Township of
SEVERN

Transportation Master Plan Update

September 2023 – Version 1.0.0

McINTOSH PERRY

EXECUTIVE SUMMARY

Introduction

A Transportation Master Plan (TMP) is a visionary document that includes plans, policies, and strategies for transportation infrastructure and services for walking, cycling, transit and roads. The plan guides staff, stakeholders, and decision-makers on transportation development and is typically updated every five years to address the changes in population, employment, travel trends or policy direction.

Township of Severn (Severn) undertook its previous TMP in 2014 with the aim of further developing a sustainable, functional, and optimized transportation network. The 2014 TMP assessed and recommended improvements to the road and active transportation networks to meet the projected population and employment growth up to a 2031 planning horizon year.

Severn is undertaking an update to their 2014 TMP to support the policies of the 2022 Official Plan, incorporate updated population and employment forecasts, and to guide further development of the multi-modal transportation network over the next 20 years (until the year 2041). This executive summary outlines the purpose of this study, key highlights of the process, and the resulting major implementation recommendations.

This TMP was completed in compliance with the Municipal Class Environmental Assessment (MCEA) process for master plans and fulfills Phases 1 and 2 of the process, identifying an opportunity statement, assessment of multiple alternatives, and public consultation.

The TMP is a truly Aspirational and Visionary Document. The TMP only addresses Phases 1 and 2 of the Municipal Class Environmental Assessment process. As a result, a TMP provides the basis for carrying out follow-on EA studies of the specific components/projects, including the problem and/or opportunity being addressed, and the range of alternatives being considered. Each project listed in this plan will be subject to additional project deliberation during the components/projects' annual budgeting process and will be reviewed in strict accordance with the public consultation process for the various MCEA Project Schedules as applicable.

Public Engagement

The following consultation opportunities have been completed for Severn's TMP update process:

- Notice of Commencement | July 16, 2021
- Online Engagement Survey #1 | February 11 to April 1, 2022
- Public Information Centre #1 (PIC 1) (Online) | March 16, 2022
- Public Information Centre #2 (PIC 2) (Online) | September 14, 2022
- Final Draft TMP Report to Council | April 26, 2023
- Final TMP Report to Council| June 14, 2023
- Final TMP Report to Council| September 6, 2023
- Final TMP Report to Council| October 25, 2023
- Notice of Completion | November 13, 2023

Two public engagement sessions were held at critical points in the TMP update process. The first session introduced the public to the master plan process, the scope of the project, and assessment of the existing conditions within Severn. Comments were solicited from attendees to further develop the project team's understanding of transportation within Severn. The second session highlighted the future transportation conditions within Severn and the potential recommended solutions. Both public engagement sessions were held virtually with project material presented by the project team.

Preferred Alternative

Based on feedback received from the consultation process and evaluation of four alternatives (do-nothing, status quo, road network strategy, and multi-modal network strategy), the preferred solution was selected as follows:

Alternative 3: Road Network Strategy

Severn would focus investment on strategic road network improvements, such as road urbanization, local traffic operation improvements, and maintain existing haul routes for aggregate production. Roads would prioritize active transportation facilities such as sidewalks and multi-use pathways. Corresponding strategic investment would be made towards providing safer pedestrian facilities.

Transportation Master Plan Recommendations

This TMP update contains important recommendations throughout the document that include a range of physical infrastructure projects and additional studies intended to enhance Severn's

transportation network and to make Severn more resilient to changing travel patterns and growth. However, not all recommendations are required immediately or concurrently, nor is there available capital budget to complete all projects immediately. Based on population and employment forecasts, anticipated level of achievable operational improvements, and to establish a feasible timeline that can be reasonably achieved, the following planning horizons have been set for the proposed improvements:

- Short-Term (Immediately to 5 years);
- Medium-Term (6 to 10 years), and;
- Long-Term (11 to 20 plus years).

As part of this TMP update, an Implementation Plan was developed which outlines the process for advancing the various recommended road and active transportation projects. The plan includes high-level descriptions of the projects and low-order conceptual cost estimates. The Implementation Plan provides the framework for effective and efficient progress of identified projects.

Road Network Implementation Plan

Table ES.1 summarizes the recommended road network implementation plan along with the high-level conceptual costs. In summary, the recommended short-term road projects total **$4,612,000**, the medium-term; **$10,193,000**, and the long term**; $3,701,000**. Development led projects total **$22,948,000**, while the recommended MTO projects total **$25,041,000**.

The plan is intended to provide improved access to Severn's existing transportation network. Analysis of traffic operations indicated that the existing Severn roads generally have sufficient capacity to accommodate future travel demand. As such, recommendations include the following overarching project types:

- Right of Way (ROW) widening to accommodate on-street parking, urbanization, active transportation facilities, etc.
- Private road standardization through **Local Area Improvement** for various sub-standard roads located on municipal lands recommended to be assumed by Severn. It is a recommendation of this plan, that these jurisdictional changes be proposed to the existing community and that projects only advance if more the 50% of the benefitting property owners agree to the local area improvement charge and that all associated costs to acquire land or improve the roadways will be funded by the benefitting property owners. Refer to Section 7.4.1 of the Report.

- One of the most significant recommendations is to identify a new westerly haul route for heavy vehicle traffic to access the westerly provincial highway network without travelling through the built-up areas of Severn.
- Various new roads as part of future development projects.

Various operational improvements such as traffic signals at Division Road and Burnside Line and a Pedestrian Cross-over at the Coldwater Public School.

Active Transportation Implementation Plan

Table ES.2 summarizes the recommended implementation plan for Severn's Active Transportation network. In summary, the recommended short-term road projects total **$1,162,000**, the medium-term; **$1,637,000**, and the long term**; $2,399,000**. Development led projects total **$141,000**, while the recommended MTO dependant projects total **$10,000** (Burnside Bridge Replacement Project - Bike Lane).

The recommended active transportation projects serve to provide additional pedestrian safety through an improved sidewalk network as well as improved circulation to and from recreational trails. Various projects such as shoulder paving, bike lanes, and signed bike routes are intended to develop an overarching cycling network through Severn which largely coincides with the recommended provincial wide cycling network.

Table ES.1: Road Network Implementation Plan and Costs (2022 CAD)

Project ID	Project Descriptions	Cost
Short-Term (0-5 Years)		
RDP.1	The Lane conversion to one-way street from Highview Avenue to Cumberland Road	$30,000
RDP.2	Signalization at intersection of Burnside Line at Division Road	$900,000
RDP.3.1	West Street extension northerly to Reinbird Street - Schedule B Environmental Assessment completed. Construction to start in 2023.	$1,500,000 (Construction Scheduled for 2023)
RDP.4	Gill Street ROW widening and urbanization from Coldwater Road to the new Greenwoods Landing development road	$499,000
RDP.5	1-way overhead flashing beacons at intersection of Division Road West / Uhthoff Line	$100,000
RDP.6	Pedestrian Crossover (PXO) at Gray Street fronting Coldwater Public School	$100,000
RDP.7	Twin Oaks Subdivision - Private road standardization *	$1,483,000
	Total	$4,612,000
Medium-Term (6 - 10 Years)		
RDP.8	West Canal Road - Private road standardization *	$968,000
RDP.9	Claresbridge Lane - Private road standardization and bridge rehabilitation *	$5,292,000
RDP.10	Michael Anne Drive ROW widening and urbanization	$418,000
RDP.12	Viking Marina Road - Private road standardization *	$283,000
RDP.13	Brick Pond Road / Wylie Street Cross-section urbanization from Gray Street to River Street	$514,000
RDP.14	Gray Street ROW widening to 20 m supporting on-street parking, and bike lane	$1,818,000
RDP.15	Coldwater Road / River Street at Gray Street / Sturgeon Bay Road Signalization (requires widening of Gray Street to facilitate)	$900,000
	Total	$10,193,000
Long Term (11-20 Years)		
RDP.16	Laughlin Falls Road paving from County Road 16 to Taylor Line	$304,000
RDP.19	Dunlop Drive - Private road standardization *	$149,000
RDP.20	Undertake study to address insufficient ROW on Bennett Avenue	$20,000
RDP.21	Murphy Road Extension Parallel with Highway 11 to Brodie Drive / Hurlwood Lane - Identified as City of Orillia Project	-
RDP.22	Haul Route extension westerly to Highway 12	Unknown
RDP.23	New road servicing Severn industrial park lands off Carlyon Line per Official Plan	$3,228,000
	Total	$3,701,000
Provincial Plans		
PROV RDP.1	Consultation with MTO to request review of Highway 11 realignment at Westshore	-
PROV RDP.1.2	New Service Road in Westshore, south of proposed Highway 11 realignment	$25,041,000
PROV RDP.2	Old MTO plans for new Class 1 Highway	-
	Total	$25,041,000
Development Driven		
DEV RDP.1	Greenwood Landings new development roads (urban cross-section)	$2,283,000
DEV RDP.2	Anderson Line subdivision new development roads (urban cross-section)	$832,000
DEV RDP.3	Division Road subdivision new development roads	$1,190,000
DEV RDP.4	Menoke Beach Road subdivision new development roads (urban cross-section) and collector road upgrades	$2,272,000
DEV RPD.5	Shadow Creek subdivision new development roads (urban cross-section)	$7,577,000
DEV RDP.6	Turnbull subdivision new development roads (urban cross-section)	$2,779,000
DEV RDP.7	Fesserton Side Road subdivision new development roads	$465,000
DEV RDP.8	Port Staton Parkway realignment	$455,000
DEV RDP.9	North Brick Pond subdivision new development roads (urban cross-section)	$1,591,000
DEV RDP.10	Riverdale Estates subdivision new development roads	$648,000
DEV RDP.11	New Industrial Road connection between new Greenwood Landings Road and Southorn Road	$367,000
DEV RDP.12	Town Line subdivision new development roads	$1,000,000
RDP.3.2	Further Extension of West Street Northerly - Future development driven	$1,162,000
RDP.3.3	West Street Connection to County Road 17 - Future development driven	$327,000
	Total	$22,948,000

* Note: Projects noted under Section 7.4.1 Jurisdiction Changes are funded through Local Area Improvement charges

Table ES.2: Active Transportation Network Implementation Plan (2022 CAD)

Project ID	Project Descriptions	Cost
Short-Term (0-5 Years)		
AT.1	Menoke Beach Road Multi-Use Path (MUP)	$77,000
AT.2	Westshore Recreational Centre MUP	$38,000
AT.3	Washago Sidewalk Improvements (Hamilton Street, Quetton Street, Muskoka Street)	$173,000
AT 4	Coldwater Road – Foodland	$80,000
AT.5	Carlyon Line - Paved Shoulders	$395,000
AT.6	Brodie Drive - Paved Shoulders	$328,000
AT.7	John Street / Firehall Lane / George Street MUP	$32,000
AT.8	Fairgrounds Pedestrian Path	$39,000
	Total	$1,162,000
Medium-Term (6 - 10 Years)		
RDP.9	Michael Anne Drive Sidewalks	* Cost Captured Under Road Network Implementation Plan
AT.8	Bayou Road Sidewalk	$126,000
AT.9	Goldstein Road MUP	$129,000
AT.10	South Sparrow Lake Road MUP	$138,000
AT.11	Wainman Line MUP	$291,000
AT.12	Division Road West MUP	$119,000
AT.13	Severn Signed Bike Route (Various Roads)	$32,000
AT.14	Woods Bay Road / Thomson Crescent - Paved Shoulders	$408,000
AT.15	Soules Road / Telford Line Overpass	$135,000
AT.16	Sturgeon Bay Road - Sidewalk & Cycling Lanes	$131,000
AT.17	Menoke Beach Road - Paved Shoulders	$128,000
RDP.14	Gray Street Sidewalks	* Cost Captured Under Road Network Implementation Plan
	Total	$1,637,000
Long Term (11-20 Years)		
AT.18	Bayou Road Sidewalk	$180,000
AT.19	Highview Avenue & Coronation Avenue Sidewalks	$139,000
AT.20	Marchmont/Bass Lake Woodlands Sidewalk Network	$684,000
AT.21	Division Road West - Paved Shoulders	$991,000
AT.22.1	Muskoka Street Paved Shoulders	$335,000
AT.22.2	Muskoka Street Bike Lane	$3,000
AT.23	Coldwater Road Bike Lane	$7,000
AT.24	Uhthoff Trail Alignment	* See Project Description in Sec.9.2.3
	Total	$2,339,000
Provincial Led		
PROV AT.1	Burnside Bridge Replacement Project - Bike Lane	$10,000
	Total	$10,000
Development Driven		
DEV RDP.4	*Noted within Road Network Implementation Plan - Collector Upgrades include Bike Lanes on Menoke Beach Road	-
DEV RDP.9	*Noted within Road Network Implementation Plan – Brick Pond Subdivision Sidewalks	-
DEV AT.1	Shaw Street Sidewalks	$26,000
DEV AT.2	Avery Lane Sidewalks	$115,000
	Total	$141,000

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Appendices

1.0 INTRODUCTION

A Transportation Master Plan (TMP) is a visionary document that includes plans, policies and strategies for transportation infrastructure and services for walking, cycling, transit and roads. The plan guides staff, stakeholders, and decision-makers on transportation development and is typically updated every five years to address the changes in population, employment, travel trends or policy direction.

The Township of Severn (Severn) undertook its previous TMP in 2014 with the aim of further developing a sustainable, functional, and optimized transportation network. The 2014 TMP assessed and recommended improvements to the road and active transportation networks to meet the projected population and employment growth up to a 2031 planning horizon year.

Severn is undertaking an update to their 2014 TMP to support the policies of the 2022 Official Plan, incorporate updated population and employment forecasts and to guide further development of the multi-modal transportation network over the next 20 years (until the year 2041). This chapter will discuss the purpose of this study and how it was completed.

1.1 Geographical Context

Severn, illustrated in **MAP 1** is located within central Ontario, north of the Greater Toronto Area (GTA) and the City of Barrie. Considered the gateway to the Canadian Shield, Severn is known for its natural beauty and historic charm. Severn is part of a two-tier system of local government, whereby Simcoe County provides regional services to the local municipalities (excluding the City of Barrie and Orillia). These services include a system of County roads, a County Wide Active Transportation System, and a regional transit service (LINX), all of which will be considered within the TMP update. The respective jurisdictions of Severn's Roads are illustrated in **MAP 2**.

Severn is comprised of several smaller communities and rural areas including the following:

- Coldwater;
- Washago;
- Port Severn;
- Fesserton;
- Marchmont/Bass Lake Woodlands, and
- Westshore.

The above villages all have unique identities with varying needs. Severn is also located within the Greater Golden Horseshoe (GGH), a secondary region of Southern Ontario that includes the GTA.

The GGH is the most densely populated and industrialized region in Canada. Severn itself has experienced an 8.3% growth in population from approximately 13,462 people in 2016 to 14,576 people in 2021. The population is expected to grow further to approximately 17,000 people and 4,300 jobs by 2031, illustrating a significant amount of growth and increasing travel demands.

Overall, Severn has over 400 kilometres (km) of 2-lane rural / semi-urban / urban roadways along with 39 bridge and culvert structures. Aside from being known for its natural beauty and heritage; Severn is also home to substantial reserves of mineral aggregate resources with aggregate extraction being a vital component of Severn's local economy. There are several aggregate mining operations within Severn that are critical in supplying the construction activities within the GGH, as well as further north into the District of Muskoka. Ensuring that these mining operations have adequate, safe, and efficient roadways and routes to major transportation corridors will be an important consideration in the development of the TMP update. Equally as important is having a plan in place that will minimize the volume of truck traffic through the key corridors that also serve residential, recreational, tourism, and commercial activity, effectively separating heavy vehicle traffic from other forms of traffic.

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 1: TOWNSHIP OF SEVERN

TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF RAMARA
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA

Fesserton
Marchmont
Washago
West Shore
Ardtrea
South of Division Road Secondary Plan

East Shore Road (Pvt.)
Graham Road (Pvt.)
Frankland Lane (Pvt.)
Beaver Dam Road
White Pines Road
Hoards Road (Pvt.)
Orimat Road (Pvt.)
Swift Rapids Road (Pvt.)
Toplitt Road
Hamer Trail (Pvt.)
Brown Trail
Ellis Road
Bay Road (Pvt.)
James Lane (Pvt.)
Eagle Road
Shell Road
Narrows
Hoggins Road
Quarry Road
Irish Line
Fell Line
Oakley Sideroad
Kitchen Sideroad
Silk Line
Taylor Line
Laughlin Falls Road
Lowering Line
Copelands Lane (Pvt.)
Kinnear Sideroad
Lawson Line
Mount Stephen Road
Jermey Road
Canyon Line
Maple Valley Road
Brennan Line
Cambrian Road
South Sparrow Lake Road
Grass Lake Line
Boyd Road
West Coast Road
Coopers Falls Road (County Road 52)
Fawcett Road (Pvt.)
Anchor Drive
Highway 11 North
Tumbull Drive
Pier Road
Point Road
Hampshire Mills Line
Telford Line
Stockdale Road
Burnside Line
Uhthoff Line
Wainman Line
Thorburn Road
Foxmead Road
Balkwill Line
Southorn Road
Dunns Line
Anderson Line
Our Farm Road
Lower Big Chute Road
Cartwater Road
Highway 400 North
County Road 169
Westview Road
Town Line
Fairgrounds Road
Warminster Road
Division Road West
Fox Road (Pvt.)
Brodie Drive
Highway 11 South
Ardtrea Road
Osprey Lane
Highway 12

0 1,375 2,750 5,500
Scale 1:119,648 Metres

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
May., 25, 2022

LEGEND

- Waterbody
- Watercourse
- Railway
- Road

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 2: ROAD JURISDICTION

TOWNSHIP OF GEORGIAN BAY

TOWNSHIP OF MUSKOKA LAKES

TOWN OF GRAVENHURST

TOWNSHIP OF ORO-MEDONTE

CITY OF ORILLIA

Port Severn

Fesserton

Coldwater

Marchmont

West Shore

Ardtrea

Washago

South of Division Road Secondary Plan

Graham Road

Frankland Lane

East Shore Road (Pvt.)

Dam Road

White Pines Road

Ellis Road

James Lane (Pvt.)

Nature Wilds Road (Pvt.)

Narrows Road

Hodgins Road

Highway 400 North

Quarry Road

Fell Line

Irish Line

Oakley Sideroad

Kitchen Sideroad

Silk Line

Taylor Line

Lowering Line

Laughlin Falls Road

Mount Stephen Road

Copelands Lane (Pvt.)

Konear Sideroad

Lawson Line

Waubview Road

County Road 16

Highway 400 South

Coldwater Road

Lower Big Chute Road

Anderson Line

Southorn Road

Dunns Line

Swift Rapids Road (Pvt.)

Jermey Road

Carlyon Line

Maple Valley Road

Balkwill Line

Foxmead Road

Hampshire Mills Line

Brennan Line

Cambrian Road

Telford Line

Nichols Line

Highway 11 North

Stockdale Road

Thorburn Road

Wainman Line

Fairgrounds Road

Uhthoff Line

Burnside Line

Warminster Road

Town Line

Division Road East

Division Road West

Brodie Drive

Highway 11 South

Big Chief Road

Ardtrea

Osprey Lane

Drive

Highway 12

Torpitt Road

Orimat Road (Pvt.)

Cedar Road (Pvt.)

Hamley Trail (Pvt.)

South Sparrow Lake Road

Grass Lake Line

Boyd Road

Canal Road

Coopers Falls Road (County Road 52)

Fawcett Road (Pvt.)

Ashnew Road

Turnbull Drive

N

W E

S

0 1,375 2,750 5,500

Scale 1:119,648 Metres

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
Jun., 24, 2022

LEGEND

- Waterbody
- Watercourse
- Railway

Maintenance Agency

- County/Region
- Province
- Municipality
- Private

1.2 Purpose of Plan

This TMP update is a long-range strategic plan for the entirety of Severn that identifies transportation infrastructure requirements to address existing challenges and support growth, along with policies to guide transportation and land use decisions. TMP's are integrated with environmental planning and sustainability principles and provide the framework for implementing suggested improvements on an area-wide or township-wide basis. This plan also provides the unique opportunity for proactive thinking, anticipating community needs, and preparing for emerging trends in transportation solutions. Severn outlined the general requirements for the TMP including the following components:

- An assessment of the current state of Severn's transportation network (roads, intersections), including recommendations for network optimization and improvements to address growth and travel demand based on an updated 20-year study timeline from 2021 to 2041.
- Provide mobility across all transportation modes that is safe, connected, sustainable, affordable, and accessible for residents of all ages and abilities.
- Review active transportation network gaps and the opportunities to better connect Severn's communities through cycling loops such as the Carlyon and Upper Big Chute Loops and the Coldwater Course.
- Develop Severn's active transportation network in conjunction with the broader context of the active transportation plans of its neighbours such as the Townships of Tay, Oro-Medonte and Ramara, the City of Orillia and the District of Muskoka.
- Develop sustainable transportation network implementation plan that reflect future development scenarios for the short term (1-5 year), medium term (5-10 year) and long term (10-20 year) that will assist Severn in prioritizing capital works and investing efficiently.
- Review roadways and intersections with high volumes of trucks and scan for potential operational and safety issues and develop recommendations to achieve Severn's goals.
- Develop a road classification system, assess future arterial and collector road needs, and update design standards for Severn roads and paths / trails.
- Review and develop policies and a plan uniquely tailored to Severn including a traffic calming policy, a speed limit review policy, a streetlight policy, and aggregate truck route policy, etc.

- Implement a meaningful consultation and engagement process for Township staff, business communities, the public and external stakeholders that meets the Municipal Class Environmental Assessment (MCEA) requirements for a master planning process.
- Develop an implementable action plan with recommended capital projects and initiatives for transportation infrastructures (roads, active transportation facilities, etc.) based on priority, estimated cost, and timelines for completion (by 2041), under the MCEA process. The MCEA master planning process is well-suited to address the objectives of the TMP study since it examines transportation.

1.3 The Municipal Class Environmental Assessment Process

Master plans are required to complete Phases 1 and 2 of the five-phased MCEA process, which include the development of an opportunity statement, objectives, and an overall TMP vision (Phase 1); alternative scenarios development and evaluation, leading to a preferred alternative (Phase 2); and engaging public representatives and stakeholders at least twice over the course of the study.

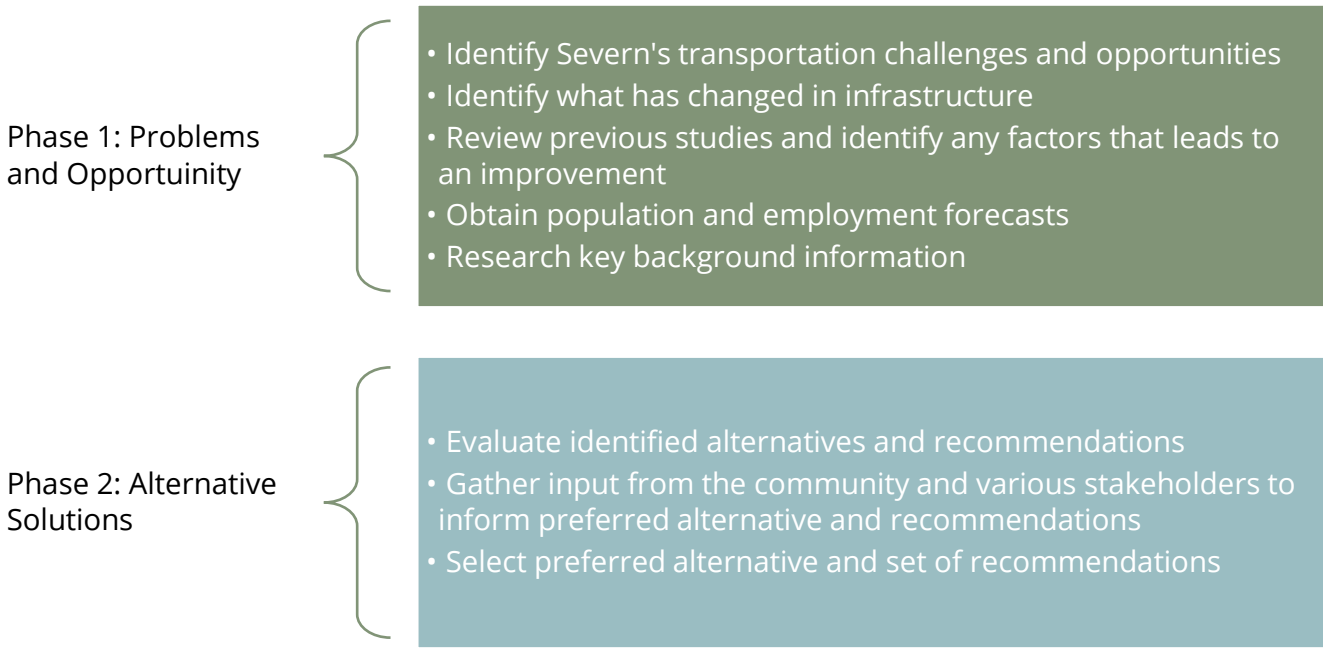

Figure 1-1: MCEA Process

1.4 Consultation Process

The project team through gathered local knowledge and a commitment to open and effective communication with the public, as well as all stakeholders, established and refined the guiding principles for the study. The philosophy that guided our approach and methodology included the following:

- Preserve local character and protect the natural environment that makes Severn a desirable place for residents, business, and tourists alike.
- Minimize traffic congestion, ensuring Severn's road network accommodates future growth and travel demand.
- Provide safe and accessible roads for all modes thereby ensuring all modes of transportation are promoted as an effective and safe means of transportation regardless of age or ability.
- Effective movement of goods to support the significant aggregate truck volumes and minimize impacts of truck traffic on populated areas.
- Integrate Active Transportation (AT) into the Township's policies and infrastructure - with an eye on recreational AT facilities, expansion, integration, and connectivity, promoting active lifestyles for people of all ages and abilities.
- Effective consultation with all stakeholders including the Township's staff and public will be a key element for success for the TMP update.

1.4.1 Methodology

The project methodology, summarized in **Figure 1-2** consisted of three phases.

- Phase 1 included a comprehensive review of Severn's existing roads, active transportation and public transit networks which were required to understand the function of the transportation infrastructure. Input was collected from residents of the community, people outside of the Township, and local stakeholders.

- Phase 2 focused first on a comprehensive review of Severn's road network needs from a traffic operations and safety perspective. The active transportation and transit aspects of this study focused on the gaps in the existing network and solutions to shore up those gaps. This phase also included the updates of Severn policies and design standards.

- Phase 3 included finalising of the document by providing and documenting the preferred solutions.

Phase 1

- Study Initiation
- Information Gathering
- Data Collection and Background Document Review
- Establish Existing Conditions
- Identify System Issue and Opportunities
- Public and Stakeholder Engagement

Phase 2

- Transportation Modelling
- Network Assessment
- Policies and Design Standard Updates
- Active Transportation Plan
- Preferred Solutions and Alternatives
- Draft TMP Document
- Public and Stakeholder Engagement

Phase 3

- Refinements of Preferred Solutions
- Comprehensive Transportation Master Plan
- Presentation to Council

Figure 1-2: Project Methodology

1.4.2 Public and Stakeholders' Engagement

Public consultation is an integral component of the MCEA process and there are requirements for notifications and consultation with public, agencies, and other stakeholders at key phases of the process. This allows stakeholder issues, ideas, and priorities to be incorporated into the plan in a meaningful way. The people who live, work, and play in Severn will be the planners, designers, implementers, and most importantly the users of the transportation system. Their opinions, experiences, interests, and concerns need to be understood to develop a transportation system that is tailored to Severn.

The following consultation opportunities have been completed for Severn's TMP update process:

- Notice of Commencement | July 16, 2021
- Online Engagement Survey #1 | February 11 to April 1, 2022
- Public Information Centre #1 (PIC 1) (Online) | March 16, 2022
- Public Information Centre #2 (PIC 2) (Online) | September 14, 2022
- Final Draft TMP Report to Council | April 2023
- Final TMP Report to Council| June, 2023
- Final TMP Report to Council| September, 2023
- Final TMP Report to Council| October, 2023
- Notice of Completion | November, 2023

The TMP update study was initiated in July 2021 through a Notice of Study Commencement published on Severn's website. A dedicated TMP study webpage was also developed and posted (https://www.severn.ca/en/our-community/transportation-master-plan.aspx).

Throughout the study, several promotional methods were used to ensure that the public was well-informed of the project and the engagement events. This includes:

- Project Website: The project team developed www.severn.ca/en/news/notice-of-study.aspx as a central hub for information and updates on the study, including a digital copy of the boards used at the public information centres.
- Project Contact Information: Contact information of the project team was included on the webpage and all consultation materials provided. This was used to collect additional questions or feedback received throughout the TMP process.
- Social Media: Through the Township's existing social media, updates and materials were advertised to promote the events and other opportunities for input.

All public and Stakeholder engagement materials and communications produced as part of this TMP Update have been included in **Appendix A**.

Township of
SEVERN

Existing Conditions

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2.0 EXISTING CONDITIONS

To identify opportunities for improvements, recommendations, and strategies for Severn's road network, it is critical to establish a comprehensive understanding of the current community context. The conditions of the existing transportation network serve as the basis for assessing future conditions and proposed improvements to the network.

This section of the report provides a summary of the existing transportation network including the current road classification system, traffic volumes, aggregate haul routes, traffic operations, and active transportation facilities.

2.1 Background Documents

The study included a detailed review of various background studies and documents produced by Severn. These existing studies and documents provided context for Severn's current and historical planning objectives as well as providing the direction and content used to develop this TMP update. The following documents were reviewed and incorporated within this TMP update:

- Severn's current Official Plan (Severn, 2010), which provides a comprehensive plan and policy document that dictates how land in Severn should be used and developed.
- The Westshore Area Transportation Plan (ITrans Consulting, 2010) and the township-wide Transportation / Active Transportation Master Plan (Ainley and Associates, 2011). These documents were considered Severn's first TMP which was presented to Township Council and adopted in November 2013.
- The Road Needs Study (RJ Burnside, 2017). This Road Needs Study (RNS) provided a comprehensive overview of Severn's existing road network and included a detailed review of the condition of the roads and the results of a vehicle traffic counting program. The study provides recommendations for a pavement asset management program that takes into consideration life cycle analysis in establishing a ten-year (2027) road improvement plan including regular maintenance, preventive maintenance, rehabilitation, and reconstruction.
- Engineering Design Standards (CC Tatham Engineering, 2014), which incorporates detailed design specifications for the construction of transportation related infrastructure and sets criteria for road geometric design.
- Improvements and costs associated with the Development Charges by-law and Background Study (Watson & Associates Economists Ltd, 2019). The infrastructure and

transportation systems necessary to support growth to 2041 and 2051 have been identified and costed through this TMP update.

- Additional documents such as the Recreation Master Plan (dmA Planning & Management Services, 2009) and Energy Management Plan (Severn, 2019), however these documents did not significantly contribute to the TMP update.
- The City of Orillia's Transportation Master Plan (Stantec Consulting Ltd, 2019)
- The Township of Ramara's Active Transportation Plan (2010)

During the study period, Severn was concurrently preparing updates to the Official Plan, Recreation Master Plan and Transportation Master Plan.

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

2.2 Existing Road Jurisdictions

Illustrated in **MAP 2** Severn's boundaries are well serviced by the Provincial highway system as well as the regional road network.

Provincial highways / freeways fall under the jurisdiction of the Ministry of Transportation of Ontario (MTO) and include:

- Highway 400 which runs parallel to the western municipal boundary from Coldwater to Port Severn. Highway 400 has controlled access with four interchanges (141, 147, 149, and 153) within Severn.
- Highway 11 runs parallel with the eastern municipal boundary and is a four-lane divided freeway. Highway 11 has a combination of at-grade and grade separated access points.
- Highway 12 running parallel to the south-western municipal boundary, is a two-lane undivided highway which runs from the City of Orillia to just south of Coldwater.

County roads fall under the jurisdiction of the County of Simcoe. These roads are mainly arterial roads where their primary function is to provide through routes across and within Severn. All the County roads are two-lane undivided roadways, paved, and are generally in good condition. The following are the County of Simcoe roads within Severn:

- County Road 16, formerly Highway 12, connects Coldwater to Waubaushene.

- County Road 17 (Upper Big Chute Road) connects Coldwater and Big Chute. The road passes through the agricultural belt and recreational lands within Severn.
- County Road 23 (Vasey Road) connects Coldwater to Highway 400.
- County Road 52 (Coopers Falls Road) connects Highway 11 north of Washago to the north boundary of the Township of Ramara.
- County Road 169 connects Highway 11 at Washago to the Township of Ramara and Highway 12.

Township roads fall under the jurisdiction of Severn. These roads include roads that function as collector roads connecting regional roads and neighbourhoods, as well as local roads that provide local access to abutting properties such as residential communities and agriculture lands. Severn has over 400 kilometres of 2-lane rural / semi-urban / urban roadways along with 39 bridge and culvert structures.

2.3 Traffic Volumes

Annual Average Daily Traffic (AADT) is a theoretical estimate of the total volume of vehicles using a specific segment of a roadway (in both directions) on any given day of the year. AADT is an essential factor in the analysis of the road network, including:

- Establishing adequacy of the available roadway capacity in comparison to the roadways traffic demand and its Level of Service (LOS).
- Establishing design and maintenance classifications for the roadway.
- Establishing the relative priority for maintenance, reconstruction, and rehabilitation.
- Establishing road maintenance / rehabilitation / reconstruction requirements.

Traffic data was available for several locations throughout Severn. AADT volumes were obtained for various locations on Highway 400, Highway 11, and Highway 12 and for the Simcoe County Roads. AADT volumes were also obtained for Severn roads which were established as part of the RNS.

Current (2021) AADT volumes for all roads within Severn are illustrated in **MAP 3** and **MAP 4. MAP 5** also illustrates the current roadway speed limits.

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 3: TRAFFIC VOLUMES

TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA

Fesserton
Washago
West Shore
Ardtrea
Marchmont
South of Division Road Secondary Plan

East Shore Road (Pvt.)
Graham Road (Pvt.)
Frankland Lane (Pvt.)
Beaver Dam Road
White Pines Road
Horseshoe Valley (Pvt.)
Cedar Road (Pvt.)
Orimat Road (Pvt.)
Swift Rapids Road (Pvt.)
Tomlitt Road
Hamlet Trail (Pvt.)
West Canal Road
Boyd Road
Coopers Falls Road (County Road 52)
Grass Lake Line
South Sparrow Lake Road
Fawcett Road (Pvt.)
Anchor Drive
Highway 11 North
Turnpike Drive
Pleasant Road
Cambrian Road
Brennan Line
Telford Line
Hampshire Mills Line
Maple Valley Road
Carlyon Line
Jermey Road
Mount Stephen Road
Laughlin Falls Road
Kinhear Sideroad
Lawson Line
Copelands Lane (Pvt.)
Quarry Road
Hodgins Road
Narrows Road
Fell Line
Irish Line
Bay Road (Pvt.)
Janes Lane (Pvt.)
Oakley Sideroad
Kitchen Sideroad
Silk Line
Taylor Line
Lovering Line
Ellis Road
Crown Trail
Balkwill Line
Foxmead Road
Wainman Line
Thornburn Road
Fairgrounds Road
Warminster Road
Uthoff Line
Burnside Line
Stockdale Road
Ardtrea Road
Big Chief Road
Fox Road (Pvt.)
Birdie Drive
Division Road West
Osprey Lane
Highway 12
Highway 400 North
Highway 400 South
County Road 16
Cedarwater Road
Lower Big Chute Road
Our Farm Road
Anderson Line
Southorn Road
Dunnis Line
Town Line

0 1,375 2,750 5,500
Scale 1:119,648 Metres

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
May., 16, 2022

LEGEND

- Waterbody
- Watercourse
- Railway

AADT Count

- 50-500
- 501-1000
- 1001-1500
- 1501-2000
- 2001-2500
- 2501-3000
- 3001-19000

TOWNSHIP OF SEVERN

TRANSPORTATION MASTER PLAN

MAP 4: TRAFFIC VOLUMES (PRIMARY SETTLEMENT AREAS)

LEGEND

- Waterbody
- Watercourse
- Railway

AADT Count

- 50-500
- 501-1000
- 1001-1500
- 1501-2000
- 2001-2500
- 2501-3000
- 3001-19000

N W E S

0 350 700 1,400

Scale 1:30,206 Metres

— Township of — SEVERN

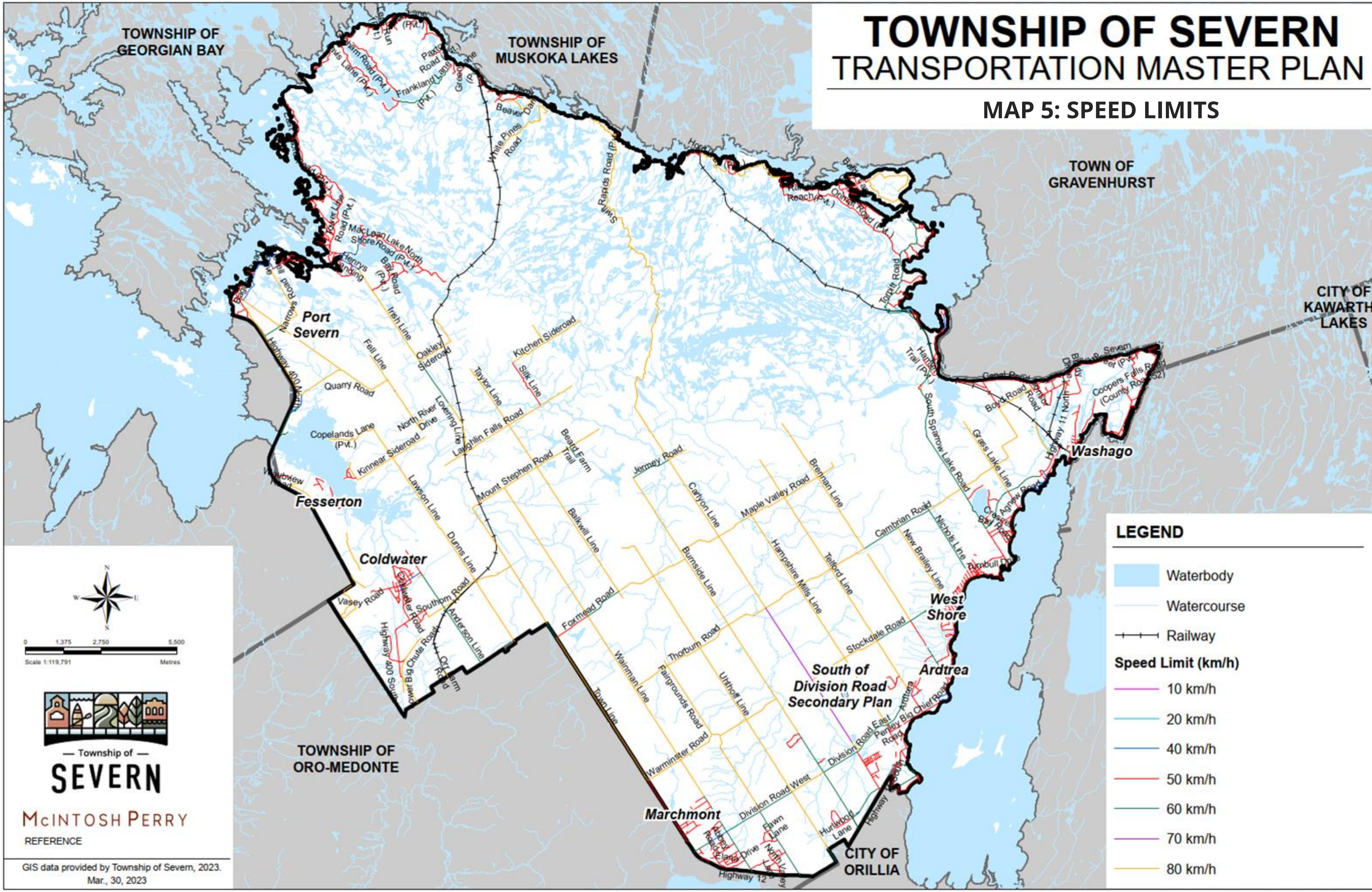
McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.

May., 25, 2022

West Shore
Ardtrea
Coldwater
Washago
South of Division Road Secondary Plan
TOWNSHIP OF RAMARA
TOWN OF GRAVENHURST
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA
New Brailey Line
Nichols Line
Turnbull Drive
Goldstein Road
Buena Vista Drive
Cumberland Road
Pleasant Road
Stockdale Road
Brennan Line
Highway 11 North
Highway 11 South
Ardtrea Drive
County Road 16
Vasey Road
Sturgeon Bay Road
Sheridan Drive
River Street
Gray Street
Coldwater Road
Highway 400 North
Highway 400 South
Highway 12
Woodrow Road
Dunns Line
Anderson Line
Southorn Road
Dead Tail
Brady Drive
Coopers Falls Road (County Road 52)
West Canal Road
Cambrian Road
Boyd Road
Bonsor Road
Fawcett Road (Pvt.)
Muskoka Street
Grass Lake Line
South Sparrow Lake Road
Lake Saint George Boulevard
Agnew Road
Huffman Road
Fawcett Road
Anchor Drive
Hampshire Mills Line
Telford Line
Carlyon Line
Stockdale Road
Rumley Crescent
Warminster Road
Burnside Line
Division Road East
Perley Road
Big Chief Road
J V Parkway (Pvt.)
Huronia Road
Unthoff Line
Division Road West
Brodie Drive
Hurlwood Lane
Fairgrounds Road
Wainman Line
Meadowview Court
Providence Lane
Lewis Lane
Marchmont Road
Lloyd Circle
Abbey Road
Jilem Court
Birkshire Woods Lane
Elaina Drive
Highway 12



TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 5: SPEED LIMITS
TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA
Port Severn
Fesserton
Coldwater
Washago
West Shore
Ardtrea
South of Division Road Secondary Plan
Marchmont
LEGEND
Waterbody
Watercourse
Railway
Speed Limit (km/h)
10 km/h
20 km/h
40 km/h
50 km/h
60 km/h
70 km/h
80 km/h
0 1,375 2,750 5,500
Scale 1:119,791
Metres
Township of
SEVERN
McINTOSH PERRY
REFERENCE
GIS data provided by Township of Severn, 2023.
Mar., 30, 2023

2.3.1 Severn Roads

Most Severn roadways observe approximately 500 vehicles per day (vpd). Division Road, Burnside Line, Coldwater Road / River Street (connecting to County Road 17), and South Sparrow Lake Road are the busiest roads in Severn.

2.3.2 Provincial Highways

The AADT data for provincial highways for the past 28 years is available through MTO's web-based data visualization and information sharing tool, iCorridor. **Table 2.1** provides historical AADT volumes for the years 2006, 2011 and 2016. Annual growth rates were calculated for a period of 10 years which range from between 0.4% to 1.9% for all Highway 400, Highway 11, and Highway 12.

Table 2.1 provides the annual growth rates for Highway 400. Growth along Highway 400 is anticipated to be relatively uniform along its distance except for the highway segment at the Quarry Road interchange which is shown to have seen less growth at 0.4% per annum. Overall, an average of 1.8% growth per annum is observed for Highway 400 within Severn.

Table 2.1: AADT ON HIGHWAY 400

Location	AADT			Growth percentage per year
	2006	2011	2016	
Simcoe RD 19 Interchange	12,000	12,800	14,200	1.8%
N JCT Highway 12 / Simcoe Rd 16 Interchange	13,700	15,200	16,300	1.9%
Simcoe Rd 23 Interchange	12,500	13000	14,200	1.4%
Lower Big Chute Rd Interchange- Coldwater	12,000	12,800	14,200	1.8%
Quarry Road Interchange	16,200	15,500	16,900	0.4%

Table 2.2 provides the growth rate for the segments of Highway 11 through Severn. Overall, an average annual growth rate of 0.8% is observed.

Table 2.2: AADT ON HIGHWAY 11

Location	AADT			Growth percentage/year
	2006	2011	2016	
Burnside Line / West Street Interchange	29,300	26,600	31,700	0.8%
Laclie Street Interchange	24,800	25,700	26,600	0.7%
Bayou Rd / Brailey Line Interchange	24,800	25700	26,600	0.7%
S JCT Simcoe Rd 169	21,400	22,800	24,300	0.8%

Table 2.3 provides the growth rate for Highway 12 through Severn. Overall, an average annual growth rate of 1.5% is observed.

Table 2.3: AADT ON HIGHWAY 12

Location	AADT			Growth percentage/year
	2006	2011	2016	
Wainman Line / Oro-Medonte Line 15 N	12,600	13,000	14,500	1.5%
Simcoe Road 22 / Division Road W	9,500	9,000	10,500	1.1%
Simcoe Road 19-Moonstone Rd	6,050	6650	7,050	1.7%
Coldwater Rd / Woodrow Rd	4,200	4,550	4,900	1.7%

2.3.3 County Roads

Traffic counts for the year of 2008, 2014, 2017 and 2020 were made available from Simcoe County for its roads located within Severn. Annual growth rates were calculated based on AADT volumes as illustrated in **Table 2.4**. The growth rates range from -2.4% to 11.9% per year on County Roads.

Table 2.4: AADT on County Roads

County Road	Section	AADT					Growth/Year
		2008	2011	2014	2017	2020	
County Road 16	From County Road 23 to Highway 400	4500	5100	4200	5100	5100	1.1%
County Road 17	From Coldwater North Limits to Quarry Road	2100	1500	1600	1600	1700	-1.6%
	From Quarry Road to Silk Line	1200	1200	750	1100	850	-2.4%
	Silk Line to Big Chute	400	400	300	320	650	5.2%
County Road 23	From Highway 400 to Gervais Road	1600	1800	2800	2100	2300	3.6%
County Road 52	From 10th SR/Ramara to Muskoka Road	700	800	900	1500	1700	11.9%
	From Muskoka Road to Highway 11 Ramp	1700	1700	1500	1900	1800	0.5%
County Road 169	From County Road 44 to Quetton St	6800	7200	7000	8500	8200	1.7%
	From Quetton St to Highway 11 Ramp	N/A	7000	7100	8700	8500	2.4%

2.4 Road Classifications

Transportation road networks perform more efficiently and safely when roads are designated and operate in accordance with their intended purpose. Road classification systems designate roads into different groups or classes according to the type of service each group is intended to provide. Grouping roads with similar functions can improve transportation planning, road infrastructure design, maintenance, traffic, and road operations.

The first step in any road planning, design, or administration project is to designate each facility according to classification (freeway, expressway, arterial, collector, local road, or lane). In identifying the facility's classification, the service function and traffic characteristics should be considered. The important characteristics and their relation to different road classifications must also be understood. Combined, these factors make it possible to identify a roadway's classification, however, it must be recognized that this is not a precise process.

Severn's 2014 Transportation Master Plan classified roads according to classifications set out within the Townships' Official Plan: The following are the road classifications used within the Official Plan:

- Provincial Freeway;
- Provincial Highway;
- County / Arterial Road
- Collector Road;
- Local Road, and;
- Private / Condominium Road / Private Laneway.

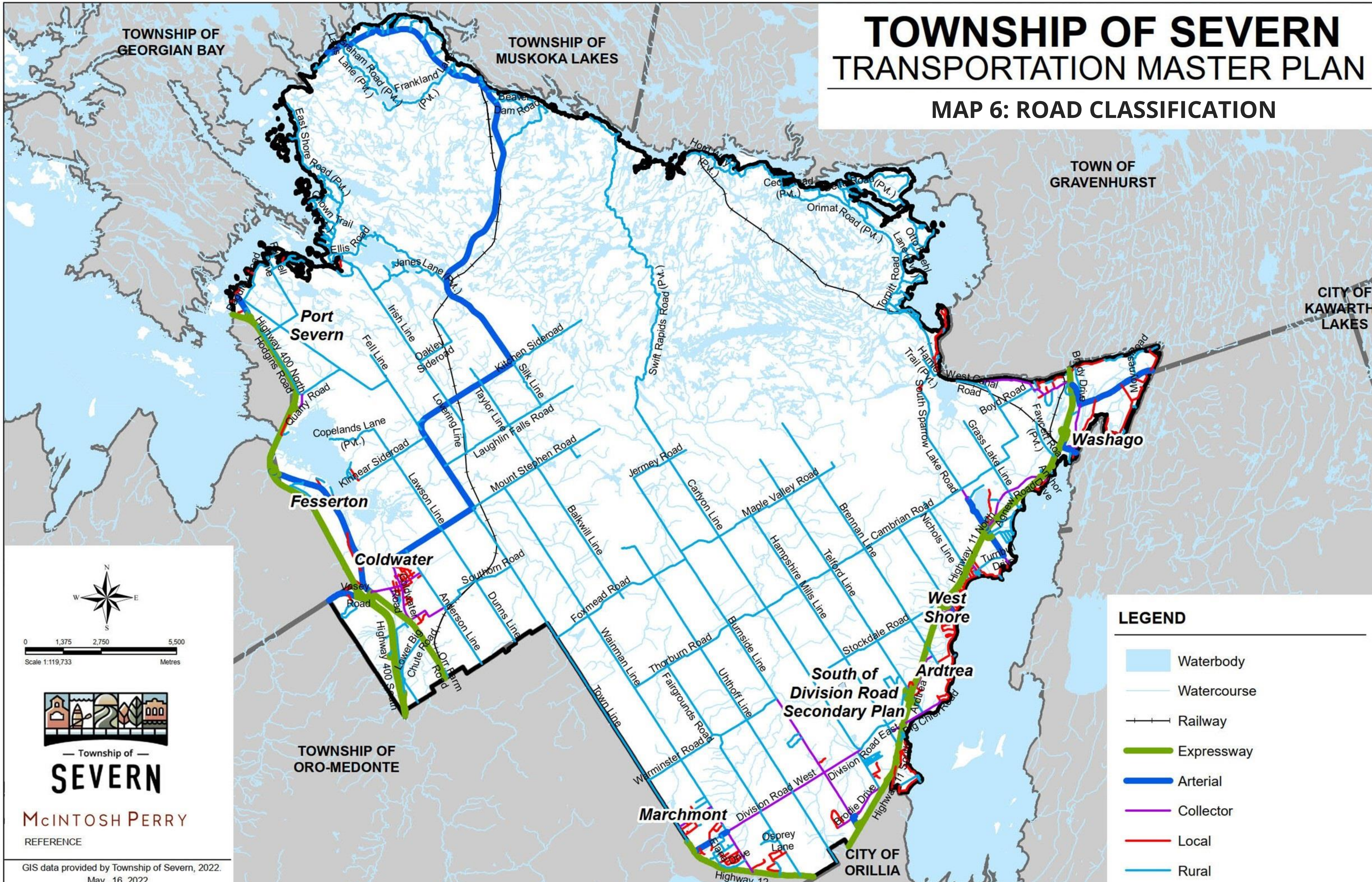
The 2017 Road Needs Study stated that a number of urban and semi-urban roads were found to have forecasted (ten year) road volumes that exceed the Township's guidelines for their functional classifications (local, collector, arterial). As a result, the study updated the functional and design classifications based on the MTO *Inventory Manual for Municipal Roads,* illustrated in **Table 2.5**. For urban and semi-urban areas, the design classification reflects the service function of the road, traffic volumes / type (e.g., trucks) speeds, flow characteristics, and accommodation of other needs along the corridor (e.g., cyclists, pedestrians, and transit).

Table 2.5: 2017 Road Needs Study Road Classifications

Roadside Environment	Code	Description
Urban or Semi-Urban	LR	Local Residential
	LCI	Local Commercial or Industrial
	CR	Collector Residential
	CCI	Collector Commercial or Industrial
	ART	Arterial
Rural	100	01-49 AADT
	200	50-199 AADT
	300	200-399 AADT
	400	400-999 AADT
	500	1000-1999 ADT
	600	2000-2999 AADT
	700	3000-3999 AADT
	800	4000 AADT and over
	4 LN	4 or more lanes

This current road classification system, illustrated in **MAP 6** and **MAP 7**, is primarily focused on designating urban / semi-urban, or rural with functional design classifications applied only to urban and semi-urban designated roadways. These road classes are not defined based on the road service function which typical geometric design standards are defined.

Severn is anticipated to see continued growth over the following 20 years, with much of it anticipated to be centralized within the primary settlement areas. The current road classifications distinguish rural roads from urban / semi-urban roads. However, to ensure Severn's rural roadways better suit their intended usage with function design classifications applied to both rural and urban roads, the need to further classify these roadways is desired.


TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 6: ROAD CLASSIFICATION
TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA
Port Severn
Fesserton
Coldwater
Washago
West Shore
Ardtrea
South of Division Road Secondary Plan
Marchmont
Highway 400 North
Highway 400 South
Highway 11 North
Highway 11 South
Highway 12
East Shore Road (Pvt.)
Ellis Road
Janes Lane (Pvt.)
Frankland Lane (Pvt.)
Quarry Road
Hodgins Road
Copelands Lane (Pvt.)
Kinnear Sideroad
Feil Line
Irish Line
Oakley Sideroad
Kitchen Sideroad
Silk Line
Lovering Line
Taylor Line
Laughlin Falls Road
Mount Stephen Road
Lawson Line
Southorn Road
Anderson Line
Dunns Line
Vasey Road
Lower Big Chute Road
Orr Farm Road
Balkwill Line
Foxmead Road
Wainman Line
Town Line
Swift Rapids Road (Pvt.)
Jermey Road
Carlyon Line
Maple Valley Road
Thorburn Road
Burnside Line
Uhthoff Line
Fairgrounds Road
Warminster Road
Hampshire Mills Line
Telford Line
Brennan Line
Cambrian Road
Stockdale Road
Nichols Line
Division Road West
Division Road East
Brodie Drive
Osprey Lane
Orimat Road (Pvt.)
Torpitt Road
South Sparrow Lake Road
West Canal Road
Boyd Road
Grass Lake Line
Fawcett Road
Agnew Road
LEGEND
Waterbody
Watercourse
Railway
Expressway
Arterial
Collector
Local
Rural
N
E
S
W
0
1,375
2,750
5,500
Scale 1:119,733
Metres
— Township of —
SEVERN
McINTOSH PERRY
REFERENCE
GIS data provided by Township of Severn, 2022.
May., 16, 2022

TOWNSHIP OF SEVERN

TRANSPORTATION MASTER PLAN

MAP 7: ROAD CLASSIFICATION (PRIMARY SETTLEMENT AREAS)

LEGEND

- Waterbody
- Watercourse
- Railway
- Expressway
- Arterial
- Collector
- Local
- Rural

0 650 1,300 2,600

Scale 1:58,656 Metres

N W E S

— Township of — SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.

May., 25, 2022

Marchmont
Meadowview Court
Providence Lane
Wainman Line
Marchmont Road
Lloyd Circle
Town Line
Division Road West
Unthoff Line
Fairgrounds Road
Fawn Lane
Pine Valley Lane
Osprey Lane
Julem Court
Birkshire Woods Lane
Plana Drive
Highway 12
North Valley Lane
TOWNSHIP OF ORO-MEDONTE

West Shore
New Brailey Line
Nichols Line
Highway 11 North
Goldstein Road
Turnbull Drive
Pleasant Point Road
Cumberland Road
Brennan Line
Ego Sideroad
Stockdale Road
Highway 11 South
Menoke Beach Road
Ardtrea Drive
Telford Line
TOWNSHIP OF RAMARA

TOWN OF GRAVENHURST
Severn Street
Muskoka Road (Pvt.)
(Pvt.)
Canal Road
West Canal Road
Cambrian Road
Boyd Road
Boyd Road
Brady Drive
Coopers Falls Road (County Road 52)
Shadow Lane (Pvt.)
Highway 11 North
Muskoka Street
Washago
Grass Lake Line
Clifton Cres
Fawcett Road
Agnew Road
Huffman Road
Highway 11 South
South Sparrow Lake Road
Scarlet Drive
TOWNSHIP OF RAMARA

Fesserton
County Road 16
Highway 400 North
Lawson Line
Mount Stephen Road
Wainman Line
Town Line
Coldwater
Anderson Line
Sheldon Drive
Coldwater Road
Vasey Road (County Road 23)
Southorn Road
Dunns Line
Highway 400 South
Woodrow Road
Lower Big Chute Road
Highway 12
Orr Farm Road
TOWNSHIP OF TAY
TOWNSHIP OF ORO-MEDONTE

South of Division Road Secondary Plan
Stockdale Road
Hampshire Mills Line
Brennan Line
Telford Line
Rimkey Crescent
Rimkey Crescent
Highway 11 South
Ardtrea Drive
Ardtrea
Ardtrea
Highway 11 North
Soules Road
Big Chute Road
Carlyon Line
Division Road East
Penley Road
Bay Point Road (Pvt.)
J V Parkway (Pvt.)
Stewarts Lane

2.5 Parking Supply

Severn has many locations where residents and visitors are permitted to park, free of cost, for a specified period of time. Severn recognizes that offering free municipal parking, particularly within the commercialized downtown cores, is an important feature to encourage economic activity from residents and visitors alike.

Table 2.6 summarizes the available on-street parking facilities and restrictions within the Township. **Table 2.7** summarizes municipal owned parking facilities. Parking within Severn is predominantly provided within Coldwater and Washago.

Table 2.6: On-Street Parking and Parking Lot Facilities

Street Name	Location Description	Permitted Parking Duration	Hours in effect	Number of Parking Spaces
Coldwater Road	From the north limit of Robinson Street to the south limit of Sturgeon Bay Road	2-hour parking limit	7 a.m. to 7 p.m.	55 (including 1 barrier free space)
Muskoka Street	On both sides from the north limit to the south limit of County Road 169	2-hour parking limit	9 a.m. to 6 p.m.	38 marked parallel spaces (including 2 barrier free spaces)
Doug Smith Drive	On both sides from the east limit of Upper Big Chute Road to the south limit at Severn River	4-hour parking limit	All hours	13
Earl Haid Avenue	From the east limit of Upper Big Chute Road to the south limit of Severn River	2-hour parking limit	7 a.m. to 11 p.m.	17

Table 2.7: Municipal Owned Parking Lots

Location	Surface Type	Approximate number of Parking Spaces
Joseph Street Municipal Lot	Asphalt	38
Coldwater Community Centre	Granular	198
Washago Community Centre	Asphalt	24
Uhthoff Trail Access Point at Sturgeon Bay Road	Granular	15
Uhthoff Trail Access Point at Burnside Line	Granular	7
Uhthoff Trail Access Point at Division Road	Granular	50
MacLean Lake Boat Launch and Dock - Henry's Landing	Granular	6
River Street Boat Launch and Dock	Granular	6
Upper Big Chute North Municipal Lot – Tea Lake	Granular	39
Upper Big Chute South Municipal Lot – Severn Falls	Granular	10
Washago Boat Launch and Dock	Granular	14
Washago Centennial Park	Granular / Reclaimed Asphalt	98
Administration Centre	Asphalt	64
Lake St. George Community Hall	Granular	17
Matchedash Community Hall	Granular	12
	Total	598

As illustrated, the primary locations where marked on-street parking is provided by Severn is within the commercial districts in Coldwater along Coldwater Road and River Street and in Washago along Muskoka Street.

2.6 Parking Supply Restrictions

There are also many areas in Severn where parking is restricted. These are areas where parking may cause safety concerns, congestion, or operational hindrances such as access to fire hydrants.

An example of a parking restrictions applied to promote safety is the recently adopted policy for No Stopping restrictions within the vicinity of a school. This restriction promotes the use of available drop-off zones, encourages students to walk to school if they live within the walk zone, and reduces congestion on the travelled portion of the roadway adjacent to the school.

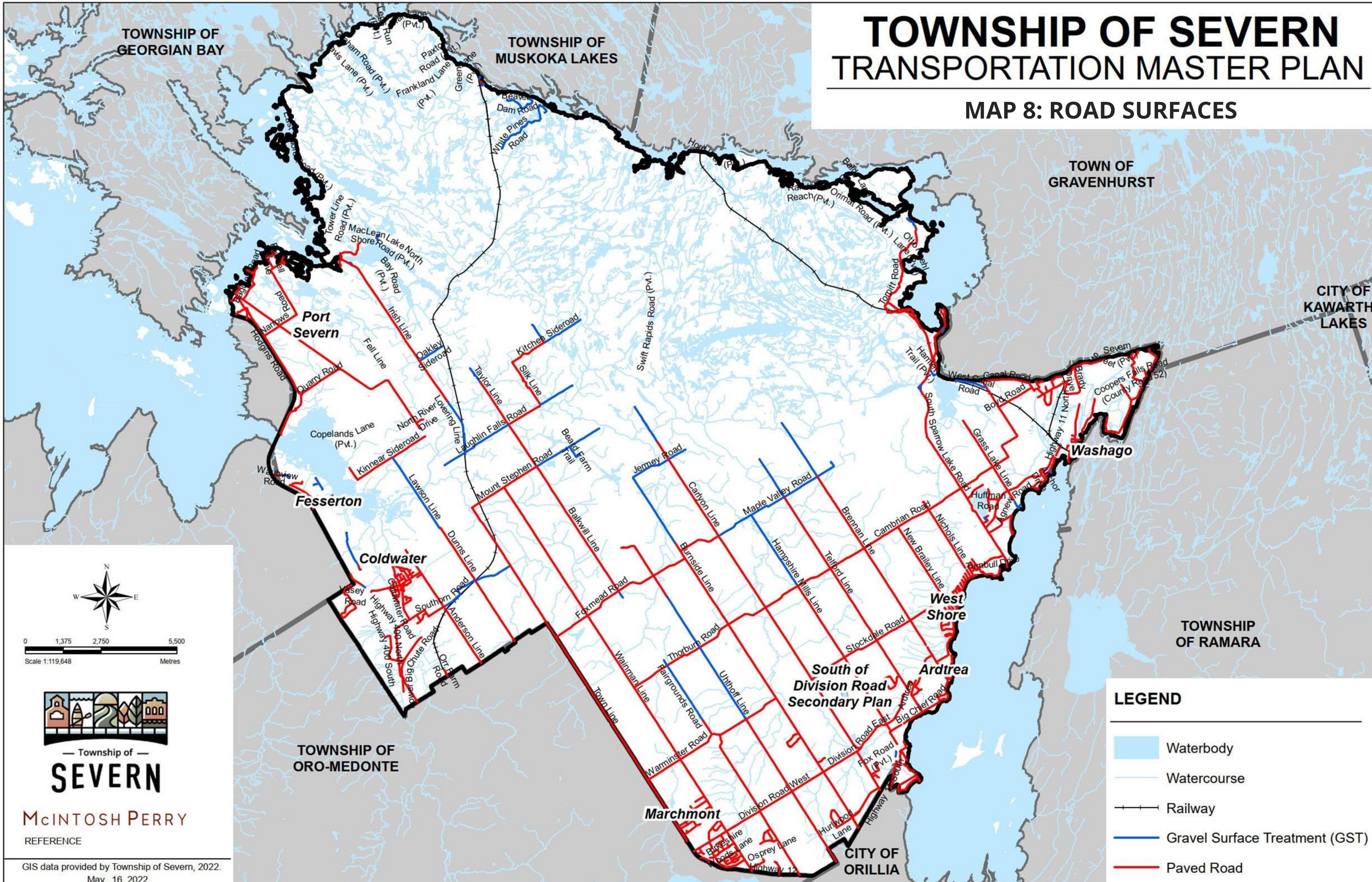
There are other parking restrictions which are set out by the Highway Traffic Act. Under these provincial wide restrictions, no vehicles can be parked on:

- a sidewalk or boulevard.
- within three meters of a fire hydrant.
- within three meters of a driveway.
- on private property without permission.
- within nine meters of an intersection.
- within three meters of a crosswalk.
- double park beside another vehicle.
- blocking another vehicle.
- any bridge / approaches.

In addition to the above parking restrictions, the Township has put in place seasonal parking restrictions to allow for snow clearing during the winter months. From December 1 to March 31, overnight on-street parking is prohibited between the hours of 12:01 a.m. and 7:00 a.m.

2.7 Roadway Surfaces and Road Discontinuities

The primary land uses in Severn are mainly located within the primary settlement areas, while the other large areas are in the rural areas with agricultural lands, quarries, and pits. Road surface types include pavement, gravel, and surface treatment. **MAP 8** presents the existing Severn roadway surface types.



TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 8: ROAD SURFACES
TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF RAMARA
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA
Port Severn
Fesserton
Coldwater
Washago
West Shore
Ardtrea
South of Division Road Secondary Plan
Marchmont
LEGEND
Waterbody
Watercourse
Railway
Gravel Surface Treatment (GST)
Paved Road
0 1,375 2,750 5,500
Scale 1:119,648
Metres
— Township of —
SEVERN
McINTOSH PERRY
REFERENCE
GIS data provided by Township of Severn, 2022.
May., 16, 2022

2.8 Active Transportation

Severn has converted an abandoned railway line, a former CPR line from Wilson Point Road to Coldwater and a former CNR line from Coldwater to Waubaushene, into a 29.5 km long recreational trail. This trail is called a Uhthoff Trail which also forms part of the Trans Canada Trail. Uhthoff Trail, illustrated in **MAP 9** is connected to an existing trail system that extends through the City of Orillia and connects with the Ramara and Oro-Barrie Trail. The trail is open all year round and is used by hikers, cyclists and for winter sports. No motorised vehicle except snowmobile is permitted on the trail. The Uthoff Trail serves as Severn's primary multi-use recreational trail. The trail is also open to snowmobiles during the winter months.

Severn has approximately 6.5 kms of sidewalk on one or both sides of the following roads:

- Coldwater: Sturgeon Bay, Gray Street, River Street, Coldwater Road, Harriet Street, John Street, Craddock Street, Donlands Court, Bush Street, Mill Street, and Eplett Street.
- Westshore: Cumberland Road, Grand Tamarack Crescent, Wood Avenue, Couchiching Avenue.
- Washago: Muskoka Street.
- Marchmont/Bass Lake Woodlands: Marchmont/Bass Lake Woodlands Road.

Severn's sidewalks, illustrated in **MAP 10**, provide links to community areas, school zones and the downtown core.

2.9 Transit Facilities

Severn does not have a local transit system. However, several regional transit services operate routes within Severn, illustrated in **MAP 11**.

Ontario Northland currently has two bus schedules which passes through Severn.

- Schedule 101-102: Toronto - Barrie - North Bay with a bus station in Washago.
- Schedule 201-202: Toronto - Parry Sound - Sudbury with a bus station in Port Severn and Coldwater.

County of Simcoe LINX Route 6 provides hourly service from the Town of Midland to the City of Orillia and vice versa. Monday to Friday the trips start at 6:00 a.m. from Georgian College (Midland) / Lakehead University (Orillia), arriving at each stop every 60 minutes throughout the day, with the last bus leaving at 6:00 p.m. This bus route is not in service on weekends or statutory holidays. LINX is a conventional public transit system that links major urban hubs and local transit

services in the County of Simcoe. The LINX transit system provides citizens and visitors reliable and courteous transit system in clean, safe, and accessible vehicles. New Route as of August 2021 - Route 6 serving Midland to Orillia, with stops in stops in Victoria Harbour, Waubaushene, Coldwater, and Warminster. The County of Simcoe's specialized transit service LINX PLUS+ is available for those who are unable to use conventional public transit due to a physical disability or functional disability. The service currently operates within 1 kilometer of the existing routes including Route 6 serving Severn through Coldwater.

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 9: UHTHOFF TRAIL

TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF RAMARA
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA

Port Severn
Fesserton
Coldwater
Washago
West Shore
Ardtrea
Marchmont
South of Division Road Secondary Plan

Tower Line Road (Pvt.)
Mac Lean Lake North Shore Road (Pvt.)
Bay Road (Pvt.)
Irish Line
Oakley Sideroad
Kitcheh Sideroad
Silk Line
Taylor Line
Fell Line
Quarry Road
Highway 400 Access
Highway 400 South
Copelands Lane (Pvt.)
Kinnear Sideroad
North River Lowering Drive
Laughlin Falls Road
Beard Farm Trail
Mount Stephen Road
Lawson Line
Dunns Line
Anderson Line
Vasey Road
Coldwater Road
Big Chute Road
Orr Farm Road
Foxmead Road
Thorburn Road
Fairgrounds Road
Warminster Road
Wainman Line
Uhthoff Line
Town Line
Division Road West
Division Road East
Perley Big Chief Road
Stockdale Road
Hurlwood Lane
Fawn Lane
Abbey Road
Highway 12
Highway 169
Highway 11 North
Coopers Falls Road (County Road 52)
Boyd Road
Grass Lake Line
South Sparrow Lake Road
Cambrian Road
New Brailey Line
Nichols Line
Brennan Line
Telford Line
Hampshire Mills Line
Burnside Line
Carlyon Line
Maple Valley Road
Jermey Road
Balkwill Line
Rapids Road (Pvt.)
White Pines Road
Beaver Dam Road
Frankland Lane (Pvt.)
Paxton Road
Greenbrae Lane (Pvt.)
Lewis Lane (Pvt.)
Graham Road (Pvt.)
Waubview Road
Onmar Road (Pvt.)
Torpitt Road
Hamer Trail (Pvt.)
Canal Road
Big Bay Road
Crane Bay Road
Turnbull Drive

Scale 1:119,648
0 1,375 2,750 5,500 Metres

— Township of — SEVERN

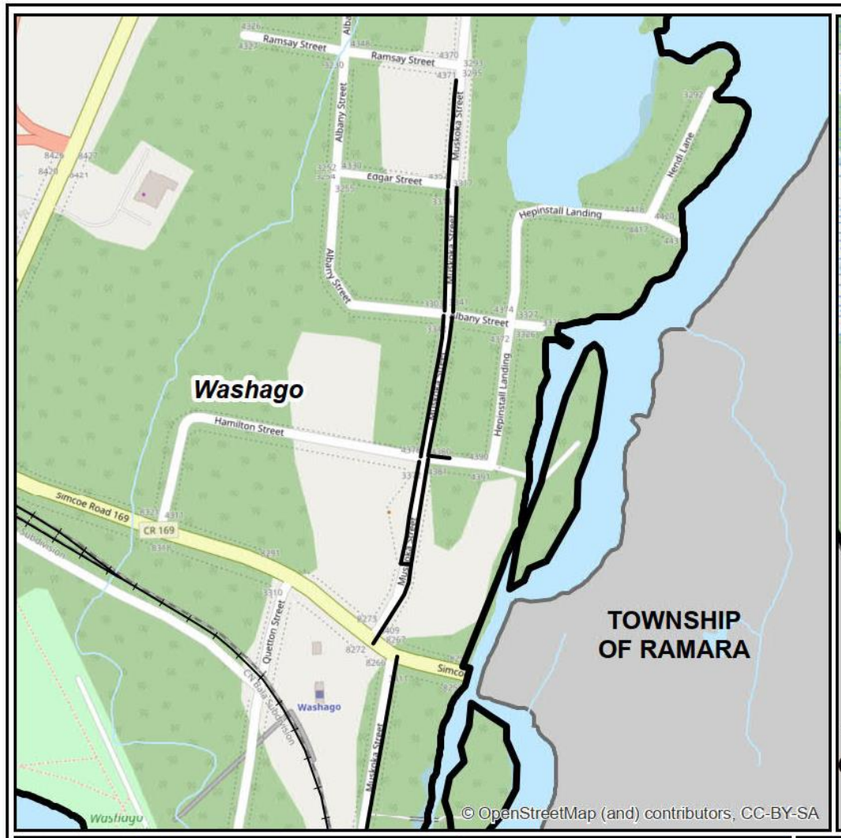
McINTOSH PERRY

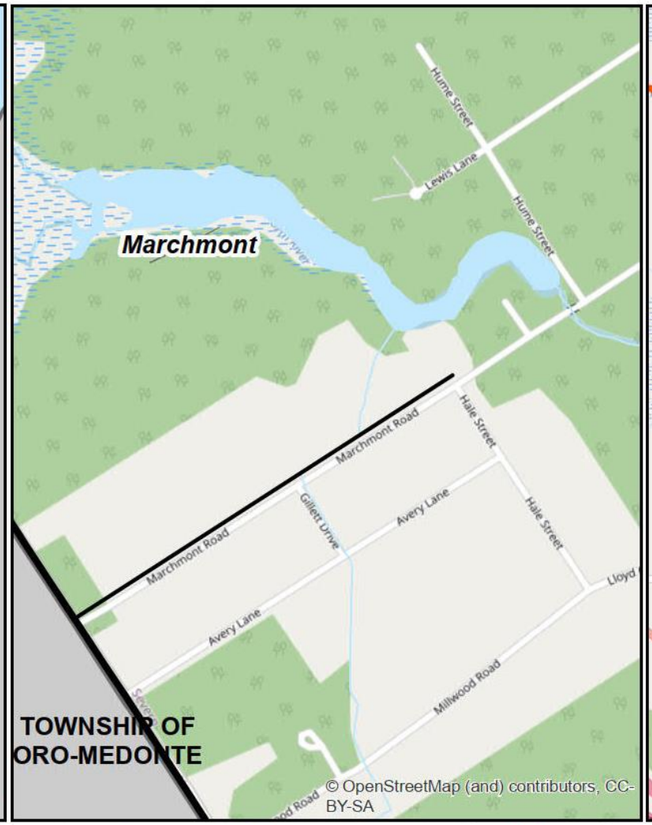
REFERENCE

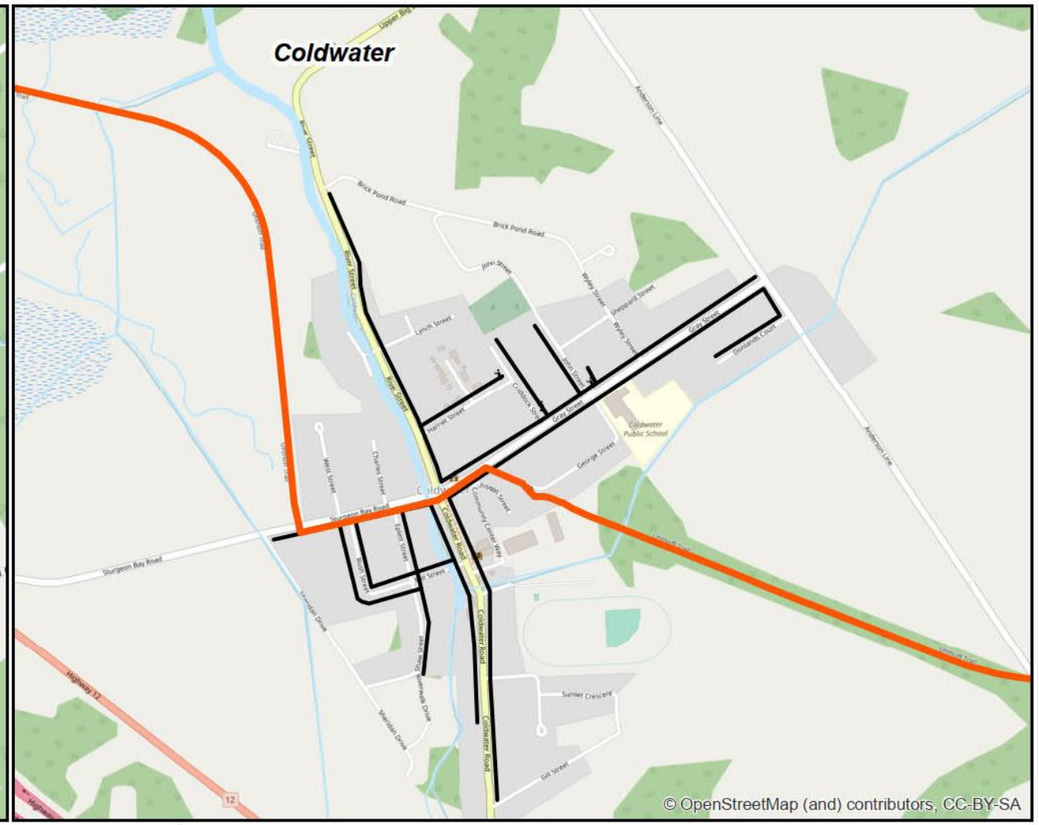
GIS data provided by Township of Severn, 2022.
May., 16, 2022

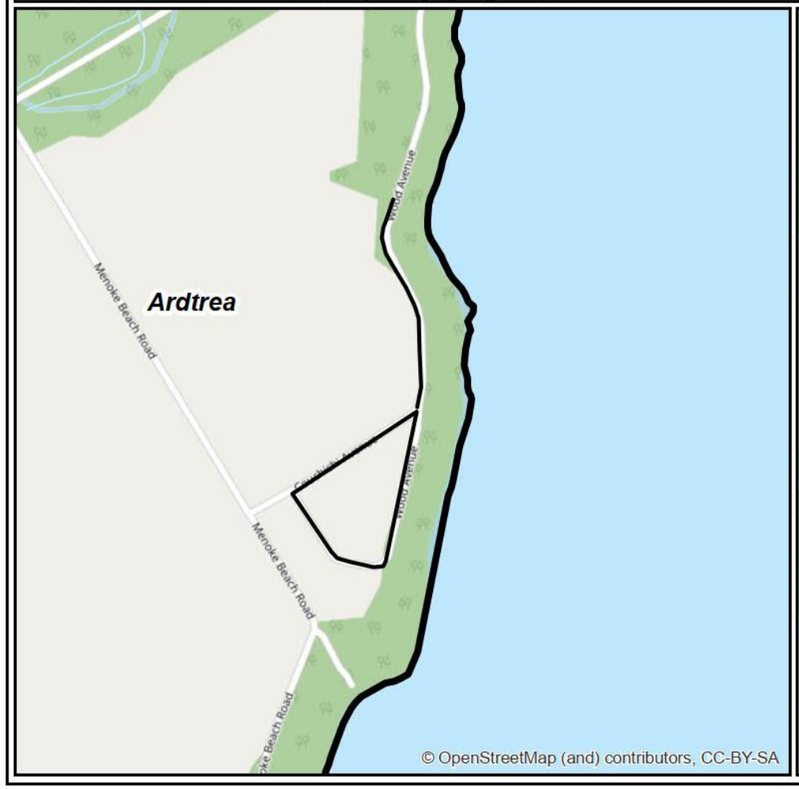
LEGEND

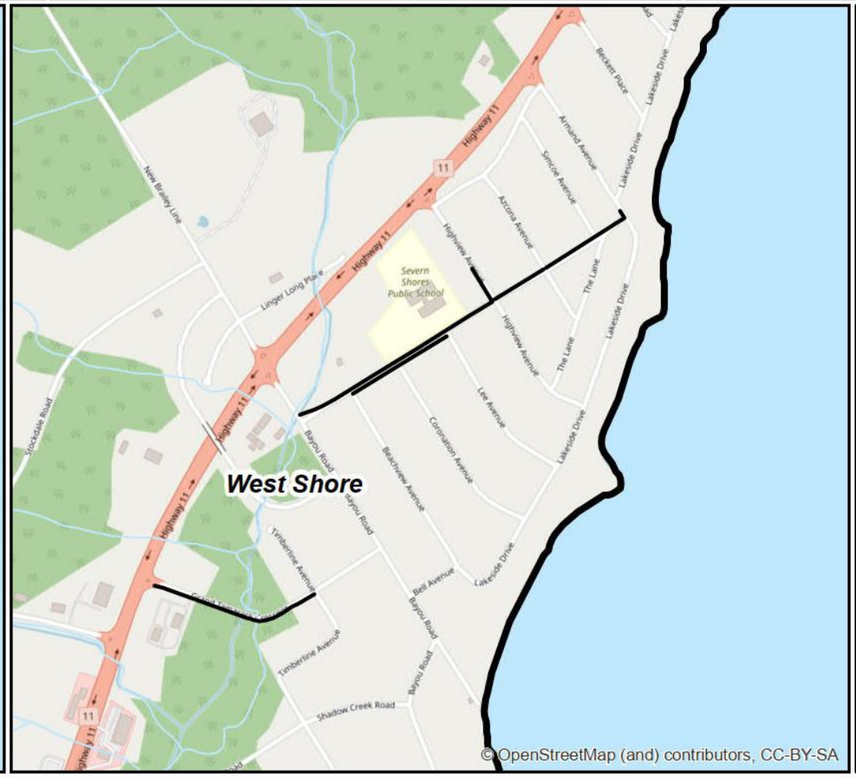
- Uhthoff Trail
- Waterbody
- Watercourse
- Railway
- Wooded Area











TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 10: SIDEWALKS

N
W E
S

0 155 310 620
Scale 1:13,381 Metres

LEGEND

- Waterbody
- Watercourse
- Railway
- Sidewalk
- Trail

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
May., 25, 2022

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 11: TRANSIT

TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF RAMARA
CITY OF ORILLIA
TOWNSHIP OF ORO-MEDONTE

CP
VIA Rail Canada
Ontario Northland
LINX

Port Severn
Fesserton
Coldwater
Washago
West Shore
Ardtrea
South of Division Road Secondary Plan
Marchmont

N
W E
S

0 1,375 2,750 5,500
Scale 1:119,648 Metres

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
Jun., 23, 2022

LEGEND

- Waterbody
- Watercourse
- VIA Rail
- CP Rail
- Ontario Northland
- County of Simcoe Lynx

2.10 Emerging Technologies

Technology plays a critical role in how people move, and communities develop. This has never been truer than it is today. As digital technology rapidly evolves, it is having a substantial impact on transportation networks, particularly in urban areas. The challenge for municipalities is to proactively manage these new technologies so that they have a positive impact on transportation trends and the municipality more broadly.

In general, much of the emerging technology such as those involving shared mobility (ride sharing) and micro-mobility (e-bikes / e-scooters) have yet to be adopted in rural environments such as Severn. Electric Vehicles, however, have become commonplace on all Canadian roads. The Government of Canada has set a mandatory target for all new light-duty cars and passenger trucks to be zero emission by 2035, accelerating Canada's previous goal of 100% sales by 2040. Planning for this eventuality will be critical for Severn to continue to be a viable place to live and visit.

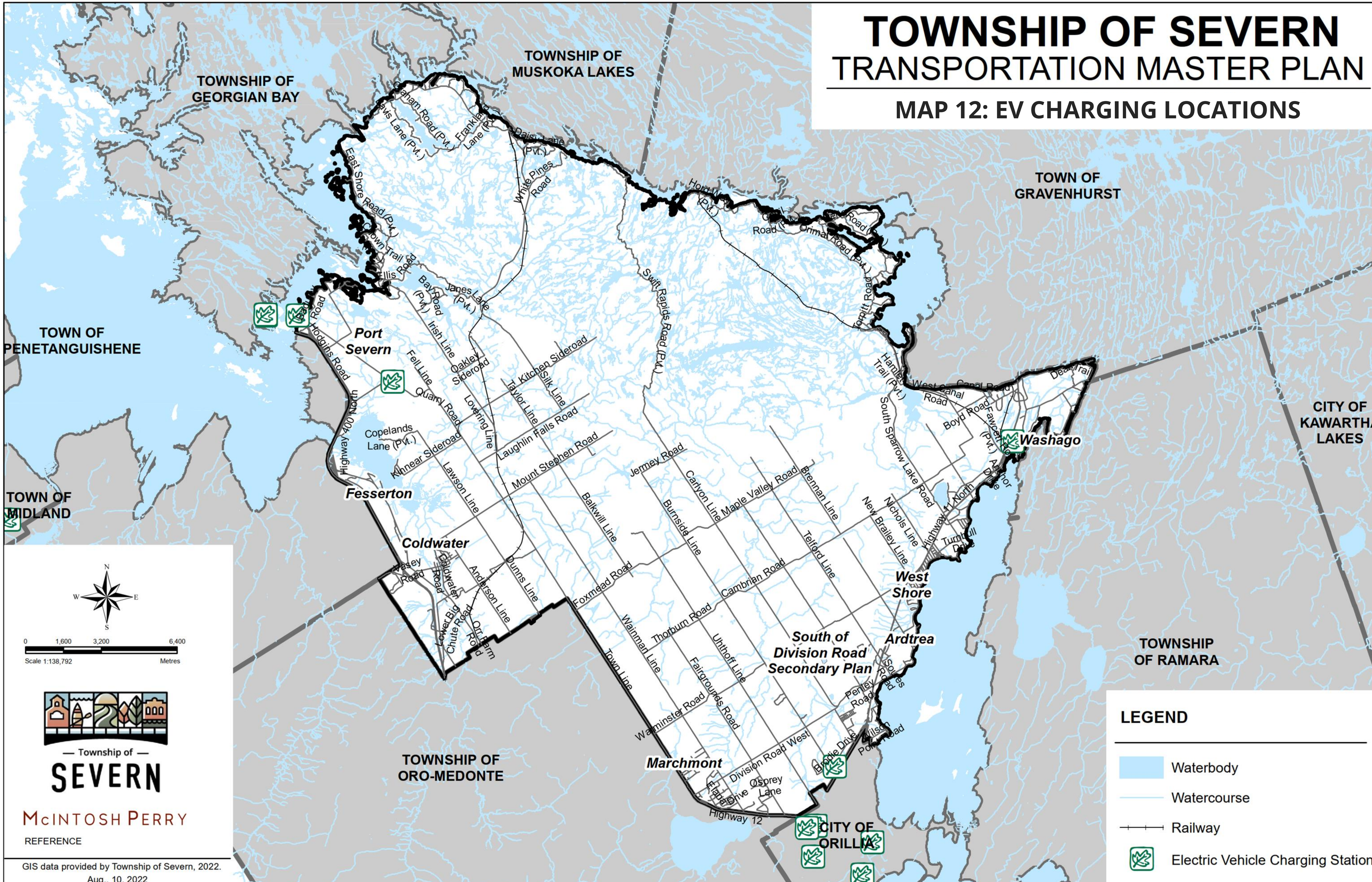
Severn currently has a limited number of electric charging stations, illustrated in **MAP 12** and described as follows:

- 1017 Brodie Drive (Orillia Square Mall) – Two EVSE Ports – Available to public 24 hours daily.
- 8341 Simcoe County Road 169, Washago – One EVSE Port – Available to public 24 hours daily.
- 2900 Kellys Road, Port Severn (Rawley Resort, Spa & Marina) – Three EVSE ports – Available for customer use 24 hours daily.
- 35 Lone Pine Road, Port Severn (GG Travel Plaza) – Two EVSE Ports – Available to public 24 hours daily.

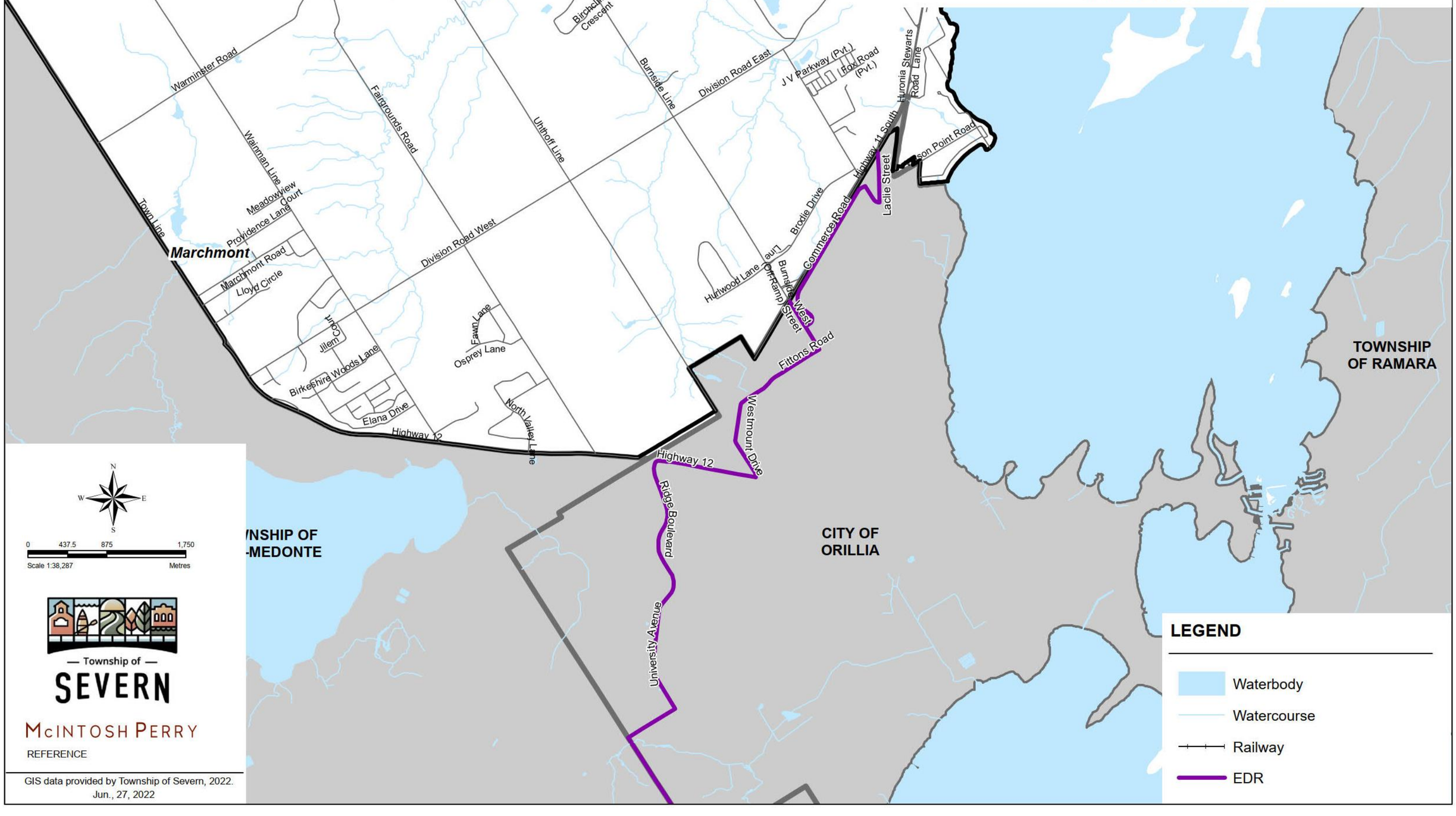
Significant opportunity exists for collaboration with developers and stakeholders for expanding EV capacity throughout Severn.

2.11 Emergency Detour Routes

In cases where a casualty or emergency requires a section of an Ontario Provincial Highway to be closed for any duration of time, the use of signed Emergency Detour Routes (EDR) is utilized. EDR markers are located along alternative routes and provide direction for motorists around the closure and back onto the highway. **MAP 13** illustrates the sole signed EDR within the vicinity of Severn. As illustrated, this EDR uses Provincial highway and City of Orillia roadways. No area EDR utilizes Severn roadways.


TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 12: EV CHARGING LOCATIONS
TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
TOWN OF PENETANGUISHENE
TOWN OF MIDLAND
CITY OF KAWARTHA LAKES
TOWNSHIP OF RAMARA
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA
Port Severn
Fesserton
Coldwater
Washago
West Shore
Ardtrea
South of Division Road Secondary Plan
Marchmont
East Shore Road (Pvt.)
White Pines Road
Swift Rapids Road (Pvt.)
Highway 400 North
Hodgins Road
Copelands Lane (Pvt.)
Kinnear Sideroad
Quarry Road
Feil Line
Irish Line
Oakley Sideroad
Lovering Line
Taylor Line
Kitchen Sideroad
Silk Line
Laughlin Falls Road
Mount Stephen Road
Lawson Line
Balkwill Line
Jermey Road
Carlyon Line
Maple Valley Road
Brennan Line
Burnside Line
Telford Line
New Brailey Line
Nichols Line
South Sparrow Lake Road
Highway 11 North
West Canal Road
Boyd Road
Foxmead Road
Cambrian Road
Thorburn Road
Uhthoff Line
Fairgrounds Road
Wainman Line
Town Line
Warminster Road
Division Road West
Osprey Lane
Highway 12
Penley Road
Dunns Line
Anderson Line
Vasey Road
Coldwater Road
Lower Big Chute Road
Orr Farm Road
N
W
E
S
0 1,600 3,200 6,400
Scale 1:138,792
Metres
Township of
SEVERN
McINTOSH PERRY
REFERENCE
GIS data provided by Township of Severn, 2022.
Aug., 10, 2022
LEGEND
Waterbody
Watercourse
Railway
Electric Vehicle Charging Station

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 13: MTO EDR



2.12 Aggregate Truck Traffic

Aside from being known for its natural beauty and heritage, Severn is also home to substantial reserves of mineral aggregate resources. In fact, Severn is the top 6th aggregate producer in the province of Ontario with over 4.5 million tonnes produced per year making aggregate extraction a significant component of Severn's 's local economy. There are several aggregate mining operations within Severn that are critical to supplying aggregates for the construction activities within the Golden Horseshoe as well as further north into the District of Muskoka. Ensuring that these mining operations have adequate, safe, and efficient roadways and routes to major transportation corridors is essential to the sustained growth and prosperity of Severn. Equally as important is having a plan in place that will minimize the volume of truck traffic through key corridors that also serve residential, recreational, tourism, and commercial activity, effectively separating heavy vehicle traffic from other forms of traffic.

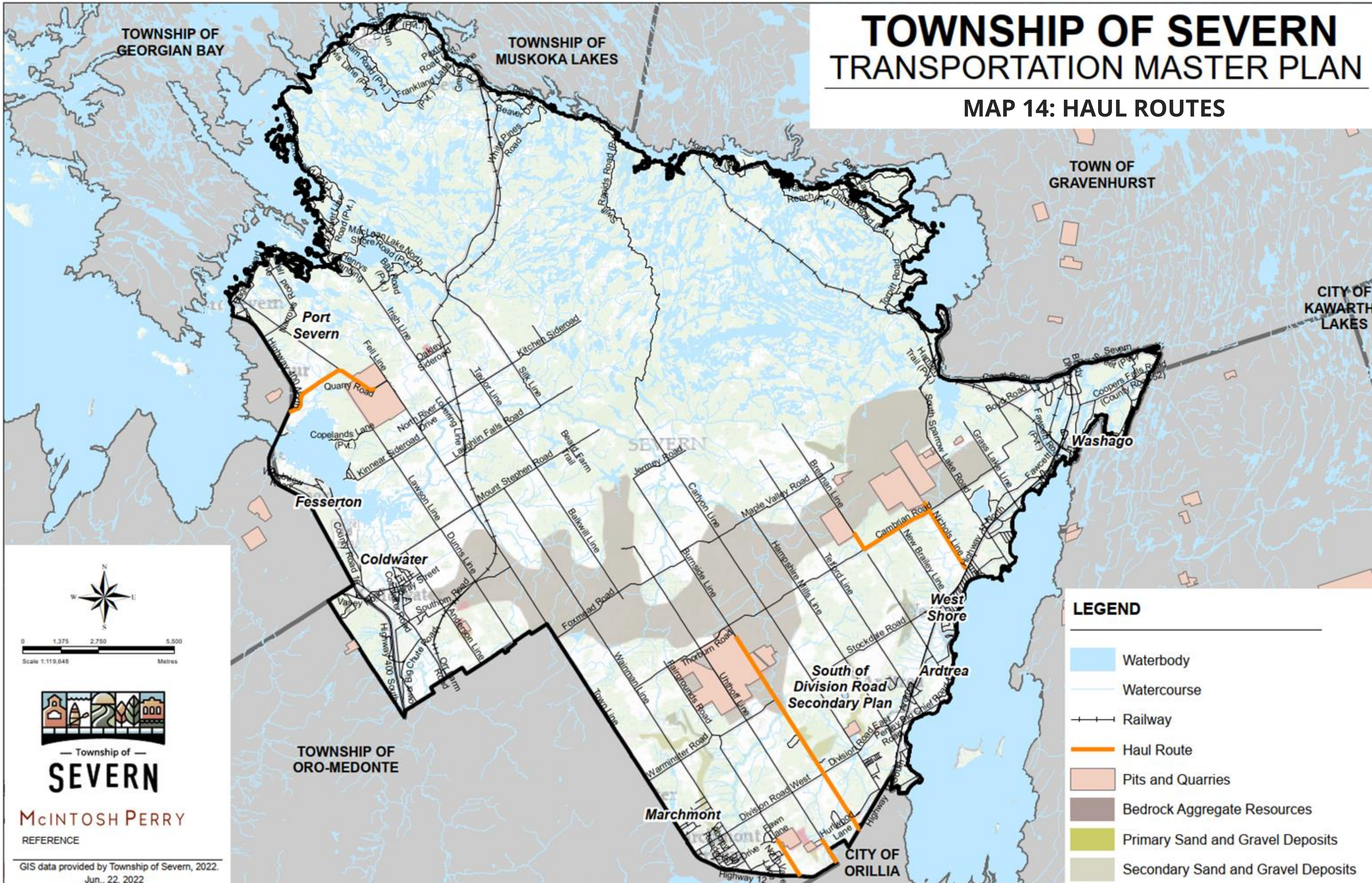
Based on data provided by the Ministry Natural Resources and Forestry (MNRF), Severn is currently home to a total of five quarries and fives pits as listed in **Table 2.8.** In total, these locations are licensed for a total production of 11,423,975 tonnes per year. The Township's 2014 TMP listed a total of 5 quarries and 6 pits which were licenced for a total production of 11,688,700 tonnes. Based on these figures, the total licensed production within Severn has decrease by 264,725 tonnes. The 2014 TMP expected that the pits and quarries would operate well below their allowable tonnage limits into the forecasted 2031 planning horizon year. This was based on a growth rate of 2% per annum for quarries and 1% for pits.

Table 2.8: Pits and Quarries

Quarry/Pit	License Approval type	Tonnes Licensed Year
Quarries		
LaFarge Canada	Class A Licence > 20000 Tonnes	1,800,625
Nelson Aggregates	Class A Licence > 20000 Tonnes	4,550,000
MAQ Aggregates	Class A Licence > 20000 Tonnes	1,000,000
Rockleith Quarry	Class B Licence <= 20000 Tonnes	20,000
Walker Aggregates	Class A Licence > 20000 Tonnes	3,000,000
Pits		
The Corporation of the Township of Severn	Class B Licence <= 20000 Tonnes	120,000
Dufferin Aggregates	Class A Licence > 20000 Tonnes	318,000
Hillway Equipment	Class A Licence > 20000 Tonnes	550,000
Dufferin Aggregate (both pit and quarry)	Class A Licence > 20000 Tonnes	45,350
J.W. (Pat) Paterson	Class B Licence <= 20000 Tonnes	20,000
Total		**11,423,975**
Proposed Quarries / Pits		
Severn Aggregates Limited	Class A Licence > 20000 Tonnes	500,000

MAP 14 shows the aggregate haul routes within Severn as well as the location of the major pit and quarries. The haul routes currently provide direct service from the provincial road network (Highway 400, 11 and 12) to the pit and quarries. There are five unique routes within Severn:

- Burnside Line from Nelson Aggregate Co. (south of Thorburn Road) to Highway 11;
- Fairgrounds Road from Dufferin Aggregates (south of Division Road West) to Highway 12);
- Uhthoff Line from Hillway Equipment Ltd. (south of Division Road West) to Highway 11;
- Quarry Road from Lafarge Canada Inc (west of Fell Line) to Highway 400, and;
- Brennan Line / Cambrian Road from MAQ Aggregates to Nichols Line/Walker Aggregates (north of Cambrian Road) to Highway 11.


TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 14: HAUL ROUTES
TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA
Port Severn
Fesserton
Coldwater
Washago
West Shore
Ardtrea
South of Division Road Secondary Plan
Marchmont
Quarry Road
Cambrian Road
Nichols Line
Thorburn Road
Uhthoff Line
Division Road West
Division Road East
Hurlwood Lane
Highway 12
Highway 400 South
Maple Valley Road
Mount Stephen Road
Foxmead Road
Stockdale Road
Warminster Road
Coopers Falls Road (County Road 52)
LEGEND
Waterbody
Watercourse
Railway
Haul Route
Pits and Quarries
Bedrock Aggregate Resources
Primary Sand and Gravel Deposits
Secondary Sand and Gravel Deposits
0 1,375 2,750 5,500
Scale 1:119,648
Metres
Township of SEVERN
McINTOSH PERRY
REFERENCE
GIS data provided by Township of Severn, 2022.
Jun., 22, 2022

2.13 Existing Traffic Operations

2.13.1 Intersection Operations

The RNS completed a traffic operations analysis at 22 intersection locations and 15 mid-block intersections utilizing Turning Movement Count (TMC) data collected in the Summer of 2017. As Part of this TMP update an addition ten intersection locations were selected for review. The ten intersections were selected based on discussion with Severn Staff regarding which intersections were anticipated to be the most critical in conjunction with the results the from the RNS. TMC data for the intersections reviewed as part of this TMP update was collected for weekday morning and afternoon peak periods (07:00 to 10:30 and 15:00 to 18:30) in November 2022 and has been provided in **Appendix B**.

The following are the ten intersections selected for a traffic operations review:

- Division Road at Burnside Line
- Division Road at Wainman Line
- Balkwill Line at Foxmead Road
- Division Road at Uhthoff Line
- Upper Big Chute Road / Town Line at Mount Stephen Road
- South Sparrow Lake Road at Cambrian Road
- Upper Big Chute Road at Irish Line / Lovering Line
- River Street / Coldwater Road at Gray Street / Sturgeon Bay Road
- Menoke Beach Road at Ardtrea Drive
- Bayou Road at Grand Tamarack Crescent

All ten intersections are currently two-way stop-controlled intersections with the exception of River Street / Coldwater Road at Gray Street / Sturgeon Bay Road which is an all-way stop controlled intersection.

Intersection operations were assessed using Synchro 11 traffic analysis software which utilizes methodologies established within The Highway Capacity Manual (HCM) 6th Edition methodology published by the Transportation Research Board National Research Council (TRBNRC).

Intersection operational performance metrics are reported in terms of Level of Service (LOS), delays, volume-to-capacity (v/c) ratios, and 95th percentile queues. Level of service is based on the average control delay per vehicle for a given movement. Delay is an indicator of how long a vehicle must wait to complete a movement and is represented by a letter between 'A' and 'F', with 'F' being the longest delay. Delay is defined as the total elapsed time from when a vehicle stops

at the end of the queue until the vehicle departs from the stop line at the intersection, which is then averaged to determine the total intersection delay. A secondary performance measure is to determine the maximum volume-to-capacity (v/c) ratio, which compares the traffic demand to theoretical capacity. A v/c ratio greater than 1.00 is a strong indication of congested conditions, high delays, and long queues. **Table 2.9** summarizes the LOS criteria for signalized and unsignalized intersections.

Table 2.9: LOS Criteria for Signalised and Unsignalized Intersections

Level of Service	Average Control Delay per Vehicle (seconds / vehicle)	
	Signalized Intersection[1]	Unsignalized Intersection[1]
A	≤ 10	≤ 10
B	>10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

[1] HCM 6th Editions Methodology

[2] *LOS F is reached if any movement exceeds capacity (i.e., v/c > 1.0)*

Table 2.10, summarizes weekday morning and afternoon peak hour operating conditions for the existing (2021) conditions at the ten intersections. **MAP 15** illustrates the critical LOS at each of the intersections during the weekday morning and afternoon peak hours.

Morning Peak Hour

All study intersections are anticipated to be operating at LOS B or better during the morning peak hour. Individual turning movements at all study intersections operated at LOS B or better. All the intersections operate with less than a 15 second delay. Additionally, v/c ratios for all the study intersections are less than 0.30 indicating the intersections are working well below their respective capacity.

Afternoon Peak Hour

All study intersections are anticipated to be operating at LOS C or better during the afternoon peak hour. Individual turning movements at all study intersections operated at LOS B or better, with two exceptions at the intersections of Burnside Line and Division Road West / Division Road East and Coldwater Road / River Street at Gray Street / Sturgeon Bay Road. At the intersection of Burnside Line and Division Road West / Division Road East, the eastbound and

westbound lane operate at LOS C with respective delays of 17 and 20 seconds and v/c ratios of 0.44 and 0.32. At the intersection of Coldwater Road / River Street at Gray Street / Sturgeon Bay Road, the northbound and westbound lane operate at LOS B with delay of 11 seconds and v/c ratios of 0.38 and 0.29. The v/c ratios for all other study intersections are less than 0.30 indicating the intersections operate well during the afternoon peak hour.

Table 2.10: Existing (2021) Intersection Operations

Intersection	Movement	Morning Peak				Afternoon Peak			
		LOS	v/c	Control Delay (s)	95th %tile Queue (m)	LOS	v/c	Control Delay (s)	95th %tile Queue (m)
Wainman Line & Division Rd W	EB-LTR	A	0.00	7		A	0.01	8	0
	WB-LTR	A	0.01	8		A	0.02	8	0
	NB-LTR	B	0.17	12	1	B	0.23	13	1
	SB-LTR	B	0.18	12	1	B	0.15	13	1
Balkwill Line & Foxmead Rd	SB-LTR	A	0.05	9	0	A	0.03	9	0
Burnside Line & Division Rd W/Division Rd E	EB-LTR	B	0.30	12	1	**C**	**0.44**	**17**	2
	WB-LTR	B	0.12	14	0	**C**	**0.32**	**20**	1
	NB-LTR	A	0.06	8	0	A	0.10	8	0
	SB-LTR	A	0.01	8	0	A	0.00	8	0
Uhthoff Line & Division Rd W	EB-LTR	A	0.01	8	0	A	0.01	8	0
	WB-LTR	A	0.02	8	0	A	0.03	8	0
	NB-LTR	B	0.08	11	0	B	0.17	12	1
	SB-LTR	B	0.09	12	0	B	0.08	14	0
S Sparrow Lake Rd & Cambrian Rd	EB-LTR	A	0.02	9	0	A	0.04	9	0
	WB-LTR	A	0.02	10	0	A	0.02	9	0
	NB-LTR	A	0.01	8	0	A	0.01	7	0
Menoke Beach Rd & Ardtrea Dr	EB-LTR	A	0.02	9	0	A	0.02	9	0
	NB-LTR	A	0.02	7	0	A	0.01	7	0

Intersection	Movement	Morning Peak				Afternoon Peak			
		LOS	v/c	Control Delay (s)	95th %tile Queue (m)	LOS	v/c	Control Delay (s)	95th %tile Queue (m)
Bayou Rd & Grand Tamarack Crescent	EB-LTR	A	0.08	10	0	A	0.08	10	0
	NB-LTR	A	0.01	7		A	0.01	7	0
Lovering Line/Irish Line & Upper Big Chute Rd	EB-LTR	A	0.01	7		A	0.02	7	0
	WB-LTR	A	0.00	7		A			0
	NB-LTR	A	0.01	10		B	0.01	10	0
	SB-LTR	A	0.05	9	0	A	0.04	9	0
Town Line & Upper Big Chute Rd	WB-LTR	A	0.01	7	0	A	0.01	8	0
	NB-LTR	A	0.04	9	0	A	0.07	9	0
Coldwater Rd/River St & Sturgeon Bay Rd/Gray St	EB-LTR	A	0.21	9	1	A	0.27	10	1
	WB-LTR	A	0.25	10	1	B	0.29	11	1
	NB-LTR	A	0.20	9	1	B	**0.38**	11	2
	SB-LTR	A	0.16	9	1	A	0.23	10	1

Overall, the completed traffic operations review indicates sufficient capacity at the ten locations to accommodate the traffic demand. All metrics of performance indicate operational concerns are minimal within Severn.

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 15: INTERSECTION OPERATIONS

TOWNSHIP OF GEORGIAN BAY

TOWNSHIP OF MUSKOKA LAKES

TOWN OF GRAVENHURST

CITY OF KAWARTHA LAKES

TOWNSHIP OF ORO-MEDONTE

CITY OF ORILLIA

Fesserton

Washago

Marchmont

West Shore

Ardtrea

South of Division Road Secondary Plan

East Shore Road (Pvt.)

Graham Road (Pvt.)

Frankland Lane (Pvt.)

Beaver Dam Road

White Pines Road

Orimat Road (Pvt.)

Torpitt Road

Swift Rapids Road (Pvt.)

Hamlet Trail (Pvt.)

South Sparrow Lake Road

Grass Lake Line

Boyd Road

Coopers Falls Road (County Road 52)

Fawcett Road (Pvt.)

Highway 11 North

Anchor Drive

Tumbull Drive

Pleasant Road

Ellis Road

Bay Road (Pvt.)

James Lane (Pvt.)

Irish Line

Fell Line

Oakley Sideroad

Kitchen Sideroad

Silk Line

Taylor Line

Laughlin Falls Road

Mount Stephen Road

Jermey Road

Carlyon Line

Maple Valley Road

Brennan Line Cambrian Road

Telford Line

Hampshire Mills Line

Stockdale Road

Narrows

Hodgins Road

Quarry Road

Copelands Lane (Pvt.)

Kinnear Sideroad

Lawson Line

Balkwill Line

Foxmead Road

Southorn Road

Dunns Line

Anderson Line

Lower Big Chute Road

Our Farm Road

Highway 400 South

Highway 400 North

County Road 16

Waubaushene Road

Thorburn Road

Wainman Line

Fairgrounds Road

Uhthoff Line

Burnside Line

Warminster Road

Town Line

Division Road West

Fox Road (Pvt.)

Brodie Drive

Highway 11 South

Big Chief Road

Osprey Lane

Highway 12

Ardtrea

Pleasant Road

Turnbull Drive

LEGEND

- Waterbody
- Watercourse
- Road
- Railway

Level of Service

- AM | PM
- Level of Service A or B
- Level of Service C or D
- Level of Service E or F

N W E S

0 1,375 2,750 5,500

Scale 1:119,648 Metres

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2023.
Apr., 03, 2023

2.13.2 Screenline Analysis

A screenline is an imaginary line on a map that is meant to capture traffic volumes crossing the screenline from all relevant intersecting corridors. In this manner, roadway capacity and traffic demand are aggregated. This 'holistic' approach encourages decision-making that fully utilizes road network capacity; congestion along a particular corridor may not warrant modifications if underutilized capacity is available in a parallel corridor.

Six general screenline locations were developed for Severn, as shown in **MAP 16** and described in **Table 2.11**. The alignments were strategically chosen to reflect key travel 'checkpoints' within Severn (predominantly to and from the provincial highway and county road networks).

Table 2.11: Screenline Descriptions

Screenline	Description
1	Represents travel N/S travel north of Upper Big Chute Road, it includes Quarry Road west of Saint Amant Road, Quarry Road North of Upper Big Chute Road, Irish Line and Upper Big Chute Road north of Silk Line.
2	Represents travel on the west end of Severn, including Sturgeon Bay Road and Coldwater Road. Both the roads are major connectors to Highway 12
3	Represents N/S travel south of Southorn Road, includes Anderson Line, Dunns Line, Town Line, Wainman Line, and Balkwill Line
4	Represents E/W travel on the west limit of Severn, includes Foxmead Road, Warminster Road and Division Road West.
5	Represents N/S travel on south limit of Severn, including Wainman Line, Fairgrounds Road, Uhthoff Line, Burnside Line, and Carlyon Line
6	Represents N/S travel on south-eastern limit of Severn, including Hampshire Line, Telford Line, Brennan Line, New Brailey Line, Nichols Line, and South Sparrow Lake Road

The capacity of each screenline is defined as the sum of the capacities of all viable alternative roadways (limited to collector roads, arterial roads, and provincial highways), using a "vehicle per hour per lane" (vphpl) unit, whereby vehicles are defined as a passenger car. The 'vphpl' capacities were assigned according to individual roads based on their existing functional design classification. These roadway capacities are summarized in **Table 2.12.**

Table 2.12: Roadway Capacity

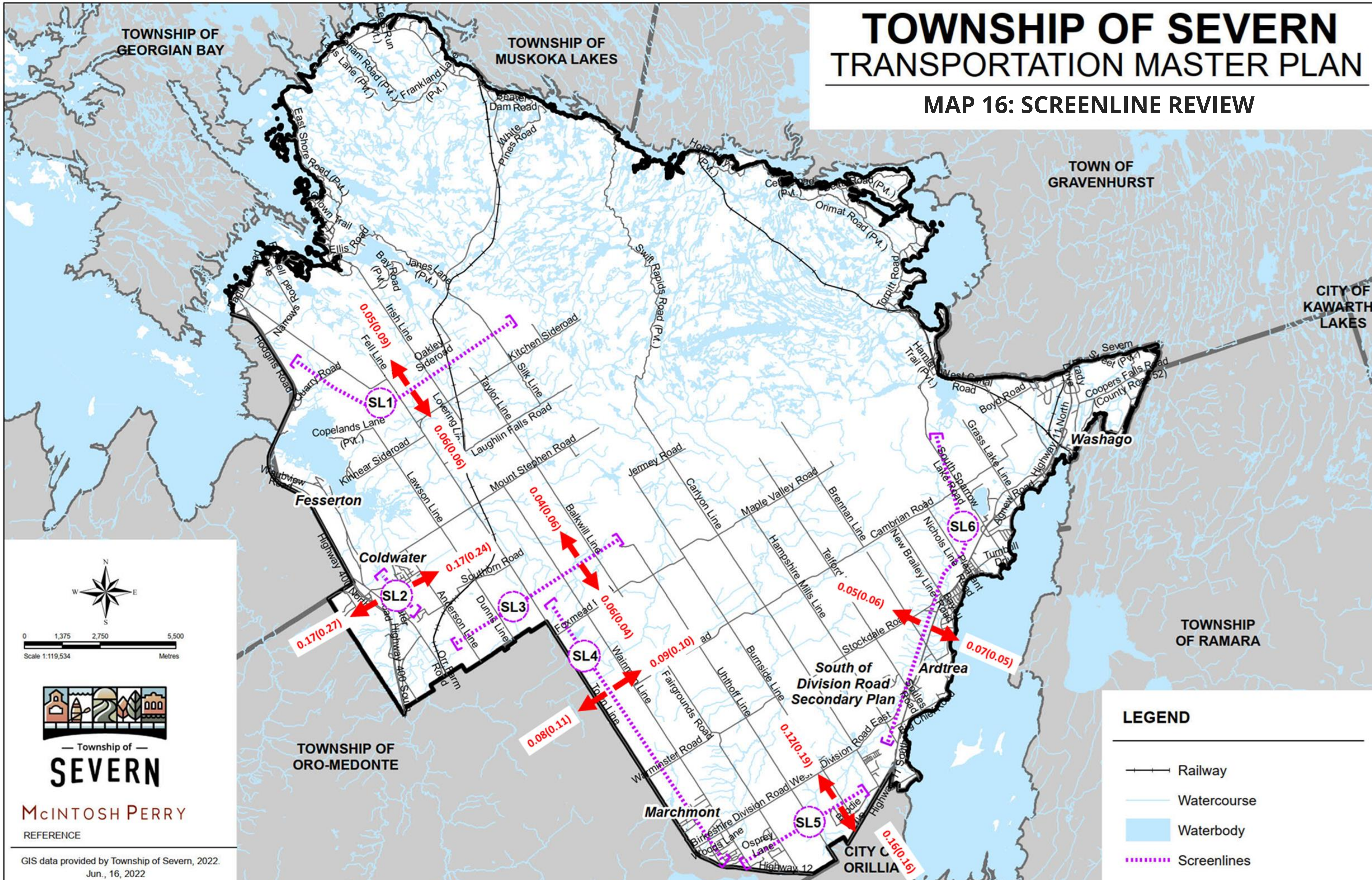
Road Type	Lane Capacity (vphpl)
Arterial Road	900
Local Road	650
Collector Road	350

The screenline demand was calculated from available traffic data (intersection turning movement counts) and RNS. A summary of the screenline analysis results have been provided in **Table 2.13**.

Table 2.13: Screenline Results

Description	Traffic Volumes (VPH)				Capacity (vphpl)	V/C Ratio			
	Morning Peak		Afternoon Peak			Morning Peak		Afternoon Peak	
	NB/EB	SB/WB	NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB
SL1	114	140	218	138	2500	0.05	0.06	0.09	0.06
SL2	216	220	316	354	1300	0.17	0.17	0.24	0.27
SL3	65	100	100	76	1750	0.04	0.06	0.06	0.04
SL4	146	128	167	175	1600	0.09	0.08	0.10	0.11
SL5	393	531	648	554	3400	0.12	0.16	0.19	0.16
SL6	134	196	153	132	2700	0.05	0.07	0.06	0.05
*Division Road East	160	129	122	79	900	0.10	0.08	0.14	0.09

The results from the screenline analysis confirm that Severn has significant corridor capacity for its primary origin-destination hubs.


TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 16: SCREENLINE REVIEW
TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF RAMARA
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA
Washago
Fesserton
Coldwater
Ardtrea
Marchmont
South of Division Road Secondary Plan
SL1
SL2
SL3
SL4
SL5
SL6
0.05(0.09)
0.06(0.06)
0.17(0.24)
0.17(0.27)
0.04(0.06)
0.06(0.04)
0.09(0.10)
0.08(0.11)
0.12(0.19)
0.16(0.16)
0.05(0.06)
0.07(0.05)
LEGEND
Railway
Watercourse
Waterbody
Screenlines
0 1,375 2,750 5,500
Scale 1:119,534
Metres
Township of
SEVERN
McINTOSH PERRY
REFERENCE
GIS data provided by Township of Severn, 2022.
Jun., 16, 2022

2.14 Collision Analysis

The most recent 5-year collision data available (2017 – 2021) was reviewed as part of this TMP update. An illustration of the collision frequency / density within Severn is provided in **MAP 17.** As illustrated, the highest frequency of collisions within Severn is located along the provincial highway networks. As the frequency of collisions is relative to traffic volumes, this is to be expected. A high frequency of collisions is also observed on Division Road West and Burnside Line, two of the busiest roads in Severn. Based on the review of the provided collision data, intersections within the Township jurisdiction with higher-than-average collision frequencies were highlight and are summarized in **Table 2.14**

Table 2.14: Highlighted Collision Trends

		Division Road West and Burnside Line (Two-Way Stop-Control)	Division Road West and Uhthoff Line (Two-Way Stop-Controlled)
Number of Collisions		13	10
Collision Severity	Property Damage Only	6	7
	Injury	7	2
	Fatal	0	1
Light Condition	Daylight	12	4
	Dark	1	5
	Dusk	0	1
	Daylight Artificial	0	0
	Dark Artificial	0	0
Initial Impact	Rear End	3	0
	Sideswipe	0	0
	Turning	3	2
	Angle	7	5
	SMV Other	0	3
	Other	0	0
Environment Condition	Clear	10	4
	Snow	2	6
	Rain	0	0
	Other	0	0

As illustrated, the two highest frequency intersections were the intersections of Division Road West at Burnside Line (13 collisions) and Division Road West at Uhthoff Line (10 collisions). The most common initial impact type at both intersections was 'Angle'. Based on the American

Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual, 'Angle' crashes can occur due to:

- Delayed detection of an intersection (sign or signal) at which a stop is required.
- Delayed detection of crossing traffic by a driver who deliberately violates the sign or signal.
- Inadequate visual search for crossing traffic or appropriate gaps.

Based on notes provided by Ontario Provincial Police (OPP) regarding these crashes, a high percentage of the crashes are due to drivers failing to yield at both locations. At the intersection of Division Road Werst and Burnside Line, the majority of collisions occurred during daylight with clear environmental conditions. The majority of collisions at the intersection of Division Road West at Uhthoff Line, however, occurred in dark light conditions and snow environmental conditions, indicating potentially inadequate sight distance for drivers on Uhthoff Line. This is especially true given the abrupt vertical curve of Uhthoff Line approaching the intersection from the north.

Flashing beacons may be used when two major highspeed roads intersect in a rural area, or when the collision history suggests that additional treatments are required. one-way or two-way overhead red flashing beacons are used where the visibility of intersections or stop signs is poor due to abrupt vertical curves or other visibility restrictions that result in poor stop sign compliance and / or collisions. The beacons provide additional visual assistance for normal stop signs.

While not indicated directly within the provided collision data, descriptions of the collisions provided by the OPP, a high number of collisions occurred within Severn involving deer (73 collisions). This is typical of rural environments; however, these collisions can result in increased risk of serious injury. Adequate signage is a necessity for areas where deer or moose activity is prevalent.

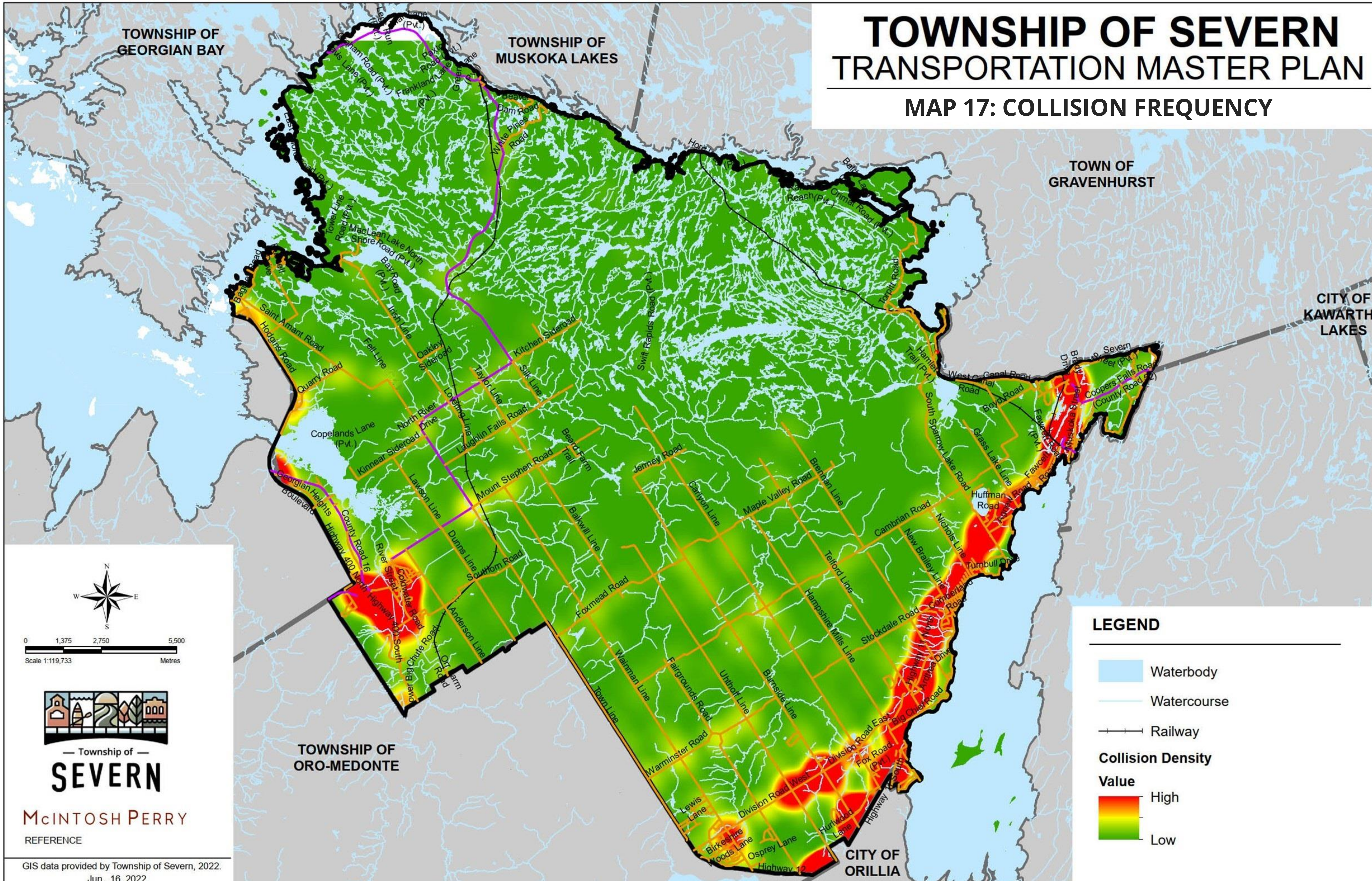
Severn should ensure proper signage is provided in accordance with Ontario Traffic Manual (OTM) Book 6 – Warning Signs.

As stated, the highest frequency of collisions occurred on the provincial highway network which falls to the Jurisdiction of the MTO. As traffic volumes are significantly higher on these roadways, higher collision frequency is anticipated. Worth noting however, is the segment of Highway 11 near the primary settlement area of Westshore (from New Brailey Line to Grayshott Drive). Currently within this approximately 1.8 km stretch of highway, there are 11 right-in,

right-out intersections with local roads on the south side of Highway 11 in additional to several direct accesses to residential and commercial properties.

A review of the collision data within this segment of highway showed a higher-than-average number of collisions (32 collisions) as illustrated in **Figure 2-1** . Overall, the high density of accesses off Highway 11 is a considerable safety concern due to the number of conflict points and short merge / diverge segments which are expected to result in a significant speed variance, increasing the likelihood of collisions resulting injuries and fatalities.

Figure 2-1: Westshore, Highway 11 Collisions


TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 17: COLLISION FREQUENCY
TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF ORO-MEDONTE
CITY OF ORILLIA
Saint Amant Road
Hodgins Road
Quarry Road
Fell Line
Irish Line
Oakley Sideroad
Kitchen Sideroad
Taylor Line
Silk Line
Laughlin Falls Road
North River Drive
Kinnear Sideroad
Copelands Lane (Pvt.)
Georgian Heights Boulevard
County Road 16
Highway 400 North
Highway 400 South
River Street
Coldwater Road
Lawson Line
Duns Line
Southorn Road
Anderson Line
Mount Stephen Road
Bearfarm Trail
Balkwill Line
Foxmead Road
Swift Rapids Road (Pvt.)
Jermey Road
Canyon Line
Maple Valley Road
Brennan Line
Telford Line
Hampshire Mills Line
Cambrian Road
Stockdale Road
Nichols Line
New Brailey Line
Turnbull Drive
Huffman Road
Grass Lake Line
South Sparrow Lake Road
Boyd Road
West Canal Road
Coopers Falls Road (County Road 52)
Wainman Line
Town Line
Fairgrounds Road
Uhthoff Line
Burnside Line
Warminster Road
Division Road West
Division Road East
Fox Road (Pvt.)
Big Chief Road
Lewis Lane
Birkeshire Woods Lane
Osprey Lane
Hurwood Lane
Highway 12
Old Barrie Road
Tomlin Road
White Pines Road
Dam Road
N
E
S
W
0
1,375
2,750
5,500
Scale 1:119,733
Metres
Township of
SEVERN
MCINTOSH PERRY
REFERENCE
GIS data provided by Township of Severn, 2022.
Jun., 16, 2022
LEGEND
Waterbody
Watercourse
Railway
Collision Density
Value
High
Low

Township of
SEVERN

Stakeholder Engagement

McINTOSH PERRY

3.0 STAKEHOLDER ENGAGEMENT

3.1 Initial Online Survey

As part of the Public and Stakeholder Engagement process, an online survey was conducted through the Survey Monkey platform. The online survey was made available from February 4th to April 1st, 2022. The survey was advertised through a series of 'Did you Know' social media posts, online local news articles (Orriliamatters.com) and through Severn's project webpage. All public engagement material used for the survey has been included in **Appendix A**.

The goal of the online survey was to collect information on how people use the transportation and mobility network, their preferred modes of transportation, and to establish an overall vision for the future multi-modal transportation network within Severn. A total of 178 survey responses were received.

Of the 178 survey responses, the majority (93%) were primary residents of Severn with varying ages ranging from 18 to 65+. Based on the responses, respondents travel within Severn for various reasons including shopping, work, school, and recreation / leisure. **Figure 3-1** illustrates the respondents' distribution of the most common reason for travel in Severn.

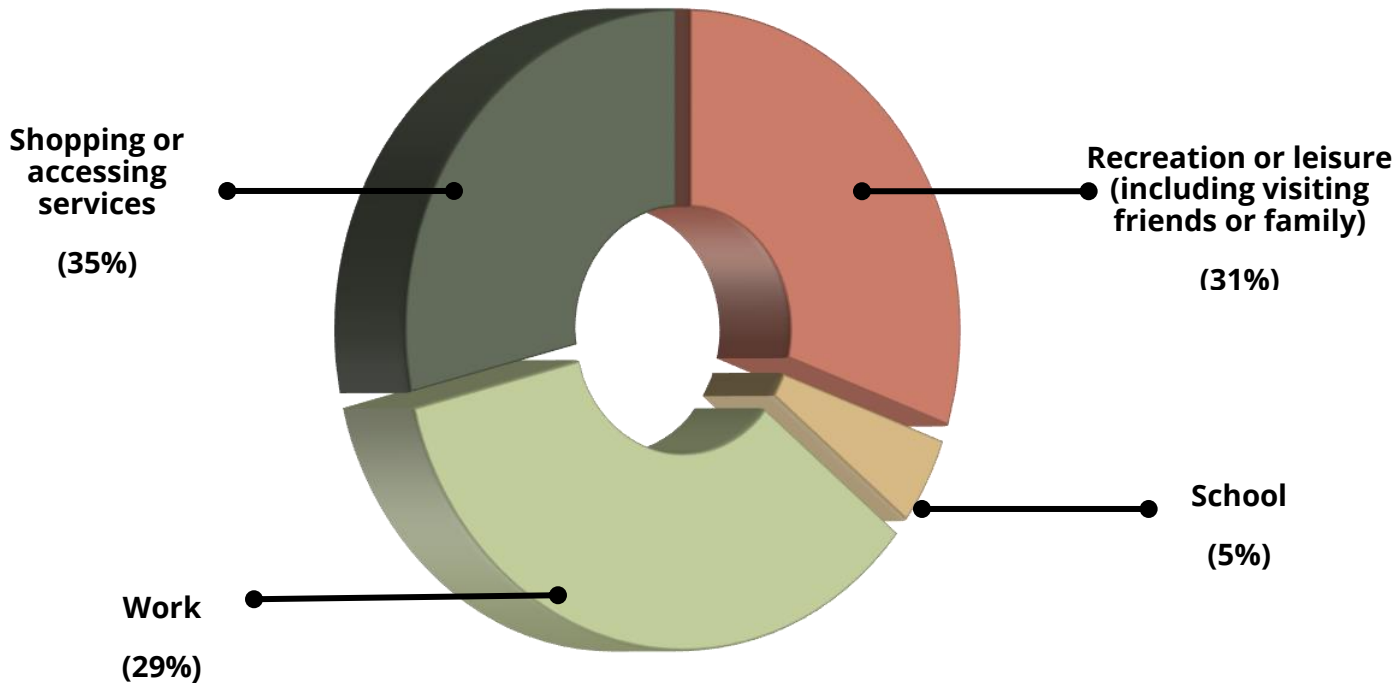


Figure 3-1: Survey Results – Reason for Travel In Severn

Respondents were asked to rank modes most frequently used when traveling around Severn. Response distributions are illustrated in **Figure 3-2**. Reflective of the relatively rural environment of Severn, the highest ranked mode of transportation was 'driving a motorized vehicle' followed by being a 'passenger in a motorized vehicle'. Cycling and Walking ranked relatively high as well, however, alternative modes such as ride hailing, and public transportation are less common in Severn. Many respondents also, indicated utilizing other modes of transportation such as snowmobiles / ATV's, skiing / snowshoes, skating and boating.

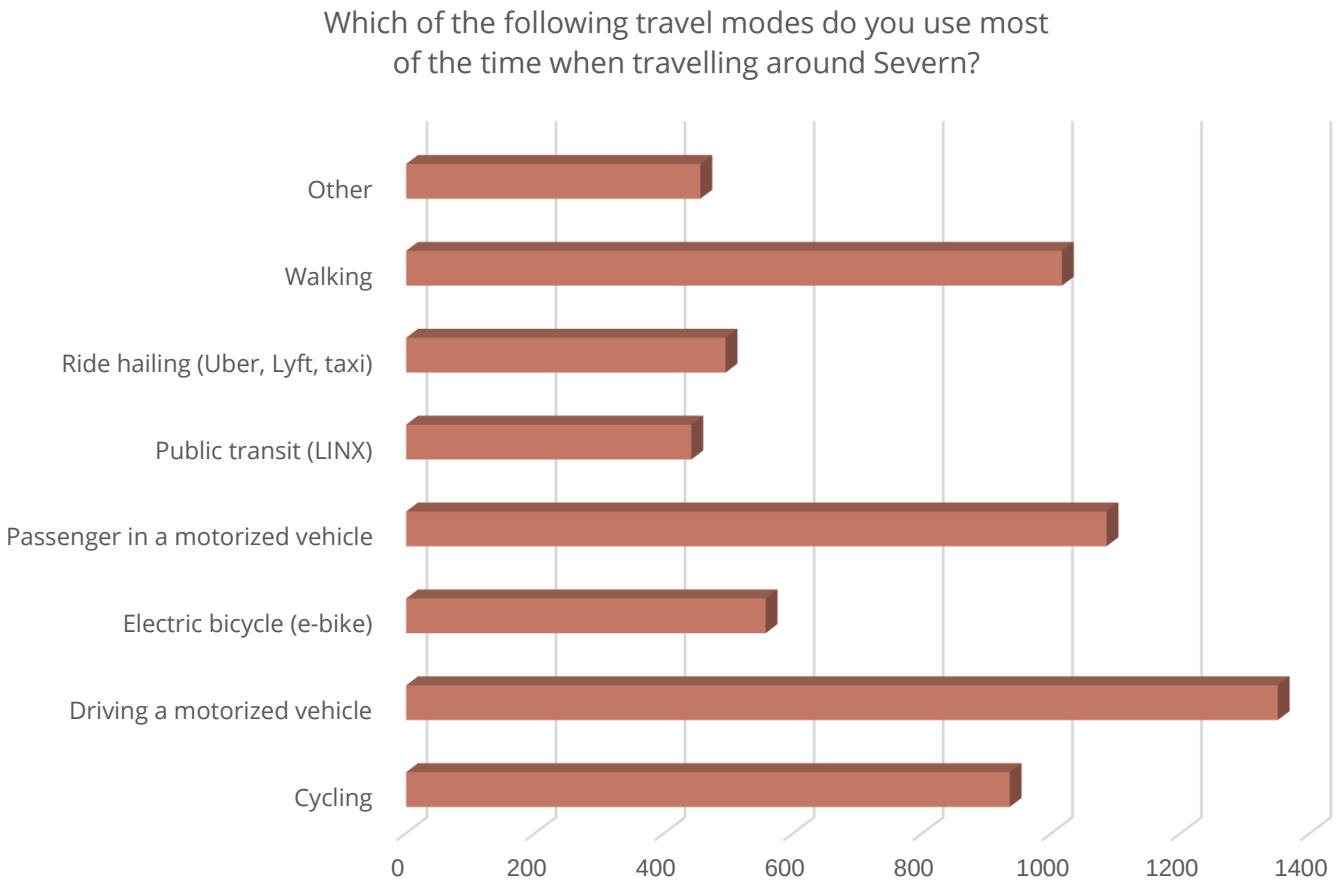


Figure 3-2: Survey Result – Travel Modes

Illustrated in **Figure 3-3**, 82% of respondents stated they do not use the County of Simcoe LINX public transit system and 15% stated they were not aware of the LINX service in Severn. Additionally, illustrated in **Figure 3-4,** the most common barrier for people from using their preferred method of travel was that the transportation infrastructure is not adequate. This indicates there is some opportunity to increase alternative modes of transportation through improvement of the network for those modes. Alternatively, the second most common response was that there were no barriers. This response would indicate that travel via motorized vehicle is the preferred method of travel for those respondents.

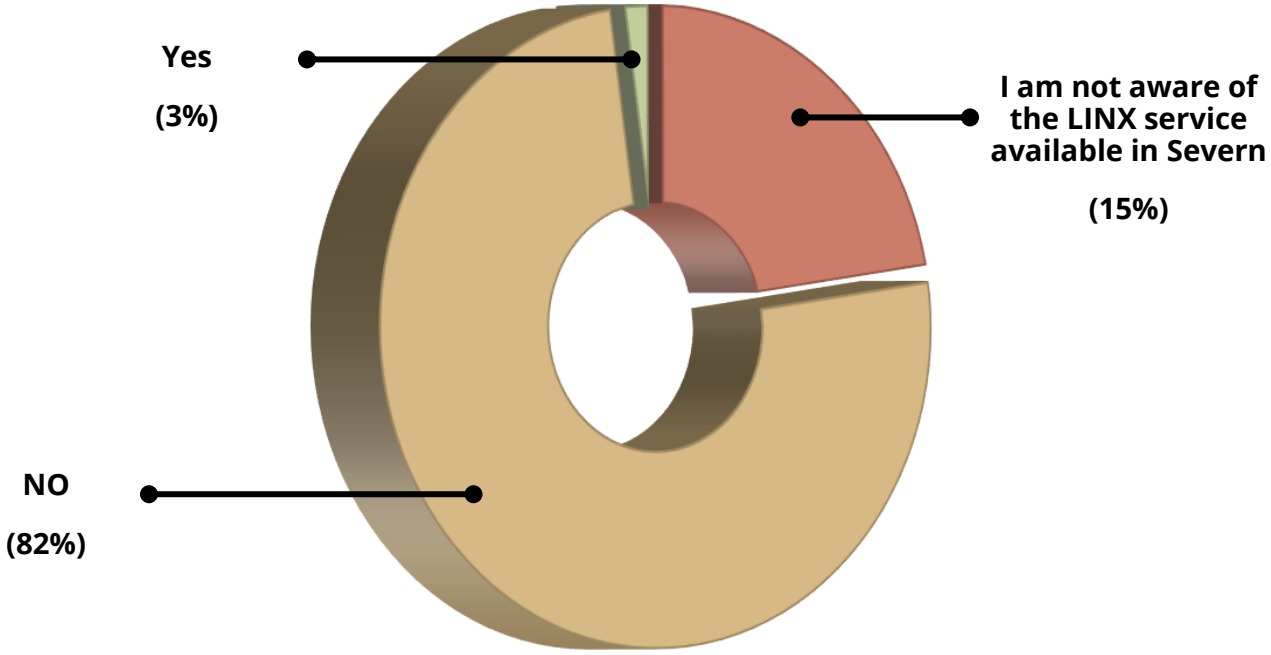


Figure 3-3: Survey Results – Do you use the County of Simcoe LINX Service?

Are any of the following barriers stopping you from using your ideal travel mode most of the time? Please select all that apply from the list below.

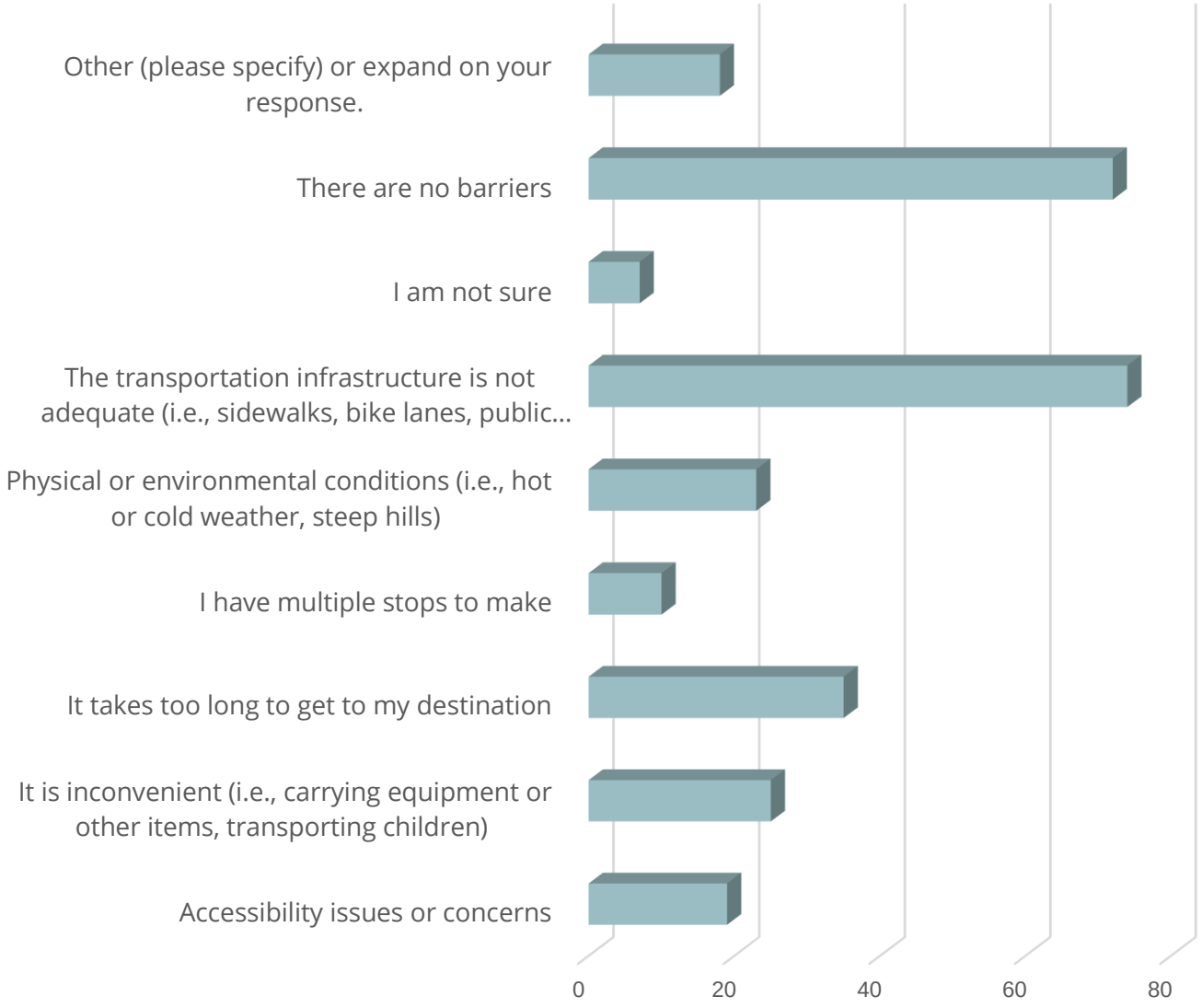


Figure 3-4: Survey Results – Mode Barriers

Respondents were also asked, if they rarely or never use a bicycle or an e-bike in Severn, what is preventing them from doing so? Illustrated in **Figure 3-5**, the most common response was regarding safety concerns (traffic and road conditions) followed by the destinations being too far.

If you rarely or never use a bicycle or an e-bike in Severn, what prevents you from using a bicycle or e-bike more frequently?

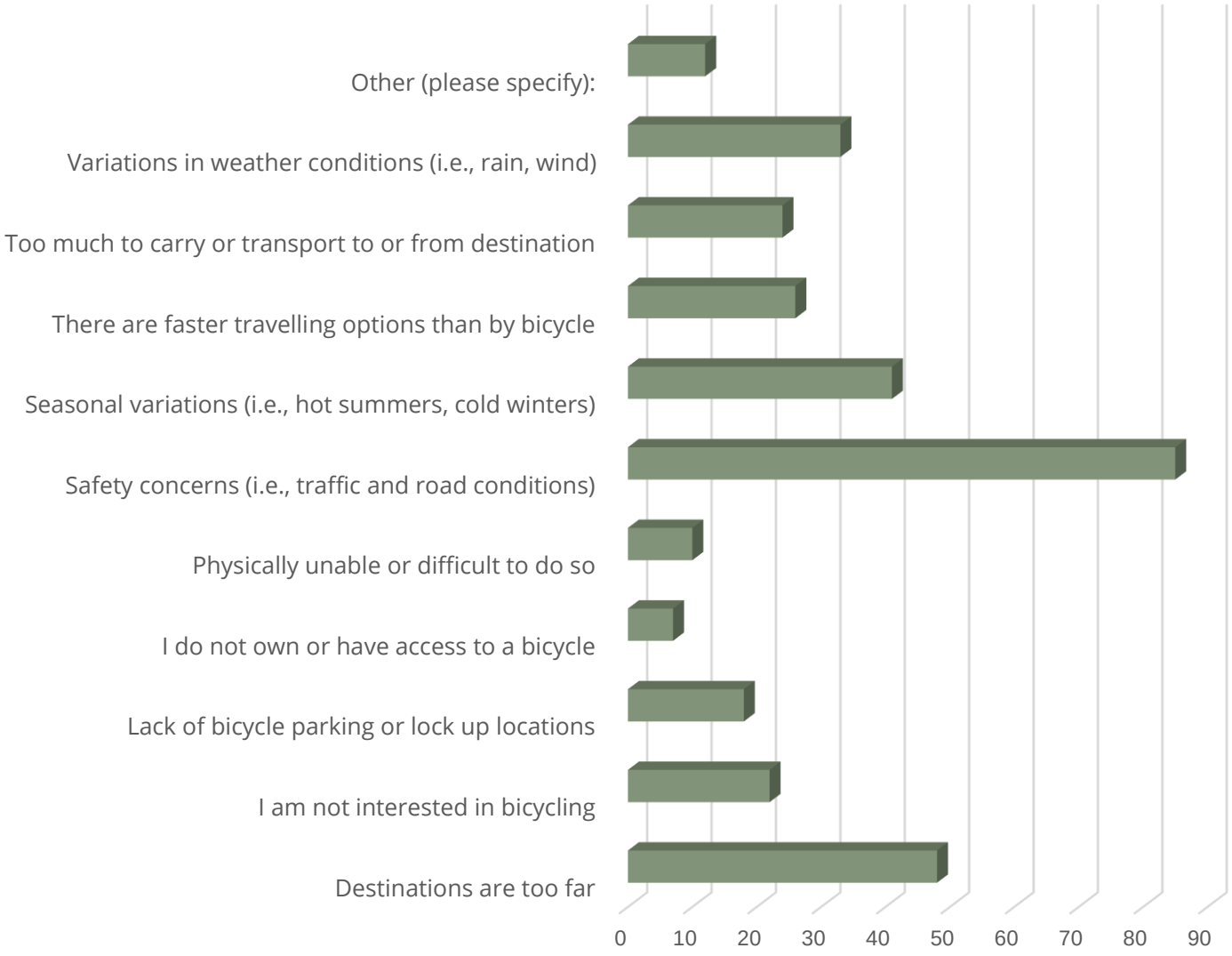


Figure 3-5: Survey Results – Cycling Usage

As illustrated in **Figure 3-6**, when asked what improvements would make travel modes safe and more convenient in Severn, the most common response was adding paved shoulders to make cycling safer. The second most common response was improving conditions of roads and bridges, followed by improving pedestrian and cyclist crossings, and then adding intersection improvements.

What improvements could make travel modes safer and or more convenient in Severn? Please select all that apply from the options below.

Figure 3-6: Survey Results – Safer Modes of Transportation

Respondents were also asked if vehicle congestion was an issue within Severn. Illustrated in **Figure** 3-7, 69% of respondents do not feel traffic congestion is an issue and 21% feel it is somewhat of an issue. Only 8% of respondents felt traffic congestion is an issue in Severn. The results of this survey question generally align with existing conditions traffic operations review.

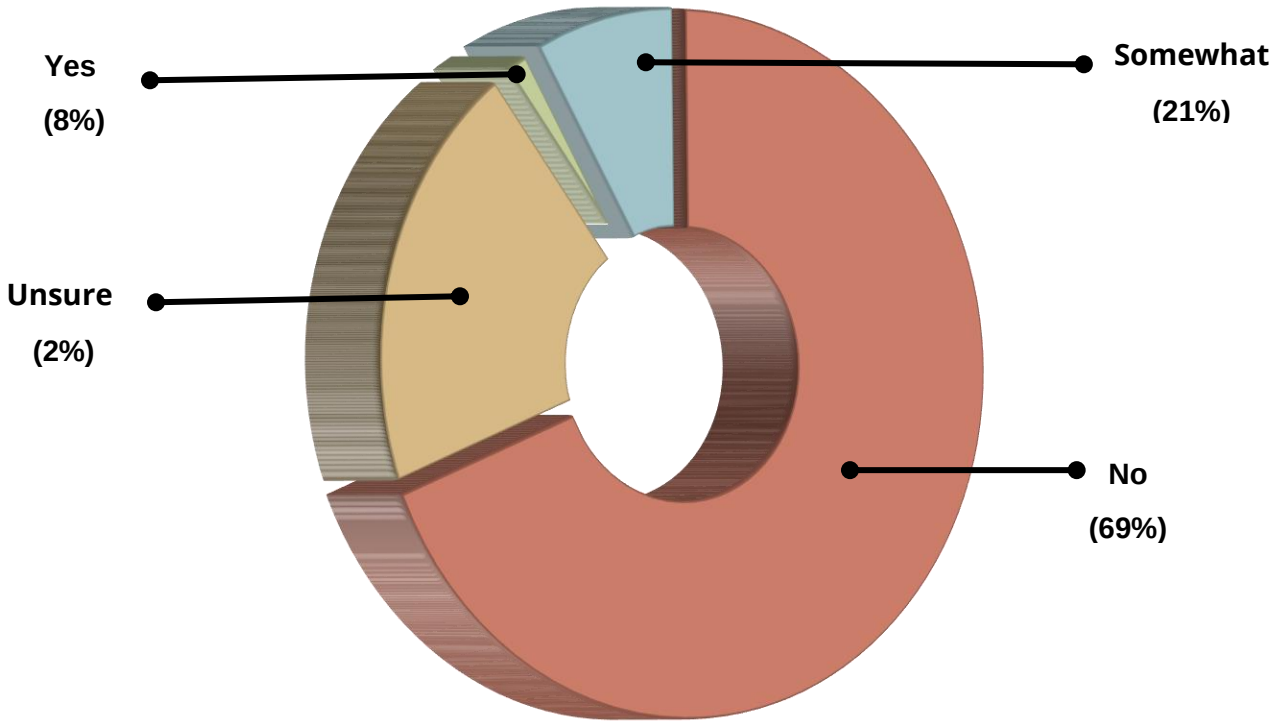


Figure 3-7: Survey Results – Do you consider traffic congestion an issue in Severn?

Overall, based on the online survey, respondents paint Severn as having a predominately motorized vehicles centric transportation network. Motorized vehicles are typically the preferred method of travel for commuting and day-to-day errand type trips. Alternative modes of transportation such as cycling, and walking are largely seen as recreational activities. Based on the responses, the current roadway network is relatively well suited for the current traffic volumes, however, would benefit from safety improvements such as sidewalks, and paved shoulders in additional to improving general road surface and bridge conditions.

3.2 Public Information Center 1

The Notice of Online Public Information Centre (PIC) 1 for this study was issued via email, social media and through interested persons and groups, and Severn's project webpage on March 2nd, 2022. The purpose of the notice was to announce the date and time the Online PIC 1 would be available for public review and comment, and to inform readers about the purpose and format of the PIC, as well as where the online materials could be accessed via Severn's project webpage (https://www.severn.ca/en/our-community/transportation-master-plan.aspx). A copy of the Notice of Online PIC 1 is included in **Appendix A**.

3.2.1 Purpose of the Online Public Information Centre 1

The purpose of the first PIC was to present an overview of the TMP process, existing conditions including the existing transportation infrastructure (roads, sidewalks, transit, haul routes, etc.) and the results of the traffic capacity analysis. The purpose was also to hear from attendees on perceived issues and concerns related to Severn's existing transportation infrastructure. Interested persons were encouraged to submit their input and comments to the study team via email.

3.2.2 Location, Date, and Time

The Online PIC 1 was held online via Microsoft Teams on March 16th from 3:15 PM to 6:00 PM. 25-minute presentations were scheduled from 3:15 PM to 3:40 PM and 4:45 PM to 5:15 PM. Due to lack of attendance, however, the second scheduled presentation was not completed. Instead, the project team made themselves available for questions and answers for any interested parties.

3.2.3 Format

As noted, due to the Covid-19 pandemic, the PIC was hosted via Microsoft Teams with meeting invites accessible via the study website, beginning March 2nd, 2022. The PIC consisted of a single presentation which was prepared and uploaded to YouTube (https://www.youtube.com/watch?v=eBoYxtQ-Cbc&t=3978s) with available closed captions.

3.2.4 Reference Materials

The following slides were presented as part of the online PIC presentation:

- Meeting Overview
- What is a Transportation Master Plan?
- Master Planning Process

- Engagement
- Survey Results
- Public Engagement #1 Objectives
- Study Background
- Current Transportation Master Plan (2014)
- TMP Update Objectives
- Study Area
- Population
- Population – Growth
- Regional and Provincial Connections
- Existing Traffic Conditions
- Change in Travel Needs
- Road Network
- Traffic Volumes
- Existing Traffic Condition-Analysis
- Active Transportation
- Aggregate
- Agriculture
- Transit
- Traffic Safety
- Sidewalks
- Emergency Detour Route
- Electrification (EV) & Technology
- Next Steps
- Feedback
- How you can have your say
- Questions?

A copy of the Online PIC 1 presentation is provided in **Appendix A**.

3.2.5 Participation

The Online PIC 1 drew a total of eight unique visitors and a total of four comments were logged. A list of comments received during and after PIC 1 was compiled and is provided in **Appendix A**.

3.3 Public Information Center 2

The notice of Online Public Information Centre (PIC) 2 for this study was issued via email, social media, through Severn's project webpage on August 26th, 2022. All attendees of PIC 1 were notified directly via email. The notice of PIC 2 was also published within the Orillia Matters online news publication. The purpose of the notice was to announce the date and time the Online PIC 2 would be available for public review and comment, and to inform readers about the purpose and format of the PIC, as well as where the online materials could be accessed via the Townships project webpage (https://www.severn.ca/en/our-community/transportation-master-plan.aspx). A copy of the Notice of Online PIC 2 is included in **Appendix A**.

3.3.1 Purpose of the Online Public Information Centre 2

The purpose of the second PIC was to present an overview of the future traffic volumes and operating conditions as well as to present a high-level overview of the potential recommended improvements to the existing transportation network and to solicit public input. Interested persons were encouraged to submit their input and comments to the study team via email or during the question-and-answer period.

3.3.2 Location, Date, and Time

The Online PIC 2 was held online via Microsoft Teams, beginning on September 14th from 3:15 PM to 6:00 PM. 25-minute presentations were scheduled from 3:15 PM to 3:40 MP and 4:45 PM to 5:15 PM with a 30-minute question period following each presentation.

3.3.3 Format

PIC 2 was hosted via Microsoft Teams with meeting invites accessible via the study website, beginning March 2nd, 2022. The PIC consisted of two presentations which were prepared and uploaded to YouTube (https://www.youtube.com/watch?v=4zer-j2ohF8&t=2046s) with available closed captions.

3.3.4 Reference Materials

The following slides were presented as part of the online PIC presentation:

- Meeting Overview
- What is a Transportation Master Plan?
- Master Planning Process
- Engagement
- Public Engagement #1 Key Comments

- Public Engagement #2 Objectives
- Official Plan Update
- Transportation Goals and Objectives
- Growth Trends
- Forecasted Traffic Volumes – 2041
- Screenline Analysis
- Future traffic Analysis
- Collision Analysis
- Growth Issues
- Identification of Alternative Solutions
- Evaluation of Alternative Solutions
- Recommended Network Strategy – Roadway Improvements and Modifications
- Recommended Network Strategy – Provincial Highway Network Modifications – Proposed to MTO (Considerations)
- Recommended Network Strategy – Emergency Detour Route (EDR)
- Recommended Network Strategy – Haul Routes
- Recommended Network Strategy – Active Transportation
- Recommended Network Strategy – On-Road Cycling Network
- Active Transportation – On-Road Cycling Network
- Active Transportation – Off-Road Network
- Uhthoff Trail Realignment
- Road Classification Updates
- Next Steps
- Feedback
- How You Can Have Your Say
- Questions?

A copy of the Online PIC 2 presentation is provided in **Appendix A**.

3.3.5 Participation

The Online PIC 2 drew a total of thirty-one visitors and a total of four comments were logged. A list of comments received during and after PIC 2 was compiled and is provided in **Appendix A**.

Township of
SEVERN

Traffic Forecasts

McINTOSH PERRY

4.0 TRAFFIC FORECASTS

4.1 Population Growth

Table 4.1 illustrates the population growth within Severn as well as various area municipalities which have been extracted from Statistics Canada 2021, and 2016 census data. The population within Severn was 14,576 in 2021; a 1.6% per annum increase from the 2016 population of 13,462. Generally, the rate of population growth within Severn has remained steady between 2011 and 2021. The County of Simcoe, however, has seen a relatively significantly higher increase in the rate of population growth. For the period from 2011 to 2016, the population in Simcoe Country has grown from 446,063 in 2011 to 479,063 in 2016 and has continued to increase to 533,169 in 2021; an annual increase of 2.1% per annum. Simcoe County is shown to be experiencing an accelerating population growth. However, this increase in the rate of population growth is anticipated to be a result of higher population rate increases within the southern area of Simcoe County and within Cities such as The City of Barrie and City of Orillia. The federal electoral district of Simcoe North for example, has seen a population growth of 1.6% per annum between 2016 and 2021, while the federal electoral district of Simcoe Grey (the southern most federal electoral district within Simcoe County) has seen a population increase of 3.2%; double that of Simcoe North.

Table 4.1:Statistics Canada Census Data (Population)

	Population			Annual Population Growth	
	2011	2016	2021	2011 -> 2016	2016 -> 2021
Township of Severn	12,377	13,462	14,576	1.7%	1.6%
Simcoe County**	446,063	479,635	533,169	1.5%	2.1%
Simcoe-Grey*	116,307	129,944	151,784	2.2%	3.2%
Simcoe-North*	108,672	111,332	120,656	0.5%	1.6%
Simcoe-York*	94,616	104,010	124,458	1.9%	3.7%
City of Orillia	30,586	31,166	33,411	0.4%	1.4%

** Federal Electoral Districts*

*** Census data for Simcoe County includes City of Orillia and City of Barrie*

Based on *Schedule 3* of *the 2020 Growth Plan for the Greater Golden Horseshoe*, the forecasted population for Simcoe County in 2051 is 879,000 (Including City of Barrie and City of Orillia). This would require a growth of 1.5% per annum, illustrating continued growth for the next 29 years.

The 2020 *Growth Plan for the Greater Golden Horseshoe* was prepared in the height of the Covid-19 pandemic, the impacts of which were considered within the report and in development of growth projections. However, a potential consideration for future growth estimates not captured within the report is the significant population shifts that occurred from mid-2020 to mid-2021 which saw large intra-provincial migration from urban Centres; particularly the City of Toronto which per Statistics Canada saw 64,121 residents leaving for smaller centers and rural areas.

4.2 Planned Developments

Simcoe County is currently the approval authority for all local municipal official plans / amendments as well as for subdivisions and condominiums for Severn. Site Plan control falls under the responsibility of local municipalities requiring approval by Simcoe County for property abutting County Roads.

The following are the current plan of subdivision and plan of condominium applications within Severn Township:

- Applications for Draft Plan of Subdivision and Zoning By-law Amendment ("ZBA") for the property, municipally addressed as 8743 Highway 11, located within the Rural Settlement Area of Westshore. The Draft Plan includes the creation of 319 single detached residential lots and 32 townhouse blocks consisting of 215 townhouse units. A Traffic Impact Study was prepared in January 2022.
- Applications for Draft Plan of Subdivision and Zoning By-law Amendment ("ZBA") for the property, municipally addressed as 3735 Menoke Beach, located within the Westshore Settlement Area. The Draft Plan includes the creation of 84 single unit lots and two townhouse blocks consisting of 16 townhouse units. A Traffic Impact Study was prepared in December 2005 and amended in October 2020.
- Applications for Draft Plan of Subdivision and Zoning By-law Amendment ("ZBA") for the property, municipally addressed as 2060 Division Road West, located within the Rural Settlement Area of Marchmont/Bass Lake Woodlands. The Draft Plan includes the creation of 23 single detached residential lot. A Traffic Impact Brief was prepared in October 2020.
- Applications for Draft Plan of Subdivision and Zoning By-law Amendment ("ZBA") for the property, municipally addressed as 2970 Fesserton Side Road, located within the Fesserton Settlement Area. The Draft Plan includes the creation of 14 single detached residential lots. A Traffic Impact Study was prepared in February 2021.

- Applications for Draft Plan of Subdivision for the property, municipally addressed 1240 Anderson Line, located within the Settlement Area of Coldwater. The Draft Plan includes the creation of 42 residential lots and a 3-storey retirement facility. A Traffic Impact Brief was prepared in June 2020.
- There is a planned subdivision on Turnbull Drive which will consist of an estimated 173 single detached homes and townhouses. The proposed subdivision will be located along the south side of Turnbull Drive and on the shores of Lake Couchiching.

In total, approximately 697 residential dwelling units are anticipated to be created through these planned developments within the near future.

4.3 Traffic (AADT) Volume Growth

Severn's 2014 Transportation Master Plan estimated population growth within the Township to be approximately 1.6% per annum between 2011 and 2031. The RNS utilized the growth trends extracted from Severn's 2014 Transportation Master Plan to establish growth rates for the purpose of projecting future traffic volumes on Severn's roads. An annual growth rate of 1.60% was used for primary roads (i.e., urban/semi-urban arterial and collector roads, or rural roads with AADT volumes exceeding 1,000 vehicles per day [vpd]). For all other roads (local and rural roads with AADT volumes less than 1,000 vpd), an annual growth rate of 0.5% (compounded) was applied.

Based on recent growth trends (2021 census data and the 2020 *Growth Plan for the Greater Golden Horseshoe),* growth estimates utilized within the 2014 Transportation Master Plan and 2017 RNS appear to be largely on track. However, based on the recent May 2022 Growth Forecasts and Land Needs Assessment from the Simcoe County Municipal Comprehensive Review, the 1.6% annual growth rate used for primary roads has been reduced to 1.50% for this TMP update.

The 2014 TMP and RNS also applied individual growth rates on a case-by-case basis where growth was expected to be higher than usual due to on-going or planned area development. These rates were primarily applied to roads linking the major settlement areas such as Westshore, Coldwater, Bass Lake/Marchmont/Bass Lake Woodlands, and Washago, and the South of Division Road Secondary Plan Area. These individual growth rates are illustrated in **Table 4.2**.

Table 4.2: AADT Growth Rates on Selected Roads (Based on 2014 TMP)

Road	Location	Growth Rate Per Annum
Burnside Line	Highway 11 SB Ramps	1.28%
Telford Line	Centre Avenue	4.90%
Soules Road	Highway 11 SB Ramps	4.87%
New Brailey Line	Highway 11 Overpass	5.45%
Bayou Road	Highway 11 Overpass	4.80%
Goldstein Road	Highway 11 Overpass	4.71%
Canal Road	Highway 11	2.74%
Fairgrounds Road	Highway 12	1.71%
Wainman Line	Highway 12	1.40%
Coldwater Road	Highway 12	1.35%
Woodrow Road	Highway 12	3.93%
Sturgeon Bay Road	Highway 12	1.24%
Quarry Road	Highway 400 NB Ramps	1.57%
Quarry Road	Highway 400 NB Ramps	2.17%
Port Severn Road	Highway 400 NB Ramps	0.80%
Port Severn Road	Highway 400 NB Ramps	1.22%

While these settlement areas are anticipated to continue to see significant development over the course of the next 20 years, some growth rates may be over estimating future growth. Roads within the vicinity of Highway 11 such as Bayou Road, Goldstein Road, New Bailey Line, etc. are shown to have a growth rate approaching 5.0% and exceeding 5.0% per annum in the case of New Brailey Line. These rates may be applicable within the short term to account for development growth but applying a compound growth rate of 5.0% would result in significant and unrealistic growth when applied over a 20-year period.

As such, **Table 4.2** has been revised based on planned area developments, available developable land, as well as a review of historical traffic volumes on MTO highways. The revised growth rates are illustrated in **Table 4.3.** Ultimately, the 1.50% growth rate used for primary roads, is anticipated to sufficiently capture future background growth on these roads as well. Development generated traffic should be accounted for through the development application process for specific planned developments and added to the road network volumes.

Table 4.3: Revised Projected AADT Growth Rates on Selected Roads in the Township

Road	Location	Growth Rate Per Annum
Burnside Line	Highway 11 SB Ramps	1.50%
Telford Line	Centre Avenue	1.50%
Soules Road	Highway 11 SB Ramps	1.50%
New Bailey Line	Highway 11 Overpass	1.50%
Bayou Road	Highway 11 Overpass	0.50%
Goldstein Road	Highway 11 Overpass	1.50%
Canal Road	Highway 11	1.50%
Fairgrounds Road	Highway 12	1.50%
Wainman Line	Highway 12	1.50%
Coldwater Road	Highway 12	1.50%
Woodrow Road	Highway 12	1.50%
Sturgeon Bay Road	Highway 12	1.50%
Quarry Road	Highway 400 NB Ramps	1.50%
Quarry Road	Highway 400 NB Ramps	1.50%
Port Severn Road	Highway 400 NB Ramps	1.50%
Port Severn Road	Highway 400 NB Ramps	1.50%
Campbell Road	Highway 11	1.50%
Ardtrea Drive	Highway 11	1.50%

4.4 Future AADT Projections

Based on the established growth trends, existing AADT volumes were forecasted to the short term (2027), medium term (2031), and long term (2041) planning horizons. The future AADT projections are illustrated in **MAP 18** to **MAP 23.**

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 18: 2027 AADT (1 of 2)

TOWNSHIP OF GEORGIAN BAY

TOWNSHIP OF MUSKOKA LAKES

TOWN OF GRAVENHURST

CITY OF KAWARTHA LAKES

TOWNSHIP OF ORO-MEDONTE

CITY OF ORILLIA

Fesserton

Coldwater

Marchmont

West Shore

Ardtrea

Washago

South of Division Road Secondary Plan

Beaver Dam Road
White Pines Road
Frankland (Pvt.)
Graham Road (Pvt.)
Lows Lane (Pvt.)
East Shore Road (Pvt.)
Crown Trail
Ellis Road
Bay Road (Pvt.)
Janes Lane (Pvt.)
Swift Rapids Road (Pvt.)
Horseshoe Valley Road (Pvt.)
Orimat Road (Pvt.)
Torpitt Road
Hammell Trail (Pvt.)
West Canal Road
Boyd Road
Grass Lake Line
South Sparrow Lake Road
Fawcett Road (Pvt.)
Bridgeview Drive
Hodgins Road
Narrows Road
Fell Line (Pvt.)
Irish Line
Oakley Sideroad
Kitchener Sideroad
Silk Line
Laughlin Falls Road
Quarry Road
Copelands Lane (Pvt.)
Kinnear Sideroad
Lawson Line
Lowering Line
Mount Stephen Road
Jermey Road
Carlyon Line
Maple Valley Road
Brennan Line
Cambrian Road
Balkwill Line
Hampshire Mills Line
Telford Line
Stockdale Road
Foxmead Road
Wainman Line
Thornburn Road
Fairgrounds Road
Uhthoff Line
Burnside Line
Warminster Road
Town Line
Division Road West
Fox Road (Pvt.)
Brodie Drive
Highway 11 South
Osprey Lane
Highway 12
Southorn Road
Dunns Line
Anderson Line
Lower Big Chute Road
Our Farm Road
Coldwater Road
Highway 400 South
Highway 400 North
017-01
017-02
017-03
016-01
023-01
052-01
052-02

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
Jun., 23, 2022

LEGEND

- Waterbody
- Watercourse
- Railway

2026 AADT

- 50-500
- 501-1000
- 1001-1500
- 1501-2000
- 2001-2500
- 2501-3000
- 3001-27000
- County/Provincial Roads

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 19: 2027 AADT (2 of 2)

LEGEND

- Waterbody
- Watercourse
- Railway

2026 AADT

- 50-500
- 501-1000
- 1001-1500
- 1501-2000
- 2001-2500
- 2501-3000
- 3001-27000
- County/Provincial Road

N W E S

0 355 710 1,420

Scale 1:30,704 Metres

Township of SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.

Jun., 23, 2022

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 20: 2031 AADT (1 of 2)

LEGEND

- Waterbody
- Watercourse
- Railway

2031 AADT

- 50-500
- 501-1000
- 1001-1500
- 1501-2000
- 2001-2500
- 2501-3000
- 3001-27000
- County/Provincial Roads

Township of
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
Jun., 23, 2022

TOWNSHIP OF SEVERN

TRANSPORTATION MASTER PLAN

MAP 21: 2031 AADT (2 of 2)

LEGEND

- Waterbody
- Watercourse
- Railway

2031 AADT

- 50-500
- 501-1000
- 1001-1500
- 1501-2000
- 2001-2500
- 2501-3000
- 3001-23000
- County/Provincial Roads

N E S W

0 205 410 820

Scale 1:17,579 Metres

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.

Jun., 23, 2022

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 22: 2041 AADT (1 of 2)

TOWNSHIP OF GEORGIAN BAY

TOWNSHIP OF MUSKOKA LAKES

TOWN OF GRAVENHURST

CITY OF KAWARTHA LAKES

TOWNSHIP OF ORO-MEDONTE

CITY OF ORILLIA

Fesserton

Washago

Ardtrea

West Shore

Marchmont

South of Division Road Secondary Plan

Lees Run (Pvt.)

Graham Road (Pvt.)

Frankland (Pvt.)

Beaver Dam Road

White Pines Road

East Shore Road (Pvt.)

Brown Trail

Ellis Road

Bay Road (Pvt.)

Janes Lane (Pvt.)

Swift Rapids Road (Pvt.)

Orimat Road (Pvt.)

Tomplt Road

Harriet Trail (Pvt.)

West Canal Road

Boyd Road

Severn River (Pvt.)

Coopers Falls Road (County Road 52)

Fawcett Road (Pvt.)

Grass Lake Line

South Sparrow Lake Road

Hodgins Road

Quarry Road

Narrows Road

Fell Line (Pvt.)

Irish Line

Oakley Sideroad

Kitchener Sideroad

Silk Line

Taylor Line

Lowering Line

Laughlin Falls Road

Copelands Lane (Pvt.)

Kinnear Sideroad

Lawson Line

Mount Stephen Road

Jermey Road

Carlyon Line

Maple Valley Road

Brennan Line

Cambrian Road

Hampshire Mills Line

Telford Line

Balkwill Line

Foxmead Road

Southrom Road

Dunns Line

Anderson Line

Cedarwater Road

Lower Big Chute Road

Orr Farm Road

Highway 400 North

Highway 400 South

Wainman Line

Thorburn Road

Fairgrounds Road

Warminster Road

Town Line

Burnside Line

Uhthoff Line

Stockdale Road

Ardtrea Big Chief Road

Fox Road (Pvt.)

Brodie Drive

Highway 11 South

Division Road West

Osprey Lane

Elgin Drive

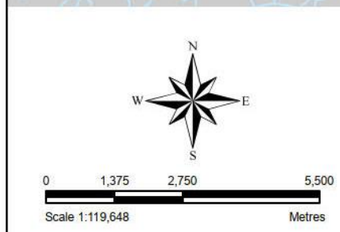
Highway 12

Highway 11 North

Turnbull Drive

Plant Road

Anchor Drive



— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
Jun., 23, 2022

LEGEND

- Waterbody
- Watercourse
- Railway

2041 AADT

- 50-500
- 501-1000
- 1001-1500
- 1501-2000
- 2001-2500
- 2501-3000
- 3001-27000
- County/Provincial Road

TOWNSHIP OF SEVERN

TRANSPORTATION MASTER PLAN

MAP 23: 2041 AADT (2 of 2)

LEGEND

- Waterbody
- Watercourse
- Railway

2041 AADT

- 50-500
- 501-1000
- 1001-1500
- 1501-2000
- 2001-2500
- 2501-3000
- 3001-27000
- County/Provincial Roads

N
W E
S

0 350 700 1,400
Scale 1:30,424 Metres

Township of SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
Jun., 23, 2022

4.5 Future Intersection Operations

Similar to the existing conditions traffic operations assessment, an assessment was performed for the future 2026, 2031 and 2041 forecasted traffic volumes to identify any potential future capacity issues. **Table 4.4** summarizes traffic operations for the critical intersections. Detailed summary tables are provided in **Appendix B**.

Morning Peak Period

During the morning peak hour, all study intersections are anticipated to continue to operate at LOS B or better. The only exception is the intersection of Burnside Line and Division Road West/East which was shown to operate at LOS D by the 2041 planning horizon year.

Afternoon Peak Period

During the afternoon peak hour, all study intersections were shown to operate at LOS C or better with two exceptions. For the forecasted year of 2031, at the intersection of Burnside Line and Division Rd W/Division Road East, the westbound lane operates at LOS E, indicating it is nearing failure.

By the 2041 horizon year, the intersection of Coldwater/River Street and Sturgeon Bay/Gray Street is anticipated to operate at LOS E with a v/c ratio of 0.85. Additionally, the intersection of Burnside Line and Division Road East eastbound and westbound lanes are anticipated to operate at LOS F with respective v/c ratios of 1.46 and 1.87.

Overall, all study intersections are anticipated to continue to operate well at the 2041 horizon year with the two exceptions being the intersections of Coldwater/River Street and Sturgeon Bay/Gray Street and Burnside Line and Division Road East which are both anticipated to have some future operational issues.

Table 4.4: Future Intersection Operations Summary

Intersection	Movement	Morning Peak				Afternoon Peak			
		LOS	v/c	Control Delay (s)	95th %tile Queue (m)	LOS	v/c	Control Delay (s)	95th %tile Queue (m)
Forecasted Year 2031									
Burnside Line & Division Rd W/Division Rd E	EB-LTR	B	0.42	15	2	D	0.71	32	5
	WB-LTR	C	0.19	17	1	E	0.57	37	3
	NB-LTR	A	0.08	8		A	0.13	8	1
	SB-LTR	A	0.01	8		A	0.01	8	
Forecasted Year 2041									
Burnside Line & Division Rd W/Division Rd E	EB-LTR	D	0.69	26	5	F	1.46	263	22
	WB-LTR	D	0.38	29	2	F	1.87	490	16
	NB-LTR	A	0.11	8	0	A	0.19	8	1
	SB-LTR	A	0.02	8	0	A	0.01	8	
Coldwater Rd/River St & Sturgeon Bay Rd/Gray St	EB-LTR	B	0.43	13	2	C	0.66	24	5
	WB-LTR	B	0.52	15	3	D	0.70	27	5
	NB-LTR	B	0.41	13	2	E	0.89	45	10
	SB-LTR	B	0.35	12	2	C	0.58	21	4

4.5.1 Signal Warrants

As both the intersections of Coldwater/River Street and Sturgeon Bay/Gray Street and Burnside Line and Division Road East are expected to exceed capacity in the future, traffic signal warrants were performed based the future traffic volumes in accordance with the Ontario Traffic Manual (OTM) Book 12 methodology. Signal warrant calculations have been provided in **Appendix B**.

The results indicate traffic signals are currently warranted at the intersection of Burnside Line and Division Road West/Division Road East. Traffic Signals at the intersection of Coldwater Road/River Street and Sturgeon Bay Road/Gray Street will be warranted by the 2031 planning horizon year. As illustrated in **Table 4.5,** significant operational improvements at these locations are achievable through signalization.

Table 4.5: Future Signalized Intersection Operations

Intersection	Movement	Morning Peak				Afternoon Peak			
		LOS	v/c	Control Delay (s)	95th %tile Queue (m)	LOS	v/c	Control Delay (s)	95th %tile Queue (m)
2021									
Burnside Line & Division Rd W/Division Rd E	EB-LTR	A	0.41	8	9	B	0.45	10	18
	WB-LTR	B	0.14	13	9	B	0.27	13	11
	NB-LTR	A	0.21	7	17	A	0.34	8	24
	SB-LTR	A	0.14	6	12	A	0.16	5	12
2026									
Burnside Line & Division Rd W/Division Rd E	EB-LTR	A	0.44	8	9	B	0.47	11	20
	WB-LTR	B	0.15	13	9	B	0.28	13	12
	NB-LTR	A	0.23	7	18	A	0.38	9	27
	SB-LTR	A	0.15	6	13	A	0.17	5	13
2031									
Burnside Line & Division Rd W/Division Rd E	EB-LTR	A	0.49	9	10	B	0.56	13	26
	WB-LTR	B	0.17	13	10	B	0.32	13	13
	NB-LTR	A	0.33	8	23	B	0.56	13	36
	SB-LTR	A	0.21	7	16	A	0.24	6	17
Coldwater Rd/River St & Sturgeon Bay Rd/Gray St	EB-LTR	B	0.36	11	13	B	0.48	13	21
	WB-LTR	B	0.47	15	18	B	0.50	16	16
	NB-LTR	A	0.19	6	9	A	0.38	9	25
	SB-LTR	A	0.16	6	12	A	0.20	5	11

2041									
Burnside Line & Division Rd W/Division Rd E	EB-LTR	A	0.59	10	12	B	0.67	16	35
	WB-LTR	B	0.21	13	12	B	0.41	14	17
	NB-LTR	B	0.49	11	38	C	0.78	24	72
	SB-LTR	A	0.29	8	24	A	0.33	8	26
Coldwater Rd/River St & Sturgeon Bay Rd/Gray St	EB-LTR	B	0.49	13	18	B	0.70	20	33
	WB-LTR	C	0.67	20	25	C	0.71	22	22
	NB-LTR	A	0.33	7	14	B	0.67	18	37
	SB-LTR	A	0.28	7	17	A	0.33	6	15

4.6 Future Screenline Assessment

A screenline assessment was also performed for the future 2027, 2031, and 2041 planning horizons. **Table 4.6** summarizes the overall screenline analysis results during the morning and afternoon peak hours. v/c ratios of all the screenline are anticipated to remain below 0.33, indicating Severn's existing road network has sufficient capacity to continue to effectively serve traffic to the 2041 horizon year. All screenline results are also illustrated in **MAP 24** to **MAP 26**.

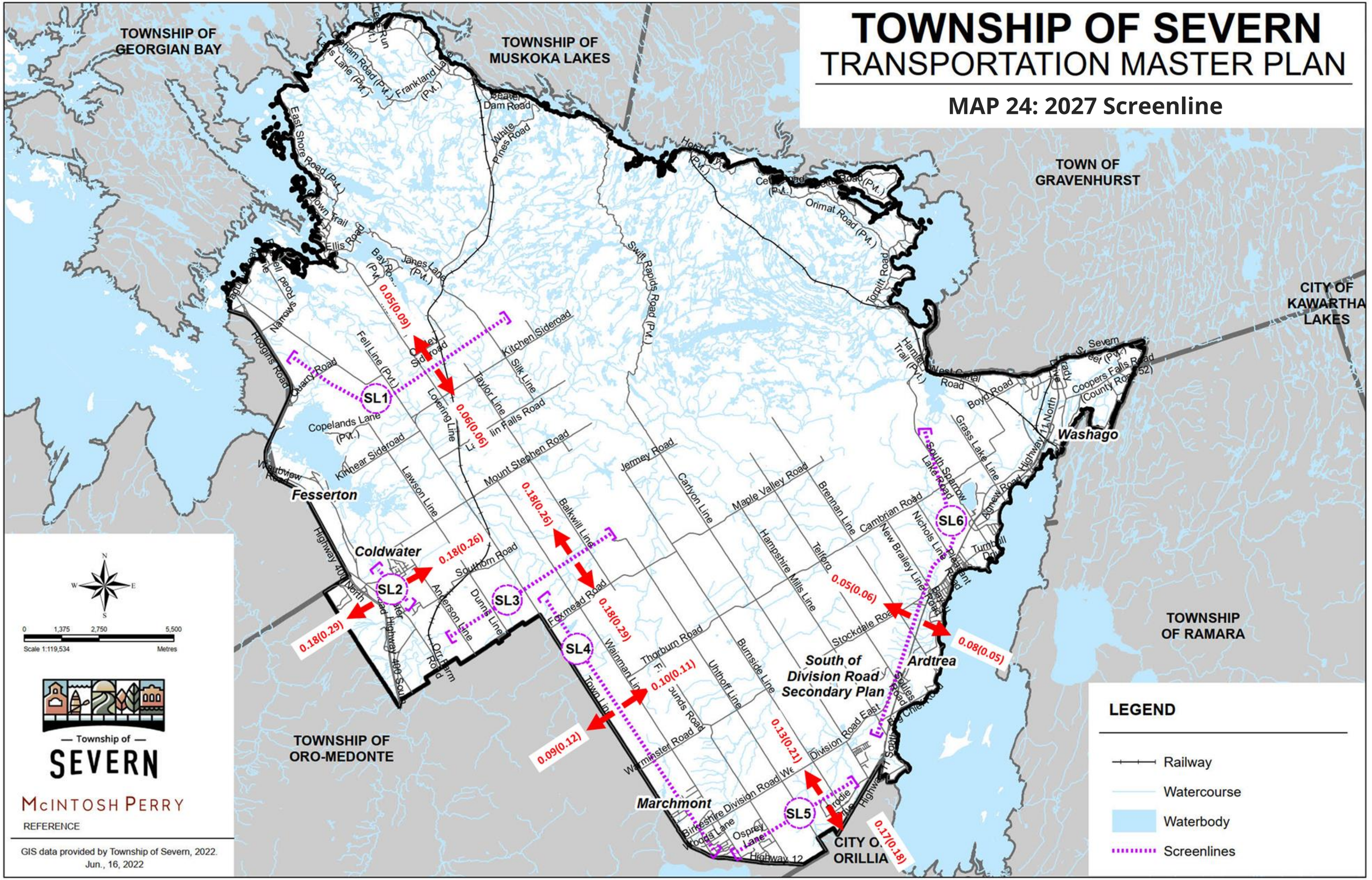
Table 4.6: Future Planning Horizon Screenline Assessment

Year	Description	Traffic Volumes (VPH)				Capacity (vphpl)	V/C Ratio			
		Morning Peak		Afternoon Peak			Morning Peak		Afternoon Peak	
		NB/EB	SB/WB	NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB
2026	SL1	123	151	233	149	2500	0.05	0.06	0.09	0.06
	SL2	234	238	342	383	1300	0.18	0.18	0.26	0.29
	SL3	67	104	103	78	1750	0.04	0.06	0.06	0.04
	SL4	156	138	179	189	1600	0.10	0.09	0.11	0.12
	SL5	426	575	703	600	3400	0.13	0.17	0.21	0.18
	SL6	147	214	166	145	2700	0.05	0.08	0.06	0.05
	*Division Road East	173	140	133	85	900	0.11	0.09	0.15	0.09
2031	SL1	132	162	250	161	2500	0.05	0.06	0.10	0.06
	SL2	253	258	370	414	1300	0.19	0.20	0.28	0.32
	SL3	69	108	106	80	1750	0.04	0.06	0.06	0.05
	SL4	168	148	193	203	1600	0.11	0.09	0.12	0.13
	SL5	462	623	762	650	3400	0.14	0.18	0.22	0.19
	SL6	161	235	181	158	2700	0.06	0.09	0.07	0.06
	*Division Road East	187	152	144	92	900	0.12	0.09	0.16	0.10
2041	SL1	152	188	291	188	2500	0.06	0.08	0.12	0.08
	SL2	297	302	434	485	1300	0.23	0.23	0.33	0.37
	SL3	73	112	111	84	1750	0.04	0.06	0.06	0.05
	SL4	194	171	223	234	1600	0.12	0.11	0.14	0.15
	SL5	542	732	896	764	3400	0.16	0.22	0.26	0.22
	SL6	199	290	217	193	2700	0.07	0.11	0.08	0.07
	*Division Road East	219	178	168	109	900	0.14	0.11	0.19	0.12

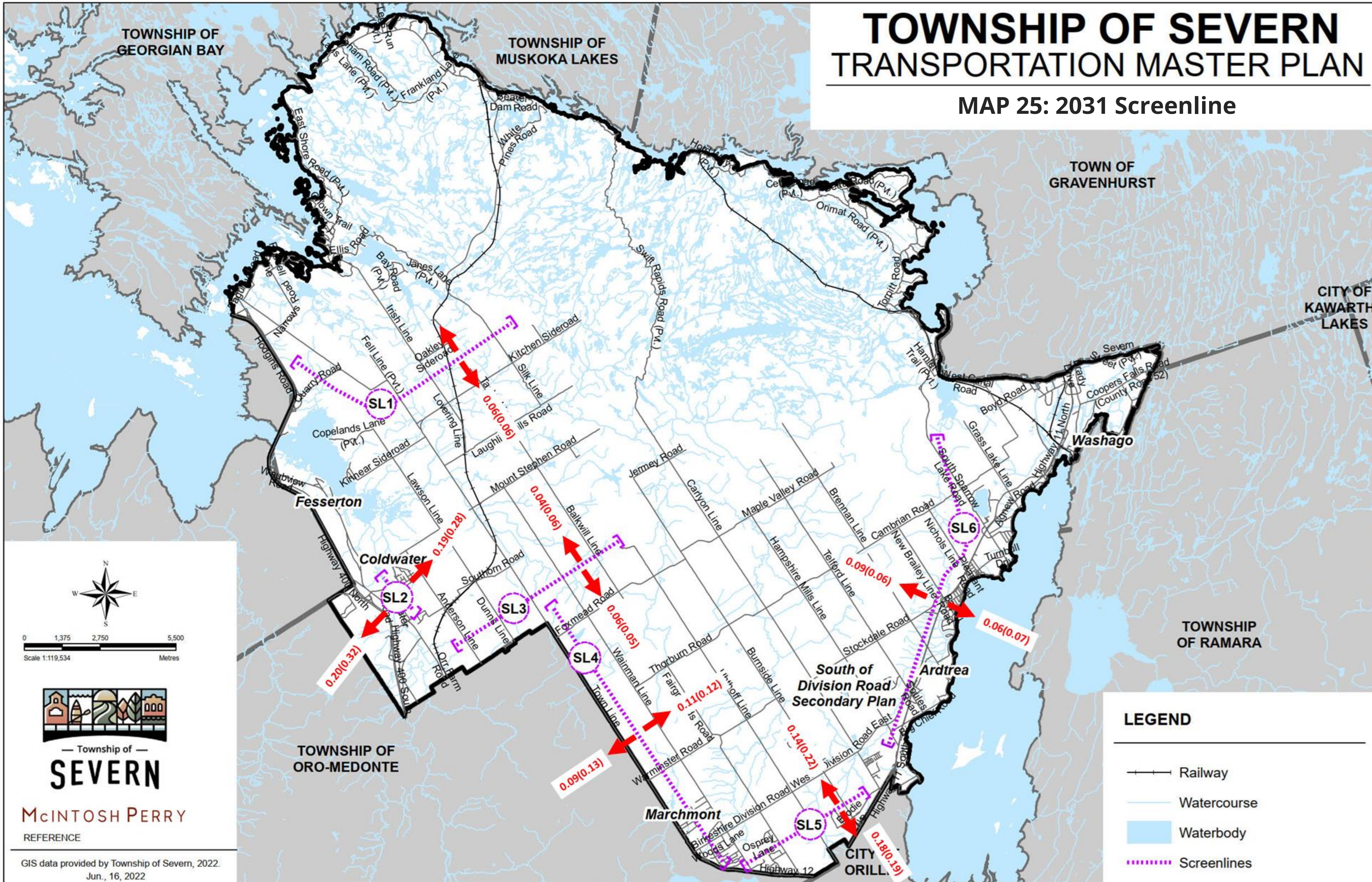
TOWNSHIP OF SEVERN

TRANSPORTATION MASTER PLAN

MAP 24: 2027 Screenline



GIS data provided by Township of Severn, 2022.
Jun., 16, 2022


TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 25: 2031 Screenline
TOWNSHIP OF GEORGIAN BAY
TOWNSHIP OF MUSKOKA LAKES
TOWN OF GRAVENHURST
CITY OF KAWARTHA LAKES
TOWNSHIP OF RAMARA
TOWNSHIP OF ORO-MEDONTE
Fesserton
Coldwater
Washago
Ardtrea
Marchmont
South of Division Road Secondary Plan
SL1
SL2
SL3
SL4
SL5
SL6
0.06(0.06)
0.19(0.28)
0.20(0.32)
0.04(0.06)
0.06(0.05)
0.09(0.13)
0.11(0.12)
0.14(0.22)
0.18(0.19)
0.09(0.06)
0.06(0.07)
Swift Rapids Road (Pvt.)
Jermey Road
Carlyon Line
Maple Valley Road
Brennan Line
Cambrian Road
Hampshire Mills Line
Telford Line
Stockdale Road
Thorburn Road
Burnside Line
Warminster Road
Mount Stephen Road
Balkwill Line
Foxmead Road
Wainman Line
Town Line
Southorn Road
Dunns Line
Anderson Line
Lawson Line
Kinnear Sideroad
Copelands Lane (Pvt.)
Fell Line (Pvt.)
Oakley Sideroad
Kitchen Sideroad
Silk Line
Lovering Line
Irish Line
Narrows Road
Hodgins Road
Quarry Road
Bay Road (Pvt.)
Janes Lane (Pvt.)
Ellis Road
East Shore Road (Pvt.)
White Pines Road
Beaver Dam Road
Frankland Lane (Pvt.)
Orimat Road (Pvt.)
Tornpitt Road
Grass Lake Line
Agnew Road
Boyd Road
Nichols Line
New Brailey Line
South Sparrow Lake Road
Coopers Falls Road (County Road 52)
Highway 11 North
Highway 400 North
Highway 12
Osprey Lane
Woods Lane
Birkshire Division Road West
Division Road East
CITY OF ORILLIA
N
W
E
S
0
1,375
2,750
5,500
Scale 1:119,534
Metres
— Township of —
SEVERN
McINTOSH PERRY
REFERENCE
GIS data provided by Township of Severn, 2022.
Jun., 16, 2022
LEGEND
Railway
Watercourse
Waterbody
Screenlines

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 26: 2041 Screenline

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
Jun., 16, 2022

Township of
SEVERN

A Vision for Severn

McINTOSH PERRY

5.0 A VISION FOR SEVERN

5.1 Issues and Concerns

5.1.1 Growth Issues

The 2014 TMP highlighted several issues arising as a result of continued and uneven growth within Severn. Many of these issues continue to be prevalent for this TMP update.

Growth and Urbanization - As described in **Section 4.0**, neighbouring communities south of Severn are continuing to grow and expand at rates higher than within Severn. These communities have historically been viewed as commuter neighbourhoods, with their residents commuting to larger employment hubs such as the City of Toronto. This dynamic is quickly changing. As these communities and the GGH as a whole continue to grow, the potential for intermodal employment increases. A Place to Grow policies encourage the building of "completed communities" where people live close to where they work. Over time, as these planning policies shift development patterns, urban centres in the Outer Ring will gradually become more "complete." Many of these outer ring urban centres within the GGH are forecasted to experience a net-in commuting for the first time by 2051. This will place significant growth pressure on Severn's existing primary settlement areas.

Aggregate Production - Severn has substantial mineral aggregate resources which serves as a critical component of its economy. Severn, however, is also located on sensitive environmental lands including wetlands. The political climate surrounding environmental issues could serve as a driver for stymied aggregate production growth within Severn. The province of Ontario for example, has seen a net decrease in the production, and shipment value of mineral aggregates since 2019 and Severn itself has seen a net decrease in the licensed aggregate production tonnage since the 2014 TMP. However, it is anticipated that existing quarries and pits will continue to see increases in production up to their licensed tonnage. Careful management of existing and new aggregate operations remains essential to reduce and/or mitigate the impact on local communities, local roads, and the local environment in accordance with Provincial and Township requirements.

Growth of Pedestrian/Cycling Activity - Active Transportation continues to be a critical component of any transportation network. As with the 2014 TMP, more and more people are choosing to walk or cycle not only for commuting to school/work/shopping but to maintain healthy lifestyles.

Severn remains committed to providing and promoting active transportation to its residents and visitors. Severn realizes, providing continuous and connected active transportation facilities is important to support sustainable modes of transportation, to increase overall neighbourhood accessibility, and improve safety for vulnerable road users.

As Severn is beginning to undergo a degree of urbanization within its primary settlements, its well positioned to make improvements to its active transportation and pedestrian infrastructure in parallel and with the growth, as opposed to implementing these improvements in the future retroactively. Identification and improvements of active transportation gaps, sidewalks gaps, and opportunities to implement cycling facilities especially for key destinations (schools and residential, commercial, and recreation areas) will be critical for future success and prosperity of Severn.

Development Charges – Development charges are one-time fees levied on new developments within Severn. These charges finance a portion of the capital costs associated with creating the new infrastructure and municipal service expansion required to support the associated development growth. With significant growth anticipated over the course of this TMP's planning horizon, defining adequate development charges to allow Severn to continue to promote growth while being able to also support that growth is essential for its success.

5.2 Transportation Issues – Problem Statement

In consideration with the above issues and concerns and the 2014 TMP, the following are a number of remaining key issues as well as newly identified ones:

- In general, Severn lacks adequate pedestrian infrastructure (sidewalks) to accommodate pedestrians within many of its primary settlement areas. Significant gaps to and from key locations such as schools, community centres, and trails persist throughout. High volumes of truck traffic, and relatively high operating speeds on the rural road network results in safety concerns for road users and especially vulnerable road users.
- The majority of Severn roads are paved. However, there are several locations where segments of a continuous roadway have granular surfaces. These locations with discontinuities in the road surface typically do not have reduced speed limits, resulting in potential safety issues when considering crossing between road surface types while maintaining speed.
- Many of the rural and urban roadways within Severn have narrow unpaved shoulders. Despite being a desirable location for cycling, especially considering Severn's natural

beauty, Severn overall lacks the appropriate facilities to accommodate safe and comfortable cycling.

- While active transportation and pedestrian facilities are a key consideration for Severn's success, private motor vehicles remain by and large the preferred mode of transportation. The current road classifications are poorly suited for interpreting the desired usage of the roads. A clear and concise road classification system will be critical as uneven growth and urbanization occurs within Severn. As the population and traffic volumes increase, Severn will require the means of assigning and updating road classifications to better meet the desired usage of the roads.
- The Township has a grid type system of roads; however, a few roads currently end within close vicinity to other roads but do not connect. Many of these "no exit' roads such as Thomson Crescent and Menoke Beach Road were recommended in the 2014 TMP to be connected to other roads for improved circulation and access but the recommendations have yet to be carried forward.
- Much of the population within Severn is centralized along its southern/eastern boundaries within the vicinity of the provincial highway network. These highways serve as the primary arterials for commuting to and from Severn. Ensuring adequate connections to Highway 11, Highway 12, and Highway 400 is critical. Access to these highways falls under the jurisdiction of MTO, however, additional municipal links to ramp terminal intersections is required.
- Similar to the road classification system, many of Severn's Engineering Standards for bike lanes, route delineation, traffic calming (especially along school zone corridors) are outdated or do not exist.

5.3 Vision Statement

Per Severn's 2023 to 2026 Strategic Plan, the following represent Severn's Vision and Mission statements:

Vision - Township of Severn is a welcoming, community-focused municipality that promotes responsible development, encourages all-season tourism, and delivers a high level of service. We celebrate our unique identity, preserve the natural environment, and value our historic small-town charm.

Mission – Through excellence in service and preservation of our historic and natural assets, the Township of Severn enhances the quality of life for residents and creates opportunities for the community. We welcome investments that complement and respect our rural character.

5.4 Transportation Goals and Objectives

In keeping with Severn's vision and goals, the transportation system should serve its major communities, its citizens, and visitors, and support the local economy. In doing so, the transportation system should seek to address the issues outlined in **Section 5.2**. Therefore, the objectives of Severn's transportation system are:

- Establish a clear and concise road classification system that will allow for Severn's roads to meet current and future desired usage.
- Provide safe and effective pedestrian and active transportation facilities from and to existing trail system and primary settlement areas.
- Remove discontinuities in paving surface on key roads.
- encourage connections for pedestrians between road "dead ends" where appropriate.
- Provide standards for roadway cross-sections including paved shoulders for cycling and enhanced pedestrian safety.
- Provide traffic calming measures (centreline delineators, speed feedback signs, etc.) within area's signed below the roadways design speed such as through school zones.
- Shore up gaps in the active transportation network and provide additional wayfinding using trails from and to key locations within Severn.
- Continue to provide adequate truck routes for carrying aggregate from quarries to the marketplace and mitigate impacts to the community from haul route non-compliance and traffic violations through police enforcement.

6.0 IDENTIFICATION OF ALTERNATIVE SOLUTIONS

Phase 2 of Municipal Class Environment Assessment (MCEA) process includes identifying an opportunity or alternative solutions to the problem for the study area.

Four alternative strategies have been considered:

Alternative 1: Do Nothing

Maintain the current transportation network and policy/programming. This alternative would not include further development of roads under the jurisdiction of Severn, but all Simcoe County improvements would proceed as planned.

Alternative 2: Status Quo

Severn would continue infrastructure development and expansion at its current pace with new or refined policies/programming. New infrastructure development would continue to be based on recommendations within previous TMP combined with ad-hoc incremental enhancements in response to local development as it occurs.

Alternative 3: Road Network Strategy

Severn would focus investment on strategic road network improvements, such as road urbanization, local traffic operation improvements, and maintain haul routes for aggregate production. Roads would prioritize active transportation facilities such as sidewalks and multi-use pathways. Corresponding strategic investment would be made towards providing safer pedestrian facilities.

Alternative 4: Multi-Modal Network Strategy

Focus placed on strategic road network capacity improvements, promote, and enhance the active transportation network and develop a public transit system. Takes a multi-modal approach, which includes a balance of traditional road network improvements and sustainable modes through policy and significant capital investment.

6.1 Evaluation of Alternative Solutions

The alternative strategies were evaluated against a sphere of criteria and weighted alongside the strategic goals and transportation vision to select the preferred alternative. Five (5) criteria were set to evaluate alternatives, they are as follows:

- **Transportation**
  - Moves people and goods efficiently and safely.
  - Provides efficient connections within Severn's settlement areas.
  - Improves connections to and from surrounding municipalities.
  - Enhances active transportation facilities.
  - Provides a diversity of travel choices, including walking, cycling, and transit through the design of complete streets.

- **Policy**
  - Supports provincial policies.
  - Supports Simcoe County policies.
  - Supports Severn's updated Official Plan.
- **Economic Feasibility**
  - Minimizes capital costs.
  - Minimizes maintenance and operating costs.
- **Environmental**
  - Minimizes impacts to the natural environment.
  - Network encourages low-emission transportation modes.
- **Socio-Economic Environmental**
  - Supports existing and future population areas.
  - Provides opportunities for planned growth.

Evaluation of the four identified alternatives based on the above criteria is highlighted in **Table 6.1.** Based on the evaluation, Alternative 3: Road network strategy is selected as the preferred solution to be carried forward.

Table 6.1: Alternative Strategy Evaluation

Criteria	Alternative 1: Do Nothing	Alternative 2: Status Quo	Alternative 3: Road Network Strategy	Alternative 4: Multi-Modal Network Strategy
Transportation	• Existing gaps in trail and sidewalks access provide poor levels of service for active modes of travel. • No improvements to accommodate for future growth.	• Current as-needed approach does not anticipate or plan for future growth. • Many of the preferred solutions from the 2014 TMP have been completed or are no longer relevant. • May gradually enhance mobility through incremental improvements to the active transportation network, with reliance on Simcoe County for majority of improvements.	• Best option to address localized traffic options, however, congestion is not anticipated to be a significant concern. • Maintain existing haul routes to benefit safety of all users of the transportation network by separating heavy traffic from other modes. Direct new aggregate extraction to existing haul routes, especially given proximity of growth centres in relation to existing haul routes and aggregate resource areas. • Does not promote sustainable modes of transportation. However, opportunity for active modes is relatively limited to recreational purposes at this time.	• Can accommodate future vehicular travel demands while improving sustainable modes of transportation. • Provides safer routes for pedestrians and cyclists. • Addresses gaps in the sidewalk networks in primary settlement areas. • Offers additional modes including public transit options at the municipal level.
Policy	• Does not align with provincial or county planning policies for sustainable multimodal transportation networks.	• Does not anticipate future policy/programming trends. • Retroactive policy updates often lag provincial and county policy changes.	• Aligns with some aspects of the provincial and county planning policy/programming.	• Aligns with provincial, county, and other Township planning policies and programming.
Environmental	• No impacts to natural heritage areas. • Does not reduce reliance on motor vehicles to reduce emissions.	• Status quo maintains limited focus on sustainable travel modes.	• Highest potential negative impacts to the natural environment. • Environmental impacts can be offset through investment in Severn's electric vehicle charging capacity	• Supports long term low-emission modes of travel. • Can typically be accommodated within existing road rights-of-way with minimal impacts to the natural environment
Socio-Economic	• No impacts to property. • No new connections to support future population growth. • Does not promote tourism or other economic drivers. • Does not accommodate aggregate production and growth/urbanization	• Will address some existing network issues but not likely to accommodate future growth. • May result in unequitable investment in network improvements. • Is considered an affordable approach to manage the transportation system. However, advanced planning may result in increased capital to fund projects.	• Would address several existing network deficiencies through localized improvements and roadway improvements. • Would accommodate additional vehicular traffic growth. • Recognizes the funding limitations of small predominately rural communities in providing the optimum multi-modal transportation network features.	• Significant capital investment required for potentially underutilized infrastructure. • Likely to exceeds available funding and presents challenge to growth through additional development charges and increased tax levy. • Promote the cycling and tourism industry.
Summary	Screened out	Screened out	Carry Forward	Screened out

Township of
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The Plan

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7.0 THE PLAN

7.1 Road Classification Updates

Severn is anticipated to see continued growth over the following 20 years with much of that growth anticipated to occur within Severn's two primary settlement areas of Coldwater and Westshore. The current road classifications distinguish rural roads from urban/semi urban roads. However, rural roads are treated as a functional classification of its own. To ensure that the rural roadways better suit their intended usage, the need to further classify these roadways is desired.

Assigning and implementing an appropriate road classification system is critical for successful planning. When a road system is properly classified, the characteristics of each road should be readily understood. The classifications assist in establishing geometric design features for each group of roads that are consistent with the short- and long-term operational needs of that particular group.

The Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Road* provides guidance in designating road classifications through Exhibit 2-I and Exhibit 2-J, illustrated in **Figure 7-1**and **Figure 7-2**, respectively.

As illustrated, TAC maintains the typical functional road classifications (freeways, arterials, collectors, and local) however, they are separated according to Urban and Rural land uses, each with their respective criteria. As Severn has a significant number of rural roadways, it would be beneficial to further classify these roadways to ensure that they continue to serve their intended use. As such, it is proposed that all Severn roadways be classified based on the TAC Geometric Design Guide for Canadian Roads recommended classification system.

Land use is a critical factor in the classification of roads. The intensity of access needs change with land use, and the roads within the network must appropriately be classified and designed to meet varying needs. It is critical that design decisions be based on the roadway classification. In general, all roads located within primary settlement areas as defined within Schedule A and Schedule B of the Township's Official Plan should be classified as urban roadways. Additionally, in consideration with the projected growth forecasts, roads south-east of Highway 11, should be classified as urban and follow the applicable urban engineering and design standards associated with its functional design classification.

Figure 7-1: Characteristics of Urban Road Classifications

FUNCTIONAL CLASSIFICATION	URBAN FREEWAYS	URBAN ARTERIALS	URBAN COLLECTORS	URBAN LOCALS
Traffic Services	Optimum Mobility	Traffic movement primary consideration	Traffic movement & land access equal performance	Traffic movement secondary consideration
Land Services	No Access	Land access secondary consideration	Traffic movement and land access equal importance	Land access primary consideration
Range of Traffic Volume AADT	More than 75,000	5,000 - 50,000	1,000 - 2,000	Not applicable
Traffic Flow	Free Flow	Uninterrupted flow except at signals and cross walks	Interrupted flow	Interrupted flow
Design Speed	80 - 120 km/h	80 - 110 km/h	60 - 90 km/h	60 - 80 km/h
Average Operating Speed Off-Peak Conditions	80 - 110 km/h	60 - 90 km/h	40 - 70 km/h	40 - 60 km/h
Vehicle Type	All types - Commercial motor vehicles Average 20%	All types - up to 20% commercial motor vehicles	All types	Passenger and Service vehicles
Percentage of Total Length	Up to 10	Up to 30	Up to 30	70 approx.
Connects to	Freeways, Arterials	Freeways, Arterials, Collectors	Arterials, Collectors, Locals	Collectors, Locals

**Semi-Urban Road Environments are considered Urban for the application of this table*

Figure 7-2: Characteristics of Rural Road Classifications

FUNCTIONAL CLASSIFICATION	RURAL FREEWAYS	RURAL ARTERIALS	RURAL COLLECTORS	RURAL LOCALS
Traffic Services	Optimum Mobility	Traffic movement primary consideration	Traffic movement & land access equal performance	Traffic movement secondary consideration
Land Services	No Access	Land access secondary consideration	Traffic movement and land access equal importance	Land access primary consideration
Range of Traffic Volume AADT	More than 10,000	1,000 - 20,000	200 - 10,000	Not applicable
Traffic Flow	Free Flow	Uninterrupted flow except at signals	Interrupted flow	Interrupted flow
Design Speed	100 - 130 km/h	80 - 110 km/h	60 - 100 km/h	60 - 80 km/h
Average Operating Speed Off-Peak Conditions	90 - 120 km/h	70 - 100 km/h	60 - 90 km/h	50 - 80 km/h
Vehicle Type	All types - Commercial motor vehicles Average 20-30%	All types - up to 20% commercial motor vehicles	All types - up to 30% commercial motor vehicles Mostly single unit type	Predominantly passenger cars and light to medium, and occasional heavy commercial motor vehicles
Percentage of Total Length	Up to 5	5 to 10	10 to 20	75 approx.
Connects to	Freeways, Arterials, Collectors	All classifications	All classifications	Arterials, Collectors, Locals

7.1.1 Road Environment Identification

As described in **Section 7.1**, distinguishing between rural and urban land use patterns is essential to ensuring the function classification and design standards are appropriate to the specific roadway. As Severn consists of a number of existing and new developments which resemble elements of rural and urban land uses, there is a need for this process to be clear and concise.

According to the Geometric Design Standards for Ontario Highways (GDSOH), an urban environment may be assumed to exist where 50% or more of a road section over a distance of

not less than 100 m is occupied by buildings, and development is adjacent to the road and relies upon access to the road. This access may be limited to controlled locations as with reverse frontage service roads or urban freeways. The following is a general description of the land use environments within Severn.

Urban Land Use: A typical Urban land use environment is illustrated in **Figure 7-3.** As illustrated**,** urban environments are densely developed with either residential or commercial properties. Roadways within urban land environments typically include on and off-road active transportation facilities, illumination, utilities, below grade sanitary and storm water drainage systems, on-street parking, (including residential properties), etc.

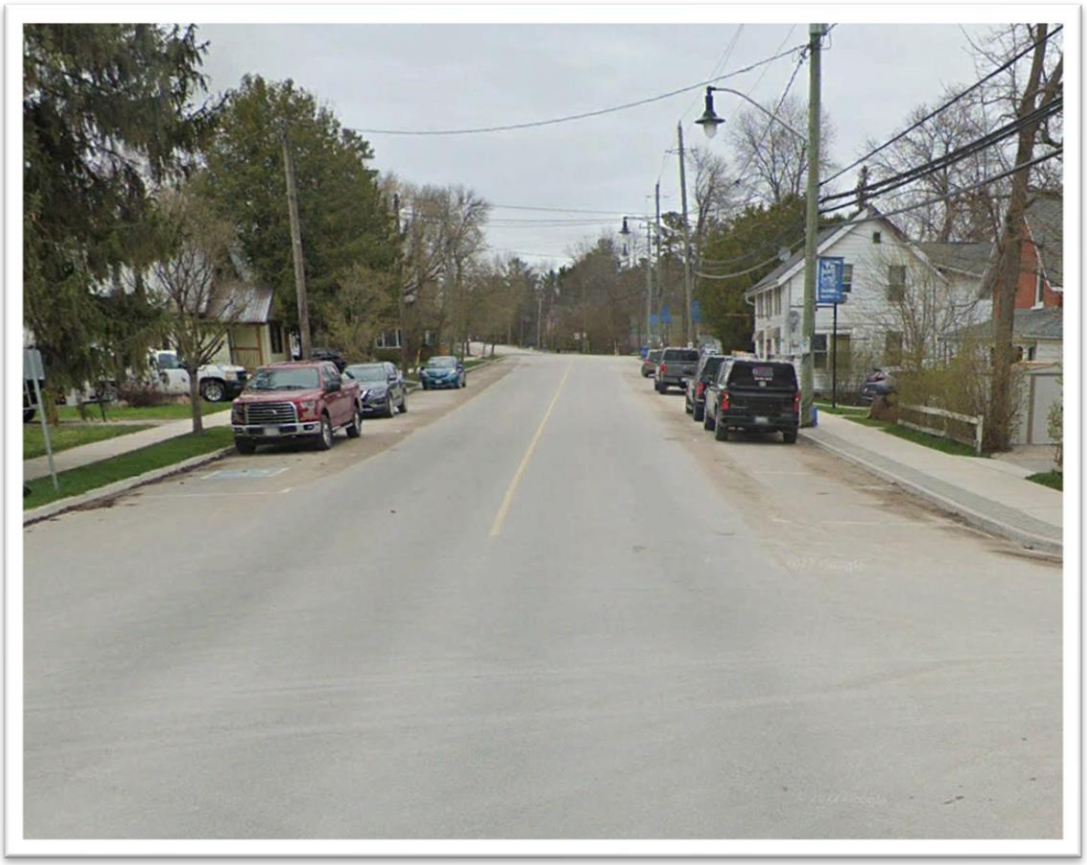


Figure 7-3: Urban Road Environment

Semi-Urban Land Use: A typical semi-urban land use environment (also commonly referred to as sub-urban), is illustrated **Figure 7-4.** Semi-urban land use environments typically include a built-up environment, however, with less densely spaced developments than in urban land use environments. Semi-urban roadways typically serve residential properties and often fall within a grey zone in terms of roadway design whether urban or rural. Many of the roadways within Severn that are located within semi-urban land use environments have been designed with rural road cross-sections. However, future developments/maintenance of areas with a semi-urban land use environment should be considered for urban road design if the GDHOS criteria for urban environments are met.

Figure 7-4: Semi-Urban Road Environment

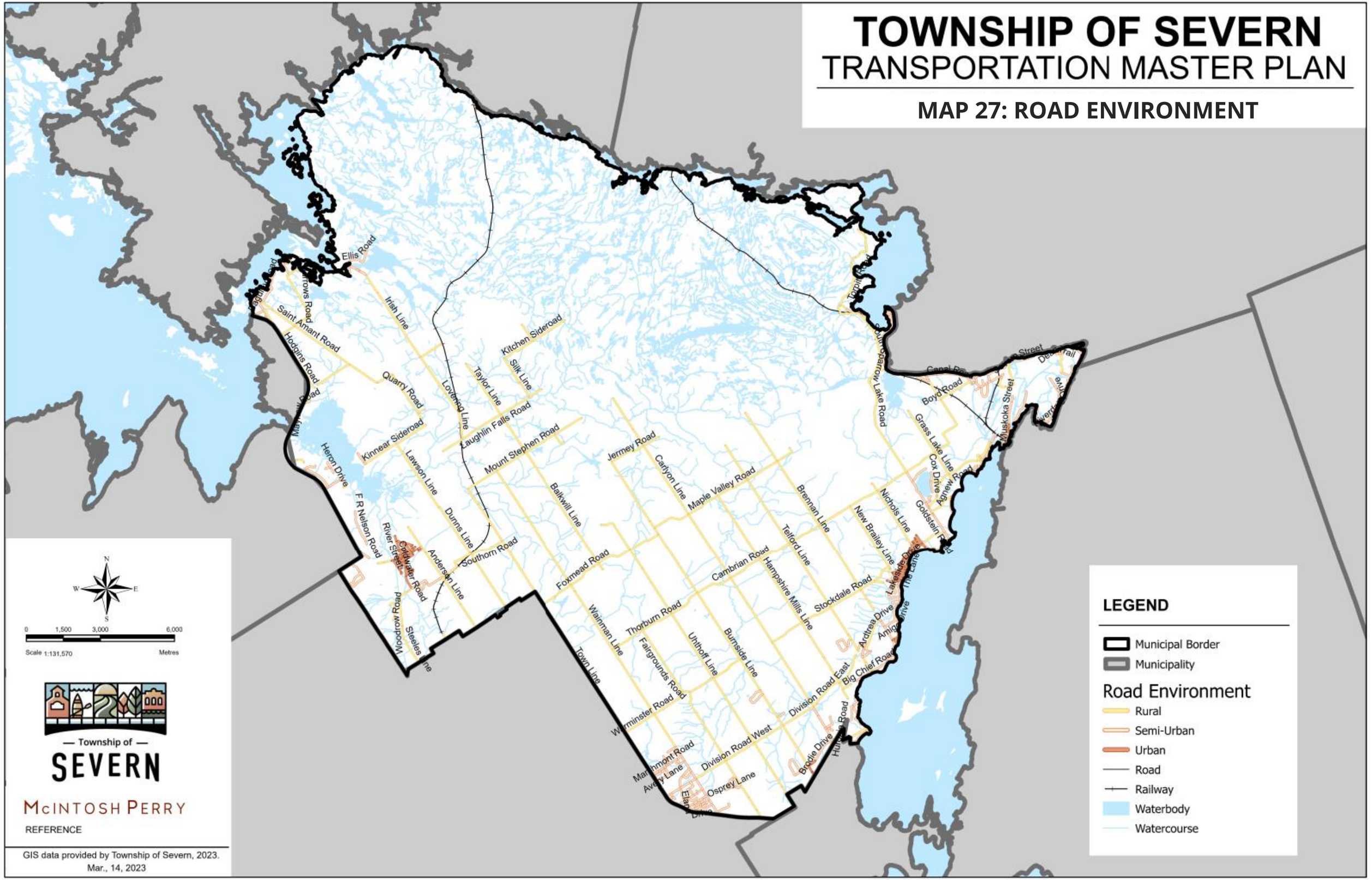
Rural Land Use: A typical rural land use environment is illustrated in **Figure 7-5**. Rural land use environments are characterized by sparsely located developments. Land uses within a rural environment typically include agriculture, residential, and industrial. Rural roadways typically do not include modern facilities such as curb and gutters and illumination. Rural roads typically also have higher operating speeds and can include active transportation facilities such as paved shoulders.

Figure 7-5: Rural Road Environment

The goal of this TMP is to arrive at a functional classification of roads that balances the land access and mobility needs while supporting a full range of travel modes. **MAP 27** illustrates the road environment for Severn roads, while the recommended functional classification for urban/semi-urban and rural roads are illustrated in **MAP 28** and **MAP 29,** respectively. The illustrated road classifications are in consideration of future growth trends, AADT projections, and existing and future land use patterns.

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 27: ROAD ENVIRONMENT



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— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2023.
Mar., 14, 2023

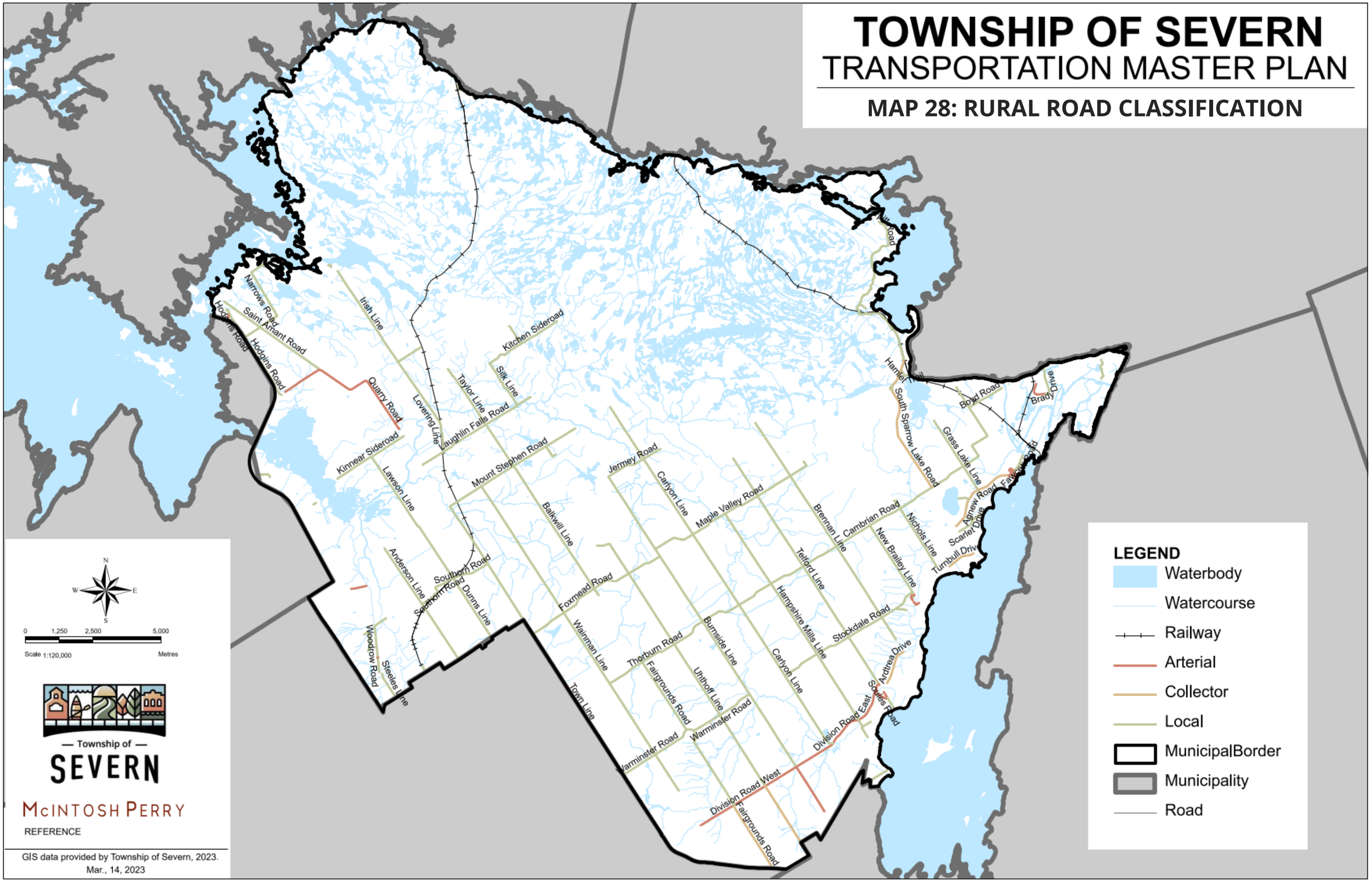
LEGEND

- Municipal Border
- Municipality

Road Environment

- Rural
- Semi-Urban
- Urban
- Road
- Railway
- Waterbody
- Watercourse

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 28: RURAL ROAD CLASSIFICATION



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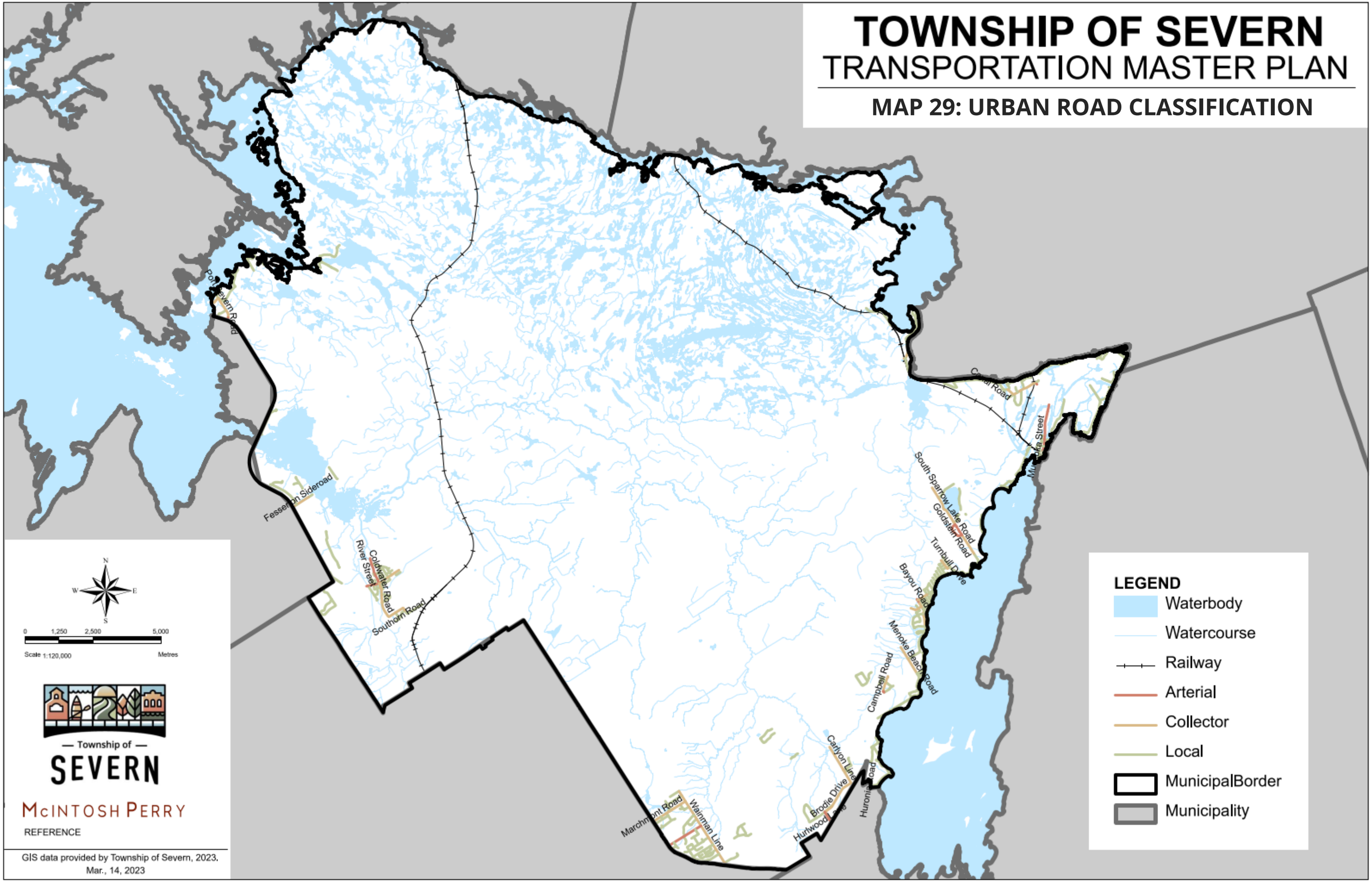
MAP 29: URBAN ROAD CLASSIFICATION



7.2 Intersection Improvements

Based on the assessment of existing and future intersection operations as well as a review of collision history within Severn, three intersections have been identified for recommended improvements as summarized in **Table 7.1.**

Table 7.1: Intersection improvement Recommendations

Location	Recommended Improvement
Burnside Line & Division Rd W/Division Rd E	Traffic Signals Currently Warranted
Coldwater Rd/River St & Sturgeon Bay Rd/Gray St	Traffic Signals Warranted by 2031
Division Road West at Uhthoff Line	1-way over head red flashing beacons to improve intersection safety

7.2.1 Monitoring and Evaluating

The above analysis completed as part of this TMP was limited to ten (10) intersections. Continued monitoring and evaluation of intersection operations will be essential for early identification of operational issues within Severn. A comprehensive data collection program is recommended for Severn which routinely collects and updates its inventory of traffic data.

Turning movement counts are often required to complete Traffic Impact Assessments/Studies to support development applications. It is recommended that Severn adopt a policy whereby traffic data is released to consultants at a monetary value. This would allow Severn to recoup some of the costs associated with the data collection program.

7.3 Active Transportation Strategy

While the preferred alternative for this TMP update is the Road Network Strategy, a significant focus of this TMP is to provide improved and safer active transportation for sustainable modes, including walking and cycling through investments in Severn's active transportation network. While significant mode-shifts are not anticipated within the long-term planning horizon, active transportation plays a critical role in Severn's recreational landscape, promoting tourism, liveability, and equity. Further development will position Severn's overall transportation network in a manner that it can accommodate mode shifts in the future when sufficient area growth has occurred, and additional resources are available to support alternative modes of transportation for commuting other than motor vehicles.

The following process was followed in order to developing the recommended pedestrian and cycling network:

- Reviews of Severn's existing active transportation facilities including sidewalks, trails, and multi-use pathways.
- Anticipating future growth and the impacts to the transportation network.
- Identifying key locations such as schools, community centres, employment hubs, commercials areas, and recreational/tourism areas.
- Identifying all existing and potential future active transportation gaps that could lead to discontinuities.
- Establishing suitable facility types based on traffic volumes and operating/design speeds that would result in acceptable levels of comfort for all users.
- Investigating the feasibility of the facility types based on economic requirements in respect to property acquisition, design, construction, etc.

Based on the above process, the previous 2014 TMP, and County and Provincial planning documents, improvements to Severn's facilities have been recommended as illustrated in **MAP 30** to **MAP 32**.

In addition to the proposed active transportation network, it is recommended that Severn:

- Ensure all new or re-constructed sidewalks, curbs, and pedestrian crossovers (PXOs) meet provincial accessibility standards (AODA) requirements. Accessible Pedestrian Signals should be provided where new signals are being install or replaced.
- Consider accessibility enhancements, especially within primary settlement areas such as Coldwater and Washago as well as along the Uhthoff Trail. Accessibility enhancements could include benches and rest areas.

- Require accessibility reviews be incorporated in new development applications including accessible connections between the AT and pedestrian facilities, parks, and open spaces.
- Ensure Severn's winter maintenance policies follow Provincial Minimum Maintenance Standards for Municipal Highways, O Reg 239/02, updated May 3, 2018. This includes winter maintenance standards for bicycle lanes, sidewalks, and significant weather events.

7.3.1 Cycling Facilities

A stated within **Section, 2.5**, the sole multi-use pathway/trail within Severn is the Uhthoff Trail. Cycling within Severn is a popular pastime and tourism attraction; however, on-road cycling facilities have limited separation for cyclists and vehicles making the majority of Severn Roads uncomfortable to most unexperienced riders.

Since the development of the previous TMP in 2014, The Ministry of Transportation in partnership with the Ministry of Tourism, Culture, and Sports (MTCS) have completed the province-wide Cycling Network Study. The province-wide Cycling Network Study is another step in Ontario's efforts to support the growing trend of cycling as a means of transportation, recreation, and tourism. The study is intended to provide a preliminary identification of a province-wide cycling network with high-level recommendations such as alignment, operation, coordination, and costing aspect for the province, municipalities, and other partners to consider in the future development of the province-wide cycling network.

Within Severn, the province-wide cycling network study has proposed the following on-road cycling facilities:

- Cambrian Road from the Uhthoff Trail to Boyd Road
- Boyd Road from Cambrian Road to Canal Road
- Canal Road from Boyd Road to County Road 52, and;
- South Sparrow Lake Road from Cambrian Road to County Road 49.

In addition to these proposed routes, a number of additional on-road cycling routes have been proposed with the purpose of connecting key locations within Severn such as primary

settlement areas to the Uhthoff Trail, which will serve as the backbone of Severn's Active Transportation facilities. **Table 7.2,** summarizes the recommended locations for cycling facilities/ signed cycle routes.

Table 7.2: On-Road Cycling Facility Recommendations

Location	Description
Cambrian Road	From East end of the Township to Uhthoff Trail- Proposed by Province
South Sparrow Lake Road	From Cambrian Road to End-Proposed by Province
Muskoka Street	From County Road 169 to County Road 52 (Coopers Falls Road)
Coldwater Road	from Gray Street/ Sturgeon Bay Road to Community Center Drive
Carlyon Line	From Division Road East to Cambrian Road - Based on Strava Data, Division Road east to Highway 11 based on Previous TMP
Foxmead Road	From Burnside Line to the Uhthoff Trail
Shoreview Drive	Proposed Shoulder Bikeways
Bayou Road	South of Highway 11 Proposed Paved Shoulder
Division Road West	Highway 12 to Wainman Line
Division Road East	From Uhthoff Trail to Center Avenue East

In addition to the recommended on-road cycling facilities, illustrated in **MAP 30** and **MAP 31**, The Uhthoff Trail through the Coldwater settlement area is discontinuous. The northern segment of the trail has an access point on the north side of Sturgeon Bay Road. The trail access point at this has location has a municipal parking lot with wayfinding signage. However, to access the southern segment of the trail, users are directed to cross Sturgeon Bay Road and access the sidewalk located along the south side of the road. Users then are required to travel east on Sturgeon Bay Road to Firehall Lane, off of Gray Street where the trail continues. This

discontinuity in the trail poses significant barriers for less experienced cyclists who are required to ride through the developed area of Coldwater with insufficient cycling facilities.

The proposed realignment illustrated in **MAP 33** would see the trail continue along the existing rail corridor through Coldwater, avoiding Sturgeon Bay Road. This realignment, however, would require acquisition of the privately owned lands containing the rail corridor and may require rehabilitation/replacement of the bridge crossing at River Street.

7.3.1.1 Rural Roads

The following section outlines the potential on-road cycling facilities appropriate for Severn's rural roads. In general, all recommended on-road cycling facilities should be selected in accordance with OTM Book 18.

A paved shoulder is a portion of a roadway which is contiguous with the travelled way and provides lateral support for the pavement structure. Paved shoulders enhance overall safety of a roadway by accommodating stopped and emergency motor vehicles, pedestrians, and cyclists.

Traffic operating speeds are a critical consideration when determining on-road cycling facilities, as the differential speed between cyclists and motor vehicles constitutes a significant risk factor. Heavy vehicle traffic is also a significant consideration as heavy vehicles create greater air displacement on high-speed roads than motor vehicles. This results in an aerodynamic effect that can affect cyclists balance, resulting in injury. Because of this affect, greater lateral separation between cyclists and the vehicles travelled portion of the roadway is required. The separation of motor vehicle and heavy truck traffic from other modes of transportation is a key priority for Severn. However, where this may not be possible, additional separation of the motor vehicle travelled way and on-road cycling facilities is required such as buffered shoulders.

Figure 7-6 illustrates the recommended cross-section for all on-road cycling facilities identified in **Section 6.4.** For all other rural roadways with lower traffic volumes, a minimum painted shoulder is recommended as illustrated in **Figure 7-7**. The desired and suggested minimum widths for both facility types are illustrated in **Table 7.3.** Despite the recommendations provided within this TMP, OTM Book 18 – Cycling Facilities should be consulted prior to implementing and roadside improvements.

Table 7.3: Desired and Suggested Minimum Widths for Paved Shoulders

Facility	Desired Width	Suggested Minimum	Travel Lane Width
Rural Paved Shoulder	1.5 – 2.0 m	1.2 m	3.25 – 3.75 m
Rural Paved Shoulder with Marked Buffer	2.0 m operating space + 0.5 – 1.0 m buffer	1.5 m + 0.5 m buffer	3.25 – 3.75 m

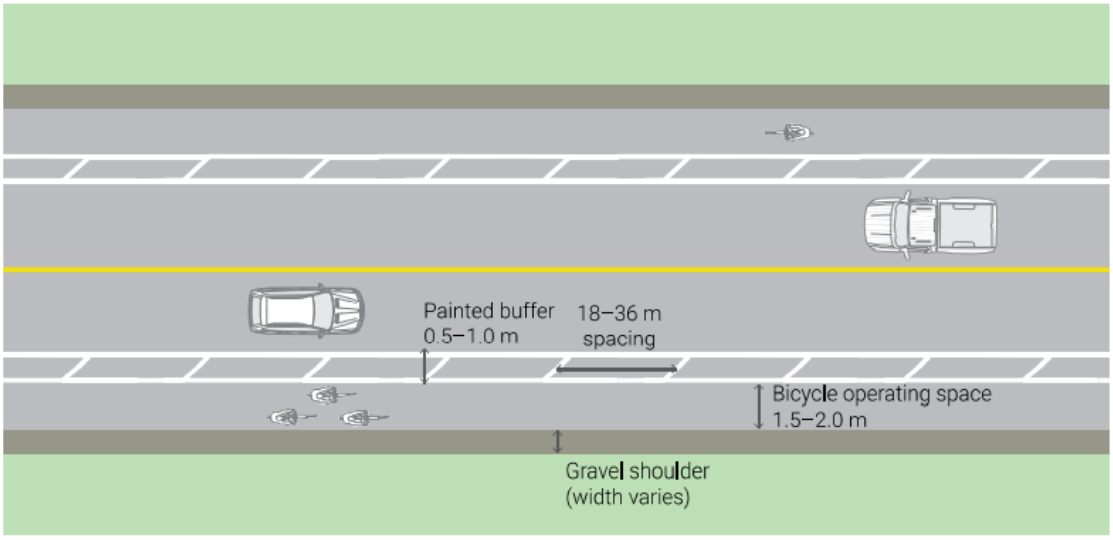


Figure 7-6: Rural Road Cycling Route Cross-Section (Buffered Shoulder) (OTM Book 18)

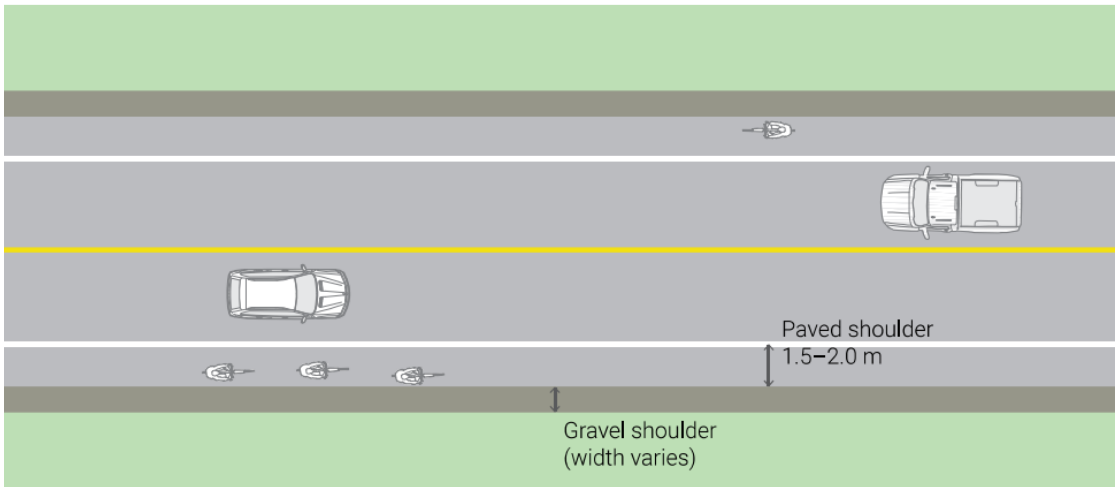


Figure 7-7: Rural Road Cross Section with Paved Shoulders (OTM Book 18)

7.3.1.2 Urban Roads

Based on the future road classification system recommended in **Section 6.1**, all existing and future roadways within primary settlement areas should be considered for urban roadway cross-sections.

As identified in **Section 6.4,** several roadways with a proposed urban design classification have been identified. For all urban roadways with designated on-road cycling facilities where there are sufficiently high traffic volumes and lane widths, the use of conventional bicycle lanes should be used as illustrated in **Figure 7-8**. Where traffic volumes and roadway operating speeds are relatively low and the lane widths are between 3.25 m and 4.0 m, a signed bicycle route can be considered utilizing M511 (OTM) signs, as illustrated in **Figure 7-9.** Despite all recommendations provided within this TMP, due process should be conducted in determining the appropriate facility types.

Table 7.4: Conventional Bicycle Lane Widths

Facility	Desired Width	Suggested Minimum	Travel Lane Width
Conventional Bicycle Lane	1.8 m	1.2 m	3.25 – 3.75 m
Conventional Bicycle Lane adjacent to on-street parking	1.5 m lane + 1.0 m parking buffer	1.5 m lane + 0.6 m parking buffer	3.25 – 3.75 m
Signed Bicycle Route	-	-	3.25 – 4.0 m

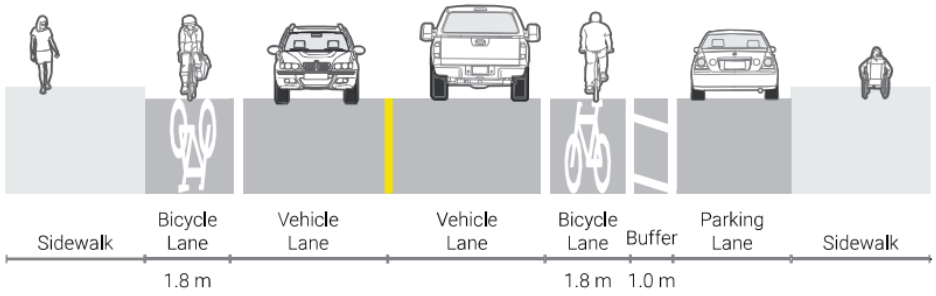


Figure 7-8: Urban Cross-Section of Conventional Bike Lane (OTM Book 18)

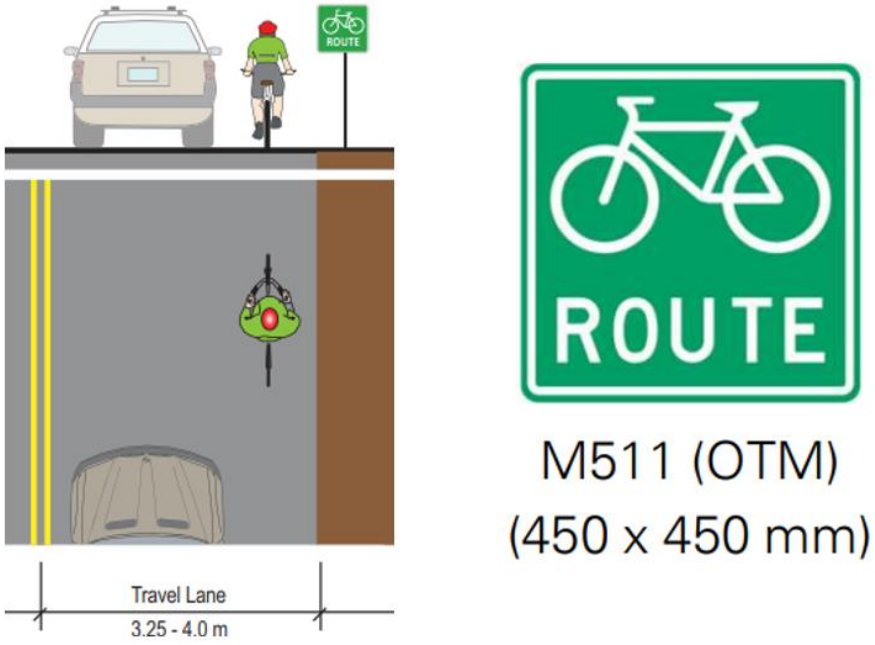


Figure 7-9: Signed Bicycle Route

7.3.2 Pedestrian Facilities (Sidewalks)

A number of locations were identified which would benefit from the added pedestrian safety provided by sidewalks. Additional Severn sidewalks were proposed at various locations based on the established priority system as defined below.

High Priority: These locations are in areas with higher-than-average pedestrian activity or areas with high percentage of vulnerable road users such as within the vicinity of schools, trails, community centres, and commercial areas. Providing sidewalks at these locations offers the most significant benefit to safety for pedestrians within Severn and should be prioritized for construction before any lower priority level sidewalks.

Medium Priority: These locations are located within areas where higher than average pedestrian activity is present. These areas include roadways classified as urban collectors or arterials within subdivisions. Other medium priority areas include roadways which are viewed as an attractive location by residents for recreational activities such as walking due to their scenic locations.

Low Priority: These locations would still provide a benefit to pedestrian activity, however, are located on roadways with low traffic volumes and speeds such as local roads within the primary

settlement areas. Implementing sidewalks on only one side of the roadway within these areas is appropriate.

Development of recommended sidewalk locations was completed in consultation with the Simcoe County District School Board (SCDSB). Severn is home to the following three public schools which fall within the SCDSB jurisdiction:

- Coldwater Public School (Gray Street);
- Marchmont/Bass Lake Woodlands Public School (Division Road West), and;
- Severn Shores Public School (Cumberland Road).

The SCDSB determines walking zones based on proximity to school. All students who live within a 1.6 km radius from their school are deemed ineligible for bus transportation. However, walking for some students within the 1.6 km radius is deemed unsafe by the SCDSB due to hazards along their walking path such as high traffic volume or high operating speed roadways with no pedestrian facilities. All maps and data provided by SCDSB have been provided in **Appendix B**.

Recommended pedestrian facilities are summarized in **Table 7.5**. and illustrated in **MAP 32**.

Table 7.5: Sidewalk & MUP Recommendations

Location	Description
Coldwater	MUP / Sidewalks along Firehall Lane, George Street, and John Street
Coldwater	Sidewalk along Sturgeon Bay Road Coldwater Road
Coldwater	New MUP connecting the Uhthoff trail to Gill Street / Greenwoods Landing Development and sidewalk extension on Coldwater Road to Greenwood Landings (Foodland)
Washago	Sidewalk Network along Muskoka Street and Quetton Street
Marchmont/Bass Lake Woodlands	New Sidewalks network for internal circulation and MUPS on Division Road East and Wainman Line
Westshore	New Sidewalk network along Bayou Drive and Lakeside Drive, connecting to Turnbull Drive Development Facilities
Westshore	New MUP along Menoke Beach Road

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

F **MAP 30: CYCLING NETWORK (1 of 2)**

TOWNSHIP OF GEORGIAN BAY

TOWNSHIP OF MUSKOKA LAKES

TOWN OF GRAVENHURST

TOWNSHIP OF ORO-MEDONTE

CITY OF ORILLIA

SAINT AMANT ROAD
HODGINS ROAD
QUARRY ROAD
IRISH LINE
KITCHEN SIDEROAD
LAUGHLIN FALLS ROAD
MOUNT STEPHEN ROAD
KINNEAR SIDEROAD
LAWSON LINE
COUNTY ROAD 16
HIGHWAY 400 & 12
HIGHWAY 400
HIGHWAY 12
TOWNLINE
DUNNS LINE
ANDERSON LINE
FOXMEAD ROAD
BALKWILL LINE
JERMEY ROAD
MAPLE VALLEY ROAD
CARLYON LINE
CAMBRIAN ROAD
BRENNAN LINE
NEW BRAILEY LINE
NICHOLS LINE
LAKESIDE DRIVE
HIGHWAY 11
STOCKDALE ROAD
HAMPSHIRE MILLS LINE
BURNSIDE LINE
THORBURN ROAD
WAINMAN LINE
FAIRGROUNDS ROAD
UHTHOFF LINE
WARMINSTER ROAD
DIVISION ROAD WEST
DIVISION ROAD EAST
BIG CHIEF ROAD
AMICO DRIVE
SPARROW LAKE ROAD
GRASS LAKE LINE
BOYD ROAD
COOPERS FALLS ROAD
TORPITT ROAD
UPPER BIG CHUTE ROAD

N
W E
S

0 1,250 2,500 5,000

Scale 1:119,620 Metres

— Township of —
SEVERN

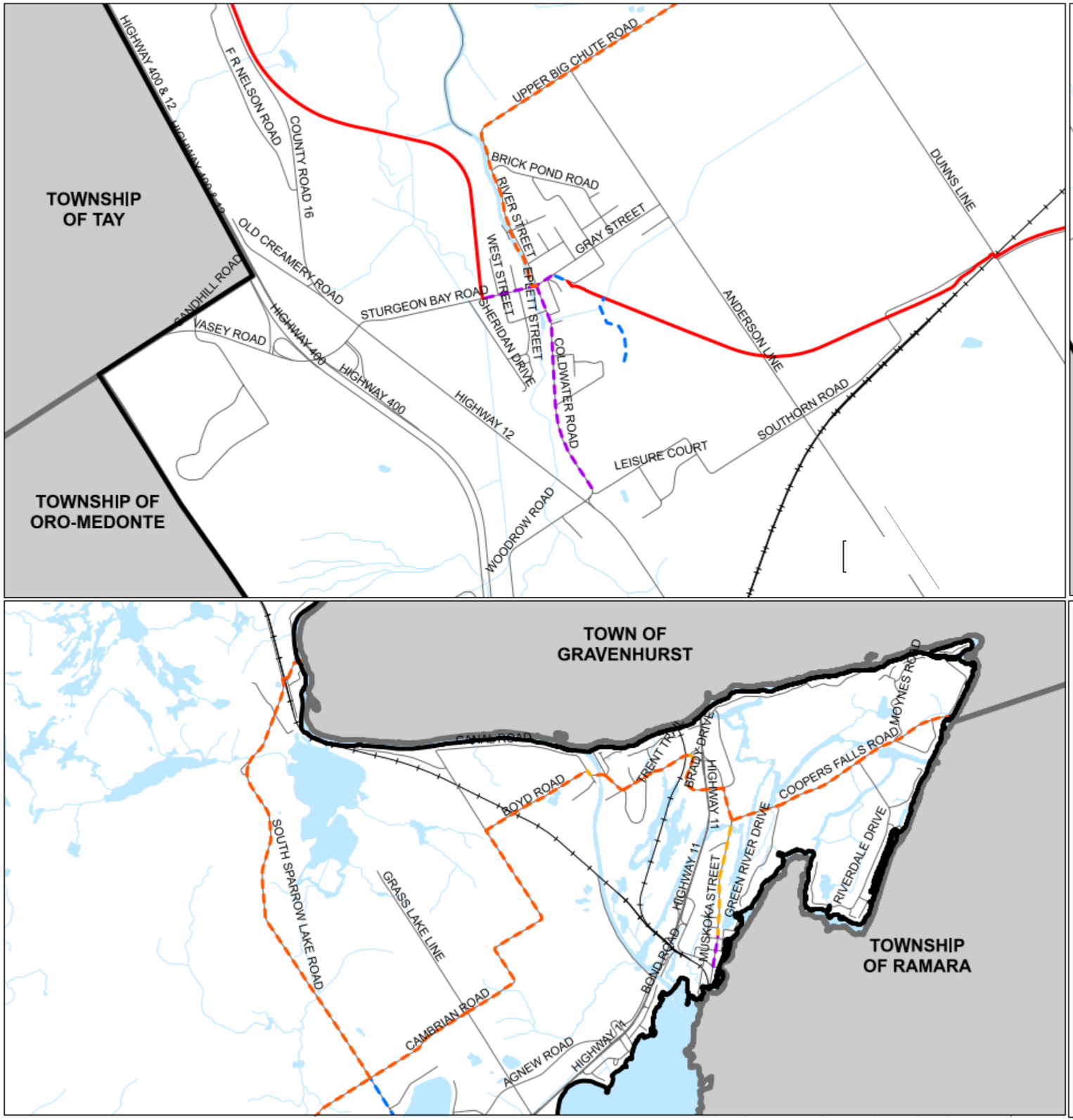
McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2023.
Mar., 14, 2023

Legend

- Bike Lane
- Multi-Use Path
- Paved Shoulder
- Cycle Signed Route
- Waterbody
- Watercourse
- Railway
- Existing Off-Road Cycling Facility(Uhthoff Trail)
- MunicipalBorder



TOWNSHIP OF SEVERN

TRANSPORTATION MASTER PLAN

MAP 31: CYCLING NETWORK (2 of 2)

LEGEND

- Bike Lane
- Multi-Use Path
- Paved Shoulder
- Cycle Signed Route
- Existing Off-Road Cycling Facility(Uhthoff Trail)
- MunicipalBorder
- Railway
- Waterbody
- Watercourse

N, W, E, S

0 290 580 1,160

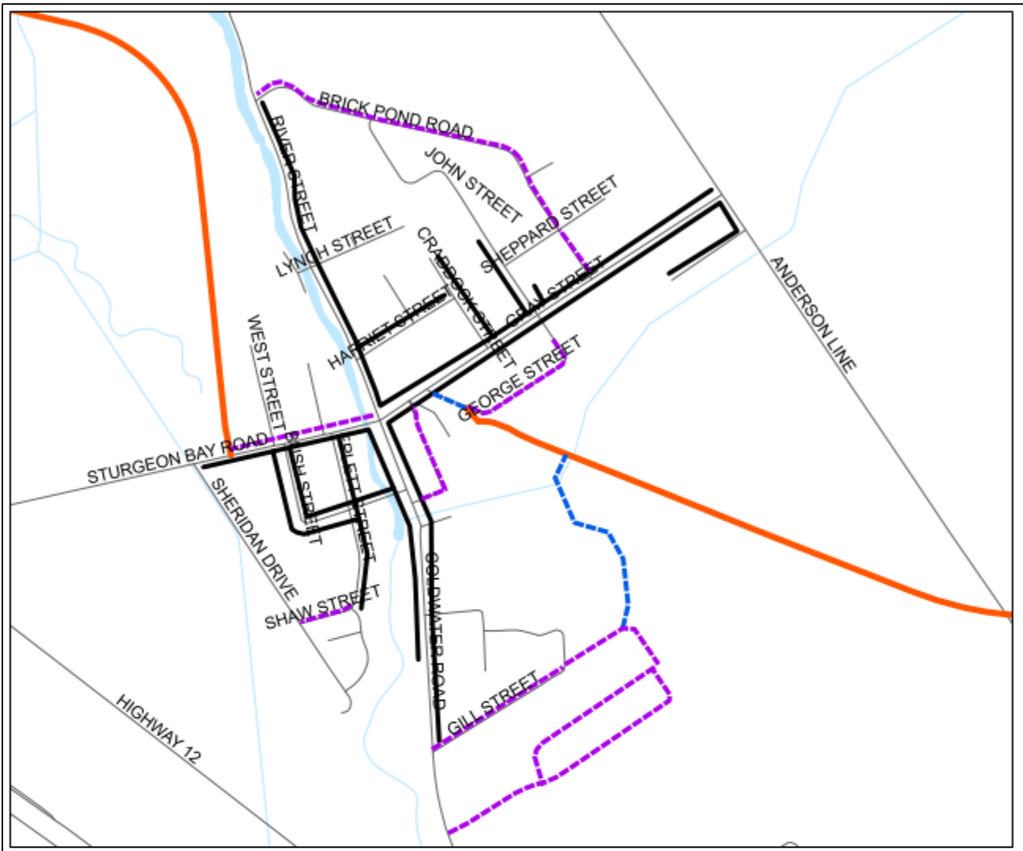
Scale 1:25,000 Metres

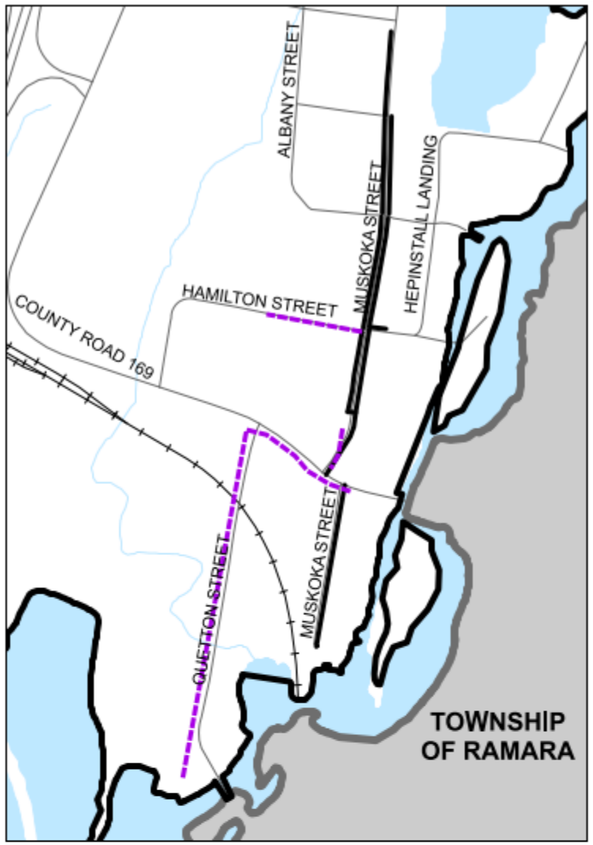
Township of SEVERN

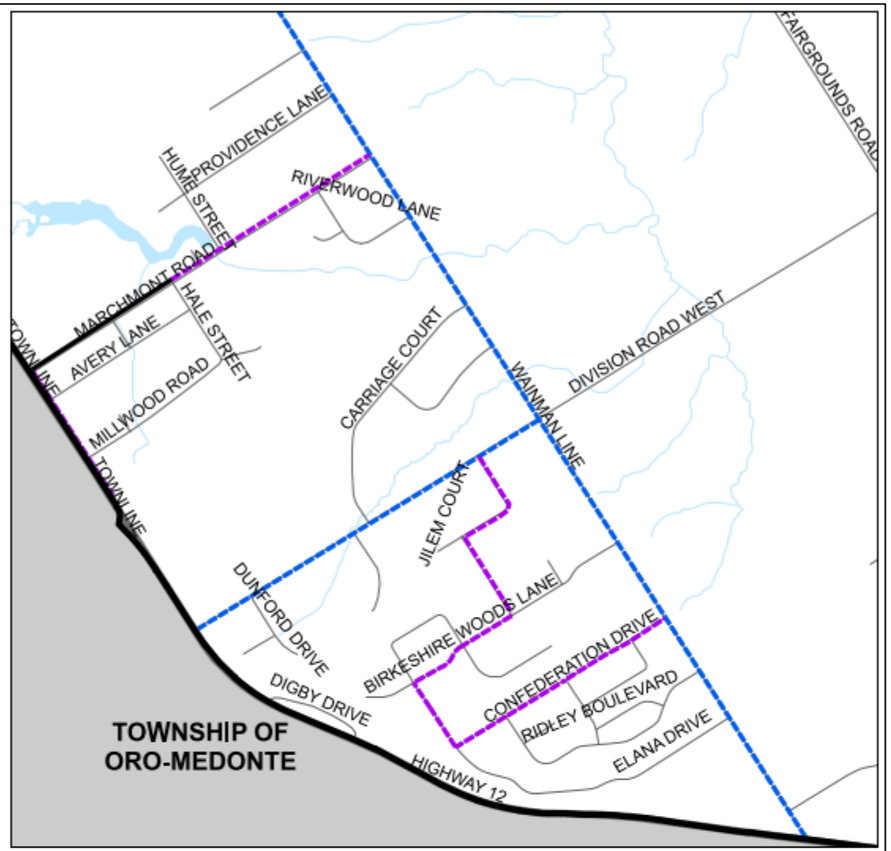
McINTOSH PERRY

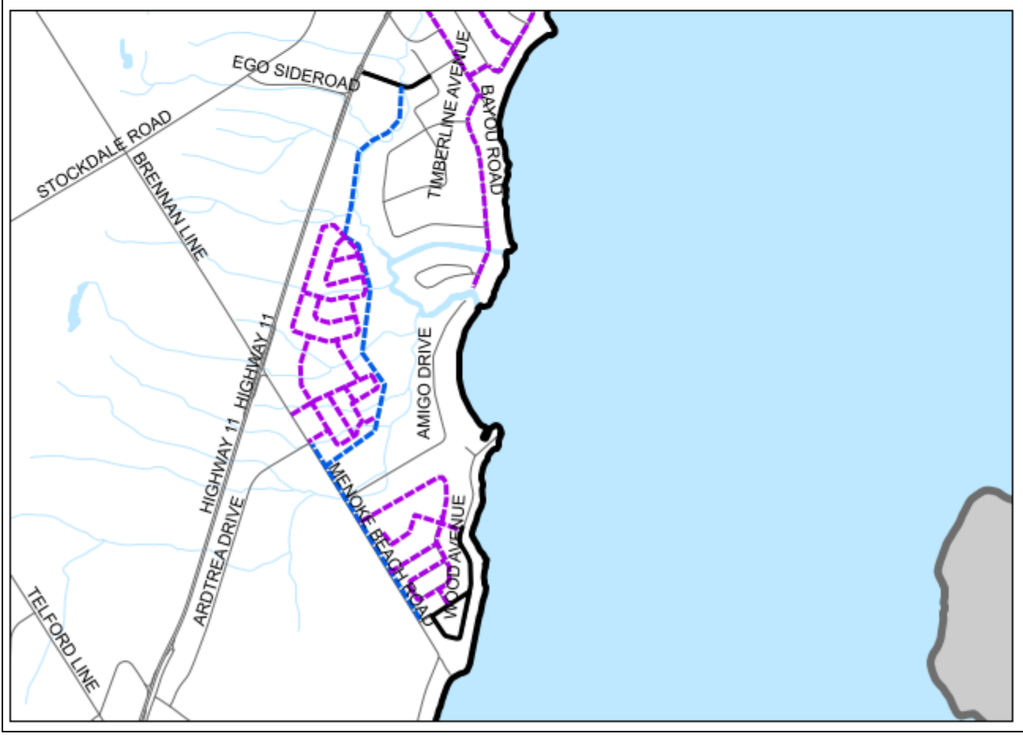
REFERENCE

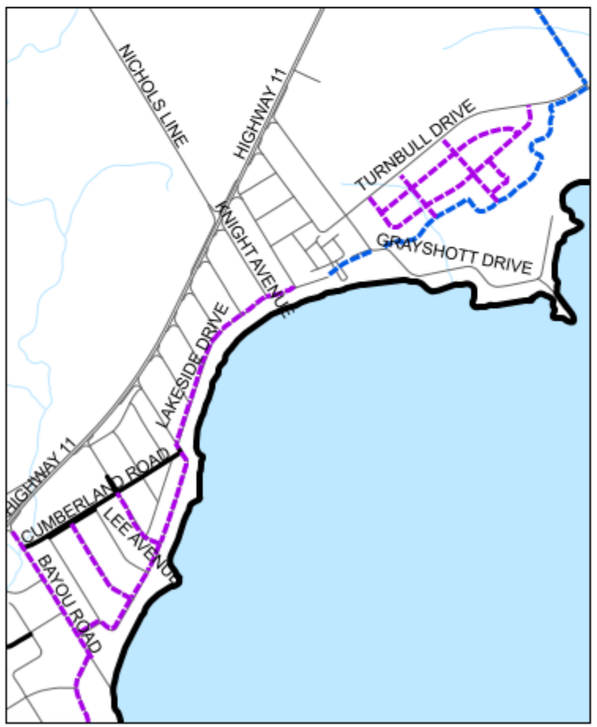
GIS data provided by Township of Severn, 2023, Mar., 14, 2023











TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 32: RECOMMENDED PEDESTRIAN FACILITIES

LEGEND

- Municipal Border
- Municipality
- Priority Pedestrian Facility
- Multi use Pathway
- Uhthoff Trail
- Sidewalk
- Road
- Railway
- Waterbody
- Watercourse

Scale

Metres

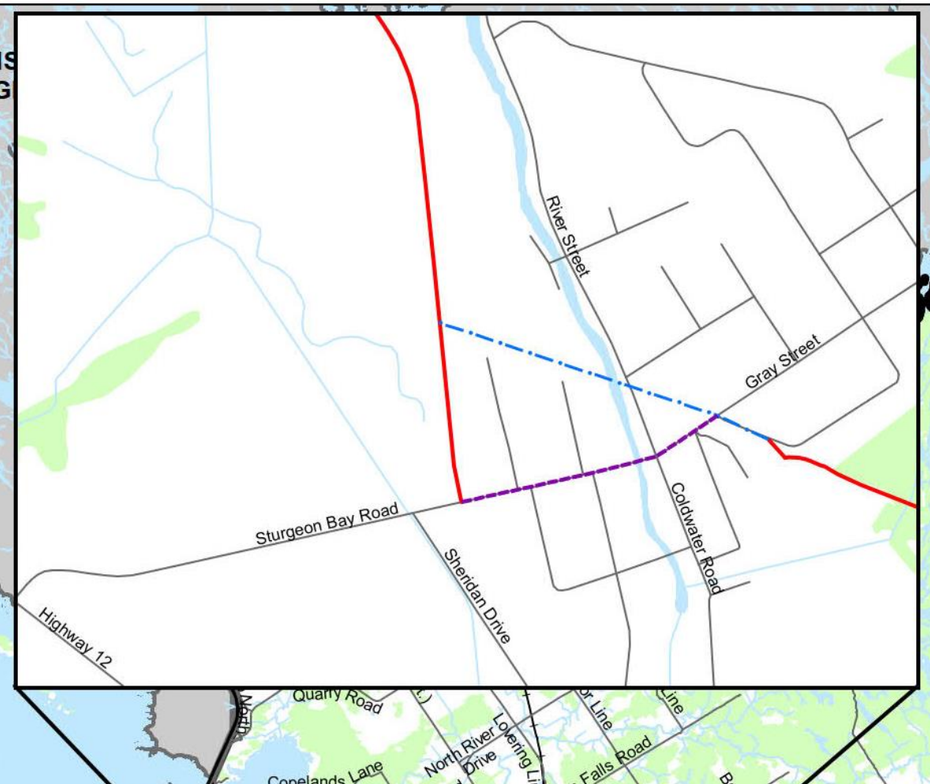
Township of SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2023.
Mar., 14, 2023

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN
MAP 33: UHTHOFF TRAIL REALIGNMENT



TOWNS
GEORG

TOWN OF GRAVENHURST

CITY OF KAWARTHA LAKES

Washago

Fesserton

Coldwater

West Shore

Ardtrea

South of Division Road Secondary Plan

Marchmont

TOWNSHIP OF ORO-MEDONTE

CITY OF ORILLIA

TOWNSHIP

Horseshoe Reach (Pvt.)
Barrie Reach (Pvt.)
Onnimal Road (Pvt.)
Toppitt Road
Hanmer Trail (Pvt.)
Canal Road
Boyd Road
Severn Street (Pvt.)
Coopers Falls Road (County Road 52)
Highway 11 North
Grass Lake Line
South Sparrow Lake Road
Bay Street
Cameron Road
Turnbull Drive
Nichols Line
New Brailey Line
Cambrian Road
Maple Valley Road
Brennan Line
Carlyon Line
Jermey Road
Beard Farm
Mount Stephen Road
Lawson Line
Balkwill Line
Burnside Line
Hampshire Mills Line
Telford Line
Foxmead Road
Stockdale Road
Thorburn Road
Wainman Line
Fairgrounds Road
Uhthoff Line
Warminster Road
Town Line
Division Road East
Division Road West
Penley Big Chief Road
Ardtrea Road
Hurlwood Lane
Fawn Lane
Abbey Road
Elana Drive
North Valley Lane
Highway 12
Highway 400 South
Lower Big Chute Road
Vasey Road
Southorn Trail
Anderson Line
Burns Line
Laughlin Falls Road
Line
Quarry Road
North River Drive
Kinnear Sideroad
Copelands Lane (Pvt.)
Waubuno Road

N
W E
S

0 115 230 460
Scale 1:9,774 Metres

— Township of —
SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2022.
Jun., 29, 2022

LEGEND

- Waterbody
- Watercourse
- Railway
- Existing Trail (Uhthoff Trail)
- Proposed Trail
- Existing Trail Connection

7.4 Roadway Improvements

This section outlines the recommendations pertaining to Severn's road network. Recommendations include jurisdiction changes, existing haul routes challenges, road connections, and road surfacing.

7.4.1 Jurisdiction Changes

Division Road West from Highway 12 to Highway 11 is anticipated to be transferred to the jurisdiction of Simcoe County within the long-term planning horizon (2030 to 2044). This would involve Simcoe County upgrading the approximately 17.8 km of Division Road West to County design standards.

Traffic data for private roadways located within Severn was not available for this study. However, several private roads were highlighted which would benefit from falling within Severn's jurisdiction and management. These were highlighted based on discussions with Severn staff and include:

- Twin Oaks Crescent
- West Canal Road
- Dunlop Drive
- Claresbridge Lane
- Viking Marina Road

Taking ownership of these roads would require local improvements to municipal standards. It is a recommendation of this plan, that these jurisdictional changes be proposed to the existing community and that projects only advance if more the 50% of the benefitting property owners agree to the local area improvement charge and that all associated costs to acquire land or improve the roadways will be funded by the benefitting property owners.

7.4.2 Haul Routes Challenges

No new or planned aggregate expansion is currently planned within Severn. However, ensuring the Township has a system of haul routes that can readily accommodate any future development or expansion is critical. Severn currently has a number of haul routes which directly serve individual pits and quarries, providing direct access to either Highway 11 or Highway 12. Most of these routes are north-south routes with the only east-west route along Cambrian Road from Nichols Line to Brennan Line. It is a recommendation of this plan to direct new aggregate extraction to existing haul routes where feasible and limit the volume of aggregate haul route near growth centres

As noted, Division Road West is currently signed to prohibit truck traffic. While it was also noted that trucks still utilize Division Road West despite the signed restriction, the general lack of east-west roadways providing access to Highway 12, may result in truck traffic utilizing roadways which are less suited to accommodate trucks. Restricting truck traffic without providing an alternative route may result in premature degradation of roadways, higher truck traffic on undesired roadways such as within residential or commercial areas, etc. As such, it is recommended that enforcement of the restrictions be consistently applied and monitored.

7.4.3 New Road Connections

It is a Township policy that each community and new development have a minimum of two road accesses to ensure better connectivity, better distribute traffic volumes, and to ensure emergency vehicle access in the event that one of the two routes is closed. A review of the existing transportation network highlighted a number of roadways which end in cul-de-sacs within close proximity to one another. These roadways would benefit from a connecting link which would provide for better circulation within the Transportation network and open new avenues of travel patterns. As Severn grows, these links will be critical in increasing the networks overall capacity and efficiency. Where dead ends and/or unopened road allowances have occurred in existing neighbourhoods and communities, it is a goal of Severn's Official Plan to eliminate the dead ends and connect roadways to improve connectivity for all modes of transportation including pedestrian and cycling networks, where appropriate. Prior to a decision to eliminate a dead end or connect two roads along an unopened road allowance, Council shall consult with the adjacent community with respect to the reasons and rationale for the proposed connection. The proposed connection must show that the resulting streetscape is appropriate to the character of the area, minimizes impacts on abutting properties, while at the same time serving the anticipated traffic volumes and/or pedestrian and cycling activity. In addition to meeting the policies of the Official Plan, all proposed new road connections must meet the requirements of the Municipal Class Environmental Assessment (MCEA) 2015 or as updated and amended.

7.4.4 Road Surfacing

There are a number of roads within Severn which currently have gravel surfaces. Justifications for upgrading the road surface can come from a number of aspects such as discontinuities in a roads surface type, safety operations, and traffic volumes. Roads with an AADT volume exceeding 400 vpd can also be considered for pavement surface treatments. The following roadway segments while not meeting the AADT threshold of 400 vpd were identified for paving.

- Laughlin Falls Road between Taylor Line and Upper Big Chute Road.

7.4.5 Right-of-Way Constraints

A number of roadways within Severn currently have an insufficient Right-of-Way (ROW) to accommodate effective and safe two-way traffic.

The Lane currently has a 5 m ROW between Highview Avenue and Cumberland Road and serves two-way traffic. Due to physical constraints, along the roadway widening of the ROW is likely unfeasible. As such it is recommended that the Lane be converted to a one-way street, maintaining north-east traffic flow.

Similarly, Bennet Avenue which currently serves approximately 6 single detached family homes, has an existing ROW of 6 m per Registered Plan 551. While Bennett Avenue is a municipally maintained road the existing ROW and road surface conditions, and alignment are reflective of a private access/driveway. As such, a study is recommended to determine the appropriate course of action for Bennett Avenue such as downgrading the road, ROW widening, or signing as a one-way street.

7.4.6 MTO Improvements

As described in **Section 2.12**, there are some safety concerns regarding the number of right-in/right-out intersections off Highway 11 within close proximity to one another in the Westshore area. While Severn should ensure they are consulted as part of all future MTO projects within the Township, special consideration should be given to consulting the MTO with respect to the alignment of Highway 11 in this area. It is recommended that MTO be consulted to determine potential opportunities for increased safety within this segment of Highway 11.

7.4.7 Future Road Network Modifications

All recommendations as well as all proposed new roads and road improvements as part of future developments have been illustrated in **MAP 35** and **MAP 36**.

TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 34: RECOMMENDED ROAD NETWORK MODIFICATIONS (1 of 2)

TOWNSHIP OF MUSKOKA LAKES

TOWNSHIP OF GEORGIAN BAY

TOWNSHIP OF ORO-MEDONTE

TOWNSHIP OF RAMARA

CITY OF ORILLIA

ELLIS ROAD
NARROWS
SAINT AMANT ROAD
HODGINS ROAD
QUARRY ROAD
IRISH LINE
UPPER BIG CHUTE ROAD
KITCHEN SIDEROAD
SILK LINE
LOVERING LINE
LAUGHLIN FALLS ROAD
KINNEAR SIDEROAD
LAWSON LINE
COUNTY ROAD 16
MOUNT STEPHEN ROAD
JERMEY ROAD
BALKWILL LINE
TOWNLINE
DUNNS LINE
ANDERSON LINE
HIGHWAY 12
WOODROW ROAD
VASEY ROAD
FOXMEAD ROAD
MAPLE VALLEY ROAD
CARLYON LINE
TELFORD LINE
BRENNAN LINE
CAMBRIAN ROAD
NEW BRAILEY LINE
NICHOLS LINE
FORBITT ROAD
SOUTH SPARROW LAKE ROAD
GRASS LAKE LINE
COX DRIVE
AGNEW ROAD
BOYD ROAD
COOPERS FALLS ROAD
HAMPSHIRE MILLS LINE
STOCKDALE ROAD
LAKESIDE DRIVE
THE LANE
AMIGO DRIVE
ARDTREA DRIVE
THORBURN ROAD
WAINMAN LINE
BURNSIDE LINE
UHTHOFF LINE
FAIRGROUNDS ROAD
WALMINSTER ROAD
DIVISION ROAD EAST
DIVISION ROAD WEST
CARLYON LINE
FAWN LANE
ELAM DRIVE
HIGHWAY 12

N
W E
S

0 1,250 2,500 5,000

Scale 1:115,057 Metres

— Township of —
SEVERN

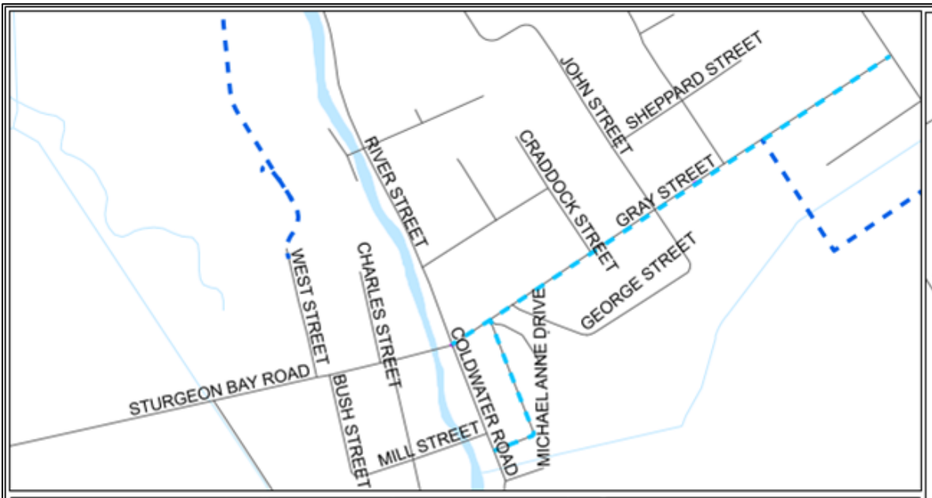
McINTOSH PERRY

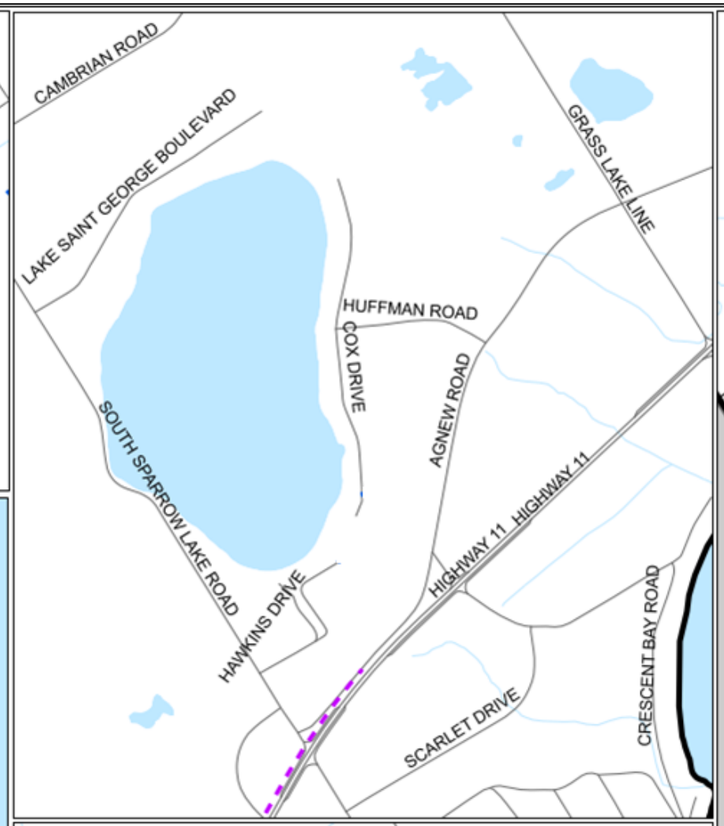
REFERENCE

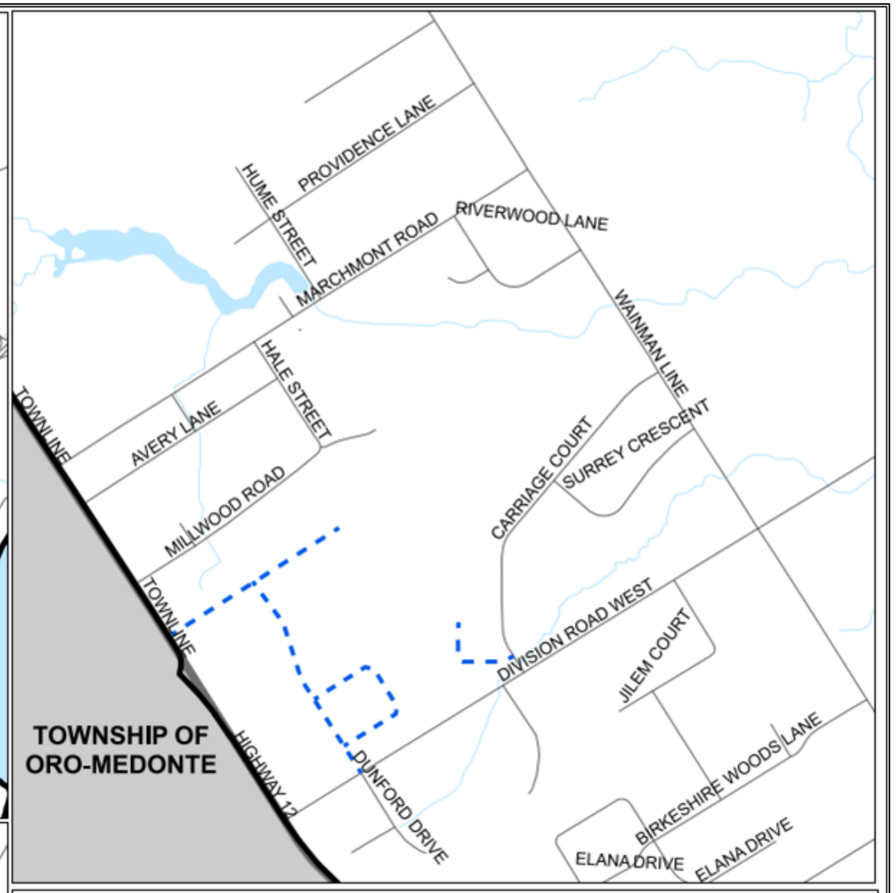
GIS data provided by Township of Severn, 2023.
Mar., 14, 2023

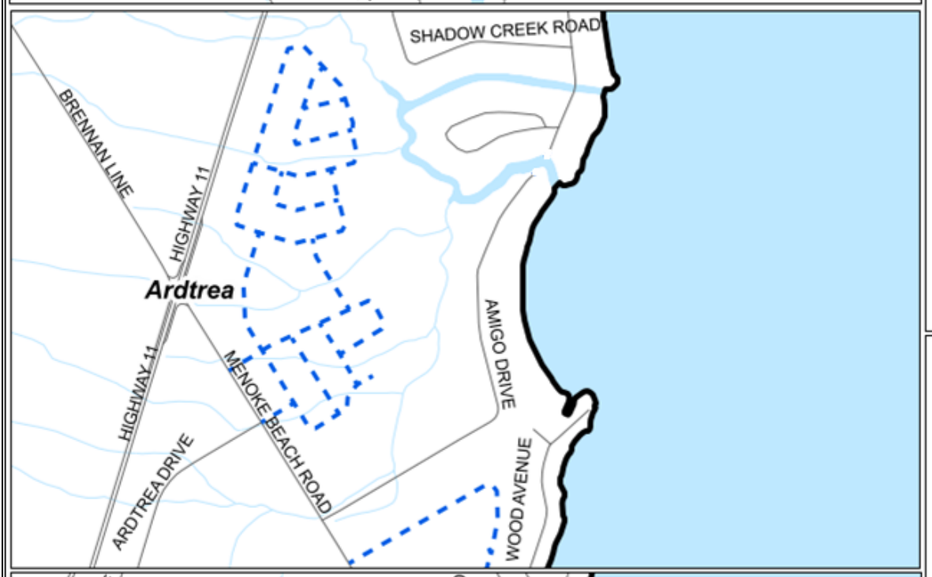
LEGEND

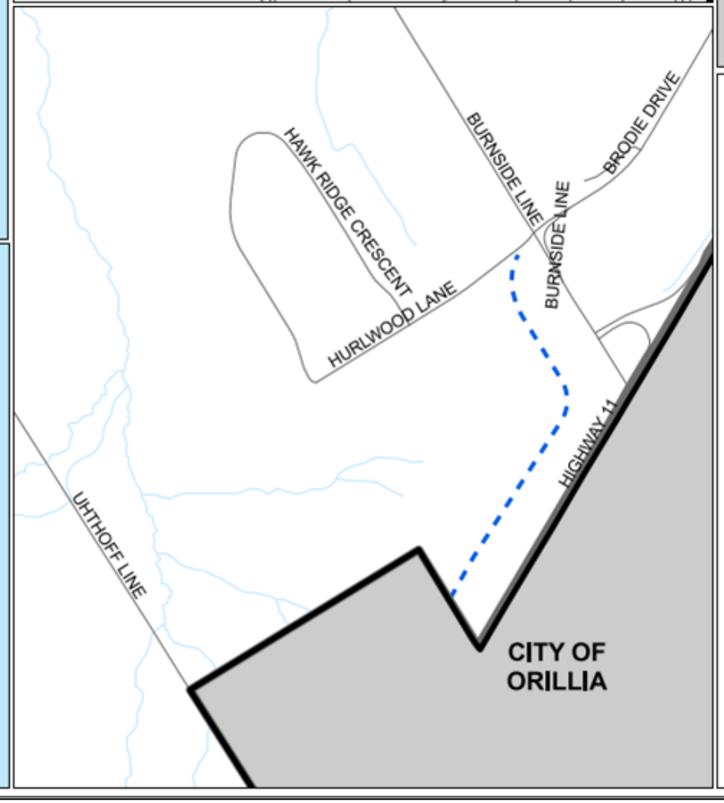
- Waterbody
- Watercourse
- Railway
- MunicipalBorder
- Proposed Road
- Road Widening
- Surface Type Upgrade
- Private Roads Local Improvements
- Other











TOWNSHIP OF SEVERN
TRANSPORTATION MASTER PLAN

MAP 35: RECOMMENDED ROAD NETWORK MODIFICATIONS (2 of 2)

LEGEND

- Waterbody
- Watercourse
- Railway
- Proposed Road
- Road Widening
- Surface Type Upgrade
- Private Roads Local Improvements
- Other
- Placename
- MunicipalBorder
- Municipality

Scale 1:10,000 Metres

Township of SEVERN

McINTOSH PERRY

REFERENCE

GIS data provided by Township of Severn, 2023.
Mar., 14, 2023

Township of
SEVERN

Policy Updates

McINTOSH PERRY

8.0 POLICY UPDATES

The transportation system is the foundation of Severn's growth, development, and quality of life. To ensure that Severn's transportation system is able to meet the current and future needs of its residents and businesses, it is essential that clear and usable policies be established and maintained. Examples of such policies include:

- All-way stop control policy
- Adopt a highway policy
- Naming or re-naming of roads policy
- Parking regulations policy
- Pedestrian safety policy
- Road activity permit programs
- Road maintenance policy
- Road safety policy
- Roadside advertisements
- Engineering design standards
- Seasonal load restrictions policy
- Speed limit policy
- Speed limit review policy
- Streetlight policy
- Streetlight request petition policy
- Traffic calming policy
- Traffic flow management (road closure policy)
- Traffic signage and pavement markings policy
- Transportation accessibility accommodations policy
- Truck route policy
- Winter control policy

It is recommended that existing policies continue to be developed and refined based on Severn's needs and that additional policies, such as a parking management policy, bike and pedestrian policy, and alternative fuel policy, be developed in the future.

8.1 Parking Strategy

The project team reviewed Severn's existing parking supply, parking by laws, as well as history of parking complaints. Based on the review, parking within Severn is generally not a significant concern.

However, additional parking spaces are anticipated to be beneficial within the downtown core of Washago. This could be accomplished through a variety of alternatives including enhanced use of Hamilton Street for angled parking along the southside to the Washago Community Centre or through the purchase and acquisition of lands near County Road 169 for a new municipal parking lot.

Additional parking spaces are also desirable for the downtown core of Coldwater as well. As opportunities for on-street parking are considered exhausted within the downtown area, a study should be undertaken to identify parcels of land for additional municipal parking lot.

Severn's current parking rate bylaw; **Zoning By-Law 2010-65 Section 4.2 – Parking Space Requirements** is recommended to be revised to provide minimum rates for EV charging stations. Additionally, it is recommended that rates for single detached homes be reduced to 1.5 spaces per dwelling unit and 1 space per dwelling unit for higher density residential land uses such as apartments, duplexes, trip-plexes, etc. Providing minimum rates for bike spaces for commercial land uses is also recommended.

8.2 Safety

8.2.1 Acknowledging Vision Zero

More than 1.2 million people worldwide are killed each year from road traffic crashes. Severn Township has had a total of 5 fatal collisions in the last five years. Often, these crashes are perceived as isolated incidents resulting from driver error, rather than being viewed collectively as a public health concern. Vision Zero is a road safety approach that has aims to address this perception and has emerged as the foremost approach to road safety intervention within the province of Ontario and the transportation industry as a whole. The Vision Zero approach aims to eliminate all deaths and serious injuries on roads through education, enforcement, engineering, evaluation, and engagement. The core tenets of the approach are in recognizing that in any situation a driver may fail but the road system should

not fail. Additionally, life and health should never be exchanged for other benefits within society.

Vision Zero policies adopted by municipalities typically include the goal of zero fatal and serious collisions by a specific timeframe and involve the development of a detailed Vision Zero Action Plan. The action plan provides specific steps, timelines, and priorities to achieve this goal. The Key elements of Vision Zero include: safe speeds, safe vehicles, safe roads, and safe drivers. This TMP update acknowledges the principles of Vision Zero approach in planning and design of Severn's future transportation network.

As Severn grows and develops, it may consider adopting a Vision Zero policy, expanding the current recommendations into the development of a full Road Safety Action Plan.

8.3 Traffic Calming

Traffic Calming is a retroactive process whereby measures are applied by road authorities to address concerns about behaviour of motor vehicles travelling on existing roads. Traffic calming measure can be taken to restore a roadways desired function in context of the role and function (classification of the road).

It is recommended that Speed Management and the TAC Traffic Calming Guideline process be applied to locations identified through public complaints and traffic monitoring programs. Severn should also develop and approve a policy supporting the development of traffic calming plans and the implementation of measures.

There are several efficient and cost-effective traffic calming measures that could be used successfully at these locations such as:

Source: City of Ottawa

Flexible Delineation Posts (Seasonal) – To narrow lane widths in key areas reducing speeds. These would be setup during the spring and removed during the winter. One disadvantage is potential for impacts with vehicles requiring additional costs.

Radar Speed Display Signs – To alert drivers of their speeds. These can be solar powered and portable making them quite versatile and adaptive. Radar Speed display signs have the added benefit of illustrating speeds not only top drivers passing but to the general public within the vicinity which can assist in addressing a public speeding perception which may not be supported by empirical data.

Source: City of Ottawa

Source: City of Ottawa

On-road 'sign' – Pavement markings provide information that would typically be shown to drivers through signage but are painted on the roadway. This provides a larger picture and one that is directly in the driver's visual field. One disadvantage of these type of pavement markings is the associated maintenance fees and they are typically ineffective during the winter months.

Severn has a high number of rural roadways which are relatively straight roadways, with minimal curvature and wide lane widths which are signed below the roadways design speeds. For example, Wainman Line is signed 60 km/h however, due to the lack of friction on the roadway, a 60 km/h posted speed limit would be difficult to enforce as the roadway appears to be designed to accommodate higher operating speeds. Another example is Burnside Line, where the roadway is also signed 60 km/h but like Wainman Line, the roadway appears to be designed for higher operating speeds.

Signage is considered to only be marginally effective at controlling the operating speeds of a roadway. Drivers naturally operate at speeds appropriate to the features of a roadway which are reflective of the design speed. Should Severn, reduce the posted speed limit of a roadway which has previously been designed for higher operating speeds, measures must be taken to ensure the roadway is designed for the new posted speed limit. This could include traffic

calming measures which would encourage operating speeds more in line with the posted speed limit.

Severn conducted a "Slow Down Social Media Campaign" between May 2022 and July 2022. Comments were received and documented as part of the campaign regarding traffic calming. The following locations were identified from the public comments which may warrant further investigation for traffic calming measures:

- Burnside Line at 80 km/h to 60 km/h transition zone.
- South Sparrow Lake Road, and.
- Wainman Line.

In addition to these locations, a number of concerns were raised during the Online PIC and via emails to the project team regarding speeding concerns on Menoke Beach Road. As Menoke Beach Road is expected to be a main collector for a number of developments and as the surrounding area is anticipated to see significant growth in the short to medium term horizons, it is recommended that a traffic calming study be conducted at this location. A traffic calming study would better identify any operational issues associated with speeding and the appropriate measures for mitigating speeding issues.

8.4 Streetlighting Policy

Severn's current Streetlighting policies (Policy No. PW-17, approved August 2020) are considered out-dated and do not follow an industry recognized standard. Policy 3.2 states:

"Council, at its discretion, may install one or more lights chiefly for safety factors which would benefit all the residents of the Township, and Council may make at its discretion an exception to the rule and charge the cost of these installations to the general rate".

This policy largely defaults the evaluation and justification criteria for streetlighting to the discretion of Council, however, does not provide Council with the necessary tools to make informed decisions. Instead, this type of policy can be seen as an ad-hoc solution which could lead to inadequate lighting in some areas overdeveloped lighting in others.

The Transportation Association of Canada (TAC) Guideline for the Design of Roadway Lighting provides specific tools to perform streetlighting warrants with respect to various factors depending on the transportation facility location (roadways, intersection, mid-block crosswalks, etc.) The warrants consider specific factors such as geometric, operational, environmental, and collision factors.

While the illumination warrants included in the TAC Guideline for the Design of Roadway Lighting indicate probable need, they should not be interpreted as an absolute indication of lighting requirements. The need for lighting on any transportation facility should be determined under the direction of a qualified professional engineer knowledgeable in roadway lighting.

As such, it is recommended, that Policy 3.2 be revised to state the following:

"*Where safety concerns have been identified in relation to streetlighting, Severn should retain the services of a professional engineer specializing in roadway lighting to determine suitability and requirements of any proposed lighting.*"

It should also be noted that crime indicators have been removed from the TAC lighting warrants and as such do not identify justification for considerations for streetlighting.

8.5 All-Way Stop Control Policy

As part of this TMP update, an all-way stop policy was developed with Severn Staff. The policy follows OTM Book 5 – Regulatory Signs which states, all-way stops should only be considered under the following situations:

- As an interim measure where traffic signals are warranted but cannot be installed immediately.
- At locations having a high collision frequency and less intrusive measures have not resulted in decreased collision frequencies.
- As a transitionary period to accustom drivers to a change in right-of-way (ROW).

It is important to note that all-way stops should not be used as a traffic calming measure, which is to slow traffic or to deter traffic movement through a residential area. Based on OTM Book 5, **Table 8.1** summarizes the warrant criteria for Arterial and Major Roads and Minor Roads.

Table 8.1: All-Way Stop Evaluation Criteria

Criteria		Major / Arterial	Minor
A	Collision History (3 Years)	12 (4 per Year)	12 (4 per Year)
B1	Total Vehicle Volume (vehicles per hour)	500	350
B2	Vehicle + Pedestrians Crossing Major Road (vehicles per hour)	200	N/A
B3	Percentage of Traffic on Major Road (5)	<70	< 75 (3-way), <65 (4-way)

For an all-way stop to be justified Warrant A – Collision History, must be 100% or Warrants B1 or B2 combined with B3 must be 100%.

It is recommended that Severn adopt an all-way stop control policy based on the criteria described within OTM Book 5.

8.6 Complete Streets Policy

Complete Streets incorporate physical elements that allow for greater safety, comfort, and mobility for all users regardless of age, ability, or preferred mode of transportation. The Complete Streets approach to road design is intended to offer greater flexibility for travel modes and promote sustainable transportation. As Severn's predominate mode of transportation is auto vehicles, a Complete Street approach may not be viable for most roadways, however, as Severn grows, complete streets may be beneficial, especially within main corridors within the primary settlement. Therefore, it is recommended that Severn develop a complete street policy which outlines the framework for when and how to best implement a complete street approach.

8.7 Sidewalk Prioritization Policy

A methodology for prioritizing sidewalk replacement or new construction is recommended. Severn should utilize a simple scoring system out of 100 points, with higher scores indicating a higher need for sidewalk improvements. Scoring should be based on categories including existing sidewalk condition, AODA requirements, connectivity, road characteristics, public support, and constructability/cost.

8.8 Pedestrian Crossover Policy

OTM Book 15 recognizes the need for local policies and practices and engineering judgment. OTM Book 15 states that "*municipalities may need to adopt policies that reflect local conditions*" and "*The traffic practitioner's fundamental responsibility is to exercise engineering judgment on technical matters in the best interests of the public and workers*. *Guidelines are provided in the OTM to supplement professional experience and assist in making those judgments.*"

Severn has installed multiple pedestrian crossovers in recent years with a latent desire to upgrade some of the installations well beyond there individual warrant analysis requirements. It is recommended that the Township prepare a policy that enhances OTM Book 15 warrant procedures with the local requirements for the various treatment options.

8.9 Speed Limit Review Policy

Severn's Policies for assigning posted speeds limits are developed from the TAC Canadian Guidelines for Establishing Posted Speed Limits which was published in 2009. The guidelines utilize the road classification systems developed within the TAC Geometric Design Guide published in 2007. The road classification system included the standard functional design classifications (Arterial, Collector, Local) and distinguished between urban and rural land uses. However, the road classification system included a hierarchy to the functional design classifications of Major and Minor. The TAC Geometric Design Guide was updated in 2017 and included updates to the road classification system and removal of this hierarchy.

To coordinate the two documents, the TAC guidelines states that "road agencies that do not adopt the major/minor hierarchy for municipal arterials and collectors, the recommended procedure is to select "major" in the evaluation procedure for both urban and rural land uses."

As such, it is recommended that Severn continue to utilize its speed limits policy and all arterial and collector roadways be assumed as "major".

8.10 Unassumed Roads Trivial Maintenance

Unassumed Roads are roads where the right of way property is owned by the municipality but not required to provide maintenance services. It is recommended that Severn, develop a Seasonal Level of Service Policy that includes a list of seasonally maintained roads. It is recommended that no winter maintenance, capital repairs, brushing, ditching, or culvert work be completed on these roadways, however, Use at Own Risk signage should be installed. No building permits should be issued on unassumed roads. It is also recommended, that Severn develop an application process that any roads assumed by Severn, serves the publics best interest.

8.11 Naming or Re-naming of Roads Policy

Severn's existing Naming or Re-naming of Roads Policy (PD-3) last approved on 10/06/2021 is a well-rounded policy with provisions to prevent the duplication of road names and confusion in the transportation network as well as addresses duty to consult.

Township of
SEVERN

Implementation and Cost

McINTOSH PERRY

9.0 IMPLEMENTATION PLAN AND COST

The 2022 TMP update contains important recommendations throughout the document that include a range of physical infrastructure projects and additional studies intended to enhance Severn's transportation network and to make Severn more resilient to changing travel patterns and growth. However, not all recommendations are required immediately or concurrently, nor is there available capital budget to complete all projects immediately. Based on population and employment forecasts, anticipated level of achievable operational improvements, and to establish a feasible timeline that can be reasonably achieved, the following planning horizons have been set for the proposed improvements:

- Short-Term (Immediately to 5 years);
- Medium-Term (6 to 10 years), and;
- And Long-Term (11 to 20 plus years).

To ensure efficiency of capital investment, projects that involve multiple improvement types such at the same location such as proposed road improvements and new active transportation facilities, should be completed concurrently. This would result in a more cost-effective and efficient measure than revisiting the same site to implement incremental improvements over time which overall would result in greater costs.

This Implementation Plan outlines the process for advancing the identified projects within this TMP update. The plan includes high-level descriptions of the projects and low-order conceptual cost estimates. It is important to note that each project identified in the plan must undergo further definition, budget allocation and approvals before advancing. The Implementation Plan provides the framework for effective and efficient progress of identified projects.

The capital investment required for the recommended projects are intended as conceptual order-of-magnitude cost estimates. These conceptual costs were developed based on the benchmark unit cost assumptions illustrated in **Table 9.1.** It should be noted, however, the benchmark costs are exclusive of property acquisition, and structural works which can vary widely from project to project and require specific evaluation.

Table 9.1: Benchmark Costs

Construction Type	Unit Cost 2022 $ per KM
Urbanization	$565,000
Reconstruction	$865,000 Rural $1,600,00 Urban
Widening (2-4 Lanes)	$1,500,000 / lane
Paved Shoulders	$120,000 / shoulder
Multi-use Path	$ 85,000 (3.0 m wide)
Sharrows	$2,000
Painted Bike Lanes	$4,000 incl. buffer
Sidewalks	$225,000
Surface Upgrade (Paving)	$110,000 Rural $200,000 Urban
Traffic Signals	$900,000 (4-leg intersection)
Pedestrian Crossover (PXO)	$100,000
New Roadway (Urban)	$1,750,000
New Roadway (Rural)	$950,000

9.1 Road Network Implementation Plan

A breakdown of the recommended capital investments and recommended implementation plan for Severn's Road network is illustrated in **Table 9.2. Table 9.2** also summarizes the future projects within Severn that are development led or are recommended to be addressed by other agencies/stakeholders. In summary, the recommended short-term road projects total **$4,612,000,** the medium-term; **$10,193,000,** and the long-term**; $6,302,000.** Development led projects total **$22,948,000**, while the recommended MTO dependent projects total **$2,504,000**.

Table 9.2: Road Network Implementation Plan and Costs (2022 CAD)

Project ID	Project Descriptions	Cost
Short-Term (0-5 Years)		
RDP.1	The Lane conversion to one-way street from Highview Avenue to Cumberland Road	$30,000
RDP.2	Signalization at intersection of Burnside Line at Division Road	$900,000
RDP.3.1	West Street extension northerly to Reinbird Street - Schedule B Environmental Assessment completed. Construction to start in 2023.	$1,500,000 (Construction Scheduled for 2023)
RDP.4	Gill Street ROW widening and urbanization from Coldwater Road to the new Greenwoods Landing development road	$499,000
RDP.5	1-way overhead flashing beacons at intersection of Division Road West / Uhthoff Line	$100,000
RDP.6	Pedestrian Crossover (PXO) at Gray Street fronting Coldwater Public School	$100,000
RDP.7	Twin Oaks Subdivision - Private road standardization *	$1,483,000
Total		$4,612,000
Medium-Term (6 - 10 Years)		
RDP.8	West Canal Road - Private road standardization *	$968,000
RDP.9	Claresbridge Lane - Private road standardization and bridge rehabilitation *	$5,292,000
RDP.10	Michael Anne Drive ROW widening and urbanization	$418,000
RDP.12	Viking Marina Road - Private road standardization *	$283,000
RDP.13	Brick Pond Road / Wylie Street Cross-section urbanization from Gray Street to River Street	$514,000
RDP.14	Gray Street ROW widening to 20 m supporting on-street parking, and bike lane	$1,818,000
RDP.15	Coldwater Road / River Street at Gray Street / Sturgeon Bay Road Signalization (requires widening of Gray Street to facilitate)	$900,000
Total		$10,193,000
Long Term (11-20 Years)		
RDP.16	Laughlin Falls Road paving from County Road 16 to Taylor Line	$304,000
RDP.19	Dunlop Drive - Private road standardization *	$149,000
RDP.20	Undertake study to address insufficient ROW on Bennett Avenue	$20,000
RDP.21	Murphy Road Extension Parallel with Highway 11 to Brodie Drive / Hurlwood Lane - Identified as City of Orillia Project	-
RDP.22	Haul Route extension westerly to Highway 12	Unknown
RDP.23	New road servicing Severn industrial park lands off Carlyon Line per Official Plan	$3,228,000
Total		$3,701,000
Provincial Plans		
PROV RDP.1	Consultation with MTO to request review of Highway 11 realignment at Westshore	-
PROV RDP.1.2	New Service Road in Westshore, south of proposed Highway 11 realignment	$25,041,000
PROV RDP.2	Old MTO plans for new Class 1 Highway	-
Total		$25,041,000
Development Driven		
DEV RDP.1	Greenwood Landings new development roads (urban cross-section)	$2,283,000
DEV RDP.2	Anderson Line subdivision new development roads (urban cross-section)	$832,000
DEV RDP.3	Division Road subdivision new development roads	$1,190,000
DEV RDP.4	Menoke Beach Road subdivision new development roads (urban cross-section) and collector road upgrades	$2,272,000
DEV RPD.5	Shadow Creek subdivision new development roads (urban cross-section)	$7,577,000
DEV RDP.6	Turnbull subdivision new development roads (urban cross-section)	$2,779,000
DEV RDP.7	Fesserton Side Road subdivision new development roads	$465,000
DEV RDP.8	Port Station Parkway realignment	$455,000
DEV RDP.9	North Brick Pond subdivision new development roads (urban cross-section)	$1,591,000
DEV RDP.10	Riverdale Estates subdivision new development roads	$648,000
DEV RDP.11	New Industrial Road connection between new Greenwood Landings Road and Southorn Road	$367,000
DEV RDP.12	Town Line subdivision new development roads	$1,000,000
RDP.3.2	Further Extension of West Street Northerly - Future development driven	$1,162,000
RDP.3.3	West Street Connection to County Road 17 - Future development driven	$327,000
Total		$22,948,000

* Note: Projects noted under Section 7.4.1 Jurisdiction Changes are funded through Local Area Improvement charges

9.1.1 Short-Term Road Projects (0 – 5 years)

The following provides a description of the proposed works which should be considered for implementation within the next 5 years.

Road Project 1 – The Lane

- The Lane is a developed roadway presenting challenges in providing acceptable two-way traffic levels of service for a municipally maintained roadway. The Lane currently has a 5.0 m ROW between Highview Avenue and Cumberland Road and serves two-way traffic. Due to physical constraints along the roadway, widening of the ROW is likely unfeasible. As such, it is recommended that the Lane be converted to a one-way street, maintaining north-east traffic flow.

Road Project 2 – Signalization at Burnside Line / Division Road

- Traffic signals are currently warranted at the intersection of Burnside Line at Division Road.

Road Project 3 – West Street Extension

- **RDP 3.1** West Street within Coldwater is planned to be extended to the north to serve properties on Reinbird Street through a new access. Maintenance concerns have been identified with the current bridge off River Street which would be removed as part of the West Street extension. A Schedule B EA has been completed and construction is planned for 2023.
- **RDP 3.2** Future development of the lands bound between Uhthoff Trail and River Street will drive further development of West Street to the north. Utilizing Uhthoff trail for the future alignment would cut capital costs but require realignment of the multi-use trail. A Schedule C EA has been completed.
- **RDP 3.3** Further development led extension of West Street parallel to River Street corridor. New road and bridge would utilize the existing railway corridor / unopened ROW owned by Severn.

Road Project 4 – Gill Street Widening

- To line up with new development roads, 5.0 m widening on north side is recommended to tie into the new roadway's 20 m ROW urban cross section design. New sidewalk on the north side is also proposed, tying into the future development's sidewalk network.

Road Project 5 – Overhead Flashing Beacons at Division Street West / Uhthoff Line

- An overhead flashing beacon is recommended at Division Street West / Uhthoff Line for improved intersection awareness and safety.

Road Project 6 – Gray Street Pedestrian Crossover (PXO)

- A PXO is recommended on Gray Street to provide safer road crossing opportunities for vulnerable road users within the vicinity of the Coldwater Public School.

Road Project 7 – Twin Oaks Subdivision - Private Road Standardization

- Imminent dissolution of the current Twin Oaks subdivision private road association has been noted by the project team. The existing Twin Oaks subdivision road conditions do not permit municipal operations. A Reserve Account has been created with the sale of the three lots owned by the municipality for assuming and upgrading the roads. Section 326 Local improvements.

9.1.2 Medium-Term (6 – 10 years) Road Projects

The following provides a description of the proposed works which should be considered for implementation within the next 6 to 10 years.

Road Project 8 - West Canal Road - Private Road Standardization

- Concerns relating to the current private road association and available funding have been noted. Severn is recommended to assume ownership of West Canal Road and upgrade to meet municipal design standards for maintenance.

Road Project 9 – Claresbridge Lane - Private road standardization & bridge rehabilitation

- Similar to Road Project 8, difficulties have been identified with the ability for the private road association to effectively maintain the roadway and bridge structure. Severn is recommended to assume ownership of the Claresbridge Lane roadway and bridge structure and upgrade to appropriate municipal standards.

Road Project 10 – Michael Anne Drive ROW Widening and Urbanization

- Michael Anne Road is recommended to be widened from a 6.0 m ROW to a 15.0 m ROW (equally distributed), illustrated in **Figure 9-1**. Apartment buildings adjacent to the Coldwater Arena currently has widening in place, however, acquisition of the Coldwater Bowling Centre parcel would likely be required. The Coldwater Business Improvement

Area (BIA) often closes Coldwater Road from Sturgeon Bay to Michael Anne, which generates additional travel demand along Michael Anne Road.

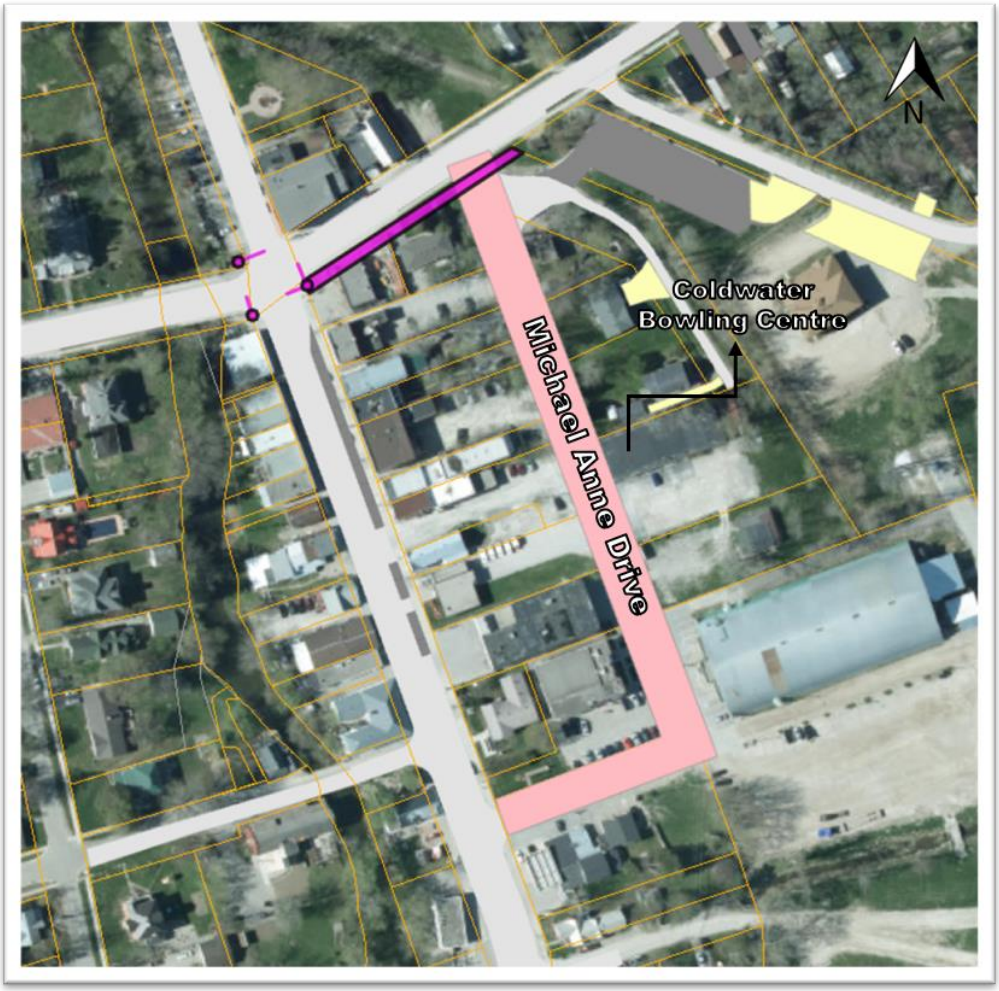


Figure 9-1: Michael Anne Drive ROW Widening

Road Project 12 – Viking Marina Road - Private Road Standardization

- Similar to the other private roads standardization recommendations, Viking Marina Road is recommended to be assumed by Severn and upgraded to municipal standards for maintenance.

Road Project 13 – Brick Pond Road / Wylie Street Urbanization

- Brick Pond Road and Wylie Street are recommended for urbanization from Gray Street to River Street. This includes a new sidewalk on north side (aligns with streetlights), curb and gutter and storm sewer with end of pipe control.

Road Project 14 – Gray Street ROW Widening

- The existing 15.0 m Gray Street ROW is recommended to be widened to 20.0 m on south side for one block and equal splits along the remaining segments. A new pavement width of 10 m is recommended, providing two 3.5 m lanes and one-side parking lane. New sidewalks are also recommended on the north side of Wylie Road to Anderson Line.

Road Project 15 – Coldwater Street / River Street at Sturgeon Bay Road / Gray Street Signalization

- Traffic signals are anticipated to be warranted by 2031 at Coldwater Street / River Street and Sturgeon Bay Road / Gray Street which is currently all-way stop controlled. Widening of the Gray Street ROW is likely to be required to provide a sufficient intersection footprint to accommodate the traffic signals.

9.1.3 Long-Term (11 – 20 years) Road Projects

The following provides a description of the proposed works which should be considered for implementation within the next 11 to 20 years.

Road Project 16 – Laughlin Falls Road Paving

- Laughlin Falls from County Road 17 to Taylor Line is recommended from granular surface to hard top surface.

Road Project 19 – Dunlop Drive - Private Road Standardization

- Similar to other private roads standardization recommendations, Dunlop Drive is recommended to be assumed by Severn and upgraded to the appropriate municipal standards for maintenance.

Road Project 20 –Bennett Avenue ROW Study

- Bennett Avenue currently has a 6.0 m ROW. As such, a study is recommended to determine the preferred solution for the roadway such as conversion to a one-way street or to a private road.

Road Project 21 – Murphy Road Extension

- As part of the City of Orillia TMP, Murphy Road is recommended to be extended from Highway 12 to Brodie Drive. This is noted as a long-term recommended recommendation within the Orillia TMP.

Road Project 22 – Haul Route Westerly Connection to Highway 12

- An extension of haul route to Highway 12 through Severn and Oro-Medonte is recommended where use of existing haul route may not be feasible. There are a variety of alternative solutions to consider. The project will include a detailed review of the alternatives in coordination with the public and the local aggregate resource industry.

Road Project 23 – Severn Industrial Park Road

- As part of Severn's Official Plan, lands have been identified, north-east of Carylon Line and Highway 11 as a future industrial park. A new roadway would provide future access to these lands.

9.1.4 Provincial Led Road Projects

As noted within this TMP, it is recommended that MTO be consulted to determine feasibility for the realignment of Highway 11 within the vicinity of Westshore. **Provincial Road Projects 1 and 2** denote the initial consultation and the potential service required should Highway 11 be realigned. The service that would provide access to the current roads abutting Highway 11 controlled via right-in-right out access.

Provincial Road Project 2 - MTO has held plans for a future north-south Class I Highway through Severn. However, at this time no movement has been made towards its development. Consultation with MTO should be conducted to determine potential timelines which would have substantial impacts on Severn.

9.1.5 Development Led Road Projects

A number of new roads are proposed through development applications. In total 12 new developments have been identified with proposed roadways or roadway modifications as outlined in **Table 9.2**: Road Network Implementation Plan and Costs (2022 CAD**.**

9.2 Active Transportation Network Implementation Plan

A breakdown of the recommended capital investments and recommended implementation plan for Severn's Active Transportation network is illustrated in **Table 9.3. Table 9.3** also summarizes the future projects within Severn that are development led or are recommended to be addressed by other agencies/stakeholders. In summary, the recommended short-term AT projects total **$1,162,000**, the medium-term; **$1,637,000**, and the long term; **$2,399,000**. Development led projects total **$141,000**, while the recommended MTO dependant projects total **$10,000**.

Table 9.3: Active Transportation Network Implementation Plan

Project ID	Project Descriptions	Cost
Short-Term (0-5 Years)		
AT.1	Menoke Beach Road Multi-Use Path (MUP)	$77,000
AT.2	Westshore Recreational Centre MUP	$38,000
AT.3	Washago Sidewalk Improvements (Hamilton Street, Quetton Street, Muskoka Street)	$173,000
AT 4	Coldwater Road – Foodland	$80,000
AT.5	Carlyon Line - Paved Shoulders	$395,000
AT.6	Brodie Drive - Paved Shoulders	$328,000
AT.7	John Street / Firehall Lane / George Street MUP	$32,000
AT.8	Fairgrounds Pedestrian Path	$39,000
	Total	$1,162,000
Medium-Term (6 - 10 Years)		
RDP.9	Michael Anne Drive Sidewalks	* Cost Captured Under Road Network Implementation Plan
AT.8	Bayou Road Sidewalk	$126,000
AT.9	Goldstein Road MUP	$129,000
AT.10	South Sparrow Lake Road MUP	$138,000
AT.11	Wainman Line MUP	$291,000
AT.12	Division Road West MUP	$119,000
AT.13	Severn Signed Bike Route (Various Roads)	$32,000
AT.14	Woods Bay Road / Thomson Crescent - Paved Shoulders	$408,000
AT.15	Soules Road / Telford Line Overpass	$135,000
AT.16	Sturgeon Bay Road - Sidewalk & Cycling Lanes	$131,000
AT.17	Menoke Beach Road - Paved Shoulders	$128,000
RDP.14	Gray Street Sidewalks	* Cost Captured Under Road Network Implementation Plan
	Total	$1,637,000
Long Term (11-20 Years)		
AT.18	Bayou Road Sidewalk	$180,000
AT.19	Highview Avenue & Coronation Avenue Sidewalks	$139,000
AT.20	Marchmont/Bass Lake Woodlands Sidewalk Network	$684,000
AT.21	Division Road West - Paved Shoulders	$991,000
AT.22.1	Muskoka Street Paved Shoulders	$335,000
AT.22.2	Muskoka Street Bike Lane	$3,000
AT.23	Coldwater Road Bike Lane	$7,000
AT.24	Uhthoff Trail Alignment	* See Project Description in Sec.9.2.3
	Total	$2,339,000
Provincial Led		
PROV AT.1	Burnside Bridge Replacement Project - Bike Lane	$10,000
	Total	$10,000
Development Driven		
DEV RDP.4	*Noted within Road Network Implementation Plan - Collector Upgrades include Bike Lanes on Menoke Beach Road	-
DEV RDP.9	*Noted within Road Network Implementation Plan – Brick Pond Subdivision Sidewalks	-
DEV AT.1	Shaw Street Sidewalks	$26,000
DEV AT.2	Avery Lane Sidewalks	$115,000
	Total	$141,000

9.2.1 Short-Term (0 – 5 years) Active Transportation Projects

The following provides a description of the proposed works which should be considered for implementation within the next five years.

AT Project 1 – Menoke Beach Road MUP

- Recommended new MUP on the east side of Menoke Beach Road from Couchiching Avenue, tying into the Shadow Creek development led cycling infrastructure on Menoke Beach Road, north of Ardtrea Drive.

AT Project 2 – Westshore Recreational Centre MUP

- A new multi-use trail is recommended from Wood Avenue to the Westshore Recreational Centre. The trail would serve as an internal trail through the Phase 1 Menoke Beach Development.

AT Project 3 – Washago Sidewalk Improvements (Hamilton Street, Quetton Street, Muskoka Street)

- New sidewalks (one side of roadway) are recommended within the Washago settlement area on Hamilton Street, Quetton Street, and the southern portion of Muskoka Street Which currently does not have sidewalks. The network provides safe pedestrian access from Washago to the south to the Centennial Park.

AT Project 4 – Carlyon Line - Paved Shoulders

- As part of the recommended Severn Cycling network, paved shoulders are recommended on Carlyon Line from Highway 11 to Division Road West.

AT Project 5 – Brodie Drive - Paved Shoulders

- As part of the recommended Severn Cycling network, paved shoulders are recommended on Brodie Drive from Burnside Line to Menoke Beach Road.

AT Project 6 – John Street / Firehall Lane / George Street MUP

- Providing safer pedestrian facilities within the vicinity of the Coldwater Public School access to the Uhthoff Trail, a MUP is recommended along Firehall Lane/George Street/John Street, tying into the Gray Street AT facilities.

AT Project 7 – Fairgrounds Pedestrian Path

- A pedestrian trail is recommended from the Greenwoods Landing development roads northerly to the Uhthoff trail.

9.2.2 Medium-Term (6 – 10 years) Active Transportation Projects

The following provides a description of the proposed works which should be considered for implementation within the next six to ten years.

AT Project 8 – Bayou Road Sidewalk

- A Sidewalk is recommended on the north-south segment of Bayou Road from Hedgemere Landing to Highway 11.

AT Project 9 – Goldstein Road MUP

- A MUP is recommended along Goldstein Road from Turnbull Drive, northerly to the South Sparrow Lake Road / Goldstein Road Overpass.

AT Project 10 – South Sparrow Lake Road MUP

- The Goldstein Road MUP is recommended to be continued along South Sparrow Lake Road to Cambrian Line

AT Project 11 – Wainman Line MUP

- A MUP is recommended along Wainman Line from Highway 12 northerly to just beyond the Marchmont/Bass Lake Woodlands community, north of Meadowview Court.

AT Project 12 – Division Road West MUP

- A MUP is recommended along Division Road West, from the Wainman Line MUP to Highway 12.

AT Project 13 – Severn Signed Bike Route (Various Roads)

- As part of the recommended cycling network in Severn, various roads that make up the network are low volume roads with sufficiently wide travel lanes to accommodate cyclists with no additional protection. It is recommended the following road segments be signed as a cycling route:
    - Carlyon Line – north of Division Road East to Cambrian Road;

- Cambrian Road from the Uhthoff trail easterly to Boyd Road;
- Boyd Road to County Road 52 to Municipal Boundaries;
- South Sparrow Lake Road north of Cambrian Road to Coopers Falls Road (County Road 49) and to Municipal Boundaries;
- Saint Amant Road from Quarry Road/ County Road 17 to Port Severn, and;
- River Street to County Road 17 to Quarry Road.

AT Project 14 – Woods Bay Road / Thomson Crescent - Paved Shoulders

- As part of Severn's recommended Cycling Network, paved shoulders are recommended along Woods Bay Road from Menoke Beach Road to the Soules Road / Telford Line Overpass.

AT Project 15 – Soules Road / Telford Line Overpass

- The paved shoulders on Woods Bay Road are recommended to be carried along the Soules Road / Telford Line Overpass to Division Road East.

AT Project 16 – Sturgeon Bay Road - Sidewalk & Cycling Lanes

- New sidewalks are recommended along the north side of Sturgeon Bay Road from the Uhthoff trail access point to Gray Street, tying into the recommended MUP/trail access. Bike lanes are also recommended for this segment of Sturgeon Bay Road which can be accommodated for within the existing 20.0 m ROW.

AT Project 17 – Menoke Beach Road - Paved Shoulders

- As part of Severn's recommended Cycling network, paved shoulders are recommended on Menoke Beach Road connecting to the Woods Bay Road / Thomson Crescent paved shoulders.

9.2.3 Long-Term (11 – 20 + years) Active Transportation Projects

AT Project 18 – Bayou Road Sidewalk

- A new sidewalk is recommended along Bayou Road from Westshore Crescent to Menoke Beach Road.

AT Project – Highview Avenue & Coronation Avenue Sidewalks

- New sidewalks are recommended (one side of roadway) along the full extents of Highview Avenue and Coronation Avenue

AT Project 20 – Marchmont/Bass Lake Woodlands Sidewalk Network

- New sidewalks are recommended within the Marchmont/Bass Lake Woodlands community, creating safe pedestrian circulation through the community and to the Marchmont/Bass Lake Woodlands Public School. A sidewalk is recommended along one side of the following roads to form a continuous loop from Wainman Line to Division Road East:
  - Jilem Court;
  - Abbey Road;
  - Hume Street;
  - Confederation Drive;
  - Birkshire Woods Lane; and
  - Elana Drive.

AT Project 21 – Division Road West - Paved Shoulders

- As part of Severn's recommended Cycling Network, paved shoulders are recommended on Division Road West from Burnside Line to Wainman Line / Division Road East.

AT Project 22.1 – Muskoka Street Paved Shoulders

- As part of Severn's recommended Cycling Network, paved shoulders are recommended on Muskoka Street from the existing pedestrian facilities and recommended cycling lane at Albany Street northerly to County Road 52.

AT Project 22.2 – Muskoka Street Bike Lane

- A bike lane is recommended for the section of Muskoka Street south of Albany Street, tying into the recommended paved shoulders.

AT Project 23 – Coldwater Road Bike Lane

- A bike lane is recommended along Coldwater Road from Highway 12, northerly to River Street / Sturgeon Bay Road / Gray Street where it's recommended to transition into a signed cycling route.

AT Project 24 - Uhthoff Trail Alignment

- It is recommended that the existing Uhthoff trail alignment through Coldwater be realigned along the rail corridor, forming a continuous trail. This project, however, requires property acquisition and potential rehabilitation/replacement of the closed Bridge on River Street. These variables can result in vastly unpredictable costs. However, it is recommended that Severn, continue to monitor for potential opportunities to acquire the lands which could also serve to further develop the existing municipal park lands on River Street

Township of
SEVERN

Funding Opportunities

McINTOSH PERRY

10.0 FUNDING OPPORTUNITIES

The recommended road and active transportation projects developed as part of this TMP update, not including development or MTO driven projects is anticipated to accompany the following capital costs:

- Short-Term – $5,774,000;
- Medium-Term – $11,830,000, and;
- Long-Term – $6,040,000

Resulting in a total of $23,644,000 across all planning horizons. It is anticipated that Severn's Capital Budget may be insufficient to fully fund all recommended projects. However, opportunities exist for cost reductions through various means. This section will outline the potential solutions to increase available capital budget.

10.1 Trails Connecting Communities Program

Simcoe County established the Trails Connecting Communities Program (TCCP) in 2009 to assist municipalities in funding trails and active transportation projects. The program operates through a 50/50 matching structure whereby County funds are matched to local municipal investment (up to $30,000). The program to date has provided over $750,000 in funding and has assisted in the construction of 32 trail and active transportation projects.

Simcoe County has dedicated funding in 2022 to and will likely continue to dedicate funding for future years to assist local municipalities in the development of active transportation and recreational trail opportunities, with a focus on enhancing and/or expanding the trail network for non-motorized uses. The County of Simcoe TCCP – 2022 information and application forms have been provided in **Appendix C.**

10.2 Zero Emission Vehicle Infrastructure Program

Natural Resources Canada (NRCan) has developed the Zero Emission Vehicle Infrastructure Program (ZEVIP), a $680 million initiative to address the lack of charging and refueling stations in Canada; one of the key barriers to ZEV adoption, by increasing the availability of localized charging and hydrogen refueling opportunities where people live, work, and play.

NRCan funding is delivered through cost-sharing contribution agreements for eligible projects. NRCan's funding is limited to 50% of the total project cost up to a maximum of $5 million per project and up to $2 million per project delivery organizations.

10.3 Tourism, Culture and Sport Enhancement Fund

The County of Simcoe Tourism, Culture, and Sport Enhancement Fund is to support and enhance tourism, culture, and sport in Simcoe County. Funding is available for a variety of projects including cycling infrastructure, main street enhancements, wayfinding signage for tourism and trail heads, etc. Funding is available up to $20,000 per project. In 2021, Simcoe County approved a total of 89 applications, totaling $471,396.93 in funding. The 2022 program guidelines have been provided in **Appendix C.**

10.4 Development Charges

Severn currently collects development charges for residential land that has been vacant for three or more years while Simcoe County collects the development charges for residential lands that have been vacant for five or more years. These development charges assist in financing the long-term capital and operating costs for the infrastructure required to provide municipal services to the new development including:

- Development related studies;
- Long-term care and seniors' services;
- Paramedic services;
- Public works;
- Roads and related maintenance;
- Social housing;
- Transit, and;
- Waste Management.

Severn completed a Development Charges (D.C.) Background Study in June 2019. Simcoe County has also recently completed a Development Charges Background Study in March 2022. The D.C. Background Study utilized growth projections extracted from Watson & Associates Economists Ltd., 2019 with forecast consistent with the Growth Plan for the Greater Golden Horseshoe (May 2019). The D.C. Background Study completed by Simcoe County utilized the Greater Golden Horseshoe: Growth Forecasts to 2051 (August 2020), a more recent growth projection. Severn should continue to reassess its development charges on regular intervals to ensure growth related projects are adequately funded.

10.5 Local Area Improvement

A funding source of Local Area Improvement under the Municipal Act may be considered where projects have only limited benefitting properties. Municipalities can use the local improvement

process to undertake a capital project and recover all or part of the cost of the project by imposing local improvement charges on properties benefitting from the work.

11.0 TMP UPDATES

This TMP update is intended as a living document. As Severn grows and changes, the TMP will need further updates that reflect the new realities which may not have been considered or realized while this plan was being developed. It is recommended that a review of the TMP be conducted at regular intervals to ensure that the underlying assumptions are still relevant and applicable. This TMP update built on the previous TMP and projected recommendations up to the planning horizon year of 2041. Many of the previous TMP recommendations were carried forward while some were removed as they were no longer relevant or no longer supported by Council. The Municipal Class Environmental Assessment process recommends a review of master plans every five years. The regular reviews are intended to determine if there is a need to undertake a formal TMP update.

As a living document, is it recommended that version control and routine review are implemented to effectively manage the changes and updates to the plan over time. Instituting a version control system will not only streamline the management of TMP updates but also enhance clarity, traceability, and coherence across all revisions of the plan.

Version No.	Date	Author/Editor	Summary of Changes	Approved by	Approval Date
1.0.0	2023-09-27	McIntosh Perry	Initial release of the TMP	Council	2023-10-25
1.0.1	yyyy-mm-dd	[Name/Position]	Minor changes to section X.X	[Name]	yyyy-mm-dd
1.1.0	yyyy-mm-dd	[Name/Position]	Major update including new traffic data	[Name]	yyyy-mm-dd
2.0.0	yyyy-mm-dd	[Name/Position]	Overhaul of the TMP with new projections	[Name]	yyyy-mm-dd