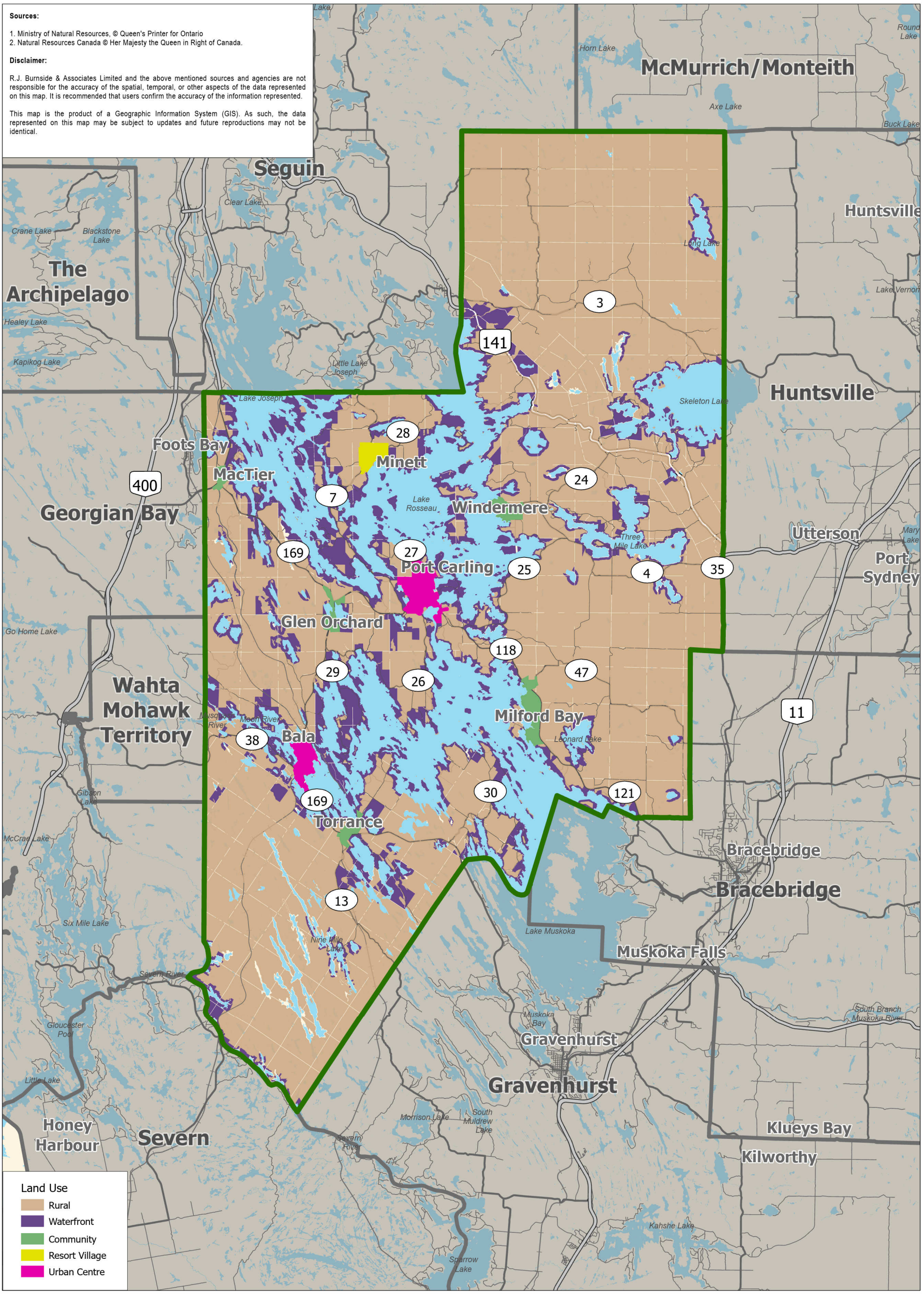

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Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

N
Grid North

0 2 4 6 8 10 12 14 16
Kilometers
1:200,000

BURNSIDE

Client
TOWNSHIP OF MUSKOKA LAKES

Map Title
LAND USE CONTEXT

FIGURE 3-3

4.0 Existing Transportation Conditions

This section describes the existing transportation conditions. The Township's transportation network includes roads, bridges, active transportation, transit, and snowmobile trails. Mobility characteristics such as the Township residents' travel patterns and seasonal fluctuations are assessed to understand how and when this transportation system is being used.

4.1 Travel Modes

The following sections identify key elements of the existing transportation system within the Township.

4.1.1 Roads

In the Township of Muskoka Lakes, roads are maintained and operated by the Ministry of Transportation Ontario (MTO), District of Muskoka, Township of Muskoka Lakes, or property owners maintaining roads on Township or private road allowances.

Highway 400, Lake Joseph Road, and Highway 141 forms the provincial network within and near the Township, serving as higher-order facilities that transport a greater traffic throughput at higher speeds. Highway 400 is located west of the Township boundary, providing connections south to Barrie and Toronto and north to Parry Sound. It also services Lake Joseph Road through the Foot's Bay community. Highway 141 traverses through the northeast area of the Township and connects to Highway 400 to the west and Highway 11 to the east.

Within the Township boundary, there are approximately 185 km of roads under the jurisdiction of the District and 356 km of roads operated by the Township. The road network and respective jurisdictions within the Township are illustrated in Figure 4-1.

Sources:

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2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

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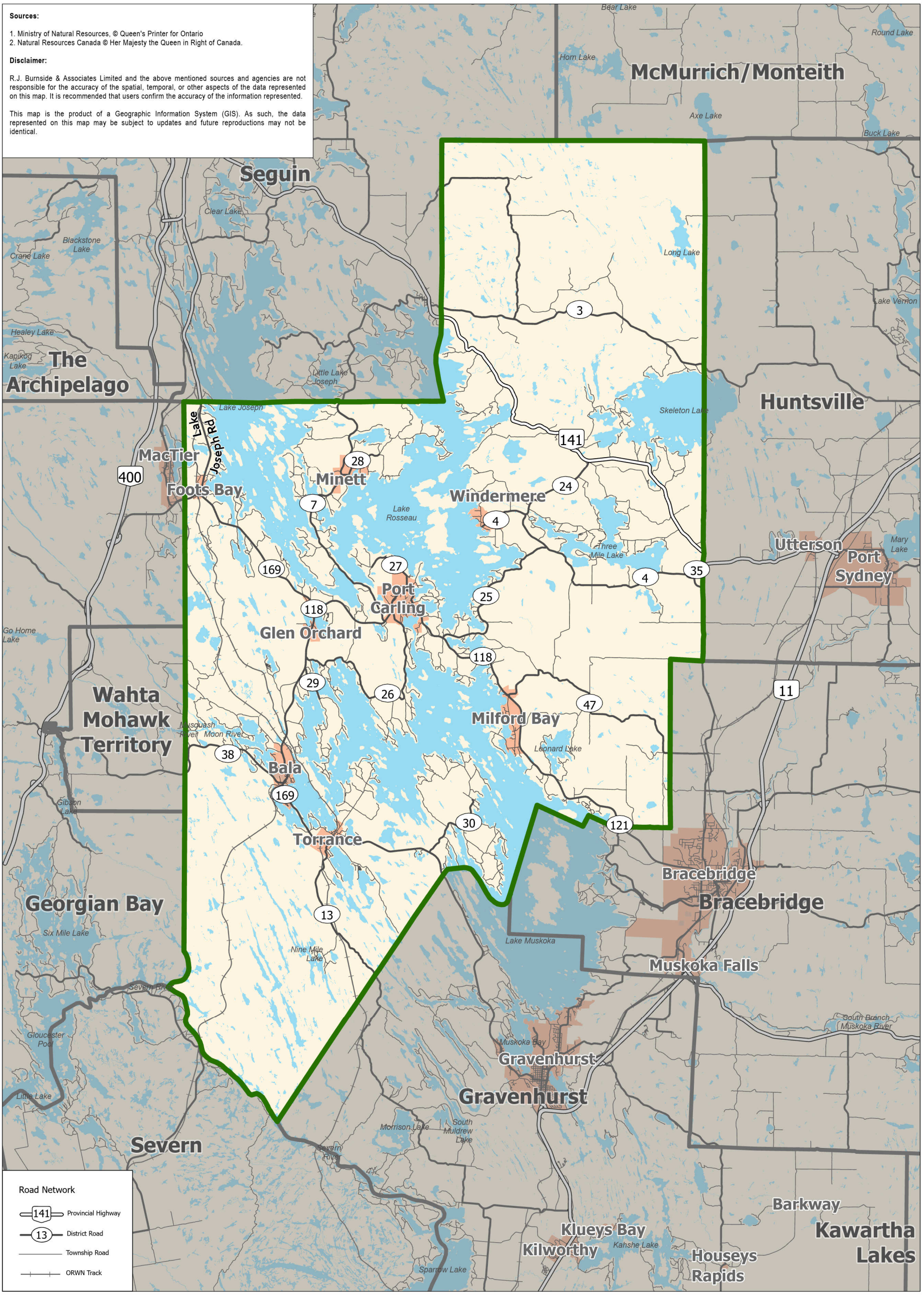

Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

N
Grid North

0 2 4 6 8 10 12 14 16
Kilometers
1:200,000

BURNSIDE

Map Title

ROAD NETWORK

Client

TOWNSHIP OF MUSKOKA LAKES

FIGURE 4-1

4.1.2 Parking

The Township's parking supply includes municipal on-street and off-street spaces, along with parking facilities offered at community centres, beaches and parks, and lake accesses. The Township's parking facilities consist primarily of off-street lots. The majority of on-street parking spaces are provided in Port Carling and Bala. On-street parking spaces are estimated to make up approximately 8% of the total parking supply within Muskoka Lakes.

The Township operates five municipal lots in Port Carling and eight municipal lots in Bala, offered free of charge. Parking facilities in the downtown core of these communities are subject to a 3-hour limit per stay on weekdays and 6-hour limit on weekends.

The existing parking supply is illustrated as a density map in Figure 4-2.

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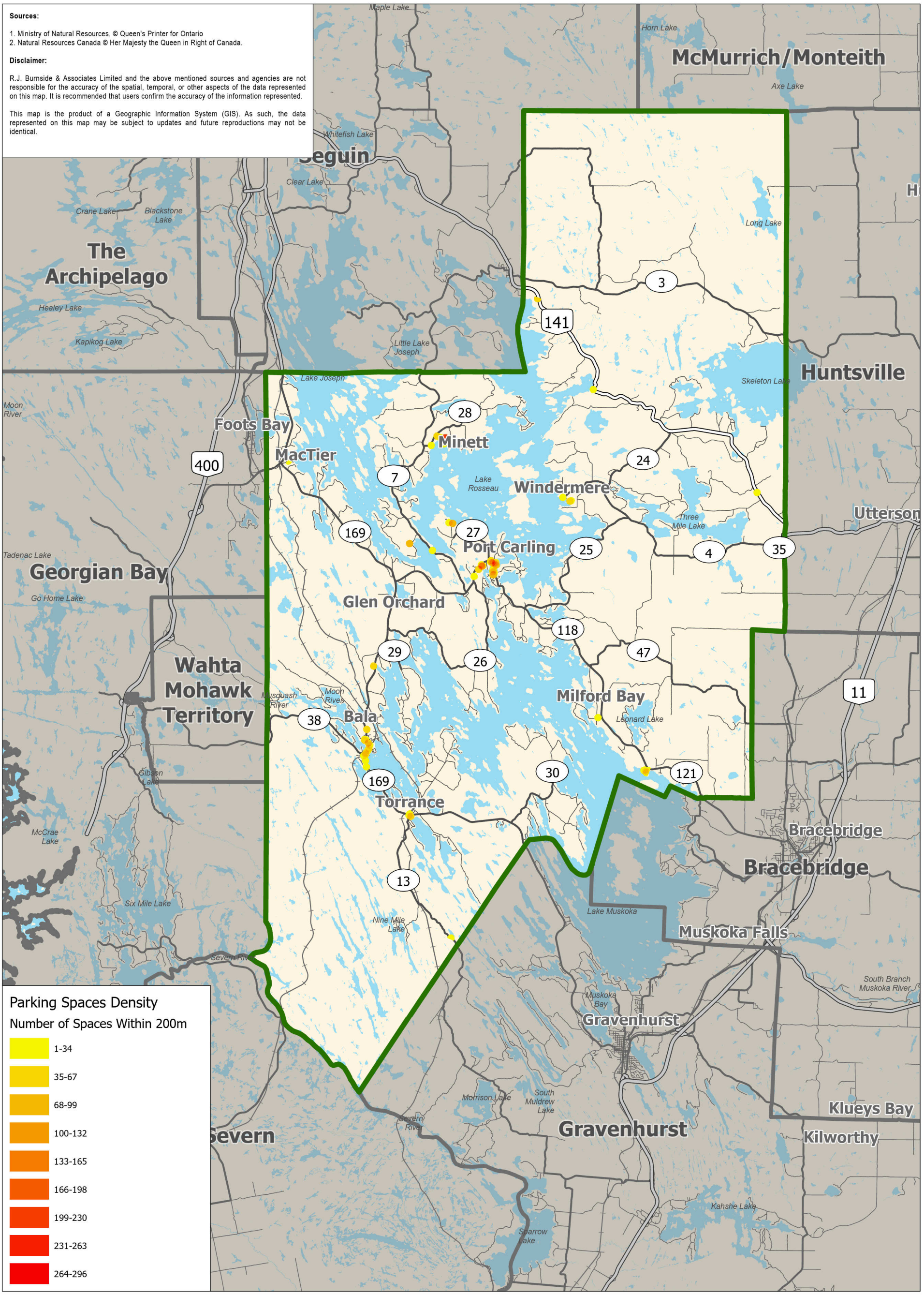

Parking Spaces Density

Number of Spaces Within 200m

- 1-34
- 35-67
- 68-99
- 100-132
- 133-165
- 166-198
- 199-230
- 231-263
- 264-296

Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

Grid North

0 2 4 6 8 10 12 14 16

Kilometers

1:200,000

BURNSIDE

Map Title

EXISTING PARKING SUPPLY

Client

TOWNSHIP OF MUSKOKA LAKES

FIGURE 4-2

4.1.3 Bridges

There are a total of 21 bridges within the Township, along with two pedestrian bridges. This includes 13 Township-owned bridge structures and 8 culverts that were surveyed to span a length greater than 3 m. A summary of the bridge inventory is provided in Table 4-1. The majority of the existing bridges are one-way only, which requires drivers to yield as the width only allows for one vehicle to use the bridge at a time. The average annual daily traffic (AADT) along these bridges currently do not exceed 750 vehicles per day. Posted speeds near these bridges range from 40 km/h to 80 km/h.

Table 4-1: Bridge Inventory Summary

Structure Name	Area (m^2)	Deck Length (m)	Width (m)	Road	AADT	Speed Limit (km/hr)	No. of Lanes
Bala – Muskoka River	266	38	7	Bala Falls Road	140	40	1
Medora Lake Road Bridge	55	11	5	Medora Lake Road	150	80	1
Milford Bay Bridge	56	8	7	Milford Bay Road	525	40	2
Beaumaris Island Bridge	304	38	8	Beaumaris Road	750	40	2
Doherty Road Bridge	45	9	5	Doherty Road	120	80	1.5
Dee River Bridge	125	25	5	Rostrevor Road	170	80	1
Rosseau Lake Rd 3 Bridge	55	11	4	1.6 km south of District Road 141	140	80	1
Rosseau River Bridge	60	15	4	2.25 km east of Gross Road	50	60	1
Beatrice Townline Bridge No. 1	40	5	8	2.4 km west of Muskoka Road 4	140	80	2
Island Park Road Bridge	75	15	5	0.5 km north of Stephen Road	120	50	1.5
Clear Lake Road Bridge	30	6	5	2 km east of Muskoka Road 13	140	40	1
Bala Bay Dock Bridge	188	47	4	50 m south of Gordon Street	50	50	1
Herman Tibble Road Bridge	86	13	6.5	Herman Tibble Road	40	80	2
Bear Cave Road Bridge	62	8	8	South of Draycott Lake Road	70	80	2
Beatrice Townline Bridge	90	15	6	1.4 km north of Muskoka Road 47	140	80	2

Structure Name	Area (m^2)	Deck Length (m)	Width (m)	Road	AADT	Speed Limit (km/hr)	No. of Lanes
Beatrice Townline Culvert	169	28	6	0.7 km north of Muskoka Road 47	140	80	2
Dark Bay Road Bridge	82	16.5	5	Dark Bay Road	60	80	1
Fish Hatchery Road Bridge	213	30.5	7	North of Bower Lane	170	40	2
Gross Road Bridge	202	27	7.5	West of Aspdin Road	60	80	2
Hekkla Road Bridge	128	25.5	5	Hekkla Road	50	60	1.5
Milford Bay Road Bridge	67	9.5	7	0.5 km north of Beaumaris Road	590	40	2

Sources: Township of Muskoka Lakes and Township Bridge Needs Study 2019 (Tatham Engineering Ltd.)

4.1.4 Active Transportation

Active transportation infrastructure allows Township residents and tourists to use self-propelled modes of transportation requiring human energy such a walking and cycling. These modes help to promote sustainable transportation and is supported in the Provincial Policy Statement as an important component to a multi-modal transportation system.

The Township's active transportation network consists of a mix of sidewalks, off-road trails, and paved shoulders. Although the vast majority of paved shoulders are operated and maintained by the District. The existing trail network within the Township is shown in Figure 4-3.

Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
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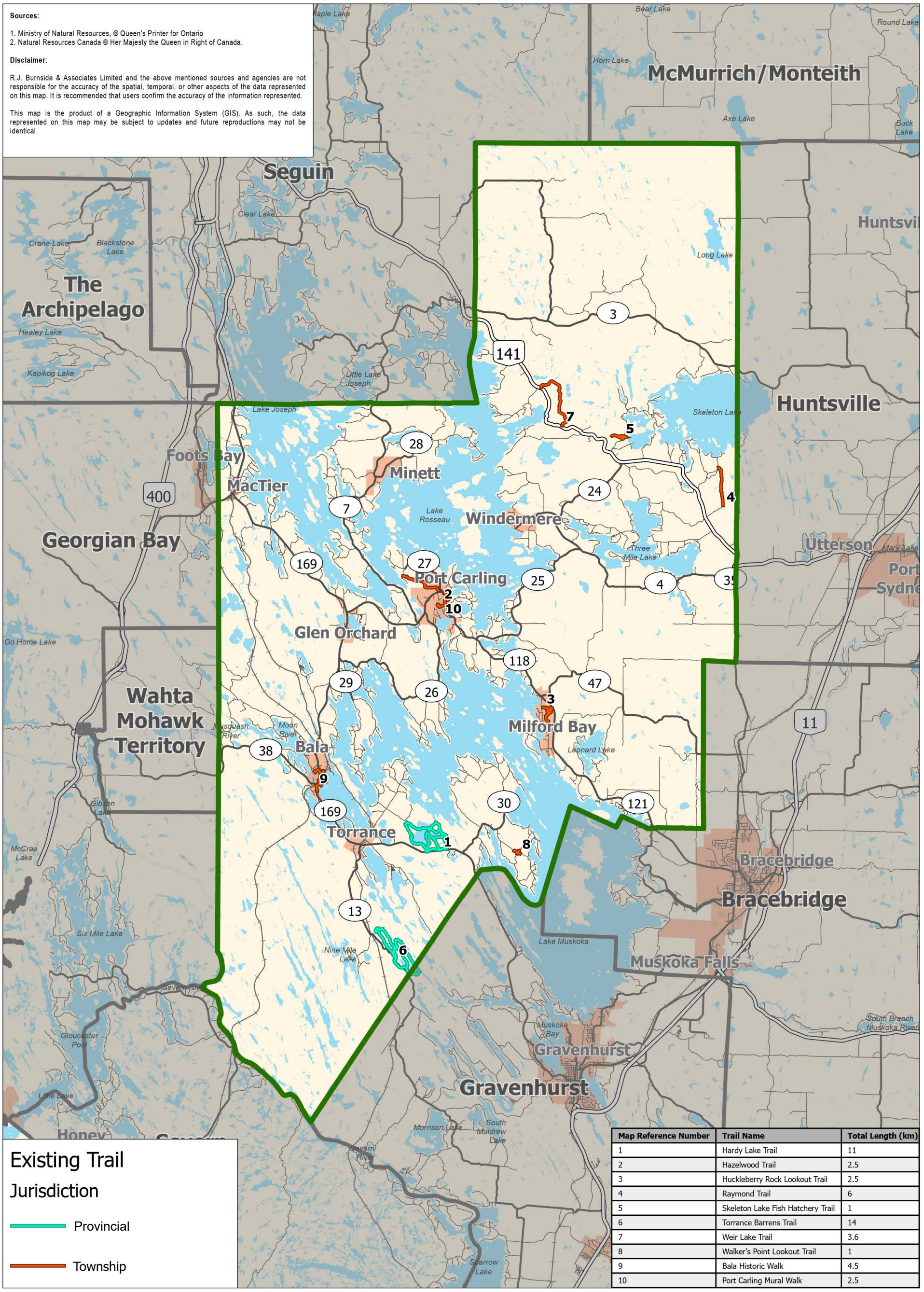

Existing Trail

Jurisdiction

- Provincial
- Township

Map Reference Number	Trail Name	Total Length (km)
1	Hardy Lake Trail	11
2	Hazelwood Trail	2.5
3	Huckleberry Rock Lookout Trail	2.5
4	Raymond Trail	6
5	Skeleton Lake Fish Hatchery Trail	1
6	Torrance Barrens Trail	14
7	Weir Lake Trail	3.6
8	Walker's Point Lookout Trail	1
9	Bala Historic Walk	4.5
10	Port Carling Mural Walk	2.5

Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

Grid North

0 2 4 6 8 10 12 14 16

Kilometers 1:200,000

BURNSIDE

Client

TOWNSHIP OF MUSKOKA LAKES

Map Title

EXISTING TRAIL NETWORK

FIGURE 4-3

4.1.5 Transit

The District of Muskoka initially operated two Rural and Community Connection Routes within the Township, including the Mactier/Huntsville bus which travelled through or near the communities of Footy's Bay, Glen Orchard, Port Carling and Milford Bay and the Midland/Bracebridge route, which serviced the communities of Bala and Torrance. These transit services were recently concluded in September 2023 to transition to a demand-responsive system, per the direction of the District's Community and Planning Services committee. At the time of this study, District staff are actively working to develop a demand responsive transit system and while a specific launch date is yet to be determined, staff anticipate that the program will begin in 2024.

The Canadian Red Cross also offers a pre-booking transportation service for older adults and adults with disabilities in the Township who cannot access public transportation in the Simcoe-Muskoka area. This service is only offered to residents of South Muskoka or Simcoe County north of Highway 89, excluding Orillia residents. This service provides affordable transportation so social gatherings, shopping, and medical and essential travel. Red Cross connects users to volunteer drivers with their own vehicles, as well as wheelchair accessible vans.

4.1.6 Lake Access

Lake travel serves as the primary access to island properties and an alternative mode for travelling between properties and to commercial locations within the District. The Township of Muskoka Lakes offers a number of municipal docks, boat launches, and lake access points for all residents and visitors to enjoy Muskoka's clear waters.

Within the Township, there are 42 lake access points, each of which may include a municipal dock, boat launch ramp, parking area, trail access or a combination thereof. These public accesses service the following major lakes or river in descending order of size:

- Lake Muskoka (89 km^2)
- Lake Rosseau (55 km^2)
- Lake Joseph (55 km^2)
- Skeleton Lake (21 km^2)
- Three Mile Lake (8.7 km^2)
- Long Lake (5.8 km^2)
- Nine Mile Lake (2.3 km^2)
- Leonard Lake (2.0 km^2)
- High Lake (1.6 km^2)
- Clear Lake (<1 km^2)
- Brandy Lake (<1 km^2)

- Moon River (35 km in length)

The Township's Official Plan recognizes that the three largest lakes—Lake Muskoka, Rosseau and Joseph—have a different built form and building types compared to the smaller lakes.

A lake access location inventory is provided in Table 4-2, including respective facilities provided, parking and land use restrictions as per the Township By-law 2003-29 (By-law), and a map reference corresponding to Figure 4-4.

In general, Township docks are restricted for the use of loading and unloading of people and materials only. However, select lake accesses allow for parking by permit as noted in the table below. Overnight parking at a dock between the hours of 11 PM to 7 AM is generally prohibited, unless otherwise specified in the By-law. Storage of materials for a consecutive period of over 8 hours is also prohibited.

Select lake accesses also serve a commercial functionality whereby commercial boats that generate revenue (e.g., via the transport of people or goods), regardless of its size, may use waterbody access facilities. Locations designated as "Limited Commercial Use" restricts the size of the commercial boats to a certain size.

Some accesses are operated and managed by "Wharf Managers", which refer to an individual or corporation that is responsible for operating and managing select docks on behalf of the Township or Township By-law Officer.

The Township By-law also details user fees and regulations, including parking and the storage of materials, for the use of public docks and ramps. Refer to the By-law for more information.

Table 4-2: Lake Access Locations

Map Ref. No.	Access Lake	Name	Address	Community	Facilities	Parking Over 4 Hours by Permit at Dock	Commercial Use	Limited Commercial Use
1	Lake Muskoka	Acton Island Road	1712 Acton Island Road	Acton Island	Dock Parking			✓
2	Lake Muskoka	Acton Island East Dock, Innisfree Road	1295 Innisfree Road	Acton Island	Dock			✓
3	Lake Muskoka	Bala Bay	1018 Gordon Street	Bala	Dock			✓
4	Lake Muskoka	Weismiller Street, Bala	1061 Weismiller Street	Bala	Dock Launching Ramp Parking			✓
5	Lake Muskoka	Windsor Park	3040 Muskoka Road 169	Bala	Lake Access Dock	n/a	n/a	n/a
6	Lake Muskoka	Beaumaris	1216 Beaumaris Road (operated by Warf Manager)	Beaumaris	Dock	n/a	n/a	n/a
7	Lake Muskoka	Baycliffe / Milford Bay	1148 Milford Bay Road	Milford Bay	Dock Launching Ramp Parking		✓	✓
8	Lake Muskoka	Breezy Pines, Milford Bay / Todern Island	1071 Beaumaris Road	Milford Bay	Lake Access Dock	✓	✓	✓
9	Lake Muskoka	Centre Milford Bay	1541 Butter and Egg Road	Milford Bay	Lake Access	n/a	n/a	n/a
10	Lake Muskoka	The Tom Wroe Road	The Tom Wroe Road	Milford Bay	Dock			✓
11	Lake Muskoka	Church Road / Church Point, Milford Bay	1008 Church Dock Road	Milford Bay	Dock Launching Ramp		✓	✓
12	Lake Muskoka	Bailey Street, Port Carling	40 Baily Street	Port Carling	Dock Launching Ramp Parking	n/a	n/a	n/a
13	Lake Muskoka	Joseph Street, Port Carling	113 Medora Street	Port Carling	Dock	n/a	n/a	n/a
14	Lake Muskoka	West Street, Port Carling	21 West Street	Port Carling	Dock Launching Ramp	n/a	n/a	n/a
15	Lake Muskoka	Whitside Dock	1152 Whiteside Road	Glen Orchard	Dock			✓
16	Lake Muskoka	Queen’s Walk Road, Torrance	1031 Queen’s Walk Road	Torrance	Dock Launching Ramp Parking			✓
17	Lake Muskoka	Whiting’s Road / Whiting’s Beach	1062 Whitings Road	Torrance	Dock Launching Ramp Parking			✓

Map Ref. No.	Access Lake	Name	Address	Community	Facilities	Parking Over 4 Hours by Permit at Dock	Commercial Use	Limited Commercial Use
18	Lake Muskoka	Ann Street	1007 Ann Street	Walker's Point	Launching Ramp	n/a	n/a	n/a
19	Lake Joseph	McDonalds Road, Foot's Bay	1040 McDonald Road (operated by Wharf Manager)	Foot's Bay	Dock Launching Ramp	✓	✓	✓
20	Lake Joseph	Appian Way, Glen Orchard	1026 Appian Way	Glen Orchard	Dock Launching Ramp		✓	✓
21	Lake Joseph	Carlingford Road, Minett	1264 Carlingford Road, Unit 5	Minett	Dock		✓	✓
22	Lake Joseph	Gregory Road, Minett	1830 Peninsula Road, Unit 3	Minett	Dock		✓	✓
23	Lake Rosseau	Dock Road / Muskoka Road #25, Brackenrig	1033 Dock Road	Brackenrig	Dock		✓	✓
24	Lake Rosseau	Dawson Road / Brackenrig Road	1280 Dawson Road	Brackenrig	Lake Access	n/a	n/a	n/a
25	Lake Rosseau	Adams Bay / Birch Avenue, Port Carling	1021 Birch Avenue	Port Carling	Dock Launching Ramp Parking		✓	✓
26	Lake Rosseau	Boyce Road	1065 Boyce Road	Port Carling	Dock	n/a	n/a	n/a
27	Lake Rosseau	Gull Rock	Gull Rock, Rosseau Lake Road 2	Gull Rock	Dock Launching Ramp			✓
28	Lake Rosseau	Skeleton Bay, Hwy #141	4023 Highway 141	Ullswater	Dock Launching Ramp Parking		✓	✓
29	Lake Rosseau	Maple Leaf Bay, Windermere	1007 Maple Leaf Bay Road (operated by Wharf Manager)	Windermere	Dock	✓		
30	Lake Rosseau	Windermere / Muskoka Road #4	2510 Windermere Road (operated by Wharf Manager)	Windermere	Dock	✓	✓	✓
31	Clear Lake	Clear Lake	1132 Clear Lake Road	Torrance	Launching Ramp	n/a	n/a	n/a
32	Moon River	Portage Street, Bala	1011 Portage Street, Unit 8	Bala	Dock	n/a	n/a	n/a
33	Moon River	River Street, Bala	1017 River Street	Bala	Launching Ramp			
34	Long Lake	Muskoka Road #169	2871 Muskoka Road 169, Unit 3	Bala	Dock Launching Ramp	n/a	n/a	n/a
35	Skeleton Lake	Simms Road, Ullswater	1115A Bert Simms Road	Ullswater	Dock			✓
36	Skeleton Lake	Skeleton Lake Road 3 / Highway #141	1002 Skeleton Lake Road 3	Ullswater	Dock Launching Ramp Parking		✓	✓
37	Skeleton Lake	Skeleton Lake Road 2 / Wilson's Lodge	1254 Skeleton Lake Road 2	Ullswater	Dock			✓
38	Three Mile Lake	Shea Road, Ufford	1184 Shea Road	Ufford	Dock Launching Ramp			✓

Map Ref. No.	Access Lake	Name	Address	Community	Facilities	Parking Over 4 Hours by Permit at Dock	Commercial Use	Limited Commercial Use
39	Leonard Lake	Muskoka Road #118	2008 Muskoka Road 118	Milford Bay	Dock Launching Ramp Parking	n/a	n/a	n/a
40	Nine Mile Lake	Muskoka 13 / Nine Mile Lake Road	1201 Nine Mile Lake Road	Torrance	Dock Launching Ramp Parking		✓	✓
41	Brandy Lake	Pickerel Lane	1010 Pickerel Lane	Brackenrig	Dock Launching Ramp Parking	n/a	n/a	n/a
42	High Lake	Fish Hatchery Road	Bower Lane	-	Dock Launching Ramp Parking	n/a	n/a	n/a

Sources:

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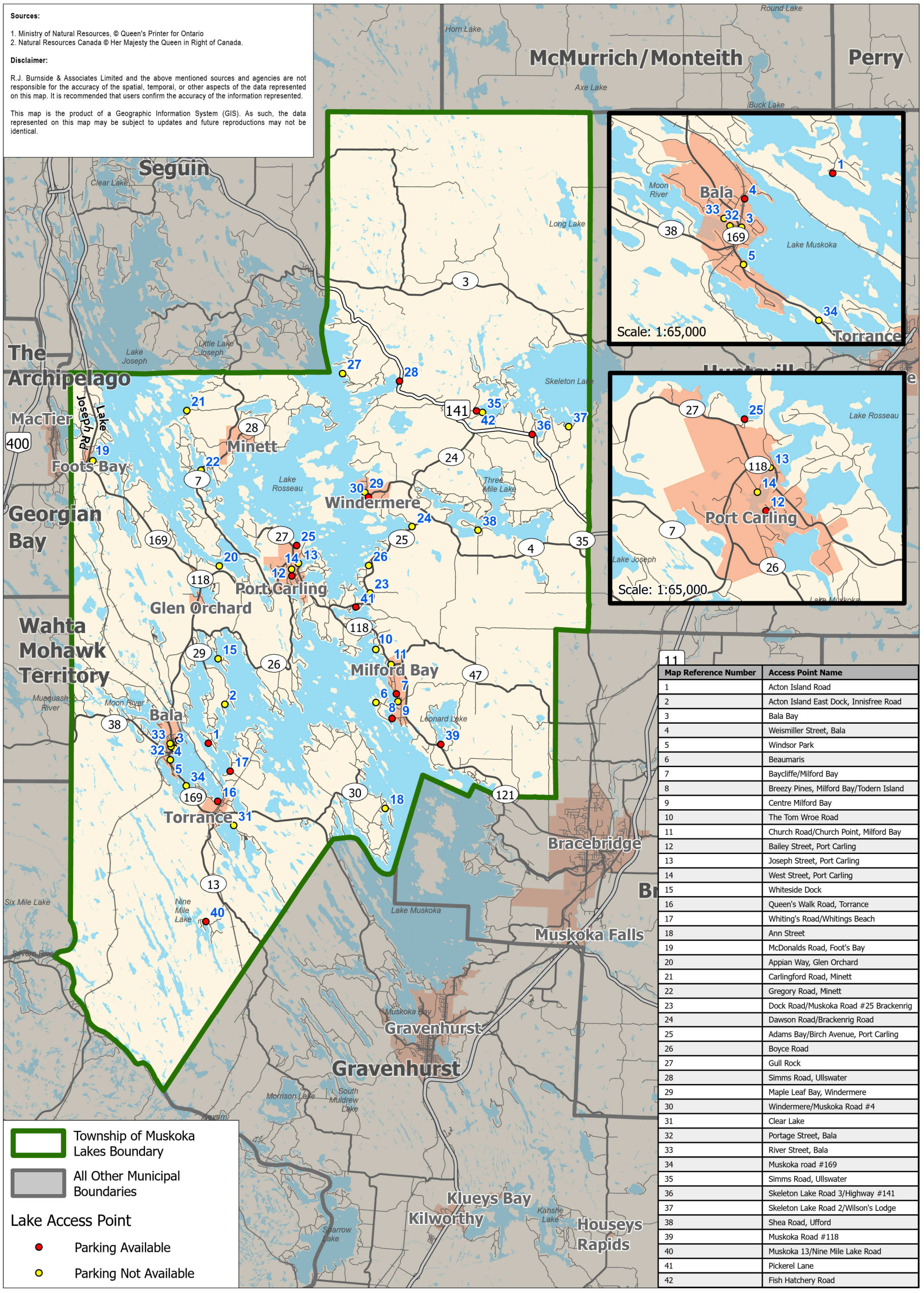

Map Reference Number	Access Point Name
1	Acton Island Road
2	Acton Island East Dock, Innisfree Road
3	Bala Bay
4	Weismiller Street, Bala
5	Windsor Park
6	Beaumaris
7	Baycliffe/Milford Bay
8	Breezy Pines, Milford Bay/Todern Island
9	Centre Milford Bay
10	The Tom Wroe Road
11	Church Road/Church Point, Milford Bay
12	Bailey Street, Port Carling
13	Joseph Street, Port Carling
14	West Street, Port Carling
15	Whiteside Dock
16	Queen's Walk Road, Torrance
17	Whiting's Road/Whitings Beach
18	Ann Street
19	McDonalds Road, Foot's Bay
20	Appian Way, Glen Orchard
21	Carlingford Road, Minett
22	Gregory Road, Minett
23	Dock Road/Muskoka Road #25 Brackenrig
24	Dawson Road/Brackenrig Road
25	Adams Bay/Birch Avenue, Port Carling
26	Boyce Road
27	Gull Rock
28	Simms Road, Ullswater
29	Maple Leaf Bay, Windermere
30	Windermere/Muskoka Road #4
31	Clear Lake
32	Portage Street, Bala
33	River Street, Bala
34	Muskoka road #169
35	Simms Road, Ullswater
36	Skeleton Lake Road 3/Highway #141
37	Skeleton Lake Road 2/Wilson's Lodge
38	Shea Road, Ufford
39	Muskoka Road #118
40	Muskoka 13/Nine Mile Lake Road
41	Pickerel Lane
42	Fish Hatchery Road

Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

Grid North

0 2 4 6 8 10 12 14 16
Kilometers
1:200,000

BURNSIDE

Client
TOWNSHIP OF MUSKOKA LAKES

Map Title
EXISTING LAKE ACCESSESS

FIGURE 4-4

4.1.7 Snowmobile Trails

The Ontario Federation of Snowmobile Clubs (OFSC) is a volunteer-led not-for-profit association that provides the voice for organized snowmobiling in the Province of Ontario. OFSC Prescribed Trails are recognized in Ontario as the only approved recreational trails for snowmobiles. They allow snowmobiles that are displaying a valid Snowmobile Trail Permit to legally cross the property of private landowners during the winter months on a designated OFSC trail.

OFSC's trail system contains over 30,000 km of recreational trails in which approximately 16,000 km is a border-to-border trail system called the Trans Ontario Provincial (TOP)) Trails. TOP Trails are the backbone of the network which exists because of a $21 million partnership between the Province of Ontario and the OFSC. This partnership led to the creation of a program called the Snowmobile Trail Rehabilitation and Construction (SNO-TRAC).

OFSC is responsible for grooming and preparing their snowmobile trails to ensure the safety of riders. The hierarchy of the OFSC trail system includes the following:

- Trunk Trail: Multi-district routes that provides connections across the province
- Feeder Trails: Connects communities and local trails to Trunk Trails

Within the Township, there are currently active snowmobile trails around most of Lake Muskoka and along the west and north side of Lake Joseph. The OFSC maintains an interactive online map through their website. As routes change year to year based on snow conditions and maintenance activities, OFSC maintains this website regularly to update active and inactive trails.

4.2 Mobility Characteristics

A review of typical travel (origin-destination) patterns was conducted using 2021 Census and data from "StreetLight Data", which is a big data transportation provider that harnesses information from several sources such as navigation-GPS data and Location-Based services data to capture travel patterns.

The Township area was disaggregated into the zonal system illustrated in Figure 4-5 for the purposes of analysis and deriving travel characteristics on a community-level.

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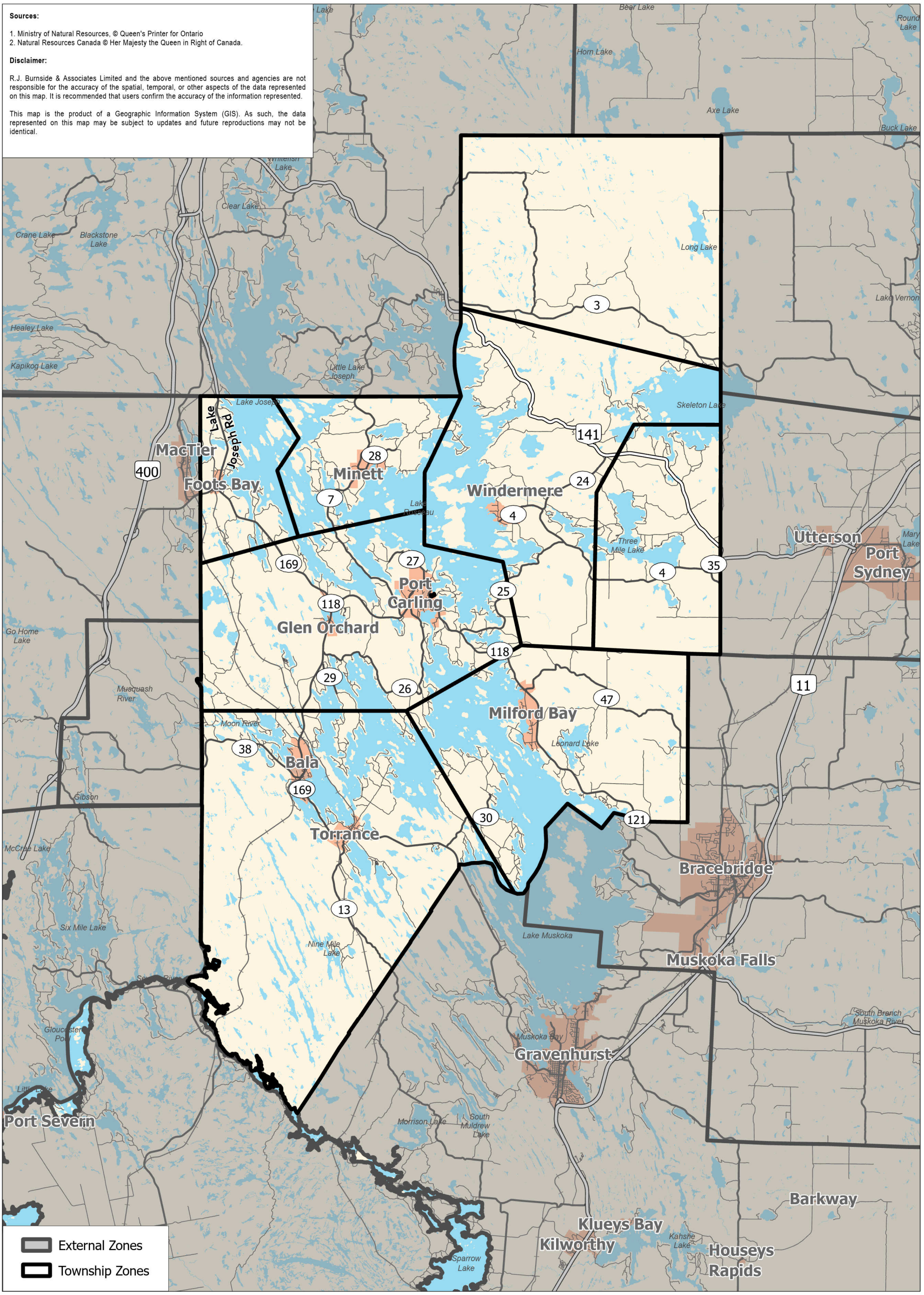

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Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

Grid North

0 2 4 6 8 10 12 14 16

Kilometers 1:200,000

BURNSIDE

Client

TOWNSHIP OF MUSKOKA LAKES

Map Title

STREETLIGHT ZONE SYSTEM

FIGURE 4-5

4.2.1 Pandemic Impacts

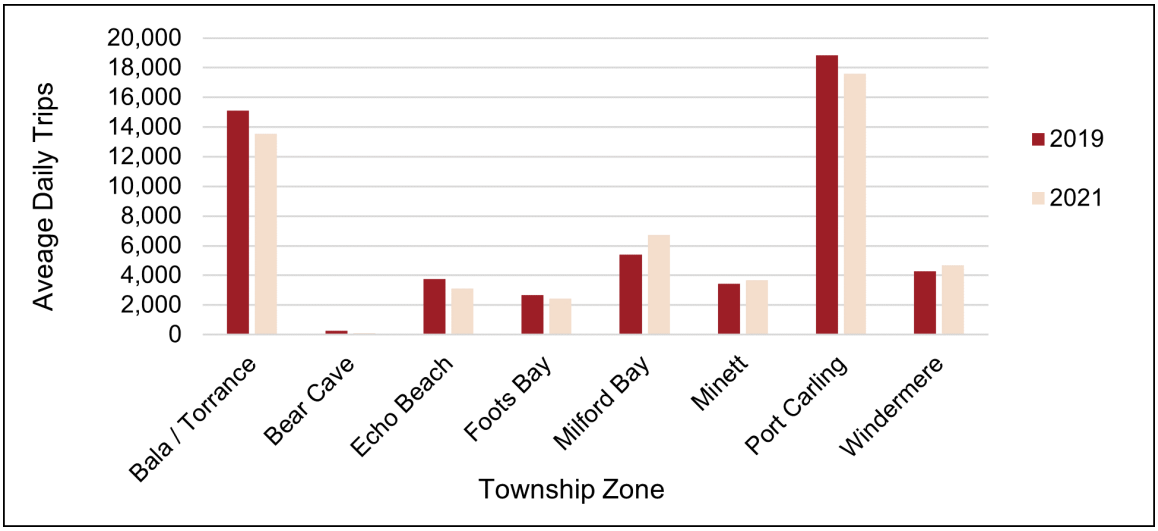
The COVID-19 pandemic marked the disruption associated with human mobility, with individuals forced to re-evaluate their mode and frequency of transportation. Since the onset of the pandemic and resulting stay-at-home mandates implemented in early 2020, average monthly trips decreased by approximately 20% and public transportation witnessed a more long-term reduction of approximately 50%. In contrast, the travel frequency of active transportation has increased by 53% [1].

The magnitude of the reduction in vehicle trips has varied between geographic areas. By contrast, regions in the Greater Toronto and Hamilton Area (GTHA) have experienced significant vehicular trip reductions, into the order of 50%, the more suburban areas outside of the GTHA have been impacted by a lesser extent. This can be partly attributed to the noticeable increase in the migration of residents out of the urban core**,** as the ability to telework has given employees more flexibility in their place of residence. Between 2016 to 2021, Township of Muskoka Lakes experienced a 3% population growth per annum. Whereas historically (between 2011 to 2016), the Township had experienced a decrease in population in the magnitude of 0.4% per annum.

Figure 4-6 provides a comparison of the average pre-pandemic (2019) and post-pandemic (2021) daily trips to/from the Township. As shown, travel patterns appear to have almost, but not entirely, recovered to typical levels observed prior to the pandemic. Most Township zones experienced a decrease in average daily trips between 2019 and 2021 in the magnitude of approximately 10%, except in Milford Bay, Minett and Windemere, where an increase in average daily trips was observed. The proceeding sections present mobility characteristics based on pre-pandemic, 2019 navigation-GPS and Location-Based services data.

[1] R. Kellermann, D. S. Conde, D. Rößler, N. Kliewer and H. Dienel. “Mobility in pandemic times: Exploring changes and long-term effects of COVID-19 on urban mobility behavior.” National Library of Medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9365868/#b0050 (accessed Jan. 27, 2023).

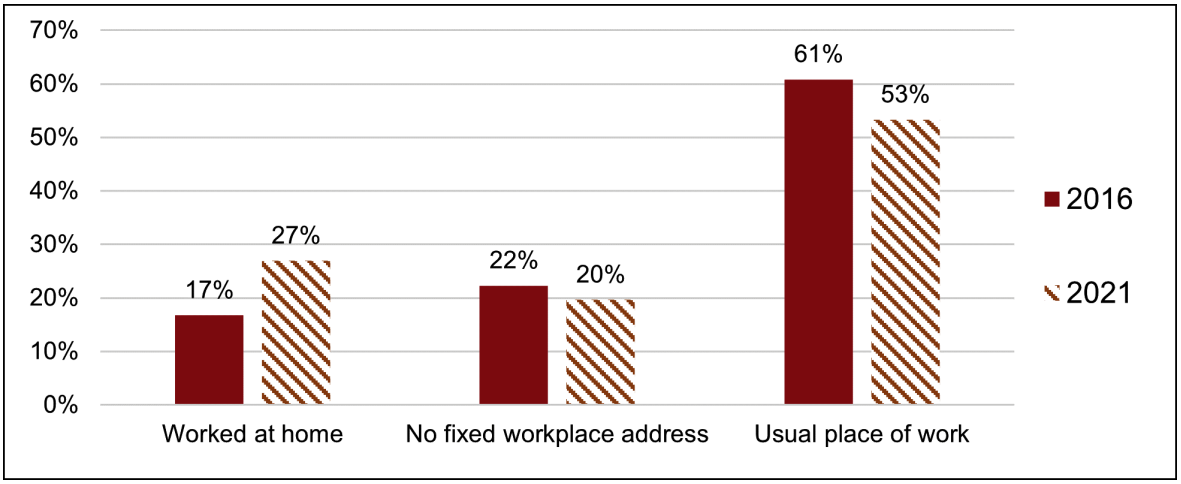
Figure 4-6: Pandemic Impact on Daily Township Trips



Source: Burnside Analysis of Street Light Data

During the pandemic, there was an evident shift to telecommuting, with the proportion of Township residents who worked from home increasing by 10% as depicted in Figure 4-7. Although this change is not as significant in comparison to areas in the GTHA. The City of Toronto, for instance, experienced a 31.5% increase in the proportion of residents that worked from home between 2016 to 2021. Although this is expected given the highly developed and urbanized context of Toronto versus the more rural/suburban, seasonal cottage-country nature of Muskoka Lakes.

Figure 4-7: Pandemic Impact on Place of Work Status for Township Residents



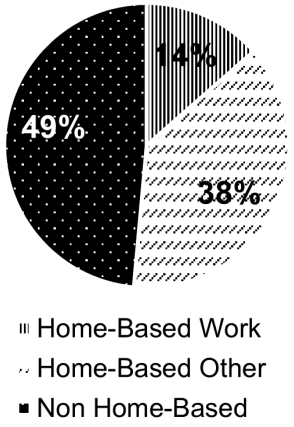
Source: 2016 and 2021 Census (Statistics Canada)

4.2.2 Trip Purpose

Determining the most common reasons for travel amongst Township residents can help inform travel behaviour and opportunities for improved connectivity. Daily trips made by Township residents were assessed and grouped into the following purposes:

- Home-based Work – Work-related trips that start or end at home.
- Home-Based Other – Trips that start or end at home and are made for a purpose other than work (e.g., school, shopping, recreational, errands, etc.)
- Non Home-Based – Other discretionary trips that do not start or end at home. For example, this can include trips between work and shopping, shopping to daycare, and others.

Figure 4-8: Township Trip Purpose Breakdown



Source: Burnside Analysis of Streetlight Data

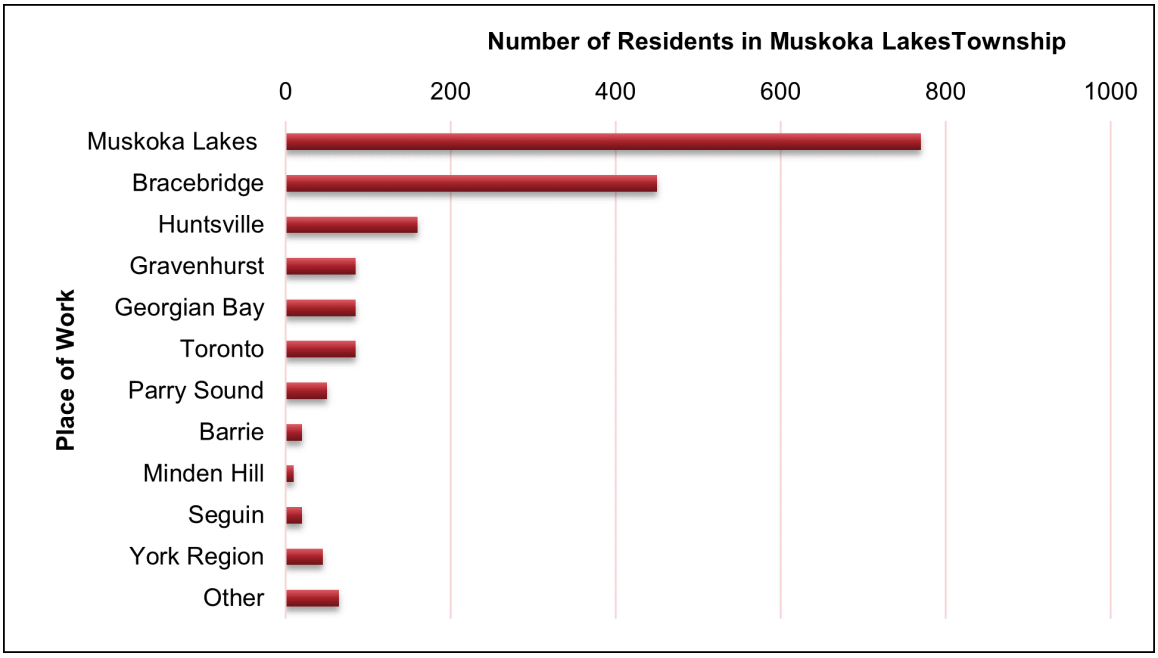
The trip purpose breakdown for trips starting from or ending in the Township is depicted in Figure 4-8. The vast majority of Township trips are driven by a seasonal / recreational demand. As shown, the vast majority (86%) of average daily trips are either home-based other or non home-based trips. This indicates a greater need to serve connections between key destinations and between residential areas and key destinations.

It is important to also highlight that those travelling to/from home may need to cross waterbodies to access island or waterfront mainland properties. This type of travel is especially unique to the Township and requires consideration for waterbody accesses as a key component of the transportation system.

Home-based work trips only make up 14% of the average daily trips to/from the Muskoka Lakes. This is lower compared to the GTHA, where the proportion of home-based work trips is about 23%. However, these home-based work trips are an important travel group to serve as they represent the most frequent trips with the most consistent routing.

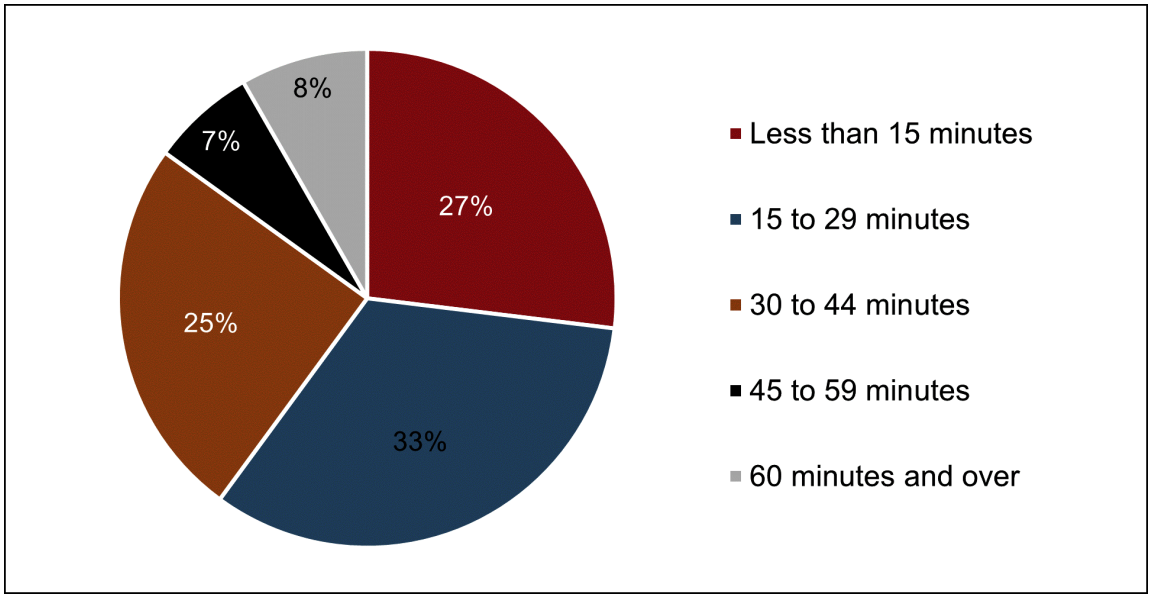
The majority (79%) of residents work within the Township or in communities of neighbouring municipalities, particularly Bracebridge, Huntsville and Gravenhurst, as shown in Figure 4-9. These commuting patterns are further exemplified by commute duration where 60% of the Township's labour force take 30 min to get to their usual place of work. The commute duration breakdown is shown in Figure 4-10.

Figure 4-9: Work Destinations of Muskoka Lakes Residents



Source: 2021 Census (Statistics Canada) – Journey to Work

Figure 4-10: Commuting Duration of the Township Employed Labour Force

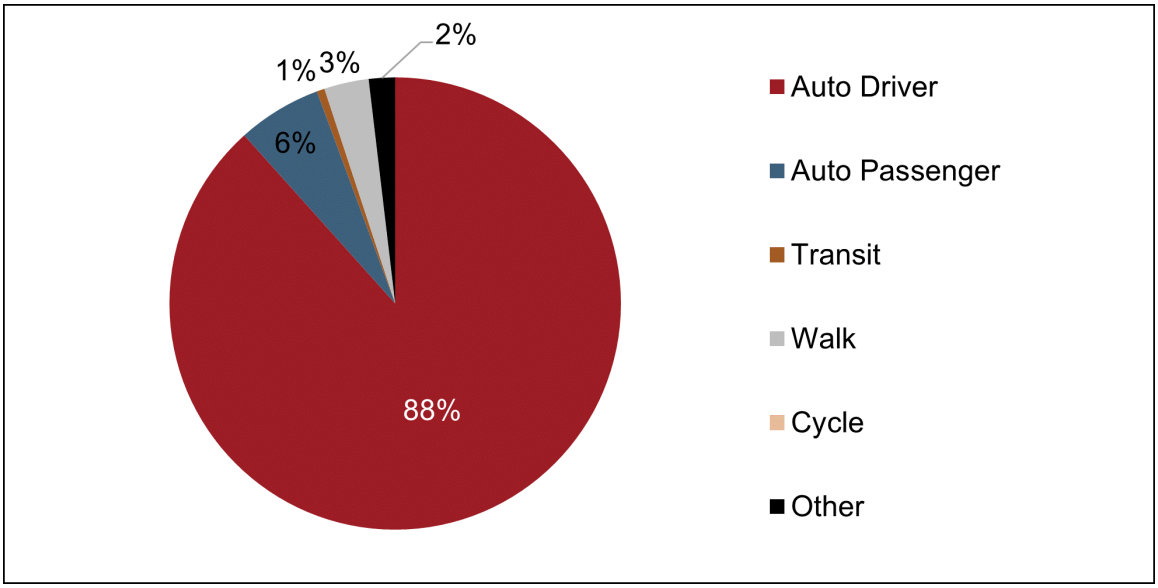


Source: 2021 Census (Statistics Canada) – Commuting Duration for the Employed Labour Force

4.2.3 Commuting Modal Split

The modal split refers to a breakdown of residents' preferred mode of travel, including the car, passenger of a car, transit, walking, cycling and others. A review of the modal split for Township residents travelling to work was conducted. The dominant mode choice to commute to work for residents of Muskoka Lakes is the vehicle. Driving or being the passenger of a vehicle comprises 94% of the mode share. Among active modes, walking is the most popular, however it still only makes up 3% of the overall mode share. No commuters were identified to cycle to work. The mode split for work commutes is illustrated in Figure 4-11.

Figure 4-11: Commuting Mode Share of Township Residents

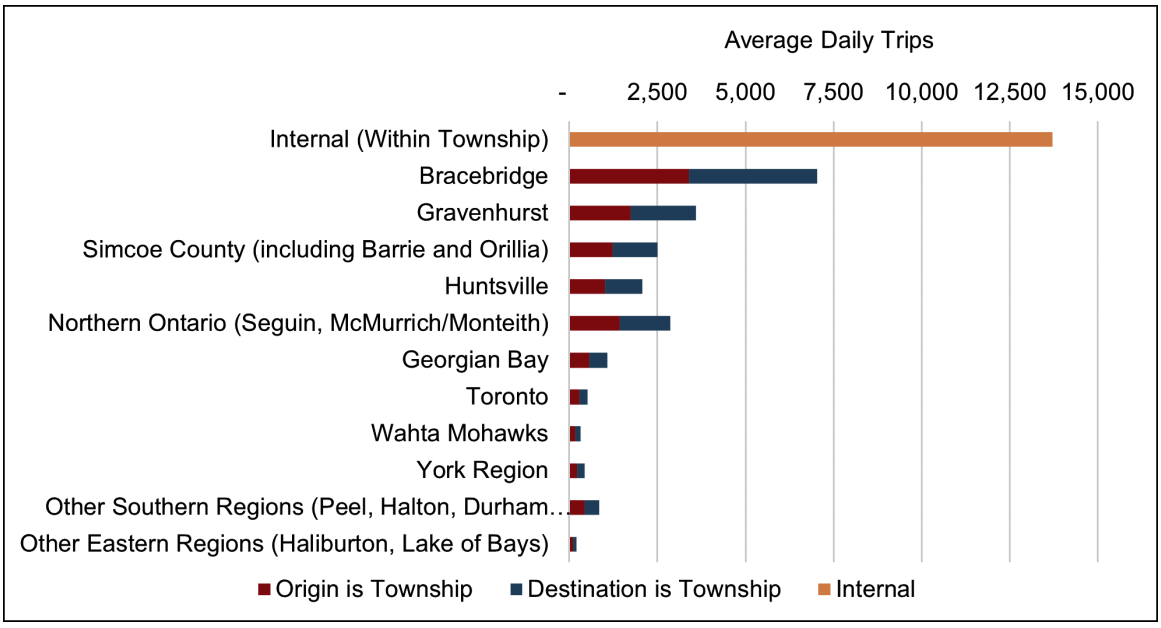


Source: 2021 Census (Statistics Canada) – Main Mode of Commuting for the Employed Labour Force

4.2.4 Origin-Destination Trips

Similar to the patterns shown in the Journey to Work data of employed Muskoka Lakes residents, a review of origin-destination trip data from the navigation-GPS and Location-Based services data indicates that the majority (78%) of average daily trips are either internal to the Township (39%) or start/end in other areas of the District (39%) including Bracebridge, Gravenhurst, Huntsville and Georgian Bay. The origin-destination trip patterns are provided in Figure 4-12.

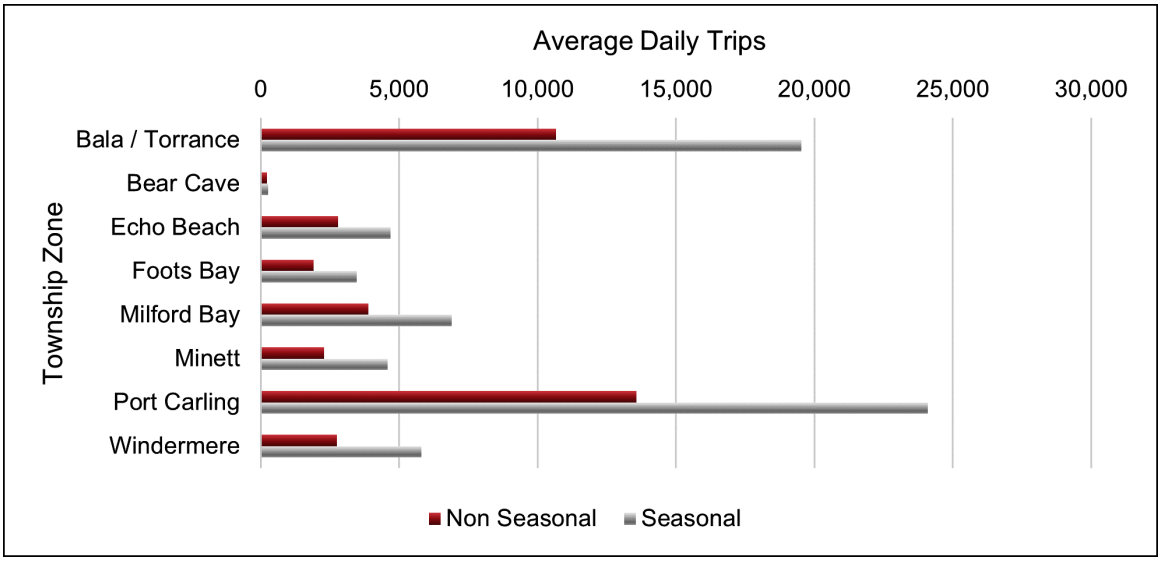
Figure 4-12: Origins and Destinations of Township Daily Trips



Source: Burnside Analysis of StreetlLight Data

Average daily trips travelling to/from Township zones are illustrated in Figure 4-13. Most daily trips are travelling to/from Port Carling and Bala/Torrance. Traffic within the Township is driven heavily by peak seasonal traffic (identified to be the summer months between May and August), which is double that of non-seasonal traffic for most of the zones within the Township.

Figure 4-13: Daily Trips Within Township Zones

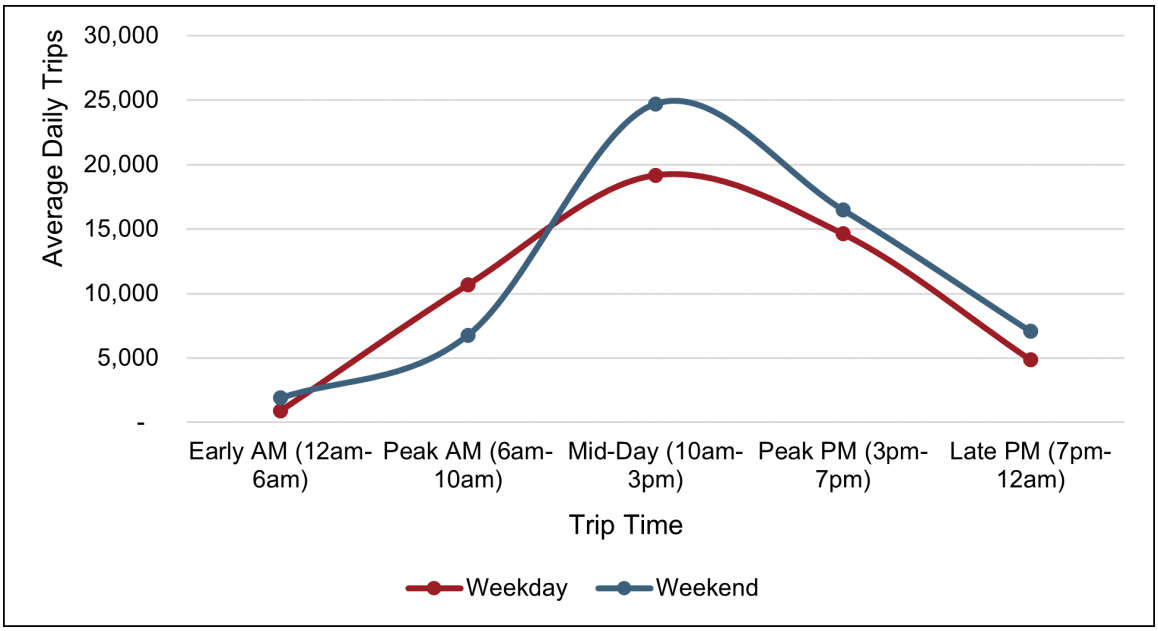


Source: Burnside Analysis of StreetlLight Data

4.2.5 Daily Traffic Fluctuations

The variation in trip times is illustrated in Figure 4-14. The daily weekday fluctuation of trips to/from the Township are different than the areas of the GTHA where there is typically trip peaking during the morning (6 AM – 10 AM) and evening (3 PM – 7 PM) periods. For the Township, trips during the weekday and weekend are primarily made during the midday (10 AM – 3 PM) period. As mentioned, the Township's traffic is not a commuter/work-driven municipality and is dictated more by the recreational or leisurely trips, which explains the midday trip peaking.

Figure 4-14: Daily Trip Fluctuations



Source: Burnside Analysis of StreetlLight Data

5.0 Vision

The Township of Muskoka Lakes transportation vision was shaped by a review of Provincial, District, and Township policies, review of the study context, and consultation with residents and Township staff. The Vision reflects principles that will guide the Township's decision-making to prepare its transportation system for future growth to the year 2047 and beyond. The development of a vision statement or opportunity statement meets the requirements for Phase 1 of the MCEA process for master plans.

The TMP should be reviewed and updated every five years to ensure that the Township's transportation system is moving towards the intended vision of the TMP.

5.1 Study Objectives

The overall objective of the TMP is to identify transportation needs, which form the problem identification stage of the MCEA planning process, and develop alternative solutions to be further evaluated as part of future Environmental Assessment (EA) studies.

The Township's TMP was developed with the objective to:

- Provide safe access and connectivity between lakes;
- Ensure that the transportation network is sustainable, efficient and well-integrated with the District and Provincial network within and surrounding the Township;
- Produce a strategy that is cost-effective and economically sustainable;
- Protect natural and cultural features;
- Achieve climate change objectives; and

- Support transportation policies and guidelines to align with Provincial and District transportation plans and industry best practices.

Key guiding principles are as follows:

- Support age-friendly communities;
- Support economic development, tourism, and recreation;
- Develop transportation solutions to accommodate future travel demand and development;
- Integrate transportation and land use planning;
- Leverage, build upon and expand the existing transportation infrastructure;
- Promote sustainable modes of transportation;
- Expand the multi-modal network, including driving, walking, cycling, and other merging mobility options; and
- Develop transportation corridors that accommodate all types of users (drivers, pedestrians, cyclists, assistive mobility aids).

5.2 Vision Statement

The vision statement for the Transportation Master Plan is informed by the guiding principles and is as follows:

> By 2047, the Township will have a transportation system that is mindful of change objectives and protects natural and cultural features while striving to be sustainable, multi-modal, safe, well-connected, and financially responsible.

6.0 Growth

This section describes the growth that is anticipated to occur within the Township over the next 25 years. Understanding of the growth ensures that there will be a robust transportation system in place to accommodate the future population and employment within the Township and the seasonal visitors travelling to the Township.

6.1 Future Population and Employment

In planning for the future of transportation in the Township, the need to accommodate growth allocations are an important input that informs the recommendations of future horizon years.

The District released a 2019 Growth Strategy conducted by Hemson Consulting Ltd., which updated the previous 2016-2046 population and employment forecasted from the Growth Strategy prepared in 2013. The study provides growth forecasts for the local area municipalities, including the Township of Muskoka Lakes, which serves to guide growth management and planning policies and documents at both the District and local municipality level. A comparison of projected population and employment growth, including year-round and seasonal, between the District and the Township is provided in Table 6-1 and Table 6-2, respectively.

Table 6-1: Forecasted Population Growth

	Township Population	Township Population % Annual Growth	District Population	District Population % Annual Growth
Permanent				
2016	6,600	-	60,600	-
2026	6,700	0.2%	66,200	0.9%
2036	6,800	0.1%	71,700	0.8%
2046	7,000	0.3%	75,600	0.5%
Seasonal				
2016	27,300	-	81,900	-
2026	28,400	0.4%	86,900	0.6%
2036	29,200	0.3%	90,500	0.4%
2046	29,800	0.2%	93,600	0.3%

Source: District of Muskoka 2019 Growth Strategy Study

Table 6-2: Forecasted Employment Growth

	Township Employment	Township Employment % Annual Growth	District Employment	District Employment % Annual Growth
2016	3,210	-	28,750	-
2026	3,370	0.5%	30,420	0.6%
2036	3,550	0.5%	32,100	0.5%
2046	3,750	0.5%	34,080	0.6%

Source: District of Muskoka 2019 Growth Strategy Study

Relative to the District overall, the Township is anticipated to experience annual growth that is lower in magnitude for population and similar in magnitude for employment. However, the District's Growth Strategy Study was conducted the year before the onset of the COVID-19 pandemic and did not account for the resulting increased migration of residents from urban centres to more suburban/rural areas such as Muskoka Lakes. This is evident in the latest Census data, which show that the Township's year-round population increased from 6,588 to 7,652 people between 2016 to 2021, amounting to a 3.0% per annum growth. The 2021 population already exceeds that of the projected 2046 population of 7,000 people.

Given the recent disruption of the pandemic on future traffic patterns (e.g., due to the prevalence of telecommuting) and the uncertain permanency of residents choosing to live within the Township, future growth is now more difficult to forecast. Table 6-3 provides an adjusted forecast of Township growth with the 2021 Census population serving as the new baseline for the horizon years of this study.

Table 6-3: Adjusted Township Permanent Population and Employment Forecasts

	Population	Population % Growth	Employment	Employment % Growth
Permanent				
2021	7,652	-	3,289	-
2027	7,721	0.2%	3,388	0.5%
2032	7,779	0.1%	3,477	0.5%
2047	8,078	0.3%	3,771	0.5%
Seasonal				
2021	31,651	-	n/a	n/a
2027	32,373	0.4%	n/a	n/a
2032	32,825	0.3%	n/a	n/a
2047	33,943	0.2%	n/a	n/a

6.2 Future Development

Major growth areas are anticipated to be in the Township's two Urban Centres (Port Carling and Bala), along with the Resort Village of Minett. The community areas (Glen Orchard, Milford Bay, Windermere, and Torrance) are expected to experience growth of a lower magnitude.

Locations reflecting potential future development (where applications have been submitted or draft plans approved) within the Township are mapped in Figure 6-1. Most of the growth attributed to future developments is located in Port Carling, Minett, Cedar Village and east of Ullswater near the Diamond in the Ruff Golf and Vacation Resort.

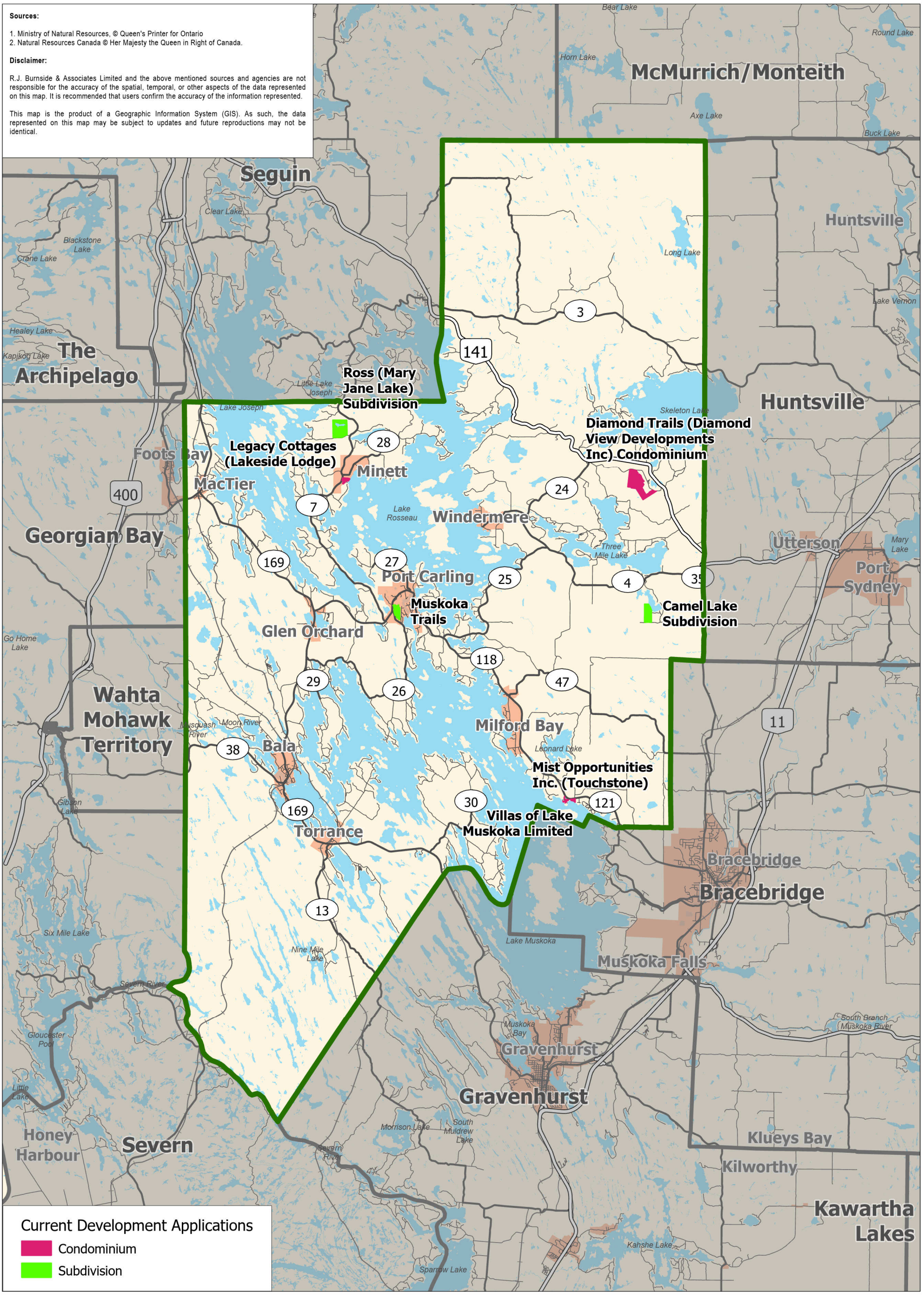
Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

Disclaimer:

R.J. Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to updates and future reproductions may not be identical.



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Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

N
Grid North

0 1 2 3 4 5
Kilometers

1:200,000

BURNSIDE

Map Title

CURRENT DEVELOPMENT APPLICATIONS

Client

TOWNSHIP OF MUSKOKA LAKES

FIGURE 6-1

7.0 Needs and Opportunities

This section describes the rationale and methodology leading to the transportation needs and opportunities for each element of the Township's transportation system. Alternative solutions are provided for each transportation element to be considered in Phase 2 of the Transportation Master Plan.

7.1 Road Needs and Opportunities

A road needs assessment was conducted based on traffic counts, along with locations of planned development and growth assumptions applied for forecasting. The analysis process and results are detailed in the following sections.

7.1.1 Traffic Assessment and Road Capacity Needs

Baseline traffic conditions were derived by projecting data provided by the District and extracted from the Township's 2013 Road Needs Study Update. The existing average annual daily traffic (AADT) are illustrated in Figure 7-1.

The road capacities summarized in Table 7-1 were used to identify segments that are approaching or at capacity. Note that these capacity thresholds serve to indicate, to some extent, the level of congestion on Town roads at a high-level but are also informed by corridor-specific factors such as access spacing and speeds.

Table 7-1: Road Capacity Assumptions

	Capacity (average daily vehicles per lane)
District Road	9,000
Township Collector	6,000
Township Local	4,000

As shown, all Township roads are currently operating with AADT volumes of less than 2,000 vehicles per day, which is well within capacity thresholds. District roads experience higher AADT volumes. Existing volumes along most segments of District Road 118 range between 5,000 to 12,000 vehicles per day, but this remains within its capacity of 18,000 vehicles per day (9,000 daily vehicles per lane). This finding is consistent with the surveys conducted as part of this study, where road congestion was identified to be the transportation issue of least importance to Township residents.

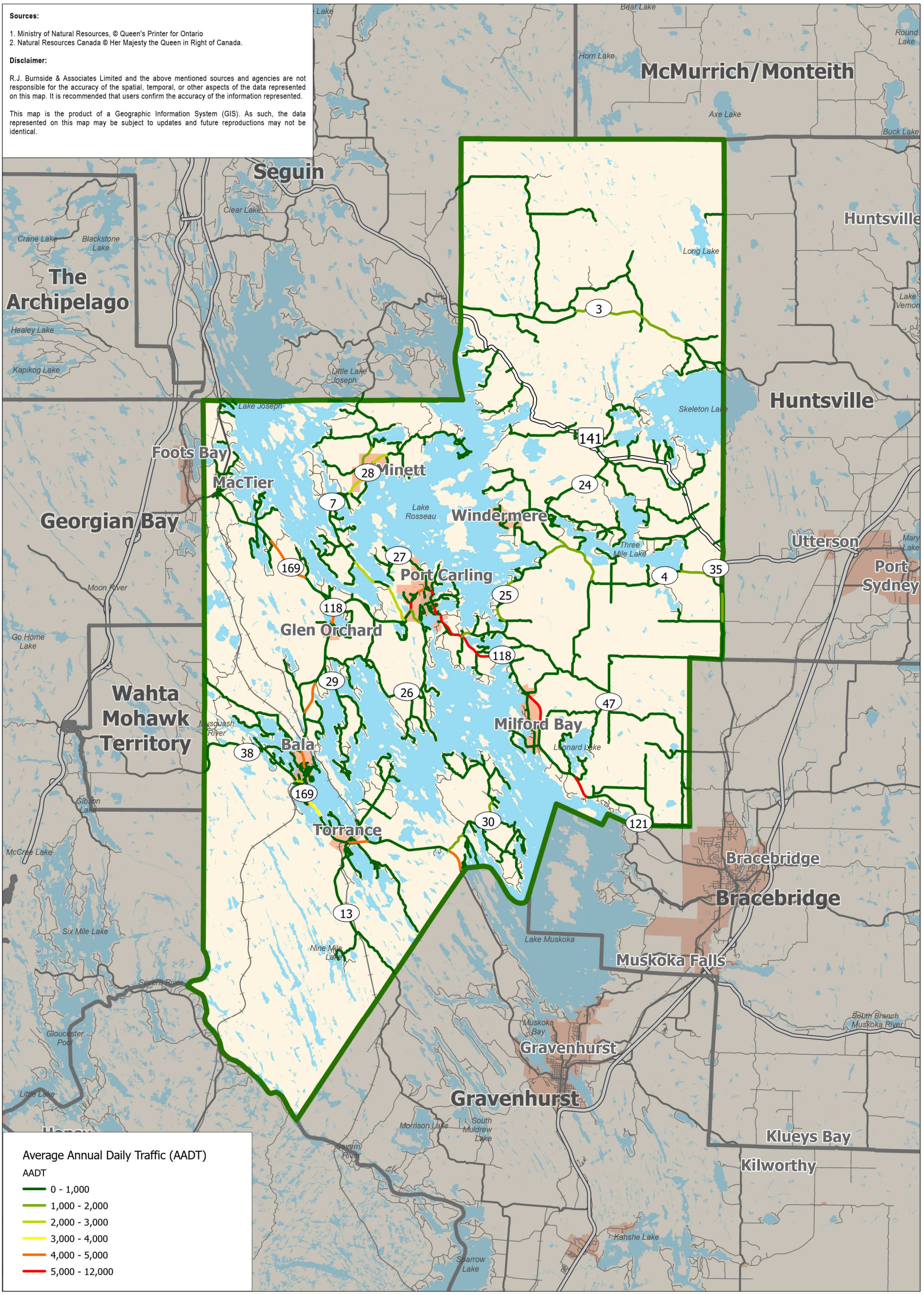
Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

Disclaimer:

R.J. Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to updates and future reproductions may not be identical.



Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

N
Grid North

0 2 4 6 8 10 12 14 16
Kilometers
1:200,000

BURNSIDE

Client
TOWNSHIP OF MUSKOKA LAKES

Map Title
EXISTING AVERAGE ANNUAL DAILY TRAFFIC (AADT)

FIGURE 7-1

To assess whether traffic needs will change over time, traffic forecasts were prepared by applying a growth factor of 2% for District and major Township roads and 1% growth factor for local Township roads. These factors were determined based on historical AADT data and District / Township population and employment growth.

Traffic forecast process recognizes the seasonal (summer) population estimated to be more than quadruple that of the year-round population; a seasonal adjustment factor was applied to the AADT volumes to consider peak traffic as the design condition. An adjustment factor of 1.4 was derived based on a comparison of annual average and seasonal (summer) average trips travelling to/from the Township using navigation-GPS and Location-Based services data. Forecasted peak summer average daily traffic (SADT) volumes indicate that all Township roads are operating and will operate well under a volume-to-capacity (v/c) ratio of 50% to the future horizon year. However, most of District Road 118 (Cedar Beach Road to District Road 169) is forecasted to approach or exceed capacity (v/c ratio over 80%) under future peak summer travel conditions.

This road currently provides one travel lane per direction and a vehicle stopped on the side (e.g., due to a collision) would cause congestion to quickly propagate upstream of the road.

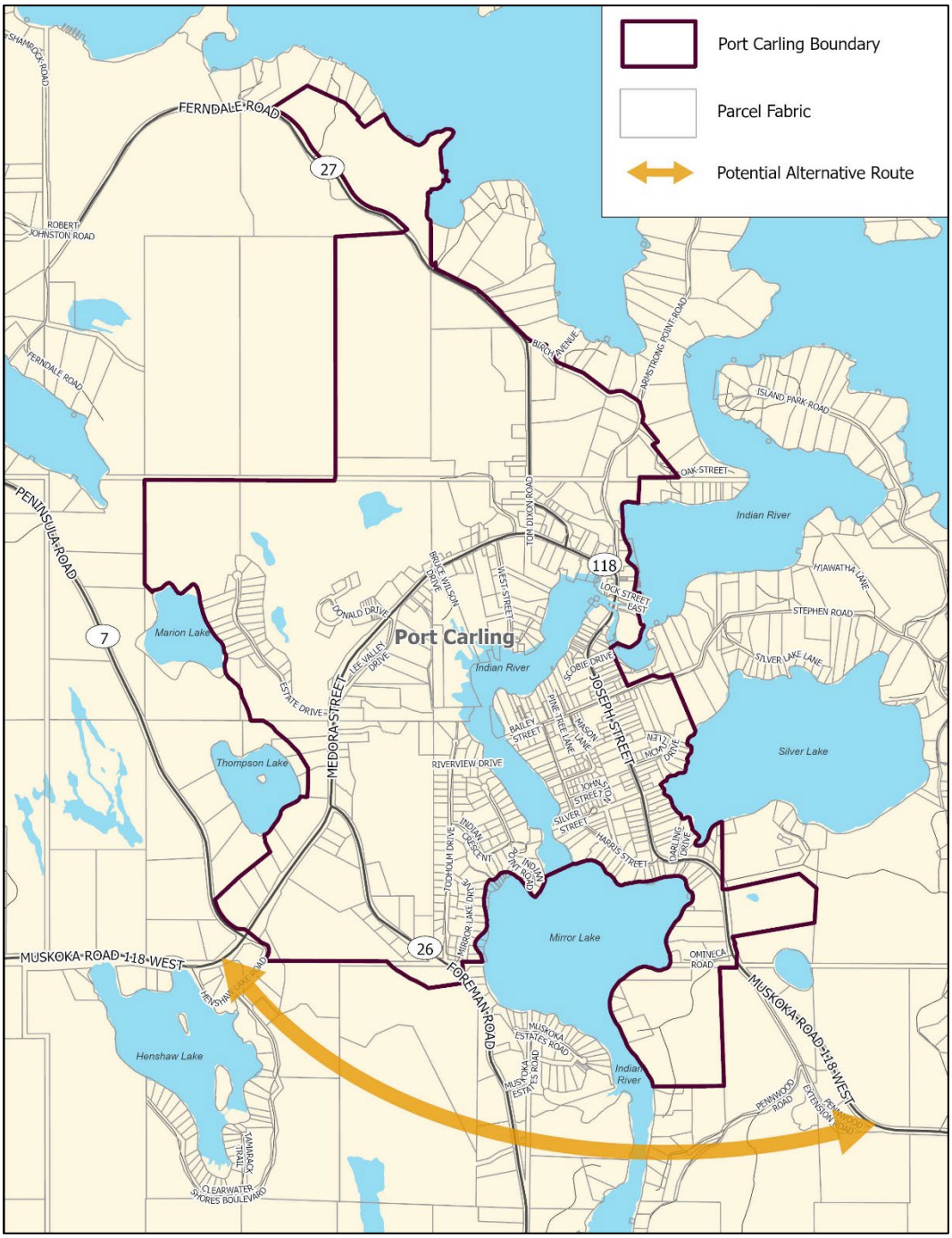
District Road 118 passes through the communities of Port Carling and Milford Bay. There is an opportunity for the Township to coordinate with the District to investigate potential improvements along District Road 118 or alternative routing strategies for network flexibility and management of traffic levels in the Port Carling area for traffic traveling through Muskoka Lakes and to other destinations.

7.1.2 Port Carling Alternative Route Opportunity

Opportunities for road capacity improvements along District Road 118 through Port Carling are not feasible without significant impacts to existing businesses and residential properties. Opportunities were considered for an alternate route for traffic travelling within the Township on District Road 118 between the west side and east side of Port Carling.

In consideration of available right-of-way and constraints of existing available properties and buildings, a potential alternative route has been identified. The feasibility of alternative road alignments connecting to District Road 118 on either side of Port Carling south of Mirror Lake could be investigated by the Township and District that reflect the potential alternative route illustrated in Figure 7-2.

Figure 7-2: Alternate Route Concept Plan



7.1.3 Potential New Road Corridors

Road allowances refer to allowances originally laid out for roads by a Crown surveyor. These road allowances are typically 66 feet in width (20.1 m). A “shore road allowance” is located along the shore of a navigable waterway. As specified in the Municipal Act

(2001), a local municipality has jurisdiction over all road allowances located in the municipality that were made by the Crown surveyors.

Unopened road allowances can be used to accommodate seasonal/summer traffic, private access to a farm, house, or vacant lands, or function as a trail or public access to a water body. If an unopened road allowance has some form of use, it is referred to as an existing or public right of way. Most unopened road allowances within the Township have not been opened or assumed for maintenance purposes and are currently not in use. These road allowances provide opportunities for the Township for new road corridors, trails, and access to lakes.

Potential new road corridors using unopened municipal road allowances were identified. Full details regarding the assessment are documented in **Appendix D**. These new road corridors connect existing roads to previously publicly inaccessible lakes within the Township. The primary objective of this assessment was to provide the public with enhanced access to these lakes, fostering opportunities for lake activities, recreation, and active transportation.

Currently several lakes within the Township possess access via private roads situated within private property. While these lakes may already serve as sources of enjoyment and recreation for these private residents, they remain inaccessible to the general public. Recognizing the importance of expanding public access to our natural resources, the identified corridors aim to connect roads to these lakes.

The establishment of new road corridors through unopened road allowances serves multiple purposes. Firstly, it will extend the benefits of lake activities and recreational opportunities to a wider audience, allowing residents and visitors to explore and enjoy the natural environment of the Township fostering tourism, economic development, and healthy lifestyles. Allowing more residents and visitors to access lakes also creates a stronger sense of community engagement and fosters a spirit of inclusivity among all residents of the Township.

This assessment used a strategic approach involving a desktop review of geographic mapping. Further study is required for these new road corridors to assess:

- Feasibility and cost of opening and building infrastructure on these road allowances;
- Active transportation facilities along the shores of lakes if shore road allowances exist;
- Quality of the lake and potential attractiveness;
- Environmental reviews.

The proposed potential road corridors, the lakes they service, and the road and lake characteristics are summarized in Table 7-2.

Once the new corridors have been established, collaboration between the Township and developers can offer mutual benefits by combining resources, expertise, and shared goals of enhancing public access and promoting responsible development. Through such partnerships, the Township can leverage the expertise and financial capabilities of developers to construct the necessary road infrastructure while the developers can utilize the lakeside space for new development. The lakes that would be made available to the public should, in the future, be assessed for future public lake access facilities.

Table 7-2: Potential New Road Corridors

Lake Serviced	Area (Ha)	Proposed Corridor Length (km)	Private Properties Along Waterfront	Connecting from Existing Road	Recommended Cross-Section of New Corridor	Recommend Active Transportation Around the Lake
Young Lake	109	0.2	Yes	Rosseau Lake Road	Rural Cottage	Yes
St. Germaine Lake	-	3.0	Yes	District Road 169	Rural Cottage	No
Little Otter Lake	68	0.8	No	District Road 13	Rural Cottage	No
Woodland Lake	84	4.9	Yes	District Road 13	Rural Cottage or Local	Yes
Cowan Lake	-	1.1	Yes	District Road 4	Rural Cottage or Local	Yes (partial)
Barnes Lake	44	1.1	No	Fish Hatchery Road	Rural Cottage	Yes
Wier Lake	-	2.6	Yes	Highway 141	Rural Cottage or Local	Yes
Beaton Lake	-	1.9	No	Highway 141	Rural Cottage or Local	Yes
Lamberts Lake	-	2.9	No	Butter Mill Road	Rural Cottage	Yes (partial)
Woods Lake	-	1.8	No	District Road 3	Rural Cottage or Local	Yes (partial)

7.1.4 Intersection Improvement Opportunities

Intersection operations contribute to road network efficiency. Poor intersection operations, due to roadway geometry and/or traffic movements, can reduce road capacity and compromise safety. A road network screening was conducted to identify intersections anticipated to require improvements. The results of the screening are provided in Table 7-3.

Roundabouts have become a desirable option to address intersection operational concerns and can be considered as an alternative to signalization, where applied in the appropriate context. A roundabout policy was developed for the Township and provided in **Appendix E**. The policy includes a screening process to determine desirable locations for new roundabouts or roundabout conversion. The results of the analysis identified the intersection of District Road 118 and District Road 25 / Ranwood Road as a candidate roundabout, subject to further study.

Other potential improvements to address the intersection concerns can include realignment, larger daylighting area, traffic controls, additional turn lanes and/or pedestrian crossings.

Table 7-3: Intersection Improvement Opportunities for Further Study

Major Road	Minor Road 1	Minor Road 2	Issue(s)
District Road 169	Oviinbyrd Golf Club access	n/a	Limited sightlines looking south due to horizontal curve
District Road 169	Sherwood Road	n/a	Limited sightlines looking north due to horizonal curve
District Road 169	Young's Road	n/a	Hidden access
District Road 169	Miver's Road	n/a	Hidden access
District Road 169	Sutton Drive	n/a	Hidden access Limited sightlines looking north due to horizontal curve
District Road 169	Windsor Trail	n/a	Hidden access Limited sightlines looking south due to horizontal and vertical curve
District Road 169	Portage Street	n/a	Desire lines between the parking lot and local businesses may warrant a pedestrian crossing
District Road 169	Bala Falls Road	Musquash Road	Misaligned intersection Limited sightlines looking north due to bridge structure
District Road 118	Leonard Lake 2 Road	n/a	Hidden access Limited sightlines looking south due to horizontal curve
District Road 118	Scarcliffe Road	n/a	Hidden access Limited sightlines looking south due to horizontal curve
District Road 118	Armstrong Point Road	n/a	Skewed intersection Potential future capacity and delay concerns
District Road 3	Stroud Beach Road	n/a	Potential future capacity and delay concerns
District Road 118	Butter and Egg Road	Butter and Egg Road	Potential future capacity and delay concerns
District Road 118	Milford Bay Road	Hewlitt Road	Potential future capacity and delay concerns
District Road 118	Brackenrig Road	Ranwood Road	Candidate roundabout location Potential future capacity and delay concerns
District Road 118	Stephen Road	Bailey Street	Potential future capacity and delay concerns

The improvements at these intersections are recommended for further study, with District collaboration and input, to confirm the issues identified, the type of improvement(s) required, and respective phasing requirements. This assessment should be conducted in tandem with a collision review for the past 5 years to better inform the type of safety improvements required and assess the effectiveness of existing warning signage, such as “Hidden Intersection” signs.

7.1.5 Emergency Service Needs

Through stakeholder consultation, it has been recommended that the Township collaborate with the District along with constituent and adjacent municipalities for the identification of alternative emergency service detour routes in these areas as part of future studies over the long-term. Signal pre-emption was specifically identified as a traffic operational opportunity.

There are currently no Township operated signalized intersections for implementation of signal pre-emption. There is an opportunity for the Township to work with the District to identify intersections where traffic signal pre-emption would benefit emergency vehicles on-route to incident locations. The benefit of traffic signal pre-emption is the ability to provide faster and safer passage through intersections, minimizing response times and increasing the effectiveness of emergency services. Two priority locations to be explored based on consultation include District Road 118 / Bruce Wilson Drive and District Road 118 / District Road 7 (Peninsula Road).

7.1.6 Bridge Improvement Opportunities

The 13 bridges under the Township’s jurisdiction were included as part of a bridge needs assessment. The assessment was conducted based on recently inventoried operational characteristics, such as structural clear width, posted speeds and existing signage. A summary of the results along with potential opportunities is provided below.

7.1.6.1 Bridge Widening for Two-Way Movement

Bridge widening to allow for a 3 m wide minimum travel lane per direction was considered, as the majority (8 of the 13 Township bridges) do not accommodate simultaneous two-way traffic. However, Township-owned bridge structures are currently not recommended for widening to permit two-way movement, as they are all operating with an average daily traffic (ADT) volume of less than 400 vehicles per day, which is typical of a low volume structure.

Two-way movement may still be desirable from a safety perspective and to minimize sideswipes and head-on collisions. However, alternative mitigation measures such as signage and pavement marking improvements to reduce speeds and provide better clarity for yielding should be explored prior to considering widening as a solution.

Bridges under District jurisdiction are more highly trafficked, which can cause queuing and congestion where two-way movement is not accommodated. It is recommended that the Township collaborate with the District to consider widening of District bridges that provide a trafficable width of less than 6 m and operate with an ADT volume of over 400 vehicles per day.

7.1.6.2 Signage and Pavement Marking Improvements

Most existing Township bridges have insufficient widths to accommodate two vehicles traversing simultaneously. Without the appropriate signage, drivers travelling in both directions may assume they are able to cross the bridge unobstructed.

Signage needs approaching bridges were considered to improve driver awareness and provide more clarity on directional right of way. A summary of these needs is provided below. Note that specifications for signage and pavement markings are further subject to standards detailed in the Ontario Traffic Manual (OTM).

Warning Signage for Narrow Structures

Currently, signage at most bridges consists of the "OBJECT MARKER" Sign (OTM Book 6) as shown in the figure to the right.

It is recommended that the following signage be installed for both directions approaching a bridge with a trafficable width of less than 6 m (if not already implemented):

Location: Bridge Along Beatrice Townline Road
(Source: Google Streetview)

"NARROW STRUCTURE" Sign

Wa-24	75 cm x 75 cm
Wa-124	90 cm x 90 cm
Font	N/A
Colour	Legend & Border – Black Background – Yellow Reflective
Minimum Sheeting	Type I

Source: OTM Book 6

"ONE LANE" Tab Sign

Wa-24t	45 cm x 60 cm
Font	Highway Gothic D
Colour	Legend & Border – Black Background – Yellow Reflective
Minimum Sheeting	Type I

Source: OTM Book 6

Yield Signage

At one-way bridges with visibility or sightline concerns, higher pedestrian activity, and/or higher approaching speeds, it is recommended that a "YIELD" Sign and "YIELD" Tab Sign be installed to warn drivers that oncoming traffic has the right of way.

"YIELD" Sign

Ra-2	75 cm
Ra-102	90 cm
Font	N/A
Colour	Legend - Red Reflective Background - White Reflective

Source: OTM Book 5

"YIELD" Tab Sign

Ra-2t	22.5 cm x 45 cm
Ra-102t	30 cm x 60 cm
Font	Highway Gothic D
Colour	Legend & Border - Red Reflective Background - White Reflective

Source: OTM Book 5

Active Transportation Pavement Markings

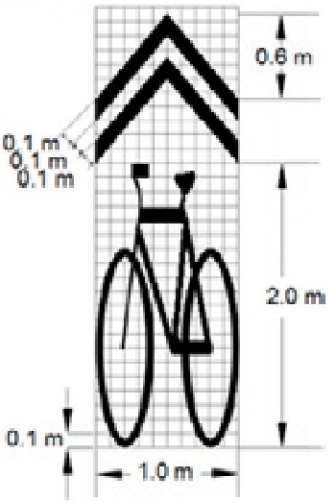
To ensure that the needs of all road users were addressed, provision for pedestrian and cycling facilities were considered along bridges.

As mentioned, daily traffic volumes using Township bridges are operating with significant excess capacity. Pedestrians and cyclists using these bridges were also observed to be low, particularly since there are no cyclist facilities on existing Township roads.

In the future, however, a Secondary Trail route is proposed along Milford Bay Road to facilitate a connection to the proposed Around the Lake Trail along District roads and Huckleberry Rock Lookout.

The speed and vehicular volumes along this bridge are not high enough to justify exclusive cycling facilities, however, it is recommended that “SHARROWS" be painted at the Milford Bay Bridges to warn drivers of the oncoming conflict zone and the need to share the space with cyclists.

“SHARROWS” Pavement Marking



Source: OTM Book 18

Traffic Calming Pavement Markings

Several Township bridges are currently operating with posted or assumed speeds of 80 km/h. This can pose a hazard at the narrow bridges where vehicles may need to slow down to yield to the opposing traffic flow.

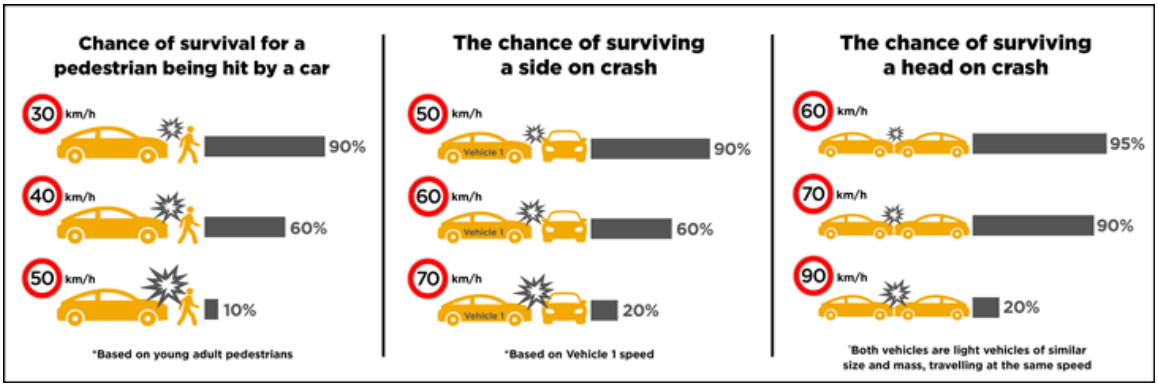
It is recommended that the “SLOW” pavement markings be implemented at the following one-way bridges:

- Medora Lake Road Bridge
- Dee River Bridge
- Rosseau Lake Road 3 Bridge

7.1.7 Speeds Assessment and Management Needs

Based on public feedback and survey data, speeding appears to be an issue along District and Township roads given the rural cross-section and wide travel lanes. Increased vehicle speeds are exponentially correlated with increased likelihood of

fatality. For pedestrian-vehicle collisions particularly, a 10 km/h increase in vehicle collision speed from 40 km/h to 50 km/h reduces the chance of survival for a pedestrian by 50%. Speeding is not conducive to a safe environment for active transportation users and will reduce the road users' perception of safety. There are also a substantial number of hidden driveway accesses within the Township, which lends way to a greater potential for collisions.



Source: "NSW Centre for Road Safety." Driving too fast. https://roadsafety.transport.nsw.gov.au/speeding/index.html (retrieved February 20, 2023)

A Township speed policy was developed as part of this Transportation Master Plan and is intended to be used in conjunction with the District Road Speed Limit Review approved by Council in February 2016. It is recommended that the Township adopt the speed policy to determine when adjustments are required to posted speed limits and/or context-sensitive conditions warrant the need for traffic calming control measures.

A comprehensive Township-wide speed study should also be undertaken, in collaboration with the District, to identify roads requiring mitigation for speeding. Further, upon implementation of any speeding control measures, annual monitoring is recommended to assess their effectiveness. The full speed policy is provided in **Appendix F**.

7.1.8 Road Rationalization Needs

The efficient management and organization of road networks are essential for the safe and effective movement of vehicles and pedestrians within a municipality. A well-defined road hierarchy is crucial in achieving this goal by classifying roads based on their functionality and characteristics.

The primary objective of road rationalization within the Township of Muskoka Lakes is to establish a road network that is accountable to road users and adheres to appropriate standards for each road classification. This process aims to ensure that roads designated as Township roads effectively serve more local functions, while those serving through traffic are under the jurisdiction of the District.

One of the key outcomes of road rationalization is the rightsizing of the Township's network. By assessing the functionality and classification of existing roads, this process will identify cases where roads may exceed the designation of a local road. In such instances, alternative options will be explored to facilitate the transfer of these roads to the District, ensuring that they receive the appropriate level of maintenance and management; similarly, District roads serving a local function may be identified as potential transfers to the Township.

Road rationalization serves as an essential initial step towards optimizing the Town's road network. By carefully evaluating each road's purpose and traffic flow, this process will contribute to the creation of a well-structured and efficient road system. The resulting road networks accommodate the needs of residents, businesses, and visitors.

In addition to achieving functional and operational efficiency, road rationalization also considers the safety and convenience of road users. By assigning appropriate classifications and designations to roads, it becomes possible to apply suitable standards that address the unique requirements of each road category. This approach promotes the safe and smooth flow of vehicles, enhances pedestrian accessibility, and improves overall transportation efficiency.

Although the District of Muskoka holds the final decision-making authority on road rationalization a Township policy framework could serve as a tool to facilitate further discussions and collaboration between the Township and the District.

7.1.9 Road Maintenance Needs

Road maintenance was identified as a key safety concern from the residents, particularly during the winter months. Poor or negligent upkeep of roadways also presents a potential liability risk to the municipality. The Township currently maintains roads under their jurisdiction in accordance with Provincial standards.

There are a number of roads within the Township, located on non-maintained Township property, that are currently not included as part of the municipal inventory. These roads, as listed in Table 7-4, should be considered for inclusion as part of the Township’s municipally maintained road network, subject to legal review. Note that these roads are either entirely or partially within the Township road allowance.

Table 7-4: Recommended Roads for Township Maintenance

Road	From	To	Length (km) on Township Road Allowance
Ahmic Dr	Segwun Pl	1020 Ahmic	0.18
Alice Av	Leonard Lake Rd 1	1041 Alice Ave	0.35
Apiary Rd	Acton Island Rd	1068 Apiary Rd	0.66
Avon Ln	Hemlock Point Rd	1028 Avon Ln	0.31
Bass Lake Rd	District Road 169	1141 Bass Lake Rd	1.63
Berners Rd	District Road 169	1062 Berners Rd	0.61
Berry Point Dr	Marina Rd	1019 Berry Point Dr	0.22
Birch St (Bala)	Dark Bay Rd	1053 Birch St	0.42
Bond Dr	Dark Bay Rd	Keeler Rd	0.62
Boyd Bay Rd	Cedar Beach Rd	1048 Boyd Bay Rd	0.41
1035 Brandy Crest	Brandy Crest Rd	1035 Brandy Crest Unit 25	1.05
Breezy Point Rd	Barlochan Rd	1390 Breeze Point Rd	3.81
Brown Rd	District Road 118	1089 Brown Rd	0.61
Buttler Rd E	Buttler Rd	1012 Buttler Rd E	0.11
Buttler Rd W	Buttler Rd	1007 Buttler Rd W	0.08
Cameron Ave	Golf Avenue Rd	Lake	0.48
Christie Point Rd	Hamills Point Rd	Hamills Point Rd	1.02
Danbell Rd	Poste Rd	Guys Rd	0.21
Draycott Lake Rd	Bear Cave Rd	1200 Draycott Lake Rd	2.08
Dunn Dr	Acton Island Rd	1018 Dunn Dr	0.16
East Rankin Rd	Mortimers Point Rd	1049 East Rankin Rd	0.50
Echo Bay Rd	Trafalgar Bay Rd	1015 Echo Bay Rd	0.19
Eckford Rd	Nine Mile Lake Rd	1048 Eckford Rd	0.56
El-Kee Point Ln	Brackenrig Rd	1051 El-Kee Point Ln	0.50
Emilys Ln	District Road 118	Hewlitt Rd	0.17
Glen Gordon Road	Butter and Egg Road	1452 Glen Gordon Road	2.70
1158 Greenwood Point Rd	1148 Greenwood Point Rd	1158 Greenwood Point Rd Unit 30	0.43
Guys Rd	1000 Guys Rd	1030 Guys Rd	0.40
1103 Hallett Rd	1000 Kendon Rd	1103 Hallet Rd Unit 10	0.21
Ham Rd	Innisfree Rd	1033 Ham Rd	0.35
1183 Hamills Point Rd	Hamills Pt Rd	1183 Hamills Point Rd Unit 4	0.30
Hazelwood Rd	Medora St	20 Hazelwood Rd	0.50
Heather Lodge Rd	Mortimers Pt Rd	1065 Heather Lodge Rd	0.71
Kaderidris Cr	Wynanne Dr	1025 Kaderidris Cr	0.21
Kemp Rd	Acton Island Rd	1076 Kemp Rd	0.74

Road	From	To	Length (km) on Township Road Allowance
Kilty Bay Road	Township Of Georgian Bay	1055 Kilty Bay Rd	0.56
Leonard Lake 1 Rd	District Road 118	1188 Leonard Lake Rd 1	1.98
Lidsley Road	Bradley Rd	1034 Lidsley Rd	0.26
Little Bay Rd	Southwood Rd	1023 Little Bay Rd	0.11
Luna Rd	Long Point Rd	1035 Luna Rd	0.30
Maple Leaf Bay Rd	Golf Avenue Rd	1040 Maple Leaf Bay Rd	0.35
Massey St	Harris St	4 Massey St	0.05
Melody Hill Rd	Southwood Rd	1057 Melody Hill Rd	0.53
Middaugh Rd	Raymond Rd	Huntsville	0.16
Murphy Rd	1022 Murphy Rd	1095 Murphy Rd	0.71
Muskoka Estate Drive	Foreman Rd	35 Muskoka Estates Rd	0.39
O'Connell Ln	Fish Hatchery Rd	1021 O'Connell Ln	0.20
Old Lakeshore Rd	Church Dock Rd	1004 Old Lakeshore Rd	0.08
Old Township Rd	Brackenrig Rd	Boyce Rd	0.51
Pauline St	Walkers Pt Rd	1013 Pauline St	0.13
Phyllimar Ln	Buttler Road	1050 Phyllimar Ln	0.46
Poste Rd	Acton Island Rd	1018 Poste Rd	0.27
Ramsden Rd	Long Point Rd	1061 Ramsden Rd	0.68
Ransbury Rd	Brackenrig Rd	1019 Ramsden Rd	0.18
Reberta Dr	Gregory Rd	1042 Reberta Dr	0.47
1001 To 1007 Sagamo	1001 Sagamo	1007 Sagamo	0.08
Scout Trail	Brackenrig Rd	1045 Scout Trail	0.39
Summit Rd	Nine Mile Lake Rd	1044 Summit Rd	0.36
Sydney Rd	Walkers Point Rd	1076 Sydney Rd	0.62
Tower Rd	Gibson Road	1018 Tower Rd	0.25
Village 1 Rd	Strathdee Rd	1012 Village 1 Rd	0.13
Village 2 Rd	Strathdee Rd	1041 Village 2 Rd	0.45
Village 3 Rd	Strathdee Rd	1013 Village 3 Rd	0.12
Village 4 Rd	Strathdee Rd	1035 Village 4 Rd	0.33
West Rankin Rd	Mortimers Point Rd	1016 West Rankin Rd	0.18
Wonder Beach Rd	Windermere Rd	1064 Wonder Beach Rd	0.40
Woodwinds Rd	Breezy Point Rd	1114 Woodwinds Rd	1.07
Wynanne Dr	Acton Island Rd	1061 Wynanne Dr	0.61
		Total	**36.86**

7.1.10 Engineering Design Standards Needs

Engineering Standards are intended to provide for an engineering basis for subdivision and site plan design, to establish a uniform criteria of minimum standards, and to improve the processing of engineering design submissions for development related works. Common transportation-related requirements within Engineering Design Standards include the following:

- Traffic Impact Assessment (TIA) requirements,
- Minimum Rights-of-Way and Design Speed,
- Roadway design criteria, elements, and standards,
- Road maintenance requirements,
- Property requirements, and
- Access to roads.

The District of Muskoka developed an Engineering Design Criteria and Standards Manual which is divided into two sections recognizing the varied jurisdictional responsibilities. Part A provides minimum requirements associated with the District and Part B provides minimum requirements associated with the Township.

Typical roadway cross-sections may be required by the Township in the more developed communities such as Port Carling and Bala. Bailey Street in Port Carling has a 20.0 m right-of-way, with a sidewalk on both sides, carrying a collector road-level amount of traffic. This type of roadway would not be covered by the current standards.

Typical road cross-sections may be required in rural areas as well. Based on the Township's master database of roads, 54% of the road assets have an existing surface width of 6 m. Although this statistic is not adjusted for length of road segment, the data does suggest that many road segments would not be covered in the current standards.

7.1.11 Golf Cart Opportunities

Off-road vehicles are popular forms of recreation and also provide necessary forms of transportation in remote areas and in emergencies. All-terrain vehicles (ATVs), multi-purpose off-highway utility vehicles (UTVs), and recreational off-highway vehicles (ORVs) are all off-road vehicles and contain four or more wheels and a steering apparatus (e.g., either a wheel or handlebars).

As outlined in Township By-Law 2016-032, these off-road vehicles are allowed to operate on all Municipal Highways under the jurisdiction of the Township as long as they meet the requirements outlined in the Highway Traffic Act. Municipal Highways refers to a common and public highway, street, avenue parkway, driveway, square, place, bridge, viaduct, or trestle, any part of which is intended for or used by the general public for the passage of vehicles. Travel must be in the same direction as traffic and travel and must

be on the shoulder of the roadway. Off-road vehicles are also permitted on District roads within the Township.

Golf carts are currently prohibited from operating on public roads within the Township. However, they have gained popularity in recent years, not just as recreational vehicles but also as modes of transportation, especially for those who do not own a standard vehicle such as a sedan. These vehicles offer several advantages such as low operating costs and ease of maneuverability. Additionally, they provide an efficient means of transportation for short trips within the Township.

Ontario Regulation 407/21: Pilot Project – Golf Cars outlines a golf cart pilot program from MTO that allows for the use of golf carts for people living in communities with unique transportation needs. The pilot program allows residents and visitors to use golf carts on roads with a speed limit of up to 50 kilometres per hour on Pelee Island and in the municipality of Huron-Kinloss. The pilot program will run for ten years.

These two municipalities are required to pass by-laws before golf carts can be used on roads in the regions. Huron-Kinloss Council passed By-law No. 2021-90 regulating the use of golf carts within the Township. Pelee Island Council passed By-law No. 2021-21 permitting the operation of golf carts.

The Township should explore the use of golf carts on their roadways, where Highway Traffic Manual (HTA) requirements are met and where speeds and alignments do not pose a safety concern, by co-ordinating with MTO to expand the pilot to the Township. The Township would be required to pass a by-law permitting the use of golf carts and should use the by-laws presented to Pelee Island Council and Huron-Kinloss Council as reference. Important components of the Township golf pilot program should include:

- Provincial vehicle requirements of golf carts such as number of seats and requires safety equipment (e.g., brake lights, turn signals);
- Special vehicle registration into the pilot program with pilot program registration stickers;
- Valid A, B, C, D, E, F, or G Ontario’s driver license;
- Provisioning golf carts to be allowed only on the lane furthest to the right when on the road, unless preparing to make a left turn, and not on sidewalks; and
- Providing proof of having obtained an active policy of public liability insurance issued by an insurer licensed by the Province of Ontario providing.

Legal reviews should be conducted by the Township to ensure the Township is held harmless in case of injury from golf carts caused by the driver or owner. A “Release of Liability” form may be required during golf cart registration.

7.2 Transit Needs and Opportunities

Transit can provide reliable access from residential areas to employment opportunities. Transit can be critical for those who face age or mobility-related barriers. Therefore, future transportation strategies should strive to improve accessibility for all people in the Township. Transit should address mobility needs for those who have limitations that restrict travel by private vehicle or other modes. This may include:

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

Transit can also provide several benefits to the residents of the Township including:

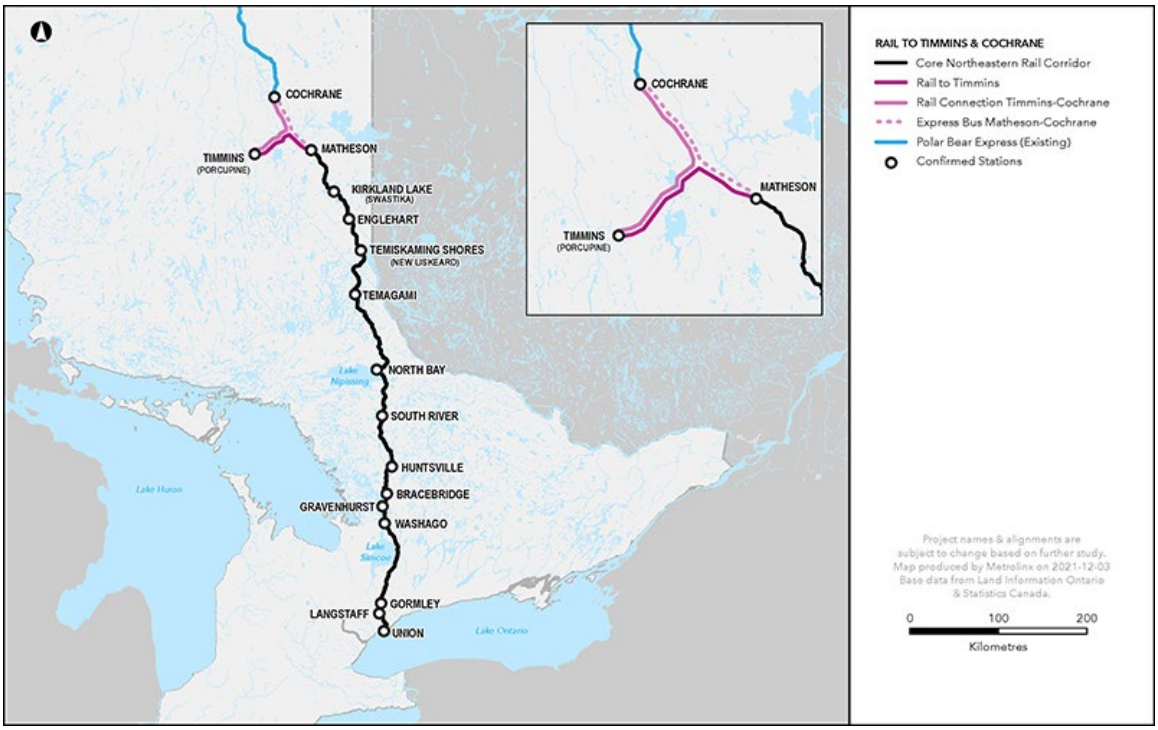
- Access to local medical service, shopping, and financial services,
- Access to the existing and potential future fixed bus routes within the District, and
- Access to the future planned Northlander passenger rail service.

Depending on the transit service and ridership, transit can also reduce the overall greenhouse gas emissions through decreased personal automobile use. For example, ridesharing with two or more different parties in one vehicle reduces the overall need of personal vehicles.

7.2.1 Northlander Passenger Rail Opportunities

In December 2022, the Provincial government announced plans to reinstate passenger rail service in northeastern Ontario. The Northlander service ran from Toronto to Cochrane until the service was cancelled in 2012. The tentative plan is to receive new trains by the end of 2026 and to implement this service by the mid-2020s. There are 16 proposed stops including locations in Gravenhurst, Bracebridge, and Huntsville as shown in Figure 7-3.

Figure 7-3: Northlander Passenger Rail Service



Source: "Northlander Passenger Rail Updates." Ontario Northland. https://www.ontarionorthland.ca/en/northlander-passenger-rail-updates (retrieved Feb. 15, 2023)

There would be several benefits to the Township with the implementation of the Northlander Rail Service including:

- Between Toronto and Gravenhurst, bus and rail transportation modes is anticipated to be slightly slower than the personal automobile by 2041, however the travel times are competitive during peak periods. Rail is anticipated to be faster than the existing bus travel times. These travel times assume that there are no Highway 11 closures. Over the past few years, there were 50 to 100 closures on Highway 11 due to collisions or weather-related road conditions. Rail passenger service could provide a competitive option if the passenger valued reliability.
- Depending on the type of fleet (new or refurbished) and the final routing, the forecasted auto emission reductions are between 3,590 to 3,890 tonnes of GHG emissions.
- Passenger rail service enhances inter-community travel within Ontario by providing an option that offers more space and overall higher ride quality compared to existing services like a coach bus. Typical passenger rail service amenities such as Wi-Fi, washrooms, and USB receptacles will add to the rider experience.
- There is an increased likelihood of the need to seek specialized medical services from an aging population and these specialized medical services are often located in

the GGH. This passenger rail service would allow another option to connect Township residents to specialized care.

- Passenger rail service provides an alternate mode for tourists to visit the District from the GGH. These tourists may not have a car or may not want to drive such a far distance or take the bus. Passenger rail service also provides a comfortable, cost-effective alternative for out-of-province visitors flying into Ontario who do not want to rent a car.

The Township should co-ordinate with the District to explore the feasibility of new transit connections or enhancing the frequency of existing transit connections to the future Northlander rail stops in Gravenhurst, Bracebridge, and Huntsville.

7.2.2 On-Demand Transit Opportunities

On-demand transit is a shared-ride public transit service without a fixed schedule or route where vehicle routes and schedules are determined by passenger demand for that particular time period. On-demand transit is an option in rural communities that cannot support high-frequency fixed-route transit on a daily basis. Rural communities usually also lack the ridership to make fixed-route transit cost-effective for the operator. The different types of models for on-demand transit are summarized in Table 7-5.

As mentioned, District staff are currently working on developing a demand-responsive transit system for Muskoka. As such, active, ongoing collaboration between the District and Township staff, residents, and stakeholders is recommended to ensure that Township travel needs are being accommodated.

Table 7-5: On-Demand Transit Models

On-Demand Transit Models	Description	Least Flexible
Hub and Spoke Demand Responsive Transit	Various transit hubs are located within a zone as defined by the transit agency. These transit hubs are popular origins and destinations such as shopping malls or transit centers. Travel to these transit hubs is prioritized by demand-responsive transit vehicles but point-to-point is also offered within the defined zone.	
First-Last Mile Demand Responsive Transit	Passengers are picked up at the initial origin determined by passenger request. The drop off can be at the final destination determined by passenger request only if this location is within a defined transit zone set by the transit agency. Alternatively, the drop off can be at a specific transit stop. The passenger then has to take another transportation mode to reach the final destination.	
Point-to-Point Ride Sharing	Passengers are picked up and dropped off at the initial origin and the final destination determined by passenger request. Passengers share a transit vehicle with other passengers. The transit agency determines the most optimal route to pick-up and drop-off all passengers.	
Ride Hailing	Passengers are picked up and dropped off at the initial origin and the final destination determined by passenger request. Ride hailing is highly individualized and the customer does not share the vehicle with others unless by request. Ride hailing is similar to taxiing except the transit agency is responsible for elements such as training or providing operating standards.	Most Flexible

Source: J. Blenkarn. “Rideco.” Comparing the 3 On-Demand Transit Services Models. https://www.rideco.com/post/comparing-on-demand-transit-service-models (retrieved February 15, 2023)

The feasibility of an on-demand transit system should be explored with the District, along with the most appropriate type of on-demand model, to improve transit connectivity and ridership within the Township.

The District’s Community Transportation Plan completed in 2020 explored accessible, affordable, sustainable transportation solutions considering on-demand transit. Through that study, on-demand transit was not recommended as a single District solution due to

the high cost to serve the entire District however noted that a scaled-down version could be used in the future to help support specific routes or to provide specifically for mobility-impaired persons.

On-demand transit systems implemented in other jurisdictions often act as a specialized accessible transport option for seniors and people with disabilities. For instance, Peel Region contracts TransHelp to help provide transportation services catered to seniors and those unable to drive through a shared ride model. Similarly, the Canadian Red Cross offers on-demand transit service in the Simcoe-Muskoka area. However, this service is only offered to residents with mobility concerns of southern Muskoka or Simcoe County north of Highway 89, excluding Orillia residents.

The Township should play a supporting role on the District's update to their Community Transportation Plan to further investigate how a scaled down on-demand transit service could supplement the existing fixed route bus service with flex stops. On-demand routes that could be explored in the District's next study could include:

- Local Routes: To/from Port Carling and Bala
- Inter-District Routes: Between Port Carling and Gravenhurst / Bracebridge
- District-wide specialized accessible transit for seniors

7.2.3 Supporting Access to District Transit Opportunities

A passenger's ride quality can be improved from the beginning of their trip as they wait at the bus stop. In collaboration with the District on future transit systems, the following design elements should be considered at transit stops to improve transit ridership experience:

- Additional canopied area such as a bus shelter,
- Benches for resting that are oriented such that passengers can see on-coming transit vehicles,
- Bicycle locking facilities to integrate cycling and transit, and
- Self-fix bicycle kits including bike pumps and tools.

7.3 Active Transportation Needs and Opportunities

Any form of self-propelled mode of transportation that uses human energy such as walking, cycling, skating, jogging, rolling and skiing, referred to as Active transportation, provides a benefit to the residents of Muskoka Lakes and the broader population. Active transportation helps to promote a healthy lifestyle, contribute to sustainable transportation and reduce the impact on the environment.

7.3.1 Previous Active Transportation Studies

7.3.1.1 #CycleON

#CycleON: Ontario's Cycling Strategy is a 20-year vision to having cycling recognized as a respected and valued mode of transportation within Ontario. There are five strategic directions to guide action by the government and partners across Ontario:

- Design healthy, active and prosperous communities,
- Improve cycling infrastructure,
- Make highways and streets safer,
- Promote cycling awareness and behavioral shifts, and
- Increase cycling tourism opportunities.

As part of the cycling strategy, a proposed and conceptual province-wide cycling network was developed. Part of this proposed network includes Southwood Road and District Road 169 through the Township of Muskoka Lakes.

7.3.1.2 District Active Transportation Strategy

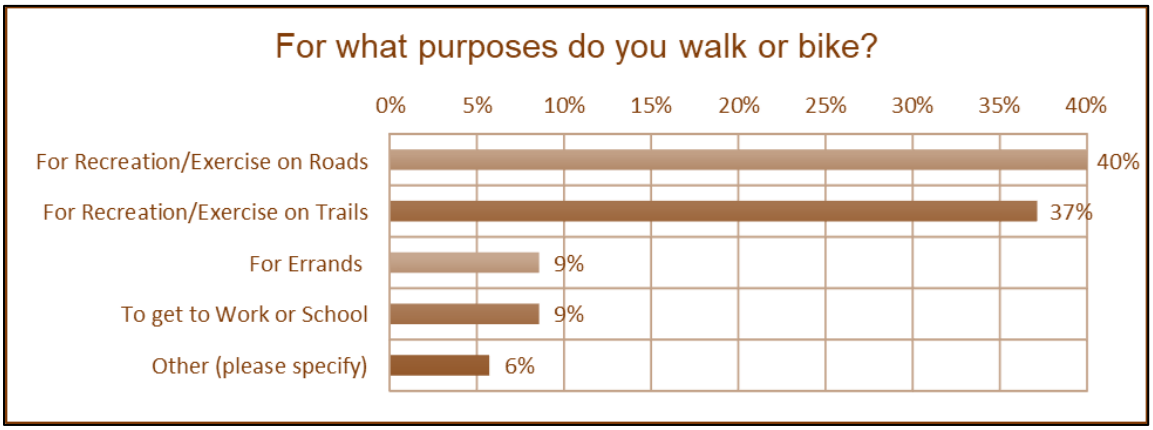
The District of Muskoka developed an active transportation strategy last amended in June 2010. The recommended District route was incorporated in Schedule F of the District's Official Plan.

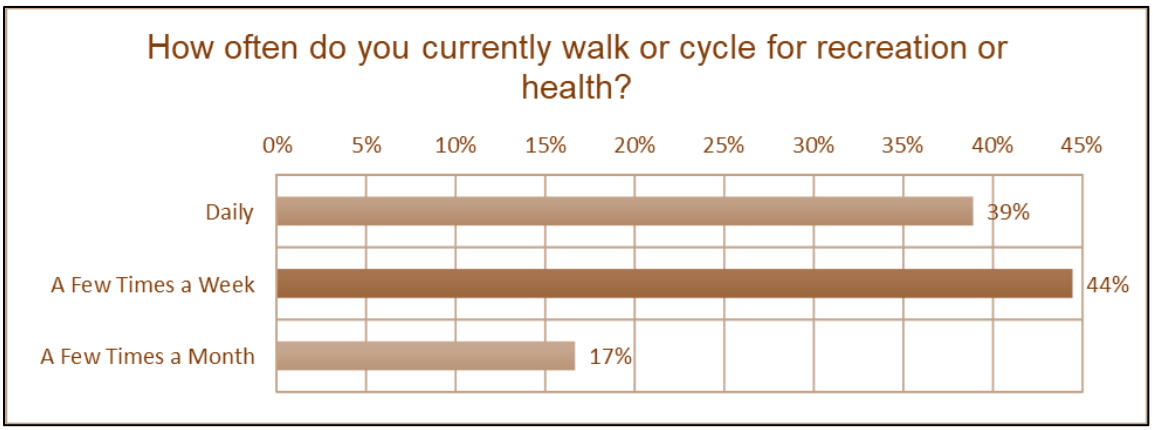
Based on a review of best practices at the time of the study, paved shoulders between 1.0 metre and 1.25 metres along the edge of the roadway accompanied by a painted white line was the most suitable type of facility. This would be accompanied by the installation of 'Share the Road' signage. The guidelines for the width of the paved shoulder are the following:

Posted Speed (km/h)	Average Summer Daily Traffic < 2,000 vehicle-trips per day	Average Summer Daily Traffic >2,000 vehicle-trips per day
≤70	No paved shoulders required	1.0 m
>70	1.0 m	1.25 m

7.3.2 Stakeholder Identified Needs

As part of this study, residents completed a public opinion survey. The survey included the following questions and responses concerning active transportation.





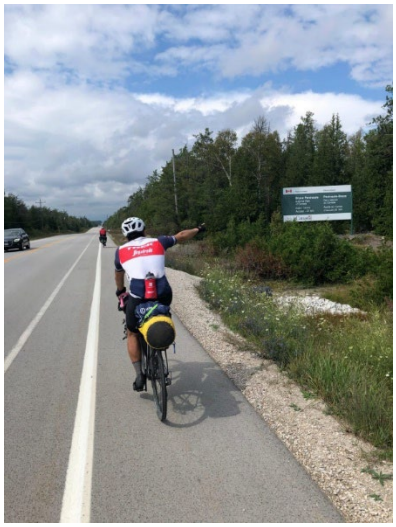
Other options included in the question: “How often do you currently walk or cycle for recreation or health?” were “Rarely” and “Never” but these options were not chosen. The results indicated that residents like to walk or cycle for recreation and exercise on roads and trails compared to walking or cycling for errands, work, or school. Most respondents indicated that they walk or cycle for health or recreation either daily or a few times a week.

7.3.3 Active Transportation Facilities

The two types of proposed facilities that are most common for rural environments like the Township of Muskoka Lakes are paved shoulders and signed routes. Paved shoulder bicycle routes can be a reasonably cost-effective alternative to provide connections between communities and key destinations, provide a safe, designated space for cyclists and pedestrians, and manoeuverability space for emergency vehicles.

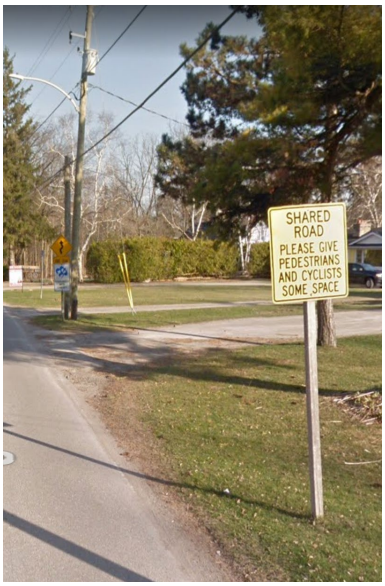
An example of a paved shoulder within the Township is illustrated below, along with a paved shoulder that provides greater separation between motorists and cyclists.

Paved Shoulder on District Road 169



Buffered Paved Shoulder in Bruce County

Signed shared roadways are cycling routes where wayfinding signage and sharrows can be installed. Examples of shared route signage and sharrows are illustrated below.



Shared Route Signage along Hedge Road, Georgina, ON
Source: Google Maps

Sharrows
Source: City of Toronto

Another type of active transportation facility that has been emerging within Ontario and inspired by European road design are “advisory bicycle lanes”. Advisory bicycle lanes, as defined by OTM Book 18, are a shared roadway facility that visually delineates space

for cycling on a narrow roadway by dashed outer lane lines. This type of facility is suitable for roadways which have the following characteristics:

- Low traffic volumes (<4,000 AADT),
- Two-way traffic,
- Narrow roadway, and
- Low posted speed limits.

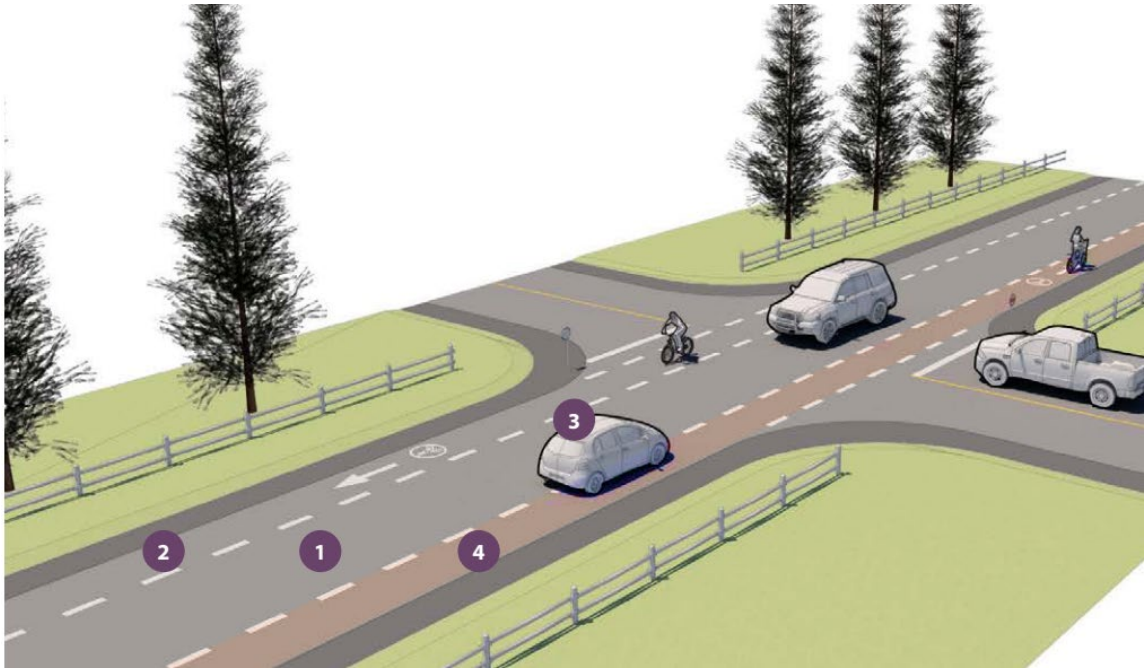
Due to the low magnitude of cycle and auto trips, these types of roads do not warrant the environmental or financial cost of paved shoulders. The delineated space on the narrow road is to provide a prioritized space for pedestrians and cyclists. However, vehicles are allowed to still enter the advisory bike lanes, especially when there is an oncoming vehicle, to provide enough space for both vehicles. Advisory bike lanes are shown in Figure 7-4.

Figure 7-4: Advisory Bike Lanes

Source: City of Burlington, USA

The British Columbia Active Transportation Design Guide provides guidance on the design of advisory bike lanes as shown in Figure 7-5.

Figure 7-5: Advisory Bicycle Lane Design Features



Source: British Columbia Active Transportation Design Guide)

The numbered elements in Figure 7-5 are described below:

1. Single bi-directional motor vehicle lane.
2. Advisory bike lanes are delineated by white dashed longitudinal lines.
3. A car is able to pull into the advisory bicycle lane when safe.
4. Colour or contrasting pavement materials are used along the advisory bike lanes.

The City of North Bay added advisory bike lanes to Memorial Drive as a pilot project to create awareness and serve as an education tool about cycling infrastructure. Their advisory bike lanes have 14 “Share the Road” signs and 14 bicycle sharrows every 400 metres. North Bay has also been using videos and posters showing how to use advisory cycle lanes.

7.3.4 Active Transportation Guiding Principles

7.3.4.1 Developing Connected and Continuous Routes

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

short Township roads feed into the longer District road network. Due to the layout of the road network within the Township, ensuring active transportation continuity involves collaborating with the District and MTO.

Similar to the road network, the active transportation network should connect users to various points of interest. The points of interest within the Township that were considered included tourist attractions, community centres, libraries, schools, and existing trail networks as shown in Table 7-6.

Table 7-6: Important Points of Interest

Community Centres	Existing Trail Networks	Other Institutions
➢ Hekkla Community Centre ➢ Foot's Bay Community Centre ➢ Bala Community Centre ➢ Milford Bay Community Centre ➢ Port Carling Community Centre ➢ Peninsula Community Centre ➢ Walkers Point Community Centre ➢ Windermere Community Centre ➢ Ullswater Community Centre ➢ Raymond Community Centre	➢ Hardy Lake Provincial Park ➢ Raymond Trail ➢ Huckleberry Rock Lookout Trail ➢ Walker's Point Lookout Trail ➢ Hazelwood Trail ➢ Weir Lake Trail ➢ Skeleton Lake Fish ➢ Hatchery Trail	➢ Walker's Point Library Muskoka Lakes Fire Hall ➢ Windermere Village Hall ➢ Watt Public School ➢ Muskoka Lakes Town Office

This study also recommends that there be continued coordination with surrounding municipalities and the District on connections beyond Township boundaries. During the time of this study, the Town of Bracebridge initiated their Transportation Master Plan and the District of Muskoka and Town of Huntsville is anticipating to review their transportation networks in 2023. Ongoing collaboration is required with these municipalities to ensure that recommendations are aligned and proposed connections are well-integrated.

7.3.4.2 Developing Comfortable and Separated Cycling Facilities

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

The main philosophy of the update was highlighting the increased importance of separated facilities, intersection treatments, and "all ages and abilities" design. OTM Book 18 highlights three types of users based on confidence level. Their characteristics are shown in Table 7-7.

Table 7-7: Cyclists Characteristics

Types of Cyclists	User Characteristics
Highly Confident	• Nature of the roadway, which is typically defined by traffic volume or speed, is not a factor in determining whether users in this category will choose to cycle • May prefer to use routes with dedicated cycling facilities
Somewhat confident	• Comfortable interacting with moderate-speed motor vehicle traffic • Prefer dedicated cycling facilities.
Interested but concerned	• Open to the idea of cycling but are uncomfortable sharing the street with motor vehicles except on very low-volume, low-speed neighborhood streets • More sensitive to factors such as topography, inconsistent cycling facilities, high speed motor vehicle traffic

The degree of comfort for a cyclist is a function of their confidence level and the degree of separation from motor vehicles, especially those travelling at higher speeds. The less skilled or confident cyclists require higher degrees of separation from motor vehicles.

Based on stakeholder consultation, many Township residents enjoy cycling or walking for health or recreation and range in a variety of confidence levels. To ensure all residents' needs are met, the Township active transportation network should explore solutions that benefit all types of cyclists.

7.3.4.3 Considering Cycling Safety

Cycling facility selection can be based on a number of factors including:

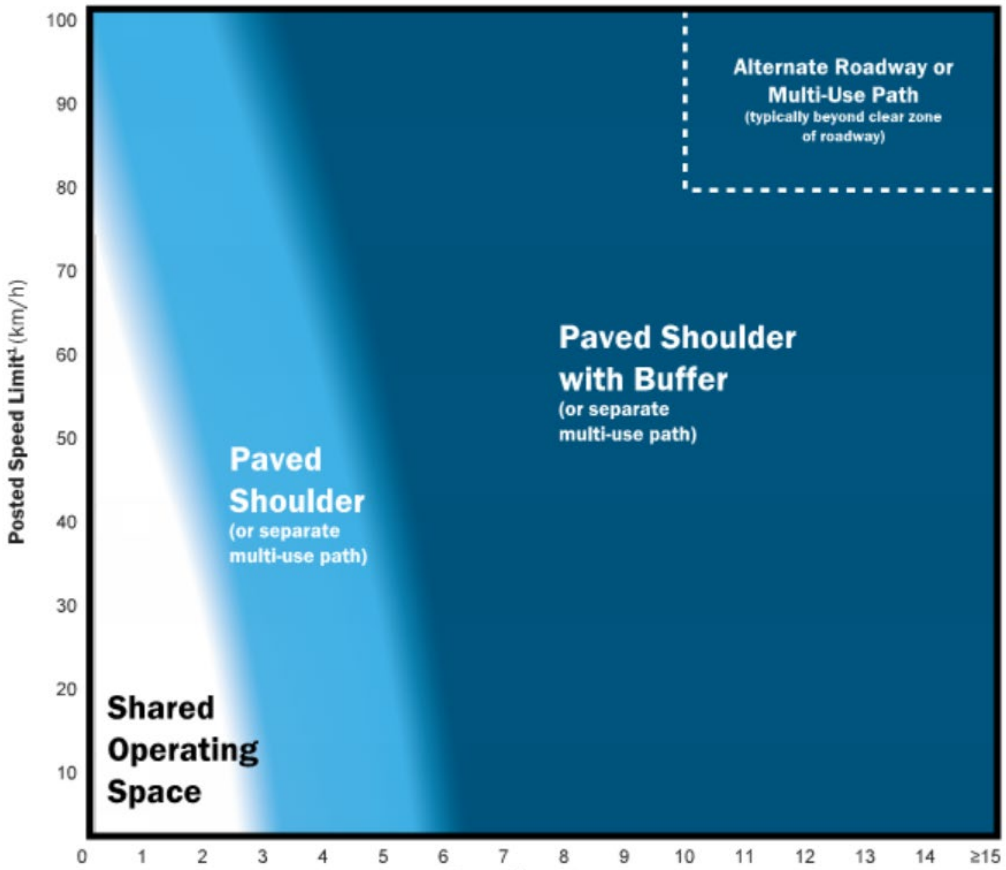
- The magnitude of traffic volumes and observed operating speeds,
- Roadway context such as the degree of existing or potential traffic calming,
- Function of the roadway such as a collector or major arterial,
- Passing frequency between vehicles and cyclists, and
- Feasibility such as available space and anticipated costs.

Speed is an important factor to consider as it directly relates to fatal or seriously injured collisions involving vulnerable road users such as pedestrians and cyclists. The

survivability of collisions exponentially decreases as motor vehicle operating speeds increases.

Often in rural environments, rural paved shoulders are considered due to its applicability over long rural roadway segments and low traffic volumes. OTM Book 18's initial step for facility selection is using a pre-selection nomograph which also indicates that a paved shoulder with or without a buffer is suitable in an array of speeds and traffic volumes. The pre-selection nomograph in a rural context is shown in Figure 7-6.

Figure 7-6: Desirable Cycling Facility Pre-Selection Nomograph Rural Context



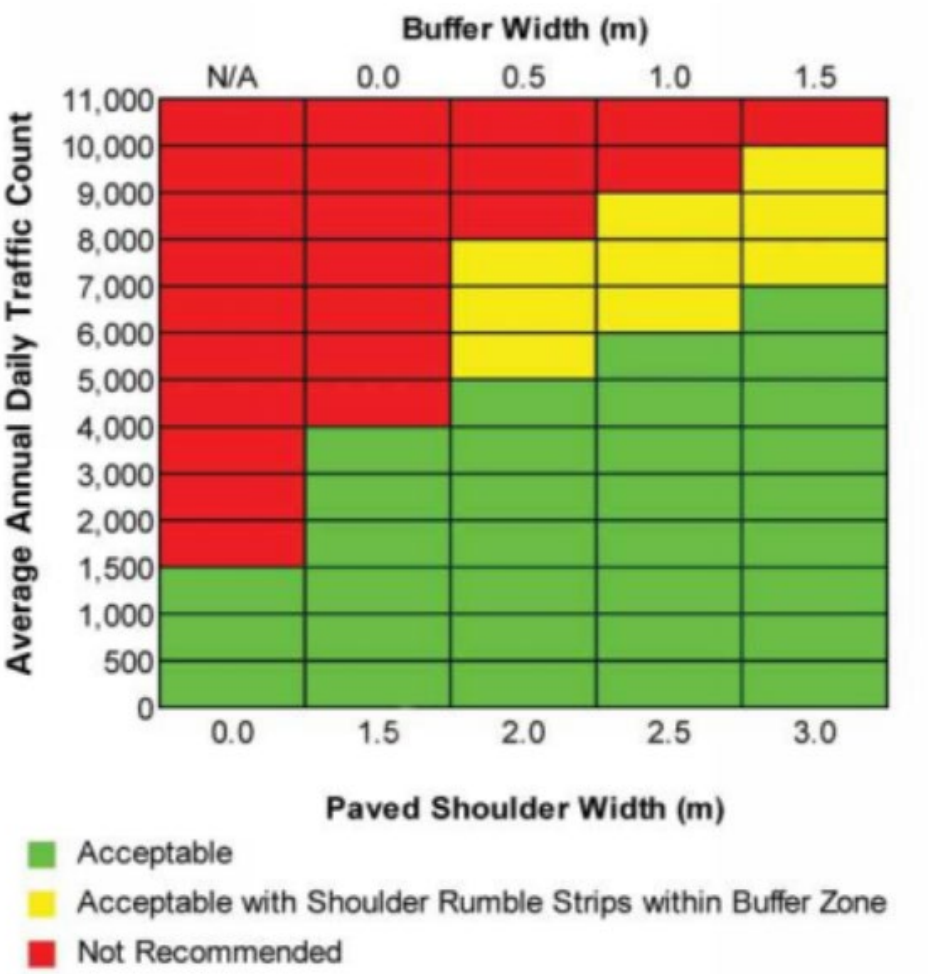
1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
3 Paved shoulders should ideally be implemented where feasible along all designated bike routes, regardless of whether recommended by the nomograph
4 If the paved shoulder is recommended, consider incorporating a buffer as well if space allows
5 For roads with a posted speed limit of 80km/hr or higher a paved shoulder of 1.2 to 1.5 m, an additional 0.5 m to 1.0 m buffer should be considered, particularly if the roadway is a common truck route, due to the wind velocity impact of passing trucks

Source: OTM Book 18

However with rural paved shoulders, speed differential is an important consideration for safe cycling facilities. A cyclist's balance may be affected by the air displacement caused by heavy truck vehicles on high-speed roadways where there is insufficient separation distance between the trucks and cyclists. Greater lateral separations are required where truck speeds are higher.

Recommended paved shoulder and buffer widths for rural paved shoulders with operating speeds over 70 km/h is shown in Figure 7-7.

Figure 7-7: Paved Shoulder and Buffer Widths on Rural Roads



Note: Applicable for rural roads with operating speeds ≥ 70 km/h
Source: OTM Book 18

OTM Book 18 also suggests desired and suggested minimum widths for paved shoulders as shown in Table 7-8.

Table 7-8: Desired and Suggested Minimum Widths for Paved Shoulders

Facility	Desired Width	Suggested Minimum
Rural Paved Shoulder	1.5 – 2.0 m	1.2 m
Rural Paved Shoulder with Marked Buffer	1.5 – 2.0 m operating space + 0.5 – 1.0 m buffer	1.5 m operating space + 0.5 m buffer

7.3.4.4 Developing Accessible Pedestrian Facilities

Accessible active transportation ensures that the road right-of-way provides sufficient physical space to pedestrian and cyclists for added safety and to let all road users know that all transportation modes are important. The Accessibility for Ontarians with Disabilities Act (AODA) outlines legal requirements to improve accessibility standards with consideration for both physical and mental disabilities (i.e., relating to mobility, vision, hearing and cognition).

Young pedestrians or children (particularly under the age of 10) are more likely to misjudge vehicle speeds and available crossing gaps as a result of their limited scanning ability and attention capacity. Children are considered at-risk road users as they tend to have an underdeveloped sense of safety and understanding of traffic control devices. Seniors are also more likely to underestimate the relative depth separating visual targets, misperceive the distance between themselves and vehicles, and process information more slowly. The elderly are vulnerable road users as the likelihood of fatality also increases with age.

To address the limitations and challenges of young pedestrians and the elderly, it is important to recognize the need to manage pedestrian expectations and misguided decisions due to road geometry, land uses or other operating environment characteristics. In addition, there is an emphasis on providing warning devices and/or signs to heed caution and draw drivers' attention in areas with a greater child and/or senior demographic (e.g., near schools, retirement/nursing homes).

Mobility-impaired pedestrians refer to those affected by a motor movement disability, including pedestrians who use wheelchairs or walkers/canes. Pedestrian crossings should be designed to eliminate physical barriers, where feasible, and provide for adequate walking times at signalized crossings. In allocating pedestrian walk times, a design speed of 1.0 m/s is typically used. However, in the case that 20% or more pedestrians using a crossing is expected to be older (65 years or older), a lower walking speed of 0.9 m/s is assumed. At locations where 20% or more pedestrians are mobility-impaired (i.e., using assistive devices such a wheelchairs and canes), it is best practice to use a walking design speed of 0.8 m/s. These guidelines apply particularly near hospitals and retirement/nursing homes, where there is a need to accommodate a greater number of mobility-impaired pedestrians and the elderly.

Visually-impaired pedestrians depend on auditory and tactual information for travel, to varying degrees. There is a wide range in the extent to which people are visually-impaired, as some may have very limited vision and others may be more sensitive to brightness contrast. Pedestrian facilities should be designed to allow visually-impaired pedestrians to easily identify safe pedestrian paths, detect streets and recognize the proper time to cross streets.

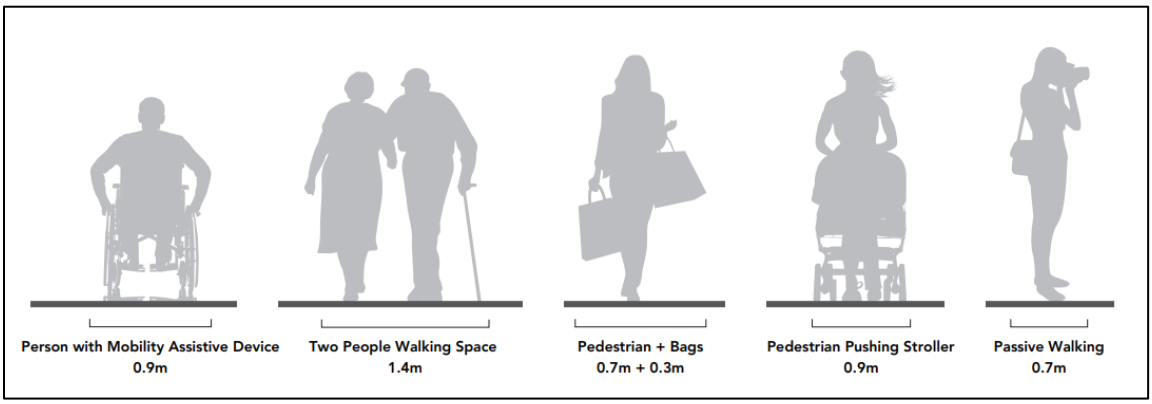
Three considerations for providing accessible pedestrian facilities include:

- Providing adequate pedestrian clearway,
- Providing accessible pedestrian signals, and
- Installation of tactile walking surface indicators.

Adequate pedestrian clearway should consider accommodating a wide range of pedestrian users as illustrated in Figure 7-8.

Accessible pedestrian signals advise pedestrians who are blind, visually impaired, or deaf-blind when they have the right-of-way to cross at a signalized intersection using auditory sounds. Tactile walking surfaces are surface level installations that provide warnings for pedestrians to stop at the sidewalk edge.

Figure 7-8: Clearway Width Requirements for Pedestrian Users



Source: City of Toronto Complete Streets Guidelines

7.3.5 Active Transportation Route Opportunities

7.3.5.1 Around the Lake Trail

There is an opportunity to provide an Around the Lake Trail, serving as a continuous loop route around Lake Rousseau approximately 64 km in length. The road segments that constitute this loop are shown in Table 7-9. This loop builds on proposed routes from the District's Active Transportation Strategy and Great Lakes Waterfront Trail. This loop was originally derived from demand based on the "Popular Segments" feature on

Strava and confirmed through public consultation from residents and the Waterfront Regeneration Trust.

Secondary trails are those that lead from the Around the Lake Trail to important connections such as communities, urban centres, and other points of interests including those in Table 7-6. The proposed active transportation network is shown in Figure 7-9.

It is recommended that the Around the Lake Trail be designated and protected as a "Scenic Corridor" in the Township's Official Plan, which provides the following definition and provision:

> *"Scenic Corridors are scenic routes through the Township that add to the attraction of the area as a tourist destination. Development along these routes shall be situated and setback to minimize the visual impact of the development along the route. Larger lot frontages shall be required for new lots. Buildings and structures shall be appropriately designed and situated to blend with the natural environments and vegetative buffers shall be required."*

Table 7-9: Around the Lake Active Transportation Opportunities

Road	From	To	Jurisdiction	Hierarchy	Existing Active Transportation Facility	AADT	Potential Active Transportation Facility
District Road 118	Brackenrig Road	Peninsula Road	District	Around the Lake	Narrow to no paved shoulders	7,200	Paved Shoulders
Peninsula Road	District Road 118	Highway 632	District	Around the Lake	Narrow to no paved shoulders	3,000	Paved Shoulders
Highway 632	Peninsula Road	Highway 141	MTO	Around the Lake	Narrow to no paved shoulders	No data	Paved Shoulders
Highway 141	Highway 632	Deebank Road	MTO	Around the Lake	Narrow to no paved shoulders	800	Paved Shoulders
Deebank Road	Highway 141	Windermere Road	District	Around the Lake	Narrow to no paved shoulders	No data	Paved Shoulders
Windermere Road	Deebank Road	Brackenrig Road	District	Around the Lake	Narrow to no paved shoulders	1,000	Paved Shoulders
Brackenrig Road	Windermere Road	District Road 118	District	Around the Lake	Narrow to no paved shoulders	1,856	Paved Shoulders
District Road 118	Brackenrig Road	Milford Bay Road	District	Secondary	Narrow to no paved shoulders	6,700	Paved Shoulders
Milford Bay Road	District Road 118	1020 Beaumaris Rd	Township	Secondary	Narrow to no paved shoulders	675	Shared Route
Butter and Egg Road	Milford Bay Road	District Road 47	Township	Secondary	Narrow to no paved shoulders	310	Shared Route
District Road 118	Peninsula Road	District Road 169	District	Secondary	Paved shoulders	5,700	Paved Shoulders
District Road 169	District Road 118	Lake Joseph Road	District	Secondary	Narrow to no paved shoulders	5,000	Paved Shoulders
Eveleigh Road	District Road 118	District Road 26	Township	Secondary	Narrow to no paved shoulders	500	Shared Route

Road	From	To	Jurisdiction	Hierarchy	Existing Active Transportation Facility	AADT	Potential Active Transportation Facility
Mortimer's Point Road	Eveleigh Road	District Road 169	Township	Secondary	Narrow to no paved shoulders	400	Shared Route
District Road 169	Mortimer's Point Road	Walker's Point Road	District	Secondary	Narrow to no paved shoulders	4,700	Paved shoulders
Walkers Point Road	District Road 169	Walker's Point Lookout Trail	Township	Secondary	Narrow to no paved shoulders	1,500	Paved Shoulders
Medora Lake Road	District Road 169 (north leg)	District Road 169 (south leg)	Township	Secondary	Narrow to no paved shoulders	150	Shared Route
Juddhaven Road	Peninsula Road	Paignton House Road	Township	Secondary	Narrow to no paved shoulders	2,000	Paved Shoulders
District Road 3	Highway 141	Gross Road	District	Secondary	Narrow to no paved shoulders	1,350	Paved Shoulders
Gross Road	District Road 3	Hekkla Road	Township	Secondary	Narrow to no paved shoulders	Low	Shared Route
Hekkla Road	Gross Road	1448 Hekkla Road	Township	Secondary	Narrow to no paved shoulders	Low	Shared Route
Old Parry Sound Road	Deebank Road	Highway 141	Township	Secondary	Narrow to no paved shoulders	200	Shared Route
Highway 141	Old Parry Sound Road	2013 Highway 141	MTO	Secondary	Narrow to no paved shoulders	No data	Paved Shoulders
Skeleton Lake 2 Road	Highway 141	Raymond Trail Head	Township	Secondary	Narrow to no paved shoulders	225	Shared Route
Windermere Road	Deebank Road	Fife Avenue	District	Secondary	Narrow to no paved shoulders	800	Shared Route
Torrance Road / East Bay Road	Muskoka Road 169	Packers Bay Road	Township	Secondary	Narrow to no paved shoulders	1,240	Paved Shoulders

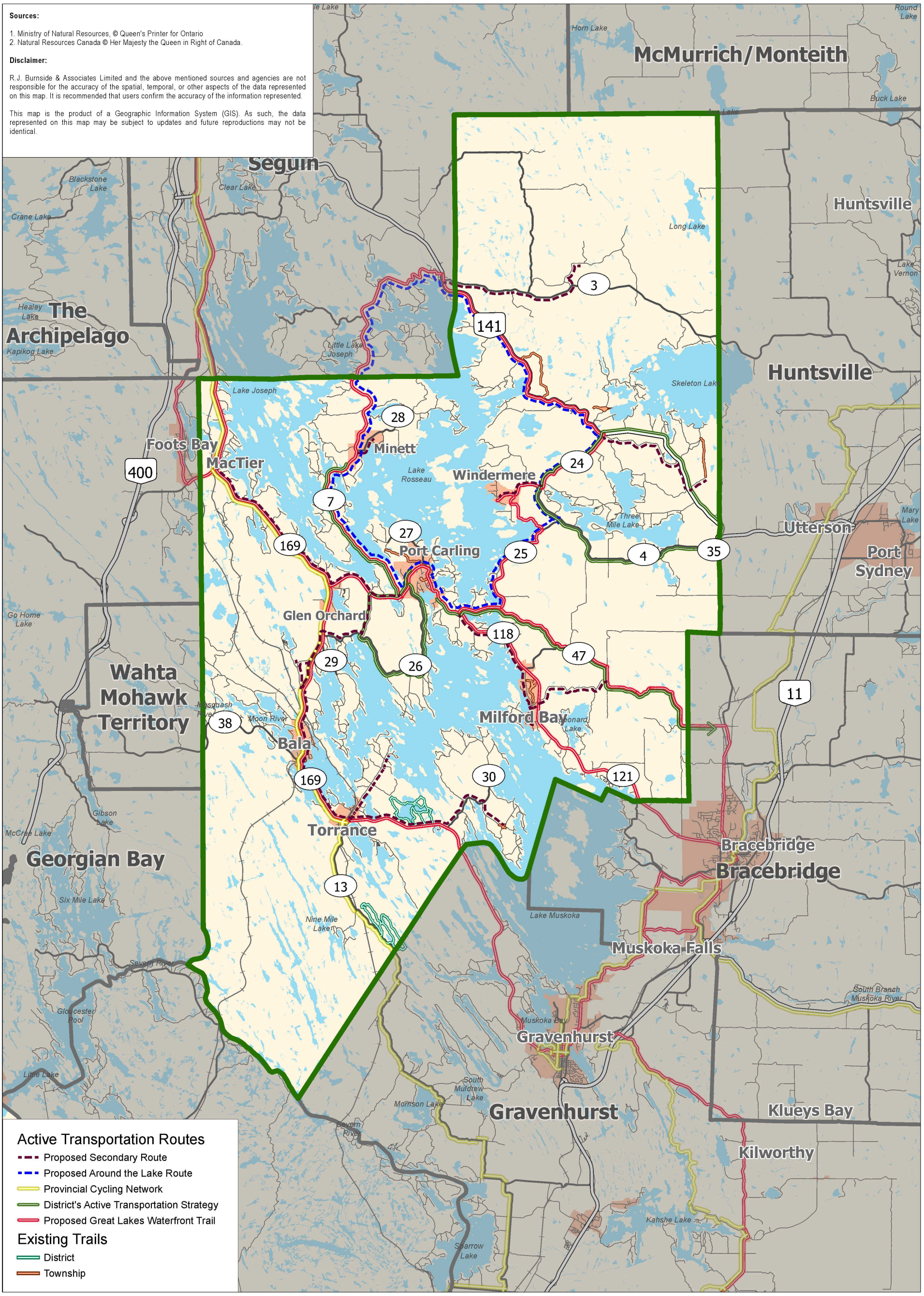
Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

Disclaimer:

R.J. Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to updates and future reproductions may not be identical.



Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -21.5°	Scale Factor: 0.99960

N
Grid North

0 2 4 6 8 10 12 14 16
Kilometers
1:200,000

BURNSIDE

Map Title

PROPOSED ACTIVE TRANSPORTATION NETWORK

Client

TOWNSHIP OF MUSKOKA LAKES

FIGURE 7-9

With coordination between Waterfront Regeneration Trust and the District of Muskoka, the Around the Lake Trail can be advertised and marketed to visitors and residents to encourage active transportation and cycle tourism.

Common wayfinding signage throughout the Around the Lake Trail would help pedestrians and cyclists navigate parts of the trail and encourage cycle tourism. Signage should be coordinated between the District, the Township and Waterfront Regeneration Trust. The theme of the wayfinding signage should also represent the historic, cultural, and natural landscapes of the Township.

The Waterfront Regeneration Trust has common signage for their Great Lakes Waterfront Trail as shown in Figure 7-10.

Figure 7-10: Trail Signage Sample

7.3.5.2 Leverage the Snowmobile Trails

A study should be undertaken to explore the feasibility of converting the OFSC trails into recreational trails in non-winter months. The scope of the study should include the following elements:

5. **Site Inventory:** A site inventory of the OFSC trails should be undertaken to assess the following factors: Legal ownership, slope, soil conditions, tread width, trail braiding, tread creep, trail braiding, tread creep, water drainage, natural environment, aesthetics.

6. **Activity Inventory:** An activity inventory should be conducted to understand the range of activities that visitors and residents undertake on the trail system such as hiking, trail running, cycling, roller skating, orienteering. The activity inventory will provide rationale for design elements of the trail conversion.

7. **Environmental Inventory:** An environmental inventory should be undertaken to understand potential environmental concerns with a conversion such as impact to wildlife, impact to vegetation and trees, and erosion.

8. **Costing / Legal:** To understand the feasibility, a cost assessment must be done to understand costs to operations, maintenance, and capital. This cost should include agreements with private landowners that have OFSC trails through their property.

9. **Public Consultation:** Consultation with residents and key stakeholders such as OFSC will be vital in understanding feasibility and which routes would be prioritized for conversion.

It is recommended that this feasibility review be conducted as part of an Off-Roads Trails Study for the Township.

7.3.5.3 Advisory Bike Lanes Pilot Study Opportunity

An advisory bicycle lane pilot is proposed to reduce auto speeds and to prioritize pedestrian and cyclist safety for a suitable location where cycling demand is anticipated. This pilot study would include three phases as described in Table 7-10.

Table 7-10: Advisory Lanes Pilot Study

Phase	Description of Work	Duration
Phase 1 – Preparation	• Education and awareness on how to operate advisory bike lanes. • Speed study to capture existing travel speeds. • Collect opinion surveys on residents' existing concerns regarding the speeding along this segment.	Recommended 2 months (April and May) prior to the summer and fall months
Phase 2 - Implementation	• Installation of advisory bike lane pavement markings. • Installation of Share the Road signage and sharrows every 400 metres. • Installation of sharrows along the Milford Bay Road bridge.	Recommended 5 months (June – October) during the summer and fall when active transportation is popular

Phase	Description of Work	Duration
Phase 3 - Evaluation	• Speed study to capture travel speeds. • Collect opinion surveys on residents' existing concerns regarding the speeding along this segment. • Collect opinion surveys on the impact of advisory lanes to users' comfort level while walking or cycling this segment. • Analyze the effectiveness of the advisory bike lanes to the cycling environment and speeding. • Evaluate various next step options such as expanding advisory bike lanes to other locations, removing, or others.	Recommended 2 months after Phase 2 (November and December)

The first phase of the pilot involves education and awareness. Due to visitors' and drivers' unfamiliarity with advisory bicycle lanes, providing educational material through various forms such as video and posters would be helpful to avoid confusion. The messaging of the education is recommended to be that this route was selected due to its popularity with pedestrian and cyclists and the purpose of these advisory bicycle lanes is to prioritize the safety of pedestrian and cyclists and to reduce speeding.

Speed studies and public opinion surveys before and after implementation would be helpful in evaluating the efficacy of the advisory bicycle lanes in reducing vehicle speeds.

Potential location for the pilot study include:

- Milford Bay Road between Butter & Egg Road and District Road 118, and
- Dawson Road between Brackenrig Road and Longhurst Road.

Through public consultation, residents have identified safety concerns along Milford Bay Road between Butter & Egg Road and District Road 118 which is a 2 km road segment. A summary of those concerns include:

- Driver speeding and
- Interaction between vehicles and pedestrians including families with children.

Residents specified that this route is popular for walking and cycling due to the entrance of the Huckleberry Rock Lookout being located along the roadway. This segment has an AADT of 675 and a speed limit of 40 km/hour. This road segment is also part of the proposed active transportation network as a Secondary Connector as a proposed Shared Route.

Through public consultation, residents have also identified safety concerns along Dawson Road between Brackenrig Road and Longhurst Road.

A summary of those concerns include:

- Vehicular speeding issues,
- Increased traffic due to navigation software leading vehicles through this road segment,
- Safety concerns as this is an active route for pedestrians and cyclists.
- Uncomfortable active transportation environment due to the vehicular speed and the degree of horizontal curves.

7.3.6 Opportunities to Enhance Local Economies

Active transportation infrastructure can also provide local connectivity and enhance the local economy, especially within the communities and urban settlement areas. Infrastructure such as sidewalks and designated cycling routes offers opportunities to create vibrant, walkable, and cyclable communities.

There are a wide variety of retail, food establishments, and other local businesses located within the communities and urban settlement areas of the Township. Integrating active transportation routes with these establishments can improve accessibility and promote economic vitality by attracting customers, increasing foot traffic, and supporting local businesses.

The Township's Community Improvement Plan (CIP) supports strategic community investment priorities and provides opportunities to improve the public realm and property improvements. The 2021 CIP focuses on Bala and Port Carling. Pedestrian related recommendations included:

- Developing pedestrian-focused spaces,
- Sidewalk and crosswalk improvements, and
- Street trees and furnishings for rest and comfort.

7.4 Lake Access and Parking Needs and Opportunities

With lake activities such as swimming, kayaking, boating, paddling, etc., being a popular summer activity for both residents and visitors of the Township of Muskoka Lakes, the provision of lake accesses that offer adequate facilities to serve the desires and needs of its users, along with nearby parking lots that provide sufficient capacity during summer peaks, are key in promoting and developing its reputation as Ontario's cottage centre.

Based on the resident survey conducted as part of this study, swimming, boating and paddling were the top three activities at lake accesses. Approximately three-quarters of the survey respondents are able to access the lake via their own waterfront property.

The primary purposes of this lake access and parking plan include the following:

- Assess existing accesses, including rest area parking and launch facilities;
- Identify standards and policies associated with water body access, including the design construction maintenance and use of public accesses to lakes;
- Evaluate needs and opportunities for the improvement and addition of public lake accesses; and
- Recommend a phasing strategy and cost estimate for proposed improvements.

7.4.1 Standards and Policies for Waterbody Access

Standards and policies that pertain to the design construction maintenance and use of waterbody accesses were identified and established based on a jurisdictional scan, and are to be considered as part of access improvements proposed in this study.

7.4.1.1 In-Effect Lake Access Policies

Township of Muskoka Lakes By-law 2003-29

Current in-effect Township policies related to lake access are detailed in By-law 2003-29, which outlines regulations for the use of lake access facilities, including public docks and ramps, and user fees.

Township of Muskoka Lakes Official Plan

The Township's Official Plan includes Waterfront Policies in Section B. As it pertains to "Access and Servicing" and "Development", the follow objectives were identified:

> "*Access and Servicing*
>
> > "*4.5 To ensure that access is provided to all new lots to a standard appropriate to the situation.*
> >
> > "*4.6 To promote the waterways as a major recreational asset that should be made accessible to both public and private users.*
> >
> > "*4.7 To ensure that development does not unduly contribute to a demand for utilities or services which are uneconomical to provide, improve, or maintain.*
> >
> > "*4.8 To encourage public trail systems which provide recreational opportunities and link the waterfront to other areas of the Township.*
>
> "*Development*
>
> > "*4.16 To encourage development which will contribute to the attraction and viability of the Waterfront for visitors and residents.*

> "*4.17 To support the continued and enhanced viability of resorts and marinas, other commercial uses, and residential uses as important elements in the Muskoka economy.*
>
> "*4.18 To control development on the waterfront such that it does not dominate the natural shoreline.*
>
> "*4.19 To ensure golf courses are developed and operated using best management practices for the protection of natural heritage features and functions.*
>
> "*4.20 To foster redevelopment opportunities of residential and commercial properties while maintaining the character of the waterfront area.*
>
> "*4.21 To protect and preserve the cultural heritage and archaeology resources in the waterfront area.*
>
> "*4.22 To promote healthy and active communities by planning for public spaces, parks, public access to water, trails, and open space.*
>
> "*4.23 To ensure all lighting of properties is respectful of neighbours, the environment, navigation and the dark sky.*
>
> "*4.24 To ensure development of small lots is compatible with development in the area.*
>
> "*4.25 To ensure development of undeveloped lakes is sensitive to the existing natural setting, has adequate access, and incorporates traditional modest cottage development.*
>
> "*4.26 To encourage increased energy generation through alternative and renewable energy systems, including small-scale wind and solar power generators.*"

Individual Lake Access Rights

As it pertains to an individual's lake access rights, there are two components of ownership that need to be considered – ownership of land that provides access to a waterbody and ownership of a waterbody, which are further explained below.

Land access to water can be provided by a right-of-way (ROW) governed by the municipality. Alternatively, a private ROW or easement can be granted by a waterfront property owner to the public to permit the use of a road or pathway to access the water. ROWs are registered on title through an agreement that should explicitly set out the intentions and expectations for the use of the ROW.

The permitted users of a private ROW have historically been a point of dispute in Ontario. Therefore, restrictions on the use of private ROW should be explicitly worded when the ROW is registered on title.

Ownership of water in Ontario is subject to policies detailed in the Provincial "Ownership Determination – Beds of Navigable Waters Act", which states the following:

> *"If a navigable body of water is situated within, or borders, in whole or in part, a parcel of land which has been or is granted by the Crown, in the absence of an express grant, the body of water is assumed to be in the possession of the Crown. Thus, if a body of water is deemed to be navigable, it remains in the Crown's ownership after the issuance of the Patent."*

The difficulty, however, lies in determining whether a body of water is deemed "navigable" and therefore under the control of the provincial Crown, which may define the extent of properties and/or serve as the marked boundary between subject lands and those owned by the Crown. The Beds of Navigable Waters Act lists seven factors to inform the navigability of a waterbody; these factors are applied by professional land surveyors, but a lack of certainty still exists in determining the status of a waterbody.

With regards to protecting the public's right to travel on waterbodies, the Navigable Waters Act details the following:

> *"Canada's large network of navigable waters must remain open for Canadians to use. Protecting the public right of navigation is an important element of the new environmental and regulatory system in which good projects go ahead sustainably, with certainty and timely decisions, creating shared value and benefit for Canadians."*

The Navigable Waters Act is also intended to include further guidance to provide greater transparency in navigation-related decision-making and offer local communities more opportunities for involvement in projects that may impact navigation.

7.4.1.2 State-of-the-Practice Township Lake Access Guidelines Needs

Lake access policies ensure that residents have proper and equitable access to lakes while also maintaining environmental sustainability, mitigating environmental impacts to the natural habitat, and respecting private property rights. Policies also can establish design standards and guidelines that contribute to the overall well-being of both the community and the lake ecosystem.

Although the Township currently has policies as it relates to the development of the waterfront and general policies related to access and development, more specific

policies and guidelines were developed as part of this study, as detailed in a subsequent section.

7.4.2 Lake Access Needs and Opportunities

An assessment of lake access needs was conducted to identify additional public access locations based on current and future tourism and recreation demand, recognizing new development areas and the need to service island properties.

An evaluation framework was developed as a tool to identify gaps in lake access locations. The analysis was reliant on geodata to inform the level of proximity for existing accesses and identify areas that would benefit from a lake access. The criteria used to conduct this assessment is provided in Table 7-11. The results of the assessment is illustrated in Figure 7-11.

These sites were identified with the understanding that they serve a recreational purpose; although it is noted that these accesses may serve other purposes such as utility (i.e., pump station), quality testing, search and rescue, firefighting and irrigation.

Table 7-11: Lake Access Assessment Criteria

	Description	Criteria	Priority Points
Serviceability	Proposed new waterbody accesses should fulfill a gap. Locations at underserviced waterfront residential areas should be considered as well as the number of island / water access properties that they would serve.	Lakeside areas that do not reside within a 10 min drive of an existing lake access. The Township Official Plan designates Waterfront areas as those extending inland 150 m from any standing waterbody greater than 8 hectares and outside of areas designated as Urban Centres or Community.	At a minimum, potential lake access locations should not reside within a 10 min drive of an existing access. 10 points for a potential access location servicing island properties that are not already within a 2 km distance to an existing lake access
Proximity of recreational uses / amenities	The availability of nearby amenities, either provided via public facilities or tourist attractions should be leveraged in identifying new waterbody access locations. Proximity to such amenities can also be an indicator of higher visitor/resident activity and subsequently, areas of greater leisure demand. Provision of a variety of land uses (e.g., residential, commercial, recreational, community services, etc.) in one area is important in creating community benefits.	Facility/amenity that is within a 5 to 10 min drive away, including but not limited to: • Community centres. • Tourist attractions (e.g., waterfalls, markets, museums, activity rentals, etc.) • Trails.	5 points for each facility/amenity within a 10 min drive 10 points for each facility/amenity within a 5 min drive
Convenience and Accessibility	The convenience of implementation of a new lake access depends on the existing surrounding conditions and the magnitude of improvements required for it to meet lake access needs. A site considered for lake access may have sightline obstructions or natural and hazardous terrain that impede visibility and/or access, which would require more extensive, and consequently expensive, improvement upgrades. The provision of connecting active transportation facilities, such as sidewalks, trails or transit routes, are also conducive to a convenient access.	Consider need of convenience and access based on: • Proposed lake access fulfills minimum stopping and intersection sight distances as per Transportation Association of Canada (TAC) Geometric Design Guidelines with minimum daylighting requirements met (subject to a site-specific assessment). • Adjacent roads (within 400 m) have sidewalks or paved shoulders. • Transit bus stop within 400 m from the proposed lake access.	5 points each
Environmental Constraints	Lake accesses should not infringe upon areas identified for environmental protection. Within the context of the Township, this includes wetlands, Areas of Natural and Scientific Interest (ANSI), protected properties (e.g., natural reserves) and culturally significant areas. While there may be procedures to work around these constraints, these areas provide environmental benefits, protect important habitats, etc. and therefore, it is recommended that they be avoided.	Consideration will be given if the site is: • Not within a wetland area (including significant and unevaluated); • Not within an ANSI; • Not within a culturally significant area; • Does not encroach on a designated cultural property; • Does not encroach on a protected property; and • Any required removal of vegetation on site (for the purposes of improving sightlines, for example) will not cause slope failure and/or inability to replace native vegetation (subject to a site-specific assessment).	n/a – criteria serve as hard constraints

	Description	Criteria	Priority Points
Engineering / Design	Proposed lake accesses are each subject to a site-specific assessment to determine respective design and site requirements that will allow it to function safety and adequately as a waterbody access. The feasibility of providing a public access to a waterbody is oftentimes complicated by the need for easements. Sufficient right-of-way needs to be provided to accommodate a lake access. The feasibility of implementation is dependent on the extent at which these accesses encroach on private properties and the ability to resolve these encroachments. Acquiring these additional lands can also be costly. As such, the use of existing available municipally-owned rights-of-ways is important in establishing prioritization. In addition, existing site conditions, such as size, soil, terrains and utility services, are all considerations that would impact feasibility of implementation and location suitability.	Note that all criteria listed below are to be assessed through a site review. A site that is able to fulfill the below criteria points to a more optimal lake access location based on existing site conditions, but do not serve as a constraint in its implementation should there still be a desire to implement it; although, it will result in greater construction and design costs for associated improvements. • An existing municipally-owned right-of-way (ROW) (e.g., via a trail / road) can be used for access (i.e., no access via private property is required). • Site slopes do not exceed 20%. Note that this presents challenges to improving land. However, design improvements such as switchbacks and stairs can be considered to address such challenges. In addition, an Environmental Impact Study should be conducted to assess visual and environmental impacts with specific mitigation measures identified. • Site provides a minimum of 90 m water frontage (as per the Official Plan) and sufficient land area to support desired lake access facilities and any physical development requirements (if any). • Site has acceptable soil conditions to allow for proper drainage. • Utility services, including water, sewer, gas, and electric, are available where required.	10 points each
Public / stakeholder input	Current lake access needs identified through public input from the TMP travel demand survey are a key consideration in determining potential lake access locations. Consultation and engagement with the public and stakeholders should continue throughout the process of identifying, designing and implementing new lake accesses.	Subject to the discretion of Township staff and Council, a site is to be considered for a lake access due to significant resident / community interest and support.	15 points
Policy	The proposed lake access supports Township objectives as prescribed in the Official Plan – Section B Waterfront.	See Township Official Plan	n/a – criteria serve as hard constraints

Note: The points system was developed to inform phasing and implementation priority. Generally, a greater number of points awarded means there is a greater short-term need for the facility.

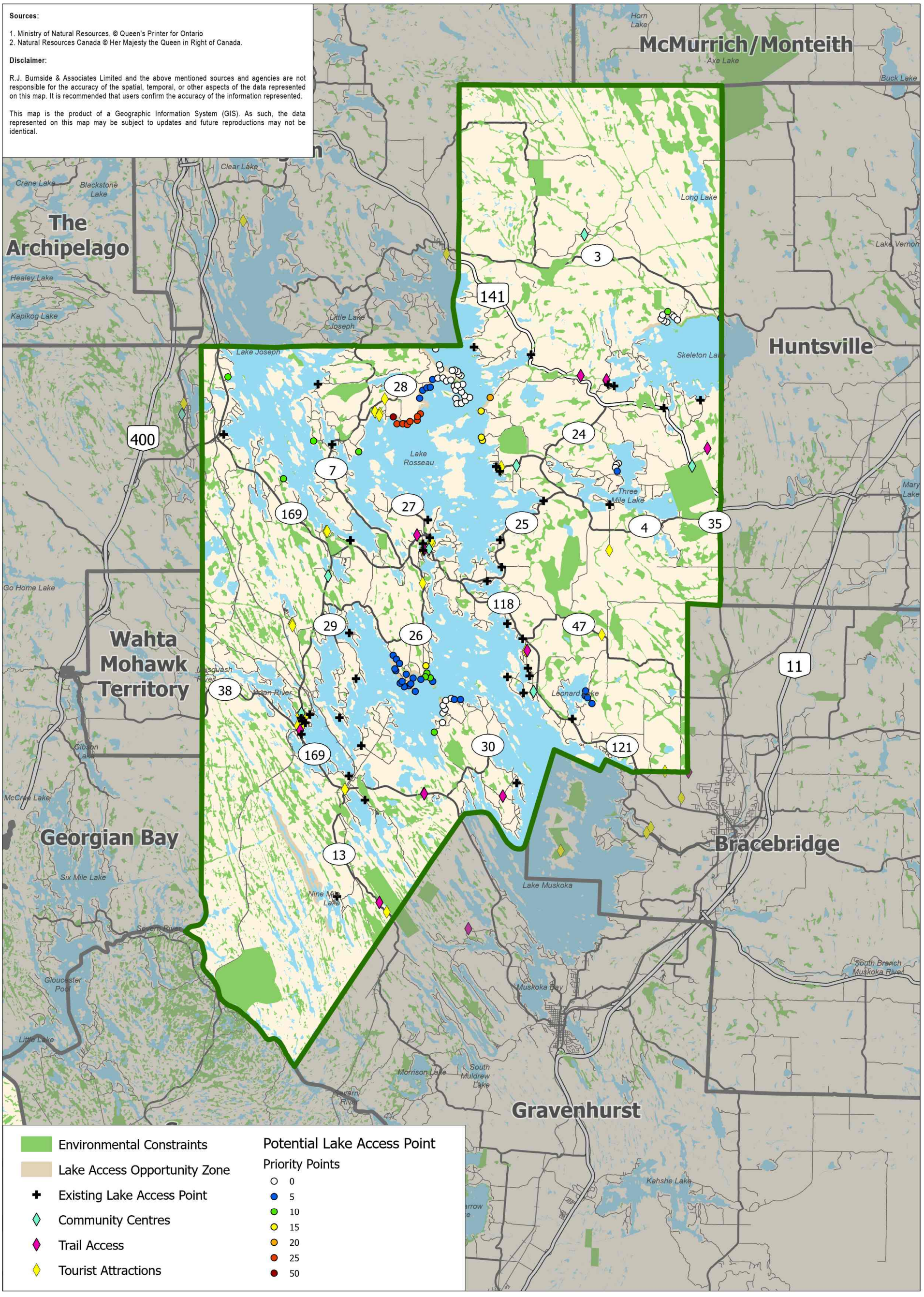
Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

Disclaimer:

R.J. Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to updates and future reproductions may not be identical.



Datum: North American 1983 CSRS	
Coord. System: NAD 1983 CSRS UTM Zone 17N	
Projection: Transverse Mercator	
Central Meridian: 81°0'0.00"W	
False Easting: 500,000m	False Northing: 0m
Page Orientation: -22°	Scale Factor: 0.99960

Grid North

0 2 4 6 8 10 12 14 16
Kilometers
1:200,000

BURNSIDE

Client
TOWNSHIP OF MUSKOKA LAKES

Map Title
LAKES ACCESS LOCATION ACTIVATION

FIGURE 7-11

The locations as listed in Table 7-12 summarize potential future waterbody accesses to be assumed by the Township, along with the recommended phasing. Specific locations can be narrowed down to those located at road ends or along lakeside roads.

Phasing was determined based on the priority points awarded, which is a function of nearby recreational activity, site serviceability / conditions, ease of implementation and community support. The desired function (e.g., boat launch, dock, etc.) and implementation feasibility of the access is further subject to a site-specific review that was not included as part of the scope of the above preliminary, high-level location assessment. Furthermore, additional locations not included in this study may be deemed appropriate based on future studies and public and stakeholder input.

Table 7-12: Potential Lake Access Locations

Location	Access Lake	Priority Points [1]	Priority
Along Morinus Road	Lake Rosseau	50	High
End of Rosseau Lake Road 1	Lake Rosseau	20	High
End of Unnamed Road off of Rostrevor Road (near Treasure Island)	Lake Rosseau	15	High
Along Purdy Road	Lake Rosseau	15	High
Along Cooper Point Road	Lake Muskoka	10	Medium
End of Stroud Beach Road	Skeleton Lake	10	Medium
End of Glencoe Heights Road	Lake Joseph	10	Medium
End of Woodington Road	Lake Rosseau	10	Medium
Along Renley Road	Lake Muskoka	10	Medium
End of Hemlock Hill Road	Lake Joseph	10	Medium
End of Unnamed Road off of Riverdale Road (near Moss Rock)	Lake Joseph	10	Medium
Along Bluff Road / Juddhaven Road (west of Marie Avenue)	Lake Rosseau	5	Low
Along North Shore Road (north of Sandwood Road)	Three Mile Lake	5	Low
Along Mortimers Point Road	Lake Muskoka	5	Low
End of Heather Lodge Road	Lake Muskoka	5	Low
Along Martins Cove	Lake Muskoka	5	Low
End of Pleasant View Point Road	Lake Muskoka	5	Low
Along Woodwinds Road	Lake Muskoka	5	Low
Along Glen Gordon Road	Leonard Lake	5	Low

Note: 1. Does not include points for criteria that require a site-specific assessment.

Where site-specific conditions allow for it, a lake access should include a dock, garbage receptables and benches / seating at a minimum to accommodate most lake activities. Boat launches and parking spaces are desired; however, it is recognized that implementation of these facilities may not be feasible depending on site conditions and are therefore subject to a site-specific assessment.

Upon a site-specific assessment to confirm engineering/design feasibility and property valuations at the proposed lake access locations, it is recommended that the Township seek input from the public and relevant agencies to gauge community acceptance of locations.

It is recognized that some environmentally sensitive sites may be identified to better serve the purpose of protecting their environmental role in the community and thus, may not be a suitable lake access for recreational use. In the case that a site presents impediments to allow public access to the water, the Township may consider the access to be a water-only access to allow those to rest during a storm.

It is recommended that the Township maintain and actively update their interactive lake access map hosted on their website, with an up-to-date inventory of facilities offered and identification of nearby amenities / attractions. Similarly, information boards located along waterbody access roads are recommended to improve user experience and wayfinding, particularly since there is a substantial demographic of users that are travelling from outside of the Township who are unfamiliar with the area.

7.4.3 Waterbody Access Parking Needs and Opportunities

Existing lake accesses with parking amenities within the Township are illustrated in Figure 4-4.

An assessment of existing parking availability at public accesses to major lakes and rivers within the Township was conducted. Parking needs were identified by development benchmark thresholds that compared parking availability with size and attributes that would contribute to parking demand (e.g., tourist attractions). Input provided from the public survey was also reviewed. Results from the survey indicated that the majority of respondents (72%) did not have any issues related to parking near lake access locations. However, based on public feedback, it is understood that residents that own properties on the islands (i.e., water access only properties) require the use of parking lots at lake accesses to park their vehicle overnight before travelling to their property on water. As such, additional parking facilities would serve to accommodate the needs of both recreational users and island-property owners.

It is recommended that the Township also consider the opportunity to offer parking permits for existing and future parking facilities at lake accesses to accommodate the overnight parking demand.

Table 7-13: Parking Near Lake Accesses

Waterbody	Size (km^2)	Key Points within a 400 m Radius of Waterbody	Number of Existing Lake Accesses with Parking	Number of Proposed Lake Accesses
Lake Muskoka	89	13	6	7
Lake Rosseau	55	8	2	6
Lake Joseph	55	4	-	1
Skeleton Lake	21	6	1	1
Three Mile Lake	8.7	-	-	1
Long Lake	5.8	-	-	-
Nine Mile Lake	2.3	-	1	-
Leonard Lake	2.0	-	1	1
High Lake	1.6	-	1	-
Clear Lake	< 1	1	-	-
Brandy Lake	< 1	-	1	-
Moon River	< 1 (within Township)	7	-	1

Note: Key Points include community centres, tourist attractions, trail accesses and transit stops.

Utilizing Lake Muskoka, the most well-serviced lake, as the benchmark for required parking amenities, six waterbodies were identified to be underserved by the existing and proposed parking supply based on a function of waterbody size and surrounding lake attractions. It is recommended that the existing lake accesses summarized in Table 7-14 be considered for the provision of parking amenities.

All future lake accesses, however, should provision for parking facilities on-site or in close proximity to the access (per the recommended lake access policies), where site conditions allow for it.

Table 7-14: Existing Lake Accesses Recommended for Parking

Underserved Waterbody	Existing Lake Access Proposed for Parking
Lake Joseph	McDonalds Road, Foot's Bay
Lake Joseph	Appian Way, Glen Orchard
Lake Joseph	Carlingford Road, Minett
Lake Joseph	Gregory Road, Minett
Skeleton Lake	Simms Road, Ullswater
Skeleton Lake	Skeleton Lake Road 2 / Wilson's Lodge
Long Lake	Muskoka Road #169, Bala

Underserved Waterbody	Existing Lake Access Proposed for Parking
Nine Mile Lake	1201 Nine Mile Lake Road, Torrance
Clear Lake	1132 Clear Lake Road, Torrance
Moon River	Portage Street, Bala
Moon River	River Street, Bala

It is important that parking amenities serving lake accesses be located in close proximity to the waterfront to provide users that need to carry equipment, such as kayaks, canoes and paddleboards, with a reasonable walking distance to access the water. In addition, provisioning for parking amenities will ensure that demand generated from new accesses will not cause overflow in nearby urban areas or businesses where capacity is already limited, and minimize the opportunity for illegally parked vehicles (typically found at road ends and lake access points).

It is recommended that the parking facility types identified below be considered within a maximum 400 m walking distance of the public lake accesses identified above, subject to site conditions.

Facility Type	Description	Example
Off-Street Municipal Parking Lot	These lots will require more land acquisition but have the potential to be located within close proximity to the waterfront. The parking configuration can be adjusted to be more linear (i.e., less parking rows) or angular to reduce the additional land required. It is recommended that the parking lot accesses be free of any obstructions (i.e., growing vegetation) at driveway accesses to ensure sightlines are not impacted. Where feasible, a trail or path for pedestrian access from the lot to the waterbody can also be included similar to the lot at 1148 Milford Bay Road (shown on the right).	**Parking Lot for Lake Access at 1148 Milford Bay Road**  Source: District of Muskoka Geohub

On-Street Parking	On-street parking amenities may be considered in the case that lands for an off-street lot cannot be acquired, as the addition of on-street parking would require much less right-of-way. However, on-street facilities are discouraged along high-volume and/or high-speed roads, as it would increase the likelihood for conflict as a result of parking maneuvers. Parallel spaces or angled spaces can be considered, depending on the configuration that would maximize the capacity on the available allotted space.	**On-Street Parallel Parking along Dwight Beach Road in the Township of Lake of Bays**  Source: Google Aerials
Parking as part of Existing/New Developments	Additional parking amenities can be incorporated as part of the properties of nearby recreational facilities or businesses through a shared agreement, provided that it is within 400 to the access and there is willing cooperation from the landowner.	**Lake Access Parking at Port Carling Wall** 

7.5 Downtown Parking Needs and Opportunities

Parking is made available in urbanized areas of the Township, but parking supply was identified to be a concern by local business owners and residents in the downtown areas of Port Carling and Bala, as these spaces were noted to be at capacity during peak travel times. A needs analysis and strategy for parking in the downtown was developed with the three primary objectives:

- Maximize and improve the use and efficiency of existing lots.
- Improve parking capacity.
- Establish a plan to determine future parking needs.

7.5.1 Data Needs

This Transportation Master Plan develops a high-level parking strategy. However, parking needs at specific locations are determined by data. A parking utilization study needs to be conducted to establish parking demand and turnover at municipal lots in the downtown areas, particularly Port Carling and Bala, where parking concerns were identified. The results of the study will better inform capacity concerns, demand fluctuations and locations of informal or illegal parking. Lots that are impacted by overflow parking can be identified, which can inform opportunities for additional parking facilities.

7.5.2 Efficiency Needs

Parking demand in Port Carling particularly is driven by the operating hours of the local businesses, most of which are only open during the peak summer months. During other months of the year, parking is not as highly utilized. Downtown areas of Port Carling and Bala are also much more densely developed, resulting in more space limitations for additional parking amenities.

In addition, given the parking time limits at lots within the downtown areas, it is important to ensure that drivers are not overstaying their time. Doing so will increase the turnover rate and subsequently, release any latent demand as it would increase the number of vehicles that are able to use that space each hour.

There is a need to improve the efficiency of parking through enforcement and implementing improvements that leverage the existing land use and parking conditions to minimize additional land acquisitions and construction costs.

7.5.3 Capacity Needs

Additional parking supply may be warranted near highly utilized lots. Parking facilities can be implemented as off-street lots, which will be more costly and may be more difficult to provision for given the limited space available in the downtown areas. On-street parking may also be considered along local residential roads near downtown; however, this is not desirable given most existing local roads do not have sufficient road allowances to provision for on-street parking and thus, may require costly property acquisitions.

Provisioning for additional parking capacity needs to be considered in tandem with planned developments. This can be achieved by incorporating parking policies in the Township's Zoning By-law 2014-14 (ZBL). The current ZBL prescribes minimum parking requirements associated with new developments. In the case of commercial / retail developments, these minimum requirements serve to facilitate both short-term parking

for visitors and long-term parking for employees. These policies can be reassessed to address increased demand in specific areas.

7.5.4 User Needs

The Township is home to many tourist attractions and its cottage-country character further drives tourist demand. As a result, many travellers visiting the downtown areas of Port Carling and Bala may not be familiar with parking alternatives. There is a need to introduce clear wayfinding signage to denote the availability and directions to nearby parking facilities.

7.5.5 Parking Strategy

A summary of parking opportunities and strategies, derived based on the above needs, are summarized in Table 7-15.

Table 7-15: Downtown Parking Strategy

Recommendation	Strategy
Collect Data	
Conduct a Downtown Parking Utilization Study	The proposed scope of a Downtown Parking Utilization Study is as follows: **1. Data Collection** Surveys to be conducted at all publicly accessible parking facilities or lots on: • A summer weekday between 10 AM to 6 PM • A summer weekend between 11 AM to 9 PM • During the Bala Cranberry Festival Data to be collected include: • Parking utilization (number of parking spaces occupied) on a per hour basis • Parking turnover at time-restricted lots • Observations of informal or illegal parking • Input from the public, downtown businesses and Township staff

Recommendation	Strategy
	2. Data Analysis It is recommended that the results of the parking survey be summarized and include a review of the following: • Areas where there are parking shortages, high turnovers, overstayers, significant demand fluctuations, etc. • Impacts of overflow parking from major events • Identify operational impacts (e.g., sight distance obstructions) due to informal or illegal parking • Opportunities to provide additional or off-site parking supply at highly utilized lots • Opportunities to use underutilized lots to accommodate nearby capacity-constrained facilities
	3. Recommendations Based on the data analysis, recommendations for parking improvements can be derived to address identified issues. Improvements can include parking strategies prescribed in this Transportation Master Plan, applied to specific locations, as warranted. A parking plan may be developed for major events to address parking overflow and consider the opportunity for shuttle services and paid parking.
Improve Efficiency of Use	
Parking Patrol / Enforcement *	Parking patrol / enforcement can monitor existing municipal lots with parking time limits either at random times throughout the day during summer peak parking periods or at particular locations where poor parking compliance was identified. Parking is to be enforced by issuing tickets for time infractions. It is recommended that a cost-benefit review be conducted to assess the financial feasibility of this improvement.
Implement Parking Time Restrictions *	Parking time restrictions can be applied in locations where there is observed to be high turnover. Existing parking restrictions in the downtown areas can also be further reduced if parking survey data indicates that vehicles are parking for a shorter time. The purpose of these restrictions is to improve parking capacity per hour and efficiency during peak periods. With new or updated parking restrictions introduced, it is recommended that it be complemented by enforcement, as mentioned above.

Recommendation	Strategy
Shared Parking / Easements *	Shared parking agreements can be established, sometimes in the form of easements, with businesses that offer parking amenities near the municipal lots in the downtown core. For instance, the municipal lot located across Portage Street in Bala is shared with the local bakery. This would only serve as a viable option if parking survey data indicated that these lots have excess capacity during peak periods.
Pave Lots	Several parking lots in Port Carling and Bala are gravel. Paving these lots to asphalt surfaces and providing painted parking stalls serves to better distinguish these areas as parking and make it a more desirable place to park. This ultimately may help increase the use of these lots.
Improving Capacity	
Zoning By-law Review of Non-Residential Parking Rates for New Developments	A review of the Township's ZBL is recommended based on the results of the parking survey to determine if minimum parking requirements need to be updated for non-residential rates to provision for more parking capacity as part of new developments. The ZBL may prescribe different parking rates for development within the Urban Centres of Bala and Port Carling to address downtown-specific needs. In support of alternative sustainable modes, the ZBL may also prescribe minimum requirements for bicycle parking spaces and facilities for new developments.
Additional Off-Street Lots *	Locations of additional off-street lots can be informed by the results of the parking survey, but less costly alternatives (such as those summarized above) should be investigated first.
Designing for Users	
Wayfinding and Parking Signage	Physical bulletin boards illustrating parking inventory may be considered at major tourist attractions to help with navigation. This bulletin board can also serve to identify nearby attractions. Signage that directs drivers to alternative nearby parking locations is recommended at lots identified to be at/near capacity during peak periods. This will also help improve the use of underutilized lots that drivers may not have previously been aware of.
Real-Time Parking Information	There is an opportunity for the Township to develop a publicly-accessible, interactive map with parking locations and supply indicated, similar to the existing lake access map currently on the website.

Recommendation	Strategy
Investigating Electric Vehicle Infrastructure *	There is a need to further investigate the Township's role in electric vehicle charging stations and the relationship with Township parking supply.

* Subject to results of the Downtown Parking Utilization Study

8.0 Operational Policies

To support the network and infrastructure improvements, a set of supporting operational policies were developed to address transportation needs and opportunities. These operational policies can be used to guide future decisions pertaining to traffic operations. Anticipated to undergo progressive refinement and adjustment, the policies will remain receptive to emerging concerns and the availability of new information. The array of operational policies presented in the TMP establishes a fundamental groundwork and framework, entrusted to the Township staff for further enhancement and augmentation.

The following operating policies were developed:

- Lake Access Policy;
- Road Design Policy;
- Road rationalization Policy;
- Speed Policy; and
- Roundabout Policy.

8.1 Lake Access Policy

A jurisdictional scan was conducted to assess lake access guidelines in other Norther American areas, including the City of Vernon (British Columbia), District of Saanich (British Columbia), Prince George (British Columbia), Moose Lake (Alberta) and West Viriginia. Based on this review, and considering existing policies/standards in the previous section, the following lake access guidelines are recommended for the Township:

Lake accesses shall:

- Redirect overland flow routes to the lake through public rights-of-way, where possible;
- Incorporate surface and sewage drainage at the design stage and as part of improvement plans for a site;
- Be designed to ensure construction, maintenance and bylaw compliance officers can access these sites on a regular basis;
- Include physical barriers such as rollbacks at entry points and intersections of lake accesses to deter further access;
- Remove encroachments, at the owner’s expense, prior to any construction or improvements being made;
- Be marked to indicate the limits of lake access to assure private property is respected;
- Provision for parking facilities on-site or in close proximity to the access, where site conditions allow for it;

- Be maintained by the Township, including its right to public access;
- Be marked at legal boundaries with posts at the road;
- Incorporate appropriate signage to be installed on the upstream road to warn drivers head of a lake access and ideally in advance of a safe approach;
- Assess the feasibility of including parking amenities within 400 m of the access, where site-conditions allow for it; and
- Abide by the Township By-law 2003-29 and Official Plan Waterfront Policies.

It is recognized that public lake accesses can lead to adverse environmental impacts as a result of overfishing, pollution and wildlife disturbance. The design, construction and maintenance of lake accesses shall have regard for safety and environmental standards as follows:

- Ensure that the construction of lake accesses is in accordance with strategic planning objectives for the control of deforestation.
- Confine design construction maintenance activities to areas outside of environmentally sensitive and culturally significant lands.
- Ensure lake access infrastructure employs ditch erosion control and steam erosion control measures and is constructed, monitored and maintained to ensure effective and functional fish passage.
- Avoid access routes across navigable waters and critical habitats of species at risk.

In addition, it is recommended that lake access objectives be addressed a part of other high-level planning documents, such as Land and Resource Management Plans, in consultation with relevant stakeholder agencies and the public.

8.2 Typical Road Cross-Sections

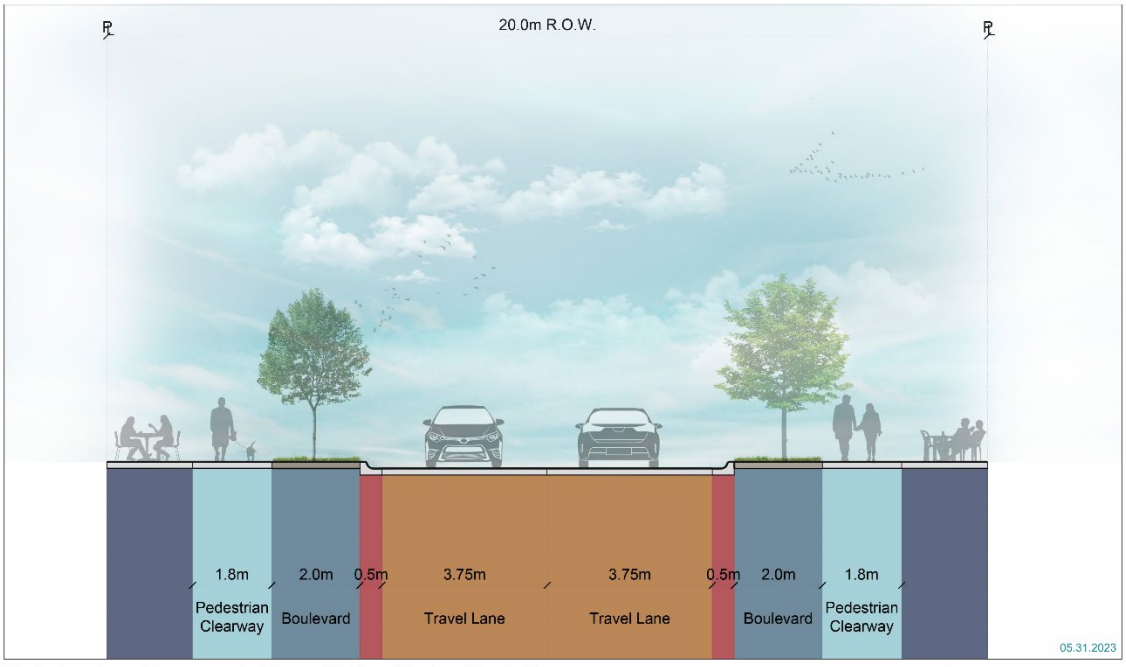
Given the different functions of District and Township roads, it is recommended that Engineering Design Standards be developed to build on the existing standards from the District and establishes road designs that address Township-specific needs through the cross-sectional road design standards recommended in Table 8-1 and illustrated in the figures below.

Table 8-1: Recommended Township Road Design Standards

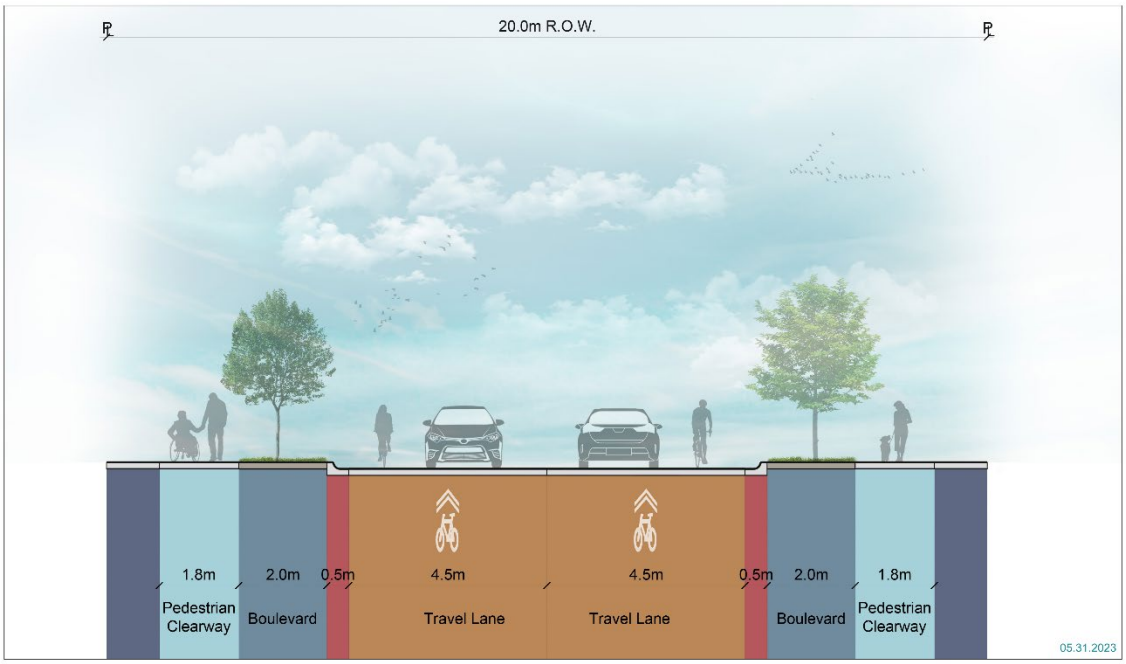
Context	Class	Right-of-Way (ROW) Width (m)	Travel Lane Width (m)	Active Transportation (m)	Pedestrian Clearway Width (m)
Urban	Collector	20	3.75	0.75	1.8
	Local	20	3.25	0.75	1.8
Rural	Collector	20	3.25	2	n/a
	Local	20	3.0	1.0	n/a
	Cottage	20	2.75	0.5	n/a

Notes: Allow for a 0.5 m rounding between the shoulder and the ditch
Active Transportation elements refer to shared travel lanes in an urban setting, which requires a 4.5 m travel lane (resulting an additional 0.75 m width) or paved shoulders in a rural setting.

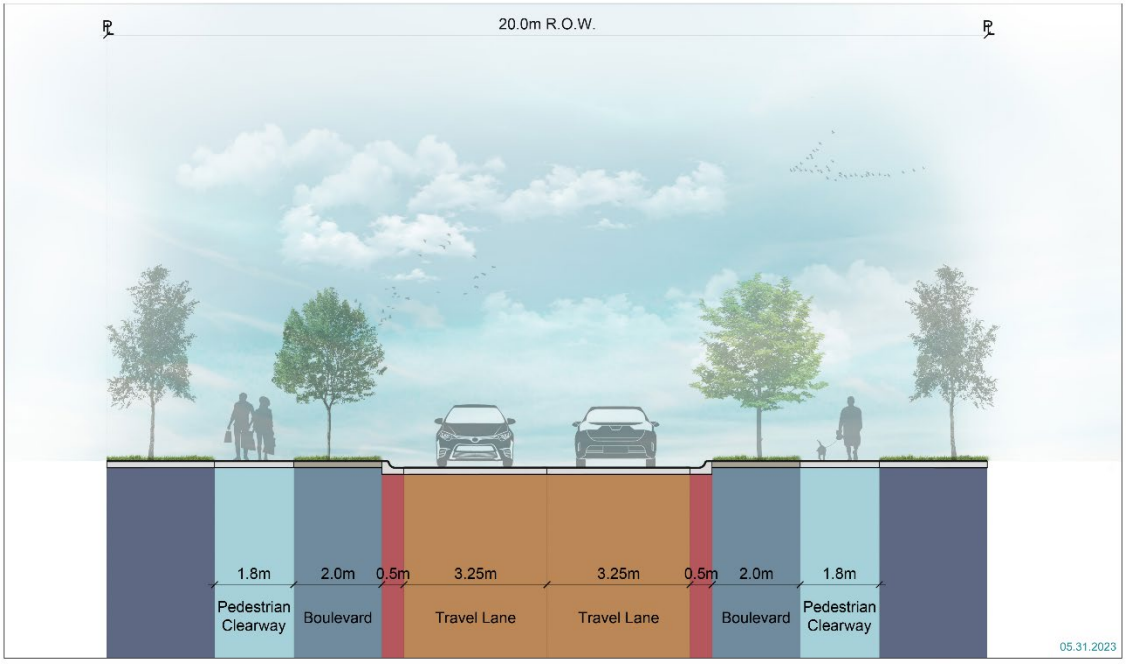
Under the Accessibility of Ontario with Disabilities Act (AODA) guidelines, pedestrian facility design requirements include a minimum clear width of 1.5 m. The Township should ensure that future sidewalks are constructed with desirable pedestrian clearway (unobstructed sidewalk zone) width of 1.8 m to allow for passing of two wheelchairs. Through rehabilitation of existing sidewalks, the Township should explore the feasibility of reconstructing existing sidewalks to a more desirable width.



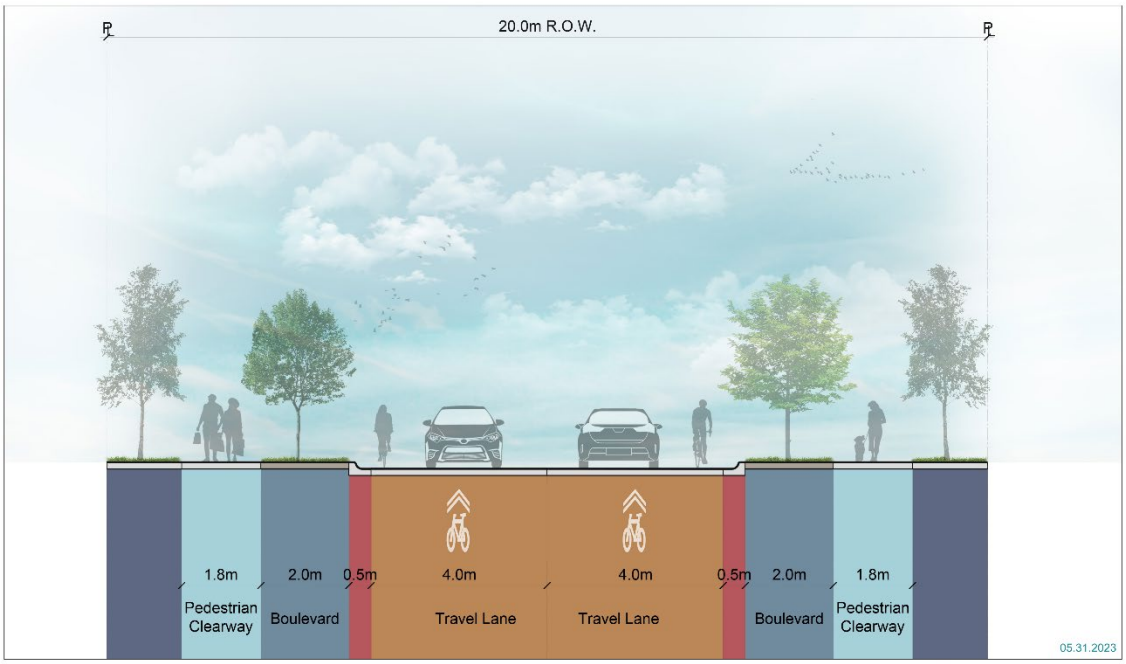
Muskoka Lakes - Recommended Township Road Design Standards
URBAN COLLECTOR



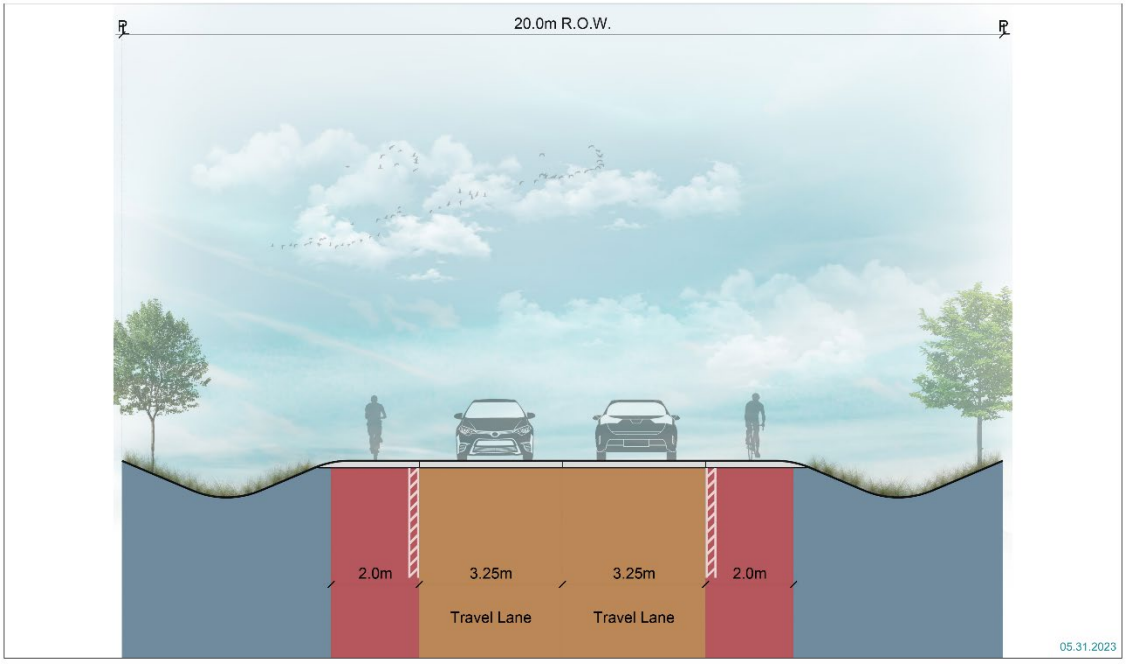
Muskoka Lakes - Recommended Township Road Design Standards
URBAN COLLECTOR WITH ACTIVE TRANSPORTATION



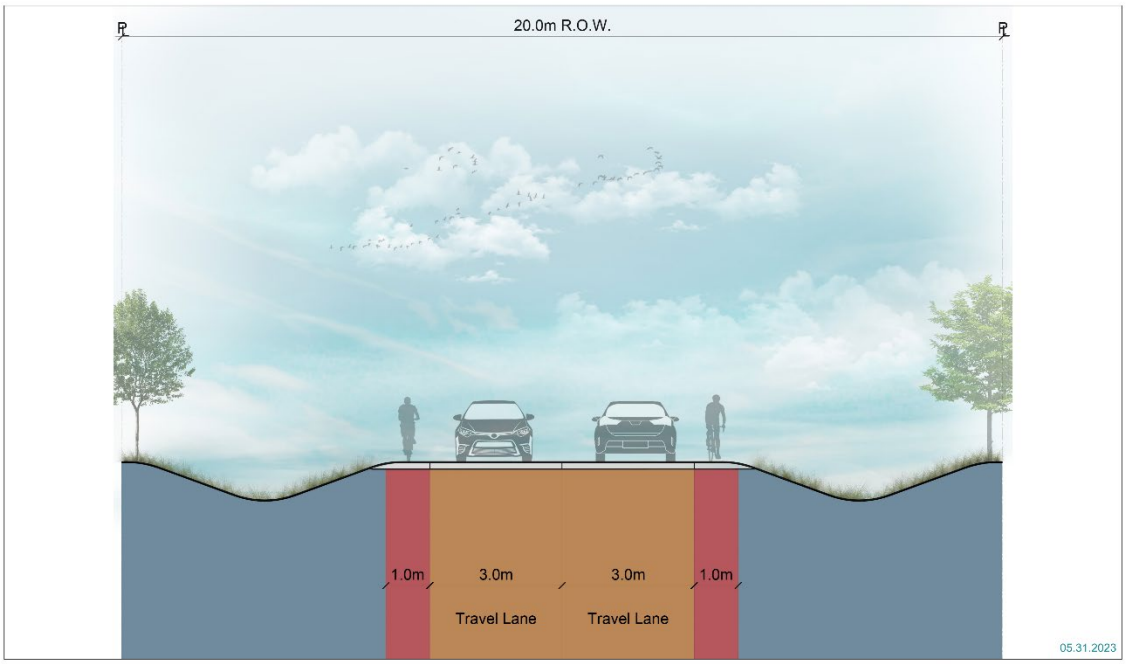
Muskoka Lakes - Recommended Township Road Design Standards
URBAN LOCAL



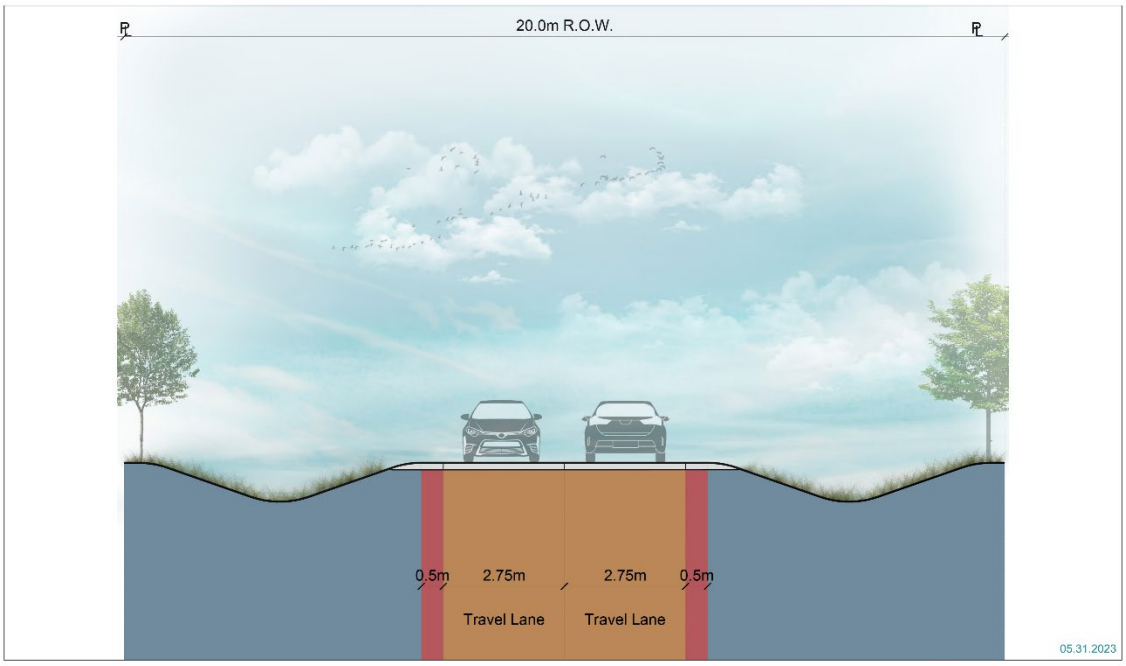
Muskoka Lakes - Recommended Township Road Design Standards
URBAN LOCAL WITH ACTIVE TRANSPORTATION



Muskoka Lakes - Recommended Township Road Design Standards
RURAL COLLECTOR



Muskoka Lakes - Recommended Township Road Design Standards
RURAL LOCAL



Muskoka Lakes - Recommended Township Road Design Standards
RURAL COTTAGE

8.3 Road Rationalization Policy

The efficient management and organization of road networks are essential for the safe and effective movement of vehicles and pedestrians within a municipality. A well-defined road hierarchy is crucial in achieving this goal by classifying roads based on their functionality and characteristics. The road rationalization policy aims to establish a road rationalization framework for the Township of Muskoka Lakes to determine the designation of roads between the District and the Township. The road rationalization policy and results are provided in **Appendix G** and summarized below.

The road rationalization criteria published by the Ontario Goods Roads Association was reviewed along with road rationalization studies conducted for:

- Dufferin County (2015)
- Simcoe County (2008)
- Northumberland County (2017)
- District of Muskoka (2017)
- Durham Region (2018)
- Oxford County (2021)

The District's road rationalization criteria and methodology was adopted and applied to Township and District roads within the Township's geography.

Candidate roads were identified to be transferred from the Township to the District and from the District to the Township. The results of the evaluation indicate that the following roads should be transferred from the District:

- District Road 26 from District Road 169 to District Road 118
- District Road 27 from District Road 118 to Robert Johnston Road
- District Road 28 from Peninsula Road to Morinus Road
- District Road 29 from District Road 169 to Acton Island Road
- District Road 30 from District Road 169 to Broadley Road
- District Road 47 from District Road 118 to Township limits/ Falkenburg Road

8.4 Speed Policy

Establishing enforceable and appropriate speed limits is important in both urban and rural settings to provide drivers with a sense of what speed is safe for prevailing conditions. However, posted speeds are only a form of regulation and should therefore also be enforced by control measures that will effectively reduce vehicle speeds.

The need to adjust posted speeds should be considered with safety as a priority. This means setting speed limits that account for the severity of collision impact on vulnerable road users such as pedestrians and cyclists.

The purpose of this speed policy is to establish a systematic, decision-making framework for Township-operated roads to ensure that posted speed limits align with the expectations of drivers and are suitable given the context of the surrounding area.

This speed policy was developed with the goal of establishing posted speed limits that:

- Are credible and reasonable given the context of the corridor
- Do not arbitrarily penalize safe drivers
- Do not create a false sense of safety for other road users

The speed policy and supplemental information are found in **Appendix F**. It is recommended the Township conduct a speed study using this policy as guidance. Further, upon implementation of any speeding control measures recommended from the speed study, annual monitoring is recommended to assess their effectiveness.

8.5 Roundabout Policy

Roundabouts are circular intersections that have become an alternative to signalization and an option to manage traffic. Generally, vehicles travelling through a roundabout will circulate in a counterclockwise direction around a central island and will need to yield to competing traffic.

There are several types of roundabouts which have their advantages and disadvantages. In some situations, other types of intersection control is more suitable. To determine which locations are more suitable for roundabouts, a roundabout policy was developed for the Township that contains a screening process to determine desirable locations for new roundabouts or roundabout conversions.

The roundabout policy and results of the screening process are found in **Appendix E**.

9.0 Alternative Strategies Evaluation

A fundamental component of Phase 2 of the Municipal Class Environmental Assessment process is the identification and assessment of a range of reasonable alternative strategies. This requirement stems from the recognition that a single proposed strategy may not comprehensively capture the diverse perspectives and objectives of the community. Types of alternative strategies considered in this study are presented in the following section. Transportation initiatives or projects included as part of each alternative strategy are summarized in Table 9-1.

9.1 Identification of Alternative Strategies

Alternative 0 – "Do Nothing" Scenario: Maintaining the status quo is an alternative that the Township can consider. It would be a strategy that addresses the regulatory responsibilities of the Township in maintaining the Township Road, bridges, and trail system, including addressing operational needs. It would, however, not include new solutions to improve active transportation, lake access, parking, and transit services. This scenario would require a ***low (or no) increase in funding*** for capital investment and operations. This scenario includes the development of policies to proactively and reactively address transportation issues such as speeding and road design standards.

Alternative 1 – Low-Investment Scenario: In addition to meeting the regulatory responsibilities (Alternative 0), the Township would invest in high-priority infrastructure to address road safety issues and develop a supportive and coordinating services for active transportation, transit and Travel Demand Management (TDM). This scenario relies on other parties and partners to lead initiatives. This scenario would require a ***low increase in funding*** for staff and support resources to implement coordination services.

Alternative 2 – Medium-Investment Scenario: In addition to meeting the regulatory responsibilities, supportive and coordinating services, and investment of high-priority road infrastructure, the Township would invest in additional active transportation, lake access, and parking infrastructure. This strategy will incorporate a fulsome range of infrastructure improvements and require a ***moderate increase in funding*** for capital investment and operations including staff and support resources to implement and operate the transit and TDM initiatives.

Alternative 3 – High-Investment Scenario: In addition to additional policies and coordination efforts, this strategy contains the highest level of infrastructure improvement. This scenario would require a ***high increase in funding*** for capital investment and operations including staff and support resources to implement and operate the additional walking, cycling and other recreational infrastructure and support services.

Table 9-1: Alternative Strategies

Transportation Initiative	Alternative 0 Business-As-Usual	Alternative 1 Low Investment	Alternative 2 Medium Investment	Alternative 3 High Investment
Road Network and Bridge Improvements				
Adopt the Township Typical Road Cross-Sections as part of the Township's Engineering Design Standards	✓	✓	✓	✓
Adopt Road Rationalization Policy, including recommendations to download select District roads to the Township		✓	✓	✓
Adopt Township Speed Policy		✓	✓	✓
Adopt Township Roundabout Policy		✓	✓	✓
Collaboration with the District on a Port Carling Alternate Route Study to address congestion on District Road 118		✓	✓	✓
Inclusion of non-maintained roads into Township's municipal inventory	✓	✓	✓	✓
Collaborate with the District on an Emergency Services Route Study to identify alternative emergency service detour routes and intersections requiring traffic signal pre-emption		✓	✓	✓
Collaborate with the District on an Intersection Improvements Study (16 locations)			✓	✓
Installation of signage and pavement marking improvements at select Township bridges			✓	✓
Conduct a New Corridors Study to support active transportation and lake access				✓
Collaborate with the MTO to investigate the opportunity to allow for golf carts on Township roads		✓	✓	✓
Conduct a Township Speed Study				✓
Transit Improvements				
Collaborate with the District to investigate opportunities for Township Transit Connections and On-Demand Routes as part of the District Community Transportation Plan Update			✓	✓
Lake Access Improvements				
Adopt Lake Access Policy		✓	✓	✓

Transportation Initiative	Alternative 0 Business-As-Usual	Alternative 1 Low Investment	Alternative 2 Medium Investment	Alternative 3 High Investment
Investigate the feasibility of issuing parking permits for existing and future parking facilities at lake accesses		✓	✓	✓
Review and implementation of high-priority lake and waterbody accesses		✓	✓	✓
Review and implementation of medium-priority lake and waterbody accesses			✓	✓
Review and implementation of low-priority lake and waterbody accesses				✓
Active Transportation Improvements				
Review and implement the Around the Lake active transportation facilities				✓
Advisory Bike Lane Study and Pilot			✓	✓
Conduct an Off-Road Trails Study			✓	✓
Parking Improvements				
Conduct a Downtown Parking Utilization Study		✓	✓	✓
Pave existing gravel lots and delineate stalls				✓
Conduct a Zoning By-law review of non-residential parking rates for new developments		✓	✓	✓
Installation of bulletin boards illustrating parking inventory at major tourist attractions			✓	✓
Develop a publicly-accessible, interactive online map with an inventory of parking locations and parking supply indicated				✓

9.2 Evaluation Process

Evaluation criteria and sub-criteria, as detailed in Table 9-2, have been developed for the alternative solutions (strategies) based on typical requirements of the Municipal Class EA process. Indicators are measure of these criteria that reflect insights on qualitative measures or available quantitative data. The criteria and indicators were chosen based on the Transportation Master Plan's visions statement and objectives which were refined based on stakeholder input.

The evaluation summary of the alternative strategies based on established criteria is provided in Table 9-3.

Table 9-2: Evaluation Criteria

Criteria	Sub-Criteria	Criteria Indicators
Sustainability	Air quality and greenhouse gas emissions	Degree to which alternative: • Reduces GHG emissions / climate-related costs per capita • Manages energy use and carbon • Increases carbon resilience • Supports clean energy initiatives
	Mobility choice and transit accessibility	Degree to which alternative: • Considers a prioritization of transportation modes based on the rural or urban structure of the community • Increases communities that are served by non-auto modes i.e., transit • Allows for improved ease of access to transit • Allows for more frequent and convenient transit
	Active transportation accommodation	Degree to which alternative promotes more attractive walking and cycling environments
Financial	Capital cost	Degree to which alternative requires: • Capital investment for construction and engineering support (Qualitative estimate) • Capital investment for acquisition of property, fleet and equipment (Qualitative estimate)
	Operating and maintenance costs	Degree to which alternative requires: • Additional staff resources • Outsourced contract services • Funding for operations and maintenance of all modes of travel and support systems (Qualitative estimate)
Safety	Intersection safety	Degree to which alternative addresses misaligned intersections and poor sightlines
	Bridge safety	Degree to which the transportation system is designed to consider human factors providing clarity to drivers at bridges

Criteria	Sub-Criteria	Criteria Indicators
	Supports movement of emergency services	Degree to which the transportation system supports the movement of emergency vehicles en-route
Policy Objectives	Supports established communities and development objectives	Degree to which alternative: • Supports Provincial, District, and Township policies • Supports established residential communities • Promotes opportunities for development • Supports the development of communities • Supports healthy living by encouraging walking and cycling
Environmental and cultural impacts	Impacts to designated natural areas	Potential impacts to: • Significant Woodlands and Valleylands • Areas of Natural or Scientific Interest (ANSI) • Provincially or Locally Significant Coastal Wetlands • Significant Wildlife Habitat, Fish Habitat, and Habitat of Endangered and Threatened Species
	Impacts to Source Water Protection Features	Potential impacts to: • Wellhead Protection Areas • Intake Protection Zones • Significant Ground Water Recharge Areas • Highly Vulnerable Aquifers
	Impacts to terrestrial environment	Potential impacts to: • Existing vegetation • Wildlife, wildlife habitats and terrestrial Species at Risk
	Impacts to aquatic environment	Potential impacts to: • Existing watercourses • Aquatic habitats and Species at Risk
	Impacts to the Cultural Environment	Degree to which alternative: • Has potential to impact built heritage resources and cultural heritage landscapes • Has potential to impact relative estimate of areas of high archaeological potential
Network Efficiency	Improves network connectivity and facilitates vehicular throughput	Degree to which alternative: • Addresses roadside safety issues • Maintains sufficient road capacity to meet traffic demands • Improves traffic flow, circulation and safety at intersections
	Ensures roadways are maintained	Degree to which alternative: • Ensures all roads within the Township's municipal allowance are maintained

Legend
Least Preferred to Most Preferred
○ ◔ ◑ ◕ ●

Table 9-3: Evaluation of Alternative Strategies

	Alternative 1 **Business-As-Usual**	**Alternative 2** **Low Investment**	**Alternative 3** **Medium Investment**	**Alternative 4** **High Investment**
Sustainability	○	◔	◕	●
Air quality and greenhouse gas emissions	• Anticipated congestion along Highway 118 will increase GHG emissions and GHG emissions per capita • Anticipated delays at intersections will increase GHG emissions and GHG emissions per capita	• Anticipated delays at intersections will increase GHG emissions and GHG emissions per capita	• Anticipated future congestion and delays along roadway segments and intersections are addressed, decreasing GHG emissions per capita	• Anticipated future congestion and delays along roadway segments and intersections are addressed, decreasing GHG emissions per capita
Mobility Choice and Transit Accessibility	• Does not improve mobility choice such as transit accessibility within the Township and accessibility to the District transit system and Northlander rail	• Potential minor improvements to the District transit network within the Township	• Potential minor improvements to the District transit network within the Township	• Potential major improvements to transit connectivity via on-demand transit
Active transportation accommodation	• Does not enhance the provision of active transportation	• Improves on-road active transportation connections between communities	• Improves on-road active transportation connections between communities • Improves on-road active transportation connections within communities	• Improves on-road active transportation connections between communities • Improves on-road active transportation connections within communities
Safety	○	◔	◕	●
Intersection safety	• Does not enhance intersection improvement	• Does not enhance intersection improvement	• Addresses and improves safety at intersections	• Addresses and improves safety at intersections
Bridge safety	• Does not enhance safety at Township bridges • Does not enhance safety at District bridges	• Does not enhance safety at Township bridges • Does not enhance safety at District bridges	• Addresses and improves safety at Township bridges	• Addresses and improves safety at Township bridges • Addresses safety at District bridges
Supports movement of emergency vehicles	• Does not improve the safety of first responders	• Slightly supports movement of EMS vehicles through potential detours routes and additional maneuverability with paved shoulders	• Supports movement of EMS vehicles through potential detours routes and additional maneuverability with paved shoulders	• Supports movement of EMS vehicles through potential detours routes and additional maneuverability with paved shoulders
Policy Objectives	○	◔	◕	●
Supports established communities and development objectives	• Does not address vision, need and opportunity of the Township • Does not address policy objectives, specifically from the Township and the District	• Addresses some needs and opportunities of the Township • Does not address policy objectives, specifically from the Township and the District	• Addresses many of the needs and opportunities of the Township • Addresses many of the policy objectives from the Township and the District	• Addresses the needs and opportunities of the Township • Addresses most of the policy objectives from the Township and the District

	Alternative 1 **Business-As-Usual**	**Alternative 2** **Low Investment**	**Alternative 3** **Medium Investment**	**Alternative 4** **High Investment**
Environmental and cultural impacts	●	◕	◑	◔
Designated Natural Areas	• Little to no impact due to the lack of new infrastructure improvements • Anticipated minimal impacts associated with maintenance of additional roads	• Potential impact associated with the implementation of short-term lake accesses	• Some impact anticipated for the implementation of short-term and medium-term lake accesses, and intersection improvements	• Highest impact anticipated for the implementation of all proposed lake accesses, intersection improvements and the Around the Lake facilities
Source Water Protection Features	• Source water protection features are not anticipated to be impacted	• Source water protection features are not anticipated to be impacted	• Source water protection features are not anticipated to be impacted	• Source water protection features are not anticipated to be impacted
Terrestrial Environment	• Little to no impact due to the lack of new infrastructure improvements • Anticipated minimal impacts associated with maintenance of additional roads	• Potential impact associated with the implementation of short-term lake accesses	• Some impact anticipated for the implementation of short-term and medium-term lake accesses, and intersection improvements	• Highest impact anticipated for the implementation of all proposed lake accesses, intersection improvements and the Around the Lake facilities
Aquatic Environment	• Little to no impact due to the lack of new infrastructure improvements • Anticipated minimal impacts associated with maintenance of additional roads	• Potential impact associated with the implementation of short-term lake accesses	• Some impact anticipated for the implementation of short-term and medium-term lake accesses, and intersection improvements	• Highest impact anticipated for the implementation of all proposed lake accesses, intersection improvements and the Around the Lake facilities
Cultural Environment	• Little to no impact due to the lack of new infrastructure improvements • Anticipated minimal impacts associated with maintenance of additional roads	• Potential impact associated with the implementation of short-term lake accesses	• Some impact anticipated for the implementation of short-term and medium-term lake accesses, and intersection improvements	• Highest impact anticipated for the implementation of all proposed lake accesses, intersection improvements and the Around the Lake facilities
Network Efficiency	○	◔	◕	●
Network connectivity	• Does not enhance the connectivity of the Township road and bridge network	• Potentially higher connectivity of the Township road and bridge network	• Potentially higher connectivity of the Township road and bridge network	• Potentially higher connectivity of the Township road network • Potentially addresses speeding concerns on Township roads • Potentially improves safety District bridge safety
Maintenance	• Ensures all roads within the Township's municipal allowance are maintained	• Ensures all roads within the Township's municipal allowance are maintained	• Ensures all roads within the Township's municipal allowance are maintained	• Ensures all roads within the Township's municipal allowance are maintained
Financial	●	◕	◕	◔
Capital cost	• Minimal impact to capital costs	• Minimal infrastructure investments and studies	• Moderate level of infrastructure investments and studies	• High level of infrastructure investments and studies
Operating and maintenance costs	• Higher operating and maintenance cost with the inclusion of additional non-maintained roads	• Higher operating and maintenance cost with the inclusion of additional non-maintained roads	• Higher operating and maintenance cost compared to BAU with the inclusion of additional non-maintained roads and additional operating costs of new lake accesses	• Highest operating and maintenance cost compared to BAU with the inclusion of additional non-maintained roads, additional operating costs of new lake accesses, and potential addition of off-road trails
Overall Assessment	**Not preferred**	**Not preferred**	**Not preferred**	**Recommended**

9.3 Preferred Strategy

Alternative 4, a high-investment strategy, is preferred. This scenario entails a transportation network that focuses on road and bridge improvements, the development of active transportation infrastructure, parking, and lake accesses, and exploring transit improvements such as on-demand transit. The multi-modal transportation network is anticipated to be able to accommodate the planned population and employment growth within the Township of Muskoka Lakes, promote economic development and tourism opportunities, while supporting climate change objectives.

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

Along with improvements to transportation infrastructure, the preferred strategy includes operational policies to address future transportation system needs, which is summarized in the next section.

9.3.1 Climate Change Considerations

Environmental assessment is a planning and decision-making process used to promote environmentally responsible decision-making. In Ontario, this process is governed by the Environmental Assessment Act. This Transportation Master Plan considers climate change as part of the environmental assessment process and has selected a climate-focused approach as the preferred strategy.

The vision statement (or problem/opportunity statement) of the TMP which was developed during the early stages of this study recognizes the importance of achieving climate change objectives. The vision set the stage for developing a list of transportation needs and opportunities that addresses all modes of transportation such as active transportation, transit, and lake access. Developing the infrastructure for these alternative transportation modes provides alternatives to driving which is anticipated to reduce GHG emissions and decrease the negative impacts to air quality from traditional internal combustion engine vehicles (ICEVs).

The TMP evaluated four different high-level alternative solutions. The evaluation criteria included the solutions' impact to climate change and the natural and cultural environment. The natural and cultural environment was inventoried as part of the initial stages of the TMP. The evaluation criteria also included the degree to which the alternative supports mobility choice and transit accessibility as well as active transportation accommodation. These evaluation criteria directly have an impact to achieving climate change objectives and supporting a sustainable transportation system.

The preferred strategy contains a multi-modal approach that ensures greenhouse gas emissions and negative effects to air quality are minimized. The strategy includes the following:

- The development of typical road cross-sections that consider pedestrian and cycling facilities.
- Support for enhanced transit connections within the Township and within the District.
- Close collaboration with the District on their next transit study and to specifically explore on-demand transit solutions to provide enhanced local connectivity within the Township.
- On-road and potential off-road active transportation facilities for both residents and tourists.
- Additional lake access to support healthy lifestyles for all residents throughout the Township.

As outlined in the study approach (Section 1.2), this Master Plan addresses Phases 1 and 2 of the five-phase Municipal Class EA process. This study can be used as the basis for and in support of future investigations for specific Schedule B and C projects. Climate change is considered during the implementation of the preferred strategy. For Schedule B projects, monitoring of construction for adherence to environmental provisions and commitments is typical. For Schedule C projects, where there is potential for significant environmental impacts, Phases 3 to 5 will identify and address these direct impacts more thoroughly.

10.0 Recommended Strategy

10.1 Proposed Improvements

A list of all proposed improvements associated with the preferred high-investment transportation strategy is provided in the tables below, and includes the anticipated project lead, improvement type and recommended phasing. Table 10-1, Table 10-2, Table 10-3, Table 10-4 and Table 10-5 reflect roads/bridges, transit, active transportation, parking and lake access improvements, respectively.

Table 10-1: Proposed Roads and Bridges Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
1	District	Collaborate with the District on an Emergency Services Route Study to identify alternative emergency service detour routes and intersections requiring traffic signal pre-emption	Study	**Immediate (1-5 years)**
2	Township	Conduct a Speed Study to investigate Township roads with speeding concerns and identify traffic control improvement measures	Study	**Immediate (1-5 years)**
3	District	Collaborate with the District on an Intersection Improvements Study (16 locations) to identify and address operational, sightline and safety concerns	Study	**Immediate (1-5 years)**
4	Township	Include roads listed in Table 7-4 as part of the municipally-maintained road inventory, subject to legal review	Road Maintenance Inventory	**Immediate (1-5 years)**
5	Township	Adopt the Township Typical Road Cross-Sections as part of the Township's Engineering Design Standards **(Section 8.2)**	Policy	**Immediate (1-5 years)**
6	Township	Adopt Road Rationalization Policy (**Section 8.3)**	Policy	**Immediate (1-5 years)**
7	Township	Adopt Township Speed Policy (**Section 8.4)**	Policy	**Immediate (1-5 years)**
8	Township	Adopt Township Roundabout Policy **(Section 8.5)**	Policy	**Immediate (1-5 years)**
9	District	Collaborate with the District to consider downloading of select District roads to the Township **(Section 8.3)**	Road Ownership Transfer	**Immediate (1-5 years)**

No.	Project Lead	Project / Location	Improvement Type	Time of Need
10	District	Collaborate with the District on a Port Carling Alternate Route Study to investigate the feasibility of providing an alternate route connecting District Road 118 east and west of Port Carling	Study	**Immediate (1-5 years)**
11	Township	Conduct a New Corridors Study to support active transportation and lake access (Table 7-2)	Study	**6-10 years**
12	Township	Installation of 'Narrow Structure' and 'One Lane' signage, and consideration for 'Yield' signage at eight Township Bridges (Medora Lake Road, Doherty Road, Dee River, Rosseau Lake Road 3, Rosseau River, Island Park Road, Clear Lake Road, Bala Bay Dock)	Signage Installation	**6-10 years**
13	Township	'SLOW' Pavement Markings at three Township Bridges (Medora Lake Road, Dee River, Rosseau Lake Road 3)	Pavement Markings	**6-10 years**
14	Township	'SHARROW' Pavement Markings at Milford Bay Bridges	Pavement Markings	**6-10 years**
15	District	District to investigate the feasibility of widening bridges under District jurisdiction to permit two-way travel	Study	**6-10 years**

Table 10-2: Proposed Transit Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
16	District	Collaborate with the District to investigate opportunities for Township Transit Connections and On-Demand Routes as part of the District Community Transportation Plan Update	Study	**Immediate (1-5 years)**

Table 10-3: Proposed Active Transportation Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
17	District	District Road 118 between Brackenrig Road and Peninsula Road	Paved Shoulders	**Immediate (1-5 years)**

No.	Project Lead	Project / Location	Improvement Type	Time of Need
18	District	Peninsula Road between District Road 118 and Highway 632	Paved Shoulders	**Immediate (1-5 years)**
19	MTO	Highway 632 between Peninsula Road and Highway 141	Paved Shoulders	**Immediate (1-5 years)**
20	MTO	Highway 141 between Highway 632 and Deebank Road	Paved Shoulders	**Immediate (1-5 years)**
21	District	Deebank Road between Highway 141 and Windermere Road	Paved Shoulders	**Immediate (1-5 years)**
22	District	Windermere Road between Deebank Road and Brackenrig Road	Paved Shoulders	**Immediate (1-5 years)**
23	District	Brackenrig Road between Windermere Road and District Road 118	Paved Shoulders	**Immediate (1-5 years)**
24	District	District Road 118 between Brackenrig Road and Milford Bay Road	Paved Shoulders	**6-10 years**
25	Township	Milford Bay Road between District Road 118 and 1020 Beaumaris Rd	Shared Route	**6-10 years**
26	Township	Butter and Egg Road between Milford Bay Road and District Road 47	Shared Route	**6-10 years**
27	District	District Road 118 between Peninsula Road and District Road 169	Paved Shoulders	**6-10 years**
28	District	District Road 169 between District Road 118 and Lake Joseph Road	Paved Shoulders	**6-10 years**
29	Township	Eveleigh Road between District Road 118 and District Road 26	Shared Route	**6-10 years**
30	Township	Mortimer's Point Road between Eveleigh Road and District Road 169	Shared Route	**6-10 years**
31	District	District Road 169 between Mortimer's Point Road and Walker's Point Road	Paved shoulders	**6-10 years**
32	Township	Walkers Point Road between District Road 169 and Walker's Point Lookout Trail	Paved shoulders	**6-10 years**
33	Township	Medora Lake Road between District Road 169 (north leg) and District Road 169 (south leg)	Shared Route	**6-10 years**
34	Township	Juddhaven Road between Peninsula Road and Paignton House Road	Paved shoulders	**6-10 years**
35	District	District Road 3 between Highway 141 and Gross Road	Paved shoulders	**6-10 years**
36	Township	Gross Road between District Road 3 and Hekkla Road	Shared Route	**6-10 years**

No.	Project Lead	Project / Location	Improvement Type	Time of Need
37	Township	Hekkla Road between Gross Road and 1448 Hekkla Road	Shared Route	**6-10 years**
38	Township	Old Parry Sound Road between Deebank Road and Highway 141	Shared Route	**6-10 years**
39	MTO	Highway 141 between Old Parry Sound Road and 2013 Highway 141	Paved Shoulders	**6-10 years**
40	Township	Skeleton Lake 2 Road between Highway 141 and Raymond Trail Head	Shared Route	**6-10 years**
41	District	Windermere Road between Deebank Road and Fife Avenue	Shared Route	**6-10 years**
42	Township	Torrance Road / East Bay Road	Paved Shoulders	**Immediate (1-5 years)**
43	Township	Designate and provision for the Around the Lake Trail as a "Scenic Corridor" in the Official Plan	Official Plan	**Immediate (1-5 years)**
44	Township	Conduct an Off-Road Trails Study, recommended to include a feasibility review of converting snowmobile trails to active transportation trail during summer months	Study	**Immediate (1-5 years)**
45	Township	Advisory Bike Lane Pilot Project Study to identify desirable locations to implement advisory bike lanes as a pilot project	Study	**Immediate (1-5 years)**
46	Township	Collaborate with the MTO to investigate the opportunity for a pilot project to allow golf carts on Township roads	Study	**Immediate (1-5 years)**

Table 10-4: Proposed Parking Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
47	Township	McDonalds Road, Foot's Bay (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
48	Township	Appian Way, Glen Orchard (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
49	Township	Carlingford Road, Minett (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
50	Township	Gregory Road, Minett (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
51	Township	Simms Road, Ullswater (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
52	Township	Skeleton Lake Road 2 / Wilson's Lodge (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**

No.	Project Lead	Project / Location	Improvement Type	Time of Need
53	Township	Muskoka Road #169, Bala (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
54	Township	1201 Nine Mile Lake Road, Torrance (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
55	Township	1132 Clear Lake Road, Torrance (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
56	Township	Portage Street, Bala (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
57	Township	River Street, Bala (Existing Lake Access)	Parking Facility	**Immediate (1-5 years)**
58	Township	Downtown Parking Utilization Study (Bala and Port Carling)	Study	**Immediate (1-5 years)**
59	Township	Pave existing gravel lots and delineate stalls	Parking Facility Improvement	**Immediate (1-5 years)**
60	Township	Conduct a Zoning By-law review of non-residential parking rates for new developments	Study	**Immediate (1-5 years)**
61	Township	Installation of bulletin boards illustrating parking inventory at major tourist attractions	Signage / Wayfinding	**6-10 years**
62	Township	Develop a publicly-accessible, interactive online map with an inventory of parking locations and parking supply indicated	Signage / Wayfinding	**6-10 years**

Table 10-5: Proposed Lake Access Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
63	Township	Along Morinus Road	New Lake Access	**Immediate (1-5 years)**
64	Township	End of Rosseau Lake Road 1	New Lake Access	**Immediate (1-5 years)**
65	Township	End of Unnamed Road off of Rostrevor Road (near Treasure Island)	New Lake Access	**Immediate (1-5 years)**
66	Township	Along Purdy Road	New Lake Access	**Immediate (1-5 years)**
67	Township	Adopt Lake Access Policy **(Section 8.1)**	Policy	**Immediate (1-5 years)**
68	Township	Investigate the feasibility of issuing parking permits for existing and future parking facilities at lake accesses	Study	**Immediate (1-5 years)**
69	Township	Along Cooper Point Road	New Lake Access	**6-10 years**
70	Township	End of Stroud Beach Road	New Lake Access	**6-10 years**
71	Township	End of Glencoe Heights Road	New Lake Access	**6-10 years**

No.	Project Lead	Project / Location	Improvement Type	Time of Need
72	Township	End of Woodington Road	New Lake Access	**6-10 years**
73	Township	Along Renley Road	New Lake Access	**6-10 years**
74	Township	End of Hemlock Hill Road	New Lake Access	**6-10 years**
75	Township	End of Unnamed Road off of Riverdale Road (near Moss Rock)	New Lake Access	**6-10 years**
76	Township	Along Bluff Road / Juddhaven Road (west of Marie Avenue)	New Lake Access	**11-15 years or beyond**
77	Township	Along North Shore Road (north of Sandwood Road)	New Lake Access	**11-15 years or beyond**
78	Township	Along Mortimers Point Road	New Lake Access	**11-15 years or beyond**
79	Township	End of Heather Lodge Road	New Lake Access	**11-15 years or beyond**
80	Township	Along Martins Cove	New Lake Access	**11-15 years or beyond**
81	Township	End of Pleasant View Point Road	New Lake Access	**11-15 years or beyond**
82	Township	Along Woodwinds Road	New Lake Access	**11-15 years or beyond**
83	Township	Along Glen Gordon Road	New Lake Access	**11-15 years or beyond**

10.2 Implementation Plan

The success of this Transportation Master Plan relies on project delivery. This is supported by detailed project-specific studies, a costing exercise to allocate appropriate budgets and funds, a monitoring plan as a function of success indicators, and a staffing and resources review to support implementation.

10.2.1 Capital Costs

Incorporating the costs of transportation improvements into budget plans will be key in ensuring the implementation and delivery of proposed projects. Capital costs associated with improvements and studies from the preferred high-investment strategy were estimated as input for the Township's budget planning needs.

Benchmark costs from development charges studies and bid documents were used to inform unit costs, converted to 2023 dollars to account for inflation. Costs associated with utilities relocation/replacement, engineering/design work, Environmental Assessment (EA) studies and contingencies of roadwork projects were also accounted for. Table 10-6 provides a capital cost breakdown of recommendations from this Transportation Master Plan by improvement type. The detailed capital cost summary is provided in **Appendix H**.

Table 10-6: Capital Cost Summary

Phasing	Roads	Bridges	Transit	Active Transportation	Parking	Lake Access	Total
Short Term	$ 370,000	$ -	$ 70,000	$ 23,994,000	$ 685,000	$ 1,294,000	$ 26,413,000
Medium Term	$ 350,000	$ 27,000	$ -	$ 21,132,000	$ -	$ 2,264,000	$ 23,773,000
Long Term	$ 11,000,000	$ -	$ -	$ -	$ -	$ 2,588,000	$ 13,588,000
Total	$ 11,720,000	$ 27,000	$ 70,000	$ 45,126,000	$ 685,000	$ 6,145,000	$ 63,773,000

The costs provided in this section reflect estimates only and will vary subject to more detailed studies and potential property acquisitions required for construction. The cost estimates are also subject to the following caveats and assumptions:

- Phasing of projects were categorized under the short (1 to 5 years), medium (6 to 10 years) and long (11 to 15 years) term, based on the anticipation of existing and future needs. However, projects may be implemented sooner as confirmed through subsequent studies or further assessment and to help balance capital costs and funding strategies.
- The costs shown will not only be incurred by the Township. For studies or projects that require collaboration with and/or approval from the District and MTO, it is assumed that a cost sharing agreement will be established based on jurisdictional ownership of the infrastructure proposed for improvement. Similarly, any infrastructural improvements triggered by growth will allow the Township to recover some costs through development charges.
- Studies may trigger further improvements that will need to be costed and budgeted.
- Inflation rates used to derive 2023 dollar values account for the significant increase (~15%) in construction costs experienced between 2021 to 2022.
- The costs of new lake accesses are conservative and assumed to include parking facilities, dock and boat launch. However, costs will still vary significantly for each location depending on the existing conditions and magnitude of site disturbance.
- Shared active transportation facilities were costed to represent the most expensive type of facility, which are advisory bike lanes, for a conservative approach.
- The cost of the Port Carling alternate route construction is conservative and assumes the full length of the route is new construction, while it is noted that existing roads (e.g., Frank Miller, Clearwater Shore Boulevard, Penwood Road, hydro corridors, etc.) can be upgraded or reconstructed at a lower unit cost.
- The anticipated Environmental Assessment (EA) schedule was identified for each project but may be escalated to another schedule pending a more detailed review (due to significant impacts to natural features, the need for land acquisition, etc.).

The projects will be carried forward following the latest (2023) update to the Municipal Class Environmental Assessment (MCEA) process.

10.2.2 Funding Sources

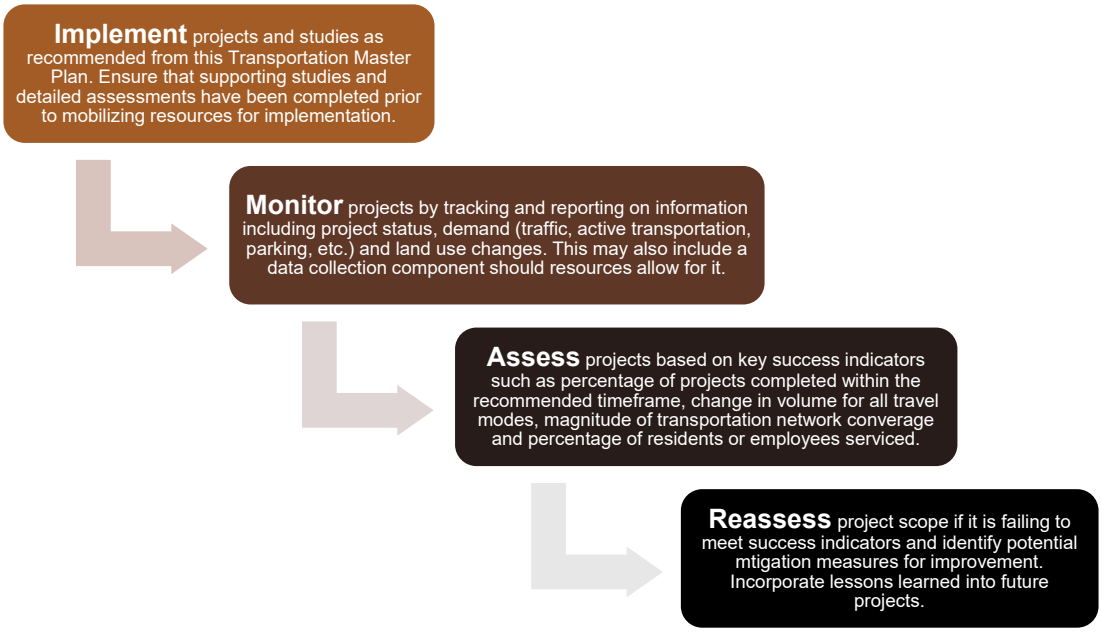
The following funding sources were identified for the Township's consideration to help fund recommended projects from this study:

- **Development Charges** – An update to the Township's Development Charges Study will summarize projects eligible for collection through development charges.
- **Ontario's Rural Economic Development (RED) Program** – Supports rural communities by funding programs that remove barriers to community economic development.
- **Grants Ontario** – A source of active grants provided by several Government of Ontario ministries.
- **Trillium ROOTS Community Support Fund** – Supports commitments to sustainability in rural Ontario. Focus areas include environmental/sustainability and emergency response, both of which must be capital in nature. Requests for funding are reviewed quarterly.
- **Ontario Trillium Foundation (OTF)** – Canadian grant-making foundation that supports "seed", "grow" and "capital" grants. This can include conducting research or feasibility studies, pilot projects and building structures or spaces.
- **Infrastructure Ontario's Loan Program** – Provides long-term financing to eligible public-sector clients to support community-based infrastructure projects.
- **Investing in Canada Infrastructure Program** – Provides long-term, stable funding from Infrastructure Canada through targeted funding streams, including Public Transit, Green Infrastructure, Community, Culture and Recreation, and Rural and Northern Communities.
- **Connecting Links Program** – Provincial funding to build and rehabilitate roads and bridges that connect two ends of a provincial highway through a community or to a border crossing.
- **Green Municipal Fund** – Grants and loans for municipal environmental projects, including transportation-related projects that reduce fossil fuels in fleets and support active / low-carbon transit.

10.3 Updates and Monitoring

This Transportation Master Plan, including its recommendations, should be updated every 5 years to account for changing land use assumptions and emerging trends, for example.

In the interim, it is recommended that a monitoring program be in place to allow for an ongoing review and assessment of the implemented programs and services for effectiveness. The monitoring program can consist of the four main elements below.



10.4 Staffing and Resources

The transportation system within the Township of Muskoka Lakes consists of a road network, active transportation facilities, off-road trails, and parking stalls. The Township has a responsibility to maintain the transportation system in a good state of repair, providing efficient operations and evolving toward best practices.

To respond to the growing population and employment within and around the Township of Muskoka Lakes and the anticipated increase in tourism and visitors, the Township has planned and budgeted for various transportation system improvements either through infrastructure upgrades or programs to promote the use of certain types of transportation. Additionally, this Transportation Master Plan has identified a long-term plan that involves the implementation of a number of capital projects and studies.

Efficient delivery of operations includes clear responsibilities and identification of champions for new initiatives such as District Transit expansion into On-Demand Transit

and/or scheduled fixed route transit within the Township. Staff will need to have the skill sets to fulfil any new services and new roles.

The need for additional staff was assessed relative to the size of comparable programs. The extent of resources, in terms of FTE per function, should be assessed based on both industry benchmark values for service demand and level of service the Township chooses to provide. To support the Transportation Master Plan planned infrastructure and increased demand associated with provincial growth policies, it is recommended that:

- The Township consider an additional full-time equivalent Public Works Manager in the short-term, and a Development Engineering Coordinator and Traffic Engineering Technician as workload demand dictates.
- The Township reassess capital and operating budget line items to align with the responsibilities of identified Program Leaders.
- The Township monitor FTE staffing requirements with benchmark data over time.
- The Township investigate staff training requirements associated with the implementation of the TMP initiatives.

Further details are provided in **Appendix I**. These recommendations reflect short-term needs and should therefore be updated or re-assessed as part of the next Transportation Master Plan Update.