



Muskoka Lakes Transportation Master Plan

July 2023



BURNSIDE



Township of Muskoka Lakes Transportation Master Plan

**Township of Muskoka Lakes
1 Bailey Street
Port Carling, ON, P0B 1J0**

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

**July 2023
300055345.000**

Acknowledgements

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

Township of Muskoka Lakes

Ken Becking, P.Eng.

Director of Public Works

Kalleen Turchet

Communications Advisor

External Stakeholders

District of Muskoka

Waterfront Regeneration Trail

Ministry of Environment, Conservation and
Parks

R.J. Burnside & Associates Limited

Ray Bacquie, P.Eng., MBA

Senior Vice President, Transportation

Gordon Hui, P.Eng.

Senior Transportation Planner

Xinli Tu, B.A.Sc.

Transportation Planner

Jennifer Vandermeer, P.Eng.

Environmental Assessment Process Lead

Mishaal Rizwan, B.Sc., M.E.S.

Environmental Assessment Process Coordinator

Skye Vandenberg, B.Sc., M.E.S.

GIS Technologist

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, 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.

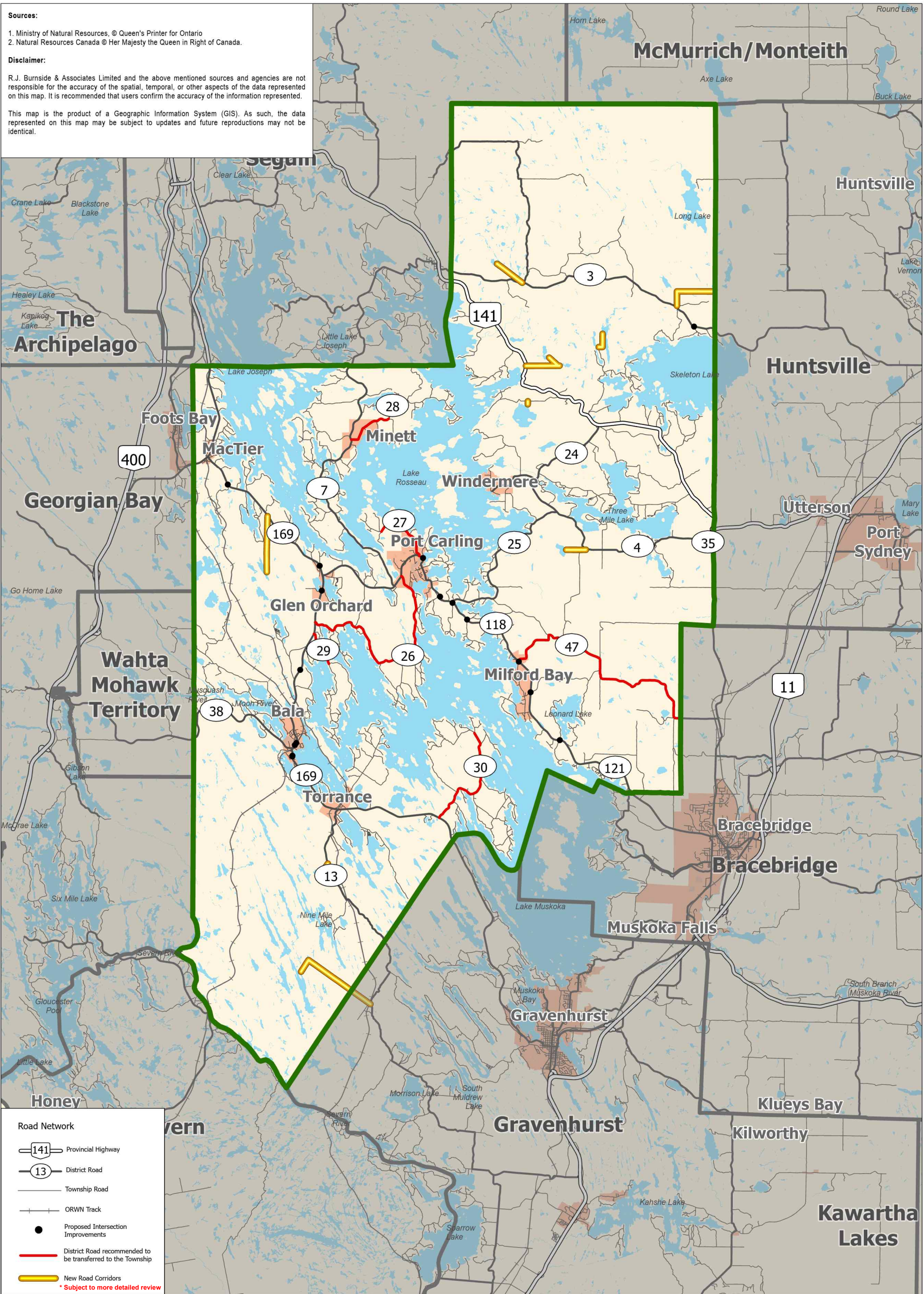
Sources:

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

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.



<p>Datum: North American 1983 CSRS</p> <p>Coord. System: NAD 1983 CSRS UTM Zone 17N</p> <p>Projection: Transverse Mercator</p> <p>Central Meridian: 81°0'0.00"W</p> <p>False Easting: 500,000m False Northing: 0m</p> <p>Page Orientation: -22° Scale Factor: 0.99960</p>	 <p>Grid North</p>	 <p>BURNSIDE</p>	<p>Map Title</p> <p>ROAD AND INTERSECTION RECOMMENDATIONS</p>
<p>Client</p> <p>TOWNSHIP OF MUSKOKA LAKES</p>			<p>FIGURE ES-1</p>



0 2 4 6 8 10 12 14 16

Kilometers

1:200,000

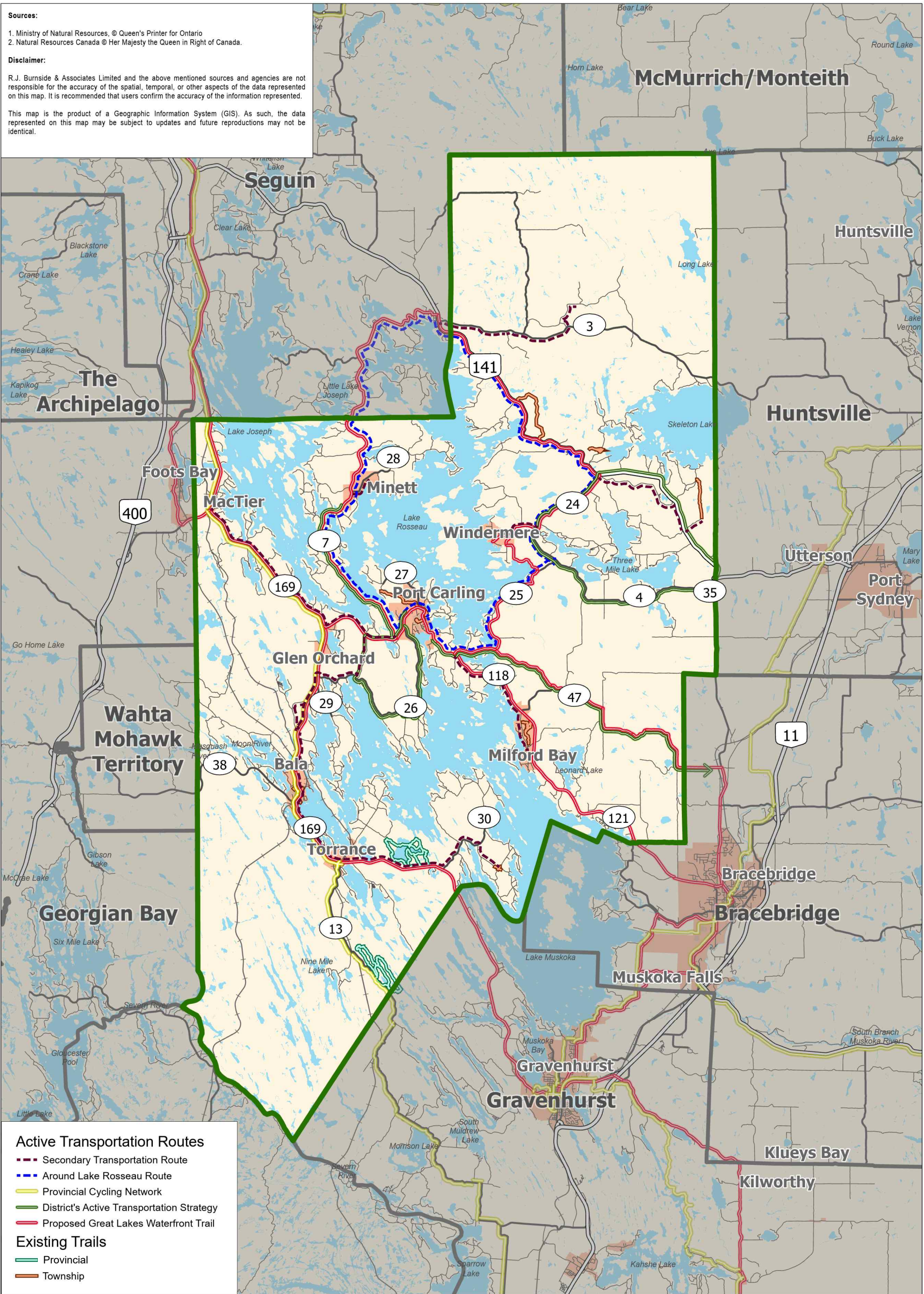
Sources:

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



Client
TOWNSHIP OF MUSKOKA LAKES

Map Title

**PROPOSED ACTIVE
TRANSPORTATION ROUTE**

FIGURE ES-2

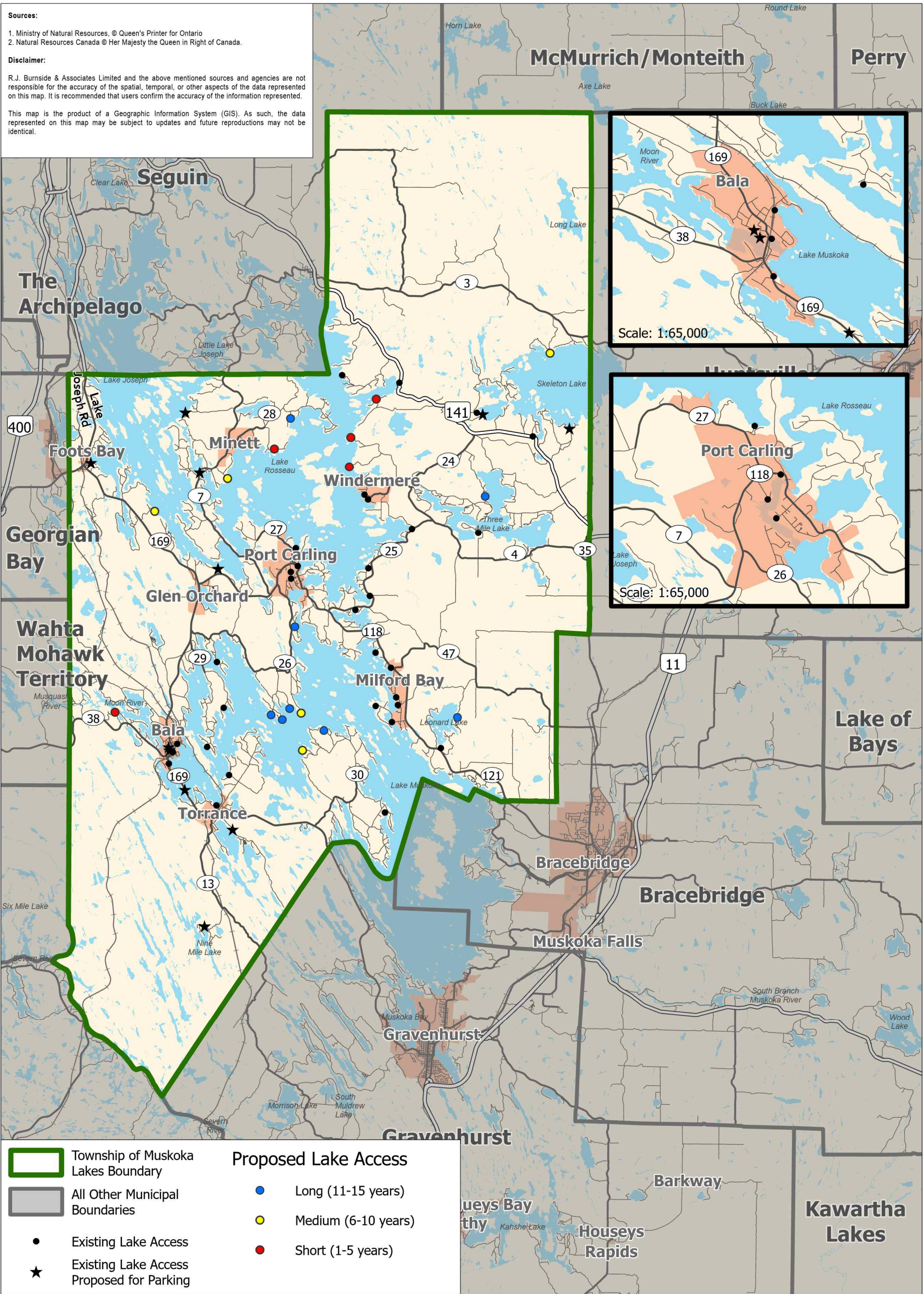
Sources:

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



Client

TOWNSHIP OF MUSKOKA LAKES

Map Title

LAKE ACCESS RECOMMENDATIONS

FIGURE ES-3

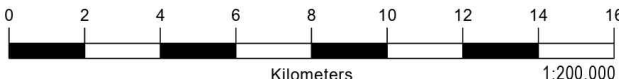


Table ES-1: Proposed Roads and Bridges Improvements

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)
17	Township	Transit Stop Improvements (three Locations), including installation of canopied shelter area, benches, bicycle locking facilities, and self-fix bicycle kits	Additional Bus Stop Amenities	Immediate (1-5 years)

Table ES-3: Proposed Active Transportation Improvements

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

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

Table of Contents

1.0	Introduction.....	1
1.1	What is the Muskoka Lakes Transportation Master Plan?.....	1
1.2	Study Approach.....	1
1.3	Consultation Process.....	2
1.3.1	Public Consultation	3
1.3.2	External Stakeholder Consultation	3
1.3.3	Indigenous Consultation.....	4
2.0	Planning and Policy Context.....	5
2.1	Federal Climate Change Plan	5
2.2	Provincial Guiding Documents.....	7
2.2.1	Provincial Policy Statement (2020).....	7
2.2.2	Eastern Ontario Transportation Plan Draft (April 2022)	7
2.2.3	Provincial Housing Policies – Bill 23 / 109.....	8
2.3	District of Muskoka Guiding Documents	9
2.3.1	Official Plan.....	9
2.3.2	Master Aging Plan.....	10
2.3.3	Community Transportation Plan	11
2.3.4	Growth Strategy	12
2.4	Township of Muskoka Lakes Guiding Documents.....	12
2.4.1	Official Plan.....	12
2.4.2	Strategic Plan 2021-2024.....	13
2.4.3	Other Plans	14
3.0	Study Context	15
3.1	Environmental Context	15
3.1.1	Protected Properties	15
3.1.2	Natural Heritage.....	16
3.1.3	Areas of Natural and Scientific Interest (ANSI).....	16
3.1.4	Wetlands.....	17
3.1.5	Woodlands.....	17
3.1.6	Significant Valleylands	17
3.1.7	Significant Wildlife Habitat.....	17
3.1.8	Protected Habitat	18
3.1.9	Environmental Protection	18
3.2	Cultural Environment Context.....	18
3.3	Archaeological Resource Context.....	18
3.4	Socio-Economic Context.....	19
3.4.1	Population.....	19
3.4.2	Aging Population Trend.....	19
3.4.3	Dwellings.....	20
3.4.4	Labour Force.....	20
3.5	Land Use Structure.....	22

3.5.1	Waterfront	22
3.5.2	Urban Centers	23
3.5.3	Resort Village	23
3.5.4	Communities	23
3.5.5	Rural	23
4.0	Existing Transportation Conditions	25
4.1	Travel Modes	25
4.1.1	Roads	25
4.1.2	Parking	27
4.1.3	Bridges	29
4.1.4	Active Transportation	30
4.1.5	Transit	32
4.1.6	Lake Access	35
4.1.7	Snowmobile Trails	41
4.2	Mobility Characteristics	41
4.2.1	Pandemic Impacts	43
4.2.2	Trip Purpose	45
4.2.3	Commuting Modal Split	47
4.2.4	Origin-Destination Trips	47
4.2.5	Daily Traffic Fluctuations	49
5.0	Vision	50
5.1	Study Objectives	50
5.2	Vision Statement	51
6.0	Growth	52
6.1	Future Population and Employment	52
6.2	Future Development	54
7.0	Needs and Opportunities	56
7.1	Road Needs and Opportunities	56
7.1.1	Traffic Assessment and Road Capacity Needs	56
7.1.2	Port Carling Alternative Route Opportunity	58
7.1.3	Potential New Road Corridors	59
7.1.4	Intersection Improvement Opportunities	62
7.1.5	Emergency Medical Services Needs	64
7.1.6	Bridge Improvement Opportunities	64
7.1.7	Speeds Assessment and Management Needs	67
7.1.8	Road Rationalization Needs	68
7.1.9	Road Maintenance Needs	69
7.1.10	Engineering Design Standards Needs	72
7.1.11	Golf Cart Opportunities	72
7.2	Transit Needs and Opportunities	74
7.2.1	Northlander Passenger Rail Opportunities	74
7.2.2	On-Demand Transit Opportunities	76
7.2.3	Supporting Access to District Transit Opportunities	78

7.3	Active Transportation Needs and Opportunities	79
7.3.1	Previous Active Transportation Studies	79
7.3.2	Stakeholder Identified Needs	80
7.3.3	Active Transportation Facilities	81
7.3.4	Active Transportation Guiding Principles	83
7.3.5	Active Transportation Route Opportunities	89
7.3.6	Opportunities to Enhance Local Economies	97
7.3.7	Active Transportation Committee	97
7.4	Lake Access and Parking Needs and Opportunities	97
7.4.1	Standards and Policies for Waterbody Access	98
7.4.2	Lake Access Needs and Opportunities	101
7.4.3	Waterbody Access Parking Needs and Opportunities	106
7.5	Downtown Parking Needs and Opportunities	109
7.5.1	Data Needs	110
7.5.2	Efficiency Needs	110
7.5.3	Capacity Needs	110
7.5.4	User Needs	111
7.5.5	Parking Strategy	111
8.0	Operational Policies	115
8.1	Lake Access Policy	115
8.2	Typical Road Cross-Sections	116
8.3	Road Rationalization Policy	121
8.4	Speed Policy	121
8.5	Roundabout Policy	122
9.0	Alternative Strategies Evaluation	123
9.1	Identification of Alternative Strategies	123
9.2	Evaluation Process	126
9.3	Preferred Strategy	130
9.3.1	Climate Change Considerations	130
10.0	Recommended Strategy	132
10.1	Proposed Improvements	132
10.2	Implementation Plan	137
10.2.1	Capital Costs	137
10.2.2	Funding Sources	139
10.3	Updates and Monitoring	139
10.4	Staffing and Resources	140

Tables

Table 2-1: Other Township Plans	14
Table 3-1: Township Employment Statistics between 2006 to 2021	21
Table 3-2: Comparison of Most Employed Labour Force by Industry (2021)	21
Table 4-1: Bridge Inventory Summary	29
Table 4-2: District Transit Operations	32

Table 4-3: Lake Access Locations	37
Table 6-1: Forecasted Population Growth	52
Table 6-2: Forecasted Employment Growth.....	53
Table 6-3: Adjusted Township Permanent Population and Employment Forecasts	53
Table 7-1: Road Capacity Assumptions.....	56
Table 7-2: Potential New Road Corridors	61
Table 7-3: Intersection Improvement Opportunities for Further Study	63
Table 7-4: Recommended Roads for Township Maintenance.....	69
Table 7-5: On-Demand Transit Models.....	77
Table 7-6: Important Points of Interest.....	84
Table 7-7: Cyclists Characteristics.....	85
Table 7-8: Desired and Suggested Minimum Widths for Paved Shoulders	88
Table 7-9: Around the Lake Trail Opportunity	91
Table 7-10: Advisory Lanes Pilot Study	95
Table 7-11: Lake Access Assessment Criteria.....	102
Table 7-12: Potential Lake Access Locations	105
Table 7-13: Parking Near Lake Accesses.....	107
Table 7-14: Existing Lake Accesses Recommended for Parking	107
Table 7-15: Downtown Parking Strategy.....	111
Table 8-1: Recommended Township Road Design Standards.....	117
Table 9-1: Alternative Strategies.....	124
Table 9-2: Evaluation Criteria	126
Table 9-3: Evaluation of Alternative Strategies	128
Table 10-1: Proposed Roads and Bridges Improvements.....	132
Table 10-2: Proposed Transit Improvements.....	133
Table 10-3: Proposed Active Transportation Improvements	134
Table 10-4: Proposed Parking Improvements.....	135
Table 10-5: Proposed Lake Access Improvements.....	136
Table 10-6: Capital Cost Summary.....	138

Figures

Figure 3-1: Township Aging Population Trend	20
Figure 3-2: District of Muskoka Lower-Tier Municipalities	22
Figure 3-3: Land Use Context.....	24
Figure 4-1: Road Network.....	26
Figure 4-2: Existing Parking Supply	28
Figure 4-3: Existing Trail Network.....	31
Figure 4-4: District Transit System.....	34
Figure 4-5: Existing Lake Accesses.....	40
Figure 4-6: Zone System	42
Figure 4-7: Pandemic Impact on Daily Township Trips	44
Figure 4-8: Pandemic Impact on Place of Work Status for Township Residents	44
Figure 4-9: Township Trip Purpose Breakdown	45

Figure 4-10: Work Destinations of Muskoka Lakes Residents	46
Figure 4-11: Commuting Duration of the Township Employed Labour Force	46
Figure 4-12: Commuting Mode Share of Township Residents	47
Figure 4-13: Origins and Destinations of Township Daily Trips	48
Figure 4-14: Daily Trips Within Township Zones.....	48
Figure 4-15: Daily Trip Fluctuations	49
Figure 6-1: Current Development Applications	55
Figure 7-1: Existing Average Annual Daily Traffic (AADT)	57
Figure 7-2: Alternate Route Concept Plan	59
Figure 7-3: Northlander Passenger Rail Service.....	75
Figure 7-4: Advisory Bike Lanes	82
Figure 7-5: Advisory Bicycle Lane Design Features.....	83
Figure 7-6: Desirable Cycling Facility Pre-Selection Nomograph Rural Context	86
Figure 7-7: Paved Shoulder and Buffer Widths on Rural Roads	87
Figure 7-8: Clearway Width Requirements for Pedestrian Users	89
Figure 7-9: Proposed Active Transportation Network.....	93
Figure 7-10: Trail Signage Sample	94
Figure 7-11: Lake Access Location Assessment	104

Appendices

Appendix A Public Consultation and Engagement
Appendix B Planning and Policy Context
Appendix C Environmental and Heritage Context
Appendix D New Road Corridors Review
Appendix E Roundabout Policy
Appendix F Speed Policy
Appendix G Road Rationalization Policy
Appendix H Cost Estimates
Appendix I Organizational Capacity Review

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 (1-5 years), medium (5-10 years), and long-term (11-15 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://engagemuskokalakelakes.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 information on the study to the public and solicit feedback.

The first PIC presentation material, which focused on providing an overview of the study process and goals was made available on February 2, 2023. Another mapping engagement opportunity was posted on the Township website after the PIC, which allowed residents to pin transportation issues on a map. Following the PIC, two residents and two stakeholders contacted the project team directly to provide comments and concerns.

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 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, 9 Indigenous communities were contacted and provided project notices. The study team also made follow-up calls to communities which 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 various 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 (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

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 future transportation projects recommended by the Transportation Master Plan update will need to consider impacts to cultural heritage.

3.3 Archaeological Resource Context

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.

3.4 Socio-Economic Context

3.4.1 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.

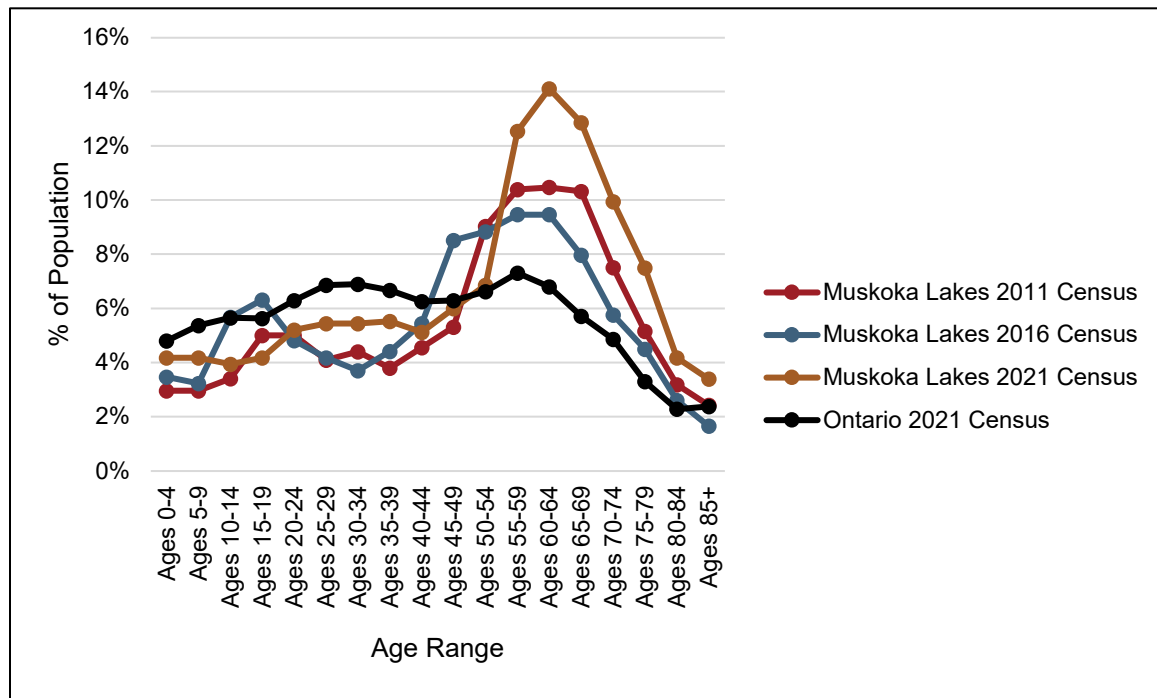
The Township's seasonal peak population in 2016 was approximately 27,300 according to the District's 2019 Growth Strategy Study, which is more than quadruple that of the year-round population that year (6,600).

3.4.2 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



3.4.3 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.

3.4.4 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.

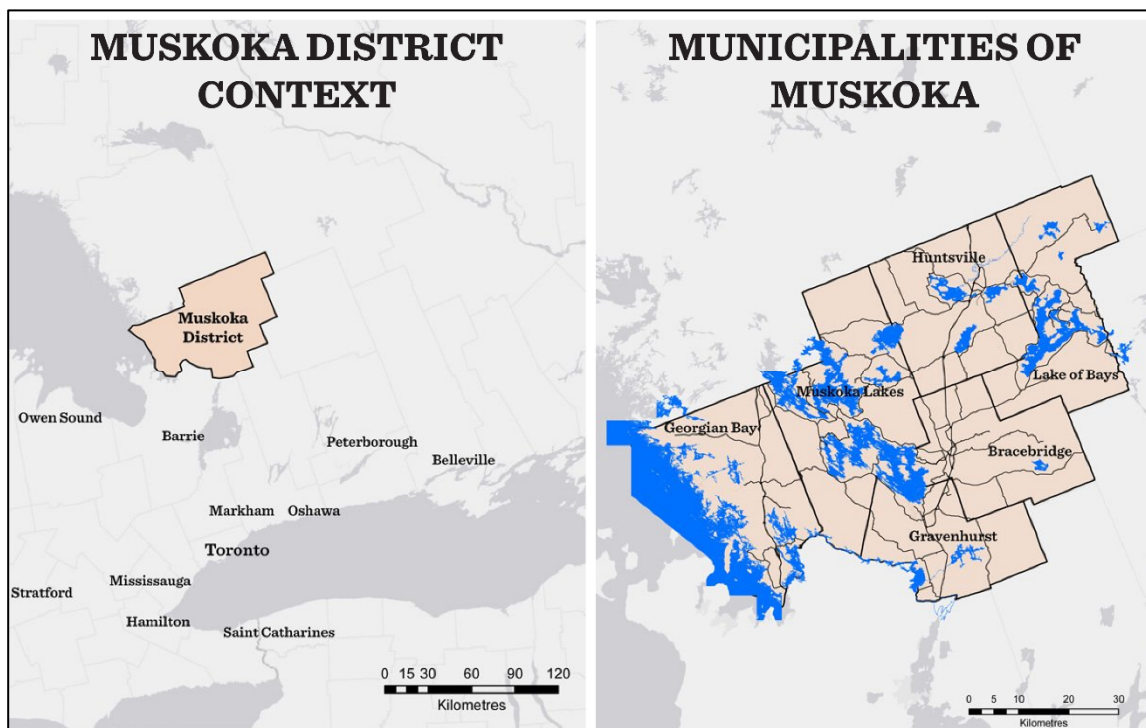
Table 3-2: Comparison of Most Employed Labour Force by Industry (2021)

	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%

3.5 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)

3.5.1 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.

3.5.2 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.

3.5.3 Resort Village

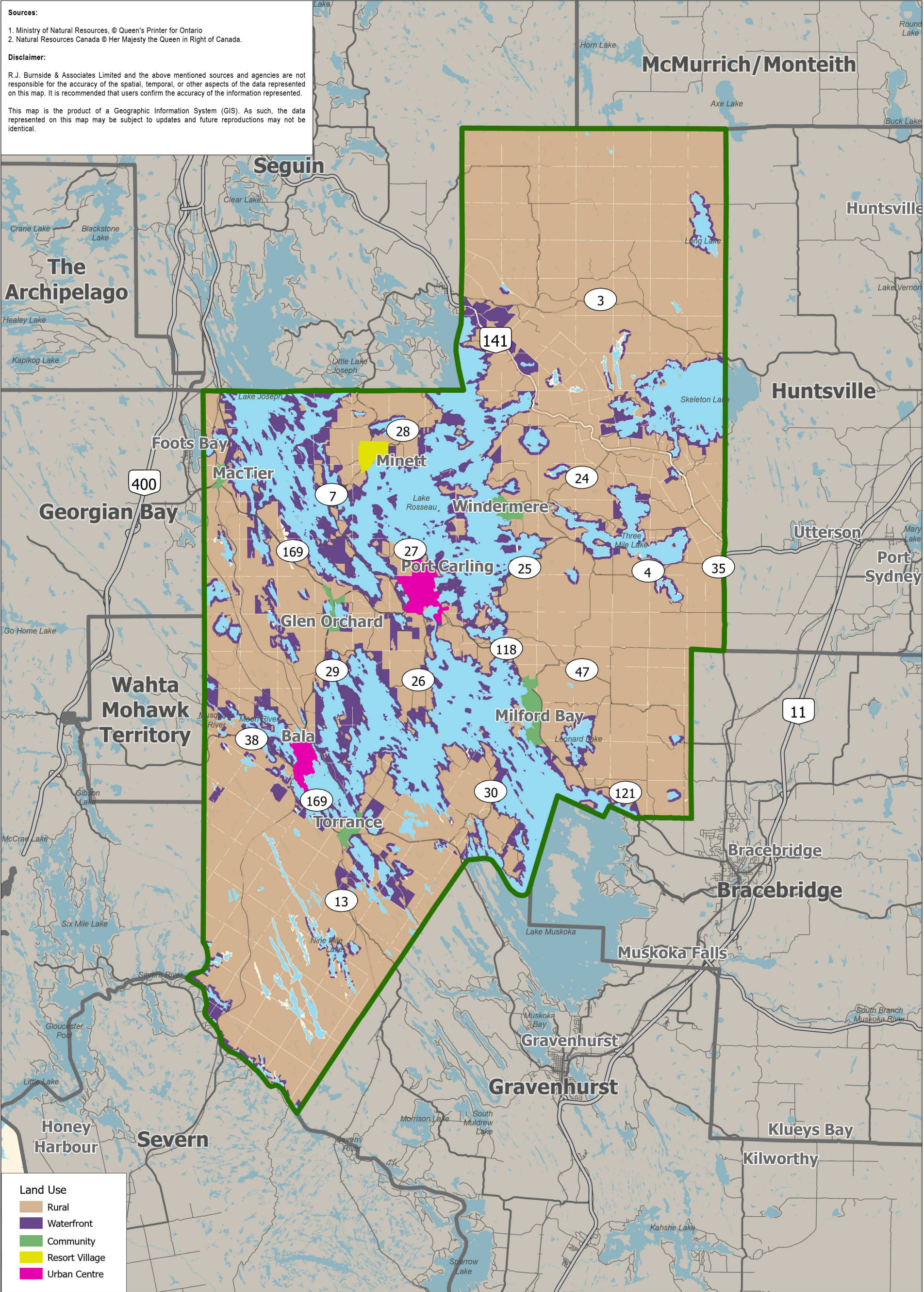
Minett is identified as a Resort Village, which is a planned community in which the focus of use is for season tourist commercial recreational resort and related commercial activities.

3.5.4 Communities

Areas designated as Communities are existing settlements which function as small-scale residential nodes 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.

3.5.5 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.



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



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 either maintained and operated by the Ministry of Transportation Ontario (MTO), District of Muskoka, Township of Muskoka Lakes, or privately owned.

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.

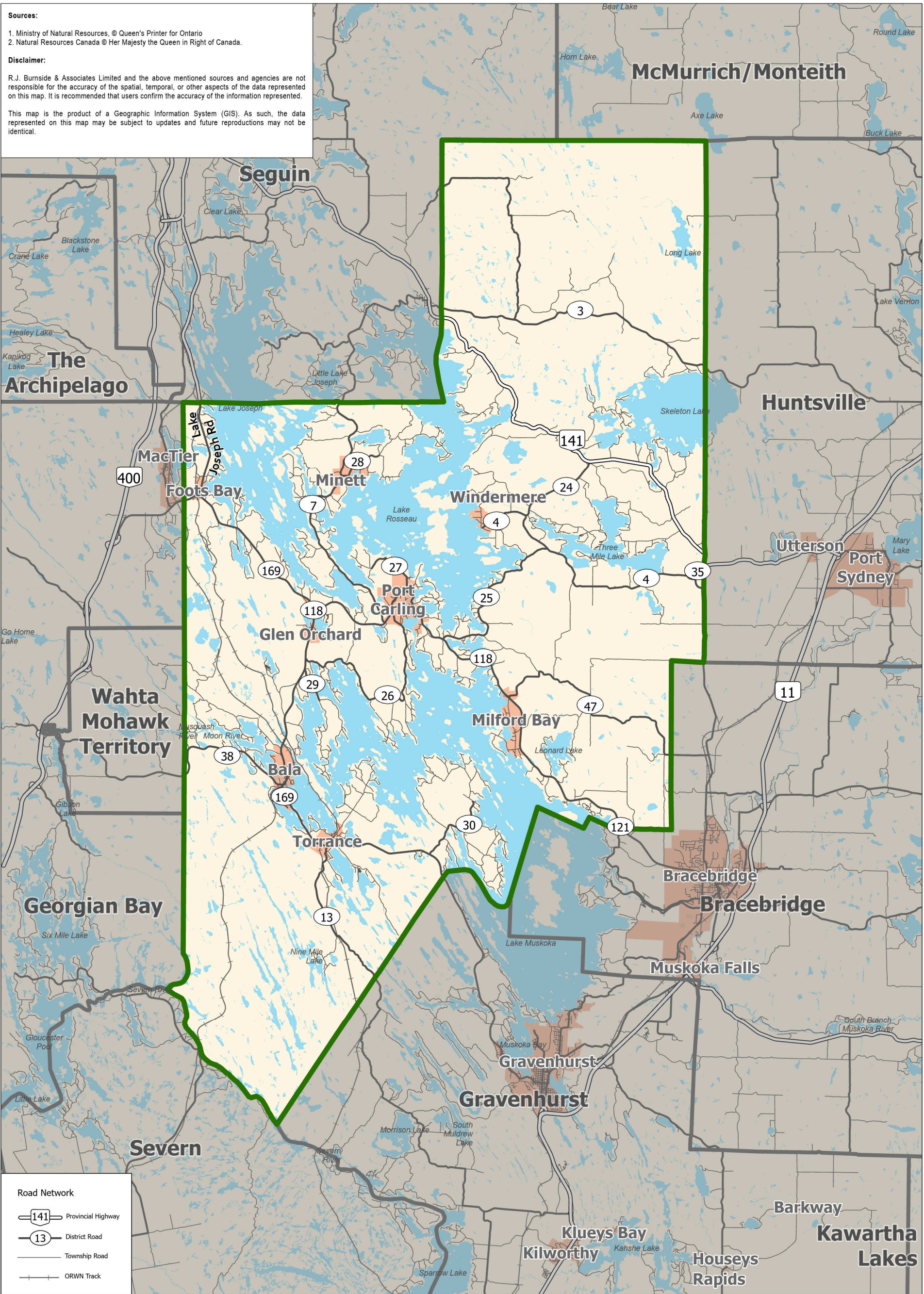
Sources:

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.



Road Network

- Provincial Highway
- District Road
- Township Road
- ORWN Track

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



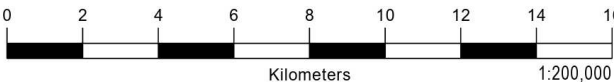
Client

**TOWNSHIP OF MUSKOKA
LAKES**

Map Title

ROAD NETWORK

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.

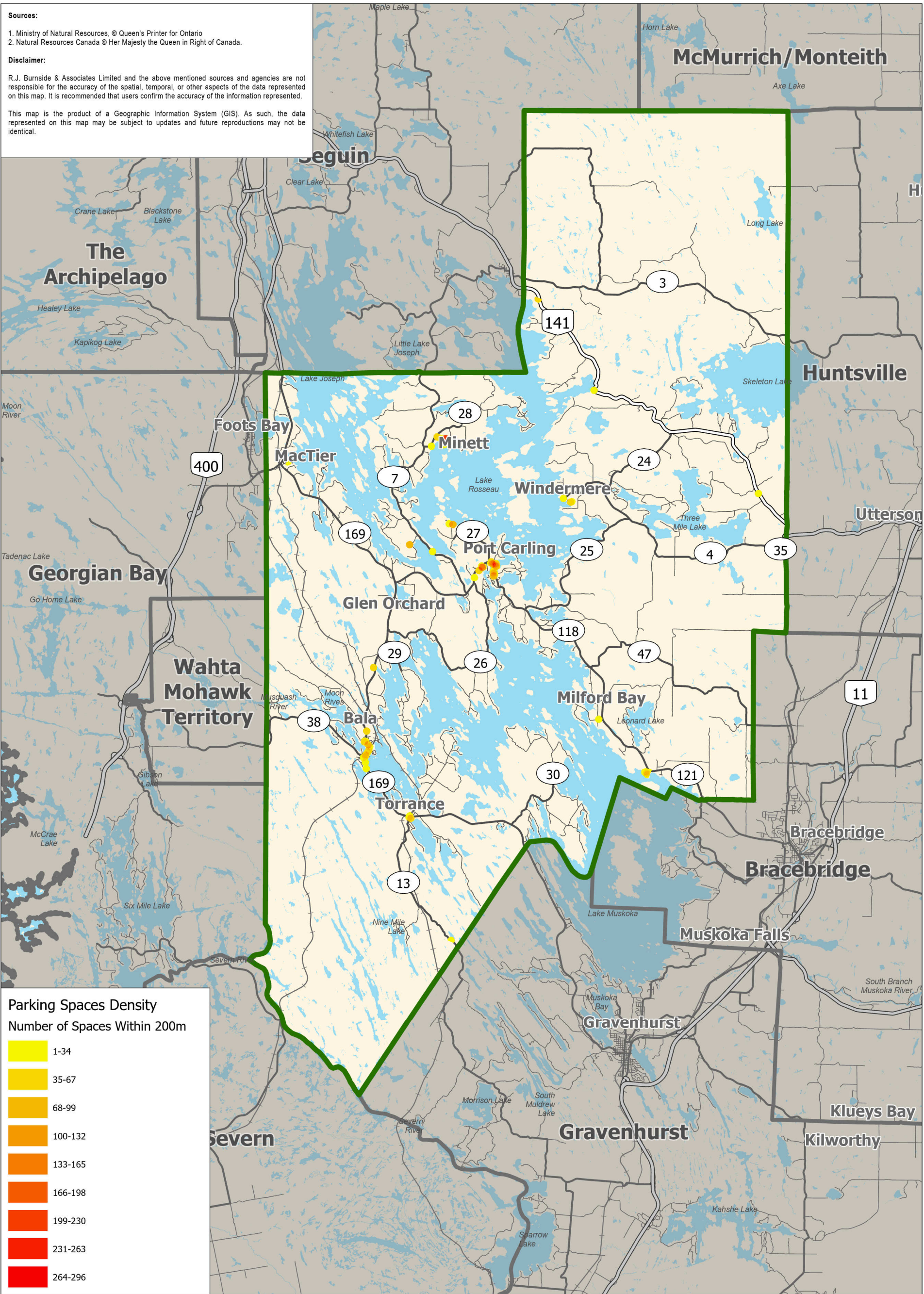
Sources:

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



BURNSIDE

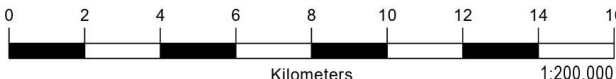
Client

**TOWNSHIP OF MUSKOKA
LAKES**

Map Title

**EXISTING PARKING
SUPPLY**

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 as 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.

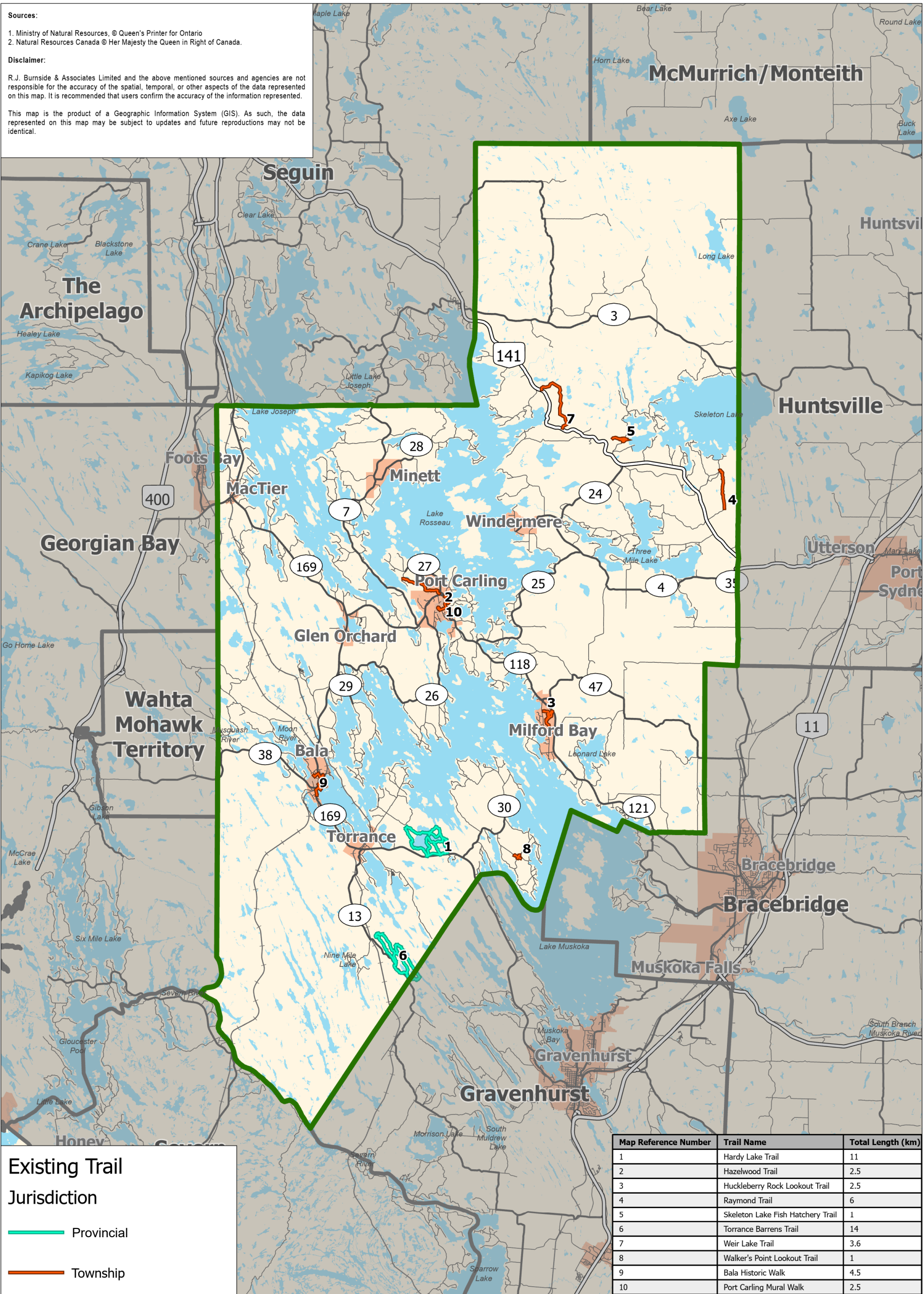
Sources:

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

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 operates transit service connecting the different lower-tier municipalities, including the Township of Muskoka Lakes. The District operates two Rural and Community Connection Routes within the Township – the Mactier/Huntsville and Midland/Bracebridge route. The Mactier/Huntsville bus travels through or near the communities of Footy's Bay, Glen Orchard, Port Carling and Milford Bay. The Midland/Bracebridge route services the communities of Bala and Torrance.

The two Rural and Community routes accommodate Flex Stops, which allow riders to request a pick-up and/or drop-off location within a 5-minute return trip from the existing route. Both routes further provide connections to other transit routes beyond the Township, including the Corridor 11 Bus route and Simcoe LINX routes. The Corridor 11 Bus route operates near the Township, travelling near Bracebridge along Highway 11 between Huntsville and Orillia.

The transit network is illustrated in Figure 4-4. The operating hours and frequency of each route is detailed in Table 4-2.

Table 4-2: District Transit Operations

Route Name	Day(s) of Operation	Direction of Travel	Departures
Mactier / Huntsville	Tuesday	Eastbound- Westbound	Eastbound: 9:45 AM and 2:45 PM from Mactier Arena/Community Centre Westbound: 12:15 AM and 6:15 PM from Huntsville 1 King William Street
Midland / Bracebridge	Thursday	Eastbound- Westbound	Eastbound: 9:10 AM and 2:55 PM from Midland Huronia Mall Westbound: 12:10 AM and 6:00 PM from Bracebridge Dollarama, 8:10 AM from Honey Harbour Park Landing
Corridor 11 Bus	Weekdays	Northbound- Southbound	Southbound: 6:15 AM, 9:55 AM and 2:39 PM from Huntsville Northbound: 8:06 AM, 1:00 PM and 5:10 PM from Orillia

The Mactier/Huntsville route services the following three transit stops within the Township:

- Port Carling Foodland: 10 Bruce Wilson Drive, Port Carling
- Port Carling Community Centre: 3 Bailey Street, Port Carling
- Milford Bay Community Centre: 1020 Beaumaris Road, Milford Bay

The Midland/Bracebridge route services one transit stop within the Township, which is located at the Bala Community Centre (1008 Maple Avenue).

The Canadian Red Cross also offers a pre-booking transportation service for older adults and adults with disabilities 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.

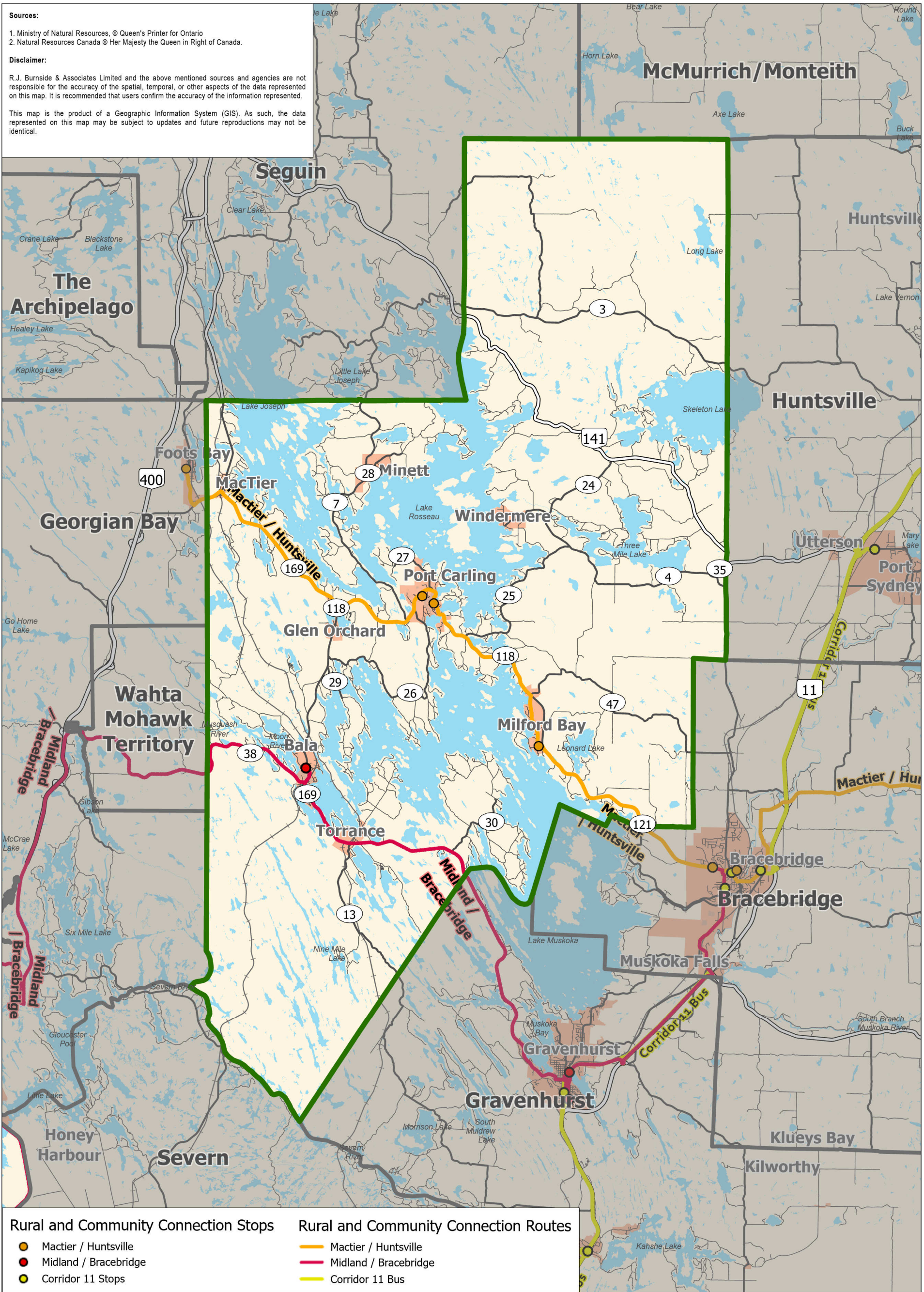
Sources:

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



BURNSIDE

Client

TOWNSHIP OF MUSKOKA
LAKES

Map Title

**DISTRICT TRANSIT
SYSTEM**

FIGURE 4-4

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 km²)
- Lake Rosseau (55 km²)
- Lake Joseph (55 km²)
- Skeleton Lake (21 km²)
- Three Mile Lake (8.7 km²)
- Long Lake (5.8 km²)
- Nine Mile Lake (2.3 km²)
- Leonard Lake (2.0 km²)
- High Lake (1.6 km²)
- Clear Lake (<1 km²)
- Brandy Lake (<1 km²)
- 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 4-3, 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 4-5.

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 4-3: 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	Pickereel Lane	1010 Pickereel 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

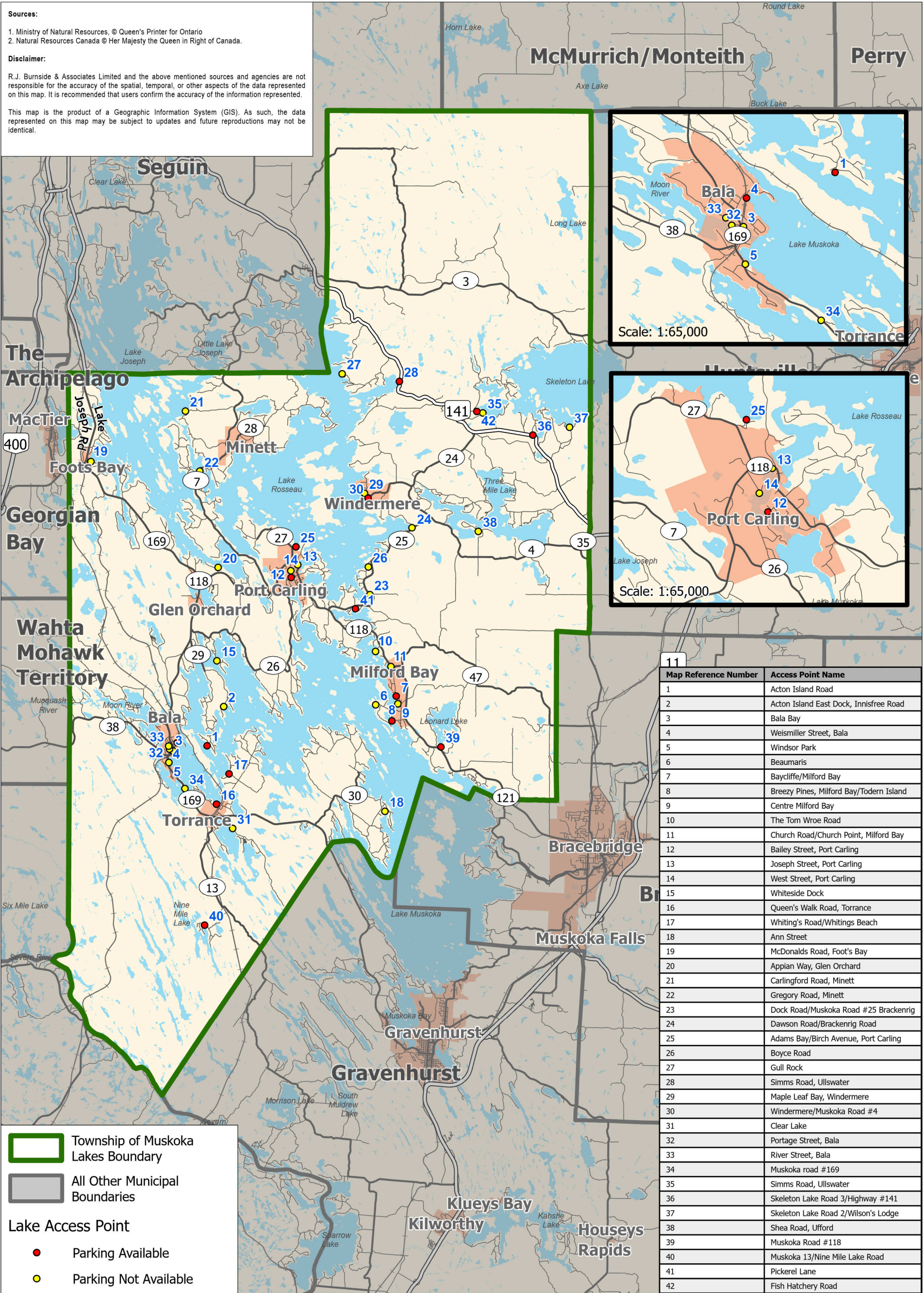
Sources:

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.



11	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/Whittings Beach
	18	Ann Street
	19	McDonalds Road, Foot's Bay
	20	Applan 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	Pickrel 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 ACSESSESS

FIGURE 4-5

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 4-6 for the purposes of analysis and deriving travel characteristics on a community-level.

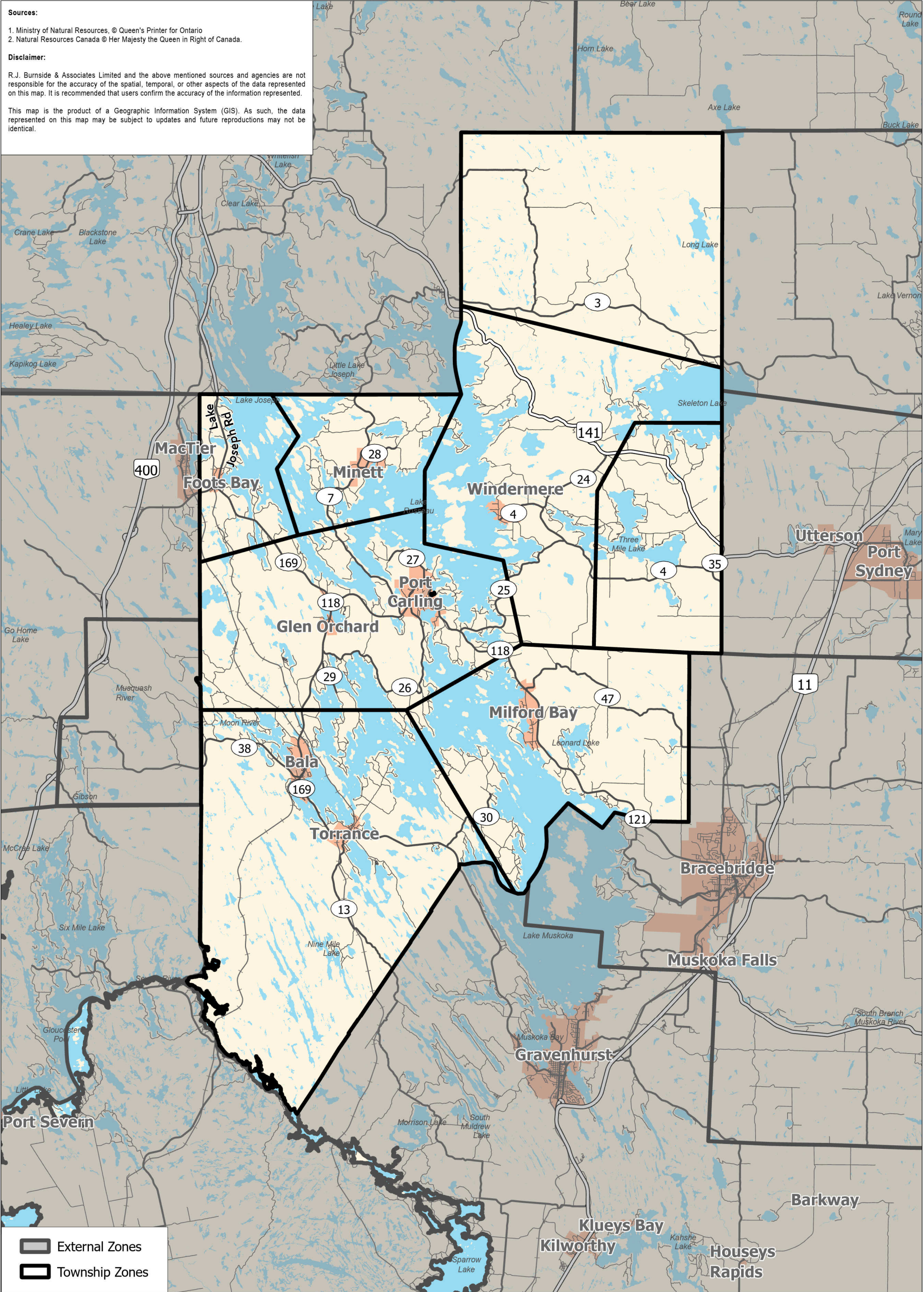
Sources:

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.



<p>Datum: North American 1983 CSRS</p> <p>Coord. System: NAD 1983 CSRS UTM Zone 17N</p> <p>Projection: Transverse Mercator</p> <p>Central Meridian: 81°0'0.00"W</p> <p>False Easting: 500,000m False Northing: 0m</p> <p>Page Orientation: -22° Scale Factor: 0.99960</p>			<p>Map Title</p> <p>STREETLIGHT ZONE SYSTEM</p>
	<p>Client</p> <p>TOWNSHIP OF MUSKOKA LAKES</p>	<p>FIGURE 4-6</p>	

4.2.1 Pandemic Impacts

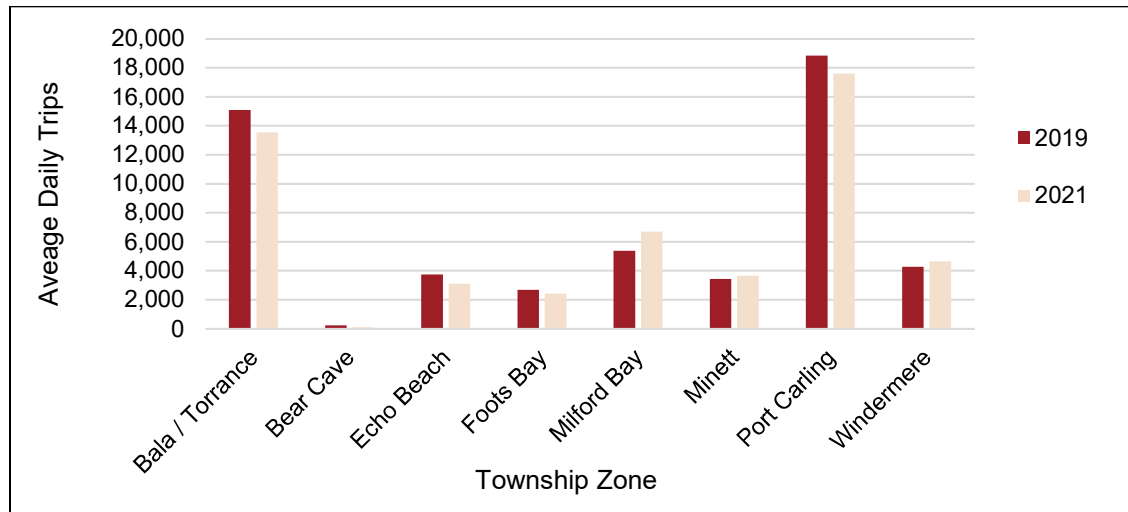
The COVID-19 pandemic marked the disruption associated with human mobility, with individuals forced to re-evaluate their mode and frequency of transportation. Since the onset of the pandemic and resulting stay-at-home mandates implemented in early 2020, average monthly trips decreased by approximately 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 4-7 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).

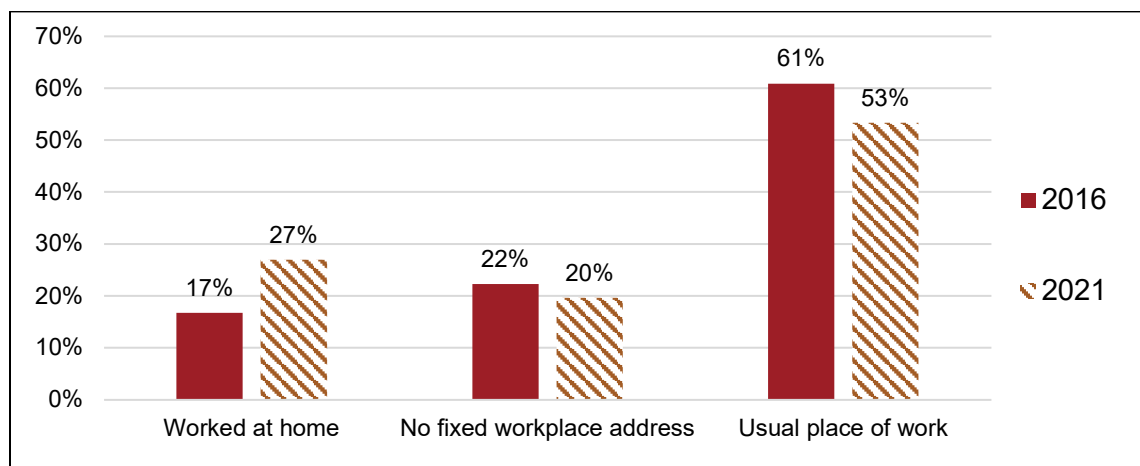
Figure 4-7: Pandemic Impact on Daily Township Trips



Source: Burnside Analysis of StreetLight 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 4-8. 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 4-8: Pandemic Impact on Place of Work Status for Township Residents



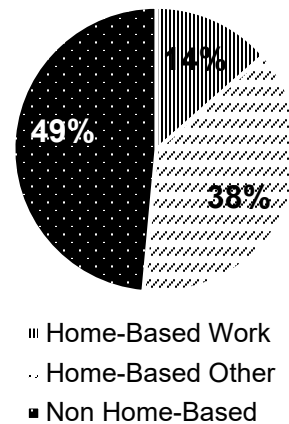
Source: 2016 and 2021 Census (Statistics Canada)

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 4-9: Township Trip Purpose Breakdown



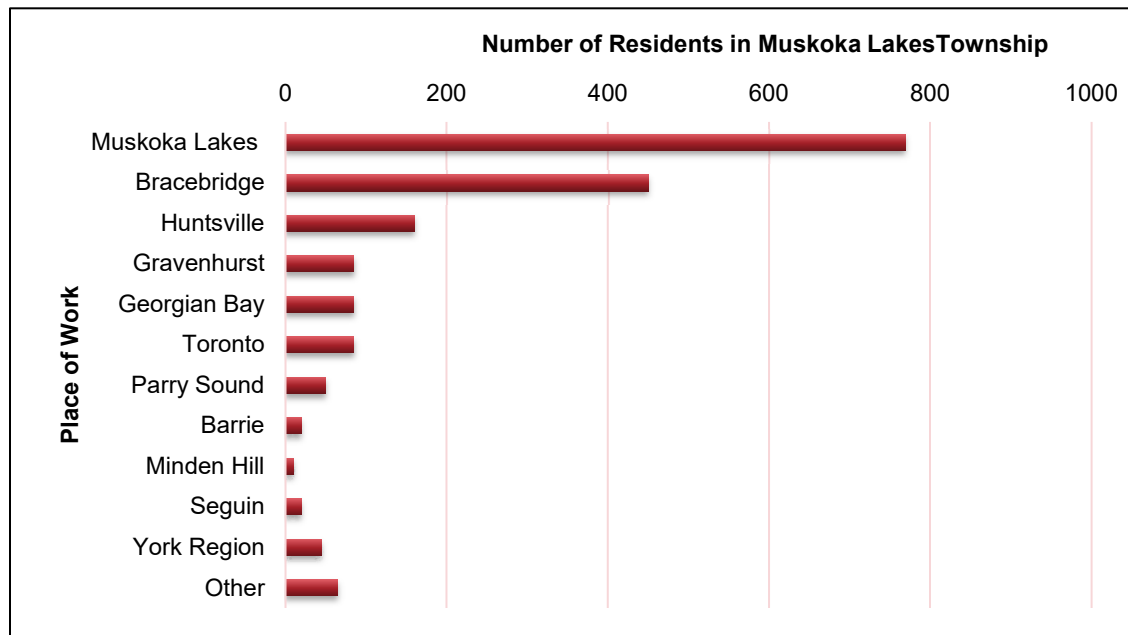
Source: Burnside Analysis of Streetlight Data

The trip purpose breakdown for trips starting from or ending in the Township is depicted in Figure 4-9. 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.

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.

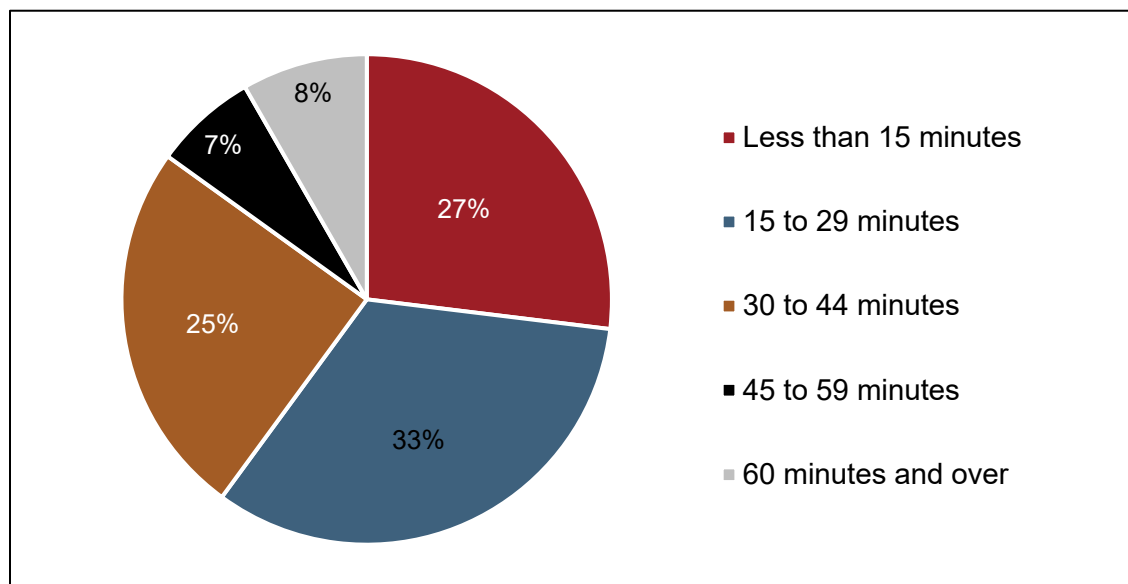
The majority (79%) of residents work within the Township or in communities of neighbouring municipalities, particularly Bracebridge, Huntsville and Gravenhurst, as shown in Figure 4-10. These commuting patterns are further exemplified by commute duration where 60% of the Township's labour force take 30 min to get to their usual place of work. The commute duration breakdown is shown in Figure 4-11.

Figure 4-10: Work Destinations of Muskoka Lakes Residents



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

Figure 4-11: Commuting Duration of the Township Employed Labour Force

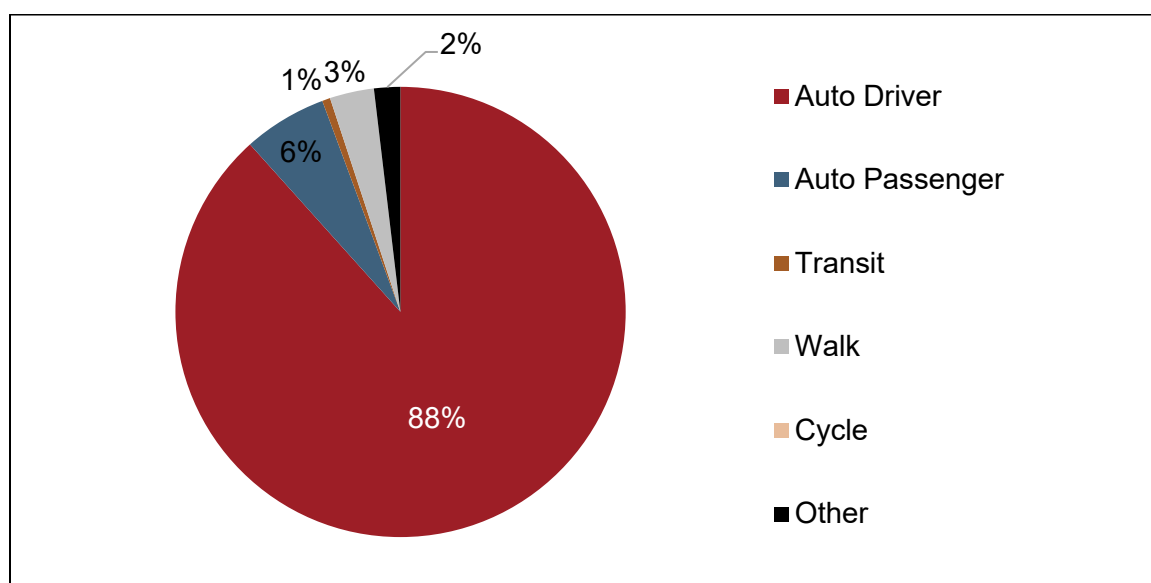


Source: 2021 Census (Statistics Canada) – Commuting Duration for the Employed Labour Force

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 4-12.

Figure 4-12: Commuting Mode Share of Township Residents

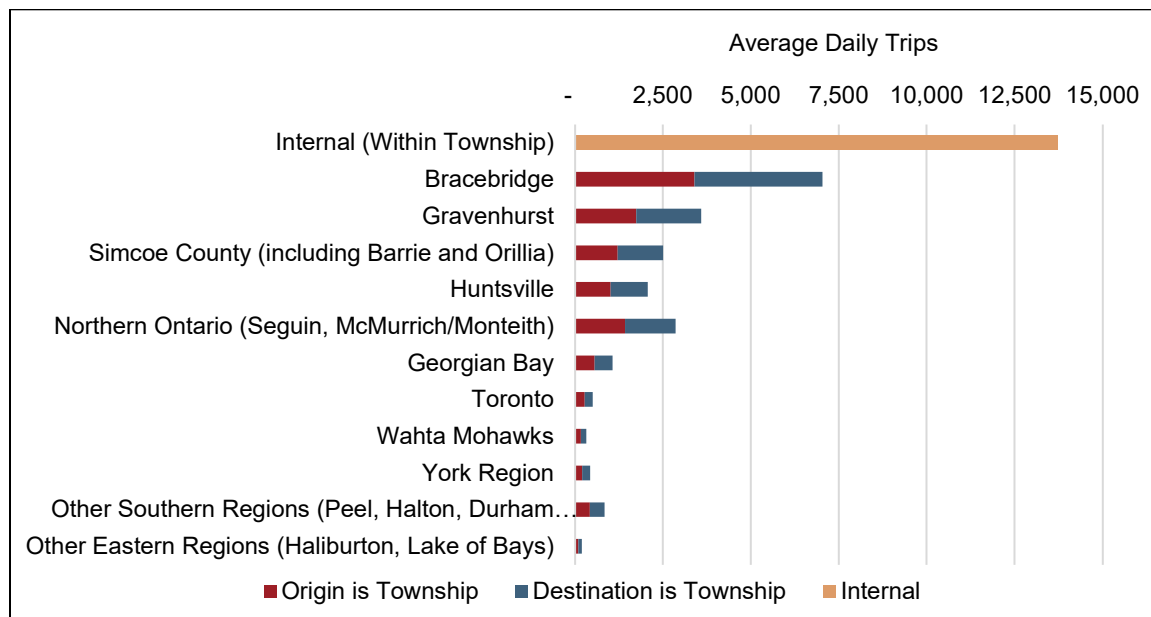


Source: 2021 Census (Statistics Canada) – Main Mode of Commuting for the Employed Labour Force

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 4-13.

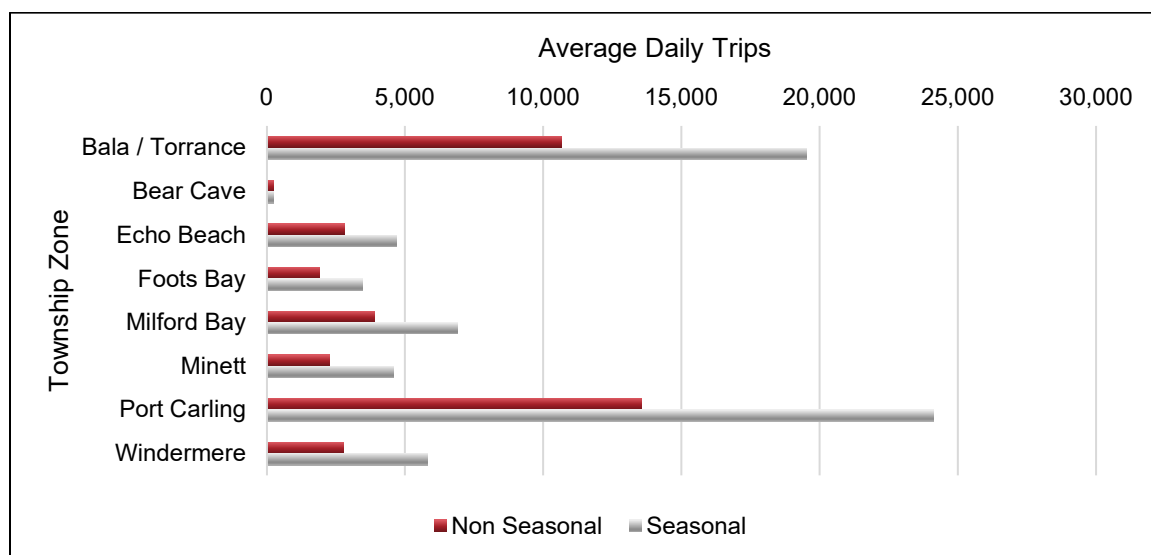
Figure 4-13: Origins and Destinations of Township Daily Trips



Source: Burnside Analysis of StreetLight Data

Average daily trips travelling to/from Township zones are illustrated in Figure 4-14. 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 4-14: Daily Trips Within Township Zones

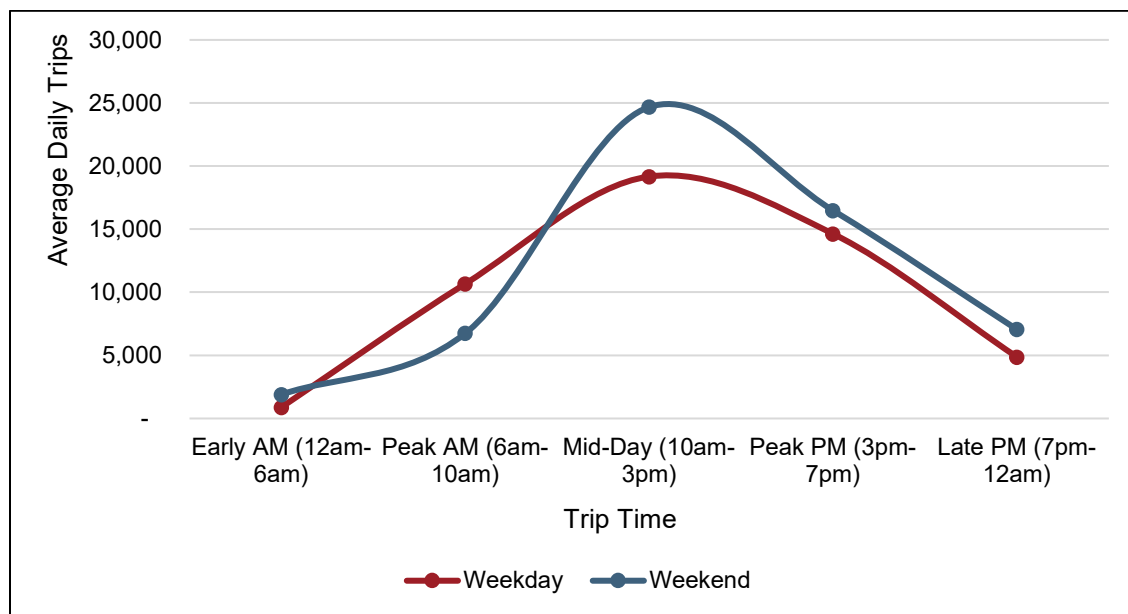


Source: Burnside Analysis of StreetLight Data

4.2.5 Daily Traffic Fluctuations

The variation in trip times is illustrated in Figure 4-15. 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 4-15: Daily Trip Fluctuations



Source: Burnside Analysis of StreetLight 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.

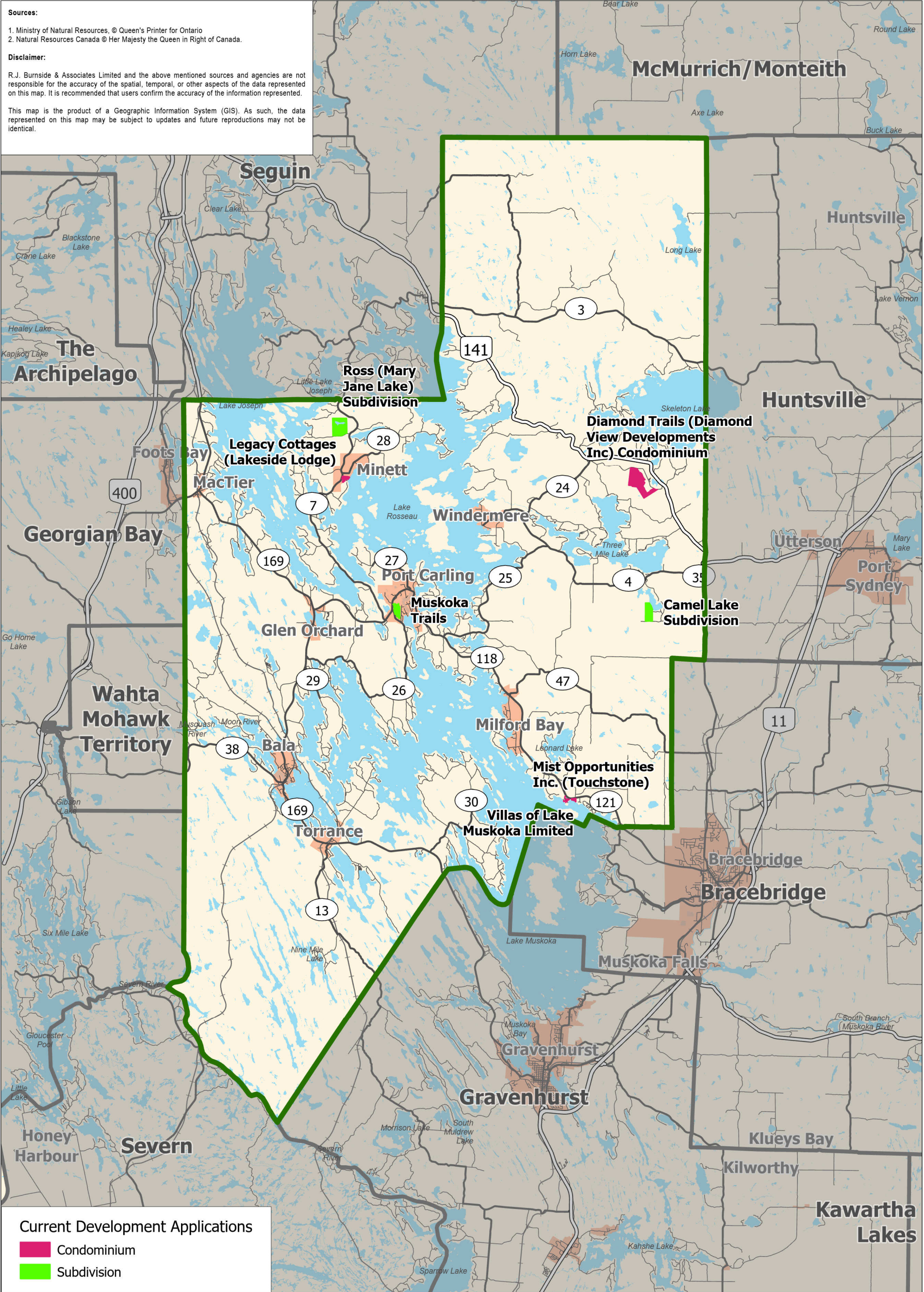
Sources:

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.

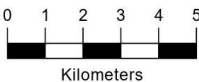


Current Development Applications

Condominium

Subdivision

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



1:200,000



Client

TOWNSHIP OF MUSKOKA LAKES

Map Title

CURRENT DEVELOPMENT APPLICATIONS

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

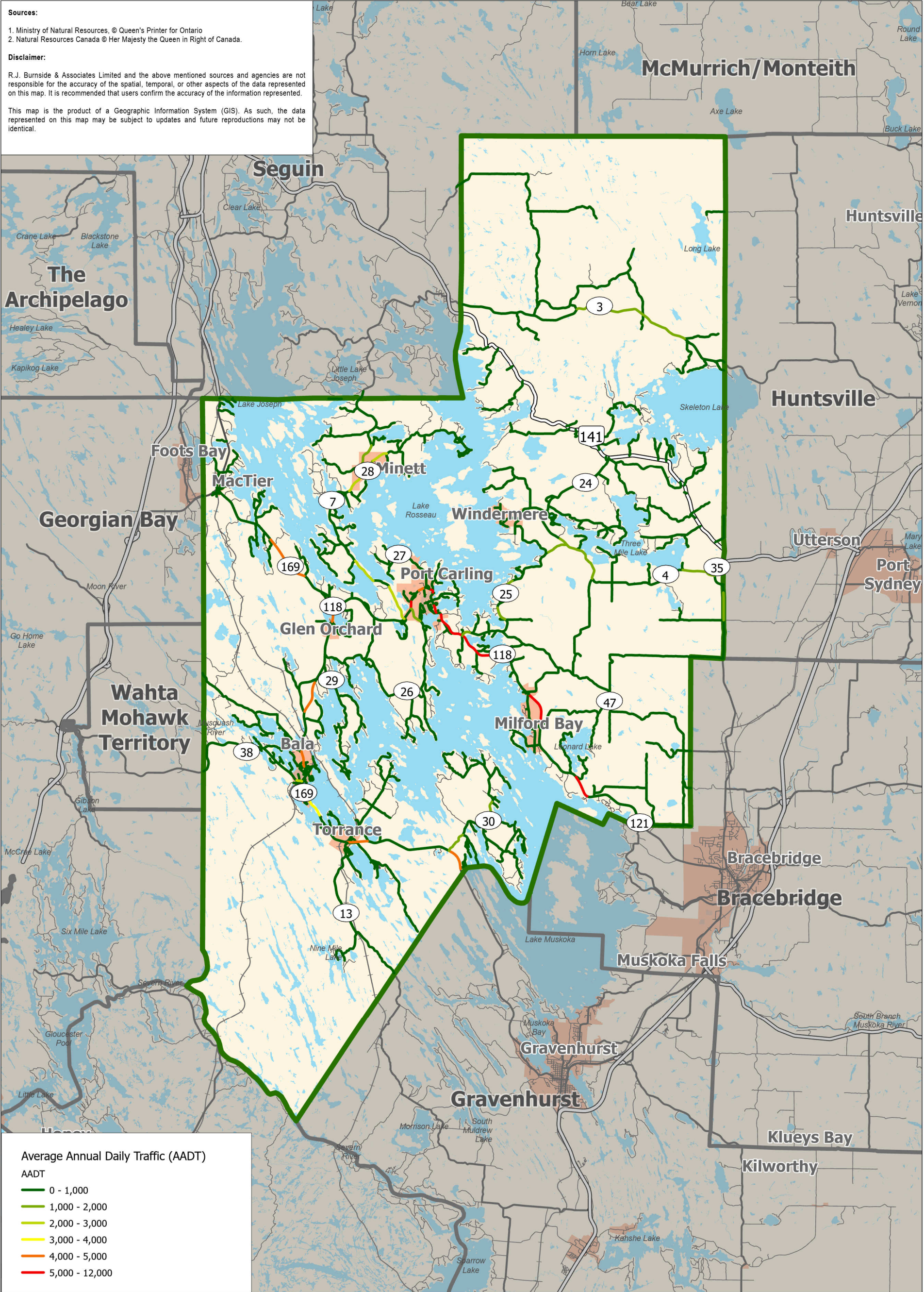
Baseline traffic conditions were derived by projecting data provided by the District and extracted from the Township's 2013 Road Needs Study Update. The existing average annual daily traffic (AADT) are illustrated in Figure 7-1.

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.



<p>Datum: North American 1983 CSRS</p> <p>Coord. System: NAD 1983 CSRS UTM Zone 17N</p> <p>Projection: Transverse Mercator</p> <p>Central Meridian: 81°0'0.00"W</p> <p>False Easting: 500,000m False Northing: 0m</p> <p>Page Orientation: -22° Scale Factor: 0.99960</p>			<p>Map Title</p> <p>EXISTING AVERAGE ANNUAL DAILY TRAFFIC (AADT)</p>
		<p>Client</p> <p>TOWNSHIP OF MUSKOKA LAKES</p>	<p>FIGURE 7-1</p>

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.

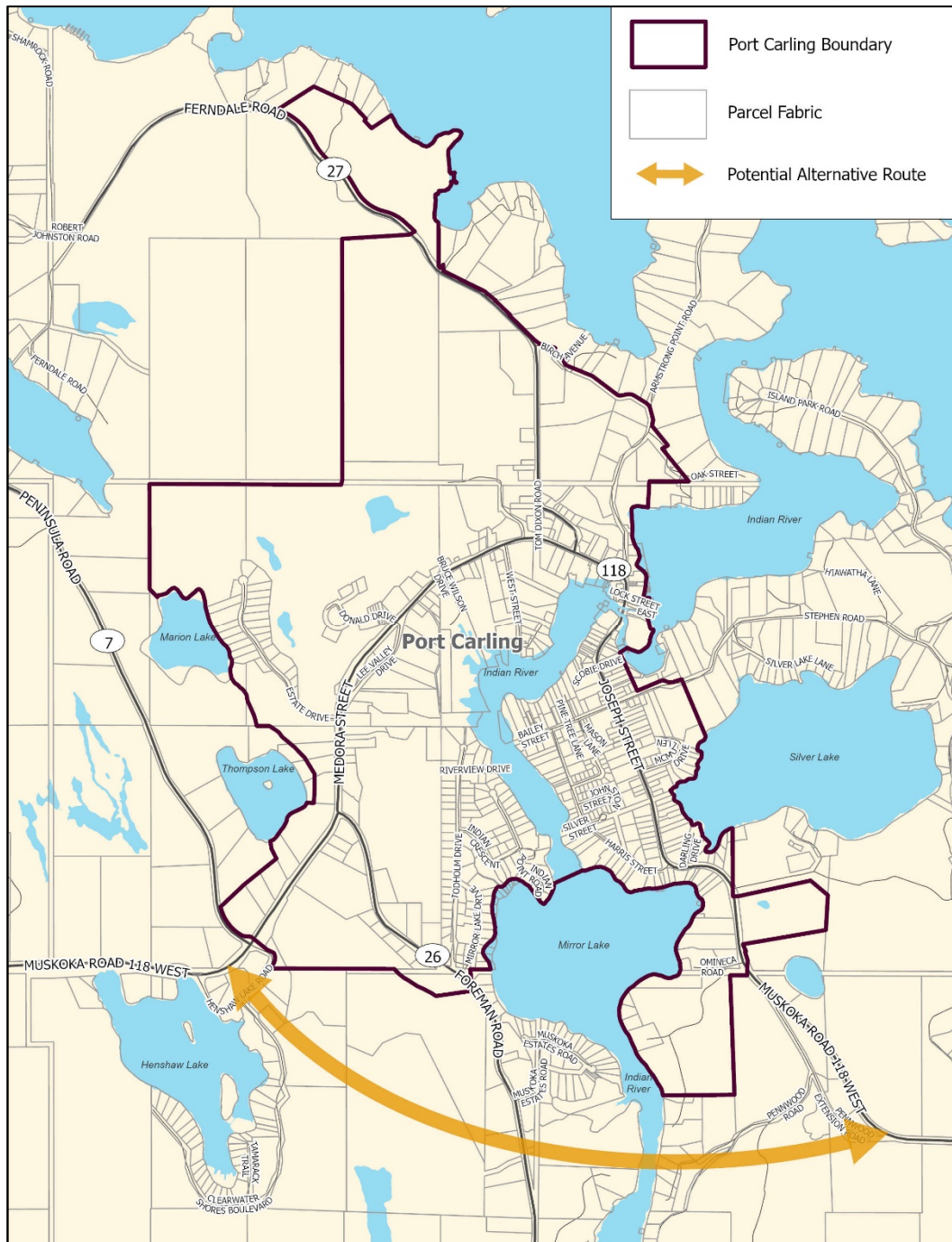
District Road 118 passes through the communities of Port Carling and Milford Bay. There is an opportunity for the Township to coordinate with the District to investigate potential improvements along District Road 118 or alternative routing strategies for network flexibility and management of traffic 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 horizontal 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

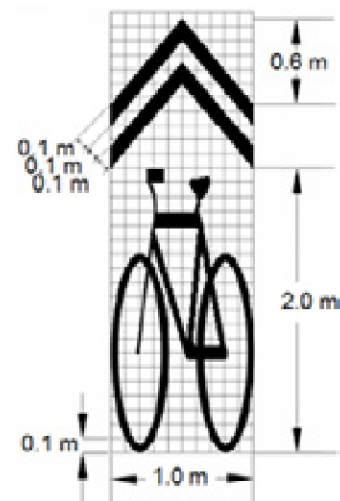
To ensure that the needs of all road users were addressed, provision for pedestrian and cycling facilities were considered along bridges.

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.

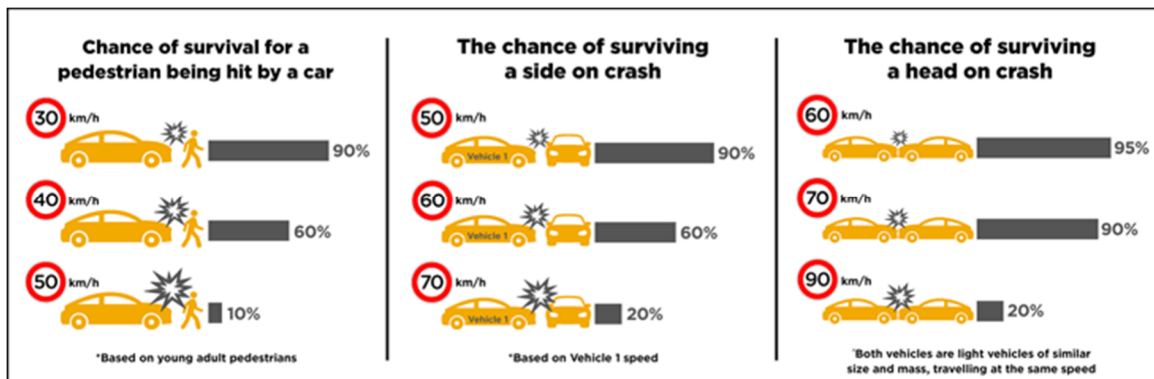
It is recommended that the “SLOW” pavement markings be implemented at the following one-way bridges:

- 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 that are currently not included as part of the municipal inventory and therefore not being maintained. 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 on 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

Road	From	To	Length (km) on Township Road Allowance
Apiary Rd	Acton Island Rd	1068 Apiary Rd	0.66
Avon Ln	Hemlock Pt Rd	1028 Avon Ln	0.31
Bass Lk Rd	Mr169	1141 Bass Lake Rd	1.63
Berners Rd	Mr169	1062 Berners Rd	0.61
Berry Pt Dr	Marina Rd	1019 Berry Pt 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 Pt Rd	Barlochan Rd	1390 Breezt Pt Rd	3.81
Brown Rd	Mr118W	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 Av	Golf Avenue Rd	Lake	0.48
Christie Pt Rd	Hamills Pt Rd	Hamills Pt Rd	1.02
Danbell Rd	Poste Rd	Guys Rd	0.21
Draycott Lk Rd	Bear Cave Rd	1200 Draycott Lake Rd	2.08
Dunn Dr	Acton Island Rd	1018 Dunn Dr	0.16
East Rankin Rd	Mortimers Pt 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 Pt Ln	Brackenrig Rd	1051 El-Kee Pt Ln	0.50
Emilys Ln	Mr118W	Hewlitt Rd	0.17
1158 Greenwood Pt Rd	1148 Greenwood Pt Rd	1158 Greenwood Pt 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 Pt Rd	Hamills Pt Rd	1183 Hamills Pt 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
Kilty Bay Road	Twp Of Georgian Bay	1055 Kilty Bay Rd	0.56
Leonard Lk 1 Rd	Mr118W	1188 Leonard Lake Rd 1	1.98

Road	From	To	Length (km) on Township Road Allowance
Lidlsey 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 Pt 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 Pt Rd	1016 West Rankin Rd	0.18
Wonder Beach Rd	Windermere Rd	1064 Wonder Beach Rd	0.40
Woodwinds Rd	Breezy Pt Rd	1114 Woodwinds Rd	1.07
Wynanne Dr	Acton Island Rd	1061 Wynanne Dr	0.61
		Total	34.16

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:

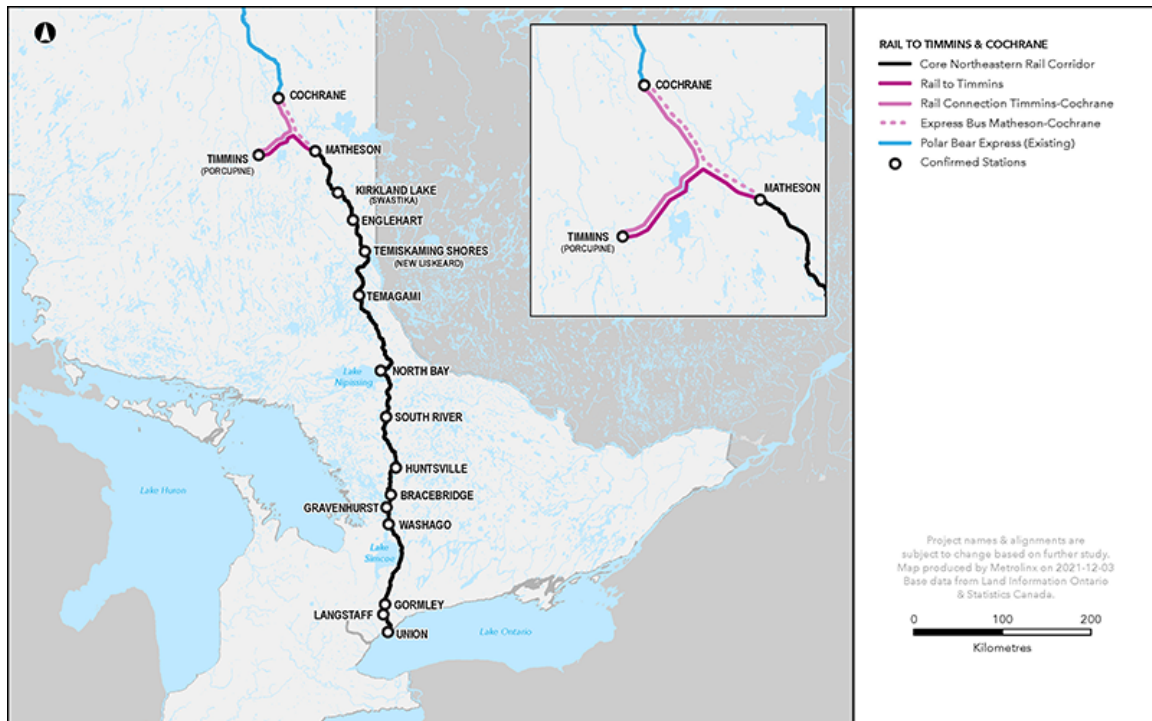
- Access to local medical service, shopping, and financial services,
- Access to the existing and potential future fixed bus routes within the District, and
- Access to the future planned Northlander passenger rail service.

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.

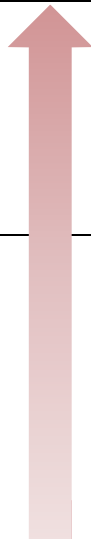

The Township should co-ordinate with the District to explore the feasibility of new transit connections or enhancing the frequency of existing transit connections to the future Northlander rail stops in Gravenhurst, Bracebridge, and Huntsville.

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.

There are different types of models for on-demand transit as summarized in Table 7-5.

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. There are three transit stops for the Mactier/Huntsville line including:

- Port Carling Foodland: 10 Bruce Wilson Drive, Port Carling
- Port Carling Community Centre: 3 Bailey Street, Port Carling
- Milford Bay Community Centre: 1020 Beaumaris Road, Milford Bay

The following design elements should be considered at each of the three transit stations:

- Additional canopied area such as a bus shelter,
- Benches for resting 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

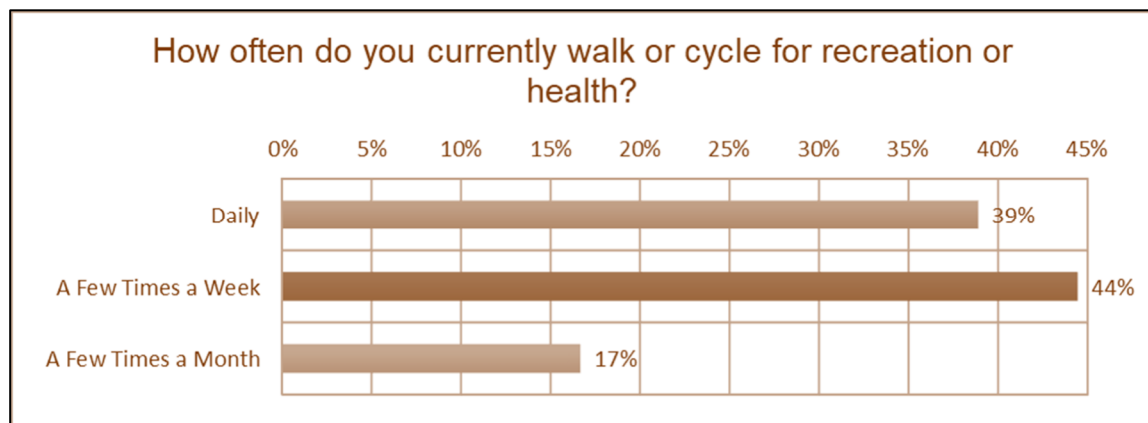
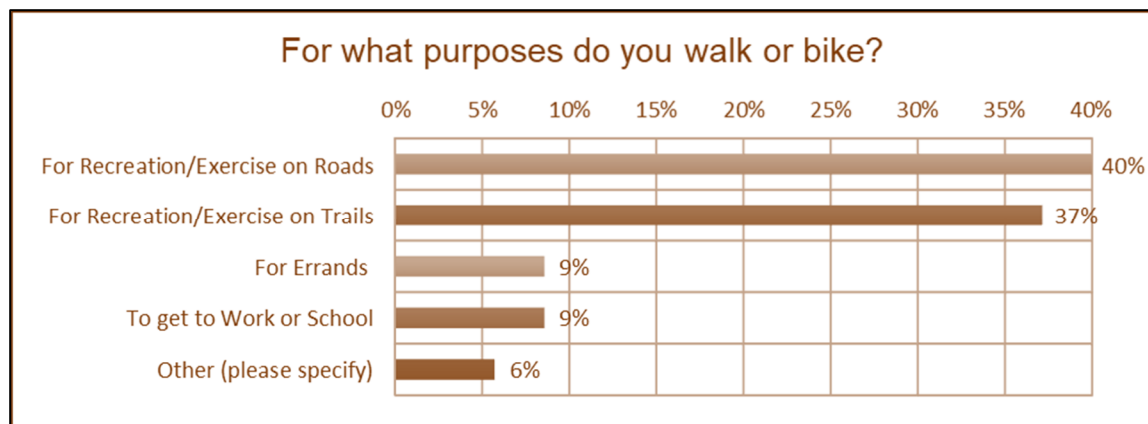
The District of Muskoka developed an active transportation strategy last amended in June 2010. The recommended District route was incorporated in Schedule F of the District's Official Plan.

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 manoeuvrability 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.



Sharrows
Source: City of Toronto

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

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.

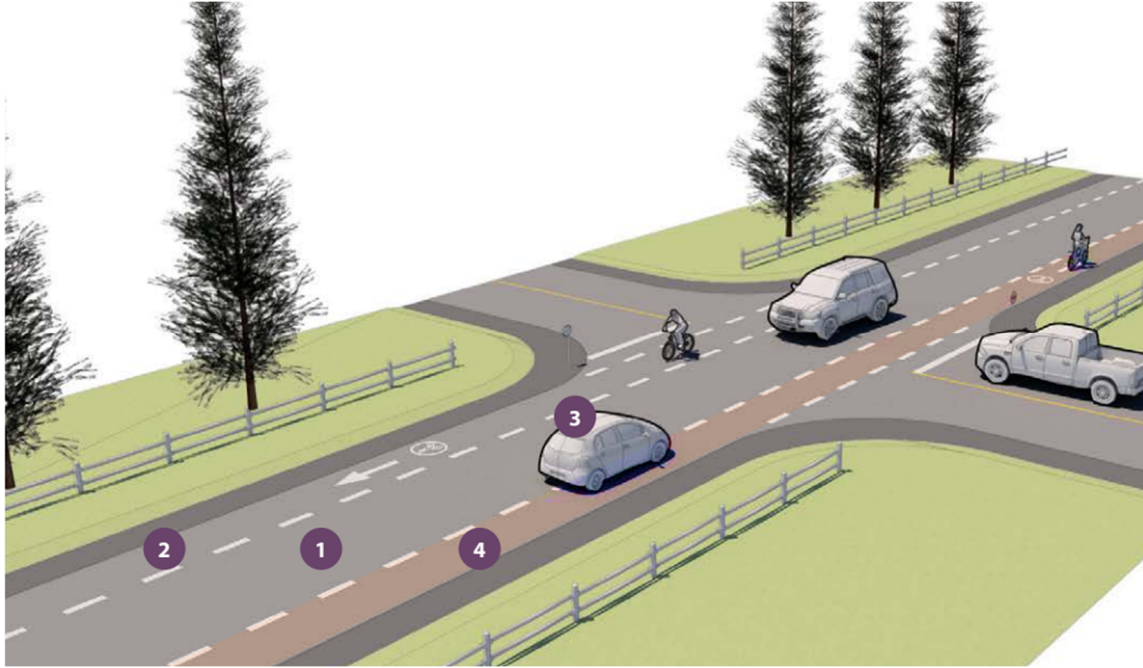
Figure 7-4: Advisory Bike Lanes



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
<ul style="list-style-type: none"> ➤ 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 	<ul style="list-style-type: none"> ➤ 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 	<ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Comfortable interacting with moderate-speed motor vehicle traffic• Prefer dedicated cycling facilities.
Interested but concerned	<ul style="list-style-type: none">• 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

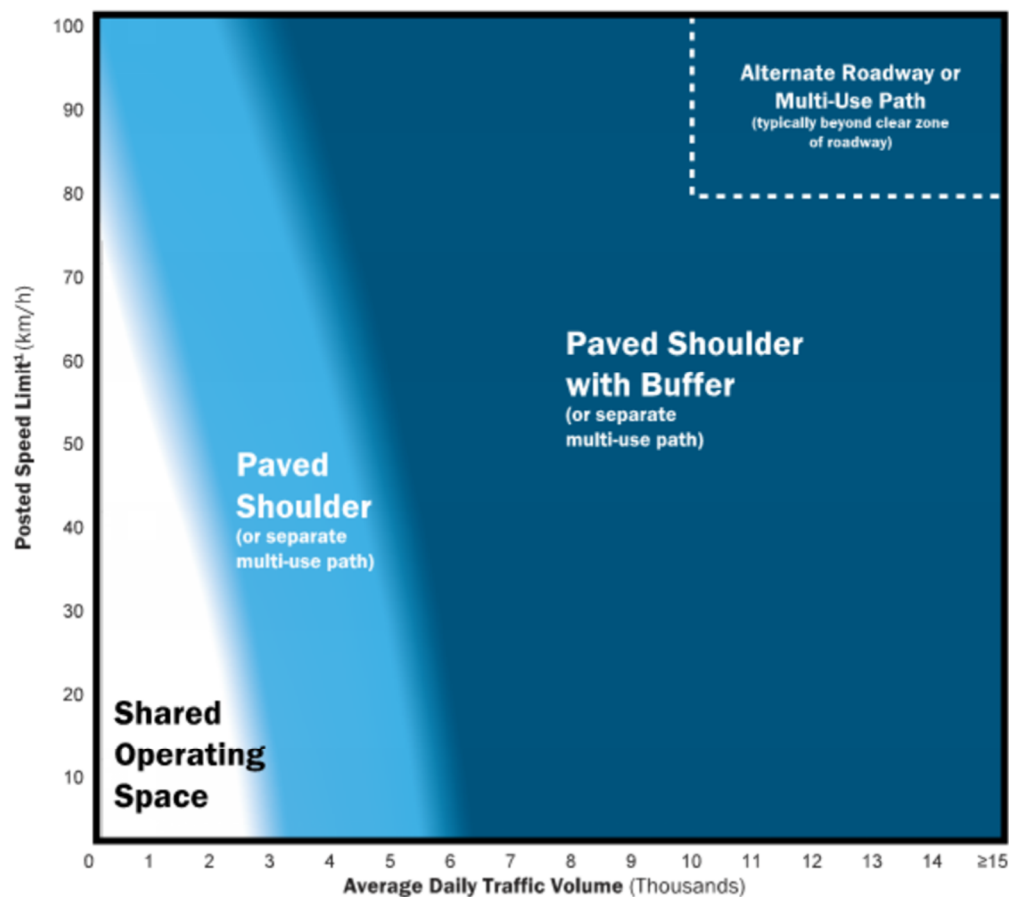
Cycling facility selection can be based on a number of factors including:

- 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



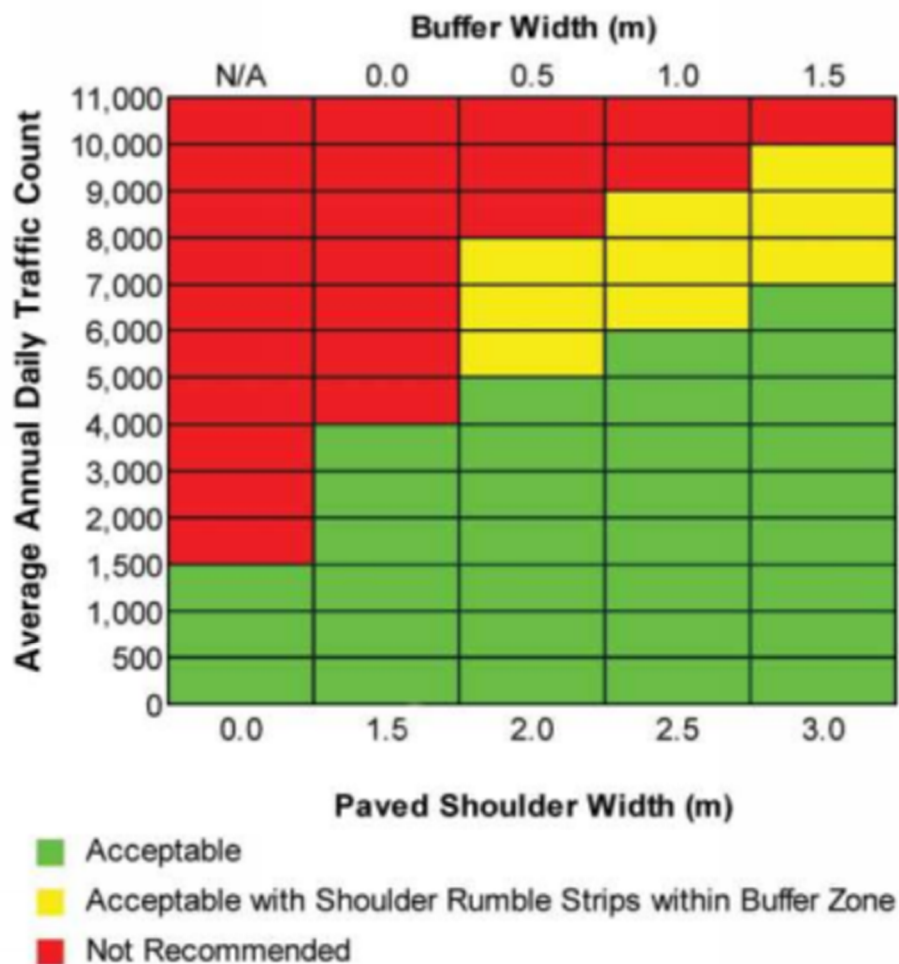
- 1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
- 2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
- 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 as 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.

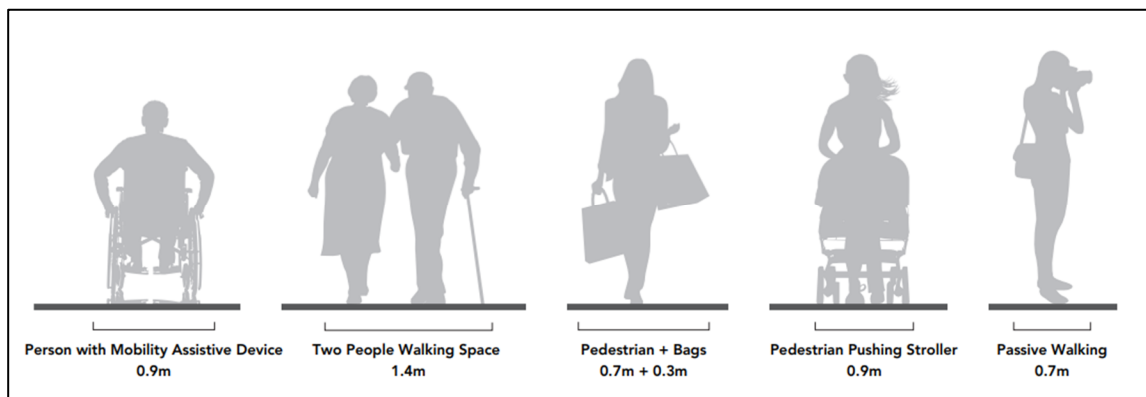
Three considerations for providing accessible pedestrian facilities include:

- 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.

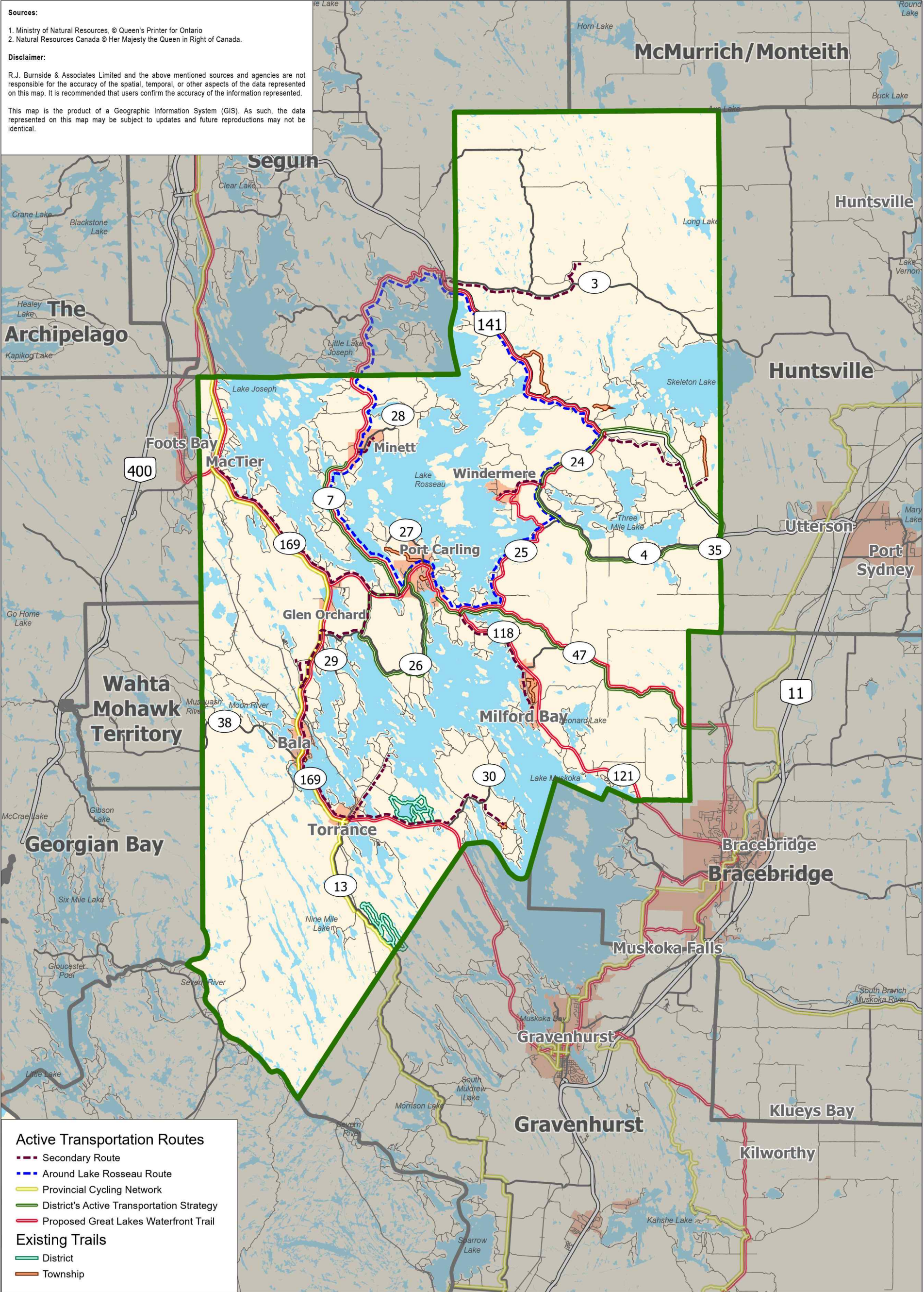
It is recommended that the Around the Lake Trail be designated and protected as a “Scenic Corridor” in the Township’s Official Plan, which provides the following definition and provision:

“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
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
Mortimer's Point Road	Eveleigh Road	District Road 169	Township	Secondary	Narrow to no paved shoulders	400	Shared Route

Road	From	To	Jurisdiction	Hierarchy	Existing Active Transportation Facility	AADT	Potential Active Transportation Facility
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



<p>Datum: North American 1983 CSRS</p> <p>Coord. System: NAD 1983 CSRS UTM Zone 17N</p> <p>Projection: Transverse Mercator</p> <p>Central Meridian: 81°0'0.00"W</p> <p>False Easting: 500,000m False Northing: 0m</p> <p>Page Orientation: -21.5° Scale Factor: 0.99960</p>			<p>Map Title</p> <p>PROPOSED ACTIVE TRANSPORTATION ROUTE</p>
		<p>Client</p> <p>TOWNSHIP OF MUSKOKA LAKES</p>	<p>FIGURE 7-9</p>

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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 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 underserved 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: <ul style="list-style-type: none">• 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: <ul style="list-style-type: none">• 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: <ul style="list-style-type: none">• 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	<p>Proposed lake accesses are each subject to a site-specific assessment to determine respective design and site requirements that will allow it to function safely and adequately as a waterbody access.</p> <p>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.</p> <p>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.</p>	<p>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.</p> <ul style="list-style-type: none">• 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	<p>Current lake access needs identified through public input from the TMP travel demand survey are a key consideration in determining potential lake access locations.</p> <p>Consultation and engagement with the public and stakeholders should continue throughout the process of identifying, designing and implementing new lake accesses.</p>	<p>Site will have community interest and support as follows:</p> <ul style="list-style-type: none">• Residents have expressed interest in a specific site location for lake access.• There is general community acceptance for the proposed lake access location.	15 points
Policy	<p>The proposed lake access supports Township objectives as prescribed in the Official Plan – Section B Waterfront.</p>	<p>See Township Official Plan</p>	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.

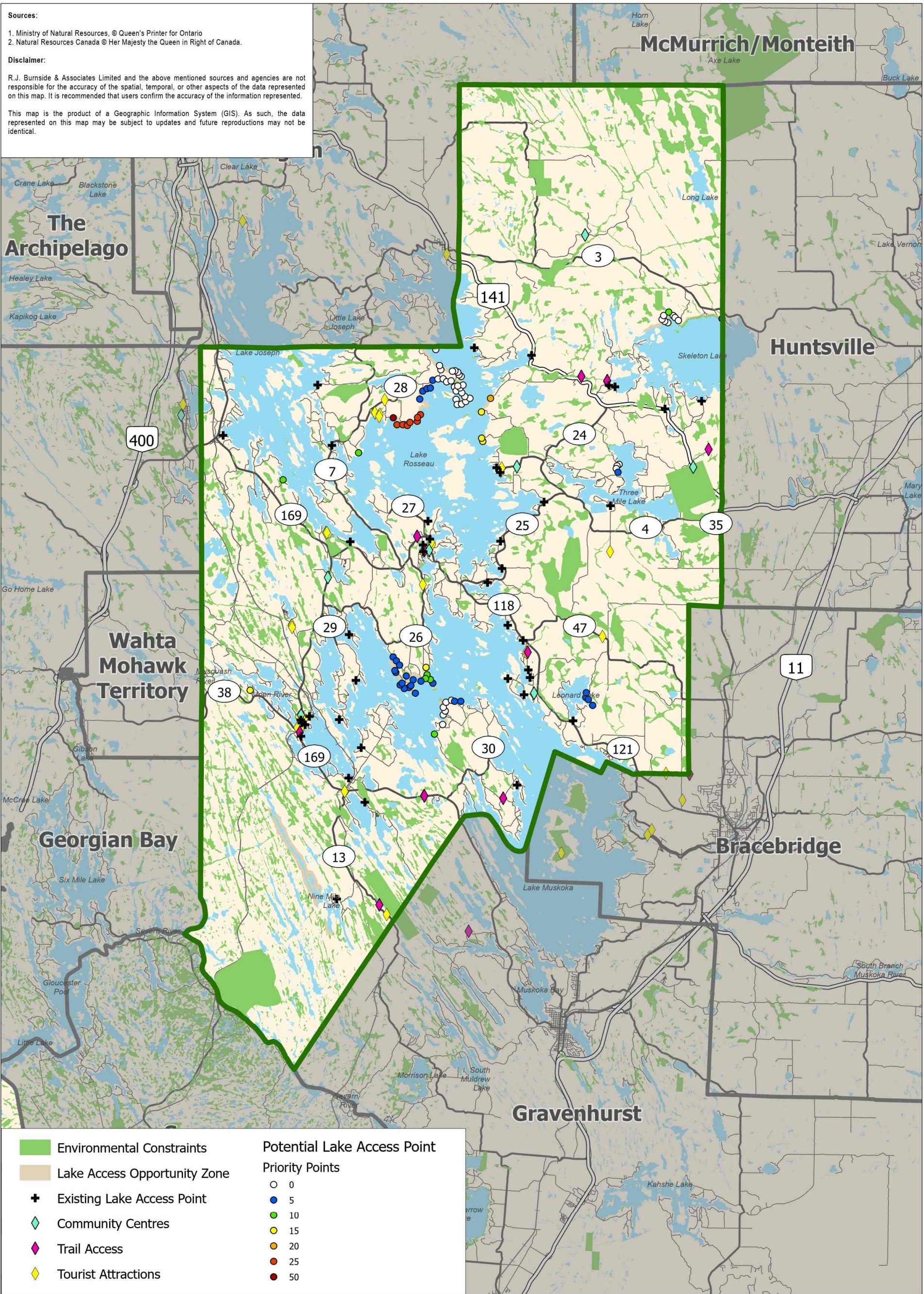
Sources:

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



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.

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 Sandor Drive	Moon River	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
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 receptacles 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](#), 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 4-5.

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) may use parking lots at lake accesses to park their vehicle overnight before travelling to their property on water. 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 guidelines in Section 7.4.1.2), 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
Off-Street Municipal Parking Lot	<p>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.</p> <p>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).</p>

Example
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.

**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.

**On-Street Parallel Parking along
Dwight Beach Road in the
Township of Lake of Bays**



Source: Google Aerials

**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	<p>The proposed scope of a Downtown Parking Utilization Study is as follows:</p> <p>1. Data Collection</p> <p>Surveys to be conducted at all publicly accessible parking facilities or lots on:</p> <ul style="list-style-type: none"> • A summer weekday between 10 AM to 6 PM • A summer weekend between 11 AM to 9 PM • During the Bala Cranberry Festival <p>Data to be collected include:</p> <ul style="list-style-type: none"> • 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
	<p>2. Data Analysis It is recommended that the results of the parking survey be summarized and include a review of the following:</p> <ul style="list-style-type: none"> • 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
	<p>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.</p>
Improve Efficiency of Use	
Parking Patrol / Enforcement *	<p>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.</p> <p>It is recommended that a cost-benefit review be conducted to assess the financial feasibility of this improvement.</p>
Implement Parking Time Restrictions *	<p>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.</p> <p>With new or updated parking restrictions introduced, it is recommended that it be complemented by enforcement, as mentioned above.</p>

Recommendation	Strategy
Shared Parking / Easements *	<p>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.</p> <p>This would only serve as a viable option if parking survey data indicated that these lots have excess capacity during peak periods.</p>
Pave Lots	<p>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.</p>
Improving Capacity	
Zoning By-law Review of Non-Residential Parking Rates for New Developments	<p>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.</p> <p>The ZBL may prescribe different parking rates for development within the Urban Centres of Bala and Port Carling to address downtown-specific needs.</p> <p>In support of alternative sustainable modes, the ZBL may also prescribe minimum requirements for bicycle parking spaces and facilities for new developments.</p>
Additional Off-Street Lots *	<p>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.</p>
Designing for Users	
Wayfinding and Parking Signage	<p>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.</p> <p>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.</p>
Real-Time Parking Information	<p>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.</p>

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 Northern American areas, including the City of Vernon (British Columbia), District of Saanich (British Columbia), Prince George (British Columbia), Moose Lake (Alberta) and West Virginia. 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 stream 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.

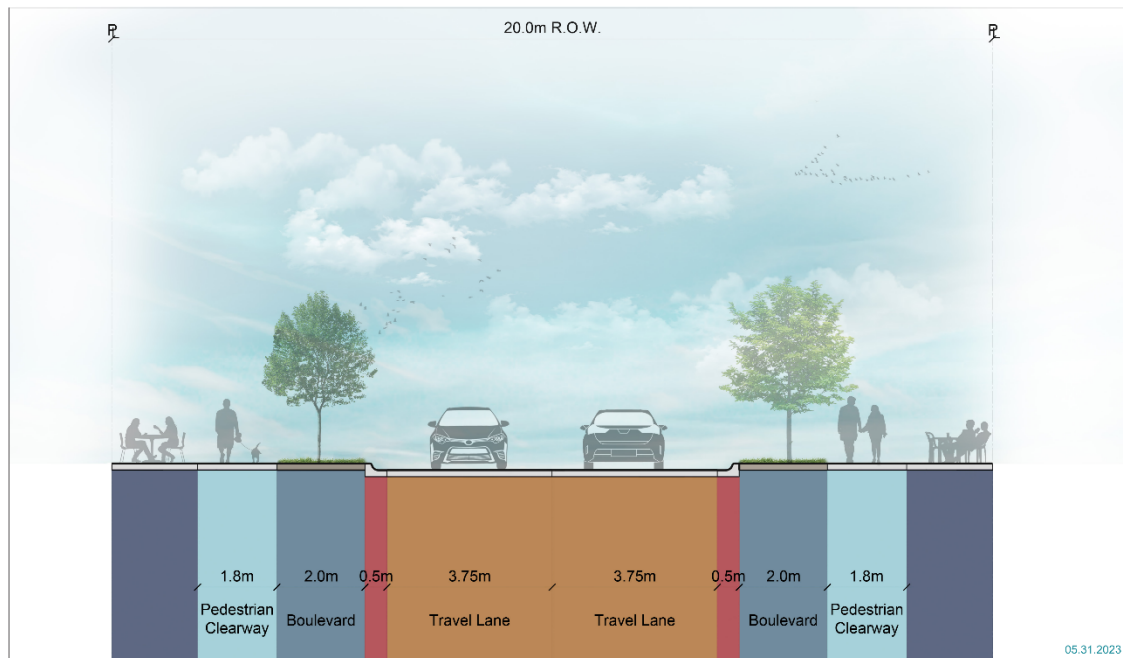
Table 8-1: Recommended Township Road Design Standards

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

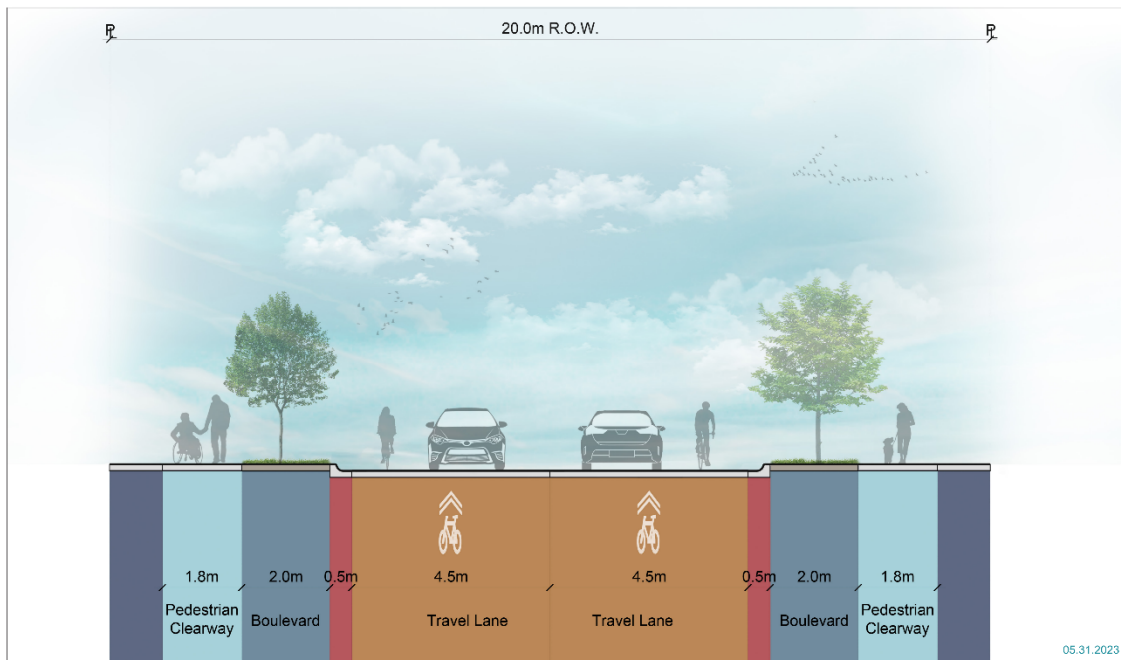
Notes: Allow for a 0.5 m rounding between the shoulder and the ditch

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.

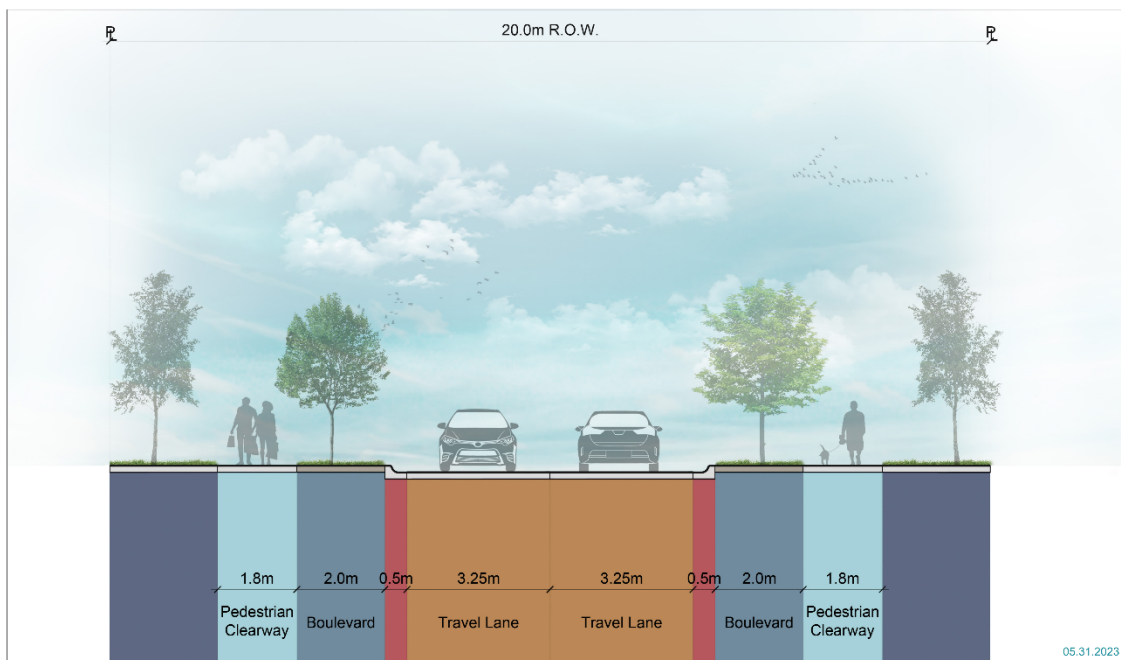
Under the Accessibility of Ontario with Disabilities Act (AODA) guidelines, pedestrian facility design requirements include a minimum clear width of 1.5 m. The Township should ensure that future sidewalks are constructed with desirable pedestrian clearway (unobstructed sidewalk zone) width of 1.8 m to 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

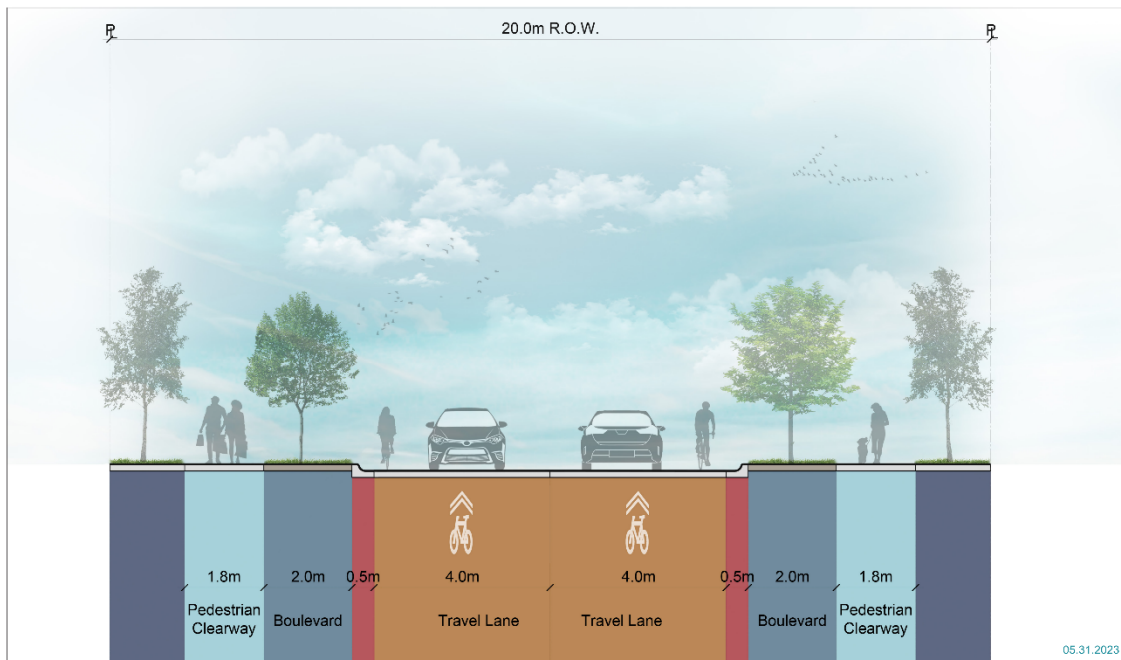


Muskoka Lakes - Recommended Township Road Design Standards
URBAN COLLECTOR WITH ACTIVE TRANSPORTATION

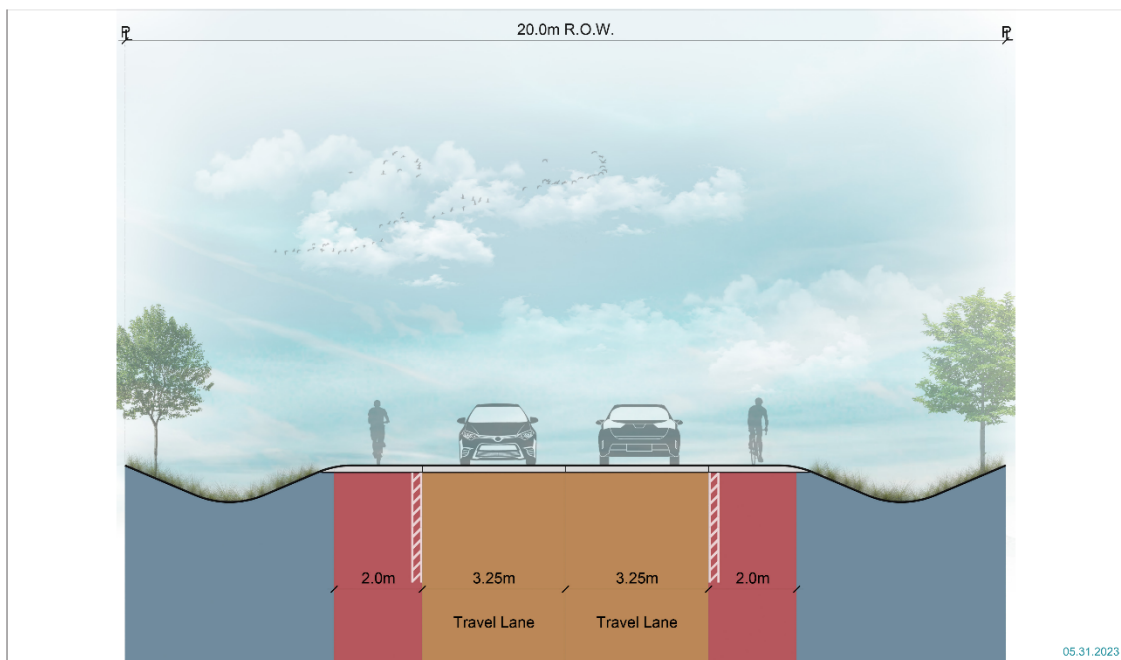


Muskoka Lakes - Recommended Township Road Design Standards
URBAN LOCAL



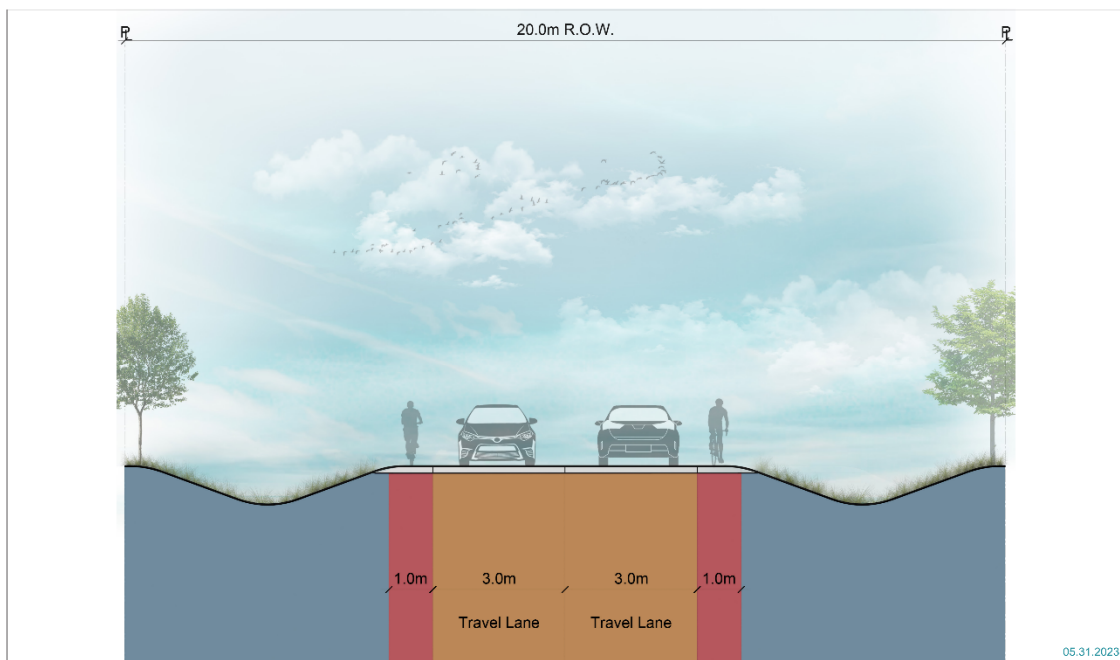


Muskoka Lakes - Recommended Township Road Design Standards
URBAN LOCAL WITH ACTIVE TRANSPORTATION

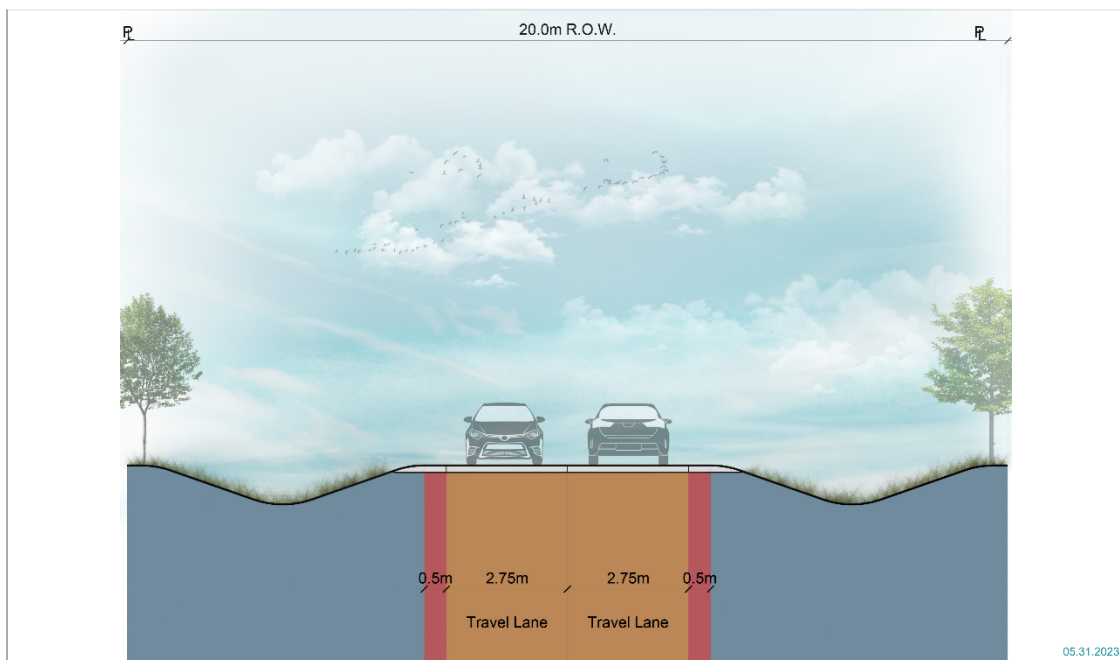


Muskoka Lakes - Recommended Township Road Design Standards
RURAL COLLECTOR





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			✓	✓
Improve amenities at all three (3) bus stops within the Township			✓	✓

Transportation Initiative	Alternative 0 Business-As-Usual	Alternative 1 Low Investment	Alternative 2 Medium Investment	Alternative 3 High Investment
Lake Access Improvements				
Adopt Lake Access Policy		✓	✓	✓
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 Pilot Study			✓	✓
Conduct an Off-Road Trails Study			✓	✓
Conduct an Advisory Bike Lane Pilot Project 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: <ul style="list-style-type: none"> Reduces GHG emissions / climate-related costs per capita Manages energy use and carbon Increases carbon resilience Supports clean energy initiatives
	Mobility choice and transit accessibility	Degree to which alternative: <ul style="list-style-type: none"> Considers a prioritization of transportation modes based on the rural or urban structure of the community Increases communities that are served by non-auto modes i.e., transit 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: <ul style="list-style-type: none"> Capital investment for construction and engineering support (Qualitative estimate) Capital investment for acquisition of property, fleet and equipment (Qualitative estimate)
	Operating and maintenance costs	Degree to which alternative requires: <ul style="list-style-type: none"> Additional staff resources Outsourced contract services Funding for operations and maintenance of all modes of travel and support systems (Qualitative estimate)
Safety	Intersection safety	Degree to which alternative addresses misaligned intersections and poor sightlines

Criteria	Sub-Criteria	Criteria Indicators
	Bridge safety	Degree to which the transportation system is designed to consider human factors providing clarity to drivers at bridges
	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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Significant Woodlands and Valleylands • Areas of Natural or Scientific Interest (ANSI) • Provincially or Locally Significant Coastal Wetlands • Significant Wildlife Habitat, Fish Habitat, and Habitat of Endangered and Threatened Species
	Impacts to Source Water Protection Features	Potential impacts to: <ul style="list-style-type: none"> • Wellhead Protection Areas • Intake Protection Zones • Significant Ground Water Recharge Areas • Highly Vulnerable Aquifers
	Impacts to terrestrial environment	Potential impacts to: <ul style="list-style-type: none"> • Existing vegetation • Wildlife, wildlife habitats and terrestrial Species at Risk
	Impacts to aquatic environment	Potential impacts to: <ul style="list-style-type: none"> • Existing watercourses • Aquatic habitats and Species at Risk
	Impacts to Cultural Heritage	Degree to which alternative: <ul style="list-style-type: none"> • Has potential to impact cultural heritage features • Has potential to impact relative estimate of areas of high archaeological potential
Network Efficiency	Improves network connectivity and facilitates vehicular throughput	Degree to which alternative: <ul style="list-style-type: none"> • Addresses roadside safety issues • Maintains sufficient road capacity to meet traffic demands • Improves traffic flow, circulation and safety at intersections
	Ensures roadways are maintained	Degree to which alternative: <ul style="list-style-type: none"> • Ensures all roads within the Township's municipal allowance are maintained

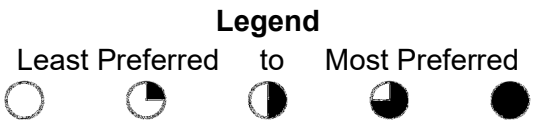


Table 9-3: Evaluation of Alternative Strategies

	Alternative 1 Business-As-Usual	Alternative 2 Low Investment	Alternative 3 Medium Investment	Alternative 4 High Investment
Sustainability				
Air quality and greenhouse gas emissions	<ul style="list-style-type: none">Anticipated congestion along Highway 118 will increase GHG emissions and GHG emissions per capitaAnticipated delays at intersections will increase GHG emissions and GHG emissions per capita	<ul style="list-style-type: none">Anticipated delays at intersections will increase GHG emissions and GHG emissions per capita	<ul style="list-style-type: none">Anticipated future congestion and delays along roadway segments and intersections are addressed decreasing GHG emissions per capita	<ul style="list-style-type: none">Anticipated future congestion and delays along roadway segments and intersections are addressed decreasing GHG emissions per capita
Mobility Choice and Transit Accessibility	<ul style="list-style-type: none">Does not improve mobility choice such as transit accessibility within the Township and accessibility to the District transit system and Northlander rail	<ul style="list-style-type: none">Potential minor improvements to the District transit network within the Township	<ul style="list-style-type: none">Potential minor improvements to the District transit network within the TownshipEnhances transit customer comfort at bus stops	<ul style="list-style-type: none">Potential major improvements to transit connectivity via on-demand transitEnhances transit customer comfort at bus stops
Active transportation accommodation	<ul style="list-style-type: none">Does not enhance the provision of active transportation	<ul style="list-style-type: none">Improves on-road active transportation connections between communities	<ul style="list-style-type: none">Improves on-road active transportation connections between communitiesImproves on-road active transportation connections within communities	<ul style="list-style-type: none">Improves on-road active transportation connections between communitiesImproves on-road active transportation connections within communities
Safety				
Intersection safety	<ul style="list-style-type: none">Does not enhance intersection improvement	<ul style="list-style-type: none">Does not enhance intersection improvement	<ul style="list-style-type: none">Addresses and improves safety at intersections	<ul style="list-style-type: none">Addresses and improves safety at intersections
Bridge safety	<ul style="list-style-type: none">Does not enhance safety at Township bridgesDoes not enhance safety at District bridges	<ul style="list-style-type: none">Does not enhance safety at Township bridgesDoes not enhance safety at District bridges	<ul style="list-style-type: none">Addresses and improves safety at Township bridges	<ul style="list-style-type: none">Addresses and improves safety at Township bridgesAddresses safety at District bridges
Supports movement of emergency vehicles	<ul style="list-style-type: none">Does not improve the safety of first responders	<ul style="list-style-type: none">Slightly supports movement of EMS vehicles through potential detours routes and additional maneuverability with paved shoulders	<ul style="list-style-type: none">Supports movement of EMS vehicles through potential detours routes and additional maneuverability with paved shoulders	<ul style="list-style-type: none">Supports movement of EMS vehicles through potential detours routes and additional maneuverability with paved shoulders
Policy Objectives				
Supports established communities and development objectives	<ul style="list-style-type: none">Does not address vision, need and opportunity of the TownshipDoes not address policy objectives, specifically from the Township and the District	<ul style="list-style-type: none">Addresses some needs and opportunities of the TownshipDoes not address policy objectives, specifically from the Township and the District	<ul style="list-style-type: none">Addresses many of the needs and opportunities of the TownshipAddresses many of the policy objectives from the Township and the District	<ul style="list-style-type: none">Addresses the needs and opportunities of the TownshipAddresses 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				
Potential Impacts to Designated Natural Areas, Source Water features, Terrestrial & Aquatic Environment	<ul style="list-style-type: none">• Potential impacts associated with maintenance requirements	<ul style="list-style-type: none">• Potentially higher impacts to natural environment including Designated Natural Areas, Source Water features, Terrestrial & Aquatic Environment compared to Business-as-Usual	<ul style="list-style-type: none">• Potentially higher impacts to natural environment including Designated Natural Areas, Source Water features, Terrestrial & Aquatic Environment compared to Business-as-Usual	<ul style="list-style-type: none">• Potentially highest to natural environment including Designated Natural Areas, Source Water features, Terrestrial & Aquatic Environment compared to Base Case
Network Efficiency				
Network connectivity	<ul style="list-style-type: none">• Does not enhance the connectivity of the Township road and bridge network	<ul style="list-style-type: none">• Potentially higher connectivity of the Township road and bridge network	<ul style="list-style-type: none">• Potentially higher connectivity of the Township road and bridge network	<ul style="list-style-type: none">• Potentially higher connectivity of the Township road network• Potentially addresses speeding concerns on Township roads• Potentially improves safety District bridge safety
Maintenance	<ul style="list-style-type: none">• Ensures all roads within the Township's municipal allowance are maintained	<ul style="list-style-type: none">• Ensures all roads within the Township's municipal allowance are maintained	<ul style="list-style-type: none">• Ensures all roads within the Township's municipal allowance are maintained	<ul style="list-style-type: none">• Ensures all roads within the Township's municipal allowance are maintained
Financial				
Capital cost	<ul style="list-style-type: none">• Minimal impact to capital costs	<ul style="list-style-type: none">• Minimal infrastructure investments and studies	<ul style="list-style-type: none">• Moderate level of infrastructure investments and studies	<ul style="list-style-type: none">• High level of infrastructure investments and studies
Operating and maintenance costs	<ul style="list-style-type: none">• Higher operating and maintenance cost with the inclusion of additional non-maintained roads	<ul style="list-style-type: none">• Higher operating and maintenance cost with the inclusion of additional non-maintained roads	<ul style="list-style-type: none">• Higher operating and maintenance cost compared to BAU with the inclusion of additional non-maintained roads and additional operating costs of new lake accesses	<ul style="list-style-type: none">• 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.
- Additional amenities to enhance the comfort of transit users at bus stops.
- 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)
17	Township	Transit Stop Improvements (three Locations), including installation of canopied shelter area, benches, bicycle locking facilities, and self-fix bicycle kits	Additional Bus Stop Amenities	Immediate (1-5 years)

Table 10-3: Proposed Active Transportation Improvements

No.	Project Lead	Project / Location	Improvement Type	Time of Need
18	District	District Road 118 between Brackenrig Road and Peninsula Road	Paved Shoulders	Immediate (1-5 years)
19	District	Peninsula Road between District Road 118 and Highway 632	Paved Shoulders	Immediate (1-5 years)
20	MTO	Highway 632 between Peninsula Road and Highway 141	Paved Shoulders	Immediate (1-5 years)
21	MTO	Highway 141 between Highway 632 and Deebank Road	Paved Shoulders	Immediate (1-5 years)
22	District	Deebank Road between Highway 141 and Windermere Road	Paved Shoulders	Immediate (1-5 years)
23	District	Windermere Road between Deebank Road and Brackenrig Road	Paved Shoulders	Immediate (1-5 years)
24	District	Brackenrig Road between Windermere Road and District Road 118	Paved Shoulders	Immediate (1-5 years)
25	District	District Road 118 between Brackenrig Road and Milford Bay Road	Paved Shoulders	6-10 years
26	Township	Milford Bay Road between District Road 118 and 1020 Beaumaris Rd	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	Along Sandor Drive	New Lake Access	Immediate (1-5 years)
68	Township	Adopt Lake Access Policy (Section 8.1)	Policy	Immediate (1-5 years)
69	Township	Investigate the feasibility of issuing parking permits for existing and future parking facilities at lake accesses	Study	Immediate (1-5 years)
70	Township	Along Cooper Point Road	New Lake Access	6-10 years
71	Township	End of Stroud Beach Road	New Lake Access	6-10 years
72	Township	End of Glencoe Heights Road	New Lake Access	6-10 years

No.	Project Lead	Project / Location	Improvement Type	Time of Need
73	Township	End of Woodington Road	New Lake Access	6-10 years
74	Township	Along Renley Road	New Lake Access	6-10 years
75	Township	Along Bluff Road / Juddhaven Road (west of Marie Avenue)	New Lake Access	11-15 years or beyond
76	Township	Along North Shore Road (north of Sandwood Road)	New Lake Access	11-15 years or beyond
77	Township	Along Mortimers Point Road	New Lake Access	11-15 years or beyond
78	Township	End of Heather Lodge Road	New Lake Access	11-15 years or beyond
79	Township	Along Martins Cove	New Lake Access	11-15 years or beyond
80	Township	End of Pleasant View Point Road	New Lake Access	11-15 years or beyond
81	Township	Along Woodwinds Road	New Lake Access	11-15 years or beyond
82	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	\$ -	\$ 183,000	\$ 23,994,000	\$ 685,000	\$ 1,617,000	\$ 26,849,000
Medium Term	\$ 350,000	\$ 27,000	\$ -	\$ 20,872,000	\$ -	\$ 1,617,000	\$ 22,866,000
Long Term	\$ 11,000,000	\$ -	\$ -	\$ -	\$ -	\$ 2,588,000	\$ 13,588,000
Total	\$ 11,720,000	\$ 27,000	\$ 183,000	\$ 44,865,000	\$ 685,000	\$ 5,822,000	\$ 63,302,000

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

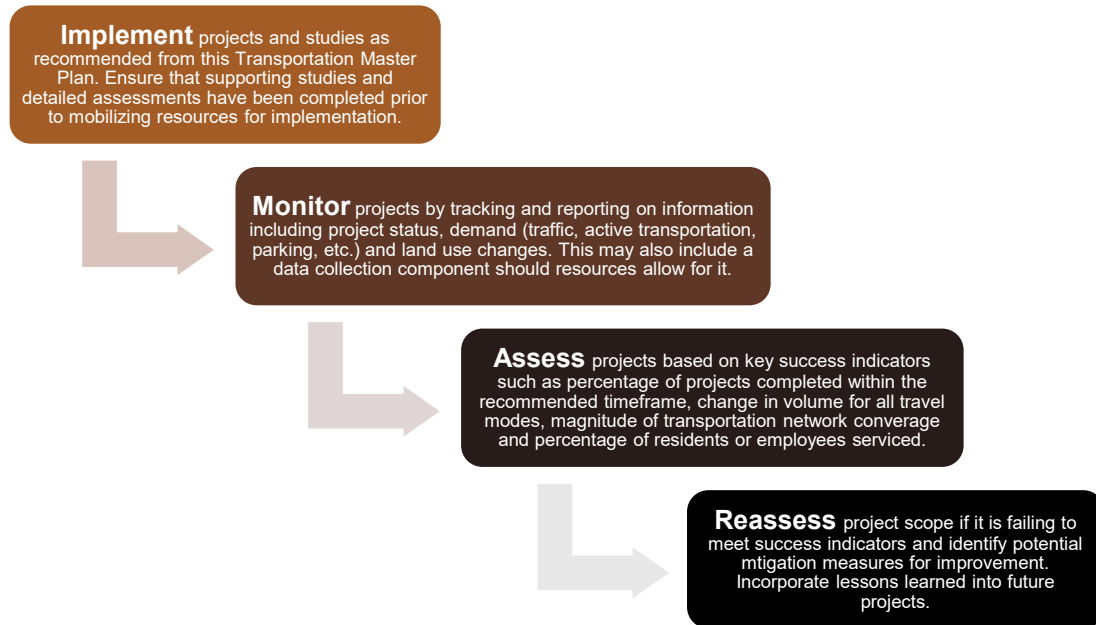
The following funding sources were identified for the Township's consideration to help fund recommended projects from this study:

- **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 establish three additional full-time equivalent positions including: Asset Manager, Development Engineering Coordinator and Traffic Engineering Technician.
- 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.

Appendix A

Public Consultation and Engagement



Appendix A – Public Consultation and Engagement

Date: July 5, 2023 **Project No.:** 300055345.0000
Project Name: Muskoka Lakes Transportation Master Plan
To: Township of Muskoka Lakes
From: R.J. Burnside & Associates Limited

1.0 Stakeholder Consultation Overview

A consultation process was followed for this Transportation Master Plan (TMP) in accordance with the Municipal Class Environmental Assessment Document. 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
- The Township website which includes information on study updates, upcoming public events, presentations, key documents, and contact information for the Township project manager. <https://engagemuskokalak.es.ca/transportation-master-plan>

The following sections summarize the stakeholder consultation process, along with supporting documentation.

1.1 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 sent through a media release. A copy of the Notice of Commencement is provided in **Attachment 1**. 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 information on the study to the public and solicit feedback.

The first PIC presentation material, which focused on providing an overview of the study process and goals was made available on February 2, 2023. Another mapping engagement opportunity was posted on the Township website after the PIC which allowed residents to pin transportation issues on a map. Following the PIC, two residents and two stakeholders contacted the project team directly to provide comments and concerns.

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.

A copy of the Notice of Public Information Centre #1, Notice of Public Information Centre #2, the PIC presentations, and comment and response summaries are provided in **Attachment 2**.

1.2 External Stakeholder Consultation

During the study, project notices were provided to 10 provincial agencies or organizations, the District Municipality 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. The project team met with the TAC on November 23, 2022, to provide updates on the status of the Study and receive input from the local municipalities and the District on issues or concerns relevant to their jurisdictions. The second meeting with the TAC was held on April 18, 2023. The TAC meetings were held in a virtual format on Microsoft Teams and was followed by a discussion period where attendees could ask questions and receive further information. The District and local municipalities provide study context and input that was considered through the study.

A copy of the Meeting Minutes from TAC Meeting #1 and Meeting #2 is provided in **Attachment 3**.

1.3 Indigenous Consultation

During the study, 9 Indigenous communities were contacted and provided project notices. The study team also made follow-up calls to communities which 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 Online Survey Summary

The survey was first released at the same time as the Notice of Commencement and was conducted from October 4, 2022, to November 7, 2022, and hosted on the Engage Muskoka website. The Notice of Commencement for the TMP provided a link to the Engage Muskoka website where the survey could be accessed. The Township also used social media to announce the commencement of the TMP.

2.1 Survey Participation

The survey had a total of 18 responses out of a total of 172 visits.

2.2 Respondent Location

Primary residence location information was required for participation, and respondents were also asked whether they have a second residence in another area and which months in the year do they reside in the Township of Muskoka Lakes. Figure A-1 shows the distribution of respondent locations among the main populated areas of the Township. Second residency and months visiting the Township are summarized in Figure A-2 and Figure A-3, respectively. Some respondents indicated living in other locations within the Township (outside of the main populated areas).

Figure A-1: Respondent Location Distribution

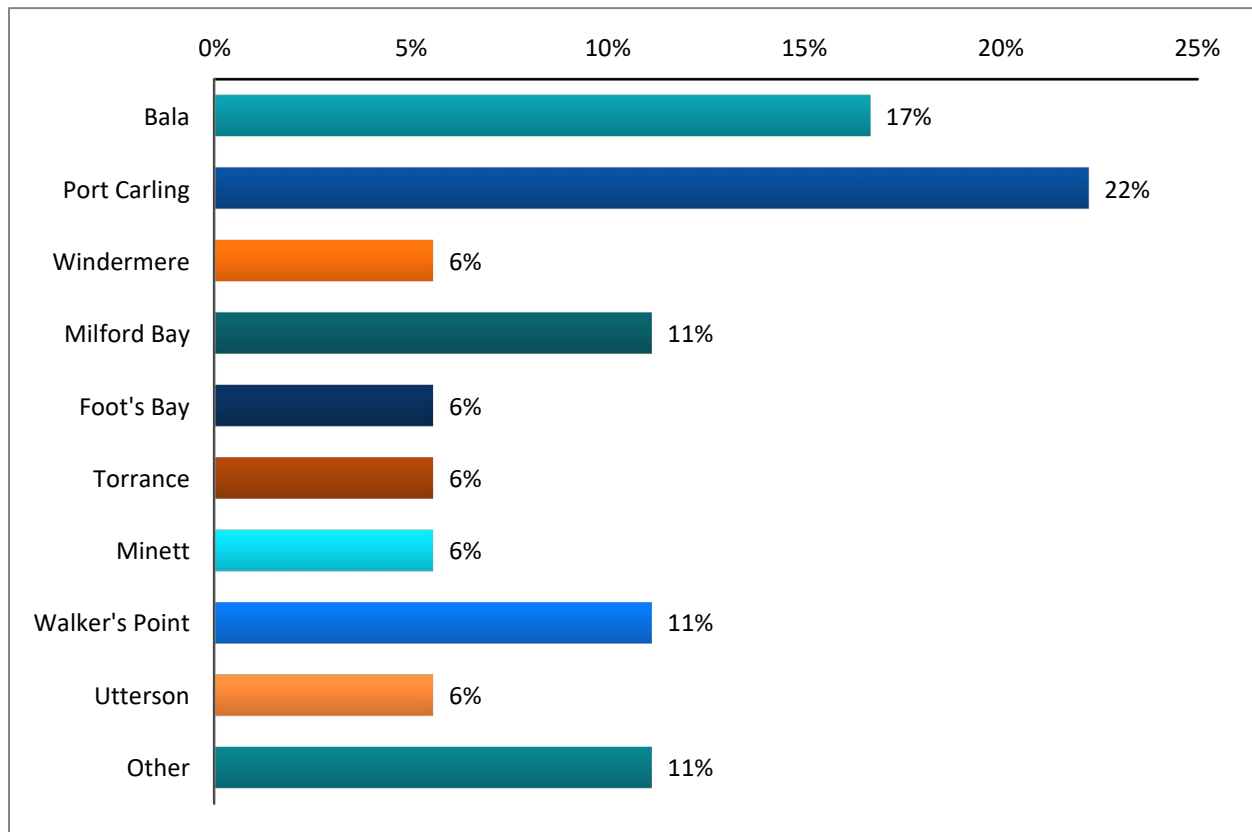


Figure A-2: Respondent Second Residence Location

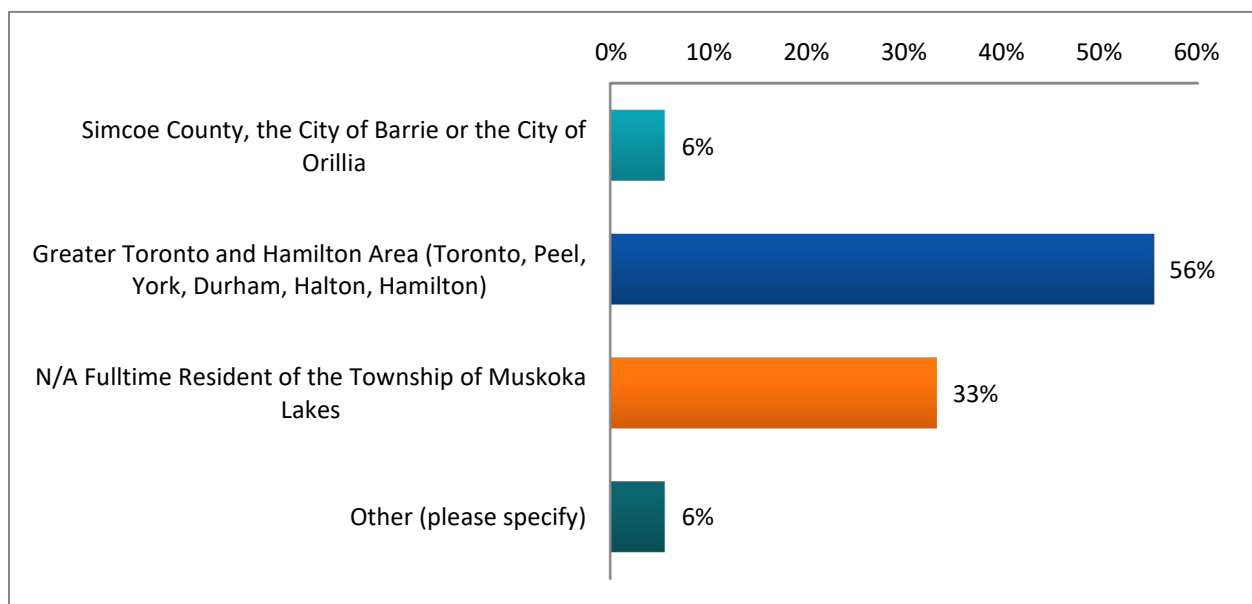
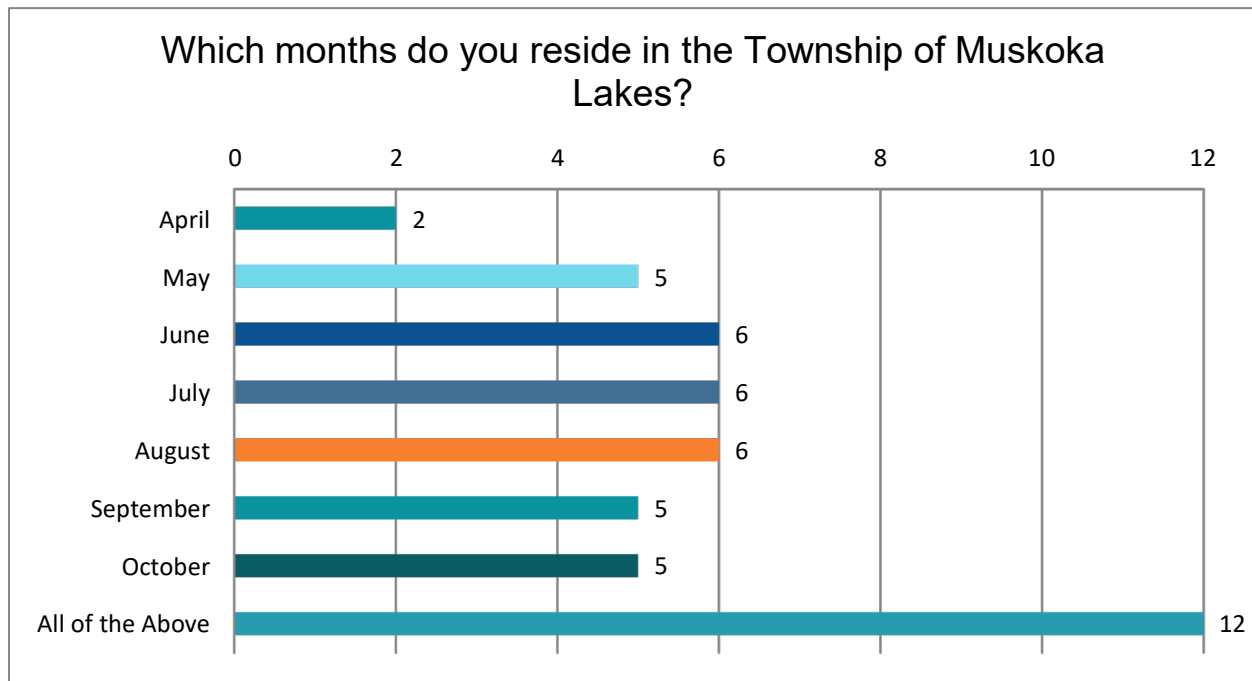


Figure A-3: Months Resided in the Township of Muskoka Lakes

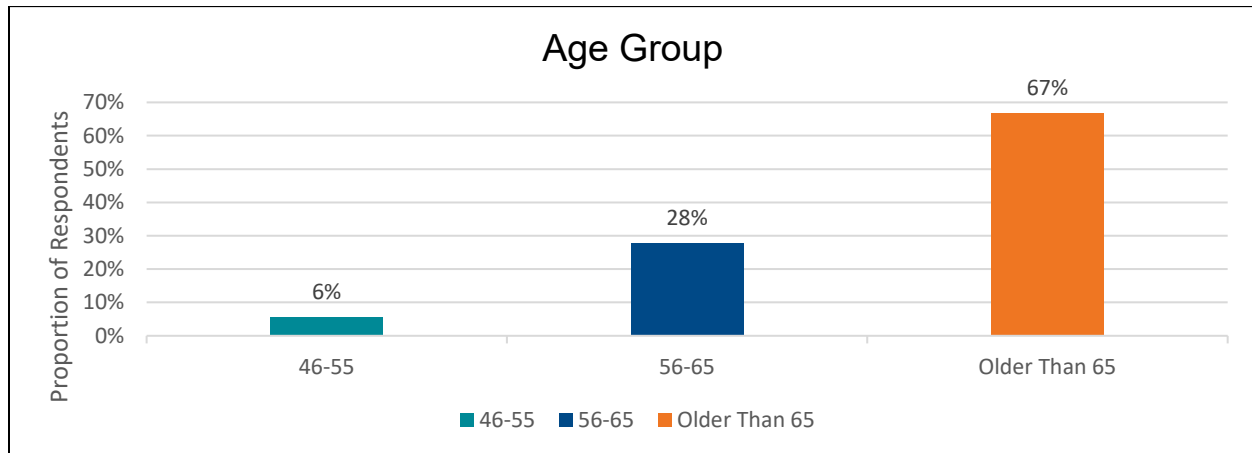


The most active municipalities were Port Carling and Bala representing 38% of responses in total. In addition, a total of 55% of respondents have a second residence in the Greater Toronto and Hamilton Area. Furthermore, it appears most of the respondents reside in the Township as permanent residents and / or solely during the summer season (May – August), compared to the winter seasons (November – March).

2.3 Age Group

Among survey participants those in the ages from 46 years and older participated in the public opinion survey as shown in Figure A-4. In addition, the age group of 65 years and older were a majority representing 67% of the respondents.

Figure A-4: Survey Participation by Age



2.4 Survey Findings

This section summarizes the survey questions in the form of charts and concludes with a summary of key findings for each survey topic.

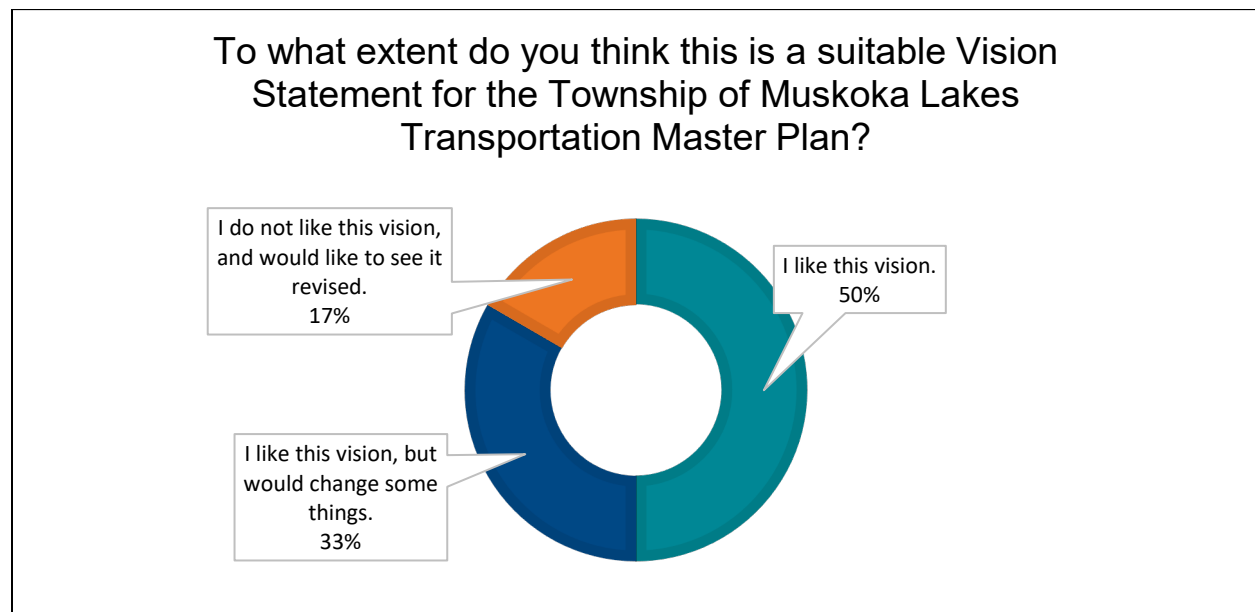
2.4.1 Vision Statement

The transportation vision is a statement of the TMP that showcases the goals of future transportation system in the Township of Muskoka Lakes. The Vision Statement is as follows:

By 2047, the Township will have a transportation system that is sustainable, multi-modal, safe, well-connected, financially responsible and support climate change commitments.

Survey participants were asked, "To what extent do you think this is a suitable Vision Statement for the Township of Muskoka Lakes Transportation Master Plan." As shown in Figure A-5, 50% of respondents liked the vision statement, 33% liked the vision statement, however, would change some things, and lastly 13% did not like the vision statement.

Figure A-5: Response of Vision Statement



Respondents were asked to provide any comments they may have about how the vision statement can be improved. The responses provided are listed in the table below.

Resident Survey Responses to the Vision	Project Team Response
"2047 is too far in the future"	The 2047 horizon year aligns with the Ministry of Finance's population projections. The TMP will include a set of recommendations for the short-term, medium-term, and long-term. TMPs are usually reviewed and updated every five years for relevancy, and plan for a future horizon year. This information will be added to the TMP document for additional clarity.
"Words that people can easily relate to affordable, affordable, safe, (cars and bicycles) non-intrusive to property owners and retains historical features...sounds travel and keeping the historical bridges. Not everything has to be paved.... secondary roads can be left gravel"	Affordability is included in the term "financially responsible" that is currently in the Vision Statement. The Vision Statement will be updated to incorporate the importance of retaining historical cultural features.

Resident Survey Responses to the Vision	Project Team Response
<p>“Add to the Vision Statement: “A review must be held annually, or more often, to ensure this meets all the criteria contained in the Vision.”</p>	<p>TMPs are usually reviewed and updated every five years. This information will be added to the TMP document. The TMP will also include a monitoring plan to ensure that the Township continues to strive for the vision.</p>
<p>“It should not be multi modal, climate change should not be part of it”</p>	<p>Through the public consultation undertaken for this study, the project team recognizes that residents also partake in many modes of transportation for work or for recreation such as walking, cycling, and accessing lakes. This study aims to develop a strategy that aims to address all resident needs.</p> <p>Addressing climate change is an important planning principle to the Township as well as all other levels of government. Addressing climate change is also part of the Municipal Class Assessment process required for provincial approval of the TMP. The TMP aims to align its strategy with these guiding policies and the approval process.</p>
<p>“The vision statement is solely focused on TML. For us who live at the edges of the township I would like to see the vision include effective transitions of transportation across to direct neighboring jurisdictions”</p>	<p>The integration of the Township’s transportation system to neighboring jurisdictions will be addressed through the transportation needs and opportunities assessment. Additionally, the term “well-connected” in the Vision Statement is in reference to integrating the Township’s transportation system to adjacent municipalities and the District and Provincial network.</p>

Based on resident feedback, the Vision Statement was changed to the following:

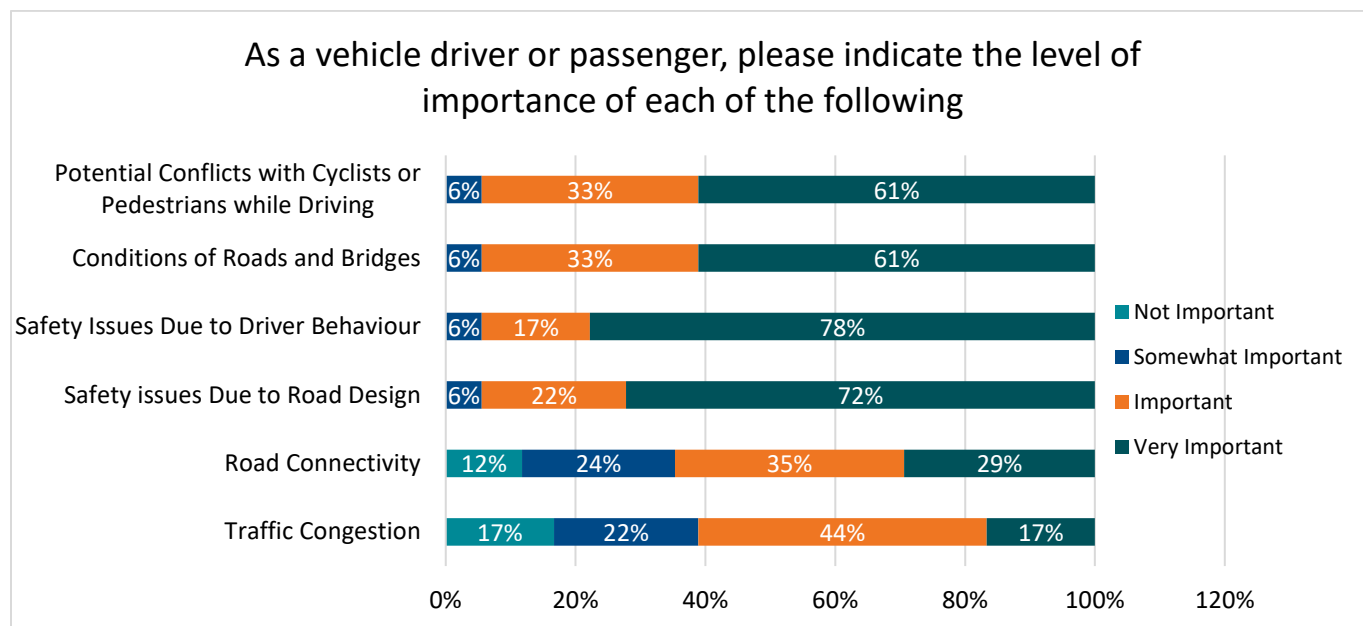
By 2047, the Township will have a transportation system that supports climate change commitments and protects natural and cultural features while striving to be sustainable, multi-modal, safe, well-connected, and financially responsible.

2.4.2 Transportation

2.4.3 Road Network

Having a clear understanding regarding the concerns of the Township’s road network is important to developing a safe and efficient transportation system that addresses these issues appropriately. Survey participants were asked the level of importance regarding potential road network related issues on Township roads. Responses are summarized in Figure A-6.

Figure A-6: Response to Road Network Connectivity



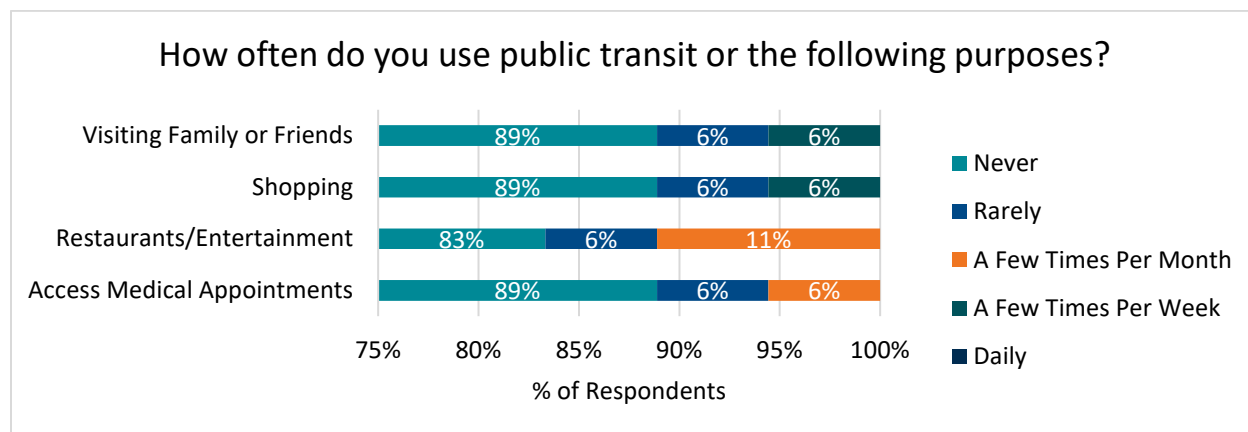
The top three concerns respondents experienced were, “Safety Issues due to Road Design”, “Safety Issues due to Driver Behaviour”, and “Potential Conflicts with Cyclists or Pedestrians while Driving”. In addition, respondents found “Road Connectivity” and “Traffic Congestion” to be an important concern for daily commute.

2.4.4 Public Transportation

Longer trip distances in rural areas are challenges to the transit service in the Township of Muskoka Lakes. Township Community transit service providers connect urban and rural communities throughout the Township via three bus routes. To help address the Township’s transit concerns, the survey asked a series of transit related questions:

The first transit related survey question asked was, “How often do you use public transit for the following purposes?”. Results are summarized in Figure A-7.

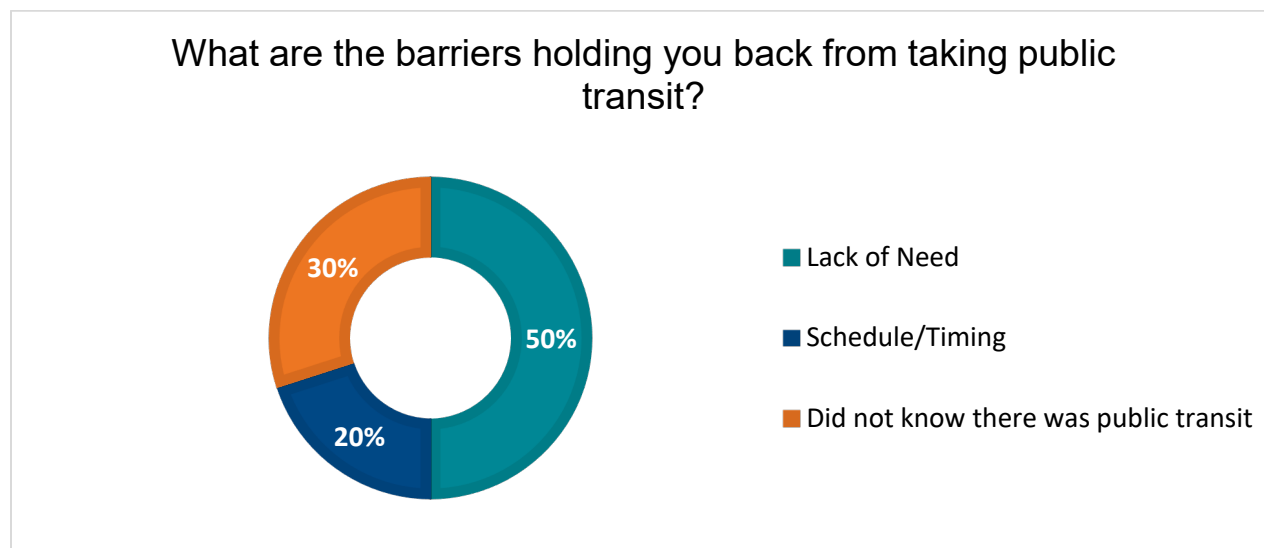
Figure A-7: Response to Transit Usage



Among the transit options provided, many of the participants never use public transit to commute around the Township and prefer to commute using their personal vehicle.

The second transit related survey question asked was, "What are the barriers holding you back from taking public transit?" Results are summarized in Figure A-8.

Figure A-8: Response to Transit Barriers

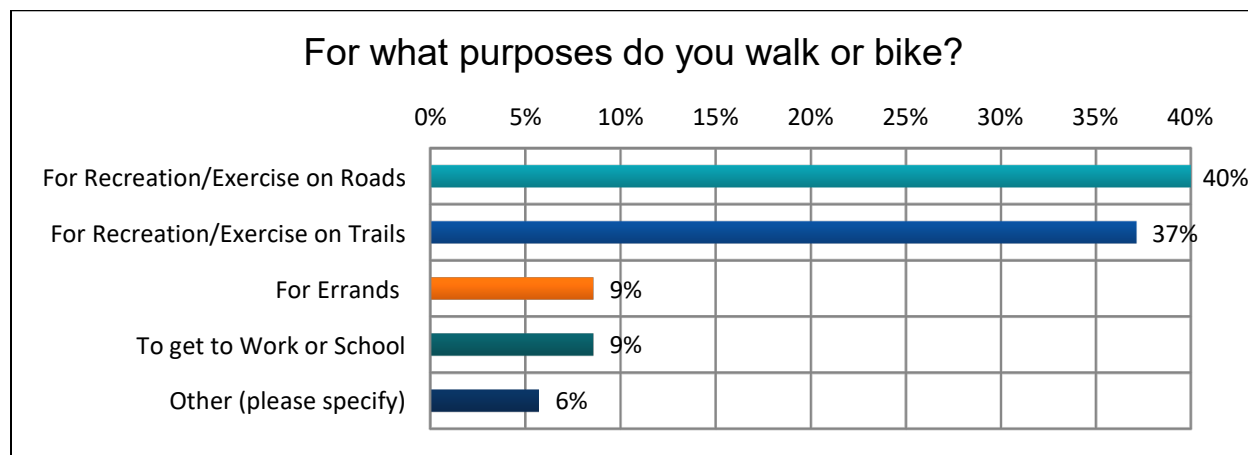


50% of participants have answered that they have no need to use public transit and prefer to take their personal vehicles to travel around the Township. In addition, 30% did not know there were public transit routes.

2.4.5 Active Transportation

Active Transportation is an important element to the development of the transportation system in the Township of Muskoka Lakes. Participants were asked, “For what purpose do you walk or bike?”. Results are summarized in Figure A-9

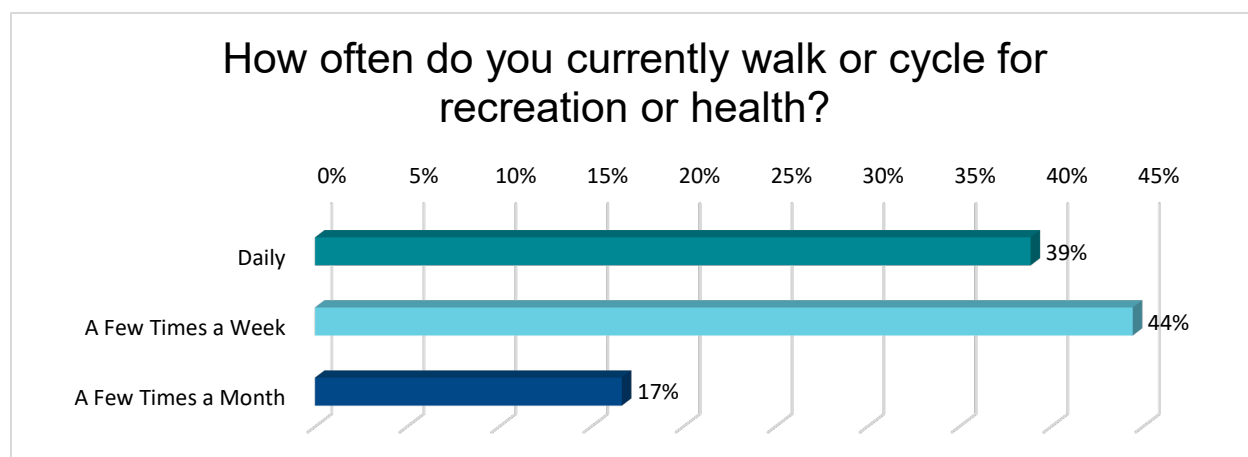
Figure A-9: Response to Modes of Active Transportation



Overall, a total of 77% of participants walk or bike for recreational use and for health benefits on roadways and trails. Other purposes residents of the Township would walk or bike included taking children to the bus stop, and children physical activities.

The second active transportation related survey question asked was, “How often do you currently walk or cycle for recreation or health?” Results are summarized in Figure A-10.

Figure A-10: Response to Frequency of Walking or Cycling

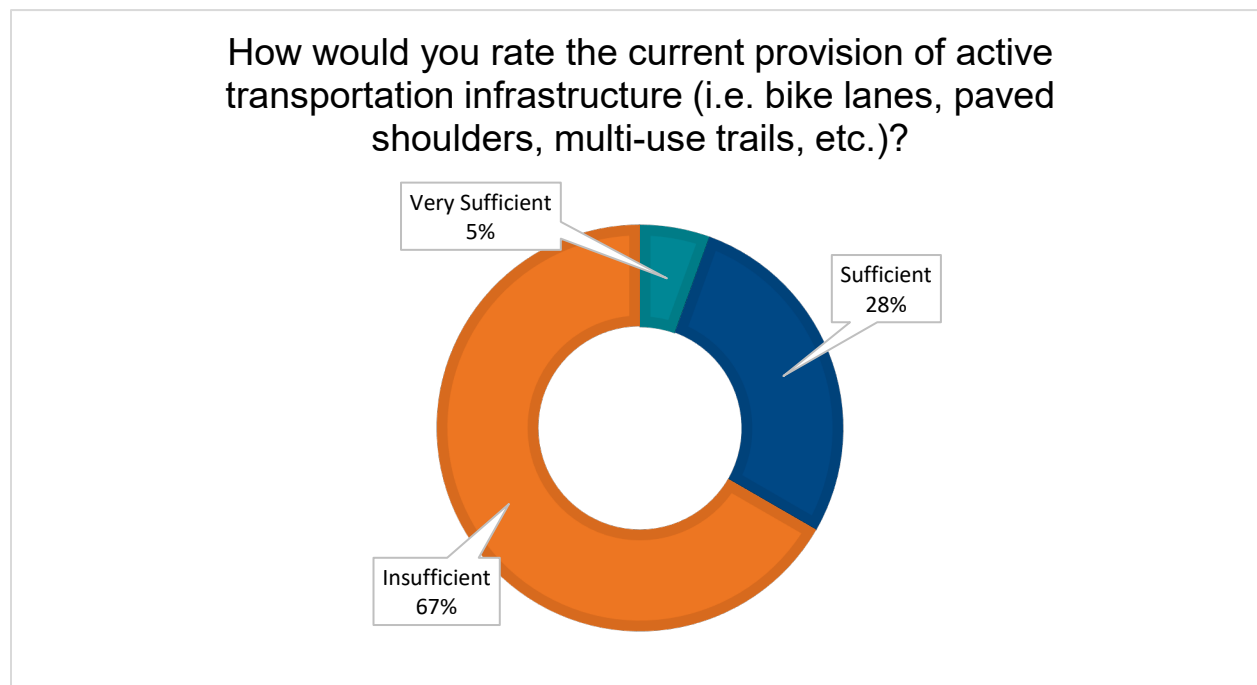


44% of participants walk or cycle a few times a week, while 39% of the participants walk or cycle daily.

Participants were asked to provide barriers that prevent them from walking or cycling for recreation. The responses provided were mobility issues such as insufficient walking paths.

The third active transportation related survey question asked was “How would you rate the current provision of active transportation infrastructure (i.e., bike lanes, paved shoulders, multi-use trails, etc.)?” Results are shown in Figure A-11.

Figure A-11: Response to Active Transportation Infrastructure



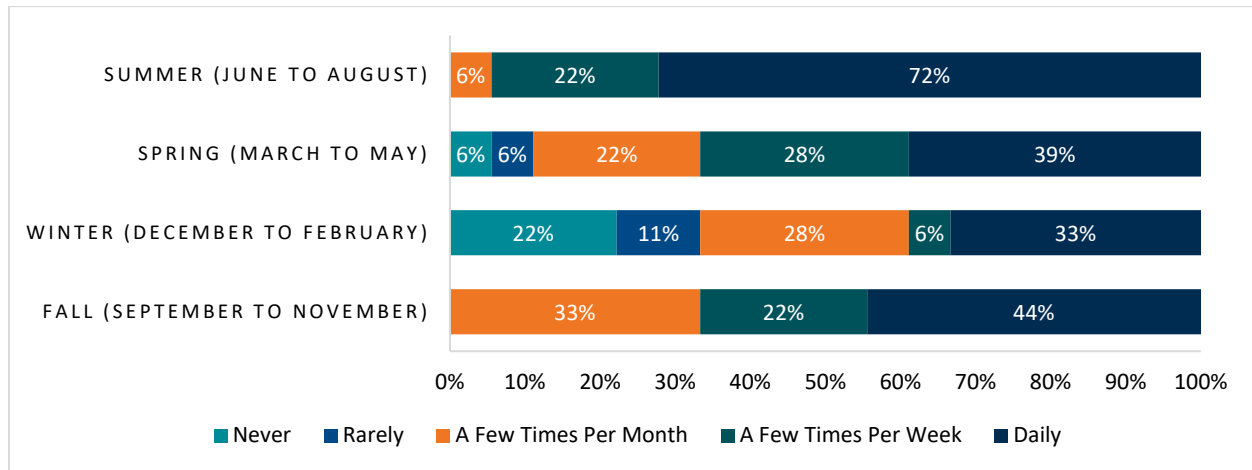
67% of respondents find the current transportation infrastructure insufficient. The following are potential improvements respondents would like to see be added or improved within the Township:

- Future protected bicycle trails along major roadways to provide east access to retail locations.
- Maintenance of minor and major roadways.
- Paved shoulders on major roads throughout the Township.
- Traffic Calming measures to be implemented in settlement locations.

2.4.6 Lake Access

Lake Access is a critical component of the TMP as the Township of Muskoka Lakes is surrounded by lakes and it is an important element to determine the current issues faced by participants on lake access. First, participants were asked, “How often do you visit a lake in the Township during the following seasons?”. Results are shown in Figure A-12.

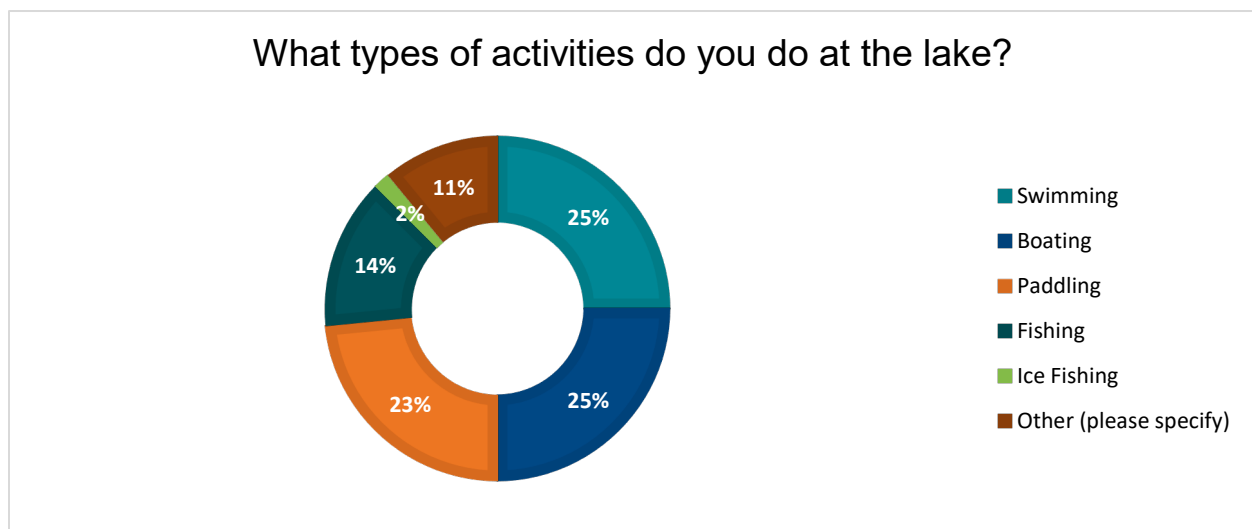
Figure A-12: Response to visiting a Lake



72% of participants visit lakes daily in the summer, compared to the other seasons where the frequency of visits drops significantly.

The second lake access related survey question asked was, “What types of activities do you do at the lake?” Results are summarized in Figure A-13.

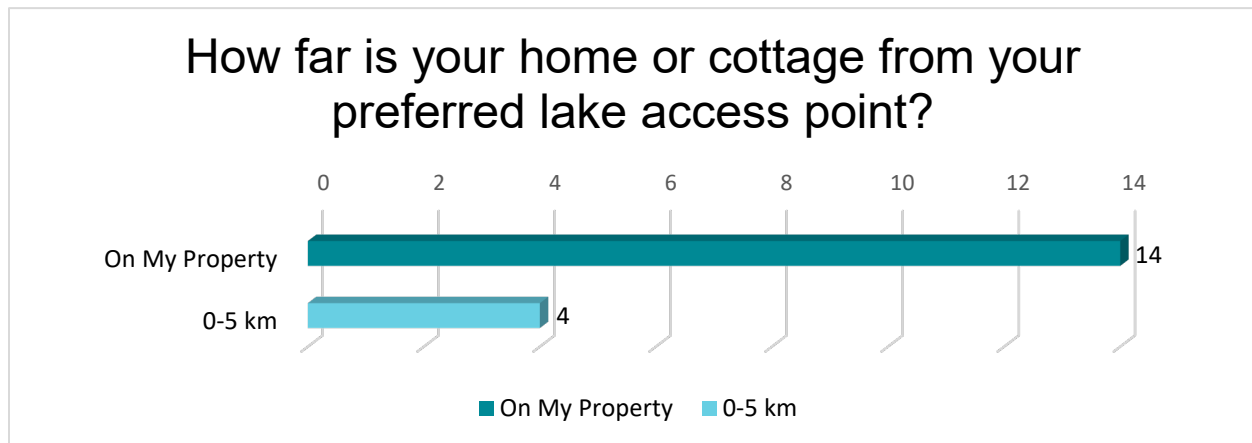
Figure A-13: Response to Activities at the Lake



Activities at the lake are equally divided as participants are split between swimming, boating and paddling as the top three activities.

The third lake access related question asked was, “How far is your home or cottage from your preferred lake access point?”. Results are summarized in Figure A-14.

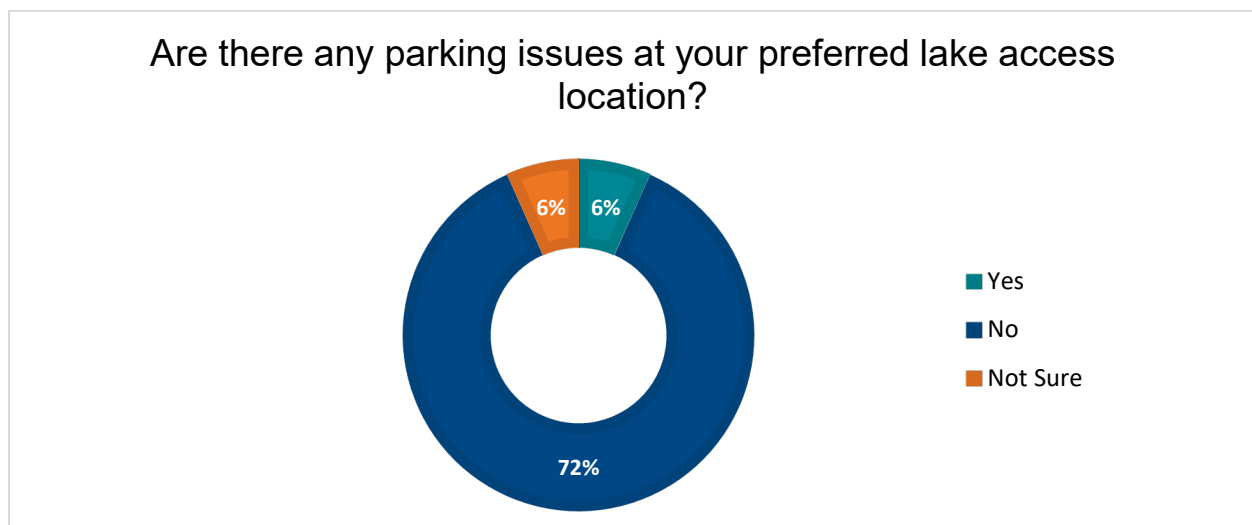
Figure A-14: Response to Location of Residence to the Preferred Lake Access Point



Respondents appear to have easy access to nearby lakes, as majority of lake access points are on the property or within a 5 km drive.

Figure A-15 summarizes parking related issues pertained to lake access. According to the results, 72% of participants do not have any issues related to parking near lake access locations.

Figure A-15: Response to Parking Issues at the Lake



3.0 Public Information Centres Summary

During the study, two virtual Public Information Centres (PICs) were held with the first on January 31, 2023 and the second on May 16, 2023. The PICs provides information on the study to the public and solicited feedback.

3.1 Method of Notification

Public Information Centre (PIC) #1 was advertised on the Township's Facebook page (www.facebook.com/MuskokaLakesTwp/) on January 10 and 18, 2023 and Twitter account on January 10, 18, and 31, 2023.

Public Information Centre (PIC) #1 was advertised on the Township's Facebook page (www.facebook.com/MuskokaLakesTwp/) and Twitter on April 25, May 4, May 9 and May 15, 2023.

A copy of the advertisements is provided in **Attachment 1**. Notification of PIC #1 and PIC #2 was also posted on the Township website (www.muskokalakes.ca). The Notice was either emailed or mailed to agencies, municipalities, and Indigenous communities with a potential interest in the study.

3.2 Public Meeting Format

The PICs were hosted in a virtual format over Zoom. The PIC #1 presentation began with a description of the project; introduction and background, guiding documents, study context, existing transportation system, travel characteristics, needs and opportunities, and next steps. The PIC #2 presentation provided an overview of the purpose, timeline, draft vision and study objectives, Phase 1 findings, needs and opportunities, an overview of Phase 2, and draft evaluation criteria.

A copy of the presentations is provided in **Attachment 2**. Opportunity for public feedback was made available by contacting the Study Team with written and verbal comments through Zoom and through the Slido poll integrated into the presentation. Slido, an online polling platform, was used to provide participants with the option to provide feedback on three questions during PIC #1. The three questions had pre-populated multiple-choice answers for respondents to select from. 33 attendees opened the Slido link and 19 answered the poll questions.

The first question asked participants what their top three (3) transportation issues in the Township of Muskoka Lakes. The list of issues identified in order of percentage of respondents choosing the issue were:

- Condition of Road and Bridges (60%)
- Potential Conflicts with Pedestrians and Cyclists (60%)
- Safety Issues (53%)

- Road Network Connectivity (33%)
- Lake Access (27%)
- Traffic Congestion (13%)

The second question asked what the largest barriers to cycling in the Township was, and asked respondents to identify all barriers that applied. The barriers identified by percentage of respondents choosing the barrier were:

- Safety Concerns (69%)
- Lack of Need (38%)
- Lack of Enjoyment (31%)
- Lack of Bicycle (8%)

Personal mobility issues did not receive any votes as a barrier to cycling.

The third question asked if respondents would be interested in a rideshare/on-demand transit service that would take you from your house/a central hub to other bus services such as the 11 bus in Bracebridge. Respondents indicated support for such a service with 43% indicating yes and 21% indicated they were interested but would require more information. 36% of respondents indicated they were not interested in such a service.

3.3 Participation Levels and Summary of Comments Received

The Team received fifteen (15) questions during PIC #1 and nineteen (19) during PIC #2 through Zoom. **Attachment 2** provides a summary of questions brought forward and answers provided by the Project Team at the public meetings and throughout the study.

3.4 Online Mapping Survey

A map was hosted on the Engage Muskoka TMP website where residents could add a pin and state their concerns. The map was titled “Traffic Safety Concerns Mapping” and the directions were: “As a road user who drives, cycles, or walks, or uses other modes of transportation where do you have traffic safety concerns? Place a Pin on the map so we can investigate further during this study. Feel free to add text to your pin describing your concerns.”

This map was made available on January 31, 2022 the same day of the Public Information Centre #1. At this time, the survey is still open.

A summary of the location of the pins and comments as of February 21, 2023 are shown in the table below.

Location of Pin	Comment
1182 Dawson Road	The sand on the hills on Dawson Road is dangerous in the Spring. It is very slippery for walkers. The cars drive much too fast and it is hard to get out of their way.
1058 Eveleigh Road	The road fix has turn this road into a nightmare. The ditches are steep, the turns got narrow and tight. Eveleigh is being pegged as a commercial hub and encouraged to light industrial type yards, yet the road is horrendously dangerous and busy. Raising the road 6-8 feet has resulted in driveway entrances elevated and would never pass final inspection if they were new entrance ways. Who was in charge of this plan?
1024 Milford Bay Road	The speeding along Milford Bay Rd is out of control - there are often people driving at 80kmh+. Our puppy was killed on Milford Bay Rd last summer by a speeding driver - granted he shouldn't have been out but he escaped and was hit by someone that took almost 100m to come to a stop. It is a road with many residents and lots of walkers. Something needs to be done to slow people down and make them realize it is not a highway.
1001 Matthews Drive	Very busy and unsafe area for cars to be parked on the side of this very narrow roadway since it's a public beach. This should be a NO Parking area and monitored for compliance.
1019 Milford Bay Road	Drivers speed way to fast down the Bay hill.
3119 Muskoka Road 169	Pedestrian crossing from parking lot to busy businesses. A crosswalk at this location would be beneficial. Also vehicles entering from Portage Street onto 169 have limited view.
1003 River Street	Vehicles stopping on the corner, not knowing where to park for businesses located on 169.
1002 Bala Fall Road	Vehicles making a left hand turn at this blind corner, yes it is signed as no left turn, but many still make the turn or go straight through the intersection and turn around at the bank. Perhaps a mirror under bridge to see oncoming traffic. Especially now that Bala Falls Rd will be a one way street at the north end.
2641 Muskoka Road 169	Snowbanks need to be cut back as difficult to see oncoming traffic before entering Hwy 169.

Location of Pin	Comment
1189 Milford Bay Road	Consistent speeding along Milford bay road. Many pedestrians (often children and families) walk along the road (no shoulder and no sidewalks) from the beach to Beaumaris road. There are many hills and turns that make visibility difficult for drivers and pedestrians.
1204 Dawson Road	The 60 KPH speed limit along Dawson Road is far too fast. It is the same speed limit that is posted along Brackenrig Road. Dawson Road should be considered a residential road with a maximum speed limit of 40 KPH. In Waterloo some of our residential streets have a 30 KPH speed limit. The current 60 KPH limit makes it extremely dangerous for families out walking along Dawson Road with children, grandchildren and dogs.
1220 Dawson Road	You can not drive this road at the speed posted. There have been numerous accidents happen including two that have ended up in our driveway. One of our neighbors have put a minor up at the end of their driveway because making the turn into their drive way has become treacherous. As well as speed volume of traffic has become a problem because people use it as a short cut to Windermere including delivery trucks. To relieve that issue a sign at the corner of Brackenrig and Dawson, directing traffic to Winder mere via Muskoka road #4 (Windermere Road) might be useful. Thanks for looking into the speed on this road.
1530 Beatrice Townline Road	Complaints to OPP and township many times. No posted speed limit.
1048 Brackenrig Road	Motorcycle races Saturdays and Sundays in spring summer and fall. Vehicles exceed speed limits across Brackenrig Rd.
1272 Dawson Road	People use Dawson Rd as a shortcut to Windermere particularly golfers who speed and late for tee times Very dangerous for walkers and bicyclists. The speed needs to lowered and monitored. Install a speed radar sign to warn drivers.
1242 Dawson Road	Drivers barely drove this speed BEFORE a the 60 limit was posted as Dawson is a narrow, windy, hilly road with numerous steep and awkward driveways. With lots of cottages, there are so many kids, cyclists, walkers, joggers that have to move almost in the ditch when cars go by. Even abiding the posted speed is too fast for this road. Was safer when it was a dirt road with washboards and no posted signs!

Location of Pin	Comment
1156 Dawson Road	Google maps uses distance and posted speed limits to calculate the best route. The speed limit on Dawson Rd is 60 KPH and this causes a two fold problem. The vehicles are going too fast considering the hills and turns on this narrow road. In addition, the volume of traffic is increased because Google maps is directing vehicles travelling from Brackenrig Rd to Windermere towards Dawson Rd rather than using Windermere Rd.
1238 Dawson Road	We are right at a sharp corner on Dawson and drivers speed through this area on their way to Windermere. 60 is far too fast for this winding road. With the absence of trails in this area, there are many dog walkers, walkers, joggers, cyclists etc. and there are several blind turns, hills and corners on this road. We lost our municipal number sign last year due to a speeding car that took it out and ended up in our ditch. Would be great to see speed reduced and Windermere drivers diverted to the main road with an arrow or sign at Brackenrig... i.e., "Windermere Resort Next left" or something like that. The speeders generally don't live along this road.
1045 Milford Bay Road	This area is a max 40 zone, however most people drive well over 60 k. It's very frustrating and dangerous for people in our community. There really needs to be an intervention such as speed cameras, speed bumps, or police surveillance to make this area safe for all to enjoy.
1881 Brackenrig Road	Speeding on 25, speeding on dawson road. Trucks and cars are well over the speed limit.
2189 Muskoka Road 118 West	Broken and narrow shoulders combined with high motor vehicle traffic volume makes cycling unsafe along this stretch of Hwy 118.



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Attachment 1

Notice of Study Commencement



Township of Muskoka Lakes Notice of Study Commencement and Public Information Centre Transportation Master Plan

The Township of Muskoka Lakes is undertaking a Transportation Master Plan (TMP) Study to create a safe and reliable transportation system within the Township. This master plan will strive to address the needs of all stakeholders, creating a vision for all modes of transportation.

The Study will identify transportation network constraints and opportunities and required infrastructure improvements / expansions to ensure the continued safe and efficient movement of people and goods. The TMP will form the basis of Township objectives to guide future transportation decisions. The TMP will include the development of transportation infrastructure that align with the vision and goals identified in the Township's existing and ongoing plans/strategies.

The Study is being carried out in accordance with the Phase 1 and 2 of the master plan process outlined in the Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011 and 2015), which is approved under the *Ontario Environmental Assessment Act*. This notice signals the commencement of the TMP Study.

The TMP Study will consider and evaluate solutions to determine a safe, environmentally and economically sustainable, and efficient transportation network.

We want to hear from you as your involvement is key to the success of the TMP Study. Please visit www.engagemuskokalakelakes.ca/transportation-master-plan to complete a survey. If you have concerns over transportation in the Township, we encourage you to become involved.

If you would like to be added to the Project Contact List, please contact either of the following Project Team members:

Gordon Hui, P.Eng.
Consultant Project Coordinator
R.J. Burnside and Associates
6990 Creditview Road, Unit 2
Mississauga, ON L5N 8R9
Tel: 905-821-5938

Ken Becking, P. Eng.
Director of Public Works
Township of Muskoka Lakes
1 Bailey Street
Port Carling, Ontario P0B 1J0
Tel: 705-765-3156 ext. 250

Email: MuskokaLakesTMP@rjburnside.com



The study is being conducted in accordance with the Municipal Class Environmental Assessment document (October 2000, as amended in 2007, 2011 and 2015). Personal information collected/submitted (e.g., name, address, and phone number) is collected, maintained, and disclosed under the authority of the Environmental Assessment Act. Information submitted is subject to the Municipal Freedom of Information and Protection of Privacy Act and may be deemed releasable under this legislation. Anonymity and/or confidentiality cannot be guaranteed.

This Notice was first issued on October 4, 2022.



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Attachment 2

Notice of Public Information Centre #1 and Presentation



Township of Muskoka Lakes Notice of Public Information Centre Transportation Master Plan

The Township of Muskoka Lakes is undertaking a Transportation Master Plan (TMP) Study to create a safe and reliable transportation system within the Township. This master plan will strive to address the needs of all stakeholders, creating a vision for all modes of transportation.

The Study will identify transportation network constraints and opportunities and required infrastructure improvements / expansions to ensure the continued safe and efficient movement of people and goods. The TMP will form the basis of Township objectives to guide future transportation decisions. The TMP will include the development of transportation infrastructure that align with the vision and goals identified in the Township's existing and ongoing plans/strategies.

The Study is being carried out in accordance with the Phase 1 and 2 of the master plan process outlined in the Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011 and 2015), which is approved under the *Ontario Environmental Assessment Act*.

The TMP Study will consider and evaluate solutions to determine a safe, environmentally and economically sustainable, and efficient transportation network.

We want to hear from you as your involvement is key to the success of the TMP Study. The public is invited to attend and provide input at the online Public Information Centre (PIC) that will be hosted on Zoom. Please visit www.engagemuskokalakelakes.ca/transportation-master-plan or use this direct link <https://www.eventbrite.com/e/transportation-master-plan-public-information-centre-tickets-511639075247> to register. When you register to attend the Zoom meeting you will receive a confirmation email with instructions and details. If you have concerns over transportation in the Township, we encourage you to become involved.

Online Public Information Centre (PIC)

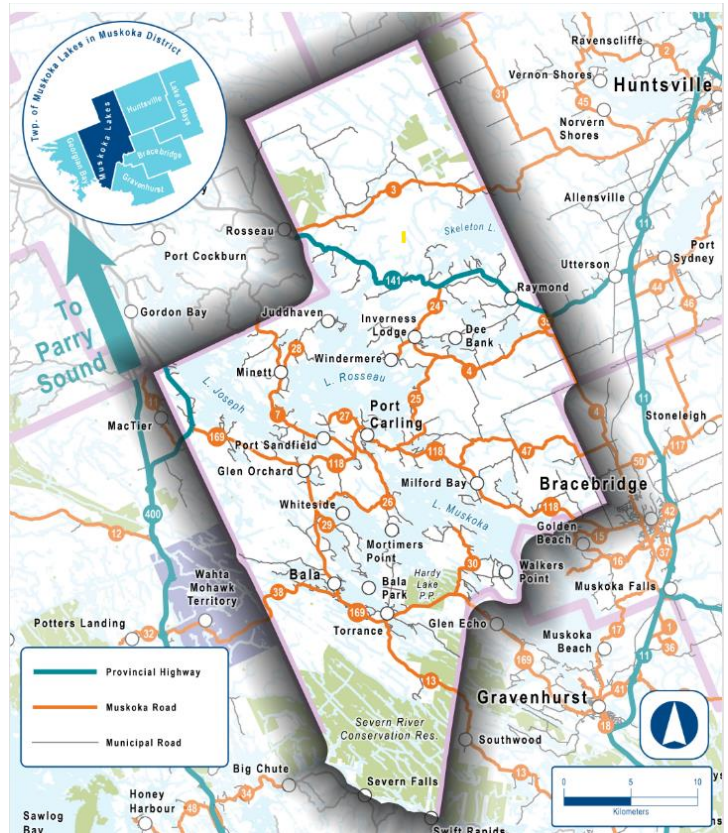
January 31, 2023, 6:30 pm - 8:00 pm

If you have any issues registering for the PIC or would like to be added to the Project Contact List, please contact either of the following Project Team members:

Gordon Hui, P.Eng.
Consultant Project Coordinator
R.J. Burnside and Associates
6990 Creditview Road, Unit 2
Mississauga, ON L5N 8R9
Tel: 905-821-5938

Ken Becking, P. Eng.
Director of Public Works
Township of Muskoka Lakes
1 Bailey Street
Port Carling, Ontario P0B 1J0
Tel: 705-765-3156 ext. 250

Email: MuskokaLakesTMP@rjburnside.com



The study is being conducted in accordance with the Municipal Class Environmental Assessment document (October 2000, as amended in 2007, 2011 and 2015). Personal information collected/submitted (e.g., name, address, and phone number) is collected, maintained, and disclosed under the authority of the Environmental Assessment Act. Information submitted is subject to the Municipal Freedom of Information and Protection of Privacy Act and may be deemed releasable under this legislation. Anonymity and/or confidentiality cannot be guaranteed.

This Notice was first issued on January 10, 2023.



BURNSIDE

Public Information Centre (PIC) #1

Township of Muskoka Lakes Transportation Master Plan (TMP)

January 31, 2023



Overview

01	Introduction & Background
02	Guiding Documents
03	Study Context
04	Existing Transportation System
05	Travel Characteristics
06	Needs and Opportunities
07	Next Steps

INTRODUCTION & BACKGROUND

Core Project Team



Township of Muskoka Lakes

Ken Becking, P.Eng.
Director of Public Works



**R.J. Burnside & Associates Ltd.
Consultant Team**

Ray Bacquie, P.Eng., MBA
Consultant Project Manager
Sr. Vice President, Transportation

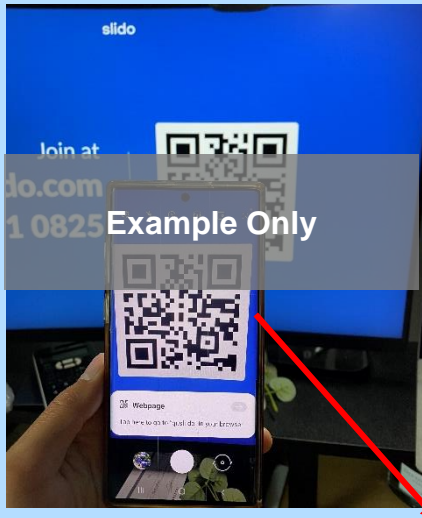
Gordon Hui, P.Eng.
Senior Transportation Planner

Xinli Tu, B.A.Sc.
Transportation Planner

Get Involved

To participate in our polls throughout this session, you can:

Scan the QR Code:



Scan Here:



OR

**Visit: slido.com
Enter Code: 2736480**

A screenshot of the Slido website. The header shows the "slido" logo. Below it, a blue banner asks "Joining as a participant?". Underneath is a white input field with the placeholder text "# Enter code here" and a blue arrow button to the right.

Purpose of the TMP

- To identify **policies** and **infrastructure needs** of a multi-modal transportation system to support growth over the next 25 years
 - A **multi-modal** transportation system supports walking, cycling, transit, driving, and lake/water-body access
- To integrate existing and future land use planning with infrastructure planning and sound environmental assessment planning



Study Approach

Phase 1

Problem or Opportunity

- Identify Natural, Social and Cultural Heritage Assets
- Assess Existing and Future Needs and Opportunities
 - Road, transit, active transportation, lake access and safety needs
 - Planned growth and transportation forecasting
 - Future needs and opportunities

Public Information Centre # 1

Phase 2

Alternative Solutions

- Identify and Analyze Alternative Solutions (Strategies)
- Evaluation and Selection of Preferred Alternative
- Preferred Network Solution (Strategy)

Public Information Centre # 2

Future Phases

Not within the scope of this study:

Phase 3: Alternative Design Concepts for Preferred Solution

Phase 4: Schedule C Environmental Study Report

Phase 5: Implementation

Ongoing Consultation

GUIDING DOCUMENTS

Guiding Documents

Federal / Provincial

- Federal: A Healthy Environment and A Healthy Economy
- Provincial Policy Statement
- Places to Grow Plan
- A Made-in-Ontario Environment Plan
- Connecting the East Regional Transportation Plan

District of Muskoka

- Official Plan
- Master Aging Plan
- Community Transportation Plan
- 2019 Growth Strategy: Forecast and Growth Allocation

Township of Muskoka

- Official Plan and Update
- Strategic Plan (2021-24)
- Economic Development Strategy
- Asset Management Plan
- IT Master Plan
- Fire Master Plan
- Multi-Year Accessibility Plan
- Road Needs Study (on-going)
- Parks and Recreation Plan (on-going)

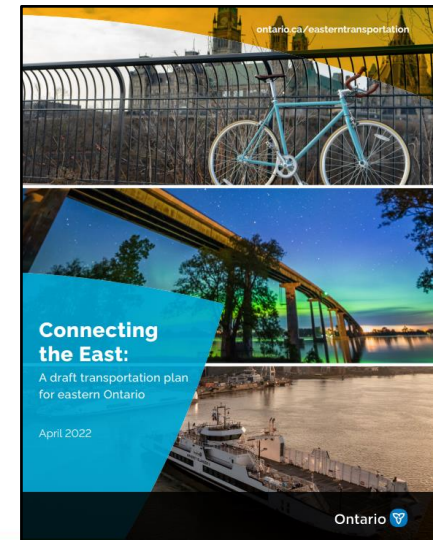
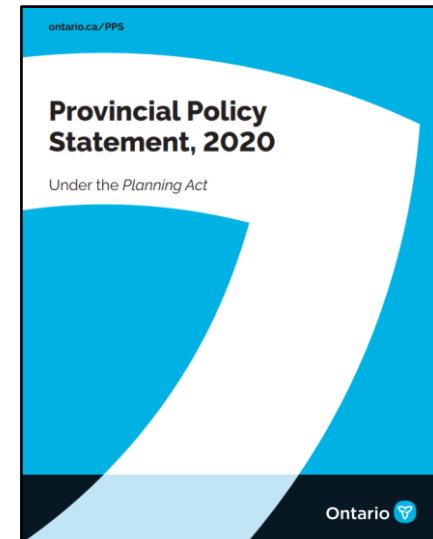
Key Policies

Provincial Policy Statement (PPS) 2020

- The PPS provides a vision for land use planning in Ontario that encourages the efficient use of land, resources, and public investment infrastructure
- The PPS provides direction for the planning and development of public spaces, parks and trails, along with transportation-related policies:
 - “Provide for multimodal transportation system, maintain connectivity within transportation systems, and improve connections which cross jurisdictional boundaries.”
 - “Plan for and protect corridors and right-of-way for infrastructure, including transportation, transit and electricity generation facilities and transmission systems to meet current and projected needs”

Connecting the East Draft (April 2022)

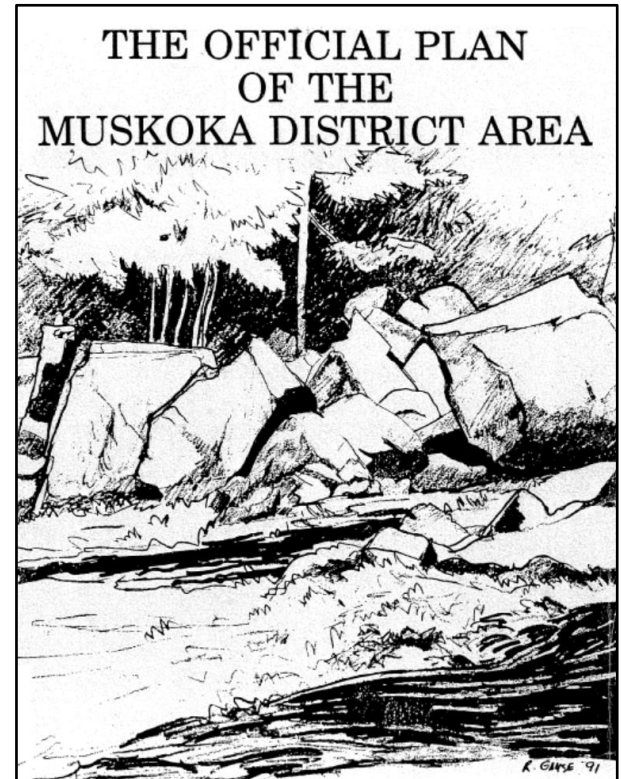
- Aims to build a safe, convenient and connected transportation network that addresses future needs of Ontario’s eastern region
- Includes investments to improve the highway system, transit and intercommunity bus options and more



Key Policies (cont'd)

District of Muskoka Official Plan

- Aims to provide direction and a policy framework for managing growth and land use decisions over the planning period of 2038
- The development of a regional cycling network, based primarily on the existing District Road network linking communities across Muskoka shall be the focus of active transportation efforts
- The incorporation of active transportation infrastructure shall be considered when constructing new District Roads or widening/reconstruction



Key Policies (cont'd)

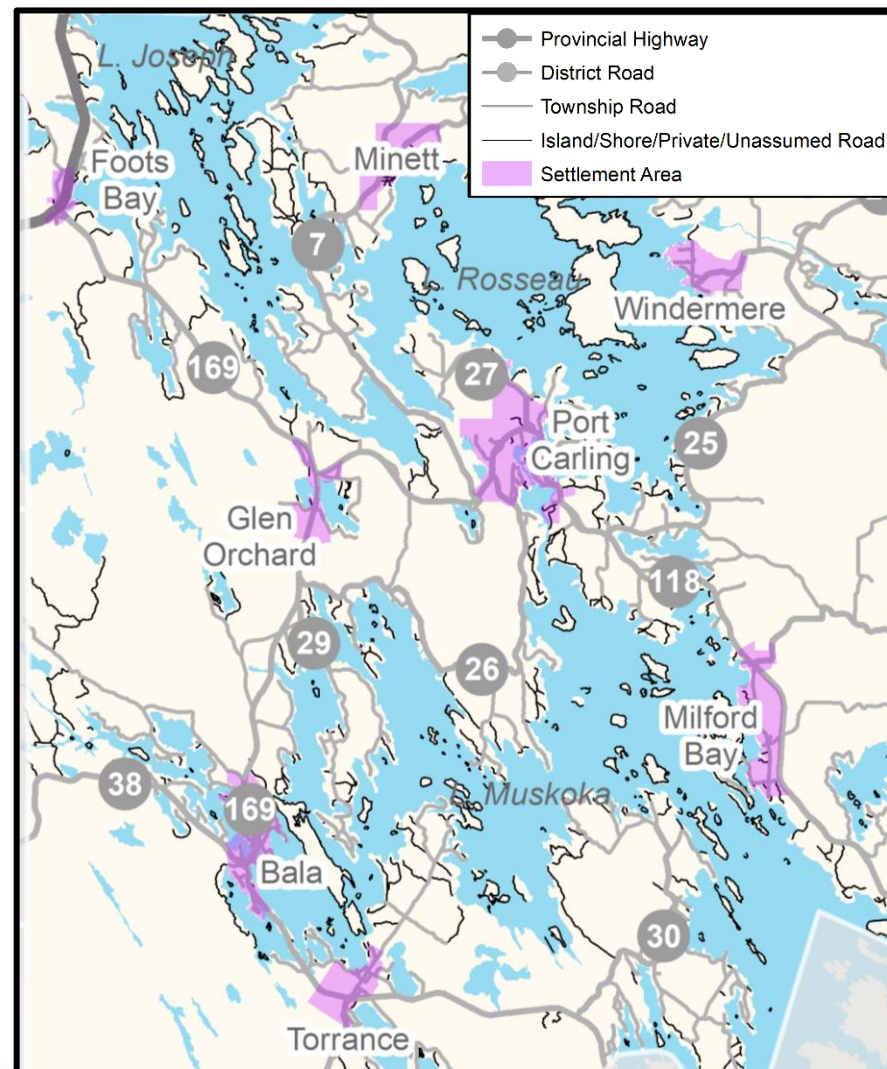
Township of Muskoka Official Plan Policies

- To promote the waterways as a major recreational asset that should be made accessible to both public and private users
- To encourage public trail systems which provide recreational opportunities and link the waterfront to other areas of the Township
- To encourage pedestrian linkages throughout the Urban Centres
- To investigate the potential for public transportation
- To promote healthy and active communities by planning public spaces, parks, public access to water, trails and open space where possible
- To encourage the enhancement of recreation opportunities such as linked trail systems throughout the rural area that will support both the tourism and recreation base

STUDY CONTEXT

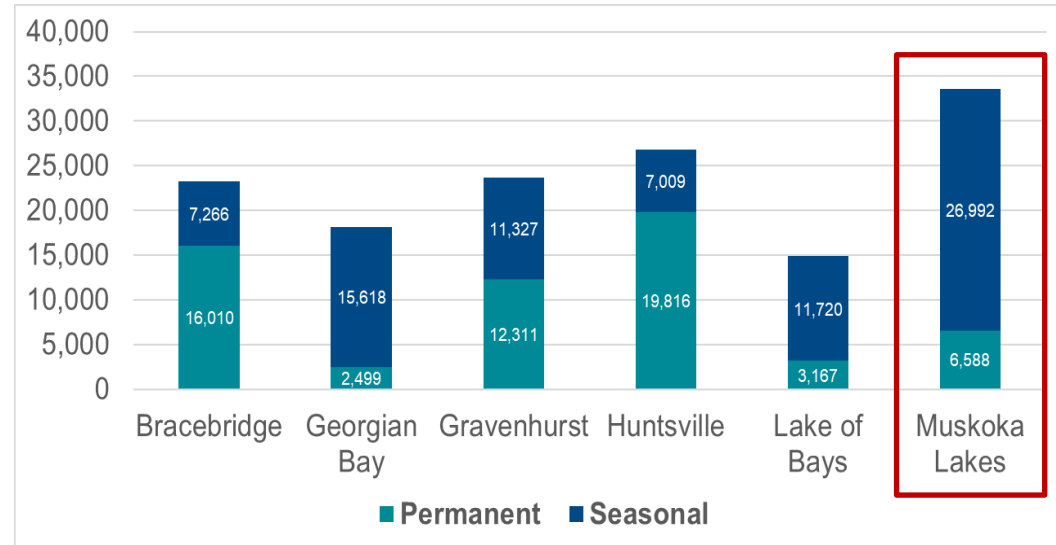
Settlement Areas

- The Township encompasses a **792 km²** geographic area surrounding Lake Muskoka, Rosseau, and Joseph
- **Urban Centres**
 - Port Carling
 - Bala
- **Communities**
 - Foot's Bay
 - Glen Orchard
 - Milford Bay
 - Torrance
 - Windermere
- Minett Resort is a **Special Policy Area**
- Wahta Mohawk (First Nation) Territory is situated west of Bala
- Surrounding area municipalities within the District include Gravenhurst, Georgian Bay, Bracebridge, Lake of Bays, and Huntsville



Demographics

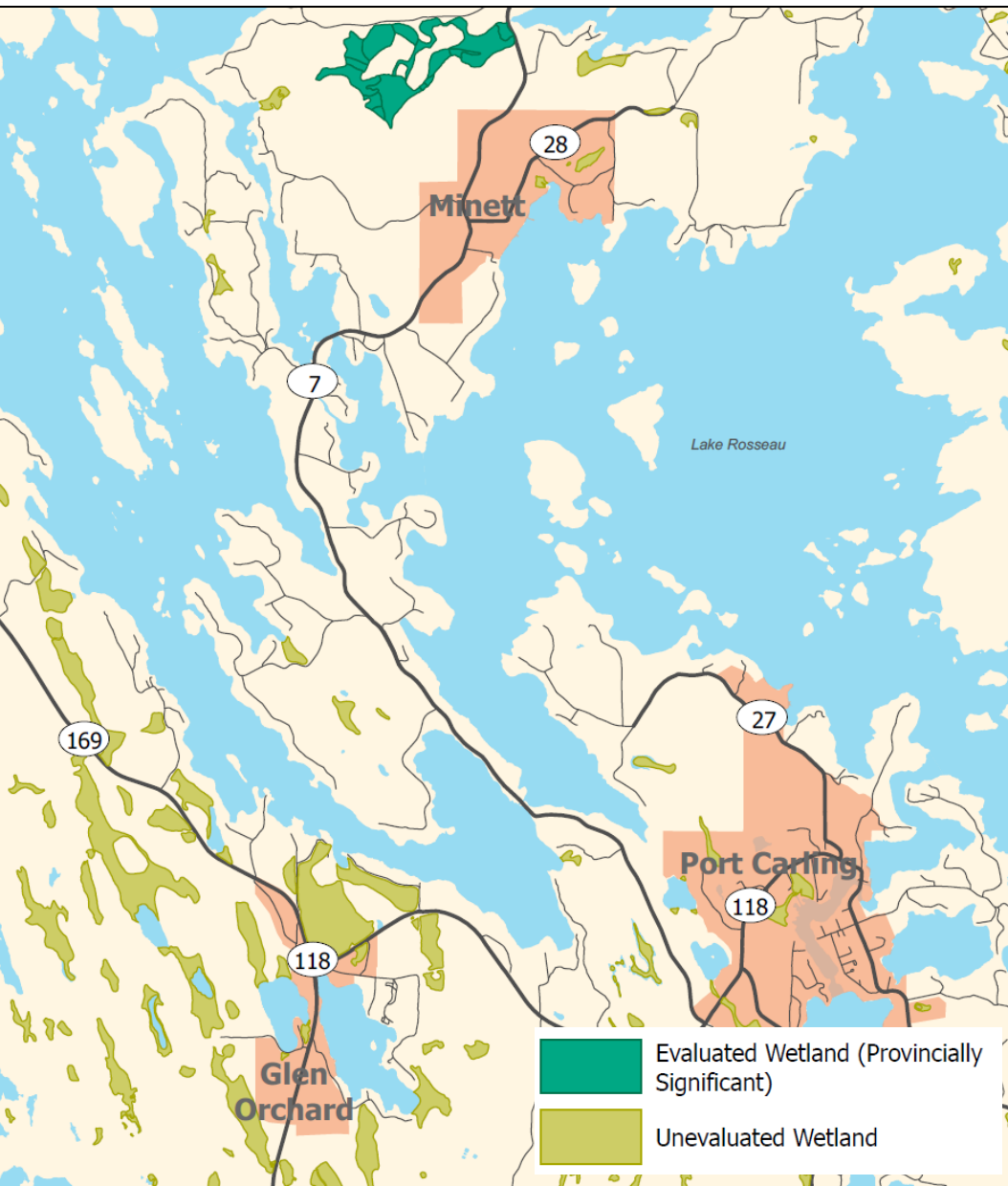
- Muskoka Lakes has the **highest seasonal population** of all the municipalities in the District
 - The seasonal population is projected to grow over the next 25 years
- There is a need for planning for an aging population
 - Township Median Age (2021): **57.2**
 - Ontario Median Age (2021): **41.6**



	Current (2021)	Growth to 2046
Year-Long	7,650	-
Seasonal	27,300	+2,500

Source: 2019 Growth Strategy (District of Muskoka)

Environmental Constraints

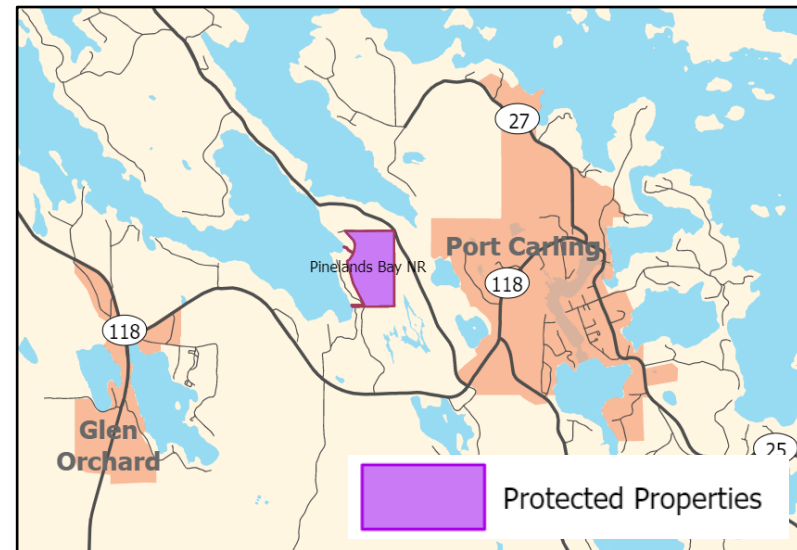


Identified environmental features

- Areas of Natural and Scientific Interest (ANSI)
- Protected Properties
- Unevaluated/Evaluated Wetlands

Identified protected areas

- Ex. Pinelands Bay Natural Reserve



Cultural Heritage

Designated Heritage Properties and Districts within the Township:

- Bala Bay Dock
- Bala Heritage Conservation District
- Bala's Museum with Memories of Lucy Maude Montgomery
- Bala Precambrian Shield Parking Lot
- Burgess Memorial Church
- Portage Landing on the Moon River
- Lake Joseph Community Church
- Glen Orchard Schoolhouse/Cemetery
- Township of Muskoka Lakes Municipal Office
- Windermere Post Office and General Store



Bala's Museum
(Source: Township website)



Township Municipal Office
(Source: Township website)

Draft Vision

By 2047, the Township will have a transportation system that is sustainable, multi-modal, safe, well-connected, financially responsible and supports climate change commitments.

Draft Study Objectives

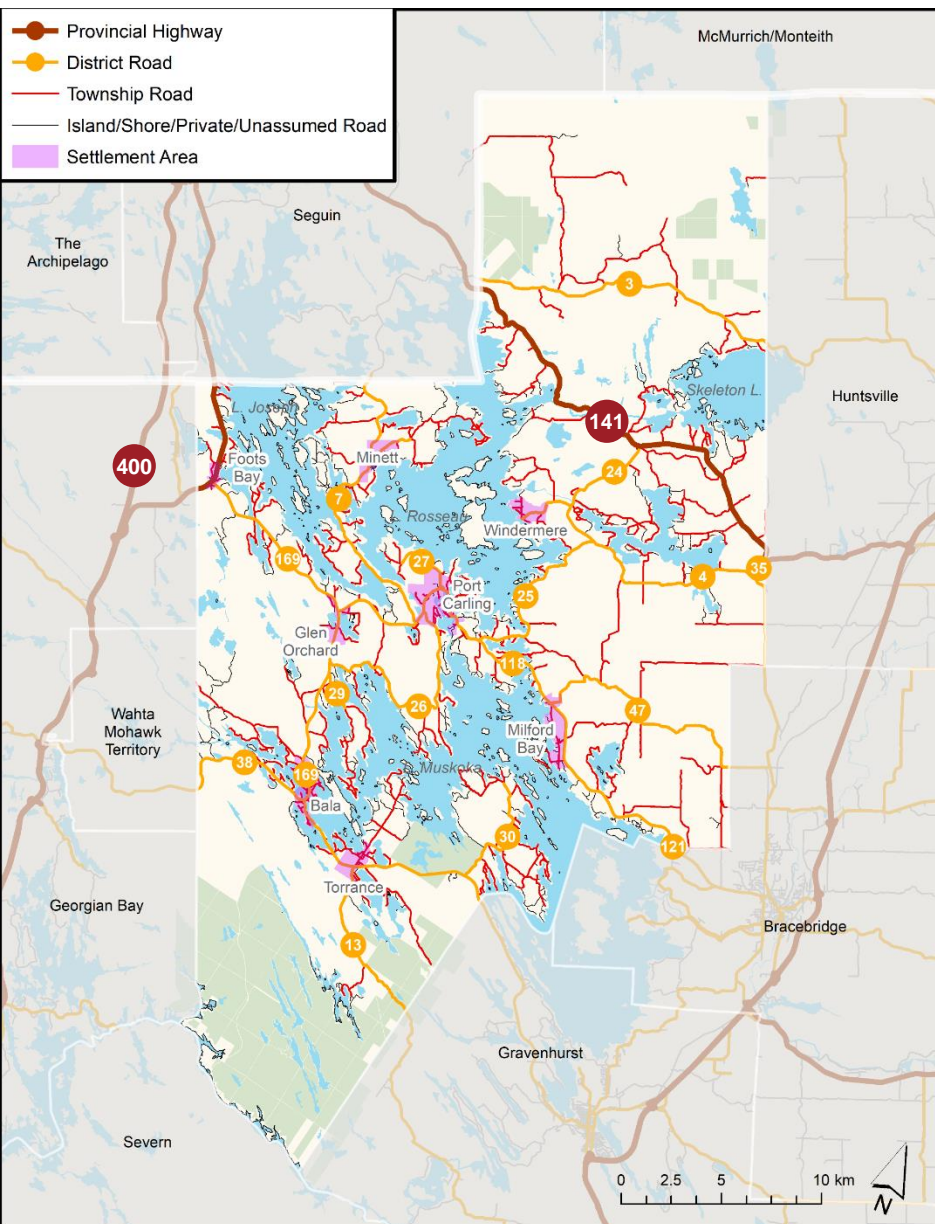
- Provide safe access and connectivity between lakes
- Ensure that the transportation network is sustainable, efficient, and well-integrated with the District and Provincial network within and surrounding the Township
- Protect natural and cultural features
- Produce a strategy that is cost-effective and economically sustainable
- Achieve climate change commitments
- Support transportation policies and guidelines to align with Provincial and District transportation plans and industry best practices



**What are your top 3
transportation issues in the
Township of Muskoka Lakes?**

EXISTING TRANSPORTATION SYSTEM

Road and Bridge Network



Provincial Highway Network

- Highway 141
- Highway 400 (west of Township boundaries)

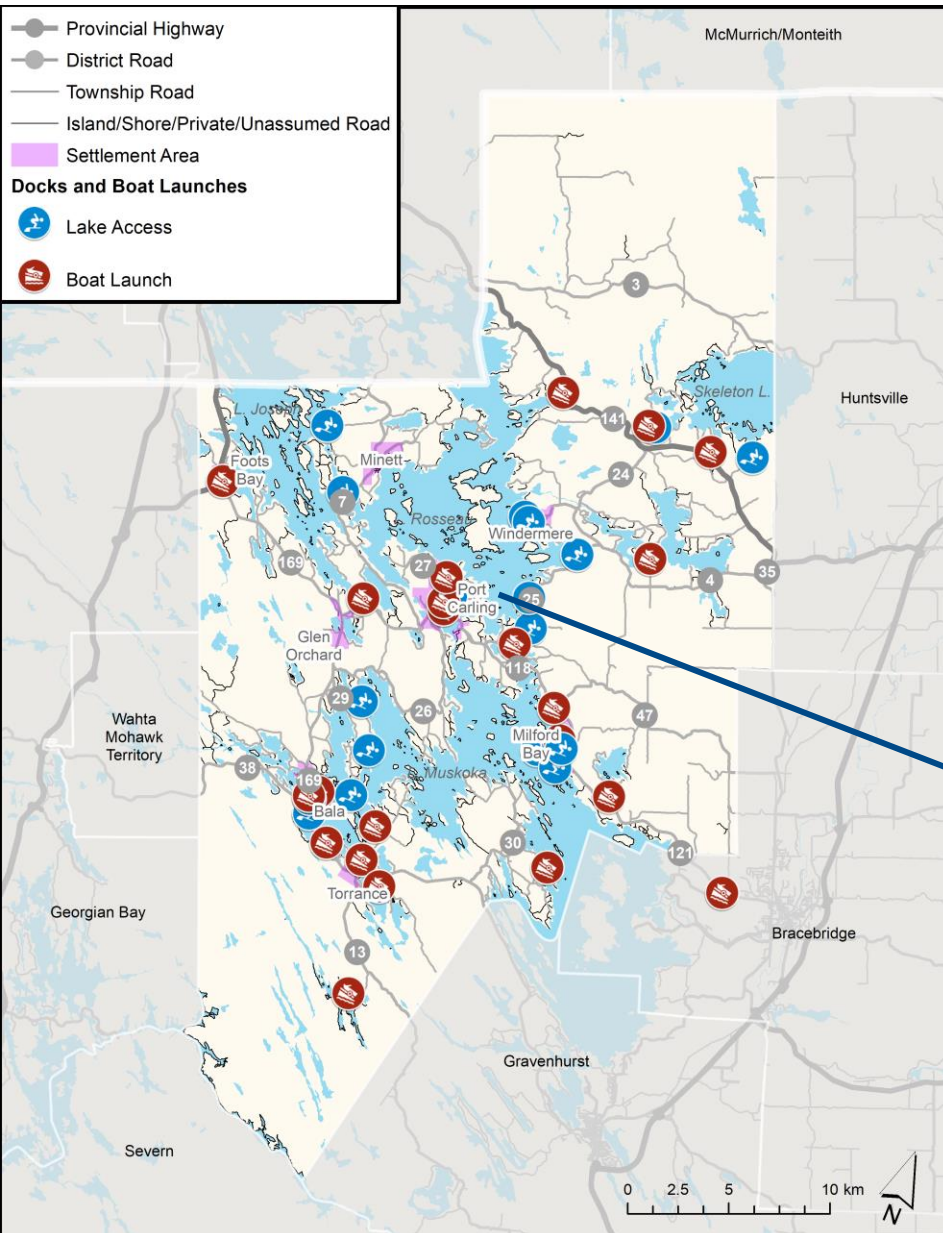
Road System

- District Jurisdiction – 185 km
- Township Jurisdiction – 420 km

Structures

- 21 total structures inventoried
 - 13 bridges
 - 8 culverts

Lake Access



The Township is home to approximately **80 lakes** and offers **42 lake access** points, which can include a dock, launching ramp and/or parking

Lake Access Operations

- Docks restricted to loading/unloading of passengers
- Parking allowed by permit only at select locations
- No overnight parking at docks unless otherwise specified in *Township By-law 2003-29*



Active Transportation

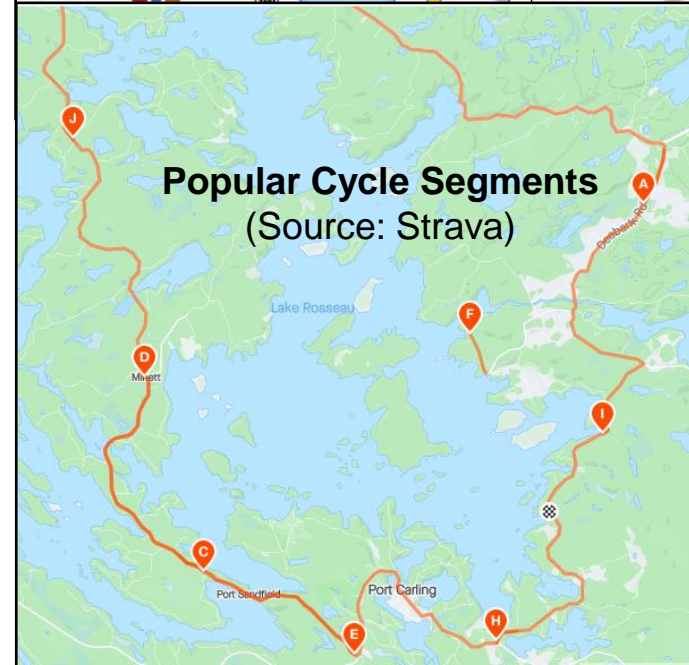
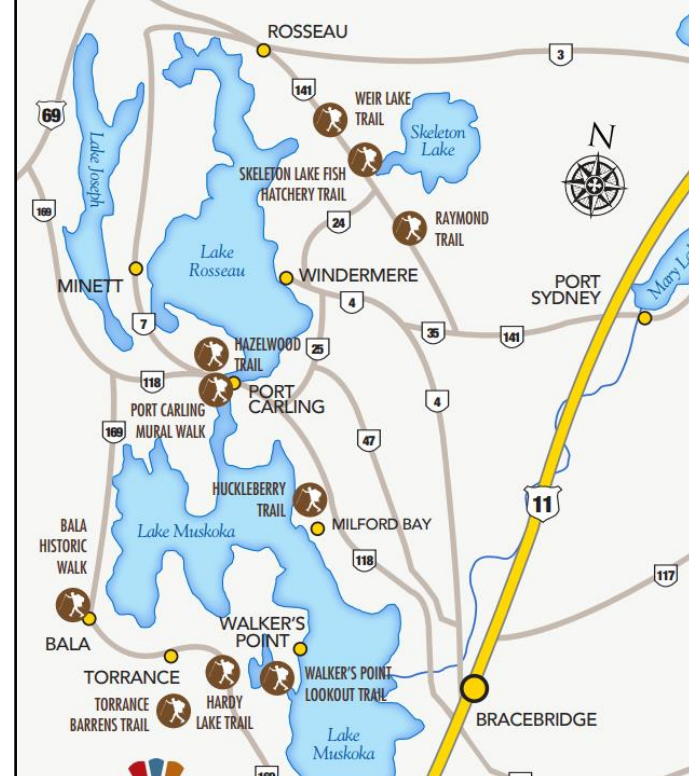
- Active transportation facilities within the Township:
 - Sidewalks
 - Paved shoulders
 - Off-road trails maintained by the Township and trails within Hardy Lake Provincial Park
- Popular cycle segments include:
 - Peninsula Road from Rosseau to Port Carling
 - Hwy 118 West
 - Brackenrig Road from Port Carling to Windermere



Paved Shoulders along
Highway 141





Sidewalks in Bala

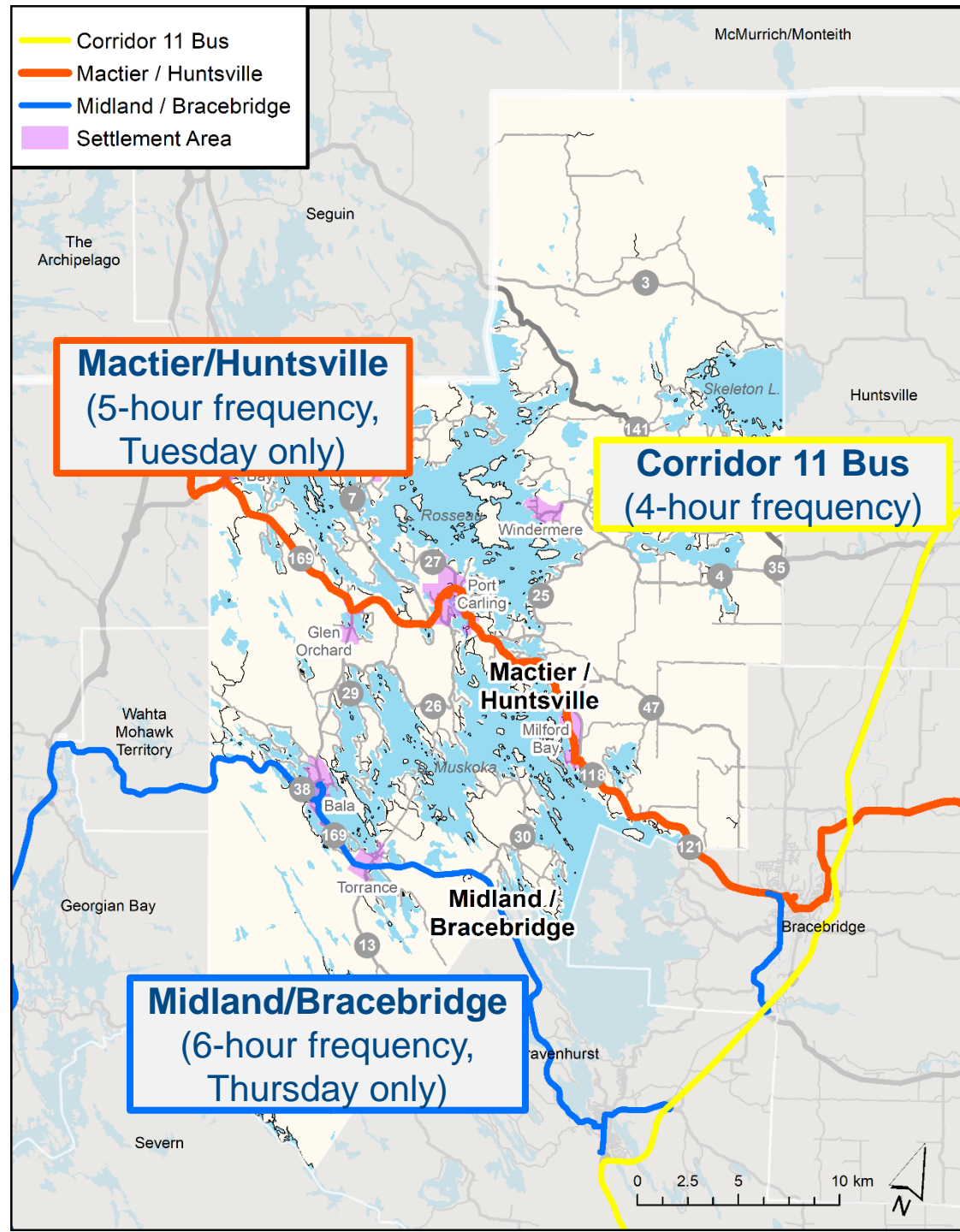


Transit

The District of Muskoka operates transit service via:

-  **Corridor 11 Bus** – North-south route travelling along Highway 11 between Huntsville and Orillia
-  **Rural and Community**
-  **Connection Bus** – East-west routes that connect Muskoka communities, and provides connections to other transportation networks within and beyond Muskoka

The Rural and Community Connection routes accommodate **Flex Stops**, which allow riders to request a pick-up and/or drop-off location within a 5-minute return trip from the existing route





What are your largest barriers to cycling in the Township of Muskoka Lakes? (Check all that apply)

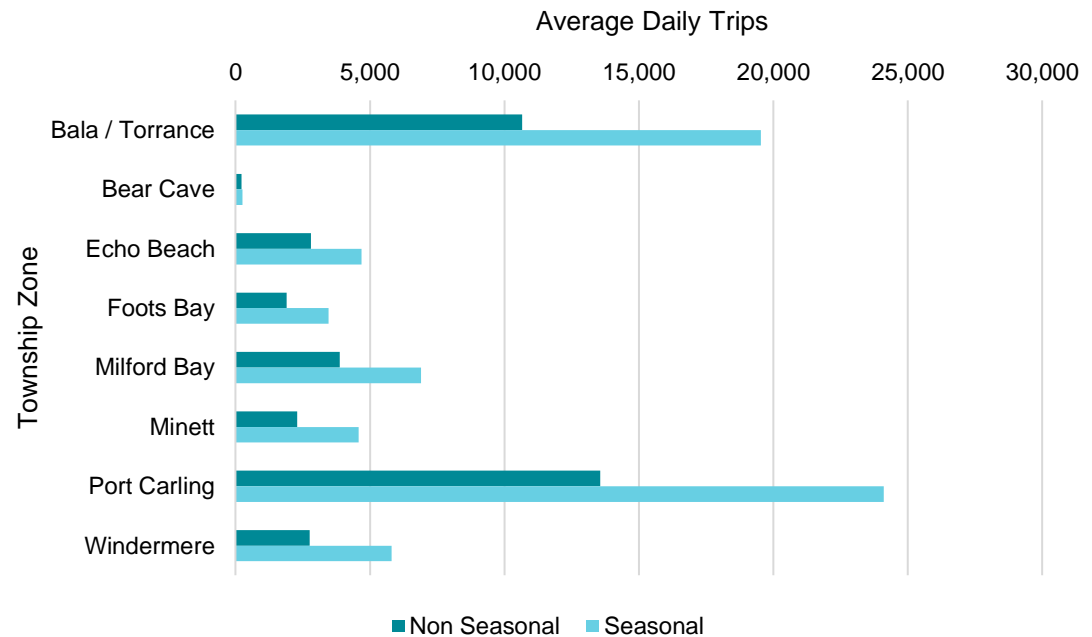
TRAVEL CHARACTERISTICS

Travel Patterns



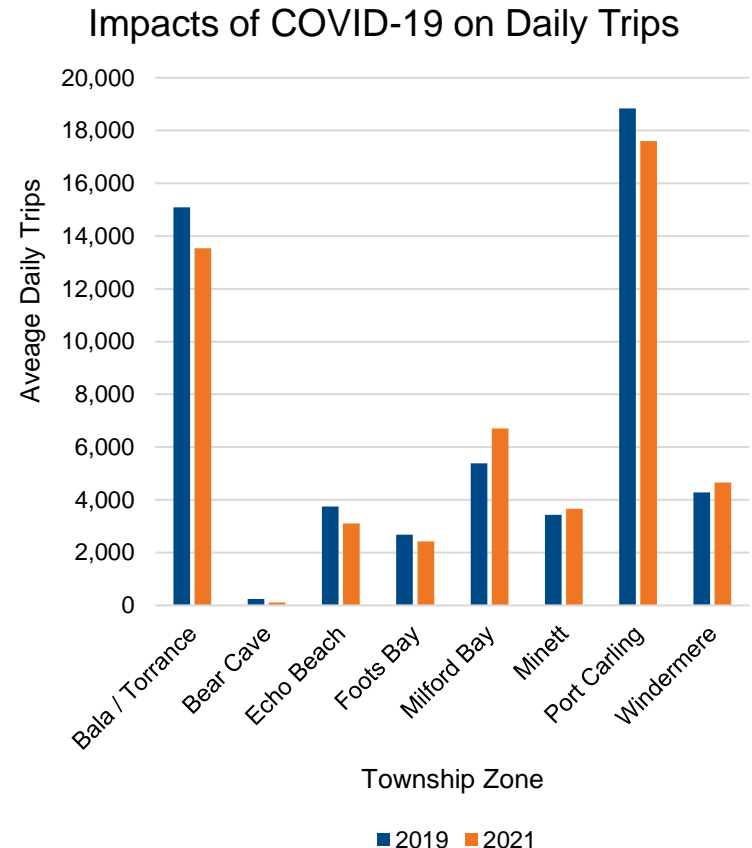
- Most daily trips (prior to the pandemic) were travelling to/from **Port Carling** and **Bala / Torrance**
- Seasonal traffic (May – August) is approximately **double** that of non-seasonal traffic for most of the Township zones

2019 Daily Trips to/from Township Zones



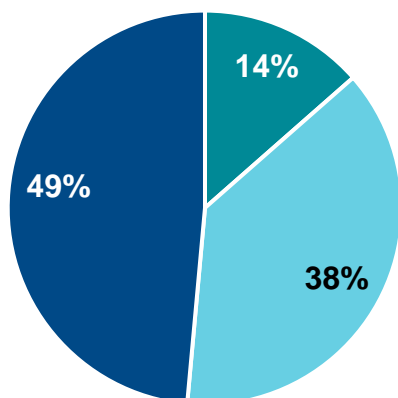
Travel Growth and Recent Effects of COVID-19

- Recent changes in land use and related traffic growth has been affected by the COVID-19 pandemic. However, we note the following growth trends:
 - Between 2011 to 2016, the Township experienced a **-0.4%** growth per annum in population (Census)
 - Between 2016 to 2021, the Township experienced a **+3%** growth per annum in population (Census)
 - Most Township zones experienced a decrease in average daily trips between 2019 and 2021 (in the magnitude of about -10%), except Milford Bay, Minett and Windemere



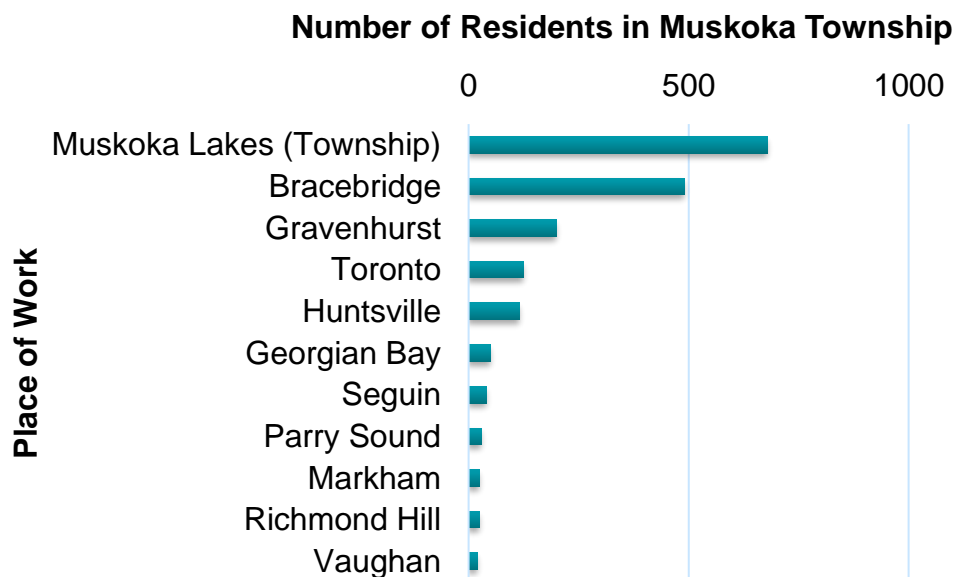
Trip Purpose

- Approximately half of daily trips travelling to/from the Township in 2019 were **non home-based trips**



- Home-Based Work
- Home-Based Other
- Non Home-Based

- The majority (65%) of Township residents travel to areas **within the District of Muskoka** (Township of Muskoka Lakes, Town of Bracebridge and Town of Gravenhurst) for work (Census)



NEEDS AND OPPORTUNITIES

Road and Bridge Needs and Opportunities

- Forecast traffic to identify the need for **road corridor improvements** and corridor protection
- Assess key intersections for future improvements or signalization
- Develop a **roundabout policy** for safe and efficient operations
- Review and refine **typical cross-sections** for road classifications with consideration for road context (e.g., land use, urban / rural environment)
- Review of road classes and jurisdictions (Township vs. District)
- Assess need for **traffic control at one-lane bridge crossings**



Lake Access Needs and Opportunities

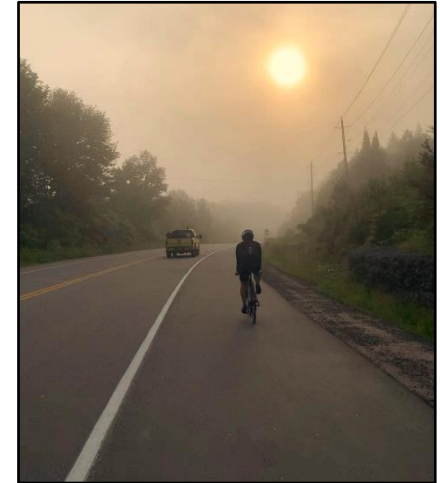
- Identify potential **new lake access locations** for the growing seasonal and year-round population

Waterbody	Size (km ²)	Number of Lake Accesses
Lake Muskoka	89	18
Lake Rosseau	55	8
Lake Joseph	55	4
Skeleton Lake	21	3
Three Mile Lake	8.7	1
Long Lake	5.8	1
Nine Mile Lake	2.3	1
Leonard Lake	2.0	1
High Lake	1.6	1
Clear Lake	< 1	1
Brandy Lake	< 1	1
Moon River	35 km in length	2

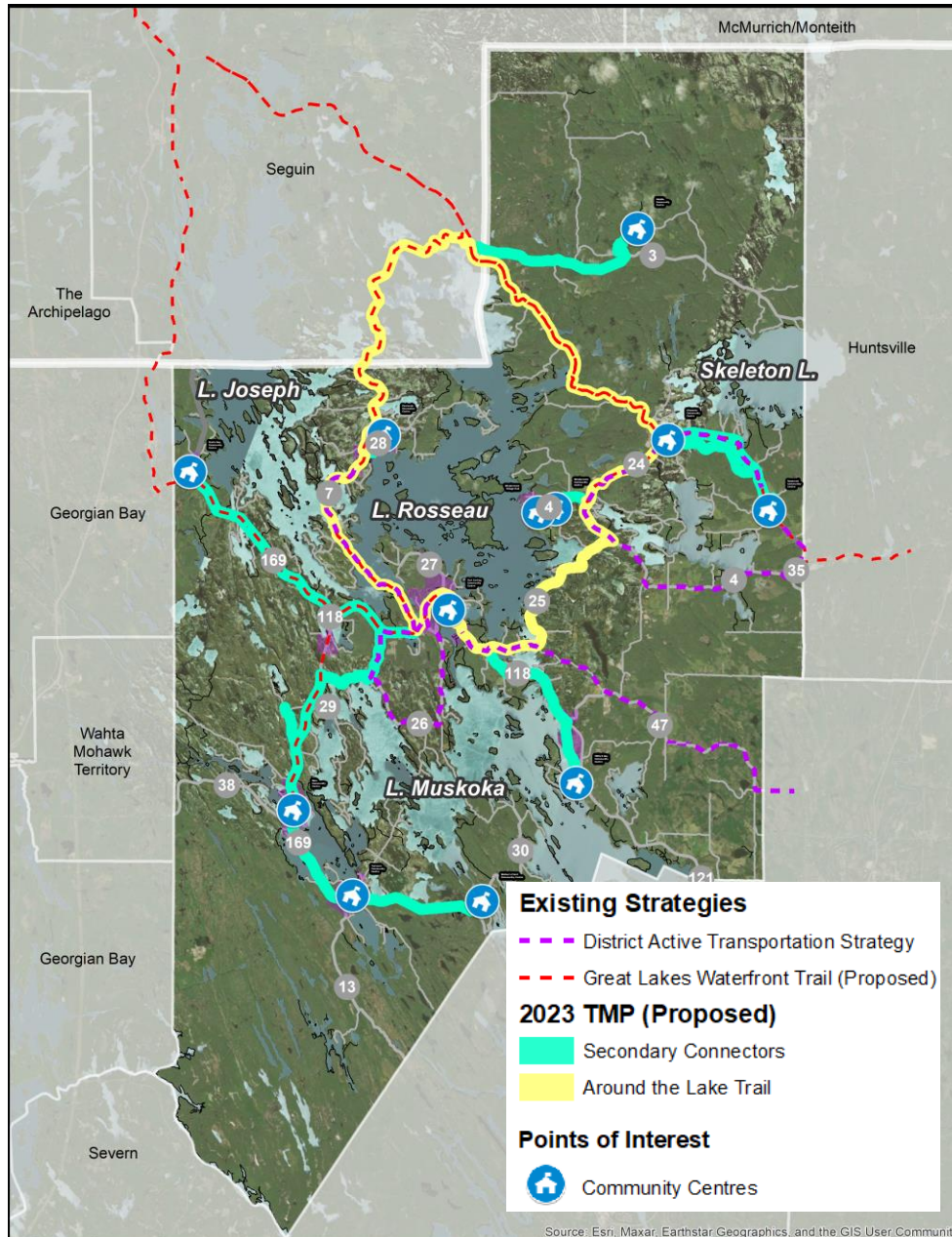
- Establish **evaluation criteria** to assess waterbody access locations:
 - Serviceability (e.g., within an underserved residential area)
 - Proximity of recreational uses / amenities
 - Convenience and accessibility (adjacent transportation facilities)
 - Environmental constraints
 - Engineering / design (slopes, minimum site area, etc.)
- Recommend **policies** for lake accesses
- Develop a **parking strategy** to serve existing and future waterbody accesses

Active Transportation Opportunities

- Provide **connected and continuous** cycling infrastructure (e.g., Paved shoulders) that:
 - Prioritizes safety
 - Provides for emergency space for vehicles/cyclists to stop
 - Allows for safe passing
- Accommodate a wide range of cyclist experiences
- Improve cycling network to **support economic development**, by attracting tourists, organized events and visits to local shops



Active Transportation Opportunities (cont'd)



- Explore the opportunity for an active transportation network centered around an **“Around Lake”** concept
 - 64 km network that could leverage existing and proposed infrastructure
 - Average slope: 2.7%
 - Maximum slope: 12.9%
- Spine would consist **mainly of District roads** (requiring partnerships)
- Secondary connections would consist of Township roads that connect to points of interest

Around the Lake Trail Signage



Hedge Road, Georgina
(Google Maps)

- Possible Signage from OTM/TAC



WC-46 and WC-7S



Wc-19 (OTM)



Wc-24 (OTM)

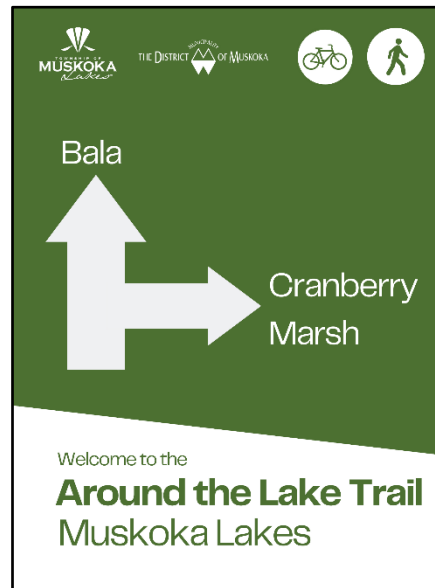


Wc-19t (OTM)



Wc-24t (OTM)

- Conceptual Branding / Wayfinding



Transit Opportunities

- The District of Muskoka operates transit service within the Township
- The TMP will explore strategies and policies to **support the District's transit system**
 - E.g., providing easier access to/from transit stops within the Township

Rural and Community Connection
Bus



Corridor 11 Bus



Would you be interested in a rideshare/on-demand transit service that would take you from your house/a central hub to other bus services such as the 11 bus in Bracebridge?

NEXT STEPS

Stay engaged!

Please visit: <https://engagemuskokalak.es.ca/transportation-master-plan>

Home / Transportation Master Plan

Transportation Master Plan



Transportation Master Plan

The Township of Muskoka Lakes, in collaboration with R.J. Burnside & Associates Ltd., initiated a Transportation Master Plan (TMP) in 2022. The TMP serves as a planning and guiding document that develops a short (1-5 years), medium (5-10 years), and long-term (10-25 years and beyond) plan to accommodate future transportation needs on a Township-wide level through the identification of transportation trends and anticipated growth.

The TMP Study will develop and evaluate solutions to determine a safe, environmentally responsible, cost-effective, and efficient transportation network. These solutions will consider the needs of all persons and businesses through creation of a vision for all modes of transportation.

Getting Involved

As an important consultation component of this study, the Township will engage and obtain feedback from residents and key stakeholders to help inform the TMP and its recommendations.

We will be hosting a Public Information Centre on Tuesday January 31st at 6:30 pm on zoom. To register please [click here](#).

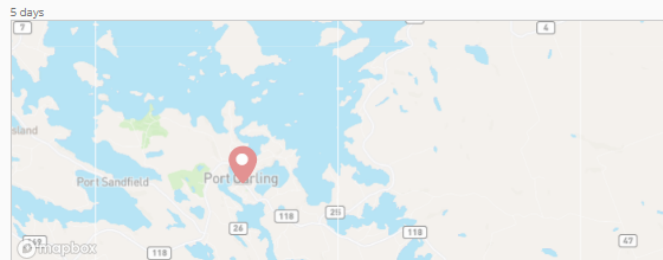
If you have any questions or concerns or would like to be added to the project contact list please e-mail us at MuskokaLakesTMP@rjburnside.com.

NEWS FEED

TRAFFIC SAFETY CONCERNS MAPPING

SURVEY

Traffic Safety Concerns Mapping



As a road user who drives, cycles, or walks, or uses other modes of transportation where do you have traffic safety concerns? Place a Pin on the map so we can investigate further during this study. Feel free to add text to your pin describing your concerns.

[Go to Map](#)

Who's Listening

Ken Becking

Director of Public Works
Township of Muskoka Lakes



Phone (705) 765-3156 x250

Email kbecking@muskokalak.es.ca



STAY INFORMED

Subscribe for project updates

[Subscribe](#)

12 members of your community are following this project

Collection of Information

All information including personal information received will be compiled and considered by staff for use under the purposes of this site. Personal Information will be collected and used in accordance with the Municipal Freedom of Information and Protection of Privacy Act and other relevant privacy legislation. All comments made on this site may form part of Township records and may be subject to information request under the Act.

Documents

[Notice of Commencement \(239 KB\) \(pdf\)](#)

Timeline and Next Steps

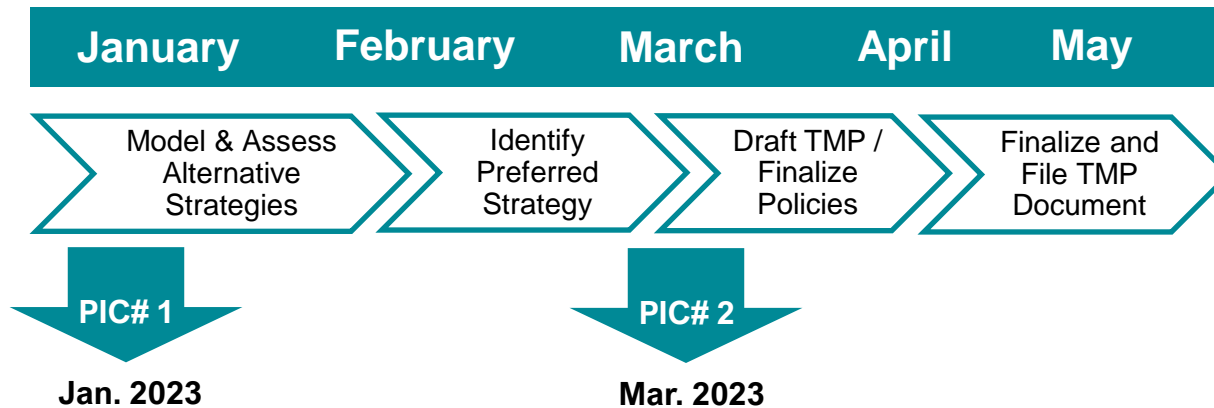
Phase 1: Identify the Problem or Opportunity

2022



Phase 2: Assess Alternative Strategies and Choose a Preferred Strategy

2023



Thank you!

If you have questions, comments, please contact:

MuskokaLakesTMP@rjburnside.com

Gordon Hui, P.Eng.

Consultant Project Coordinator
R.J. Burnside and Associates
6990 Creditview Road, Unit 2
Mississauga, ON L5N 8R9
Tel: 905-821-5938

Ken Becking, P. Eng.

Director of Public Works
Township of Muskoka Lakes
1 Bailey Street
Port Carling, Ontario P0B 1J0
Tel: 705-765-3156 ext. 250

Muskoka Lakes Transportation Master Plan (TMP) Update

Public Information Centre (PIC) #1 – January 31, 2023

Summary of Comments / Questions and Project Team Responses

This Q&A Sheet is based on the questions brought forward by PIC #1 participants (verbally as well as via Zoom) and answers provided by the Project Team.

Question / Comment	Project Team Response
Will this TMP address both Township and District roads?	Our study will assess and provide recommendations for both Township and District roads. Actionable recommendations will be focused on Township roads as further discussions are required with the District to implement improvements along their roads.
How is bussing for seniors being addressed?	The aging population in Muskoka Lakes is an important consideration for the TMP. Transit strategies will be developed to ensure that vulnerable user groups, including seniors, are accounted for.
There are concerns regarding the maintenance of seasonal roads, as retired citizens using Red Cross transportation and their support workers have difficulty using these unplowed roads.	Seasonal road are looked after by the Township during the summer or normal maintenance time of the year. There are some operational issues associated with this approach, along with some legal issues that relate to the road and the Township's responsibility for them. The TMP will identify these issues but this will ultimately have to be part of a broader discussion.
Transportation between Port Carling and Bracebridge should be considered with support from Red Cross Transportation.	Noted. The Team will investigate this opportunity further as part of this TMP.

Question / Comment	Project Team Response
How can the public provide further input?	Please feel free to email MuskokaLakesTMP@rjburnside.com to provide further input on the TMP. Alternatively, the Team will be hosting a second PIC in a few months to obtain public feedback. The website will be updated with more information as the study progresses here .
The Township should consider annual parking permits for lakeside property owners / taxpayers.	The Township currently does not issue annual permits for parking, but this can be considered as part of the recommendations of the TMP.
The Waterfront Regeneration Trust would be happy to share the alignment and Point of Interest (POI) data as a resource to complement the TMP.	The Team would be grateful to have this data and will be reaching out to the Waterfront Regeneration Trust for more information.
Peninsula Road is currently dangerous to cycle on. How long will it take to address these challenges?	The timing of improvements is currently unknown but this safety concern will be considered in the development of the active transportation strategies.
How will the TMP account for higher population densities in areas such as Minett over the next 10 years?	The Team will be doing traffic forecasts that include population and employment growth as an input. These forecasts will inform improvements over the 5-, 10- and 20-year horizon.
Are District and Township roads depicted in a map available online?	The District's GeoHub distinguishes between District and Township roads here . District roads within the Township are also listed here .
The Province-wide cycle network map includes District Road 169.	Noted. This will be included in the map of active transportation opportunities.
There are safety concerns regarding the Scotiabank intersection in Port Carling (Medora Street and Armstrong Point Road).	The District is scheduled to do reconstruction along this stretch of road, although the timing is unknown. There will be design work done through this process, which is anticipated to address the safety concerns at this intersection.

Question / Comment	Project Team Response
What work is being done on Lock Street?	This is a District-driven project. The Township will be able to provide input on it, but the work has not advanced sufficiently at this time to provide more information. The Township will be coordinating with the District on this matter.
What consideration is being made to assess speeding?	The TMP can investigate this from a speed policy perspective with the trend of decreasing speed limits. Although, it is recognized that this would need to be supported by design principles and guidelines. If there are specific locations of concern, please feel free to send an email to the Team at MuskokaLakesTMP@rjburnside.com or plot the location of concern on the interactive Traffic Safety Concerns map here .
The TMP should include a cost-benefit associated with each recommendation, as tax implications are important to residents.	It is within the scope of this TMP to provide preliminary project cost estimates. Cost also serves as an explicit criterion for the evaluation of alternative strategies. These costs will feed into reporting for Council, which will then have to be approved to allow for eventual funding of the recommended solutions.



Township of Muskoka Lakes Notice of Public Information Centre #2 Transportation Master Plan

The Township of Muskoka Lakes is undertaking a Transportation Master Plan (TMP) Study to create a safe and reliable transportation system within the Township. This master plan will strive to address the needs of all stakeholders, creating a vision for all modes of transportation.

The Study will identify transportation network constraints and opportunities and required infrastructure improvements / expansions to ensure the continued safe and efficient movement of people and goods. The TMP will form the basis of Township objectives to guide future transportation decisions. The TMP will include the development of transportation infrastructure that align with the vision and goals identified in the Township's existing and ongoing plans/strategies.

The Study is being carried out in accordance with the Phase 1 and 2 of the master plan process outlined in the Municipal Class Environmental Assessment (2023), which is approved under the *Ontario Environmental Assessment Act*.

The TMP Study will consider and evaluate solutions to determine a safe, environmentally and economically sustainable, and efficient transportation network.

We want to hear from you as your involvement is key to the success of the TMP Study. The public is invited to attend and provide input at the online Public Information Centre (PIC) #2 that will be hosted on Zoom. Please visit www.engagemuskokalakes.ca/transportation-master-plan or use this direct link: <https://www.eventbrite.ca/e/transportation-master-plan-public-information-centre-2-tickets-621155120687> to register. When you register to attend the Zoom meeting you will receive a confirmation email with instructions and details. If you have concerns over transportation in the Township, we encourage you to become involved.

Online Public Information Centre (PIC) #2

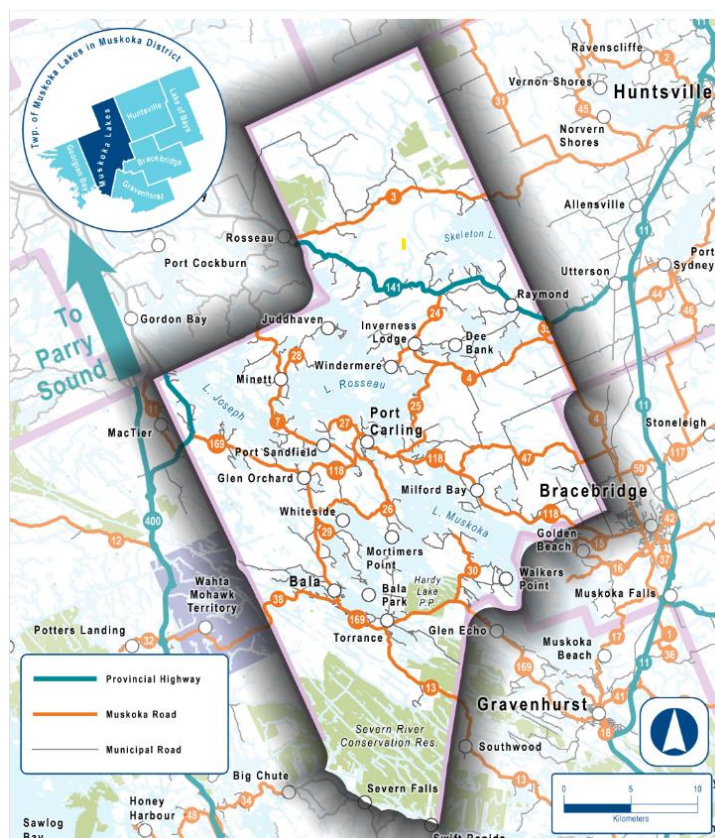
May 16, 2023, 6:00 pm - 7:30 pm

If you have any issues registering for the PIC or would like to be added to the Project Contact List, please contact either of the following Project Team members:

Gordon Hui, P.Eng.
Consultant Project Coordinator
R.J. Burnside and Associates
6990 Creditview Road, Unit 2
Mississauga, ON L5N 8R9
Tel: 905-821-5938

Ken Becking, P. Eng.
Director of Public Works
Township of Muskoka Lakes
1 Bailey Street
Port Carling, Ontario P0B 1J0
Tel: 705-765-3156 ext. 250

Email: MuskokaLakesTMP@rjburnside.com



The study is being conducted in accordance with the Municipal Class Environmental Assessment document (2023). Personal information collected/submitted (e.g., name, address, and phone number) is collected, maintained, and disclosed under the authority of the Environmental Assessment Act. Information submitted is subject to the Municipal Freedom of Information and Protection of Privacy Act and may be deemed releasable under this legislation. Anonymity and/or confidentiality cannot be guaranteed.

This Notice was first issued on April 25, 2023.



BURNSIDE

Public Information Centre #2

Township of Muskoka Lakes: Transportation Master Plan
May 16, 2023



Overview

01	Purpose & Approach
02	Draft Vision and Objectives
03	Summary of Phase 1 Findings
04	Phase 2 Process
05	Alternative Strategies
06	Evaluation Criteria
07	Next Steps

Purpose of the TMP

- To identify **policies** and **infrastructure needs** of a multi-modal transportation system to support growth over the next 25 years

- A **multi-modal** transportation system includes:



Walking



Cycling



Transit

Lake Access



Driving



- To integrate existing and future land use planning with infrastructure planning and sound environmental assessment planning



Study Approach & Timeline

Phase 1

Problem or Opportunity

- Identify Natural, Social and Cultural Heritage Assets
- Assess Existing and Future Needs and Opportunities
 - Road, transit, active transportation, lake access and safety needs
 - Planned growth and transportation forecasting
 - Future needs and opportunities

Phase 2

Alternative Solutions

- Identify and Analyze Alternative Solutions (Strategies)
- Evaluation and Selection of Preferred Alternative
- Preferred Network Solution (Strategy)

Future Phases

Not within the scope of this study:

- Phase 3:** Alternative Design Concepts for Preferred Solution
- Phase 4:** Schedule C Environmental Study Report
- Phase 5:** Implementation

October 2022

Notice of Study Commencement
Resident survey opened

November 2022

Technical Advisory Committee #1

January 2023

Public Information Centre #1
Online safety concerns map posted

March 2023

Phase 1 Report completed

April 2023

Technical Advisory Committee #2

May 2023 * We Are Here

Public Information Centre #2

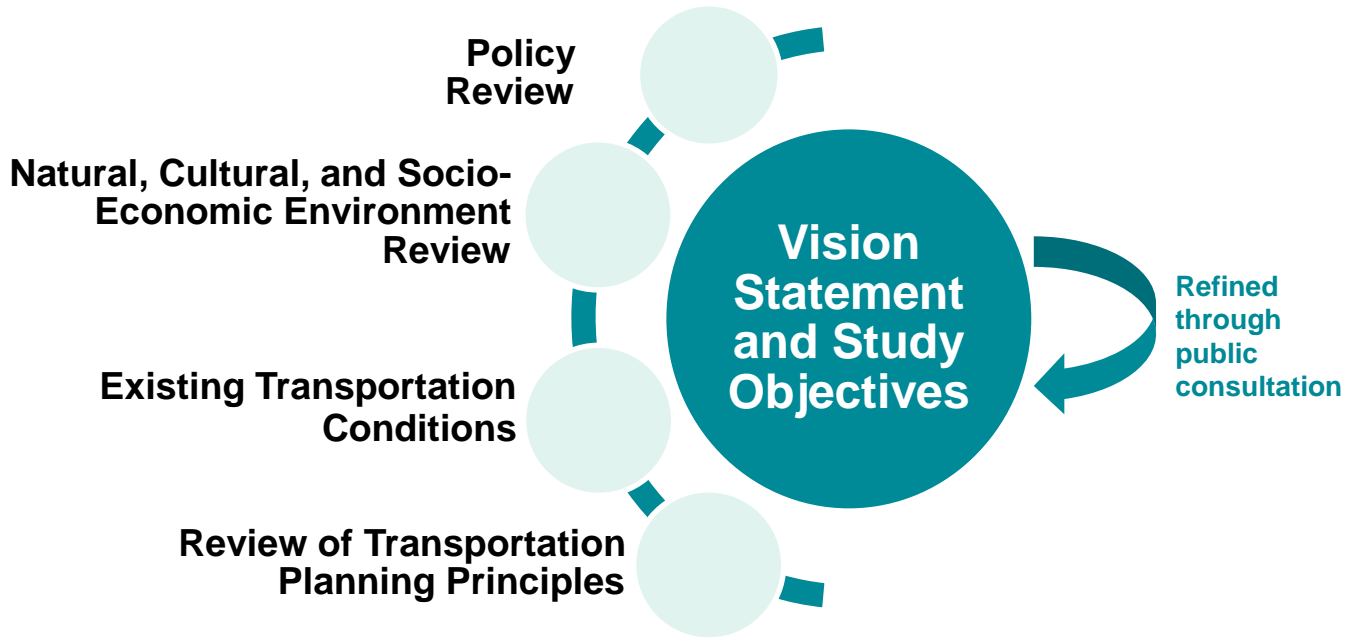
June 2023

Draft Final Report

July 2023

Present to Committee for Adoption
Project Completion

Vision and Study Objectives



Draft Vision

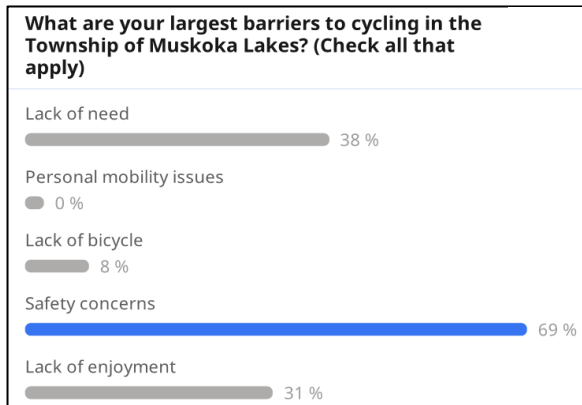
By 2047, the Township will have a transportation system that supports climate change objectives and protects natural and cultural features while striving to be sustainable, multi-modal, safe, well-connected, and financially responsible.

Draft Study Objectives

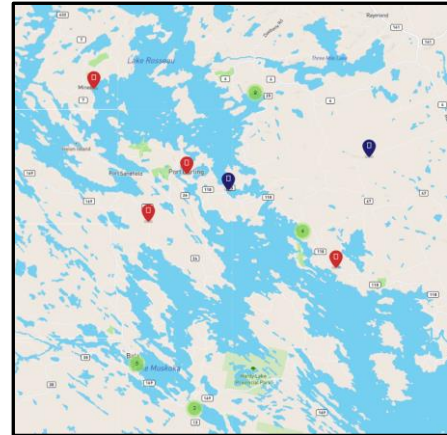
- Provide safe access and connectivity between lakes
- Ensure that the transportation network is sustainable, efficient, and well-integrated with the District and Provincial network within and surrounding the Township
- Protect natural and cultural features
- Produce a strategy that is cost-effective and economically sustainable
- Achieve climate change objectives
- Support transportation policies and guidelines to align with Provincial and District transportation plans and industry best practices

Phase 1 Public Consultation Findings

- Comments / issues brought forward by residents:
 - Lack of active transportation infrastructure
 - Need to accommodate **seniors**
 - Consideration for annual permits for overnight parking at lake accesses



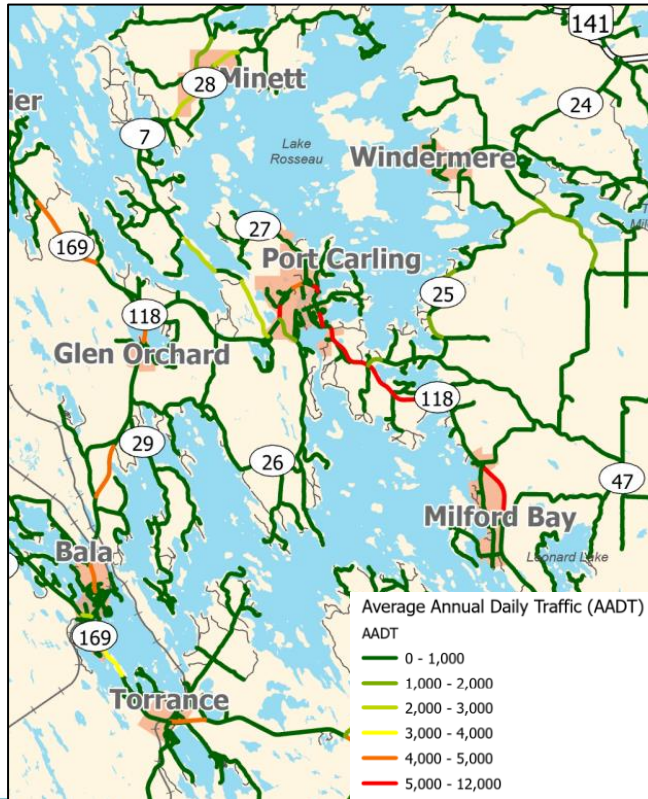
Slido Survey Results from Public Information Centre #1



Interactive Online Traffic Safety Map

- Most common **safety concerns**:
 - Vehicular speeding
 - Pedestrian and cyclist safety

Road Needs and Opportunities



- Identified future capacity concerns along **District Road 118** through Port Carling
- Identified **16 intersections** requiring further study (e.g., misaligned, limited sightlines, future capacity/delay concerns)
- Identified **67 roads** (totaling 34 km) to be considered for inclusion in the Township's municipally-maintained road network
- Development of **typical road cross-sections** and **engineering standards**, which includes:
 - Paved shoulders on rural roads
 - Designated pedestrian clearway space on urban roads
 - Standards for cottage / seasonal roads

Bridge Needs and Opportunities

- Install **warning signage** for 8 narrow bridges



- Install **yield** signage at one-way bridges with visibility/sightline concerns



- **“SLOW” pavement markings** proposed at 3 Township bridges with high posted speeds
- **“SHARROW” pavement marking** proposed at Milford Bay Bridge (future Secondary Trail Route)



Port Sandfield Bridge

Transit Opportunities

- Additional **design elements** (e.g., shelters, pedestrian connections) to support access to transit systems
- Identified the need to connect to the **District transit system** and **Northlander Passenger Rail**
- Explore the feasibility of **on-demand transit** to connect to other transit systems

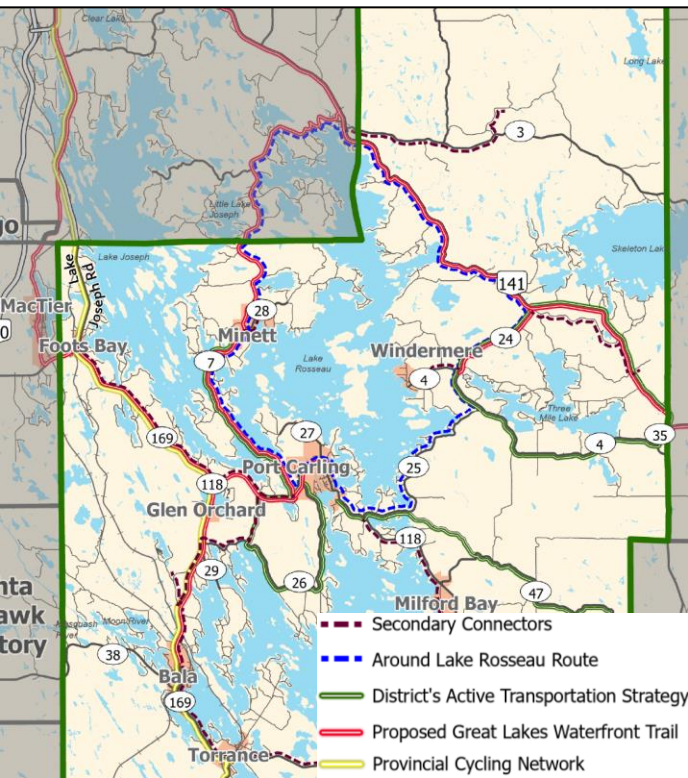
Northlander Passenger Rail



District Transit System



Active Transportation Needs and Opportunities



- Identified over **120 km** of potential active transportation improvements that:
 - Integrates with the District's planned Active Transportation Strategy
 - Proposes secondary routes to connect to key destinations
 - Proposes facilities (paved shoulders, shared route) based on a function of traffic and posted speeds
- Opportunity for an Advisory Bike Lane Pilot, with two potential locations identified:
 - Dawson Road
 - Milford Bay Road
- Identified off-road trail connections between major areas

Advisory Bike Lane Pilot

Advisory bike lanes are suitable for:

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

The main purpose of advisory bike lanes is to:

- Distinguish a space for pedestrians and cyclists
- **Lower vehicular speeds** as an alternative to traffic calming measures such as speed humps

Potential pilot locations:

Dawson Road and Milford Bay Road, as these roads were identified as a popular walking route with speeding concerns



Source: City of Burlington, USA



North Bay, Ontario

Source: Google Maps

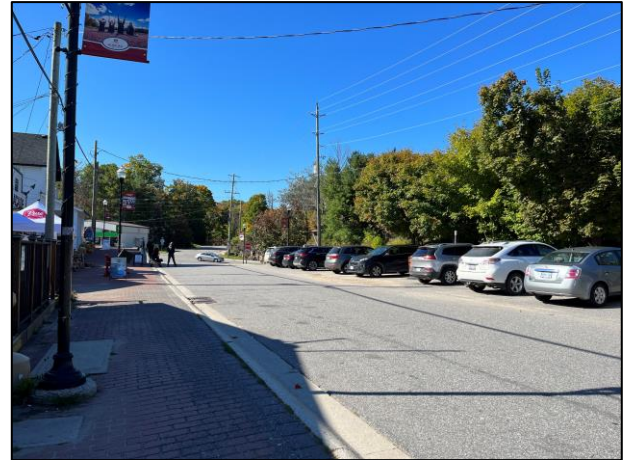
Lake Access Needs and Opportunities

- Identified **14** potential lake access locations (subject to site-specific review) over the next 25 years based on criteria including:
 - Serviceability
 - Proximity of recreational uses / amenities
 - Convenience and accessibility
 - Environmental constraints
 - Engineering / design requirements
- Identified potential locations for lake access parking at existing or proposed accesses
- Developed **design guidelines** for future lake accesses
- Consideration for parking and possible permits at lake accesses to accommodate overnight parking demand

Potential Lake Access Location	Lake
Along Morinus Road	Lake Rosseau
End of Rosseau Lake Road 1	Lake Rosseau
End of Unnamed Road off of Rostrevor Road (near Treasure Island)	Lake Rosseau
Along Purdy Road	Lake Rosseau
Along Sandor Drive	Moon River
Along Cooper Point Road	Lake Muskoka
Bluff Road / Juddhaven Road (west of Marie Avenue)	Lake Rosseau
North Shore Road (north of Sandwood Road)	Three Mile Lake
Mortimers Point Road	Lake Muskoka
Heather Lodge Road	Lake Muskoka
Martins Cove	Lake Muskoka
Pleasant View Point Road	Lake Muskoka
End of Woodwinds Road	Lake Muskoka
Glen Gordon Road	Leonard Lake

Downtown Parking Needs and Opportunities

- Need to collect **parking utilization data** to support parking strategies and other solutions from the Community Improvement Plan
- Identified a **downtown parking strategy** to improve parking availability in Bala and Port Carling which includes consideration for:
 - Increased parking patrol
 - Refined parking time restrictions
 - Existing unpaved lots to be paved with stalls marked
 - Zoning By-law review and update of parking rates
 - Wayfinding and parking signage



Parking along Bala Falls Road

Phase 2 Process

As part of the Municipal Class Environmental Process, Transportation Master Plans must:

1. Consider a reasonable range of alternatives.

- The “Do Nothing” alternative, which provides a benchmark for the evaluation of alternatives, must be considered

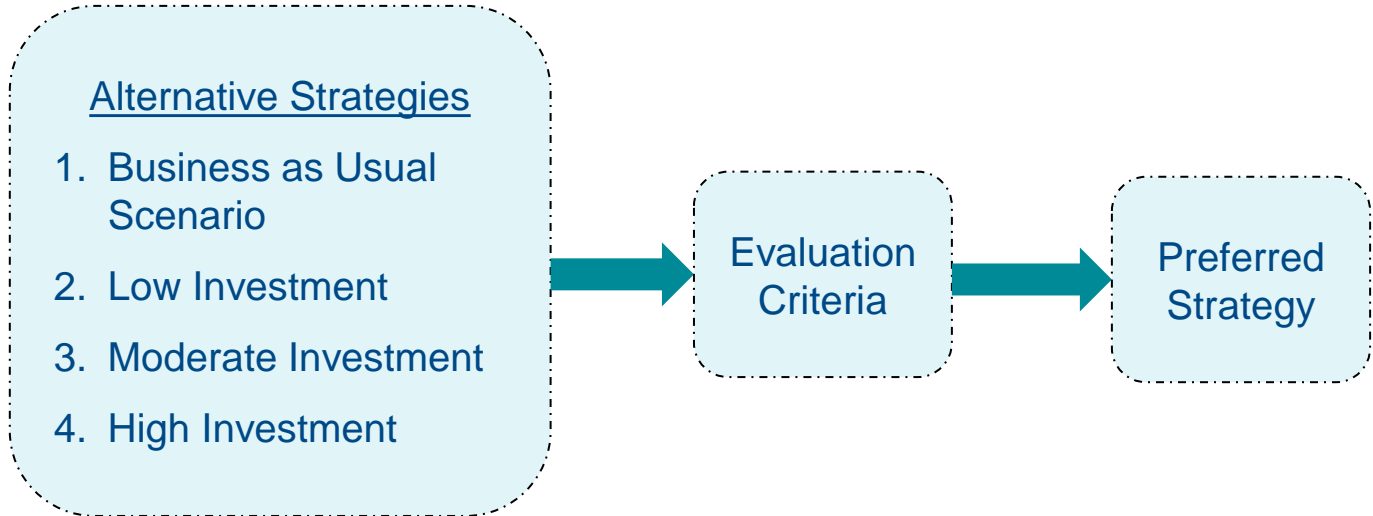
2. Identify and consider the effects of each alternative on all aspects of the environment.

- This was inventoried and identified in Phase 1

3. Systematically evaluate the effects of each alternative

- Broad level of assessment requiring more detailed investigations at the project-specific level in order to fulfil the Municipal Class EA documentation requirements for the specific Schedule B and C projects identified within the Master Plan

Phase 2 Process



	Business-as-Usual	Low Investment	Medium Investment	High Investment
Roads	<ul style="list-style-type: none"> Annual maintenance Inclusion of non-maintained roads into network 	<ul style="list-style-type: none"> Annual maintenance Inclusion of non-maintained roads into Township network Coordination with District on DR118 capacity needs Signage at Township bridges 	<ul style="list-style-type: none"> Annual maintenance Inclusion of non-maintained roads into Township network Coordination with District on DR118 capacity needs Signage at Township bridges Intersection improvements Consider roads for upgrade to a District Road function 	<ul style="list-style-type: none"> Annual maintenance Inclusion of non-maintained roads into Township network Coordination with District on DR118 capacity needs Bridge signage Intersection improvements District to consider widening of narrow structures Consider roads for upgrade to a District Road function
Active Transportation	<ul style="list-style-type: none"> Annual maintenance of trails 	<ul style="list-style-type: none"> Support for the Around the Lake Trail 	<ul style="list-style-type: none"> Support for the Around the Lake Trail, and secondary connectors Advisory Bike Lane Pilot 	<ul style="list-style-type: none"> Support for the Around the Lake Trail, and secondary connectors Advisory Bike Lane Pilot Off-road trail connections
Transit	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Transit connection and amenity improvements 	<ul style="list-style-type: none"> Coordinate with the District on CTP Transit connection and amenity improvements 	<ul style="list-style-type: none"> Participate with the District on CTP Transit connection and amenity improvements
Lake / Waterbody Access	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> High-priority lake and waterbody access locations 	<ul style="list-style-type: none"> High-priority and medium-priority lake and waterbody access locations 	<ul style="list-style-type: none"> All proposed lake and waterbody access locations
Parking	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Undertake parking study Zoning by-law review 	<ul style="list-style-type: none"> Undertake parking study Zoning by-law review Wayfinding Pave and optimize spaces at key lots 	<ul style="list-style-type: none"> Undertake parking study Zoning by-law review Wayfinding Pave and optimize spaces at all lots

Draft Evaluation Criteria



Study Approach & Timeline

Phase 1

Problem or Opportunity

- Identify Natural, Social and Cultural Heritage Assets
- Assess Existing and Future Needs and Opportunities
 - Road, transit, active transportation, lake access and safety needs
 - Planned growth and transportation forecasting
 - Future needs and opportunities

Phase 2

Alternative Solutions

- Identify and Analyze Alternative Solutions (Strategies)
- Evaluation and Selection of Preferred Alternative
- Preferred Network Solution (Strategy)

Future Phases

Not within the scope of this study:

- Phase 3:** Alternative Design Concepts for Preferred Solution
- Phase 4:** Schedule C Environmental Study Report
- Phase 5:** Implementation

October 2022

Notice of Study Commencement
Resident survey opened

November 2022

Technical Advisory Committee #1

January 2023

Public Information Centre #1
Online safety concerns map posted

March 2023

Phase 1 Report completed

April 2023

Technical Advisory Committee #2

May 2023 * We Are Here

Public Information Centre #2

June 2023

Draft Final Report

July 2023

Present to Committee for Adoption
Project Completion

Thank you!

If you have questions, comments, please contact:

MuskokaLakesTMP@rjburnside.com

Muskoka Lakes Transportation Master Plan (TMP) Update

Public Information Centre (PIC) #2 – May 16, 2023

Summary of Comments / Questions and Project Team Responses

This Q&A Sheet is based on the questions brought forward by PIC #2 participants (verbally as well as via Zoom) and answers provided by the Project Team.

Question / Comment	Project Team Response
Concerns were raised from a resident of Milford Bay regarding speeding due to the wide lanes.	A speed policy will be completed as part of the Transportation Master Plan. The Team also recognizes that the wide lanes result in speeding and notes that the advisory bike lanes proposed as pilot projects in the Township are meant to partially address these issues by making the driver aware that the roads are a shared space.
Ontario Regulation 134/15 made under the Highway Traffic Act (HTA) permits off-road vehicles (including ATVs and UTVs) on most municipal roads except highways. Concerns were raised regarding the use of high-performance vehicles along Milford Bay Road that are observed to be travelling faster than cars in some instances. Are these vehicles being considered in the Transportation Master Plan?	The Team will review this regulation and consider its applicability to the master plan. While site-specific issues with respect to the use of ATVs and UTVs were not considered, as the master plan is a high-level study, the Speed Policy to be developed will allow decision-makers to determine when it is appropriate to make adjustments to posted speeds and/or implement mitigation measures to address speeding.
Concerns were raised regarding snowmobile use on Huckleberry Rock and the damage it causes to the rock face.	While the Transportation Master Plan does not address site-specific issues related to mitigation of current environmental impacts, it does highlight the location of heritage and cultural features within the Township and the need to protect them for future transportation strategies. This issue has been documented for consideration by Township operations staff.

Question / Comment	Project Team Response
Is the access at Sandor Drive an additional lake access?	We recognize that there is an existing lake access along Sandor Drive. However, it is our understanding that this is not a municipally owned access. The Transportation Master Plan recommends locations of potential accesses to be owned by the Township, where there may be a need to provide additional facilities such as parking.
Northlander trains travel into the Township and communities have expressed interest in getting trains to stop in their areas to establish external linkages. Are there any plans to provide these connections?	We recognize the importance of these transit linkages for tourism. As part of the Transportation Master Plan, we are investigating the potential for linkages in the form of on-demand transit and District-led connections to Northlander service.
Other municipalities are also in the process of completing master plans. How do those plans inform this study?	Throughout the study, the Team has engaged external stakeholders, including municipalities that are in the process of updating their plans. For example, we have been in communications with the District of Muskoka. The District is currently updating their Community Transportation Plan (CTP), which will soon be brought to Council.
Concerns were raised by an island property owner regarding the lack of available parking at lake accesses and whether this is being considered as part of the study.	The Transportation Master Plan identifies potential locations for new lake accesses and sites that warrant more parking. We are also recommending that the Township consider offering parking permits at lake accesses.
Concerns were raised regarding the traffic being redirected to Dawson Road via Google Maps.	We recognize that rediverted vehicles are using Dawson Road as an alternative “shortcut” route and vehicles have been observed to speed along this stretch. The Transportation Master Plan suggests that Dawson Road be considered for advisory bike lanes as part of an active transportation pilot project, which may also act as a traffic calming measure. The Speed Policy that will be developed as part of this study is

Question / Comment	Project Team Response
	intended to address speeding concerns throughout the Township.
Those who park on Matthews Drive near Windermere Park have been observed to run to/from their cars, which is a safety concern.	<p>This study conducts a screening of intersections that require improvement as a result of sightline issues, safety concerns and crossing needs.</p> <p>Post Meeting Clarification: The intersection of Windermere Road and Matthews Drive and the adjacent sections of Windermere Road were not identified as having a safety concern given traffic volumes or sight distances. The concern at this site, however, has been noted for Township operations staff to monitor.</p>
The study should consider the many commuters that work within the Township but do not live nearby or within the Township.	Noted. The study assesses travel patterns, including where people are commuting to/from, which informs transportation connection and parking recommendations.
Concerns were raised regarding the lack of parking provided at commercial landing properties.	The Transportation Master Plan will provide a parking strategy for the Township to address demands, including recommendations for future site-specific studies.
We tend to focus on roads, but there is a lack of good bicycle and walking trails. Prioritization for these facilities and greater connectivity would be great.	The study has included a review of potential connections for off-road trails to connect between major areas such as Port Carling and Bala. There is also consideration to convert snowmobile trails into active transportation routes during the summertime.
Travel within the Township can be restricted by waterways. The study should consider providing travellers with a better experience of getting to parking areas.	Noted, the Team will take this into consideration. Off-road and on-road active transportation opportunities to better connect to key destinations and parking areas are being reviewed.

Question / Comment	Project Team Response
Bike lanes should be flat and ideally not located by the road. There should also be a maintenance component attached.	Noted. This will be considered as part of the active transportation review.
Will there be signage along Dawson Road associated with the proposed bike lanes?	Yes, 'Share the Road' signage is proposed.
People do not usually have a "lack of interest" for biking; rather, we typically hear that there is a lot of interest, but safety is a major hindrance.	This is consistent with the findings from the public survey released as part of the study, which indicated that only 30% of respondents have a "lack of interest" for biking, with the majority having interest but are held back by other factors (e.g., safety, lack of facilities, etc.).
Is there any data or guidelines that provide best practices on posted speed limits that transition from one road to another?	<p>This is commonly done for urban centres within rural areas, where there is a desire to reduce speeds but it needs to be coupled with geometric and visual cues for the driver to recognize the need to slow their speed. The posted speed is also typically set based on roadside development (i.e., to account for areas where there is more interference from accesses/driveways and side streets).</p> <p>Transitioning between posted speeds, particularly to/from Township and District roads will be addressed as part of the Speed Policy.</p>
If a decision has been made as part of this plan, is it grandfathered or is it open to change?	The Township noted that this question stems from a concern regarding Districts roads, which is not under the Township's control. It was recommended that the PIC attendee contact the Commissioner of Engineering and Public Works from the District of Muskoka.
The Township should monitor the recent MTO Pilot Project permitting the use of golf carts on roads over the next few years. A	Noted. The Team will look into this and consider its applicability to the Transportation Master Plan.

Question / Comment	Project Team Response
Township by-law was also passed to allow ATV vehicles to use municipal roads.	



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Attachment 3

Technical Advisory Committee Meeting #1 Minutes



Minutes of Meeting

Meeting Date: November 23, 2022 **Project No.:** 300055345

Project Name : Muskoka Lakes Transportation Master Plan (TMP)

Meeting Subject: Technical Advisory Committee (TAC) Meeting #1

Meeting Location: Zoom Meeting

Date Prepared: November 23, 2022

Those in attendance were:

Tarmo Uukkivi (TU)	Town of Huntsville	Tarmo.Uukkivi@huntsville.ca
Mark Misko (MM)	District of Muskoka	Mark.Misko@muskoka.on.ca
Sydney Piatkowski (SP)	District of Muskoka	Sydney.Piatkowski@muskoka.on.ca
Ryan Elbe (RE)	District of Muskoka	Ryan.Elbe@muskoka.on.ca
Wade Murrant (WM)	Ministry of Environment, Conservation and Parks	Wade.Murrant@ontario.ca
Brad Sokach (BS)	Township of Georgian Bay	BSokach@gbtownship.ca
Trish Hayward (TH)	Trillium Lakelands District School Board	Patricia.Hayward@tldsb.on.ca
Corey Moore (CM)	Township of Muskoka Lakes	CMoore@muskokalakes.ca
Tim Sopkowe (TS)	Township of Muskoka Lakes	Tim.Sopkowe@muskokalakes.ca
Ken Becking (KB)	Township of Muskoka Lakes	KBecking@muskokalakes.ca
Kalleen Turchet (KT)	Township of Muskoka Lakes	KTurchet@muskokalakes.ca
Ray Bacquie (RB)	R.J. Burnside & Associates Limited	Ray.Bacquie@rjburnside.com
Gordon Hui (GH)	R.J. Burnside & Associates Limited	Gordon.Hui@rjburnside.com
Mishaal Rizwan (MR)	R.J. Burnside & Associates Limited	Mishaal.Rizwan@rjburnside.com
Xinli Tu (XT)	R.J. Burnside & Associates Limited	Xinli.Tu@rjburnside.com

The following items were discussed

Action by

1. Introductions and Project Context

1.1 TAC Meeting Attendee Introductions

Info

The following items were discussed	Action by
<p>Corey Moore (CM) is the Economic Development Officer for the Township of Muskoka Lakes.</p> <p>Mark Misko (MM) is the Director in Transportation and Engineering with the District of Muskoka.</p> <p>Tarmo Uukkivi (TU) is the Director of Operations and Protective Services with the Town of Huntsville. Transit is included in their portfolio of work, among others.</p> <p>Sydney Piatkowski (SP) is responsible for transit with the District of Muskoka.</p> <p>Ryan Elbe (RE) is the Manager of Transportation Operations and Maintenance with the District of Muskoka.</p> <p>Kalleen Turchet (KT) is responsible for communications with the Township of Muskoka Lakes.</p> <p>Trish Hayward (TH) is the Transportation Supervisor with Trillium Lakelands District School Board.</p> <p>Brad Sokach (BS) is the Director of Operations with the Township of Georgian Bay.</p> <p>Wade Murrant (WM) is with the Ministry of Environment, Conservation and Parks, with a particular focus on Ontario parks.</p>	
<p>1.2 Supporting Resources for the Transportation Master Plan (TMP)</p> <p>The following anonymous results were submitted via Slido for the question “What are some helpful resources you think might contribute to the development of the TMP”:</p> <ul style="list-style-type: none"> • Ministry of Transportation Ontario (MTO) Transit Supportive Guidelines • District-wide Active Transportation Plan • Bordering Town/Township TMPs • Gant charts for project timelines • Metrolinx reports • Mapping to determine potential environmental impact <p>TU: The Town of Bracebridge just launched their TMP. The Town of Huntsville is looking to launch their own TMP in late 2023.</p>	<p>Info</p>

The following items were discussed		Action by
	<p>SP: The Town of Gravenhurst just launched their Transit Plan. The District of Muskoka launched their 5-Year Transportation Plan in 2020.</p>	
2.	Draft Study Objectives	
2.1	<p>GH presented the project findings to date. The presentation included:</p> <ul style="list-style-type: none"> • Study purpose and approach • Guiding documents and key policies • Study context (settlement areas, demographics, environmental constraints and cultural heritage) • Draft vision and study objectives • Existing transportation system summary • Travel characteristics • Needs and opportunities • Project next steps <p>The presentation slides are attached.</p>	Info
3.	Comments / Questions	
3.1	<p>Draft Study Objectives</p> <p>No comments received on the draft study objectives.</p>	Info
3.2	<p>Stakeholder Involvement</p> <p>MM: District involvement is key in this study given the nature of the road network in the area. Good to see that there will be an assessment of the upper and lower tier roads in the area. Continued collaboration is first priority based on the relationship between local and District roads.</p> <p>TU: The Town of Huntsville would like to be more integrated with the District and municipalities. Continuous collaboration would provide the opportunity to ensure connectivity. The mayor has identified transit as a high priority for the Town and wants to ensure that there is connectivity across the municipalities.</p>	Info
3.3	Active Transportation	

The following items were discussed	Action by
<p>MM: What was the rationalization for the Around the Lake Active Transportation Trail? Is the selection of the route based on the need to create a loop, connect to destinations, or a combination of both?</p> <p>Gordon Hui (GH): There were two primary objectives of the trail. One objective was to achieve continuity by ensuring cyclists do not encounter gaps or discontinued segments in the network; the loop shape of the trail would achieve this. The second objective relates to the number of cyclists / pedestrians that currently take the route, which was based on Strava data, an app that allows cyclists and runners to track their route. Many segments were found to travel this route, which warranted further investigation. Please note that this trail is conceptual only and would require consultation with other stakeholders.</p> <p>Ray Bacquie (RB): Aside from fulfilling a need from a demand perspective, the routes would also be reviewed to determine suitability on a geometrics perspective (e.g., grades) and in terms of traffic volumes and available pavement width (i.e., to consider opportunities for paved shoulder facilities). The study can determine if there are road segments that are currently able to provide good accommodation for cyclists / pedestrians and those could also be identified for future improvements or incorporated in the recommendation of modified routes.</p> <p>MM: The District also has an Active Transportation Strategy. It would be interesting to see how this proposed trail links with the District system. We can collaborate on this. There is also the Great Lakes Waterfront Trail which is in early stages of development, but can be integrated here.</p>	Info
<p><i>Post-Meeting Comment: The Project Team will integrate the District's AT Strategy and Waterfront Trail into the TML TMP. Burnside has added the Waterfront Regeneration Trust into the stakeholder list and will reach out to them for their inclusion in the TAC.</i></p>	Burnside
<p>MM: The segment between Skeleton Lake Trail and Raymond Trail identified on the Around the Lake Trail is under MTO jurisdiction.</p> <p><i>Post-Meeting Comment: The Project Team notes that collaboration and coordination with the District, adjacent municipalities and the MTO are required for the development of this route and will be consulted accordingly.</i></p>	Info

The following items were discussed		Action by
3.4	<p>Emergency Medical Services (EMS) Routes</p> <p>MM: The route system has dead-end routes that do not have alternate detours. Do we want to consider the identification of alternate routes beyond the 2051 horizon?</p> <p>KB: We need to determine how this fits into the grand scheme of things. With respect to emergency planning, it is always desirable to have a Plan B. Previously, our predetermined emergency detour routes were similar to those on the 401 and 404 series highways. There should be a coordinated effort among District and constituent municipalities to establish this system. This can be flagged as part of this study.</p> <p>MM: Agreed. The District will have their own funding for a TMP in 2023. EMS routing should take a global approach and be flagged through this process to be further explored in the District's TMP.</p> <p><i>Post-Meeting Comment: The Project Team will ensure the TMP documents the need for emergency detour routes.</i></p>	<p>Info</p> <p>Burnside</p>
4.	<p>Next Steps</p> <p>GH: A follow-up TAC meeting will be scheduled in February (tentative) to discuss the alternative strategies of the TMP in greater detail.</p>	<p>Burnside</p>

The preceding are the minutes of the meeting as observed by the undersigned. Should there be a need for revision, please advise Burnside within seven days of issuance. In the absence of notification to the contrary, these minutes will be deemed to be an accurate record of the meeting.

Minutes prepared by:

R.J. Burnside & Associates Limited

Xinli Tu, E.I.T.
Transportation Planner
XT:xt

Enclosure(s) Technical Advisory Committee Meeting #1 Slides

Distribution:

All Attendees

Other than by the addressee, copying or distribution of this document, in whole or in part, is not permitted without the express written consent of R.J. Burnside & Associates Limited.

055345 Muskoka_TAC#1 Meeting_Minutes
11/25/2022 5:27 PM



Minutes of Meeting

Meeting Date: April 18, 2023 **Project No.:** 300055345.0000

Project Name Muskoka Lakes Transportation Master Plan (TMP)

Meeting Subject: Technical Advisory Committee (TAC) Meeting #2

Meeting Location: Teams Meeting

Date Prepared: April 25, 2023

Those in attendance were:

Sydney Piatkowski (SP)	District of Muskoka Transit	Sydney.Piatkowski@muskoka.on.ca
Wade Murrant (WM)	Ministry of Environment, Conservation and Parks	Wade.Murrant@ontario.ca
Tim Sopkowe (TS)	Township of Muskoka Lakes Public Works Technician	Tim.Sopkowe@muskokalak.es.ca
Ryan Murrell (RM)	Township of Muskoka Lakes Fire Chief	Ryan.Murrell@muskokalak.es.ca
Ken Becking (KB)	Township of Muskoka Lakes Director of Public Works	KBecking@muskokalak.es.ca
Kalleen Turchet (KT)	Township of Muskoka Lakes Communications	KTurchet@muskokalak.es.ca
Ray Bacquie (RB)	R.J. Burnside & Associates Limited	Ray.Bacquie@rjburnside.com
Gordon Hui (GH)	R.J. Burnside & Associates Limited	Gordon.Hui@rjburnside.com
Xinli Tu (XT)	R.J. Burnside & Associates Limited	Xinli.Tu@rjburnside.com

The following items were discussed

Action by

1. Emergency Detours / Routes

- 1.1 RM: Were traffic control devices evaluated to assess emergency services? Traffic preemption allows firefighters to reach their destination more safely. This was a request from the Fire Master Plan. Two intersections of concern include the intersection of Bruce Wilson Drive and Muskoka Road 118 and the intersection of Muskoka Road 118 and Muskoka Road 7.

Project Team: We have assessed the potential for delays at intersections as part of the TMP. Although, signals are owned by the

Project Team

The following items were discussed	Action by
<p>District; the Township would not be responsible for the signal infrastructure but we can certainly document these concerns in the TMP.</p>	
<p>2. Active Transportation</p>	
<p>2.1 RM supports the recommendations on bike lanes as there are bike collisions but they are not always fatal (and therefore not always recorded). It would also help emergency vehicles navigate through traffic congestion as a result of accidents. RM asked if the Team has assessed the link between paved shoulders and accidents.</p> <p>Project Team: We will document the importance of paved shoulders along 2-lane rural highways to assist emergency vehicles navigating through congestion and their benefits to road safety.</p> <p>Post-Meeting Notes: There is a correlation between the paved shoulder width and travel lane width. According to a study conducted by the Federal Highway Administration (FHA), a 2-lane rural highway with a paved shoulder width of approximately 2.5 m or greater is expected to have the same crash modification factor (CMF) regardless of the travel lane width. Essentially, shoulder width has a larger effect on safety when the travel lanes are narrow, but the effect of the shoulder width decreases as the lane width increases.</p>	Project Team
<p>2.2 TS: Will there be a typical cross-section developed for low-volume roads where there are shared bike facilities? Does it result in a reduced standard or encroachment on the travel lane width?</p> <p>Project Team: We do identify typical road cross-sections as part of the TMP, which includes recommended widths for both travel lanes and active transportation. There is also an option for advisory bike lanes which we have recommended as a pilot and can be considered in cases where there may not be sufficient space to accommodate dedicated active transportation facilities.</p>	
<p>2.3 SP: Has there been any investigation on pedestrian facilities? Are paved shoulders intended to be shared between pedestrians and cyclists?</p> <p>Project Team: Both paved shoulders and advisory bike lanes are suitable for pedestrians and cyclists. We have also recommended potential pedestrian crossing locations as part of the TMP.</p>	

The following items were discussed		Action by
3.	Parking	
3.1	<p>RM: Will parking along roadways be addressed, particularly along streets where vehicles will need to reverse backwards into traffic? We recognize these are not along high-speed corridors, but there have been collisions due to sightline issues.</p> <p>Project Team: We have developed a waterbody and downtown parking strategy as part of the TMP, which will address such issues. We will take this away as an operational consideration.</p>	Project Team
4.	Transit	
4.1	<p>SP: The recommendations on transit are appreciated. The District is bringing forward a report in May to request some changes to the Community Transportation Plan (CTP) as we recognize the need for on-demand transit. The District is in favour of some partnership and can send the report once it is made public.</p>	SP
5.	Roads	
5.1	<p>RM: Was there any documentation to note that the transportation system services a mostly seasonal market, that is transitioning to a 4-season market?</p> <p>Project Team: We have seen a heightened demand for recreational travel but have been reassessing the trend now that it is post-COVID. We can take another look at the data to highlight any trends.</p>	Project Team

The preceding are the minutes of the meeting as observed by the undersigned. Should there be a need for revision, please advise Burnside within seven days of issuance. In the absence of notification to the contrary, these minutes will be deemed to be an accurate record of the meeting.

Minutes prepared by:

R.J. Burnside & Associates Limited

Xinli Tu, E.I.T.
Transportation Planner
XT:xt

Enclosure(s) Technical Advisory Committee Meeting #2 Slides

Distribution:

All Attendees

Other than by the addressee, copying or distribution of this document, in whole or in part, is not permitted without the express written consent of R.J. Burnside & Associates Limited.

055345 Muskoka_TAC#2 Meeting_Minutes.docx
5/1/2023 3:26 PM



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Attachment 4

Public Comments Summary

Resident	Comments	Response
Resident 1	<p>230607_Email, The presentation is very encouraging. I support an Advisory Bike Lane project suggest extension beyond the western intersection of the bike lanes. This proposed change will link the proposed bike lane with access to the District's Active Transportation Strategy Route, which uses Falkenburg Rd to connect to Brackenrig Rd, which forms part of the "Around Lake Rosseau Route". This improves linkages/connections, providing Hewlitt Rd is municipal. Available Township parking already exists at 3 sites along Milford Bay Rd, such as the Huckleberry Rock Lookout Trail, Baycliffe Park, and Milford Bay Community Centre. This may help you address some of the parking concerns, and, by improving linkages to safer routes, pedestrian and cycling activists may be better able to park at home and access active transportation from their back doors.</p> <p>230516_Email, I was late to PIC, please provide a copy of the presentation and any commitments made.</p> <p>230222_Email, further to my comment please see below the Ironman Events for cycling and running in Mont Tremblant. The project team would benefit from speaking with townships around Mount Tremblant as the triathlon brings year round economic benefits.</p> <p>230110_Email, Cannot attend PIC, please share the recording on the website</p> <p>231030_Email, Please add me to the contact list.</p>	<p>230622_Email-GH, We have reviewed you suggestions and are seeing where they can be incorporated. We have included some discussion regarding alternative routes and will additionally highlight the need for fire escape.</p> <p>230601_Email-GH, Shared link to slide deck on project website. Clarified meeting was to provide info and seek feedback.</p> <p>230124_Email-GH, Thank you for your interest, the PIC will be recorded and made available</p>
Resident 2	<p>221031_Email, I'd like to be added to the contact list.</p> <p>230531_What parking has been identified for island and water access properties? There is no parking provided on TML roads forcing property owners to find private parking which is expensive or not available.</p>	<p>230622_Email-GH, We recognize the importance of addressing parking to accommodate island property owners. As part of the TMP, we are recommending that the Township investigate parking permits at municipally-owned lots and recommending that all future lake accesses provision for parking facilities, subject to site-specific review, and that select existing lake accesses accommodate parking to address a serviceability gap. The draft TMP will also be posted on the website for you to review and comment.</p>
Resident 3	230114_Email, Please add me to the Project Contact List.	
Resident 4	230121_Email, Consider the need to maintain the Juddhaven public road extension to the water. This access has not had a lot of use in recent years because under previous ownership, easy access was always available through the hotel proper. This access is needed by the Minett community and represents the only water access anywhere between Port Sandfield, and the town of Rosseau.	210125_Email-KB, Thank you for your interest. The Consultant will be looking at the needs for public accesses to water as part of their mandate and I will bring this to their attention.
Resident 5	<p>230203_Email, Thank you for your reply. The depth of complexity was impressive. I would be happy to get the word out about this project and am the president of a local lake association.</p> <p>230131_Email, Thanks for the presentation, where does the data for "trips taken" come from? Speed of traffic is an important issue, mostly enforcement related, but a larger surface would just allow speeding.</p>	<p>230209_Email-GH, It would be helpful if you could direct stakeholders to the Engage Muskoka Site (link) and sign up for the contact list. The review of the Needs and Opportunities document is the next milestone and will be posted in a few weeks. Next PIC is in march/April.</p> <p>230203_Email-GH, Thank you for your comments, we have been using StreetLightData. The project team will get back to you regarding research done into how width of lanes and shoulders affect speed and safety.</p>
Resident 6	<p>230215_Email, Yes, thank you.</p> <p>230209_Email, the link to the presentation does not work. Please fix it.</p> <p>221004_Email, Please add me to the contact list.</p>	230215_Email-GH, Apologies, does the following link work for you?
Resident 7	230622_Email, I should have responded earlier as Resident 8 and I spoke last week. My primary concern is to ensure environmental impacts are mitigated and to create share the road signage that reflects the character of the area rather than a more "citified" look.	<p>230625_Email-GH, Thank you for your interest in the Muskoka Lakes TMP!</p> <p>230622_Email-GH, protecting the natural environment and mitigating impacts is an important consideration for the TMP. We will also incorporate more discussion regarding ensuring the character and heritage of Muskoka Lakes is preserved overall as well as with road signage.</p>
Resident 8	<p>230613_I am a homeowner on Beaumaris Road. I still have my concerns and would like to be provided with more information. We had a similar proposal in Brantford and communication was plentiful.</p> <p>230622_Email, I am glad we are all on the same page regarding active transportation lanes and repaving. Keeping the charm of Muskoka and making roads safer is a win-win.</p>	<p>230625_Email-GH, Thank you for your interest in the Muskoka Lakes TMP!</p> <p>230622_Email-GH, Please clarify whether your concerns are regarding the recommendations from the Transportation Master Plan or the re-paving of Beaumaris Road.</p>
Resident 9	<p>230321_Email, Yes, that would be a great spot! We would definitely cycle from Torrance to Bala, if there was a safe route for all ages</p> <p>230227_Email, I had one more pin to add to the map, but I am having trouble finding the link. I would like an 'all ages & abilities' cycle track' from downtown Torrance to Bala.</p>	230228_Thank you for the comment, it is not too late we are reviewing comments. This is great feedback, where would you put that pin - somewhere along Muskoka Road 169 between Torrance and Bala?

Appendix B

Planning and Policy Context



Appendix B – Planning and Policy Context

Date: March 23, 2023 **Project No.:** 300055345.0000
Project Name: Muskoka Lakes Transportation Master Plan
To: Township of Muskoka Lakes
From: R.J. Burnside & Associates Limited

1.0 Planning and Policy Context

1.1 Provincial

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.

1.1.1 Provincial Policy Statement (2020)

The 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 (1.5.1)

- Plan public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity.
- Plan and provide for a full range and equitable distribution of publicly accessible built and natural settings for recreation, including facilities, parklands, public spaces, open space areas, trails and linkages, and, where practical, water-based resources.
- Provide opportunities for public access to shorelines.

- Recognize provincial parks, conservation reserves, and other protected areas, and minimizing negative impacts on these areas.

Transportation Systems (1.6.7)

- Provide for transportation systems which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.
- Make efficient use of existing and planned infrastructure, including the use of transportation demand management strategies, where feasible.
- Provide for a multimodal transportation system, which maintains connectivity within and among transportation systems and, where possible, improves connections which cross jurisdictional boundaries.
- Promote a land use pattern, density, and mix of uses that minimize the length and number of vehicle trips and support current and future use of transit and active transportation.

Transportation and Infrastructure Corridors (1.6.8)

- Plan for and protect corridors and rights-of-way for infrastructure, including transportation, transit and electricity generation facilities and transmission systems to meet current and projected needs.
- Protect major goods movement facilities and corridors for the long term.
- Prevent development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose for which it was identified.
- Encourage the preservation and reuse of abandoned corridors for purposes that maintain integrity and continuous linear characteristics of the corridor, wherever feasible.
- The co-location of linear infrastructure should be promoted, where appropriate.
- Consider the Wise Use and Management of Resources when planning for corridors and rights-of-way for significant transportation and infrastructure facilities.

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

1.1.2 Eastern Ontario Transportation Plan Draft (April 2022)

The draft Eastern Ontario Transportation Plan 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:

1.1.2.1 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.

1.1.2.2 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 easier 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.

1.1.2.3 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.

1.1.2.4 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.

1.2 District of Muskoka

1.2.1 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.
- 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:

Focus on Growth

- “D2(f) The population, employment and dwelling projections contained within this section of the plan are considered to be estimates based on current information and shall be used for growth and strategic asset management planning including infrastructure and public service facilities. These planning estimates shall be updated as required when new information becomes available and should not be considered as growth targets.”

New Development in Designated Growth Areas

- “D13(v) Access is provided in a manner that supports the provision of essential emergency services, active transportation, efficient transportation patterns and/or linkages with adjacent existing or planned development, and will generally include more than once access point.”

Promoting Sustainable Development and Healthy Communities

- “D20.1(b) Providing choices and opportunities for all residents for all ages, by providing a diverse range of housing types, transportation modes, employment options, and recreation or leisure activities including opportunities for local food production.”

Section K of the Official Plan provides direction and policies for Transportation within the District including the following:

Active Transportation

- “K2(b) The creation of programs and facilities that encourage walking and cycling throughout Muskoka will be encouraged. Area Municipalities are also encouraged to require active transportation infrastructure and facilities, such as sidewalks and bike racks, through the site plan control process and other Planning Act approval processes.”
- “K2(c) The development of regional cycling network, based primarily on the existing District Road network linking communities, tourism destinations and other amenities across Muskoka shall be the focus of Muskoka’s active transportation efforts.”
- “K2(d) The incorporation of active transportation infrastructure shall be considered when constructing new District Roads, or when undertaking District Road widenings and/or reconstruction. The Muskoka Active Transportation Strategy shall guide the provision of District active transportation infrastructure.”
- “K2(e) Area Municipal Official Plans shall ensure that long-term transportation planning includes specific consideration of the needs of pedestrians and cyclists. The District of Muskoka supports efforts of the Area Municipalities to complete local Active Transportation Strategies.”
- “K2(f) When reviewing applications for major development in Urban Centres and Community Areas. The following matters shall be addressed by Area Municipalities in order to promote active transportation in Muskoka.
 - Sidewalks or off-road trails should be provided to promote walking within the development and to surrounding areas, particularly where sidewalks exist in surrounding neighbourhoods and
 - Roads should be wide enough to safely accommodate bicycles.”
- “K2(h) Area Municipalities, in conjunction with the District of Muskoka are encouraged to develop interconnected systems of active transportation routes providing access to major activity and employment areas and to future public transit. In order to plan for and encourage active transportation, Area Municipalities are encouraged to:
 - Consider the provision of safe and convenient cycling and walking routes in the review of all development applications.
 - Provide public access to shoreline areas in appropriate locations taking into account the nature of surrounding development.
 - Consider the provision of sidewalks in Urban Centres and Community Areas where appropriate.

- Investigate and provide for bicycle multi-use lanes wherever feasible and necessary in the construction or reconstruction of roads and bridges.
- Ensure that all pedestrians and cycling routes are designed to maximize the safety of a variety of users.”

Public Transportation

“The District of Muskoka encourages and supports the development of public transportation within and connecting Urban Centres and Community Areas across Muskoka to provide innovative alternatives to the personal vehicles and to support an aging population or others without personal vehicle.”

Major Goods Movement Facilities and Corridors

“Major good movement facilities and corridors shall be protected for the long term. Examples include: inter-modal facilities, ports, airports, rail facilities, truck terminals, freight corridors, freight facilities, and haul routes and primary transportation corridors used for the movement of goods.”

Rail Network

- “K8(a) The District of Muskoka and the Area Municipalities shall work with the Railway Corporations and the Federal and Provincial governments to establish grade separated railway crossings on major roads where possible. Improvements to existing at-grade crossings shall also be encouraged to improve safety.”
- “K8(c) The District of Muskoka and the Area Municipalities shall work with the appropriate agencies to develop strategies to deal with the movement of dangerous goods through Muskoka.”

Water Transportation

- “K11(a) With over 650 lakes, water transportation is an important component of the overall transportation system in Muskoka, particularly for seasonal and island residents, as well as to support recreation and tourism activities. In this regard, ferry or water shuttle services may be recognized as an appropriate means of transportation.”
- “K11(c) Area Municipalities are encouraged to facilitate or retain the provision of services necessary to serve the boating public including docking, pump out facilities, park areas, access points or waterfront landings, parking, marinas, and boat launching sites.”

1.2.2 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.

- 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.

1.2.3 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:

1.2.3.1 Individual Transportation Solutions

The fixed-flex route is designed to help meet individual transportation needs. The ability of the vehicle to flex off the route to pick up residents at their homes will assist those who are unable to walk to a bus stop.

The CTP also supports improved collaboration with volunteer-based driver services that operate within the District of Muskoka to help fill in service gaps.

In more densely populated areas, fully on-demand ride share models can provide a high level of service, however, in areas with lower population densities and large geographic areas, such as Muskoka the cost to provide a sufficient level of service is often prohibitive. For this reason, this type of service is not recommended for the District of Muskoka as a pilot program.

1.2.3.2 Accessible Rural Transportation Solutions

The CTP addresses the need for accessible rural transportation through recommendations for the District of Muskoka to use wheelchair accessible vehicles for the fixed-flex rural service and the ability of the vehicle on the fixed-flex route to veer off the route pick up or drop off those that cannot walk to a bus stop.

1.2.3.3 East-West Connectivity & Expansion of Inter-Community Corridor 11 Bus

The proposed fixed-flex rural routes running between Midland and Bracebridge, and MacTier and Huntsville connect many of the District of Muskoka's rural communities to each other and to the larger town centers of Huntsville, Bracebridge, Gravenhurst, and Midland. This service will build on the previous Muskoka Extended Transit MET service as there are more trip destinations to choose due to longer routes connecting a greater number of communities, and the schedule will be improved with careful consideration of connections to the Corridor 11 Bus and transit services in other municipalities.

1.2.3.4 Seamless Transportation Network in Muskoka

The CTP provides recommendations to help create a seamless network of transportation services within the District of Muskoka, including smooth connections between the east-west

rural service, the Corridor 11 Bus, the ONTC bus, and the Bracebridge and Huntsville transit system. In addition, to change Corridor 11 schedule to make each weekday the same to assist in planning timed transfers. The CTP also recommends to improve connections with transit services beyond the District of Muskoka including Simcoe LINX.

1.2.3.5 Long-term Growth and Financial Sustainability

Strategies are provided to assist the District of Muskoka through community partnerships and by maximizing ridership revenues and the dedicated Gas Tax funding from the Province of Ontario.

1.2.4 Growth Strategy (2019)

The District of Muskoka's Growth Strategy (GS) was to be 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.

The following are key findings from the Forecast and Growth Allocation Report:

- “The District of Muskoka has grown modestly since the previous Growth Strategy, with lower than historical average growth in year-round population and employment, and a small decline in the estimated seasonal population. Housing growth has been outpacing growth in residents, most notably amongst seasonal residents, likely an outcome of the aging demographic trend and shifting habitation patterns. Year-round growth in the District has primarily occurred in the Towns, while seasonal growth has been more broadly distributed across the Area Municipalities.
- The District-wide reference growth forecast is allocated to the Area Municipalities in Muskoka, taking into consideration a range of planning policy, historic growth and recent development trends and land supply and servicing capacities.”

1.2.5 Master Aging Plan (2016)

The District of Muskoka developed a Master Aging Plan 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.

Twenty goals emerged from the process, some of which are addressing priorities related to transportation.

1.1 Expand the transportation system across the region.

- 1.1.1 Provide clear policy support in the Muskoka Official Plan for the development of sustainable transportation system.
- 1.1.2 Develop a comprehensive long range region-wide plan that includes existing, needed and potential transportation options.

1.2 Increase local transportation options available to seniors.

- 1.2.1 Coordinate and expand volunteer, shuttle, and pooled transportation options.
- 1.2.2 Develop a data base of volunteer drivers.

1.3 Enable and facilitate active transportation

- 1.3.1 Provide clear policy support in the Muskoka Official Plan for the development of sustainable transportation system
- 1.3.2 Leverage active transportation best practices across the District
- 1.3.3. Continue to improve year-round road and sidewalk maintenance including snow removal
- 1.3.4. Construct additional bike and scooter lanes and paved shoulders where appropriate safe and feasible

1.3 Township of Muskoka Lakes

1.3.1 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 to the District's Official Plan. Note that this Official Plan has not yet been approved and is subject to change.

The following general objective is identified in the Official Plan:

“Establish a more balanced and integrated transportation system that safely and efficiently accommodates various modes of transportation including walking, wheeling, cycling and vehicle traffic.”

As it relates to the Transportation Master Plan, the Township Official Plan provides the following direction and policies:

Part C – Growth Management

Objectives

- “Ensure that all infrastructure, including stormwater management facilities and roads meet the needs of present and future residents and employers in an efficient, environmentally-sensitive, cost effective and timely manner with consideration given to the long term maintenance, operational and financial consequences of the decision;”

Part E – Waterfront Area

Objectives

- “Encourage the maintenance of existing public accesses to the shoreline to allow for the use and enjoyment of waterbodies to those who do not own shoreline properties;
- Consider the provision of new public accesses to the shoreline where appropriate;
- Protect fish and wildlife populations and habitat in proximity to waterbodies;”

Part I – Urban Centre Land Use Designations

Excellence in Community Living

- “Streets that provide for pedestrian, cycling and other active modes of transportation to help create more healthy and complete communities;”

Principles

- “A network of streets will provide access and connectivity for pedestrians and cyclists in addition to vehicles. A public realm consisting of streets and boulevards, open spaces and parkland, will provide places of shared use and a place for community interaction. Together, the street network and the public realm will organize the built form and open space elements that define the urban form and character of the Urban Centres.”

Policy Objectives

- “Prioritize a human scale within the public realm, including street rights-of-way, and in how buildings are massed and address the street;
- Ensure that the design of the public and private realm is safe and barrier-free for persons of all ages and abilities consistent with the Ontarians with Disabilities Act;”

Streets and Streetscaping

- “Road surfaces, including the width and design of travel lanes, shall respect the predominant character and function of the surrounding area.
- Streets in each Urban Centre are designed to create a sense of identity for a particular community through the treatment of architectural features, built form, site layout, orientation, landscaping, lighting and signage.
- Streetscapes along major roads should complement the functional requirements of a street hierarchy and the length and orientation of blocks, by integrating appropriate and consistent treatments for each street and block type including standards for sidewalks, pedestrian crossings, lighting, landscaping and street furniture.
- “Soft” or “green” landscaping treatments, including the planting of native tree and plant species, shall be maximized to the extent possible within rights-of-way.
- Sidewalks or equivalent pathways, where provided, shall be designed to maximize connections, constructed to meet the needs of persons of all ages and abilities and be

barrier-free for all people regardless of physical and mental ability, consistent with the Ontarians with Disabilities Act.

- Street signage, way finding, street furniture and transit shelters shall be provided within rights-of-way in a manner that addresses and enhances the local context, and that meets the needs of persons of all ages and abilities.”

Parking in the Core Commercial Areas

- “The provision of adequate and convenient off-street parking is recognized as a necessity in the promotion and enhancement of the Core Commercial areas. To this end Council shall encourage the coordination of existing parking facilities including the linkage of driveways and lanes for parking purposes. To the extent possible, new parking facilities shall be coordinated and linked with existing parking facilities.
- The Township may reduce or eliminate vehicular parking requirements in the Core Commercial areas where shared parking is possible (on multiple properties and/or via on-street parking).
- The Township may consider a cash-in-lieu of parking by-law to exempt or partially exempt development/redevelopment from vehicle parking requirements where it is determined that public parking facilities can accommodate the demand.
- The Township may consider updating the parking provisions of the implementing Zoning By-law to not require additional on-site parking in circumstances where there is a change from one use to another within the confines of an existing building.”

New Development in Designated Growth Areas

- “Access is provided in a manner that supports the provision of essential emergency services, active transportation, efficient transportation patterns, and/or linkages with adjacent existing or planned development, and shall generally include more than one access point.”

Bala

- “Private and public development and redevelopment activities should enhance pedestrian access throughout Bala. An integrated walkway system throughout the core area of Bala should be developed, linking the waterfront areas with the parks and open space system as well as the core commercial area.
- Improved access to the commercial core of Bala from the water by way of increased dockage, access points to the water and linkages along the water is encouraged.”

Port Carling

- “Improved access to Port Carling from the water by way of increased dockage, access points to the water and linkages along the water is encouraged.
- The compact development of the Commercial Core shall encourage pedestrian travel.

- For the lands described as Part of Lot 6 and Part of Lots 7 and 8, Plan 1, (Port Carling), Parts 1 to 6, 9, 10, 14, 18, 19, 21, and 22, Plan 35R-18319, identified as the Edenvale Inn, the following policies shall apply:
 - All automobile parking shall be provided on the street side of the proposed building at a size which will adequately service the building.”

Part J – Community Area Land Use Designations

Specific Policies for Foot’s Bay

- “To relieve congestion in the waterfront area, the Township shall encourage the creation of off-street parking.”

Specific Policies for Milford Bay

- “A system of pedestrian linkages providing internal community linkages and linkages with the waterfront is encouraged. The focus for these linkages should be the open space areas, particularly the publicly owned shoreline areas.
- Milford Bay’s traditional link with the waterfront should be promoted through provision of additional public recreation and water access facilities. This will allow access to the community by water and land.”

Specific Policies for Windermere

- “Pedestrian linkages should be encouraged throughout the community.”

Part L – General Development Policies

Natural and Human-Made Hazards

- “Minimize potential costs, social disruption, and risks to public health from natural and human-made hazards;
- Ensure that the potential impacts of climate change are considered as it relates to increasing the risk associated with natural hazards;”

Township Roads and Active Transportation

- “Ensure that Township roads continue to be effective corridors for the movement of people and goods in and throughout the Township;
- Promote cycling and walking as energy efficient, affordable and accessible forms of travel;
- Ensure that appropriate right-of-way widths for all existing and proposed Township roads are provided in accordance with the Planning Act;
- Ensure that the number of entrances onto the Township road system are kept to a minimum and that only those entrances that comply with standards established by the Township are permitted;
- Encourage the use of alternative development standards for roads, where appropriate;

- Encourage the development of a walking and cycling trail system that is accessible to the public utilizing trails, paths, streets and other public open spaces;
- Support the protection of existing rail lines, promote and protect local rail heritage, and encourage the protection of abandoned railway rights-of-way for public uses such as trails and cycling paths; and,
- Encourage the establishment of complete streets to plan, design, and maintain streets so they are safe for all users of all ages and abilities and accommodate all anticipated users, including pedestrians, cyclists and motorists.”

Pedestrian and Cycling Routes and Facilities

- “In order to plan for and encourage walking and cycling throughout the Township, it is the objective of the Township to:
 - Consider the provision of safe and convenient walking routes, cycling routes and bicycle parking in the review of all development applications;
 - Require that parking for bicycles be provided in highly visible and lighted areas;
 - Require the provision of sidewalks in the Urban Centres and Community Areas where appropriate;
 - Investigate and provide for bicycle lanes wherever possible in the construction or reconstruction of roads and bridges;
 - Sidewalks or equivalent pathways, where provided shall be designed and constructed to be barrier-free for all people regardless of ability, consistent with the Accessibility for Ontarians With Disabilities Act;
 - Ensure that lands for bicycle/pedestrian paths are included with the land requirements for roads;
 - Ensure that the rights and privacy of adjacent property owners are factored into the design process for pedestrian and cycling routes; and,
 - Ensure that all pedestrian and cycling routes are designed to meet or exceed Regional and/or industry design standards.”

Trails

“The Township recognizes that the establishment of trail systems, in addition to conservation lands, parkland and other open space areas greatly enhance the quality of life for residents of the Township. On this basis, the Township supports and encourages the:

- The establishment of trails that are aesthetically pleasing, multi-purpose, multiseason and which appeal to all ages and skill levels;
- The formation of partnerships with the public, non-profit and/or private sectors in the provision and operation of trails, where a benefit to a community can be achieved; and,
- The acquisition of lands that can be used for Township-wide and local trails systems wherever possible.”

1.3.2 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.

1.3.3 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. A strategy will identify strengths and assets to leverage and confirm community and Economic Development priorities for the Township of Muskoka Lakes.

The Economic Development Strategy focuses on the following priority for a more sustainable year-round economy:

Priority Area 1 - Key Economic Drivers

Objective: Develop action items and responsibilities that will spur improvements in community infrastructure recognized as key economic drivers.

- “1.1 Housing”: Work with the Heritage and Housing Committee to explore solutions to improve housing for temporary and year-round employees.
- 1.2 Workforce: Work with regional partners to assess the nature of workforce challenges and partake in initiatives to support workforce development.
- 1.3 Broadband: Explore broadband options for ensuring the community has access to affordable high-speed internet. This may include mapping existing service providers and service areas, and identifying partners required to increase coverage.”

Priority Area 2 – Existing Business Support

Objective: Provide support to the community to help retain, grow or expand local businesses.

- “2.1 Business Communication: Improve business communications to promote local services and resources, collect data from the business community and identify business need/opportunities. Ex. Business Survey, Newsletter, Community Profile, Website Grants, etc.
- 2.2 Municipal Processes: Review Policies and By-laws to determine opportunities to improve internal processes and customer service experience.
- 2.3 Downtown Enhancement: Ensure physical infrastructure in downtowns makes them an appealing place for residents and visitors to work, live and play in. Focus on business incentives/programs, parking, and pedestrian connectivity.
- 2.4 Event Development: Work with area partners to focus on the development and/or enhancement of events to drive off-season growth. Identify roles and responsibilities to offer and promote events, tourism and visitors information services and promotion/marketing opportunities to create awareness amongst full time residents, seasonal residents and tourists.
- 2.5 Tourism: Review and provide necessary updates to Muskoka Lakes way finding signage to increase the visitor experience. In addition, create an asset inventory of the natural and infrastructural assets and identify those that will need to be maintained and improved over time to help support the tourism industry”.

Priority Area 3: Diversify Local Economy

Objective: Attract business that provides year-round full time employment and enhances Muskoka Lakes' natural beauty.

- “3.1 Land and Space Inventory: Create an inventory of industrial/commercial land and building available in the community and update annually. Identify potential business opportunities for identified spaces.
- 3.2 Ambassador Program: Explore the concept of local residents and business owners to act as community ambassador in an effort to create community pride and drive investment attraction.
- 3.3 Business Hub: Explore the concept of a hub for small business and entrepreneurs to gain access to high-speed internet, office space, and networking.
- 3.4 Business Attraction: Develop a value proposition and determine opportunities to attract targeted business segments.”

1.3.4 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. The Plan distinguishes the roles and responsibility between the Township of Muskoka Lakes and the District of Muskoka. An asset management strategy is created to carry out inspections, maintenance rehabilitation, replacement, disposal and expansion of the Township's roads bridges with consideration of the current state of those assets and the expected level of service to be attained.

1.3.5 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. The strategic goals and aims are to improve community and visitor usage of the Township's recreation infrastructure, parks and trails.

The Parks and Recreation Plan identifies three service directions with associated objectives:

1. Enhance Program Offerings and Partnerships

- “(4) Develop a Municipal Service Policy to address unplanned, new, and emerging, outdoor facility requests as they are bough forward. This should include a set of criteria for evaluating community-based project proposals (i.e., consideration as to whether the level of facility development is scaled appropriately to the level of community benefit and demonstrated sustainable operating model)

- (15) Undertake an annual review of population change within the Township, commencing with the results of the 2021 Census and subsequent review of housing starts and other published estimates of residential growth in the Township over the Plan period.
- (35) Consider new and emerging types of active and passive outdoor recreation facilities with priority to community-based proposals
- (36) Undertake an assessment of the role of public launches (motorized and non-motorized craft) as well as private marinas to determine/confirm/plan the role of the Township in enabling boat launch services
- (38) Commence a condition assessment of existing boat launches and docks as part of the ongoing Asset Management planning
- (39) Support for the development of an active transportation plan to serve the Township, with an emphasis on the connections between recreation assets offered by the Town as well as natural areas (beaches, trails, and provincial parks system)”

2. Re-thinking Facilities

- “(40) As an immediate priority, undertake a feasibility assessment of a new multi-use community recreation complex to potentially replace both the arenas in Bala and Port Carling. Address the question of site location and acquisition strategy as part of a comprehensive assessment that includes consultation, market demand/community needs, concept design, capital cost, site selection, business case and funding strategy.
- (52) The planning for a new multi-use community recreation complex should include consideration at the feasibility assessment stage of co-location advantages with other municipal functions”

3. Create an Effective Recreation Organization / Administration

- “(54) Continue to monitor the impact of internal and external pressures on Public Works Department (DPW) staffing requirements to maintain, grow and maximize the use of recreation and parks facilities and deliver high quality services.
- (61) Update existing asset management plans, including estimates of future lifecycle expenditure based on the findings of the Building Condition Observations Reports.
- (63) For existing outdoor spaces (parks, open space, sport fields) that are not subject to significant upgrade as outlined elsewhere in the plan, develop an annual state of good repair (SOGR) budget to address deferred maintenance and lifecycle for existing amenities”

1.3.6 IT Strategic Plan

In 2021, the Township of Muskoka Lakes developed an Information Technology (IT) strategic plan. The project will assess the current IT environment, consider the requirements of the Township, consult with peers, and develop an IT strategic Plan.

The proposal consists of a four-phased approach as outlined below:

“Phase One - Environmental Assessment: Gathered documentation and interviewed staff and the Township's IT service provider to get a perspective of the IT environment.

Phase Two - Needs Assessment & Environmental Scan: Consulted peers to understand their position relative to IT.

Phase Three - Cybersecurity and Risk Assessment: Used the NIST cybersecurity framework to assess the preparedness of the Township in the event of a cybersecurity incident.

Phase Four – Final Report: Create a final IT strategy that lays the direction for IT at the Township of Muskoka.”

The following are 15 specific recommendations that have been categorized into three pillars that explain the objective of the IT strategic plan:

Reinvent the Resident Experience

“To expand the online offering, the township will need to enhance the capabilities of the existing website, ideally, creating a portal that residents can log into to access Township services and see a history of their interactions

- 1. Create a portal.*
- 2. Migrate services.*
- 3. Add payment capabilities.*
- 4. Market to residents.*
- 5. Connect to operational systems.”*

Automate Business Processes

“A number of the current systems do not meet the needs of the Township and should be replaced. Additionally, there are processes that do not have good system support that would benefit from automation and technology

- 1. Finish current projects.*
- 2. Migrate to Office 365.*
- 3. Replace the finance system.*
- 4. Establish workflow, approvals and digital signatures.*
- 5. Implement an HR solution.*
- 6. Eliminate paper time recording.”*

Upgrade the IT Capabilities

“Work with the provider to upgrade aspects of the IT infrastructure to enable more advanced capabilities.

- 1. Fibre broadband internet connection.*
- 2. Review Site connection speeds.*
- 3. Review the phone systems.*
- 4. Investigate mobile technologies for staff that are mobile.”*

1.3.7 Fire Master Plan

The Fire Master Plan (FMP) is based on the review of Muskoka Lakes Fire Department (MLFD) facilities, programs, and services. The MLFD Fire Master Plan 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.

1.4 Other Guiding Planning Principles

1.4.1 Transportation Sustainability

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

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

1.4.2 Transportation Resilience

Transportation resilience is the ability of a transportation system to move people around in the event of major obstacles. Some of these obstacles can include global pandemics, weather events, major accidents, and equipment failure. Transportation resilience can be further categorized into implications depending on how one would interpret the term:

- Commuters: The ability to get around if the person's vehicle breaks down, or the person is disabled.
- Communities: Public transit that is accessible, and traffic can continue to operate and move despite collisions, emergencies, and construction that would occur on the roadway
- Economics: Transportation systems that will continue to operate even after the depletion of major resources such as gasoline and oil.

One of the strongest ways to plan for transportation resilience would be to ensure that the transportation system is multi-modal providing users multiple options and accessible to all groups regardless of age or ability.

Appendix C

Environmental and Heritage Context



Appendix C – Environmental and Heritage Context

Date: February 17, 2023 **Project No.:** 300055345.0000
Project Name: Muskoka Lakes Transportation Master Plan
To: Township of Muskoka Lakes
From: R.J. Burnside & Associates Ltd.

The Township of Muskoka Lakes (Township) has initiated a Master Transportation Plan under the Municipal Class Environmental Assessment (EA) process to assess future transportation needs in the Township.

As part of the Master Plan process, R.J. Burnside & Associates Limited (Burnside) completed a review of cultural heritage and landscapes, land use and socio-economic structure, and natural heritage to identify documented features and potential constraints to transportation networks and services in the Township. Relevant federal and provincial policy and regulation, municipal planning documents and available background and database information were reviewed to characterize the heritage features and socio-economic profile of the Township. This information was used to map the features of the Township. For better clarity, all figures are shown as 4 subareas of the Township.

Potential impacts to the cultural heritage, natural heritage, and socio-economic conditions of the Study Area will be assessed through the evaluation of the alternative solutions determined through the EA process and documented in the Master Plan Report.

1.0 Cultural Heritage and Landscape Features

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:

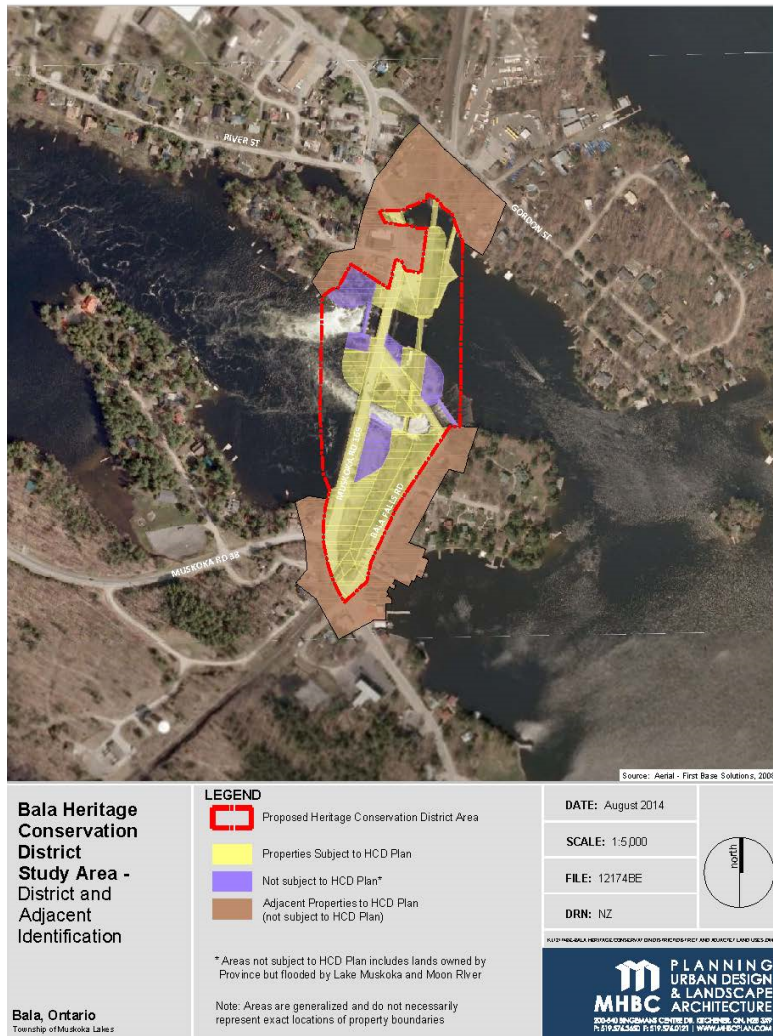
- Township of Muskoka Lakes Official Plan (2022).
- Muskoka District Official Plan.
- Bala Heritage Conservation District Study.
- Bala Heritage Conservation District Properties (Part V).
- Ontario Heritage Trust *Ontario Heritage Act* Register.

Any future transportation projects recommended by the Transportation Master Plan update will need to consider impacts to cultural heritage.

1.1 Bala Heritage Conservation District

The Township of Muskoka Lakes has one Heritage Conservation District as illustrated in Figure 1.

Figure 1: Bala Heritage Conservation District



Source: Bala Heritage Conservation District Study Area, MHBC

The Bala Heritage Conservation District is Muskoka Lakes' only Heritage Conservation District. The study area is located between Lake Muskoka and the Moon River. The study area contains two islands, Burgess Island and Portage Island, located between the two water features. The study area is associated with Aboriginal and Euro-Canadian Settlement, as the lands were once occupied by aboriginal groups, and was traveled by the Wahta Mohawk group during their relocation to Gibson Township. Euro-Canadian Settlement began in the 1870's. The community of Bala was incorporated as a town in 1914. The Bala falls were created by human intervention and the dams were constructed in the 1870s. The dams have been used for hydroelectric power since 1917.

A Heritage Conservation District designation includes buildings, streets, landscapes, and views within a specific area. By designating a Heritage Conservation District, a municipality can manage and guide future change to preserve the identity of a heritage community as outlined in Part V of the Ontario Heritage Act.

1.2 Heritage Designation

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 Heritage Conservation District (Part V, OHA).

The Township's Designated and Listed properties are shown in Figure 2 (attached).

1.3 Muskoka Lakes' Cultural Heritage Landscapes

A Cultural Heritage Landscape, as defined in the Ontario Provincial Policy Statement, can include buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship.

Cultural heritage landscapes may be properties that have been determined to have cultural heritage value or interest under the *Ontario Heritage Act* or have been included on federal and/or international registers, and / or protected through official plan, zoning by-law, or other land use planning mechanisms. The Township of Muskoka Lakes Official Plan indicates that that the Township shall create a Register of Cultural Heritage Resources including designated heritage resources and may also include resources listed as being of significant cultural heritage value or interest including built heritage resources, cultural heritage landscapes, heritage conservation districts, areas with cultural heritage character, and heritage cemeteries. Heritage resources identified may be designated in accordance with Part IV or Part V of the Ontario Heritage Act.

The Provincial Policy Statement (PPS) outlines the identification, protection, management and use of built heritage resources, cultural heritage landscapes and archaeological resources in a manner that ensures retention of their cultural heritage value or interest under the Ontario Heritage Act. This can be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment. Mitigation measures and/or alternative approaches can be included in these plans and assessments.

1.4 Archaeological Resources

Archaeological resources are scarce, fragile, and non-renewable and therefore must be managed in a prudent manner if they are to be conserved. Effectiveness in incorporating

archaeological resources within the overall planning and development process requires a clear understanding of their physical nature, the variety of forms they may assume, and their overall significance and value to society.

Archaeological potential is defined in the Provincial Policy Statement (2020) as:

“...areas with the likelihood to contain archaeological resources. Criteria to identify archaeological potential are established by the Province...”

The District of Muskoka hired Archaeological Services Inc. (ASI) to create a Phase 1 Report of the Master Plan of Archaeological Resources in the District of Muskoka in 1992.

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.

2.0 Natural Heritage Content and Environmental Barriers

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

- 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.
- Birds Canada Ontario Breeding Bird Atlas.

The following sections document the existing natural features of significance and their implications for the development of transportation facilities.

2.1 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 Figure 3.

2.2 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.
- 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.

New and expanded infrastructure is typically permitted adjacent to recognized Natural Heritage features and associated land use designations, in conjunction with approvals under the Environmental Assessment Act. Other provincial and official plan policies include similar requirements.

2.3 Select Key Natural Features

Select natural heritage features of interest are described in the following sections where mapping exists. Other natural features may exist beyond those identified in this mapping and may be identified through field studies carried out during detailed planning and design exercises.

2.3.1 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 Figure 4.

2.3.2 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 in Figure 5.

2.3.3 Significant 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 Figure 6.

2.3.4 Significant Valleylands

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

2.3.5 Fish Habitat

The federal *Fisheries Act, 1985, as amended in 2019*, is administered by Fisheries and Oceans Canada (DFO) and provides protection for fish and fish habitat across Canada. Section 34.4 of the Act states that:

“No person shall carry on any work, undertaking or activity, other than fishing, that result in the death of fish.”

Section 35 (1) of the Act states that:

“No person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat.”

The Act defines fish habitat as waters frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas.

Fish habitat is present within the various lakes and watercourses present throughout the Township, however is not mapped. Construction of new transportation infrastructure and improvements to existing transportation infrastructure that have the potential to impact fish or fish habitat must be constructed and operated in compliance with the federal Fisheries Act. If works will proceed below the annual high-water mark, then a Request for Project Review should be made to the Fish and Fish Habitat Protection Program. If the death of a fish by means other than fishing, or the harmful alteration, disruption or destruction of fish habitat will likely result from a project, the proponent responsible for the activities is required to obtain an Authorization from the Minister of Fisheries and Oceans Canada (DFO) as per Paragraph 34.4(2) and 35(2)(b) of the Fisheries Act. Fish habitat is shown in Figure 7.

2.3.6 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 Figure 8.

2.3.7 Habitat for Species at Risk

The Endangered Species Act, 2007 (ESA) is the provincial legislation that provides protection for Species at Risk (SAR) and their habitat.

Under the Endangered Species Act, 2007, Section 9(1):

“No person shall, (a) kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario list as an extirpated, endangered or threatened species.”

Furthermore, according to Section 10(1):

“No person shall damage or destroy the habitat of, (a) a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species; or (b) a species that is listed on the Species at Risk in Ontario List as an extirpated species, if the species is prescribed by the regulations for the purpose of this clause.”

Federal species at risk legislation also applies to Species at Risk (SAR) and their habitat on federal lands or where federal jurisdiction applies. There are no federal lands within the Township; however, SARA applies to aquatic species at risk in all water bodies. To ensure the protection of SAR, Section 32(1) and (2) of the SARA states,

“No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species, or a threatened species.”

And Section 33 of the SARA states,

“No person shall damage or destroy the residence of one or more individuals of a wildlife species that is listed as an endangered or threatened species, or that is listed as an extirpated species if a recovery strategy has recommended reintroduction of the species into the wild in Canada.”

The SAR noted in Table 1 and Table 2 have been recorded in the Township and were identified through review of various publicly available databases as having potential to be present in the Township.

Table 1: Terrestrial Species at Risk

Amphibians			
Common Name	Scientific Name	Provincial Status	Federal Status
Western Chorus Frog (Great Lakes – St. Lawrence – Canadian Shield pop.)	<i>Pseudacris maculate pop. 1</i>	NAR	Threatened
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	Endangered	Endangered

Northern Leopard Frog	<i>Lithobates pipiens</i>	N/A	Endangered
Birds			
Common Name	Scientific Name	Provincial Status	Federal Status
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Special Concern	NAR
Bank Swallow	<i>Riparia riparia</i>	Threatened	Threatened
Black Tern	<i>Chlidonias niger</i>	Special Concern	NAR
Barn Swallow	<i>Hirundo rustica</i>	Threatened	Threatened
Bobolink	<i>Dolichonyx oryzivorus</i>	Threatened	Threatened
Canada Warbler	<i>Wilsonia canadensis</i>	Special Concern	Threatened
Cerulean Warbler	<i>Dendroica cerulea</i>	Threatened	Endangered
Chimney Swift	<i>Chaetura pelagica</i>	Threatened	Threatened
Common Nighthawk	<i>Chordeiles minor</i>	Special Concern	Threatened
Eastern Meadowlark	<i>Sturnella magna</i>	Threatened	Threatened
Eastern Wood-Pewee	<i>Contopus virens</i>	Special Concern	Special Concern
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	Special Concern	Special Concern
Golden Winged Warbler	<i>Vermivora chrysoptera</i>	Special Concern	Threatened
Grasshopper Sparrow	<i>Ammodramus savannarum pratensis</i>	Special Concern	Special Concern
King Rail	<i>Rallus elegans</i>	Endangered	Endangered
Kirtland's Sparrow	<i>Setophaga kirtlandii</i>	Endangered	Endangered
Least Bittern	<i>Ixobrychus exilis</i>	Threatened	Threatened
Birds (Cont'd)			
Common Name	Common Name	Common Name	Common Name
Loggerhead Shrike	<i>Lanius ludovicianus ssp.</i>	Endangered	Endangered
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Special Concern	Threatened
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Special Concern	Endangered
Rusty Blackbird	<i>Euphagus carolinus</i>	Special Concern	Special Concern
Short-eared Owl	<i>Asio flammeus</i>	Threatened	Special Concern
Peregrine Falcon	<i>Falco peregrinus</i>	NAR	Special Concern
Whip-poor-will	<i>Caprimulgus vociferus</i>	Threatened	Threatened
Wood Thrush	<i>Hylocichla mustelina</i>	Special Concern	Threatened
Yellow Rail	<i>Coturnicops noveboracensis</i>	Special Concern	Special Concern
Insects			
Common Name	Scientific Name	Provincial Status	Federal Status
American Bumble Bee	<i>Bombus pensylvanicus</i>	N/A	SC
American Burying Beetle	<i>Nicrophorus americanus</i>	Extirpated	Extirpated
Rusty-patched Bumble Bee	<i>Bombus affinis</i>	Endangered	Endangered
Gypsy Cuckoo Bumble Bee	<i>Bombus bohemicus</i>	Endangered	Endangered
Nine-Spotted Lady Beetle	<i>Coccinella novemnotata</i>	Endangered	Endangered
Transverse Lady Beetle	<i>Coccinella transversoguttata</i>	N/A	Special Concern
Yellow-banded Bumble Bee	<i>Bombus terricola</i>	Special Concern	Special Concern
Vegetation			
Common Name	Scientific Name	Provincial Status	Federal Status
Black Ash	<i>Fraxinus nigra</i>	Endangered	Threatened
Spotted Wintergreen	<i>Chimaphila maculata</i>	Threatened	Threatened
Butternut	<i>Juglans cinerea</i>	Endangered	Endangered
Reptiles			
Common Name	Scientific Name	Provincial Status	Federal Status
Blanding's Turtle	<i>Emydoidea blandingii</i>	Threatened	Endangered
Eastern Milksnake	<i>Lampropeltis triangulum</i>	NAR	Special Concern
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	Special Concern	Special Concern
Northern Map Turtle	<i>Graptemys geographica</i>	Special Concern	Special Concern
Snapping Turtle	<i>Chelydra serpentina</i>	Special Concern	Special Concern

Table 2: Aquatic Species at Risk

Common Name	Scientific Name	Provincial Status	Federal Status
Riverine Clubtail	<i>Stylurus amnicola</i>	Endangered	Endangered

Known SAR habitat within the Township is identified as part of the Regulated Habitat, illustrated in Figure 9.

Potential habitat of SAR should be avoided where possible. Proposed transportation works would be subject to mitigation measures to avoid direct impact to SAR, which may include rules in regulation, timing restrictions for the removal of vegetation, minimizing the footprint of construction, and exclusion of the construction area.

2.4 Environmental Protection

Lands identified as Environmental Protection Area are subject to Part D of the Muskoka Lakes OP and are shown in Figure 9.

2.5 District of Muskoka Natural Heritage Areas Program

The District of Muskoka undertook a field-based program in the early 1990's to identify the most significant natural areas in the District. This program was a joint initiative with the Ministry of Natural Resources and the Muskoka Heritage Foundation. The program used a variety of data sources including air photographs, topographic maps, Ontario Geological Survey Maps, and local knowledge and information combined with extensive fieldwork. Each candidate area was evaluated field work. Biologists identified sixty-eight significant areas and sites located throughout the District. Natural Heritage Areas are locations where more than one evaluation criterion was met, while Natural Heritage Sites are locations where only one criterion was met. There are 14 Natural Heritage Areas within Muskoka Lakes including:

- Axe Lake Peatland
- Beaumont Bay Carbonates
- Bruce Lake Marshes
- Clark's Pond
- Concession Lake
- Bala Bog
- Scarcliffe Bay
- Cooper's Pond
- Raymond Fine-Grained Glaciolacustrine Deposit
- Gaunt Bay and Upper Moon River A.C.P.F.
- Wells Creek / Walker Point
- Deer Lake Complex (Torrance Barrens)
- Neipage Lake Complex
- Lower Swift Slope

Appendix D

New Road Corridors Review



Appendix D – New Road Corridors

Date: June 19, 2023 **Project No.:** 300055345.0000
Project Name: Transportation Master Plan
Client Name: Township of Muskoka Lakes
To: Ken Becking, P.Eng.
From: R.J. Burnside & Associates Limited

1.0 Introduction

The purpose of this memorandum is to outline the identification and potential utilization of unopened municipal road allowances to establish 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.

These new road corridors connect existing roads to previously publicly inaccessible lakes and properties within the Township. The primary objective of this assessment is to identify opportunities for land and economic development and for enhanced access for lake activities, recreation, and active transportation.

Currently several lakes within the Township have 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. It will extend the benefits of lake activities and recreational opportunities to a wider population, allowing residents and visitors to explore and enjoy the natural resources 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.

The establishment of new road corridors to previously inaccessible lakes also has the potential to open up land for development within the Township of Muskoka Lakes. These new access routes create opportunities for the expansion of residential homes, vacation properties, and dwelling types that cater to the growing demand for lakefront living.

2.0 Approach

The potential road corridors presented in this study were identified using a strategic approach involving a desktop review of geographic mapping. The assessment was based on the following qualitative/quantitative guidelines:

- Identifying new potential road corridors that were less than 5 km to minimize the environmental impacts and maximize feasibility;
- Identifying lakes that were large enough in size, at least 500 m wide at two ends which are farthest away, to maximize their potential future use;
- Identifying lakes that already have private accesses to assess attractiveness for future use (e.g., if this lake was already used by residents, there is a stronger chance the quality of the lake would be attractive for future users).

Further study is required for these new road corridors to assess:

- Feasibility and cost of opening and building infrastructure on these road allowances;
- Quality of the lake and potential attractiveness;
- Environmental reviews.

3.0 New Road Corridor Characteristics

The following characteristics are used to describe each potential road corridor and associated lake:

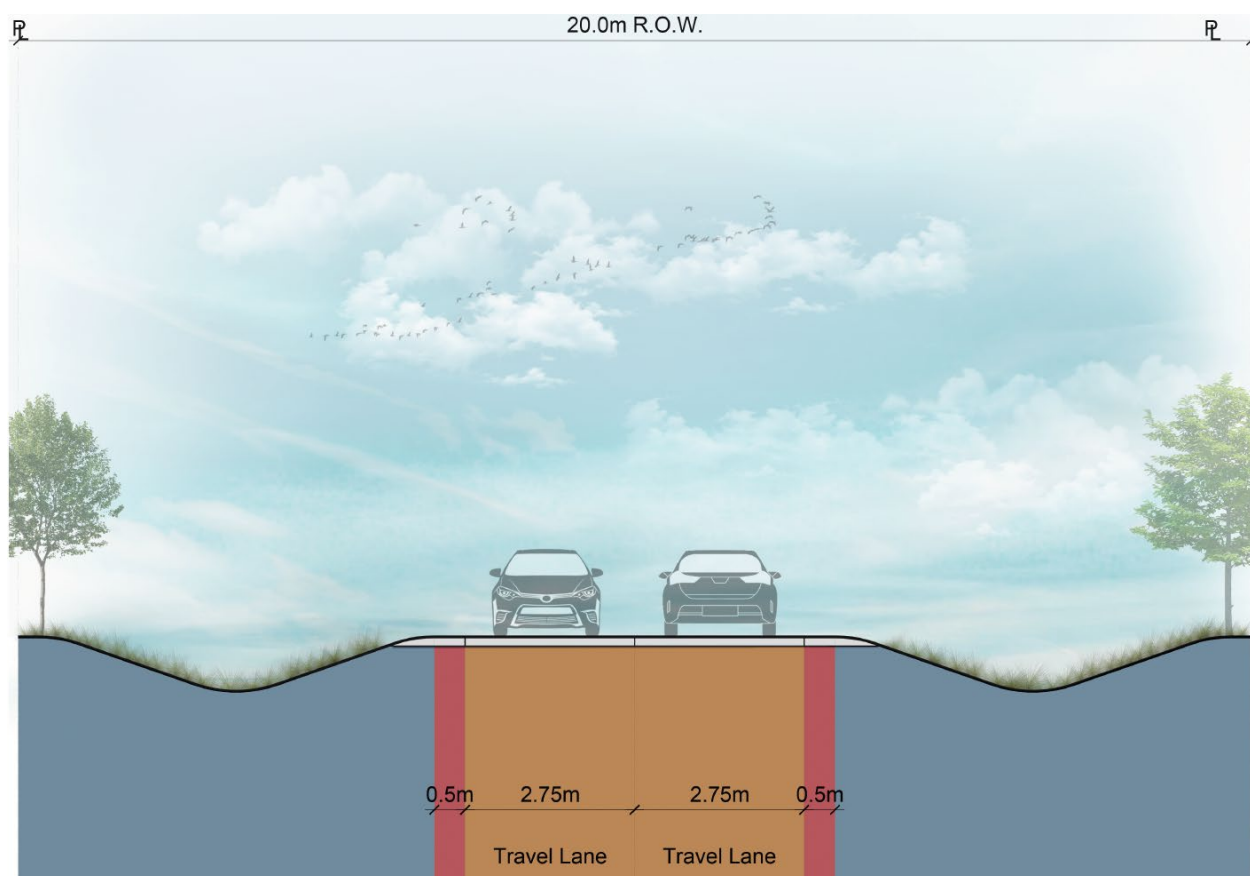
- **Area:** Identifies the area of the lake in hectares.
- **Private Properties along Waterfront:** Indicates if there are any existing private properties along the lake's waterfront. This is a helpful measure indicating the attractiveness of the lake and feasibility of enjoyment.
- **Connecting From Existing Road:** Indicates the existing road that can be connected to the lake via the proposed new road corridor.
- **Recommended Cross-Section of New Corridor:** Indicates the recommended cross-section(s) of the new corridor based on the cross-sections identified in this study.

- **Recommend Active Transportation Around the Lake:** Indicates if the municipal road allowance extends around or partially around the lake allowing for the potential provision of active transportation facilities like off-road trails.

3.1 Recommended Cross-Sections for New Corridors

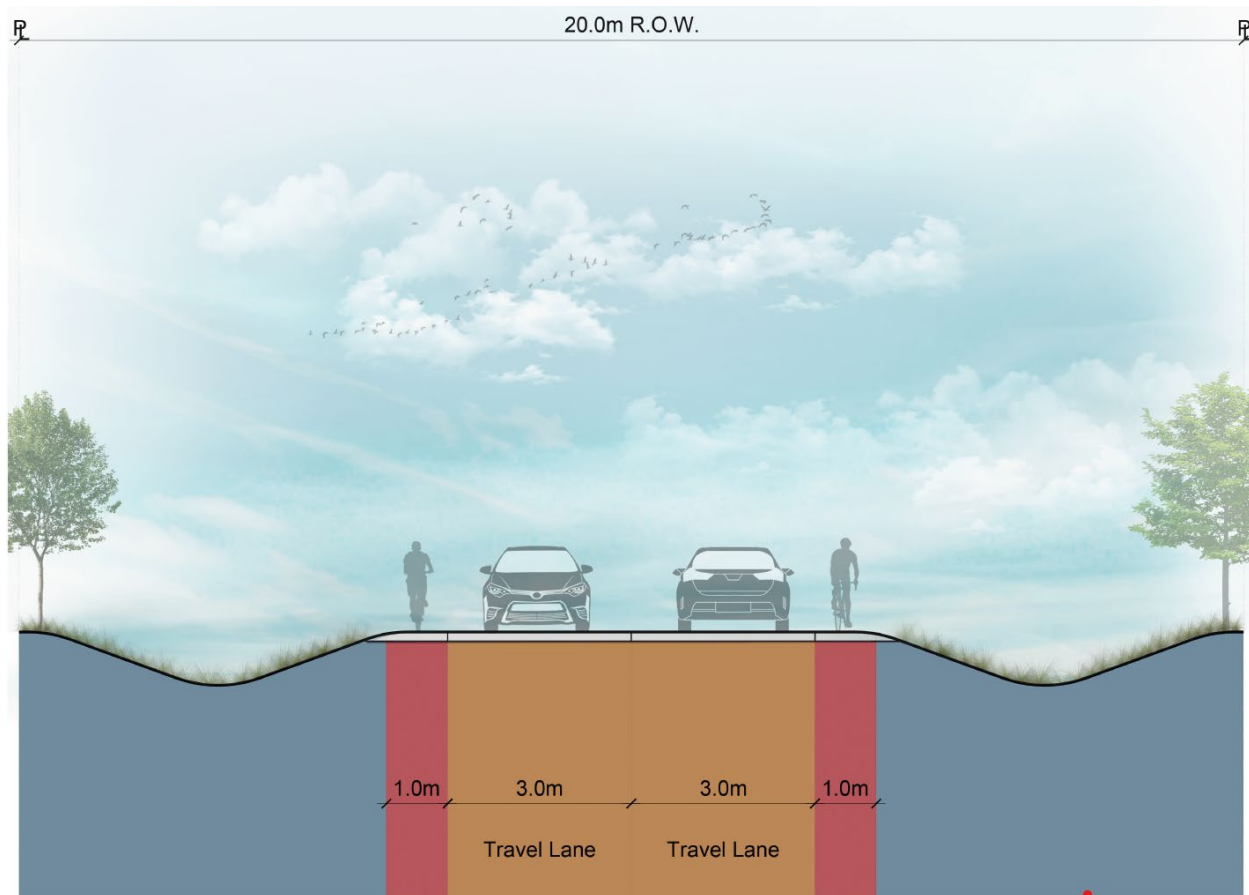
Based on the anticipated trip purposes being more recreational and relatively low traffic volumes (<500 average annual daily traffic) along these potential new corridors, most of these corridors are recommended to be classified as “Rural Seasonal” based on typical road cross-sections developed as part of this study. The “Rural Seasonal” cross-section is illustrated in Figure D-1.

Figure D-1: Rural Seasonal Cross-Section



In cases where the existing, connecting road is a District road and there are active transportation facilities such as off-road trails being recommended around or partially around the lake, a “Rural Local” cross-section was also recommended as an option. This cross-section is relevant because District roads are more likely to contain paved shoulders or the potential for future provision and adopting a “Rural Local” cross-section ensures continuity and accessibility for active transportation users, thereby enhancing safety and convenience. The “Rural Local” cross-section is illustrated in Figure D-2.

Figure D-2: Rural Local Cross-Section



4.0 Potential New Road Corridors

Potential new road corridors were identified to connect the existing road network to the following lakes:

- Young Lake,
- St. Germaine Lake,
- Little Otter Lake,
- Woodland Lake,
- Cowan Lake,
- Barnes Lake,
- Beaton Lake,
- Wier Lake,
- Lamberts Lake, and
- Woods Lake.

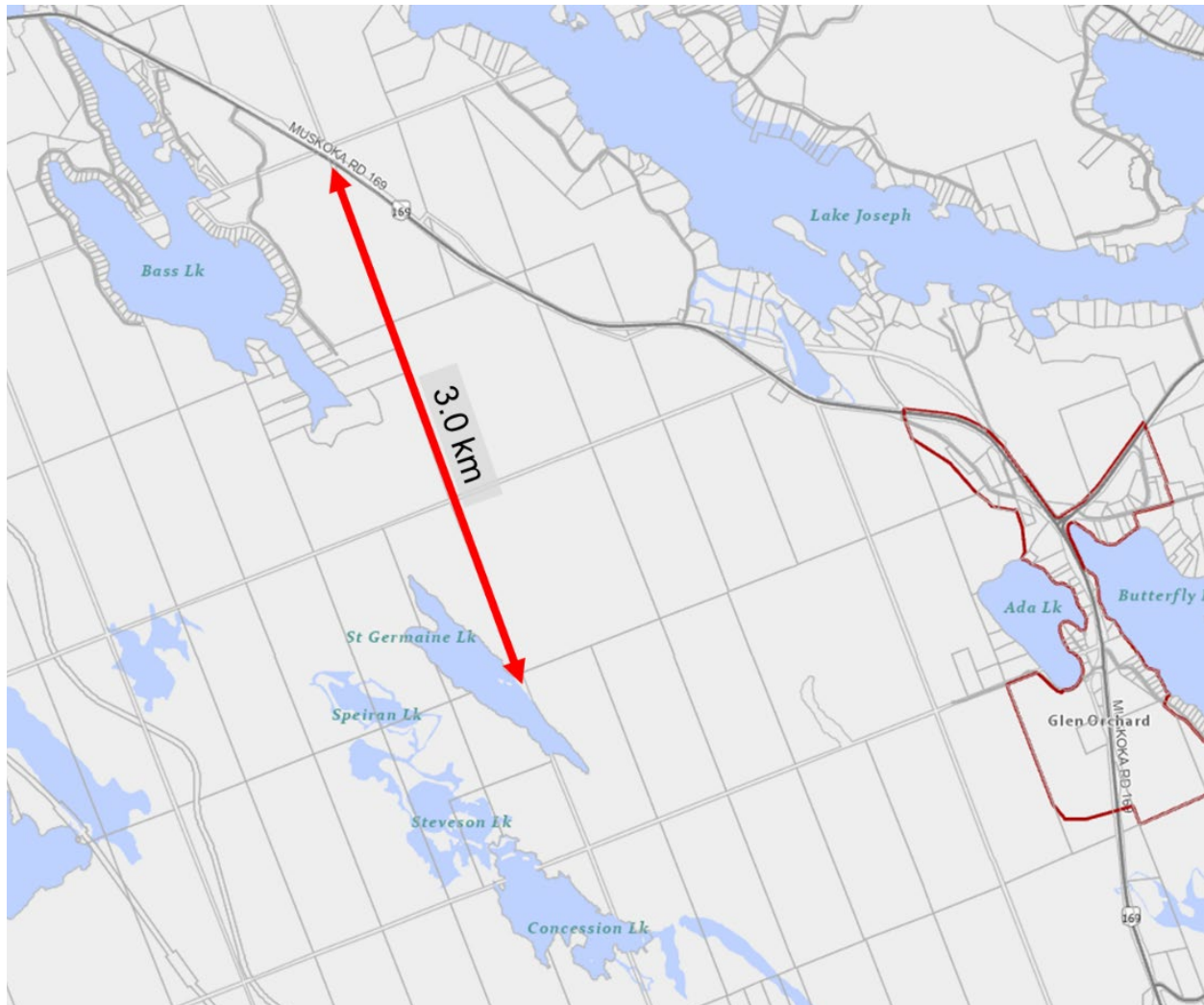
These potential new road corridors are described below.

4.1 Young Lake



Area	109 Ha
Private Properties along Waterfront	Yes
Proposed Corridor Length	0.2 km
Connecting From Existing Road	Rosseau Lake Road
Recommended Cross-Section of New Corridor	Rural Seasonal
Recommend Active Transportation Around the Lake	Yes (5 km in length)

4.2 St. Germaine Lake



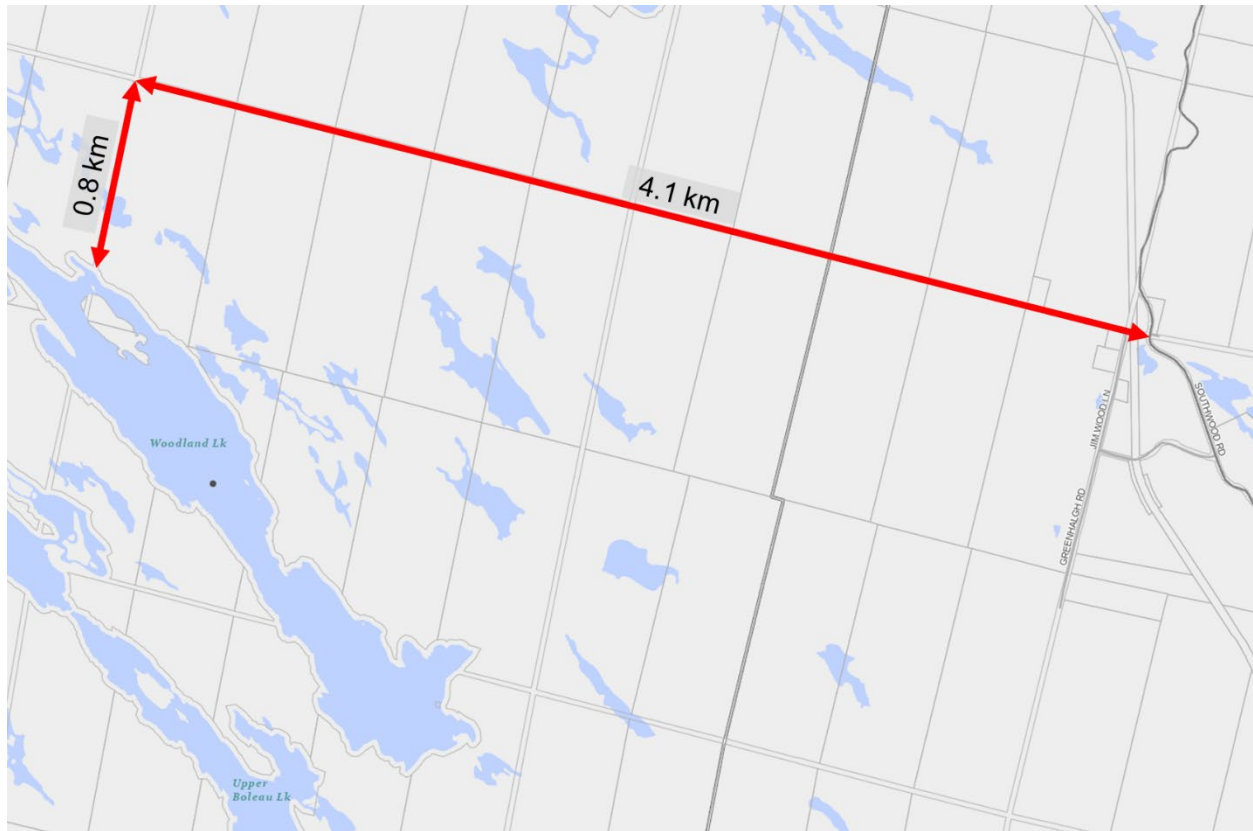
Area	24 Ha
Private Properties along Waterfront	Yes
Proposed Corridor Length	0.2 km
Connecting From Existing Road	District Road 169
Recommended Cross-Section of New Corridor	Rural Seasonal
Recommend Active Transportation Around the Lake	No

4.3 Little Otter Lake



Area	9 Ha
Private Properties along Waterfront	No
Proposed Corridor Length	0.8 km
Connecting From Existing Road	District Road 13
Recommended Cross-Section of New Corridor	Rural Seasonal
Recommend Active Transportation Around the Lake	No

4.4 Woodland Lake



Area	80 Ha
Private Properties along Waterfront	Yes
Proposed Corridor Length	4.9 km
Connecting From Existing Road	District Road 13
Recommended Cross-Section of New Corridor	Rural Seasonal or Local
Recommend Active Transportation Around the Lake	Yes (9 km in length)

4.5 Cowan Lake



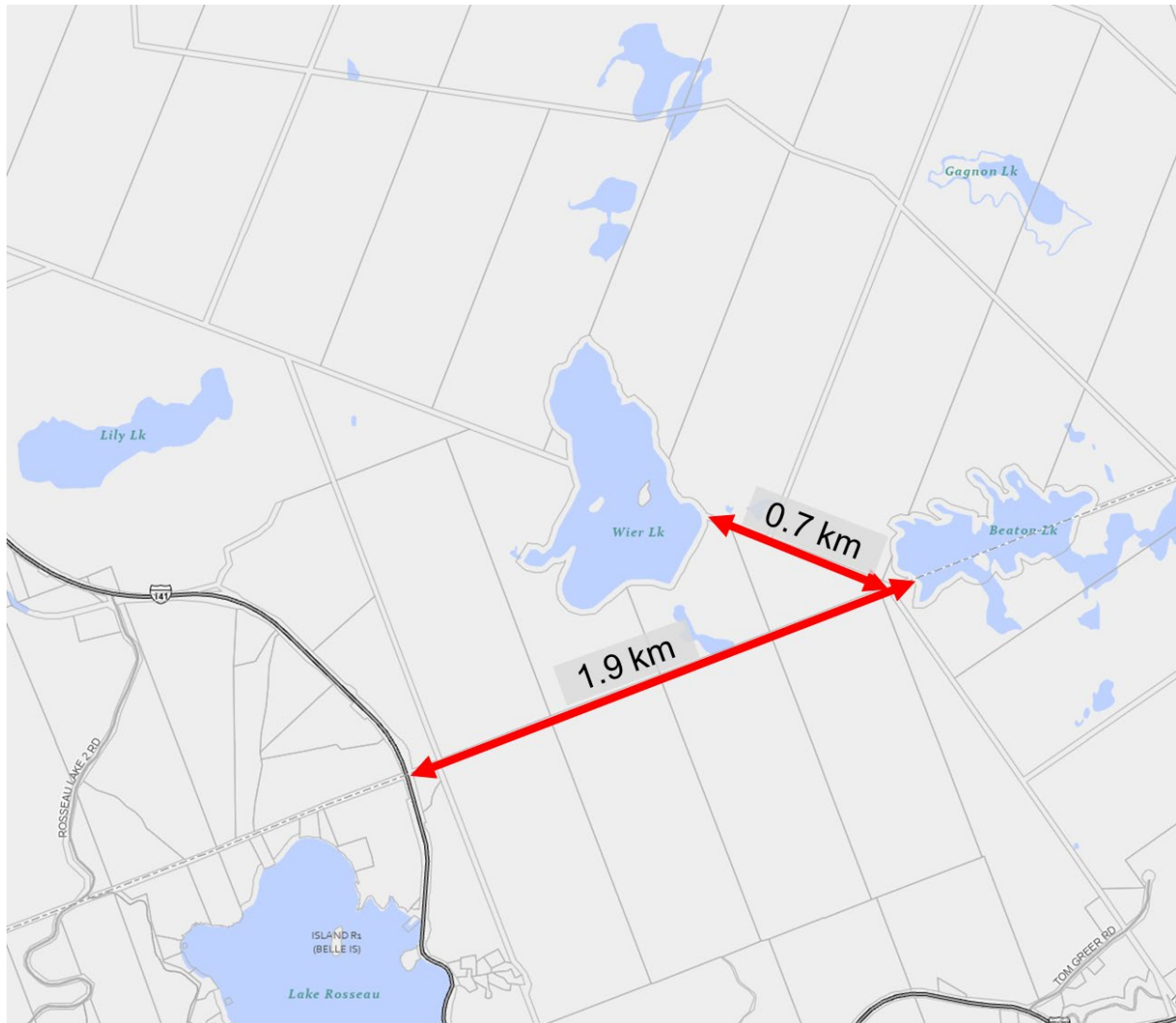
Area	21 Ha
Private Properties along Waterfront	Yes
Proposed Corridor Length	1.1 km
Connecting From Existing Road	District Road 4
Recommended Cross-Section of New Corridor	Rural Seasonal or Local
Recommend Active Transportation Around the Lake	Yes (1.5 km in length)

4.6 Barnes Lake



Area	50 Ha
Private Properties along Waterfront	No
Proposed Corridor Length	1.1 km
Connecting From Existing Road	Fish Hatchery Road
Recommended Cross-Section of New Corridor	Rural Seasonal
Recommend Active Transportation Around the Lake	Yes (4 km in length)

4.7 Wier Lake and Beaton Lake



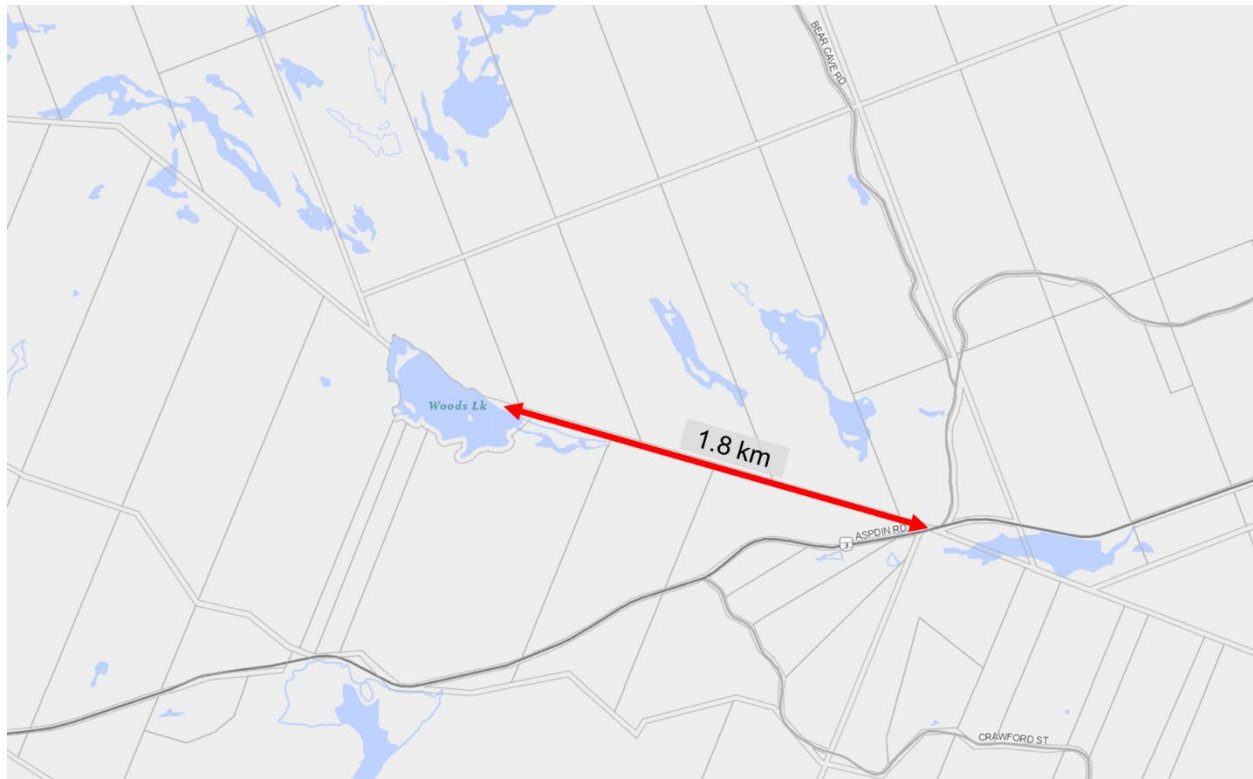
Area	Wier Lake – 14 Ha, Beaton Lake – 8 Ha
Private Properties along Waterfront	Yes, on Wier Lake
Proposed Corridor Length	1.9 km to Beaton Lake, 2.6 km to Wier Lake
Connecting From Existing Road	Highway 141
Recommended Cross-Section of New Corridor	Rural Seasonal or Local
Recommend Active Transportation Around the Lake	Yes (3 km in length around Wier Lake, 2.5 km around Beaton Lake)

4.8 Lamberts Lake



Area	10 Ha
Private Properties along Waterfront	No
Proposed Corridor Length	2.9 km
Connecting From Existing Road	Butter Mill Road
Recommended Cross-Section of New Corridor	Rural Seasonal
Recommend Active Transportation Around the Lake	Yes (0.6 km in length)

4.9 Woods Lake



Area	9 Ha
Private Properties along Waterfront	No
Proposed Corridor Length	1.8 km
Connecting From Existing Road	District Road 3
Recommended Cross-Section of New Corridor	Rural Seasonal or Local
Recommend Active Transportation Around the Lake	Yes (1.0 km in length)

5.0 Summary

The identified potential road corridors, the lakes they service, and the road and lake characteristics are summarized in Table 5-1.

Table 5-1: Potential Road Corridors and Characteristics

Lake Serviced	Area (Ha)	Proposed Corridor Length (km)	Private Properties Along Waterfront	Connecting from Existing Road	Recommended Cross-Section of New Corridor	Length of Recommended Trail Around the Lake (km)
Young Lake	109	0.2	Yes	Rosseau Lake Road	Rural Seasonal	5.0
St. Germaine Lake	24	3.0	Yes	District Road 169	Rural Seasonal	-
Little Otter Lake	9	0.8	No	District Road 13	Rural Seasonal	-
Woodland Lake	80	4.9	Yes	District Road 13	Rural Seasonal or Local	9.0
Cowan Lake	21	1.1	Yes	District Road 4	Rural Seasonal or Local	1.5
Barnes Lake	50	1.5	No	Fish Hatchery Road	Rural Seasonal	4.0
Wier Lake	14	2.6	Yes	Highway 141	Rural Seasonal or Local	3.0
Beaton Lake	8	1.9	No	Highway 141	Rural Seasonal or Local	2.5
Lamberts Lake	10	2.9	No	Butter Mill Road	Rural Seasonal	0.6
Woods Lake	9	1.8	No	District Road 3	Rural Seasonal or Local	1.0
Total		20.7				26.6

Further feasibility studies are required for these new road corridors to assess:

- 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, and
- Environmental feasibility.

Coordination with the Ministry of Natural Resources and Forestry may be required to understand:

- Land management policies for Crown lands,
- Aboriginal and treaty rights,
- Conservation and management of fisheries and ecosystems,
- Impacts to fish species,

- Level of contaminants, and
- Regulation of water level management.

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.

Appendix E

Roundabout Policy



Appendix E – Roundabout Policy

Date: June 21, 2023 **Project No.:** 300055345.0000
Project Name: Transportation Master Plan
To: Township of Muskoka Lakes
From: R.J. Burnside & Associates Ltd.

1.0 Context and Background

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. Over recent years, this form of traffic control has become a popular alternative in Canada. Depending on the context, roundabouts can improve traffic operations (more efficient and less constrained flow) and safety (fewer / less severe collisions due to the reduced number of potential conflict points) in comparison to traditional signals.

Although a roundabout may not be appropriate in specific situations, such as in highly urbanized areas where greater crossing distances created at roundabouts are not supportive of pedestrian and cyclist needs. A roundabout also generally requires a larger land area, particularly when the approaches require realignment, and can therefore be significantly more costly than a traffic signal due to the need to acquire property on lands outside of the Township-owned right-of-way.

The District's Engineering Design Standards notes that all proposed roundabouts shall be designed in accordance with the Canadian Roundabout Design Guide (TAC). The Township of Muskoka Lakes currently does not operate any roundabouts, nor any guidelines to assist decision-makers in determining when they are appropriate.

A roundabout policy was developed as part of the Township's Transportation Master Plan to help systematically identify existing candidate intersections that are deemed suitable for roundabout conversion and identify conditions whereby a roundabout would be suitable based on a future scenario. Note that reference to roundabouts in this policy does not include "mini" roundabouts or traffic circles that are used for speed calming purposes.

2.0 Roundabout Considerations and Guidelines

The policy has referenced and derived the guidelines based two documentations, which are considered the leading sources of information on roundabouts:

- Canadian Roundabout Design Guide (CRDG), January 2017, prepared by Transportation Association of Canada (TAC).
- Guide for Roundabouts (Research Report 1043), 2023, prepared by National Cooperative Highway Research Program (NCHRP).

The above documents provide guidance on planning, design and implementation of roundabouts, which are summarized in the proceeding sections. This information is used to inform and develop Township-specific roundabout installation guidelines.

2.1 Advantages and Disadvantages

The appropriateness of roundabout implementation is guided by a balance of trade-offs. Table E-1 provides a summary of the advantages and disadvantages of roundabouts across several performance measures.

Table E-1: Roundabout Advantages and Disadvantages

Performance Measure	Advantages	Disadvantages
Safety	Studies show that roundabouts can significantly reduce the number and severity of accidents compared to traditional intersections due to its circular geometry and resulting lower speeds. Roundabouts also have fewer conflict points and eliminate the possibility of severe right-angle or head-on collisions.	While roundabouts should theoretically be safer than traditional signalized intersections, pedestrian fatalities have noted to occur at roundabouts implemented in recent years within Ontario. This may be attributed in part to the unfamiliarity of roundabouts and right of way confusion between pedestrians and drivers as a result. These collision occurrences are also noted to occur in more urbanized settings with greater pedestrian activity. Roundabouts may also yield greater single-vehicle and fixed-object crashes in comparison to other intersection traffic controls.

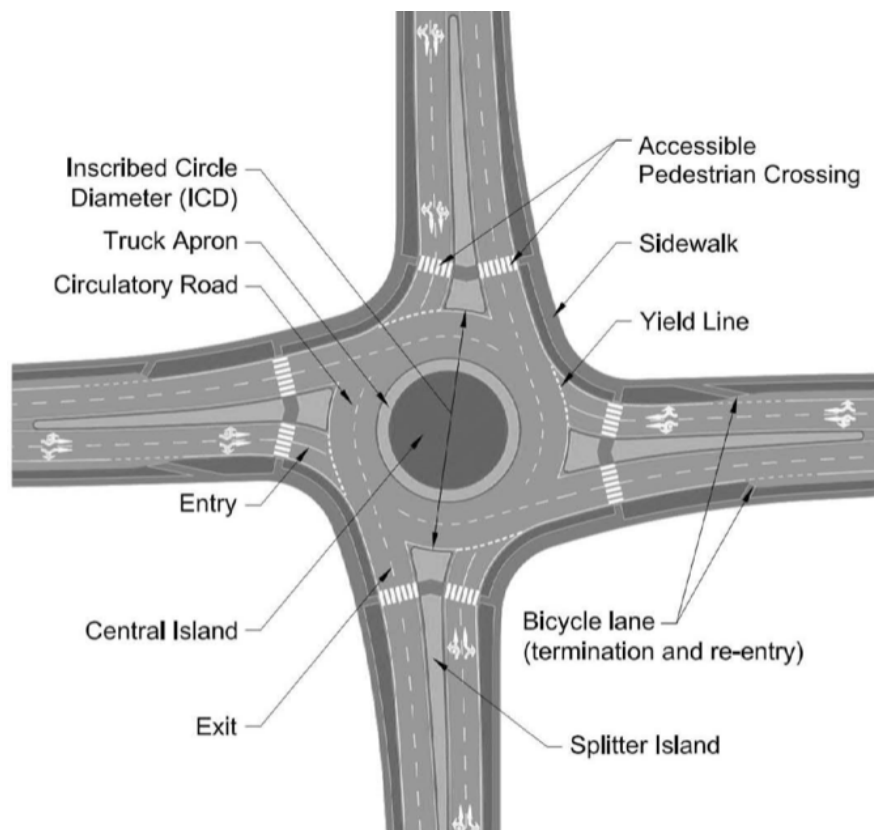
Performance Measure	Advantages	Disadvantages
Traffic Operation	Roundabouts can enhance traffic efficiency as it allows for a continuous flow of vehicles. It also provides greater vehicular capacity than traditional signalized intersections, as they reduce delays, queue lengths, and idling time.	All movements are given equal priority; as a result, high volume movements may experience higher than normal delays. Explicit priority for active transportation users such as pedestrians and cyclists are also not given, so longer delays may result at intersections where there is high crossing demand. When initially implemented, roundabouts can be unfamiliar to drivers and will likely undergo a learning curve to navigate the roundabout correctly. This learning curve can cause confusion and minor traffic disruptions initially.
Environmental Factors	The continuous traffic flow and reduced idling time at roundabouts lead to lower fuel consumption, noise pollution and emissions. Although this benefit stands to be more significant in congested areas or during peak traffic hours. Unlike traffic signals, roundabouts also require no energy consumption.	Since roundabouts require more space, there may be greater potential impact to natural and cultural features.
Space	Less vehicular queue storage will be needed, resulting in reduced widening requirements at roundabout approaches.	Roundabouts generally require more space at the intersection itself.
Maintenance	No signal hardware and equipment maintenance.	Landscape maintenance.
Pedestrians and Cyclists	Pedestrians and cyclists will only need to consider one direction of conflicting traffic, making it easier to cross the road. Roundabouts can be designed to better accommodate pedestrians and cyclists by providing designated crosswalks and refuge islands for pedestrians and incorporating bike lanes/multi-use paths.	Drivers may not yield to pedestrians/cyclists, particularly as they are becoming accustomed to roundabouts, posing a danger to these users. Individuals with vision impairment may have difficulty finding crosswalks and determining when it is safe to cross.

Performance Measure	Advantages	Disadvantages
Aesthetics	Roundabouts can enhance the visual appeal of an intersection by landscaping the central island with plants, trees, or decorative features. It can also serve as a gateway feature to enhance and define a community area.	If hard objects are placed in the central island, it may be hazardous. Objects may also potentially obstruct sightlines.
Cost	Roundabouts generally accrue a lower maintenance and operation cost in comparison to other types of traffic control. It can also save time and fuel for drivers, although this is more evident in the urbanized areas.	Roundabouts generally require more space compared to traditional intersections. This may involve acquiring additional land, which can be challenging and expensive in densely developed areas. The construction costs of roundabouts are often higher than those of traditional intersections due to the need for design modifications, road realignments, and landscaping.

2.2 Design Elements

It is important to understand the design elements of the roundabout as the safety and operational performance are dependent on these characteristics. Figure E-1 illustrates the key characteristics of a roundabout. Key design elements that impact the operations, functionality and safety of the roundabout are provided in Table E-2.

Figure E-1: Roundabout Characteristics



Source: TAC Canadian Roundabout Design Guide (2017)

Table E-2: Impacts of Roundabout Design Elements

Design Element	Description	Impacts
Inscribed Circle Diameter (ICD)	ICD is the diameter of the largest circle within the intersection outline.	A smaller diameter may not accommodate larger design vehicles. A larger diameter may result in higher speeds and more severe collision rates.
Circulatory Roadway Width	Circulatory roadway is the curved path around the center island. It is the vehicle's path of travel.	A smaller width may make it difficult for larger vehicles to maneuver around the roundabout and provide insufficient room for snow storage. A larger width may result in drivers using it as a travel lane.
Crossfall (including truck apron)	Sloped mountable portion of the center island adjacent to the circulatory roadway. It is used to accommodate wheel tracking of larger vehicles. The truck apron can also be provided outside of the circulatory roadway.	A smaller slope may have drainage impacts throughout the roundabout. A larger slope may cause larger vehicles to overturn.
Entry Width	Width of the approach at the yield line.	A smaller width may reduce vehicle speeds and decrease capacity. Maintenance equipment or vehicles may also have difficulty using the roundabout. A larger width may cause confusion as drivers may think more than the allocated travel lanes are provided. Larger entries will also require longer crosswalks for pedestrians.
Effective Flare Length	Localized widening at the point of entry.	No major impacts.
Entry Radius	Minimum radius curvature of the nearside curb line over a 20 m distance.	A smaller radius can reduce capacity but also slow traffic. A larger radius can lead to high entry speeds.
Entry Angle	Angle between the projected path of the entering vehicle and the path of the circulating vehicle.	A smaller angle may increase the risk of entry-circulating collisions due to the smaller visibility angle.

Note: The above table was adapted from the TAC Roundabout Geometric Design Guide (2017)

2.3 Types of Roundabouts

Two types of roundabouts are considered within this policy—single-lane and two-lane roundabouts, both of which may be options to consider within the Township. The roundabout types are distinguished based on size, number of lanes and other design elements.

Table E-3 is based on the CRDG and distinguishes how typical dimensions for various design elements vary between the single and two-lane roundabout. Note that pedestrian and cycling facilities can be incorporated in either type. However, the need to provision for these features depends on the location and user needs.

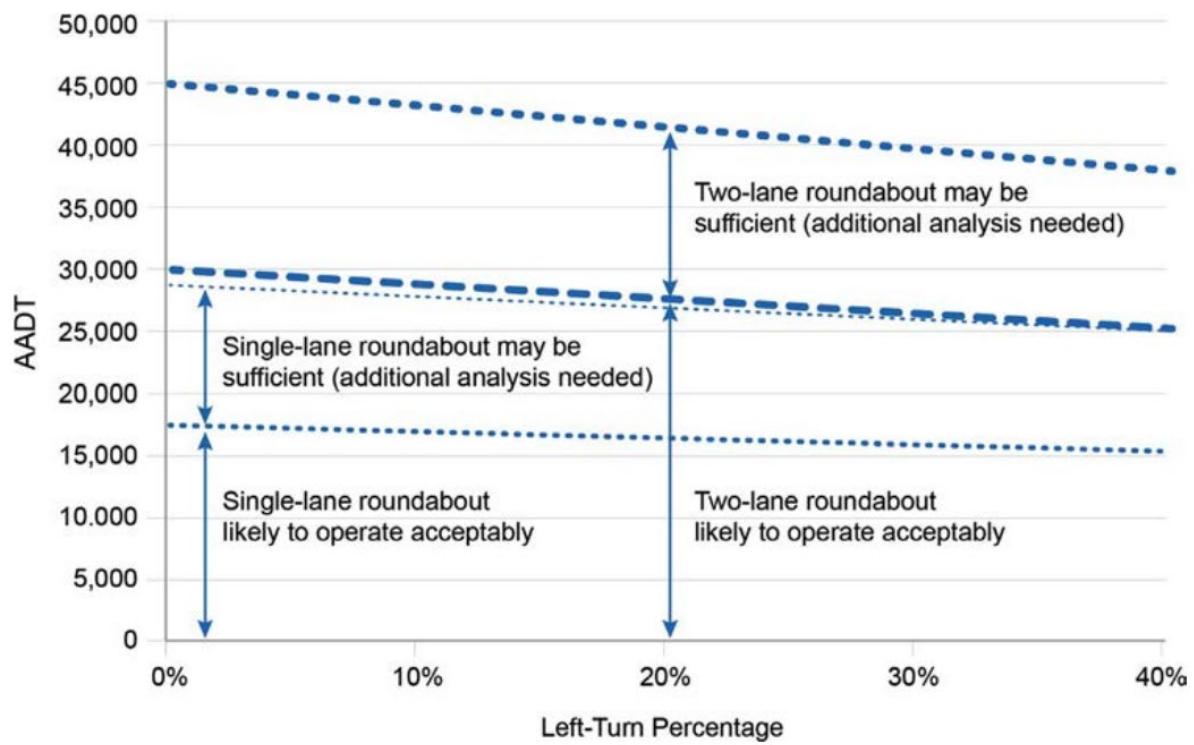
Table E-3: Single-Lane versus Two-Lane Roundabout

Design Element	Single-lane Roundabout	Two-lane Roundabout
Number of Circulatory Lanes	1	2
Maximum Number of Entry Lanes per Approach	1	2 or more
Desirable Entry Design Speed	30 to 40 km/hr	40 to 50 km/hr
Typical Inscribed Circle Diameter (ICD)	28 to 60 m	46 to 100 m
Central Island Treatment	Raised (may have traversable apron)	Raised (may have traversable apron)
Typical Daily Volumes for Four-Legged Roundabout	Up to approximately 25,000 vehicles per day	Up to approximately 45,000 vehicles per day
Circulatory Roadway Width	4.2 to 7.2 m	8.4 to 15.0 m
Central Island Diameter	> 4.0 m	> 4.0 m
Crossfall (including truck apron)	1.0 – 3.0%	1.0 – 3.0%
Entry Width	4.2 to 6.0 m	6.0 to 12.0 m
Effective Flare Length	5.0 to 25.0 m	5.0 to 25.0 m
Entry Radius	70 m max	100 m max
Entry Angle	20 to 60 degrees	20 to 60 degrees

2.4 Typical Warrant Thresholds

The NCHRP Guide for Roundabouts provides the chart illustrated in Figure E-2, which determines the preferred type of roundabout based on a function of intersection volumes, or more specifically, the average annual daily traffic (AADT) and left-turn percentage using the candidate four-leg intersection.

Figure E-2: Volume Thresholds for Single and Two-Lane Roundabouts



SOURCE: Derived from HCM (1).

Source: Exhibit 8.2 from the Guide for Roundabouts (Research Report 1043), 2023, prepared by National Cooperative Highway Research Program (NCHRP).

The appropriate type of roundabout can also be determined as a function of the peak period entering and conflicting flows, as summarized in Figure E-3.

Figure E-3: Peak Period Volume Warrant Based on Approach Volumes

Sum of Peak Period Entering and Conflicting Flows (veh/hr)	Type of Roundabout and Number of Lanes
700 or less	Single-lane roundabout with traversable or non-traversable central island is likely sufficient
701 to 900	Single-lane roundabout with non-traversable central island is likely sufficient; single-lane roundabout with traversable central island may be sufficient
901 to 1,300	Single-lane roundabout with non-traversable central island may be sufficient
1,301 to 1,600	Two-lane entry into multilane roundabout is likely sufficient; detailed turning movement analysis recommended
1,601 to 2,300	Two-lane entry into multilane roundabout may be sufficient; detailed turning movement analysis recommended
Greater than 2,300	Three-lane entry into multilane roundabout may be sufficient; detailed turning movement analysis recommended

Source: Exhibit 8.6 from the Guide for Roundabouts (Research Report 1043), 2023, prepared by National Cooperative Highway Research Program (NCHRP).

2.5 Comparison with Other Intersection Control

Safety and capacity are two important factors that help determine the type of traffic control that is most suitable for an intersection. The benefits of a roundabout over other types of common intersection controls are summarized below.

2.5.1 Two-Way Stop Control (TWSC)

A two-way stop control (TWSC) intersection may experience delays on the minor street caused by inadequate capacities and left turns merging onto the main road. Roundabouts could help address these concerns, as all movements are treated equally and can accommodate a high number of lefts. In comparison, roundabouts also minimize crash severity (due to less right-angle collisions) and provide greater capacity than a TWSC except in the case that traffic along the major street exceeds 90% of the total intersection traffic. However, the operations would have to be a significant enough concern to justify the costs and space required for a roundabout installation. Otherwise, the delays along the minor street can potentially be resolved with less expensive alternatives, such as all-way stop-controls or traffic signals.

2.5.2 All-Way Stop Control (AWSC)

In comparison to an all-way stop control (AWSC) intersection, roundabouts can provide more capacity and reduce delays. All vehicles are expected to stop at an AWSC intersection even when there are no other vehicles present whereas roundabouts only require that vehicles yield to crossing pedestrians/cyclists and circulating traffic. According to the NCHRP Guide for Roundabouts, as traffic volume increases and left-turn increases, the use of a roundabout can

reduce delays exponentially. Although similar to a TWSC intersection, the operations would have to be a significant enough concern to justify the costs and space required for a roundabout installation. Otherwise, these operational concerns can potentially be addressed with traffic signals, which is a much cheaper alternative.

2.5.3 Traffic Signal

Similar to an AWSC intersection, a roundabout can help improve operations by reducing delays if there are high volumes of left turn vehicles. Compared to a traffic signal, roundabouts can encourage lower speeds, reduce delays by eliminating red light movements, and improve safety by reducing the number of potential conflict points. However, as mentioned, roundabouts do not always create the safest crossing environment for pedestrians and cyclists as it is not stop-controlled and in many cases, tends to increase the crossing distance. In addition, signals can be better tailored to traffic volumes for specific movements by providing more green time for a particular approach or a dedicated phase for a turning movement. As such, it is generally more beneficial to install a roundabout when volumes between major and minor street approaches are more balanced.

3.0 Recommended Roundabout Policy

The information from the previous sections was used to inform the recommended screening process to determine desirable locations for new roundabouts or roundabout conversions.

3.1 Screening Process

The following screening process can be used to conduct a preliminary assessment of candidate roundabout intersections within the Township. Its suitability and effectiveness are to be further assessed as part of more detailed studies and analyses.

1. Considering the Township currently does not operate any roundabouts, at this time it is recommended that the standard single-lane roundabout be considered in rural settings only, where there is little to no exposure to vulnerable road users, including people with accessibility needs, pedestrians, and cyclists. Two-lane roundabouts and roundabouts in urban settings can be considered in the long term once drivers develop more familiarity with them.
2. A single-lane roundabout can be considered when all the following conditions are met:
 - a) Entering intersection volumes are between 15,000 to 25,000 daily vehicles.
 - b) Traffic along the main street does not exceed 90% of the total intersection entering volumes.
 - c) Estimated construction costs, including property acquisition, are not prohibitive.
 - d) The proposed roundabout design is not anticipated to have significant environmental impacts.

- e) The candidate roundabout is not located within 200 m away from an existing signalized intersection, coordinated signal system or railway crossing, in which case a detailed assessment will be required to demonstrate that downstream queues from the signalized intersection and rail crossing will not impact the roundabout operations.
 - f) The candidate roundabout is not within close proximity (200 m) to long-term care facilities, facilities that may house mobility or visually impaired individuals, retirement residential areas and school zones.
- 3. If a roundabout has been deemed suitable and appropriate based on the above conditions, a detailed assessment is required to confirm the following.
 - a) A capacity analysis, utilizing ARCADY or equivalent industry-accepted roundabout software, confirms that a roundabout will operate acceptably at the candidate location.
 - b) A site-specific cost-benefit analysis comparing the roundabout with other alternatives confirms that it is the best option.
- 4. The design should follow CRDG and NCHRP guidelines and be designed and reviewed by a licensed Professional Engineer.

3.2 Candidate Roundabouts

The screening process detailed in the previous section was used to identify candidate locations for roundabouts within the Township. Based on the volume threshold criteria, no Township-owned intersections currently meet the volume range (15,000 to 25,000 daily vehicles) that is deemed suitable for roundabout consideration. However, the District-owned intersection of Muskoka District Road 118 and Muskoka District Road 25 / Ranwood Road was identified to meet volume criteria. Subject to further detailed study and analysis, this intersection is recommended for roundabout consideration to improve traffic operations.

It is further recommended that the Township adopt the roundabout policy to guide decision-making as part of future traffic impact studies and site-specific studies.

3.3 Education and Public Consultation

Since the Township currently does not operate any roundabouts, public awareness and education will be essential for its implementation. Whether it be through the stakeholder consultation component of the Municipal Class Environmental Assessment or a dedicated informational campaign, it is recommended that public information sessions, media announcements, promotional materials and educational videos consisting of information on what a roundabout is and how to properly maneuver through a roundabout be distributed to Township residents.

Appendix F

Speed Policy



Appendix F – Speed Policy

Date: June 7, 2023 **Project No.:** 300055345.0000
Project Name: Transportation Master Plan
To: Township of Muskoka Lakes
From: R.J. Burnside & Associates Ltd.

1.0 Context

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.

1.1 Background

Vehicular speeding within the Township was identified as a major public safety concern. The probability of fatality is exponentially correlated with vehicular speed during collision impact. Speeding also heavily influences a road users' perception of safety and comfort in using transportation facilities, particularly as it pertains to active transportation. A Township-specific speed policy was developed to provide decision-makers with an approach to determine the type of situations where an adjustment to the posted speed and/or implementation of control measures is required.

1.2 Purpose

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.

2.0 Guidelines and Best Practices

2.1 Highway Traffic Act (HTA)

The Highway Traffic Act (HTA) sets out the following requirements per Section 128.1:

- Roads within a city, town, village, police village or built-up area have a statutory speed limit of 50 km/hr, unless otherwise designated. Outside of these areas, the statutory speed limit is 80 km/hr, unless otherwise designated.
- The HTA requires that signage be placed where the speed limit varies from the statutory requirement.

2.2 Transportation Association of Canada (TAC) Guidelines

The Transportation Association of Canada (TAC) Guidelines for Establishing Posted Speed Limits provides the following recommendations:

- Speed limits will be set between 40 km/h and 80 km/h in increments of 10 km/h
- The minimum length of a speed zone should be 500 m for urban sections and 1.0 km for rural sections.

According to TAC guidelines, the recommended posted speed limit is calculated based on a risk factor. This risk factor is derived based on the speed limit tool shown on the following page, which is contingent on the 11 road characteristic criteria below.

1. Horizontal alignment
2. Vertical alignment
3. Lane width
4. Roadside hazards
5. Pedestrian exposure
6. Cyclist exposure
7. Pavement surface
8. Number of intersections with public roads
9. Number of intersections with private access
10. Number of interchanges
11. On-street parking



Automated Speed Limit Guidelines

FORM A - Automated Speed Limit Guidelines Spreadsheet

Version:
10-Apr-09

Name of Corridor:			
Segment Evaluated:		to	
Geographic Region:			
Road Agency:			
Road Classification:		Length of Corridor:	
Urban / Rural:		Design Speed: (Required for Freeway, Expressway, Highway)	
Divided / Undivided:		Current Posted Speed: (For information only)	
Major / Minor:		Prevailing Speed: (85th Percentile - for information only)	
# Through Lanes		Policy: (Maximum Posted Speed)	
Per Direction:			

		RISK	Score
A1	GEOMETRY (Horizontal)		
A2	GEOMETRY (Vertical)		
A3	AVERAGE LANE WIDTH		
B	ROADSIDE HAZARDS		
C1	PEDESTRIAN EXPOSURE		
C2	CYCLIST EXPOSURE		
D	PAVEMENT SURFACE		
E1	NUMBER OF INTERSECTIONS WITH PUBLIC ROADS	Number of Occurrences	
	STOP controlled intersection		
	Signalized intersection		
	Roundabout or traffic circle		
	Crosswalk		
	Active, at-grade railroad crossing		
E2	NUMBER OF INTERSECTIONS WITH PRIVATE ACCESS DRIVEWAYS	Number of Occurrences	
	Left turn movements permitted		
	Right-in / Right-out only		
E3	NUMBER OF INTERCHANGES	Number of Occurrences	
	Number of interchanges along corridor		
F	ON-STREET PARKING		

Total Risk Score:

Recommended Posted
Speed Limit (km/h):

As determined by road characteristics

As determined by policy

The recommended posted speed limit may be checked against the prevailing speeds of the roadway and the road's safety performance.

Comments:

With this method, the context of the roadside development and the function of the road are the main determinants of the appropriate speed limit.

2.3 District of Muskoka Speed Policy

The District of Muskoka had developed a speed policy that was approved by Council in February 2016. This Township speed policy should be used in conjunction with the District's speed policy.

The District's speed policy uses the following to inform the course of action on adjusting posted speeds.

- Risk factors per TAC Guidelines.
- 85th percentile speed.
- Accident history (compared to the provincial average).
- Operating and posted speed.

It also considers the following:

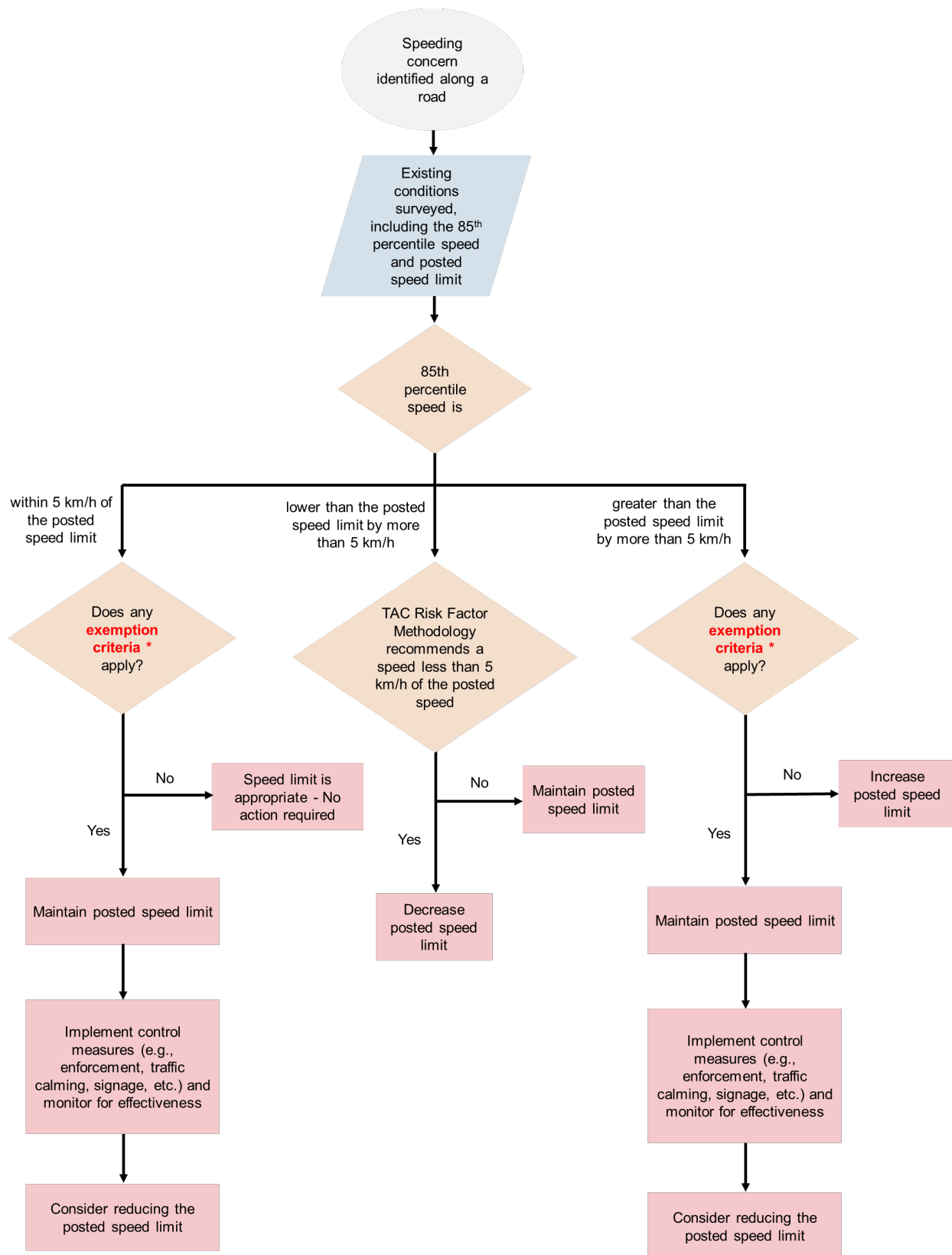
- When recommending a change in the posted speed limit, consideration will be given to adjacent speed zones to avoid incremental speed fluctuations of more than 20 km/h as outlined in Ontario Traffic Manual (OTM) Book 5: Regulatory Signs as published and updated by the Ministry of Transportation (MTO).
- The posted speed limit may be set below the recommended speed limit when:
 - Constrained by the physical characteristics of the road.
 - Required for heightened safety in sensitive areas such as school and playground areas.
 - Required temporarily for safety in a construction zone.
 - The 85th percentile speeds are significantly lower than the recommended speed; and/or
 - There is a significantly higher than normal frequency of, or severity of, collisions attributable to excessive speeds (this shall not include collisions with wildlife).

3.0 Township Speed Policy

The Township's speed policy was developed with consideration for the above guidelines and best practices. It is to be applied in the case that speeding has been identified as a concern on a roadway. Alternatively, it can also be applied as part of a Township-wide speed study to consider all municipal roads.

3.1 Decision-Making Framework

The speed policy used to help determine the appropriate posted speed limits on Township-operated roads takes the form of a decision-making framework, as shown below.



The need to review speeds along a road is triggered by a concern brought forward by a resident, Councilor and/or others. Data collection and surveys should then be mobilized to determine the surveyed 85th percentile speed, ideally over the course of one week for sufficient sample size, and establish existing site conditions (e.g., posted speed limit, geometric constraints, safety issues, etc.). This surveyed information will then be used to validate the speeding concern and inform the appropriate action required to address it.

The 85th percentile speed refers to the speed at or below which 85% of vehicles were surveyed to travel. Understandably, the 85th percentile will vary depending on the time period. It is recommended that the 85th percentile speed surveyed under free flow conditions (i.e., uncongested flow) be used for the policy review as these “off-peak” periods reflect when speeding is most prevalent and, in many cases, when pedestrian activity is greatest.

In comparing the surveyed 85th percentile speed and the posted speed limit, the decision-making framework considers three scenarios:

- The 85th percentile speed is within (+/-) 5 km/h of the posted speed limit.
- The 85th percentile speed is lower than the posted speed limit by more than 5 km/h.
- The 85th percentile speed is greater than the posted speed limit by more than 5 km/h.

In the case that the surveyed 85th percentile speed is close (i.e., within 5 km/h) of the posted speed limit, it can be concluded that the speed limit is appropriate. However, if it falls within any of the exemption criteria identified in the next section, the roadway is considered a candidate for additional control measures (e.g., enforcement, traffic calming, signage, etc.) to help reduce current vehicular speeds. Depending on the effectiveness of these control measures, the posted speed limit can be considered for reduction.

In the case that the surveyed 85th percentile speed is lower than the posted speed limit by more than 5 km/h, the posted speed limit can be reduced if the calculated “risk factor” per the TAC Speed Limit Methodology confirms that a lower posted speed is recommended based on the context of the roadside development and the function of the road. Otherwise, the existing posted speed limit can remain as is.

In the case that the surveyed 85th percentile speed is greater than the posted speed limit by more than 5 km/h, the posted speed limit can be increased unless it falls within any of the exemption criteria identified in the next section, in which case the roadway is considered a candidate for additional control measures (e.g., enforcement, traffic calming, signage, etc.) to support safety and/or accommodate other modes of travel. It is recognized that speeding along this road will not be resolved by reducing the posted speed limit and therefore, the existing posted speed limit can remain if traffic calming control measures are implemented to bring vehicles to drive at the posted speed. Otherwise, if no exemption criteria are satisfied such that safety and corridor functionality needs would not warrant reduced speeds, the posted speed limit can be increased. This then assumes that drivers are travelling at a speed that is

reasonable given the roadway characteristics and mitigation measures are not required to support existing or desired roadway conditions.

3.2 Exemption Criteria

There are cases when increasing the posted speed limit or maintaining the existing posted speed limit to align with the surveyed speed may not be appropriate. These context-sensitive conditions are listed below and relate primarily to safety, corridor functionality and roadway characteristics.

- There is a need for heightened safety, due to the proximity of:
 - school zones.
 - community safety zones.
 - playground areas.
 - retirement homes.
 - construction zones.
- The corridor has high cyclist and/or pedestrian activity.
- The corridor has unprotected shared use pathways (e.g., sharrows).
- The accident ratio along the corridor is higher than the provincial average for similar roadways.
- The severity of collisions along the corridor has been attributed to excessive speeds.
- There are geometric constraints (e.g., horizontal/vertical curves) along the roadway that impact driver sightlines.
- The Township road is within an area of influence (1.5 km) of a District road with a lower posted speed. In this case, it is recommended that the posted speed limit be reduced to the same or a lower posted speed, supported by traffic calming control measures.

3.3 Speed Mitigation Control Measures

There are two types of speed mitigation measures – direct and indirect. Direct mitigation measures refer to infrastructure adaptations and enforcement whereas indirect mitigation measures typically refer to signage.

It is recognized that speeding along a road segment, such that the 85th percentile speed is higher than the posted speed, cannot simply be resolved by reducing the speed limit and/or adding warning signage alone and should be complimented by direct traffic control measures to slow vehicles.

Direct speed mitigation control measures that can be considered for implementation within the Township include the following.

- Traffic circle or “mini” roundabout.
- Tightened curb radii, to slow vehicular turning speeds and reduce pedestrian crossing distances.

- Pavement narrowings and chicanes.
- Rumble strips, which produce a vibration and noise when crossing.
- Surface treatments, such as woonerfs or paving stone.
- Optical pavement markings (e.g., treatments that give a feeling or illusion that the driver is travelling too fast, 'SCHOOL ZONE', 'SLOW', etc.).
- Radar speed cameras.
- Presence of traffic enforcement officers.

3.4 Recommendations

It is recommended that the Township adopt the speed policy, along with the guidelines and best practices, detailed in this memorandum to determine when adjustments are required to posted speed limits and/or context-sensitive conditions warrant the need for traffic calming control measures.

Although the decision-making framework for speed adjustments is triggered by a concern being brought forward, it is recommended that the Township take more of a proactive rather than reactive approach in establishing appropriate speeds. As such, a comprehensive Township-wide speed study should be undertaken, in collaboration with the District and residents, to identify roads requiring mitigation for speeding.

Further, upon implementation of any speeding control measures, annual monitoring is recommended to assess their effectiveness.

Appendix G

Road Rationalization Policy



Appendix G – Road Rationalization Policy

Date: June 21, 2023 **Project No.:** 300055345.000
Project Name: Transportation Master Plan
To: Township of Muskoka Lakes
From: R.J. Burnside & Associates Ltd.

1.0 Background

1.1 Purpose of a Road Hierarchy

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. This technical paper 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.

Road hierarchy is vital for addressing various factors that impact road management, including effective access to property, the free flow of vehicles and pedestrians, traffic movement management, protection of roadside amenities, and support for sustainable land development.

There are three main classifications in the context of Muskoka Lakes: Provincial highways, municipal roads (i.e., District roads), and local roads (i.e., Township roads). Provincial highways serve as vital transportation corridors for through traffic, accommodating high volumes of vehicles traveling at higher speeds. These highways typically connect different municipalities and play a significant role in supporting interregional travel.

Municipal roads provide essential connectivity within the Township of Muskoka Lakes. They facilitate movement within and between communities, connecting residential, commercial, and recreational areas. These roads are subject to lower speeds compared to provincial highways and ensure efficient traffic flow between rural, waterfront, and built-up areas such as urban centres.

Local roads primarily serve local traffic within neighborhoods and specific areas.

1.2 Road Rationalization Objectives

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.

According to the Municipal Act and the Public Transportation and Highway Improvement Act, the District has been granted the authority to establish, maintain, add, or remove designated roads from their road system. This authority enables the District to maintain a relevant and appropriate road network that aligns with the overall objectives of Muskoka while supporting the lower-tier municipalities such as the Township of Muskoka Lakes. A key advantage of the road rationalization process is its ability to identify roads that serve a high volume of traffic and provide a higher level of function. These roads can be recognized as potential District roads and be subjected to the District's standard of service. Conversely, lower volume Muskoka roads that may not be prioritized within the overall District system can be identified as potential Township roads. This identification can result in a greater priority for these roads within the Township road system and support the Township's objectives for their transportation system.

2.0 Purpose of Township Road Rationalization Policy Framework

As outlined above, the District of Muskoka Lakes holds the final decision-making authority on road rationalization. However, this policy framework serves as a tool to facilitate further discussions and collaboration between the Township and the District. It aims to identify specific road segments that may warrant further examination to align with the objectives outlined in this

policy. By providing a structured framework for evaluation, the policy framework enables the Township to present its considerations, insights, and recommendations to the District.

3.0 Development of Road Classification Principles

3.1 Background Review

To develop the Township road classification system, a framework must first be developed that defines the objectives of the Township road system and distinguishes a District road from a Township road. To understand what would be considered a District road, District road classifications were reviewed. The District categorizes roads into three classes: Class A, Class B, and Class C. District roads are classified based on the intended function of the corridor and the anticipated traffic volumes. Design element considerations for the three road classifications are shown in Table G-1.

Table G-1: Design Element Considerations for District Roads

	Primary Arterial Class A	Secondary Arterial Class B	Urban Class C
Speed Limits	80 km/hr	80 km/hr or less	80 km/hr or less
Traffic Service Function	Connect development centres or are generators of substantial traffic.	Intended to provide for the safe, efficient movement of traffic, and the provision of access to abutting lands.	Intended to provide equally for the safe, efficient movement of traffic and the provision of access to abutting lands.
Traffic Volumes – Annual Average Daily Traffic (AADT)	< 12,000 AADT.	< 3,000 AADT.	-
Connections	Freeway, highway, arterial, collector, local	Highway, arterial, collector, local	Highway, arterial, collector, local.
Vehicle Usage	All types	All types	Option to restrict heavy trucks under certain circumstances.
Location (Schedule H, Official Plan)	Generally, located in the Rural and Waterfront designation	Generally located in the Rural or Waterfront designation	Generally located within Urban Centres, Communities, New Communities, Special Character Areas, and the more built-up areas within the Waterfront and Rural designations.

Source: Engineering Design Criteria and Standards Manual (June 2019), District of Muskoka Lakes.

In 1971, following the creation of the District Municipality of Muskoka, criteria to qualify as a District road must meet one of the following criteria:

- Connects urbanized areas containing more than 150 people in 500 acres or less, to each other or to the District of King's highway system.
- Services consistent attractors of heavy vehicles such as quarries, gravel pits, sawmills, mines, etc.
- Parallels large physical barriers such as lakes and wide rivers, crossing such barriers when necessary and feasible.
- Services resort areas containing more than 150 cottages or equivalent (ie., lodges) and/or carries a seasonal average daily traffic count of 300 vehicles per day without alternative District or highway road service available within 2 miles.
- Is an extension of an urban arterial street and carries 400 vehicles per day.
- Serves an area containing only local roads spaced according to the population density.
- Connect up King's highway passing through urban areas.
- Connect District roads to King's highways in urban areas.

In 1999, District Council noted that all main streets in urban centres should be District roads.

3.2 Road Classification Principles

Based on the background review, District roads should generally follow the following principles within the Township:

- District roads should complement the Provincial highway system (Highway 141, Lake Joseph Road, and Highway 400 which is just west of the Township).
- District roads should be primary transportation corridors and thus should provide a high degree of connectivity, especially between the Urban Centres (e.g., Bala and Port Carling), Communities (e.g., Foot's Bay, Glen Orchard, Milford Bay, Torrance, and Windermere), and Minett.
- District roads should be along the shortest practical route, along existing streets and roads.
- District roads should be continuous corridors that navigate around the lakes within the Township boundaries and cross barriers when necessary and feasible.
- District roads should not provide parallel and duplicate service to another District road.

In contrast, Township roads should generally follow the following principles:

- Township roads should primarily serve the local community and provide access to properties along their routes.
- Township roads should provide safe and efficient connectivity for local traffic, connecting residential areas, commercial areas, recreational facilities, and other local destinations.
- Township roads should facilitate significant pedestrian activity.
- Township roads should provide connections from District roads to the final destination or between District roads.

4.0 Literature Review of Road Rationalization Studies

In order to develop a set of road rationalization criteria applicable to the Township of Muskoka Lakes, the rationalization criteria published by the Ontario Goods Roads Association (OGRA) was considered, as were criteria established in road rationalization studies conducted for:

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

4.1 District of Muskoka Criteria and Weightings

The District's road rationalization criterion are listed below and are based on the Ontario Good Roads Association modified to the context of the District.

Criterion 1: Urban Centre Connector

This criterion will provide a connection between urban centres, built-up areas, or communities. These urban centres typically would have commercial or industrial development in addition to a residential section. This criterion is used to connect to each other or to a King's highway. A number of these areas are defined in the Muskoka Official Plan.

Urban Centres within the Township include:

- Bala
- Part Carling

Communities within the Township include:

- Windermere
- Milford Bay
- Torrance
- Foot's Bay

Site Specific Policy Areas or Special Character Areas that should be considered with this criterion include:

- Minett
- Highway 69/400 corridor

To recognize the significance of the various built-up areas, the following weights were assigned:

Weighting	Criteria
4	Road connecting an Urban Centre to another Urban Centre or road connecting an Urban Centre to the upper tier/Provincial Highway System.
3	Road connecting an Urban Centre to a Community.
2	Road connecting a Community to another Community or road connecting a Community to the upper tier/Provincial highway system.
2	Road connecting to a Special Character Area or road connecting to a Site Specific Policy Area.
0	Road connecting to a non-settlement area.

Criterion 2: Kings Highway/Upper Tier Connector

The topography and geography of the Township and the District includes many lakes and rivers which may cause areas to be served by a single road. This criterion reflects those roads which provide connectivity to the upper tier/Provincial highway system and have a length of 5 km or greater (considering the overall length of the road, not each individual road section). The latter recognizes that the longer the road, the greater the propensity to serve a higher function.

A score of 2 is assigned to road sections satisfying Criterion 2. It is noted that if a road section scores points under Criterion 1, it would not be eligible for points under Criterion 2.

Criterion 3a: Heavy Industry Service

This criterion recognizes existing truck traffic on the road network. The points are awarded on a sliding scale based on the daily truck volumes for any given section of road, based on the following:

Weighting	Criteria
2	≥ 750 daily truck volume
1.5	500 to 746
1	250 to 499
0.5	100 to 249
0	< 100

Criterion 3b: Future Heavy Industrial Service

In addition to the volume-based weighting, an additional weight of 1 has been assigned to those roads which serve an existing or potential truck generating area. This ensures that, while a particular road may not warrant a higher weight based on existing truck traffic due to the area served by said road (i.e. In areas where aggregate resources are located) is still considered in the weighting process. In considering the weighting assigned to Criteria 3a and 3b, roads can score a maximum of 3 points.

Criterion 4: Barrier Service

Barrier service is considered a significant factor within the District given the number of lakes and rivers which serve as barriers to the provision of a continuous road system. A weight of 2 is recommended for roads that provide service across and/or around a barrier.

Criterion 5: Resort/Recreation Service

The criterion was employed to consider travel routes serving key resort/recreation areas and the significance of such in the context of the overall area. Specific to Muskoka this criterion has been expanded to capture those road sections serving an increased number of cottages. A weight of 2 is recommended for roads meeting this criterion.

Criterion 6: Urban Cell Service

To provide service in urban areas within Kings Highways and upper tier roads given the traffic demand on the street is through traffic. OGRA notes that this criterion is seldom applied given the good condition of most local roads which provide adequate service within urban and rural cells. A weight of 0 is recommended initially.

This criterion was not used by the District.

Criterion 7: Urban Arterial Extension

To provide for the extension of urban arterial streets into rural areas to connect with an upper tier road or a King's Highway. Traffic counts must be conducted on all sides of the intersection within the upper tier and extension continuing through the intersection only if the AADT is equal to or exceeds 700 vehicles per day.

This criterion was not used by the District.

Criterion 8: Rural Cell Service

The intent of this criterion is to provide rationale for filling gaps in the Muskoka road network.

This criterion was not considered by the District.

Criterion 9: Traffic Speed

Traffic speed is considered a relevant factor with respect to the function of a Muskoka road given that a higher tier should contribute to efficient flow of traffic through Muskoka. Thus, roads with a predominant posted speed limit of 80 km/h are awarded a weight of 1. The predominant speed will be considered as the speed limit applicable to the majority length of any road section.

Criterion 10: Road Surface

To identify roads with hard top surfaces. These roads will be considered more appropriate to serve as upper tier roads. These surfaces are considered to be more durable to withstand high traffic volumes, heavier vehicles and vehicles travelling at higher speeds.

This criterion was not considered by the District.

Criterion 11: Traffic Volumes

Traffic volume is an important indicator of road function. Similar to Criterion 3, a range of weights has been developed to better reflect the role and function of the road within the overall network. The assessment was based on the most recent average annual daily traffic volumes available).

Weighting	Criteria
4	≥ 3,500 average daily vehicle volume
3.5	3,000 to 3,499
3	2,500 to 2,999
2.5	2,000 to 2,499
2.0	1,500 to 1,999
1.5	1,000 to 1,499
1	500 to 999
0	< 500

Criterion 12: Road Right-of-Way

The available right-of-way is not considered an important factor and was not used in the District's criterion.

Criterion 13: Provides a Continuous Route through the District

Identifies road sections that provide continuous travel service through the District and have the potential of serving a higher function. This is considered an important factor with respect to the overall objectives of the Muskoka road network. Continuity through Muskoka improves connectivity both with it and to destinations and opportunities beyond its borders, which is vital to the economic health of Muskoka and its residents. A weight of 2 points is recommended for roads serving this function.

Criterion 14: Connects to a District Road in a Neighboring Jurisdiction

This criterion is considered important in terms of continuity and connectivity of the Muskoka road network. Connecting to neighbouring District road networks is beneficial to both the District Municipality and its neighbours as it connects markets and facilitates the movement of people and goods. A weight of 2 points is suggested for roads providing this connection and continuity.

Criterion 15: Provides Urban Congestion Relief/By-pass

Take into consideration roads that can be effective in providing relief to congestion and act as a local bypass. Roads serving this function should be assigned a weight of 2.

Criterion 16: Emergency Detour Routes

Emergency detour routes are typically designated to provide a relief road to major provincial highways in the event of an emergency. This criterion was not considered by the District.

Criterion 17: Peak Season/Monthly Volumes

This criterion was not considered by the District.

Table G-2 summarizes the District of Muskoka's criteria review. The threshold weight refers to the minimum number of points to be considered as a District road.

Table G-2: District of Muskoka Road Rationalization Criteria

Criteria	Weighting/Points
Urban Centre Connector/Upper Tier Connector	0, 2, 3 or 4
Kings Highway/Upper Tier Connector & Length \geq 5 km	0 or 2
Heavy Industry Service	0 to 2
Future Industry Service	0 or 1
Barrier Service	0 or 2
Resort/Recreation Connection	0 or 2
Urban Cell Service	0
Urban Arterial Extension	0
Rural Cell Service	0
Traffic Speed	0 or 1
Road Surface	0
Traffic Volume	0 to 4
Road Right-of-Way	0
Continuity within Muskoka	0 or 2
Connects to neighbouring District Road	0 or 2
Provides urban by-pass function	0 or 2
Emergency detour route	0
Peak Seasonal monthly volume	0

The District's road rationalization criteria also contains a set of special considerations that contain other factors worthy of consideration. These special considerations included the following factors:

- Additional constraints/limitations due to geography and/or topography.
- The desire for continuity of jurisdiction (to avoid varying jurisdiction between consecutive road sections along the same road).

- Road maintenance needs and resulting programming/scheduling.
- The elimination of parallel or alternative travel routes/corridors.
- The provision of major municipal infrastructure (water and sewer) within the road allowance.
- Location within a downtown core or designation as a “main street” (recall, the 1999 Council direction to consider such roads as District roads).

4.2 Summary of Literature Review

Similar to the District of Muskoka, Oxford County, Simcoe County, Dufferin County, and Northumberland County and Region of Durham used the OGRA methodology to determine their road rationalization criteria.

The Region of Durham also contained a set of additional considerations outlined below.

1. Road segments connect with provincial and/or inter-regional networks.
 - The most important function of a Regional Road is to provide connectivity. The road transfer candidate’s connectivity to the provincial or inter-regional road network was an important criterion in evaluating road function.
2. Road segment carries a high volume of inter-municipal and regional traffic.
 - Another criterion relating to a road transfer is the extent and magnitude of inter-regional travel that it accommodates. This was determined by running select link assignments for each road transfer candidate using the Durham Regional Transportation Model.
3. Road segments attract significantly higher volumes of traffic than adjacent roads.
 - The logic behind this criterion relates to facilitating one route through an area to a regional standard (speed, volumes, access control) and have local parallel roads serving local and intra-municipal traffic.
4. Road segment’s level of access control.
 - Regional roads that carry higher volumes and allow higher speed limits typically require higher levels of access control. A roads level of access was considered another criterion in the scoring system.
5. Road segment supports regional goods movement/aggregate hauling network.
 - Another important function is the movement of goods, as they travel on regional and inter-regional roads. Whether a road segment is well-positioned to accommodate goods movement travel was considered a criterion in the scoring system.
6. Road segment supports major transit routes and/or planned rapid transit routes.
 - Taking into consideration of the Region’s Long Term Transit Strategy (LTTS) which aims to achieve a transportation system focused on rapid transit to provide excellent connections between the Region’s municipalities, corridors were scored based in the level of support for these transit routes.
7. Road segment supports region-wide economic and growth objectives.
 - Roads providing access to regional and urban growth centres are expected to experience higher volumes of traffic. The requirement of access to these areas by road transfer was also considered to be a criterion.

A summary of the road rationalization criteria for the various municipalities and the weightings are provided in Table G-3.

Table G-3: Summary of Road Rationalization Criteria and Weighting of Background Studies

Criteria	Weighting					
	OGRA	Oxford County	Simcoe County	Dufferin County	Northumberland County	District of Muskoka
Urban Centre Connector	3	3	2	0 to 4	3	0 to 4
Kings Highway/Upper Tier Connector	2	3	2	0 to 4	2	0 or 2
Heavy Industry Service	2	2	1 to 5	0 to 2	2	0 to 2
Barrie Service	1	1	-	0.5	1	0 or 2
Resort/Recreation Service	1	1	1 or 2	-	1	0 or 2
Urban Cell Service	0	-	-	-	0	0
Urban Arterial Extension	3	3	1 or 3	-	3	0
Rural Cell Service	0	-	-	-	1	0
Traffic Speed	1	1	-	2	1	0 or 1
Road Surface	0.5	0.5	-	-	0.5	0
Traffic Volumes	0.5	0.5	1 to 6	0 to 4	0.5	0 to 4
Road Right-of-Way	1	1	-	-	-	0
Continuity within District/County	-	-	-	2	-	0 or 2
Connect to adjacent District/County Road	-	-	1	2	-	0 or 2
Provides urban by-pass function	-	-	2	2	-	0 or 2
Emergency detour route	-	-	6	-	-	0
Peak seasonal/monthly volumes	-	-	-	-	-	0
Total Criteria Used	10	10	8	8	10	10
Threshold Weight	5	6.5	6	6	7	6

4.3 Adoption of Criteria

The methodology employed by the District was compared to OGRA, Oxford County, Northumberland County, Dufferin County, and the Regional Municipality of Durham. The District's criteria is suitable to be used as a review of District and Township roads within the Township of Muskoka Lakes.

5.0 Road Rationalization Methodology

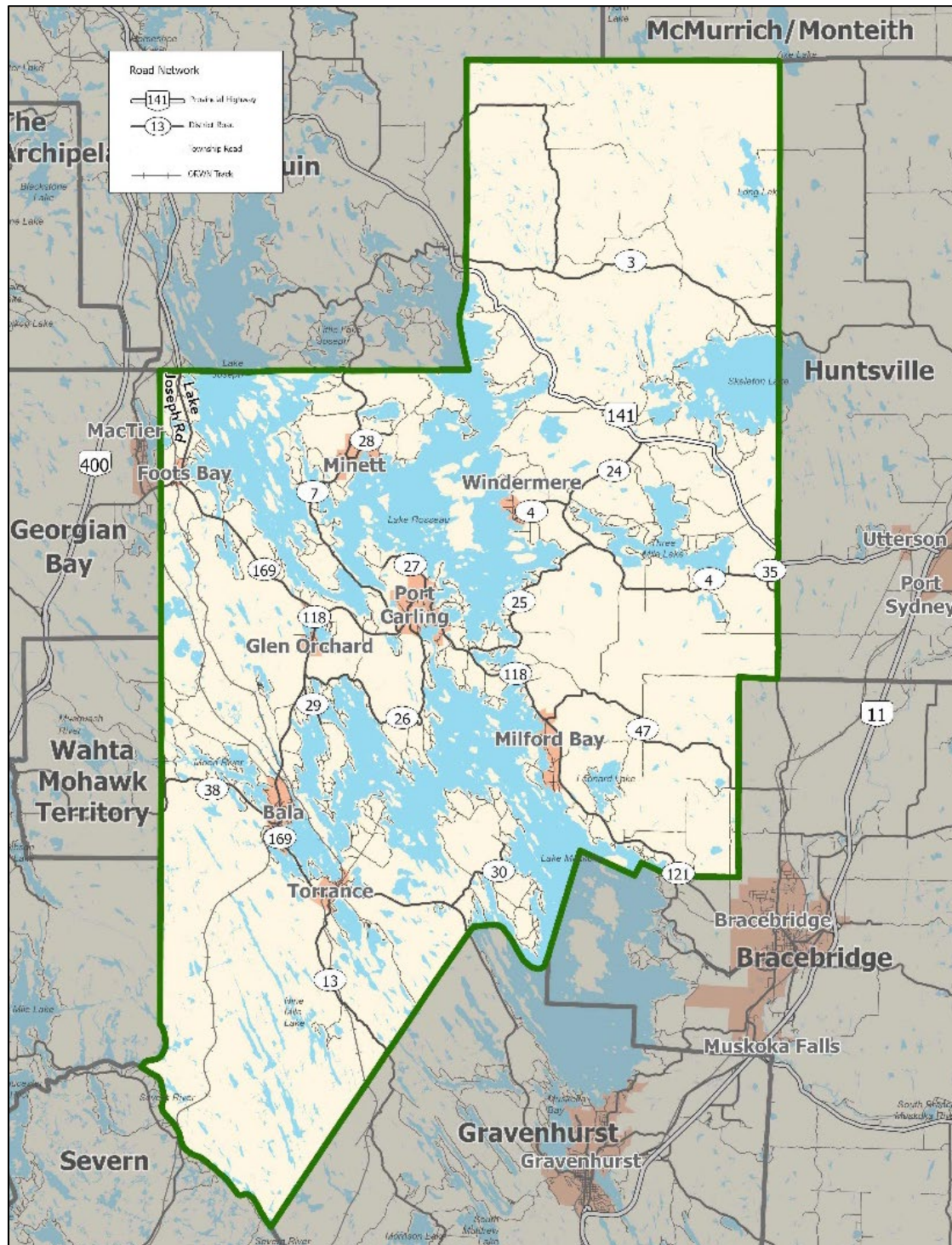
To review the road classifications within the Township, the following procedure was used:

1. Identify a list of candidate Township roads to consider as District roads based on traffic volumes being above 700 average daily vehicles or based on the set of road classification principles outlined in Section 3.0.
2. Identify a list of candidate District roads to consider as Township roads based on volumes being below 1,000 average daily vehicles or based on the set of road classification principles outlined in Section 3.0.
3. Apply the District criteria to the candidate roads to determine if any roads require transfer to the District or transfer to the Township.

6.0 Existing Road Hierarchy

The District and Township road system within the Township of Muskoka Lakes is shown in Figure G-1.

Figure G-1: District and Township Road System



7.0 Evaluation of Township Roads to Transfer to the District

7.1 Candidate Roads

A list of candidate Township roads were identified based on traffic volumes being greater than 700 average daily traffic volumes or based on a review of the Township roads and the set of road classification principles. These roads include:

- East Bay Road from Torrance Road to the end.
- Torrance Road from District Road 169 to East Bay Road.
- Milford Bay Road from District Road 118 to the end.
- Juddhaven Road from Morinus Road to the end.
- Stephen Road from District Road 118 to the end.
- Beaumaris Road from District Road 118 to the end.
- Eveleigh Road from District Road 118.
- Harris Road to Mortimer' Point Road.
- Hemlock Point Road from Peninsula Road to the end.

7.2 Road Rationalization Results

Each candidate road was evaluated based on the road rationalization criteria noted in the previous section and appropriate weights attached.

No roads were suggested to be transferred to the District.

8.0 Evaluation of District Roads to Transfer to the Township

8.1 Candidate Roads

A list of candidate District roads were identified based on traffic volumes less than 1,000 average daily traffic volumes or based on the set of road classification principles. These roads include:

- District Road 4 and Deebank Road from District Road 24 to the end / West of Government Docks.
- 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.

8.2 Road Rationalization Results

Candidate roads were evaluated for road classification based on the criteria listed above. The road segment characteristics and evaluation can be found in Table G-4 and Table G-5. The following road segments were recommended to be transferred from the District road system to the Township road system:

- 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.

The following road segments were recommended to be kept in the District road system.

- District Road 4 and Deebank Road from District Road 24 to the end / West of Government Docks.

9.0 Conclusion

The road rationalization evaluation criteria were adopted from the District of Muskoka Lakes. 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 to the Township:

- 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.

This would result in a District road system illustrated in Figure G-2.

Figure G-2: Road Rationalization Results

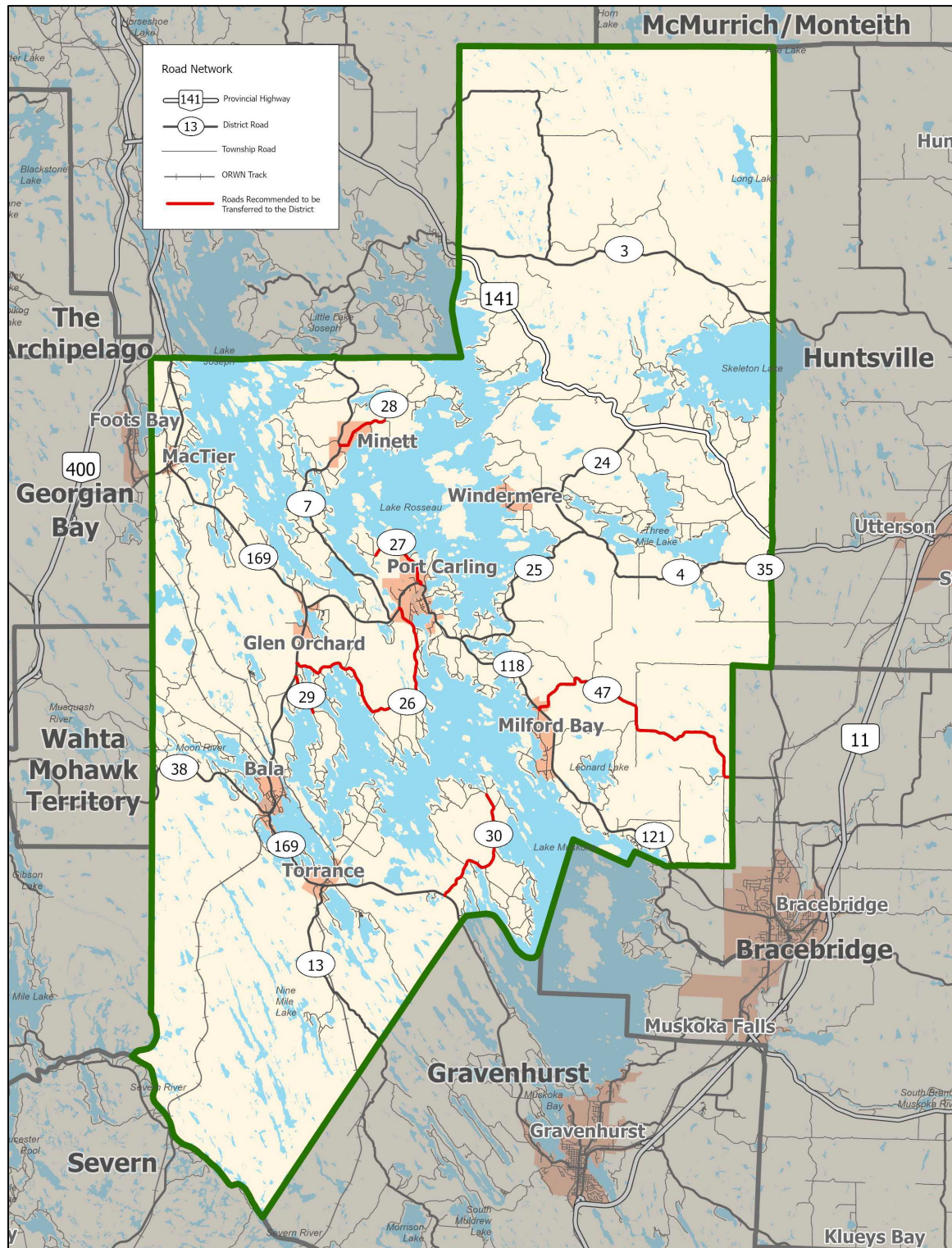


Table G-4: Road Segment Characteristics

Road Segment	Length	AADT (2019)	Daily Trucks	Truck Generating Area	Speed Limit
District Road 4 and Deebank Road from District Road 24 to the end/West of Government Docks.	3	700	35	No	50
District Road 26 from District Road 169 to District Road 118.	12	850	40	No	50
District Road 27 from District Road 118 to Robert Johnston Road.	3.5	650	36	No	50
District Road 28 from Peninsula Road to Morinus Road.	2.5	2,100	65	No	50
District Road 29 from District Road 169 to Acton Island Road/Bridge.	1.9	750	36	No	60
District Road 30 from District Road 169 to Broadley Bridge.	6.7	1,500	60	No	60
District Road 47 from District Road 118 to Township limits/Falkenburg Road.	15.6	450	20	No	60

Table G-5: Road Rationalization Evaluation

Road Segment	Urban Centre/Upper Tier Connector	Highway or Upper Tier Connector	Heavy industry	Barrier Service	Resort/Recreation al Cottage Service	Traffic Speed	Traffic Volume	Continuous within Muskoka	Continuous beyond Muskoka	Alternative Route	Weighting/Score	Recommendation
	Criteria 1, 5, and 7	Criterion 2	Criterion 3	Criterion 4	Criterion 5	Criterion 9	Criterion 11	Criterion 13	Criterion 14	Criterion 15		
District Road 4 and Deebank Road from District Road 24 to the end / West of Government Docks.	3				2		1				6	District
District Road 26 from District Road 169 to District Road 118.		2				1	1				4	Township
District Road 27 from District Road 118 to Robert Johnston Road.					2		1				3	Township

[illegible]

Appendix H

Cost Estimates

Responsibility	Category	Project / Road	From	To	Length (km)	Locations	Phasing	Improvement Type	Anticipated EA Schedule	Cost (\$) per Unit	Cost (\$)	Utilities (10%)	EA Study (\$100,000+8%)	Subtotal	Engineering (15%)	Contingency (10%)	Total Capital Cost (2023 \$)
District / Township	Roads	Emergency Services Route Study					Short	Study	Exempt	\$ 50,000	\$ 50,000			\$ 50,000			\$ 50,000
Township	Roads	Speed Study					Short	Study	Exempt	\$ 50,000	\$ 50,000			\$ 50,000			\$ 50,000
District / Township	Transit	Transit Study (to Investigate Township Connections and On-Demand Routes)					Short	Study	Exempt	\$ 70,000	\$ 70,000			\$ 70,000			\$ 70,000
Township	Transit Active	Transit Stop Improvements (3 Locations)				3	Short	Additional Amenities	Exempt	\$ 30,000	\$ 90,000			\$ 90,000	\$ 13,500	\$ 9,000	\$ 112,500
District	Transportation Active	District Road 118	Brackenrig Road	Peninsula Road	6		Short	Paved Shoulders	Exempt	\$ 249,445	\$ 1,496,667	\$ 149,667		\$ 1,646,334	\$ 246,950	\$ 164,633	\$ 2,057,917
District	Transportation Active	Peninsula Road	District Road 118	Highway 632	16		Short	Paved Shoulders	Exempt	\$ 249,445	\$ 3,991,112	\$ 399,111		\$ 4,390,223	\$ 658,534	\$ 439,022	\$ 5,487,779
MTO	Transportation Active	Highway 632	Peninsula Road	Highway 141	11		Short	Paved Shoulders	Exempt	\$ 249,445	\$ 2,743,890	\$ 274,389		\$ 3,018,279	\$ 452,742	\$ 301,828	\$ 3,772,848
MTO	Transportation Active	Highway 141	Highway 632	Deebank Road	15		Short	Paved Shoulders	Exempt	\$ 249,445	\$ 3,741,668	\$ 374,167		\$ 4,115,834	\$ 617,375	\$ 411,583	\$ 5,144,793
District	Transportation Active	Deebank Road	Highway 141	Windermere Road	5		Short	Paved Shoulders	Exempt	\$ 249,445	\$ 1,247,223	\$ 124,722		\$ 1,371,945	\$ 205,792	\$ 137,194	\$ 1,714,931
District	Transportation Active	Windermere Road	Deebank Road	Brackenrig Road	2.5		Short	Paved Shoulders	Exempt	\$ 249,445	\$ 623,611	\$ 62,361		\$ 685,972	\$ 102,896	\$ 68,597	\$ 857,465
District	Transportation Active	Brackenrig Road	Windermere Road	District Road 118	10		Short	Paved Shoulders	Exempt	\$ 249,445	\$ 2,494,445	\$ 249,445		\$ 2,743,890	\$ 411,583	\$ 274,389	\$ 3,429,862
District	Transportation Active	District Road 118	Brackenrig Road	Milford Bay Road	5.5		Medium	Paved Shoulders	Exempt	\$ 249,445	\$ 1,371,945	\$ 137,194		\$ 1,509,139	\$ 226,371	\$ 150,914	\$ 1,886,424
Township	Transportation Active	Milford Bay Road	District Road 118	1020 Beaumaris Rd	3		Medium	Shared Route	Exempt	\$ 70,083	\$ 210,250	\$ 21,025		\$ 231,274	\$ 34,691	\$ 23,127	\$ 289,093
District	Transportation Active	District Road 118	Peninsula Road	District Road 169	5.5		Medium	Paved Shoulders	Exempt	\$ 249,445	\$ 1,371,945	\$ 137,194		\$ 1,509,139	\$ 226,371	\$ 150,914	\$ 1,886,424
District	Transportation Active	District Road 169	District Road 118	Lake Joseph Road	9.5		Medium	Paved Shoulders	Exempt	\$ 249,445	\$ 2,369,723	\$ 236,972		\$ 2,606,695	\$ 391,004	\$ 260,670	\$ 3,258,369
Township	Transportation Active	Eveleigh Road	District Road 118	District Road 26	2.5		Medium	Shared Route	Exempt	\$ 70,083	\$ 175,208	\$ 17,521		\$ 192,729	\$ 28,909	\$ 19,273	\$ 240,911
Township	Transportation Active	Mortimer's Point Road	Eveleigh Road	District Road 169	2.5		Medium	Shared Route	Exempt	\$ 70,083	\$ 175,208	\$ 17,521		\$ 192,729	\$ 28,909	\$ 19,273	\$ 240,911
District	Transportation Active	District Road 169	Mortimer's Point Road	Walker's Point Road	17.5		Medium	Paved Shoulders	Exempt	\$ 249,445	\$ 4,365,279	\$ 436,528		\$ 4,801,807	\$ 720,271	\$ 480,181	\$ 6,002,258
Township	Transportation Active	Walkers Point Road	District Road 169	Walker's Point Lookout Trail	5		Medium	Paved Shoulders	Exempt	\$ 249,445	\$ 1,247,223	\$ 124,722		\$ 1,371,945	\$ 205,792	\$ 137,194	\$ 1,714,931
Township	Transportation Active	Medora Lake Road	District Road 169 (north leg)	District Road 169 (south leg)	2.5		Medium	Shared Route	Exempt	\$ 70,083	\$ 175,208	\$ 17,521		\$ 192,729	\$ 28,909	\$ 19,273	\$ 240,911
Township	Transportation Active	Juddhaven Road	Peninsula Road	Paignton House Road	2		Medium	Shared Route	Exempt	\$ 249,445	\$ 498,889	\$ 49,889		\$ 548,778	\$ 82,317	\$ 54,878	\$ 685,972
District	Transportation Active	District Road 3	Highway 141	Gross Road	7.5		Medium	Shared Route	Exempt	\$ 249,445	\$ 1,870,834	\$ 187,083		\$ 2,057,917	\$ 308,688	\$ 205,792	\$ 2,572,396
Township	Transportation Active	Gross Road	District Road 3	Hekkla Road	0.5		Medium	Shared Route	Exempt	\$ 70,083	\$ 35,042	\$ 3,504		\$ 38,546	\$ 5,782	\$ 3,855	\$ 48,182
Township	Transportation Active	Hekkla Road	Gross Road	1448 Hekkla Road	1.5		Medium	Shared Route	Exempt	\$ 70,083	\$ 105,125	\$ 10,512		\$ 115,637	\$ 17,346	\$ 11,564	\$ 144,547
Township	Transportation Active	Old Parry Sound Road	Deebank Road	Highway 141	5.2		Medium	Shared Route	Exempt	\$ 70,083	\$ 364,432	\$ 36,443		\$ 400,876	\$ 60,131	\$ 40,088	\$ 501,095
MTO	Transportation Active	Highway 141	Old Parry Sound Road	2013 Highway 141	2.2		Medium	Paved Shoulders	Exempt	\$ 249,445	\$ 548,778	\$ 54,878		\$ 603,656	\$ 90,548	\$ 60,366	\$ 754,570
Township	Transportation Active	Skeleton Lake 2 Road	Highway 141	Raymond Trail Head	1.2		Medium	Shared Route	Exempt	\$ 70,083	\$ 84,100	\$ 8,410		\$ 92,510	\$ 13,876	\$ 9,251	\$ 115,637
District	Transportation Active	Windermere Road	Deebank Road	Fife Avenue	3		Medium	Shared Route	Exempt	\$ 70,083	\$ 210,250	\$ 21,025		\$ 231,274	\$ 34,691	\$ 23,127	\$ 289,093
Township	Transportation Active	Torrance Bay Road / East Bay Road	Muskoka Road 169	Packers Bay Road	4.2		Short	Paved Shoulders	Exempt	\$ 249,445	\$ 1,047,667	\$ 104,767		\$ 1,152,434	\$ 172,865	\$ 115,243	\$ 1,440,542
Township	Transportation Active	Off-Road Trails Study					Short	Study	Exempt	\$ 50,000	\$ 50,000			\$ 50,000	\$ 7,500	\$ 5,000	\$ 62,500
Township	Transportation Active	Advisory Bike Lane Pilot Project Study					Short	Study	Exempt	\$ 20,000	\$ 20,000			\$ 20,000	\$ 3,000	\$ 2,000	\$ 25,000
Township	Parking	Downtown Parking Study					Short	Study	Exempt	\$ 30,000	\$ 30,000			\$ 30,000	\$ 4,500	\$ 3,000	\$ 37,500
Township / Developer	Lake Access	Along Morinus Road				1	Short	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	End of Rosseau Lake Road 1				1	Short	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446

Responsibility	Category	Project / Road	From	To	Length (km)	Locations	Phasing	Improvement Type	Anticipated EA Schedule	Cost (\$) per Unit	Cost (\$)	Utilities (10%)	EA Study (\$100,000+8%)	Subtotal	Engineering (15%)	Contingency (10%)	Total Capital Cost (2023 \$)
Township / Developer	Lake Access	End of Unnamed Road off of Rostrevor Road (near Treasure Island)				1	Short	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	Along Purdy Road				1	Short	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	Along Sandor Drive				1	Short	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
District	Roads	District Intersection Improvements Study					Short	Study	Exempt	\$ 20,000	\$ 20,000			\$ 20,000			\$ 20,000
Township	Lake Access Parking	McDonalds Road, Foot's Bay				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	Applan Way, Glen Orchard				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	Carlingford Road, Minett				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	Gregory Road, Minett				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	Simms Road, Ullswater				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	Skeleton Lake Road 2 / Wilson's Lodge				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	Muskoka Road #169, Bala				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	1201 Nine Mile Lake Road, Torrance				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	1132 Clear Lake Road, Torrance				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	Portage Street, Bala				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
Township	Lake Access Parking	River Street, Bala				1	Short	Parking Facility	Exempt	\$ 47,123	\$ 47,123			\$ 47,123	\$ 7,068	\$ 4,712	\$ 58,903
District / Township	Roads	Port Carling Alternate Route Feasibility Study					Short	Study	Exempt	\$ 250,000	\$ 250,000			\$ 250,000			\$ 250,000
District / Township	Roads	Port Carling Class EA Study (subject to Port Carling Alternate Route Feasibility Study)					Medium	Study	Exempt	\$ 150,000	\$ 150,000			\$ 150,000			\$ 150,000
Township	Roads	Access Feasibility Study (For New Road Corridors)					Medium	Study	Exempt	\$ 200,000	\$ 200,000			\$ 200,000			\$ 200,000
Township	Bridges	8 Township Bridges (Medora Lake Road, Doherty Road, Dee River, Rosseau Lake Road 3, Rosseau River, Island Park Road, Clear Lake Road, Bala Bay Dock)				8	Medium	Signage Installation	Exempt	\$ 300	\$ 2,400			\$ 2,400	\$ 360	\$ 240	\$ 3,000
Township	Bridges	4 Township Bridges (Medora Lake Road, Dee River, Rosseau Lake Road 3, Milford Bay)				4	Medium	Pavement Markings	Exempt	\$ 4,713	\$ 18,853			\$ 18,853	\$ 2,828	\$ 1,885	\$ 23,566
Township / Developer	Lake Access	Along Cooper Point Road				1	Medium	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	End of Stroud Beach Road				1	Medium	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	End of Glencoe Heights Road				1	Medium	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	End of Woodington Road				1	Medium	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	Along Renley Road				1	Medium	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446

Responsibility	Category	Project / Road	From	To	Length (km)	Locations	Phasing	Improvement Type	Anticipated EA Schedule	Cost (\$) per Unit	Cost (\$)	Utilities (10%)	EA Study (\$100,000+8%)	Subtotal	Engineering (15%)	Contingency (10%)	Total Capital Cost (2023 \$)
District / Township	Roads	Construction of the Port Carling Alternate Route (subject to Feasibility Study and EA Study)					Long	New Construction	C	\$ 8,000,000	\$ 8,000,000	\$ 800,000		\$ 8,800,000	\$ 1,320,000	\$ 880,000	\$ 11,000,000
Township / Developer	Lake Access	Along Bluff Road / Juddhaven Road (west of Marie Avenue)				1	Long	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	Along North Shore Road (north of Sandwood Road)				1	Long	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	Along Mortimers Point Road				1	Long	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	End of Heather Lodge Road				1	Long	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	Along Martins Cove				1	Long	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	End of Pleasant View Point Road				1	Long	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	Along Woodwinds Road				1	Long	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446
Township / Developer	Lake Access	Along Glen Gordon Road				1	Long	New Lake Access	Exempt or B	\$ 208,757	\$ 208,757		\$ 50,000	\$ 258,757	\$ 38,814	\$ 25,876	\$ 323,446

Appendix I

Organizational Capacity Review



Appendix I – Organizational Capacity Review

Date: June 30, 2023 **Project No.:** 300055345.0000
Project Name: Muskoka Lakes TMP
To: Township of Muskoka Lakes
From: R.J. Burnside & Associates Limited

1.0 Organizational Capacity Objectives

1.1 Township Assets and Operations

The Township of Muskoka Lakes (Township) transportation system consists of a road network, active transportation facilities, off-road trails, and parking stalls. The road network includes the operation of Township roads and related access approval, traffic control signals, regulatory and informational signage, and pavement markings. The Township owns and maintains sidewalks, trails, and paved shoulders. The Township also owns a fleet of vehicles to facilitate operations.

1.2 Township Operational Responsibilities

The Township has a responsibility to maintain the transportation system in a good state of repair, providing efficient operations and evolving toward best practices. Good state of repair includes maintaining adequate infrastructure maintenance road, sidewalk and bridge needs studies, and asset management strategies. Efficient operations include providing capacity and connections in support of growth and to meet sustainability objectives.

Operational capacity includes the number of resources, skill sets, and organizational structure necessary to provide a good state of repair, efficient operations, and best practices. The risks and threats associated with not meeting operational responsibilities due to a lack of operational capacity include:

- **Financial and Economic Development Impacts:** Organizational capacity constraints can affect the ability of the Township to respond to opportunities and commitments effectively and efficiently in the delivery of infrastructure and transportation services; this may result in the risk of additional costs, lost revenue opportunities, and / or loss of economic development opportunities.

- **Impacts to Reputation:** Risks to reputation include public opinion of the safety and livability of the community, the ability to attract development and meet economic objectives, impacts to staff satisfaction and retention, and implications for staff and elected official collaboration.
- **Impacts to Stakeholder Relations:** The ability to deliver transportation services in terms of quality, timeliness, and comprehensiveness makes communication with residents and other stakeholders easier, fostering positive relationships for future initiatives.
- **Liability Impacts:** The inability to provide services that may affect safety or other stakeholder needs in a timely manner may contribute to the risk of liability.

1.3 Future Operational Objectives

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.

The planned transportation system and programs identified in the Transportation Master Plan will need adequate organizational capacity to accommodate growth and provide the expansion of transportation services. It will need to provide an organizational structure sufficient to:

- Effectively manage a capital program for additional lane km of roadway.
- Effectively manage a capital program for additional km of sidewalks and trails.
- Capacity to manage active transportation.
- Capacity to manage lake accesses and parking.
- Capacity to initiate support systems for transit service operations.
- Capacity to initiate parking studies and potentially new operational practices.
- Capacity and expertise associated with proactive safety improvement program.
- Capacity to investigate new technology applications.

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.

2.0 Organizational Capacity and Demand

2.1 Current Organizational Structure and Capacity

The organizational structure is the framework of the organization that defines the roles of staff and external support in the delivery services and programs. The organizational structure together with the business practices govern how the organization will be run.

Ideally, the organizational structure provides sufficient resources to meet the needs of residents and other stakeholders. It should also define clear responsibility for specific municipal services

for efficient delivery. Staff capabilities should be aligned with the services and the desired level of service.

The existing state of the organizational structure was documented, including departmental structure and full-time equivalent staff (FTE), for services including the delivery of the Transportation Master Plan recommendations. Figure 1 illustrates the existing organizational structure and service responsibilities of key current programs and services.

Much of the road program development and delivery is managed by the Director of Public Works with the support of the Public Works Technician and Public Works Foreman, and staff of approximately 15 (FTE) hands, labourers, and equipment operators. Additional support of consultants and contractors is limited.

2.2 Organizational Service Demands

Under current conditions, operational demands include providing and managing road, trail facilities, and Uber transit funding. System management includes oversight of capital investment and on-going operations. Development Management related demands include processing of development applications, road access permits and oversight, and assumption of new roads built through development.

Existing operational services and programs were documented in Table I-1, including some benchmarking measures.

Future demands related to the engineering requirements of development application processing are expected to increase as a result of the requirements of provincial Bill 23 More Homes Built Faster Act. Furthermore, additional resources are expected to be required to address the processing timelines of Bill 109 More Homes for Everyone Act.

Given the Transportation Master Plan recommendations, increases in operational demand were also identified in Table I-1. There are implications of the Transportation Master Plan on new trails, transit support, regular maintenance operations, with expanded road and trail infrastructure, lake access improvements and parking facility improvements.

Figure 1: Current Organizational Structure

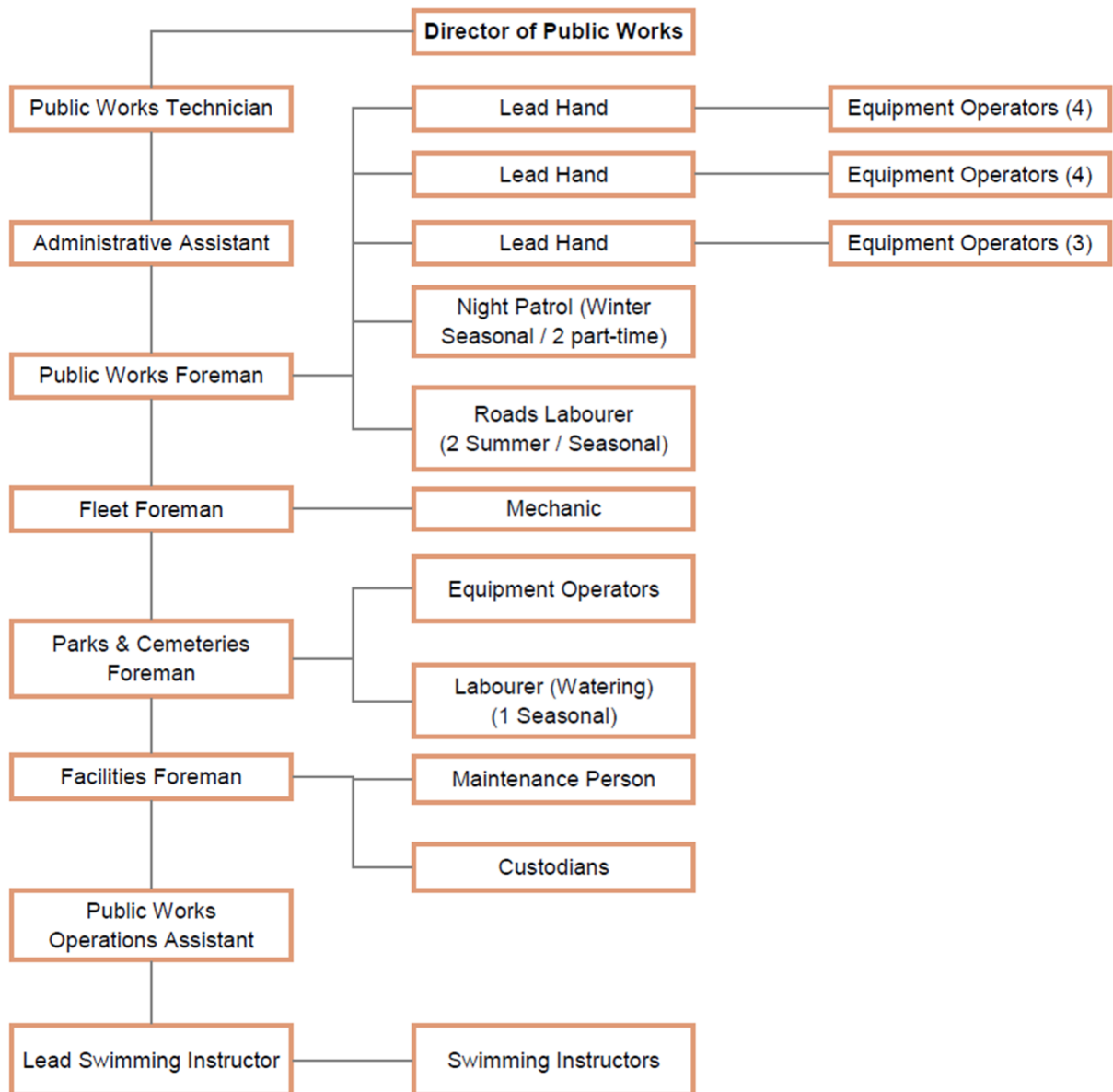


Table I-1: Current and Projected Service Demand

Service	Description	Current Measures	Projected Measures
Road Operations and Maintenance	<ul style="list-style-type: none"> • Winter and spring maintenance. • Routine pavement maintenance. • Signs, signals, marking maintenance Fleet. 	380 km of Township roads, 110 km of District roads.	463 km of Township roads.
Capital Program: Roads Infrastructure	<ul style="list-style-type: none"> • Road Rehabilitation Program, including paved shoulders, share the road signage. • New roads. • Equipment and vehicles. • Advisory Bike Lane Pilot. 	\$2.1 M per annum.	\$11 M per annum.
Trails Operations and Maintenance	<ul style="list-style-type: none"> • Winter and spring maintenance. • Sidewalk and trail rehabilitation. • Surface, signs, marking maintenance. • Parks and Recreation Master Plan. • Transportation Master Plan. 	12.8 km	39.4 km
Capital Program: Trails and Sidewalk	<ul style="list-style-type: none"> • Off-road trails through Transportation Master Plan. • Sidewalk widening. 	23.6 km of off-road trails.	50.2 km of off-road trails.
Transit Planning and Operations	<ul style="list-style-type: none"> • Partnerships management and funding. • Operations and capital investment. 	-	3 bus stops with enhanced amenities, Transit Study partnership.
Development Engineering / ROW Management	<ul style="list-style-type: none"> • Management and assumption of new development roads. • Site plan / consent applications. • Access permits. 	7 plans, 7,000 existing permanent residents, 27,000 seasonal residents.	29,800 seasonal residents by 2046 (0.2% annual growth). Implications of Bill 109 and 23.
Downtown Parking	<ul style="list-style-type: none"> • Parking management studies. 	291 stalls	Downtown utilization studies, parking management strategies.

Service	Description	Current Measures	Projected Measures
Lake Access	<ul style="list-style-type: none"> • Lake access locations. • (Docks, ramps, sheds, parking). • Overnight parking passes at lake accesses. 	4,800 m ² of dock area, 1,500 m ² of ramp area, 16,500 m ² of parking area	6,700 m ² of dock area. 2,600 m ² of ramp area. 34,000 m ² of parking area.
Public Works Studies, Policies	<ul style="list-style-type: none"> • Transportation Master Plan, TMP Update. • Speed Study. • Port Carling Alternate Route Study. 	\$150,000	\$150,000 for the TMP. \$50,000 for the Speed Study. \$250,000 for the Route Study.

3.0 Anticipated Organizational Needs

3.1 Benchmarking Study

To help assess the organizational needs required to support the Town's planned growth and the related Transportation Master Plan initiatives, available Benchmarking survey data was used to assess the state of the practice in staffing. The data included the defined roles, responsibilities, and staff complement of full-time equivalents (FTEs). The benchmark staffing levels were compared to the municipality size, growth, transportation infrastructure and capital expenditure.

Research and survey results have indicated the following:

1. Muskoka Lakes generally has a lower (30% lower) than benchmark FTE staff resources per kilometre of roadway. It is noted that the benchmark municipalities have higher development growth activity and requirements, but the benchmark municipalities have lower resource demands for lake access.
2. Most agencies have additional staff, manager or engineer, to lead engineering studies, infrastructure planning and design. Several jurisdictions have transportation planners (both senior and intermediate) that are responsible for providing in-house transportation analysis / support and assist in the review of studies. The Township relies on the Director to provide this role with the assistance of the Public Works Technician.
3. Agencies with active transportation infrastructure and transit support programs, staffing includes an active transportation coordinator, engineer or planner.
4. The transportation design and/or urban design staff for some municipalities implement progressive design approaches for complete streets and low impact development (LID).
5. An increasing number of jurisdictions have staff with some training in the review of collision data and coordinate proactive safety reviews.

3.2 Gap Analysis

3.2.1 Staff Capacity

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.

3.2.2 Skill Set Needs

Through transportation services identified in the Transportation Master Plan and provided by comparable jurisdictions, the required transportation services and client needs from the Township are identified in Table I-2. Some of these services and related skill sets can be provided through contracted assignments and support, while other services are core to the operations and should be developed and maintained by in-house staff.

Table I-2: Recommended Services and Skill Sets

Service	Activities	Service Provider
Traffic Data Collection and Management	<ol style="list-style-type: none"> 1. Coordinate technology management. 2. Traffic volume data collection. 3. Traffic speed data collection. 4. Traffic volume database management and reporting. 5. Collision database management and reporting. 	In-house
Traffic Signs and Markings	<ol style="list-style-type: none"> 1. Develop and maintain signage and markings practices. 2. Maintain signage and markings in good repair. 3. Implement new signage and markings with by-laws. 	In-house
Traffic Studies	<ol style="list-style-type: none"> 1. Speed management and traffic calming. 2. Road safety reviews and audits. 3. Parking studies. 	In-house / Consultant support
Transportation Planning Studies	<ol style="list-style-type: none"> 1. Transportation Master Plan update. 2. Active Transportation Plans and Designs. 3. Alternative Route Study. 4. Transit support initiatives. 	Consultant
Design and Construction	<ol style="list-style-type: none"> 1. Road Class EAs and detail designs. 2. Trail and Sidewalk designs. 3. Cycling facility studies and designs. 4. Contract administration 	In-house / Consultant support
Lake Access	<ol style="list-style-type: none"> 1. Lake Access Dock and Parking Studies. 2. Lake Access Implementation. 	In-house / Consultant / service provider

Service	Activities	Service Provider
Asset Management and Capital Programming	<ol style="list-style-type: none"> 1. Road Needs studies and pavement management system. 2. Sign management system. 3. Capital budgeting and council reporting. 	In-house / Consultant support
Development / ROW Management	<ol style="list-style-type: none"> 1. Review of site plan / zoning / consent applications. 2. Review of traffic impact studies. 3. Review of access permit requests. 4. Review and approval of development design / construction. 	In-house / Consultant support

3.2.3 Staff Structure and Reporting Alignment

Services are best provided when there is a clear leader and champion for distinct services and where each service has a distinct program budget. These clear lines of responsibility can contribute to better accountability and ease of communication.

It is recommended that clear “Program Leader” be identified to allow for delegation of oversight and responsibility for programs. The needs associated with increased development process demands and Transportation Master Plan initiatives will require Program Leaders to have oversight on certain services and activities and some new services and activities that may warrant distinct programs and budgets, including:

- **Asset Manager:** Create a dedicated position to lead transportation studies and capital initiatives for roads, active transportation, lake access, safety initiatives and transit support initiatives with the support of the Public Works Technician. A GIS technician may also work under the Asset Manager.
- **Development Engineering Coordinator:** Create a position that coordinates safety and operational requirements of new developments, entrance permits and lake access needs.
- **Traffic Engineering Technician:** Create a position that implements speeding mitigation measures, operates the proposed parking permitting system at lake accesses, and manages the parking demand and supply in the downtown areas.

The allocation of these new roles within the organizational structure will require a broader review of resources and reporting relationships. Given potential future growth and increase in infrastructure requiring management and maintenance, additional staff FTEs are expected to be required over time. Benchmarking assessments of staffing requirements are recommended over time.

3.2.4 Training or Recruitment Needs

For the Township to provide the services identified in Table I-2, there may be a need for additional training. If current staff are not a fit for the position(s) or if training is not viable, then the Township skill sets can be developed through recruitment. It is recommended that position descriptions and training alternatives be investigated.

4.0 Organizational Capacity Recommendations

To support the Transportation Master Plan planned infrastructure and increased demand associated with provincial growth policies, it is recommended that:

- The Township establish three additional full-time equivalent positions including: Asset Manager, Development Engineering Coordinator and Traffic Engineering Technician.
- 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.

These recommendations reflect short-term needs and should therefore be updated or re-assessed as part of the next Transportation Master Plan Update.