TOWNSHIP OF
MUSKOKA
Lakes

2025
ASSET MANAGEMENT PLAN
COMPLETE INFRASTRUCTURE VERSION

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TOWNSHIP OF
MUSKOKA
Lakes

EXECUTIVE SUMMARY

Executive Summary

E.1 Introduction

The Township of Muskoka Lakes is a vibrant community with a permanent population of 7,200 people expanding to over 34,000 people during the summer months. The Township of Muskoka Lakes contributes to a high quality of life by providing a diverse array of services including culture and recreation, storm water drainage, roads and sidewalks, winter maintenance, and emergency services. If all of the assets that support these services were to be replaced today it would cost in excess of $600 million dollars, or about $91,000 per Muskoka Lakes resident. The Township of Muskoka Lakes' 2023 Asset Management Plan is the first all encompassing asset management plan developed and published by the Township in over ten years. The plan outlines the processes and practices in place to get the maximum value from the Township's assets and services.

E.2 Asset Management Report Card

Each asset system or grouping is rated considering two key dimensions:

- Condition of the assets relative to the performance of the asset group; and
- The level of funding provided to the asset group relative to the value of the needs within the group.

The scores in each of these dimensions once combined evaluates the Townships performance in managing its infrastructure. The dimensions are described in greater detail in the following sections.

Overall the Township receives a rating of D+ for the management of its physical infrastructure. While the organization has done a commendable job in terms of maintaining the condition of its assets, underfunding of needs is a serious problem resulting in significant accumulations of deferred capital investments. Failure to address the situation will have serious level of service consequences for the Township in the not too distant future particularly in the area of public buildings, recreation facilities, and transportation infrastructure.

Table 1 Consolidated Asset Management Report Card

Asset System	Asset Category	Condition vs Performance	Funding vs Need	Combined Rating
Administrative Facilities	Civic Bldgs	B-	F	C-
Culture, Sports, and Recreation	Cultural Recreation and Sport Facilities	B-	F	C-
Emergency	Fire Bldgs and Equip.	B-	B-	B-
Information Technology	Hardware and Software	B	A+	A-
Parking	On and Off Street Parking	F	D-	F
Transportation	Bridges and Roads	D+	F	D
Vehicles and Equipment	Vehicles and Equipment	C	C	C
	Overall Rating	C-	F	D+

E.3 State of the Assets

The state of the assets report card provides a quantitative assessment of the asset portfolio in terms of overall replacement value and estimated remaining life. **Table 2** provides an overview of the replacement value and ratings of Township-owned assets. Overall, the Township's asset portfolio has approximately 54 per cent remaining service life, which is considered to be in the fair rating category. Of the portfolio, approximately 11.3 per cent, or $70.1 M in assets, have below 45 per cent remaining service life. Of this amount approximately $149.3 million are beyond their typical service lives.

Table 2 Asset System Ratings Based on Service Life and Condition

Asset System	Asset Category	Asset	Replacement Cost	% Life Remain	Condition State	% of Assets Poor or Very Poor	Replace Value Poor and Very Poor Assets
Administrative Facilities	Civic	Admin Building	$12,229,000	34.2%	Poor	11.7%	$1,432,037
	Medical	Health Hub	$2,232,600	68.1%	Good	0.0%	-
	Works Yards	Garages, Sand, Salt Sheds	$12,438,900	40.5%	Poor	7.7%	$955,846
Culture, Sports, and Recreation	Cultural Facilities	Cemeteries	$88,300	41.3%	Poor	0.0%	-
		Community Centres	$45,859,000	33.8%	Poor	4.6%	$2,156,274
		Docks and Wharves	$6,240,000	31.9%	Poor	22.0%	$1,370,393
		Library	$7,215,500	26.7%	V Poor	0.0%	-
	Recreation Facilities	Parks	$11,767,000	78.6%	Good	0.2%	$22,190
		Parks Buildings	$2,933,500	35.4%	Poor	4.6%	$93,628
		Trails	$728,000	49.7%	Fair	0.0%	-
	Sports Facilities	Arenas	$29,464,800	5.4%	V Poor	5.8%	$1,720,793
		Sport Fields Etc	$1,545,500	28.2%	V Poor	3.2%	$50,110
Emergency Services	Fire	Fire Halls	$25,758,800	33.5%	Poor	4.4%	$1,134,584
		Fire Vehicles & Equipment	$10,969,000	45.7%	Fair	0.0%	-
Information Technology	Hardware Network	Computers, Peripherals	$773,400	40.2%	Poor	37.4%	$289,582
		Connectivity / WiFi	$ 85,700	2.6%	V Poor	99.1%	$84,953
	Software	Operational	$445,500	55.4%	Fair	22.4%	$120,000
Parking	Surface Parking	Parking Lots	$407,100	38.1%	Poor	4.5%	$18,400
		Street Parking	$430,900	0.7%	V Poor	92.8%	$399,900
Storm Water Manage-ment	Drainage Systems	Rural	$41,703,000	28.6%	V Poor	0%	$0
		Urban	$4,058,500	54.5%	Fair	0%	$0
		Dam	$7,325,000	0.0%	V Poor	100%	$7,325,000
Transportation	Bridges and Culverts	Bridge	$19,775,000	47.7%	Fair	17.8%	$3,512,500
		Culverts (>3.0m)	$5,567,500	45.4%	Fair	27.1%	$1,510,000

	Roads	Hard Top	$236,612,000	70.5%	Good	40.3%	$30,500,900
		Loose Top	$119,900,700	67.5%	Good	53.2%	$14,984,100
	Railway Crossings	Protected	$600,000	48.3%	Fair	0.0%	-
		Unprotected	$100,000	25.0%	V Poor	0.0%	-
	Sidewalks	Concrete	$400,400	35.6%	Poor	0.6%	$2,429
		Pavers	$48,300	26.5%	V Poor	0.0%	-
	Signs	Informational	$124,800	46.9%	Fair	3.2%	$1,200
		Regulatory	$255,000	29.3%	V Poor	6.0%	$15,300
		Warning	$156,600	18.2%	V Poor	53.6%	$84,000
	Street Lighting	LED	$548,300	76.3%	Good	0.0%	-
		INC	$8,000	30.0%	Poor	0.0%	-
		Poles	$1,425,000	52.5%	Fair	0.0%	-
Vehicles and Equipment		Vehicles and Equipment	$ 9,990,500	36.3%	Poor	24.3%	$2,432,000
		Total	**$620,211,100**	**54.2%**	**Fair**	**11.3%**	**$70,129,226**

It should be noted, that the estimates of remaining lives and rating categories do not necessarily mean that the assets are insufficiently providing service. In order to improve the confidence in the numbers, the Township must continue to conduct investigations, and complete condition and performance assessments to best understand potential impacts to risks, levels of service and lifecycle costs.

E.4 Desired Levels of Service

One of the key goals of asset management is to understand the balance between the cost, performance and risks. Well-defined levels of service can be used to:

- Inform customers of the current level of service provided and any proposed changes to level of service and associated costs;
- Measure performance against these defined levels of service;
- Identify the costs and benefits of services; and
- Enable customers to consider the level of service provided within the context of affordability.

The asset management plan presented is premised on the provision of the existing level of service in accordance with the requirements of Ontario Regulation 588/17 as amended. The vision is for the Township to establish key level of service requirements and better understand the relationship between the levels of service and costs to provide the service. This will be accomplished through the completion of proposed levels of service study to be completed in 2024. Tools and techniques will be developed to predictively model levels of service over time.

NOTE: Appendix III and IV includes a detailed Levels of Service Study and Financial Strategy Report completed in 2025.

E.5 Lifecycle Management Strategy

Many Township departments and community stakeholders are involved in various aspects of each asset's lifecycle. Often those responsible for delivering the service will identify the need for new assets. After a need has been identified, the asset will be acquired or constructed. The asset then is operated and maintained on an ongoing basis, until heavier renewal would be required. As the asset nears the end of its life, a plan should be established to replace, decommission or upgrade the asset to meet the future needs. These activities collectively represent the asset's lifecycle. In asset management, the focus is on using a full lifecycle approach when planning. An asset lifecycle management strategy is the set of planned actions throughout the asset's full lifecycle that will enable the assets to provide desired levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost. For the purposes of this plan, lifecycle activities are categorized as follows:

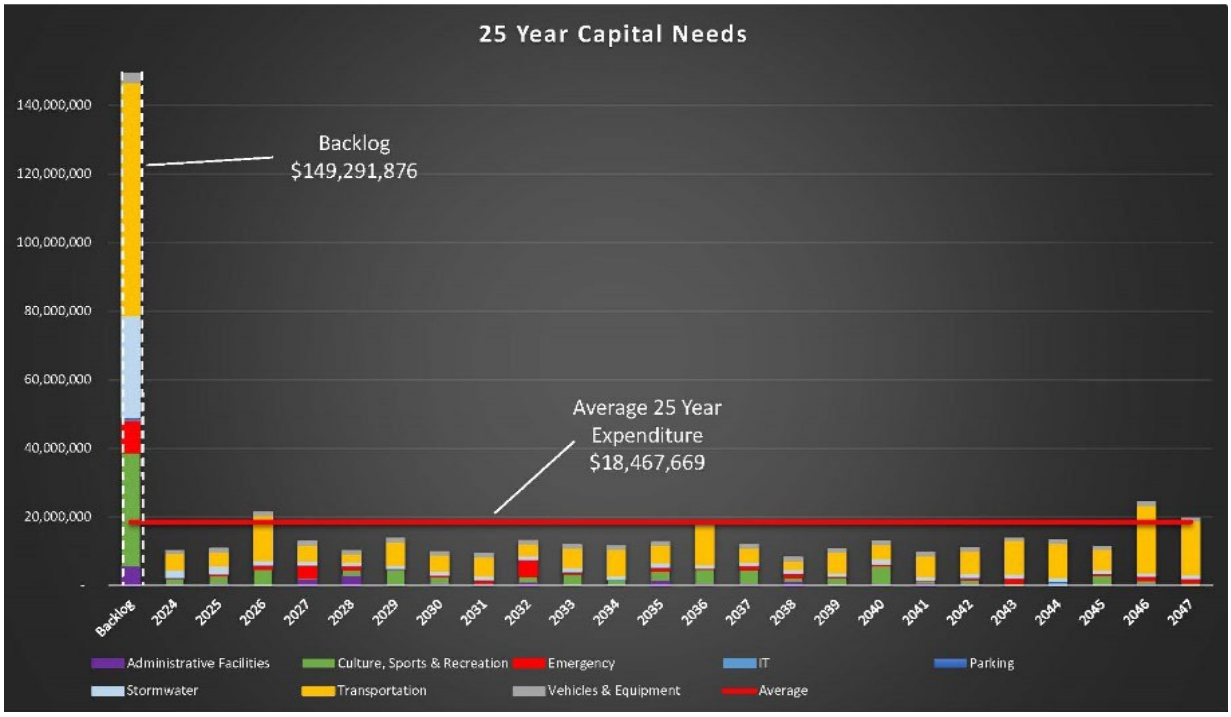
- **Non-infrastructure solutions**: Actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures).
- **Maintenance activities**: Including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- **Renewal/rehabilitation activities**: Significant repairs designed to extend the life of the asset.
- **Replacement activities**: Activities that are expected to occur once an asset has reached the end of its useful life and renewal/ rehabilitation is no longer an option.
- **Disposal activities** – the activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed by the municipality.
- **Expansion activities** – planned activities required to extend services to previously un-serviced areas – or to expand services to meet growth demands.

E.6 Financing Strategy

Long-term asset investment forecasts provide insight into prospective investment requirements which may fall outside of the 10-year planning horizon typically used in capital budgeting. Large quantities of asset construction during a short time span, as seen in the post war years in Canada, will require equally as heavy investment once those assets reach the end of their service lives. If those investment requirements are not addressed appropriately, levels of service could potentially decline and operations and maintenance costs could dramatically increase. The 25 year forecast presented only covers a portion of the lifecycle of the assets. Future versions of the plan should expand the time horizon of the forecast in order to cover the complete life cycles of the assets and allow for the identification of trends in funding needs. A minimum of 80 years and preferably 100 years is recommended.

Funding and investment requirements were developed for each asset system to establish an average annual lifecycle cost. **Figure 1** provides the overall lifecycle investment requirements over the 25 year time horizon.

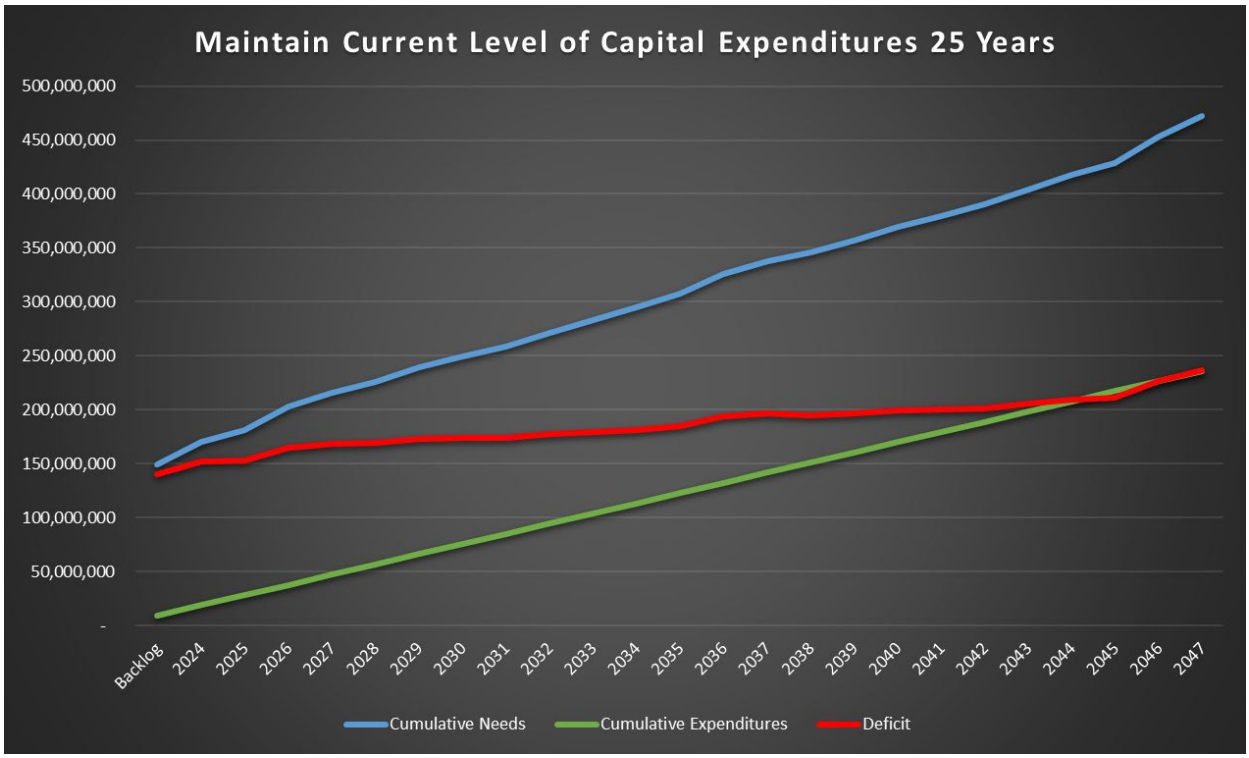
Figure 1. 25 Year Lifecycle Investment Requirements



As can be seen from the figure, the current backlog of needs is approximately $149.4 M and average annual capital cost of $18.5 M is forecasted to be required over the 25-year period in order to keep pace with the rate of deterioration.

Figure 2 provides the cumulative 25 year forecast expenditures for core asset systems ($460.2 M) and the corresponding cumulative revenues ($236.0 M) based on current levels of expenditure. Under this scenario the backlog of needs the backlog of needs can be expected to grow to $224.2 M in current year dollars.

Figure 2. 25 Year Cumulative Capital Investments vs. Revenues



It should be noted that the analysis considers only capital funding, and does not consider the current reserve position. Therefore, the percentage annual increase does not specifically correlate to a direct increase to rates or the tax levy, and could potentially be funded from a variety of sources, including but not limited to existing reserves or grants and subsidies.

E.7 Improvement Monitoring

One of the goals of this asset management plan was to establish a baseline of the current asset management practices, to inform a work plan for continuous improvement of the Corporate Asset Management Program. Any assumptions made and opportunities identified have been documented to serve as the basis for continuous improvement. This plan presented a proposed continuous improvement program in terms of two components:

(1) actions related to improving future asset management plans; and
(2) actions to advance the Township's overall asset management capabilities.

Figure 3 provides the current and target maturity of our Corporate Asset Management Program in each key aspect of the asset management system. The work plan developed from this baseline aims to progress towards the targets over the next four years.

Figure 3. Current and Target Asset Management Maturity based on the IIMM and ISO55000

The proposed work plan builds on the Township's existing strengths and is aimed at developing a leading Corporate Asset Management Program that will achieve organizational objectives while balancing costs, opportunities and risks against the desired levels of service.

Asset management provides a mechanism for reliable, repeatable and transparent decision making. However, asset management is more than just a one-off project and to realize the full benefits, the principles should be systematically developed, embedded and integrated across all departments, and be continuously improved. This should be the Township's aim.

TOWNSHIP OF
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SECTION 1: INTRODUCTION

1 Introduction

1.1 The Community

The Township of Muskoka Lakes is a vibrant municipality situated in the heart of Muskoka, approximately 220 km north of Toronto, Ontario Canada. It is the largest of the six municipalities that make up the District Municipality of Muskoka, having a land area of 781.55 sq. km. The Township has a permanent population of 7,200 residents, expanding to approximately 34,000 in the summer months with the annual influx of seasonal residents. The Township of Muskoka Lakes includes the three largest lakes that are at the core of what makes up Muskoka: Lake Muskoka, Lake Rosseau and Lake Joseph. With miles of boating, natural wonders and a superb quality of life, Muskoka Lakes attracts visitors from around the world.

1.2 Asset Management Plan Context

The operation and maintenance of local roads, parks, buildings, like community centres and arenas, has been a core responsibility of municipalities for decades. The Federal and Provincial governments have increasingly become involved in the municipal infrastructure debate and more formal requirements for asset management planning at the municipal level have been evolving since the early 2000's.

1.2.1 Legislative and Regulatory Background

In 2002, Ontario's current Minimum Maintenance Standards were introduced, which provide municipalities with security against liability from actions arising with regard to levels of care on roads and bridges. In 2007, the Federation of Canadian Municipalities (FCM) estimated that deferred investment in municipal infrastructure assets was $123 billion and growing across Canada. In 2008, underinvestment in municipal infrastructure prompted the Public Sector Accounting Board (PSAB) to update the Canadian accounting standard for municipalities to formally track capital assets in their annual audited financial statements. In 2011, the Ontario government released "Building Together: Guide for Municipal Asset Management Plans", a framework for creating formal plans for all assets, not just water assets. This was followed up in 2012, as a component of the Municipal Infrastructure Investment Initiative, with a requirement that any municipality seeking grant funding was required to have an asset management plan in place. At that time, the Ministry of Infrastructure Ontario released the Building Together: Guide for Municipal Asset Management Plans (the Building Together Guide), which outlines the key components and requirements of asset management plans.

More recently in 2017 the province promulgated Ontario Regulation 588/17, Asset Management Planning for Municipal Infrastructure. Under the regulation municipalities are required to adopt a staged development

of an asset management plan to address all of their infrastructure. The first requirement of the regulation required that all municipalities adopt a strategic asset management policy by July 1, 2019. Secondly, the regulation required the Township to prepare an asset management plan for its core infrastructure by July 1, 2021. Due to the COVID pandemic this was extended to July 1, 2022. For the purposes of the Township, core assets are the roads bridges and stormwater management infrastructure under its control. The plan is required to be expanded to include all infrastructure under its control by July 1, 2024. Finally the Township must amend its asset management plan by July 1, 2025 to include the levels of service to be delivered by the Township for each asset category covered by the plan and to include a financial plan to demonstrate how the levels of service are to be funded.

1.2.2 Township of Muskoka Lakes Responses

In 2014, the Township of Muskoka Lakes signed a Federal Gas Tax funding agreement with the Federal Government, which ensures approximately $200,000 of funding each year towards infrastructure related work. One of the conditions of future funding from the Federal Gas Tax, now referred to as the “Canada Community-Building” Fund, is that the Township should have an asset management plan in place by December 31, 2016, which meets the requirements of the provincial guidance document, Building Together Guide. The Province also announced that future infrastructure funding opportunities will be conditional on municipalities ensuring that their asset management plans meet the requirements outlined in the Building Together Guide.

To meet that requirement, the Township created “A Core Service Infrastructure Asset Management Plan” in 2014. This plan covered the core assets under the jurisdiction and control of the Township as defined by the Province of Ontario at that time (roads and bridges). While the plan was basic in nature and narrow in terms of time frame, it addressed the essential issues sufficiently to meet the requirements of the day and make the Township eligible for funding under the various programs.

Given the broad nature of the Building Together Guide, the Province found that there was no consistency in the asset management plans developed by municipalities. The plans developed ranged from very elaborate and comprehensive to very cursory. In the response, the Province, through its enaction of the very prescriptive Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure established standards for asset management plans. The regulation requires that municipalities adopt an asset management policy by 2019 and to work towards putting in place a comprehensive plan manage and sustain all assets by 2025 with interim milestones allowing for progressive formulation and adoption of plan by the Township. A complete description of the requirements of the regulation are provided in Appendix I.

The Township adopted its asset management policy (C-FS-13) in May, 2019. The next goal was to develop a plan that addresses core assets by the July, 2022 deadline. This was accomplished in accordance with the provincial directive. Following Policy C-FS-13, this plan builds on the initial work completed by the Township in 2014 and includes:

- an increased level of detail on the extent and state of the core assets according to the updated definition set by the Province;
- the full lifecycle of the assets for the term of the plan:
- more in depth analysis of asset condition now and over the term of the plan;
- consideration of levels of service currently provided;
- A high level strategy of how the current levels of service will be financed.

The intent of the plan is to provide Council with the best available information so that it can start to make more informed choices/decisions.

1.3 Goals of the Municipality and Dependence on Assets

An integral component of ensuring reliable service is creating an effective approach to managing existing and future municipal assets. Effective asset management aims to realize value from assets in a way that balances levels of service, risk, and cost effectiveness throughout the entire asset lifecycle. Ultimately, adopting effective and comprehensive asset management strategies across the organization will support long term sustainability and efficiency while maintaining acceptable levels of service.

1.3.1 Asset Management Policy

An early objective was the adoption of the Asset Management Policy. Township of Muskoka Lakes Policy C-FS-13 reflects advances in best practices for asset management. The Policy is included in Appendix II and details the principles and general framework for a consistent and coordinated approach to asset management in order to achieve the organization's asset management objectives. The Township will meet these objectives by:

- Balancing life cycle costs and acceptable risks with desired levels of service;
- Linking asset investment decisions to service outcomes;
- Ensuring accountability, transparency and engagement; and
- Demonstrating sustainable, full lifecycle planning.

The key sections of the Policy are as follows:

1. **Policy Statement:** A brief description of what the Policy includes.
2. **Scope of the Asset Management System:** A definition of the components, scope, and documents within the asset management system.
3. **Terms and Definitions:** Key definitions for use within the Asset Management Policy, and a commitment that all terminology in official asset management documents shall be consistent with ISO 55000:2014(E) – International Standard for Asset Management.
4. **Roles and Responsibilities:** The roles and responsibilities of Council, the Executive Team, the Corporate Asset Management Steering Committee, Corporate Asset Management division,and the asset system working groups and service providers.
5. **Procedure:** Key goals and guiding principles of the Corporate Asset Management Program. The asset management mission statement, and the key asset management goals.

1.3.2 Strategic Direction

Late in 2020 Council completed its strategic planning initiative which set the direction for the balance of the term of Council and into the term of the next Council. Prominent among the overarching goals for the Township is the need to enhance and sustain the public services and infrastructure delivered by the Township. Key amongst the initiatives identified to the accomplish this goal included:

- Maintain a focus on organizational excellence, accountability, and responsibility, strengthen staff engagement, and support staff with training necessary to effectively deliver services to residents.
- Assess the Township's current service delivery models and identify opportunities for modernization, digitization, and enhanced customer service engagement.
- Develop and implement a series of master plans that identifies opportunities to maintain and enhance the Township's infrastructure.

These objectives place a focus on the criticality and the long-term benefits that will accrue to the community by making the best use of the Township's assets. To achieve these goals, the Township's efforts have to focus on three core outcomes:

- Service excellence: delivering quality service and showing results.
- Financial stability: managing our resources to achieve maximum public value.
- Innovation: modernizing how the Township works.

The Township must focus our attention on three initiatives that will help to accomplish our goals. These are:

- Service modernization: Delivering municipal services that make lives better. The Township will deliver easy access to the services our community needs and provide an exceptional service experience.
- Leadership and engagement: Building a great community together. Policies and practices that encourage an environment of openness and culture of collaboration to promote employee development, growth and satisfaction.
- Sustainable resources: Ensuring a solid foundation for a growing Township. A disciplined, long-term approach that ensures financial stability and maximum value from our municipal assets.

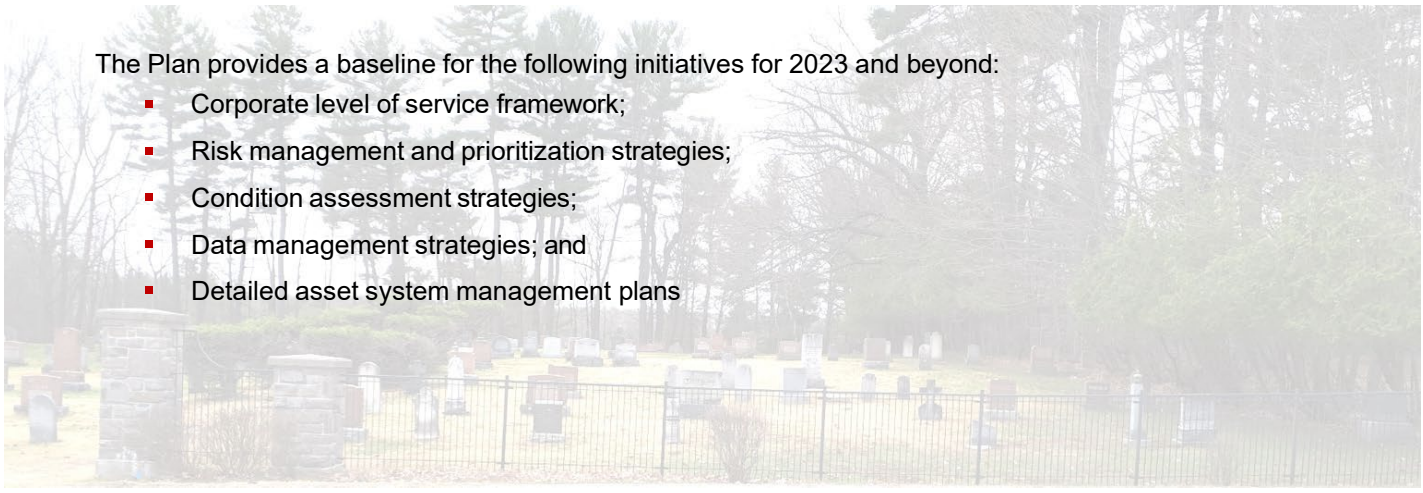
These will be achieved through the plan.

1.4 Purpose of the Asset Management Plan

This Asset Management Plan will set out how the Township's assets will be managed to achieve the desired levels of service, considering a full lifecycle approach, and ensuring long term financial sustainability. This document represents a jump forward in the Township's journey towards asset management proficiency and will be improved and updated as we move ahead and learn more, and as the field of asset management grows and develops. This Plan covers the Township's Asset Management Program at a high-level, identifying gaps and opportunities, and it outlines a work plan for continual improvement as the program matures.

The purpose of this Plan is to:

- Meet and exceed the requirements of the Ontario Ministry of Infrastructure (2012) Building Together Guide for Municipal Asset Management Plans and the requirements of Ontario Regulation 588/17.
- Establish a baseline of current asset management practices to inform a work plan for continually improving asset management.
- More accurately quantify the infrastructure deficit and investment gap.
- Demonstrate long-term asset care and sustainability.
- Create a single master asset hierarchy and inventory.
- Support the development of improved practices that clarify and justify funding requirements.
- Provide increased transparency related to the Township's asset management practices, challenges and opportunities.



The Plan provides a baseline for the following initiatives for 2023 and beyond:

- Corporate level of service framework;
- Risk management and prioritization strategies;
- Condition assessment strategies;
- Data management strategies; and
- Detailed asset system management plans

1.4.1 Catalysts for Change

While senior level of government funding eligibility requirements have increased the awareness around asset management and put a level of urgency on the development of associated plans, the benefits of asset management extend far beyond meeting regulatory requirements. Asset management focuses on making the best possible decisions regarding the building, operating, maintaining, renewing, replacing and disposing of assets. Effective asset management has been demonstrated to support strong governance and accountability, sustainable decision-making, enhanced customer service, effective risk management, and improved financial efficiency. By adopting a culture of asset management excellence, the Township is taking the necessary steps to ensure that budgets are allocated wisely, while ensuring service levels are detailed and maintained.

1.4.2 Defining Asset Management

The discipline of asset management is a combination of management, financial, economic, engineering, operational and other practices applied to assets with the objective of providing the required level of service in the most cost-effective manner. The key principles of asset management are:

- providing defined levels of service and monitoring performance;
- managing the impact of growth through demand management and asset investment;
- taking a full lifecycle approach to developing cost-effective management strategies for the long-term to meet the defined level of service;
- identifying, assessing and appropriately controlling risks; and
- having a long-term financial strategy which identifies expenditures and how they will be funded.

Fundamentally, effective asset management means making the best possible decisions regarding our assets. Asset Management seeks to answer seven key questions about a municipality's assets. Each of these seven questions is addressed in more detail below as are the key concepts of asset management that relate to the questions.

Question 1: "What assets do we own and what is their condition?"

Question 1 introduces two ideas, an asset inventory and asset condition. Before the 2008 update to the Canadian municipal accounting standard, there was no standardized way of providing an inventory of the assets owned, operated and maintained by municipalities.

The second idea is "asset condition" which is important for optimizing asset management activities so we only replace assets that have a degraded condition or are at elevated risk of failure.

A common practice for many municipalities at the start of their asset management planning process is using the age of the asset as an approximation of the condition as most assets have been designed with an expected life and performance degrades with time. Conducting inspections and assessments of each asset is a more precise method of determining condition, but can be costly and time consuming to properly collect, manage and analyze the data that is collected.

Question 2: "What are they worth?"

Question 2 starts the financial discussion and introduces the concept of how to put a value on municipal assets. Some assets have a very long estimated life, in the 80 to 100 year range. The "cost" of an asset is not clear-cut; it can be the original cost, the current cost or the projected future cost. The approach selected will have a significant effect on the outcome of financial planning. Original costs can become outdated due to inflation, and guessing what the future replacement cost can have a large margin of error. The Township has built its asset management plan based on what it costs to replace an asset today, which is becoming the common practice for reporting municipal asset values.

Question 3: "How are they performing?"

This question looks at performance measures that describe the minimum acceptable condition of assets

and the service provided. These together form levels of service, which can be regulatory requirements, Council approved targets, or defined by industry best practices.

Question 4: “What actions do we need to take?”
This question is intended to draw out what types of actions or management strategies are needed to keep assets in good working order, properly operate the assets and eventually repair or replace the assets. The answers to this question begin to define how much money is required to sustainably maintain the assets, and are influenced by the levels of service, with higher or more stringent levels of service generally requiring more maintenance and having higher operating costs.

Question 5: “When do we need to do it?”
This requires an understanding of the estimated life of assets and lowest total costs concepts. Achieving the lowest total costs often includes more investment early in the asset’s lifetime to address problems early and avoid premature failure, and rehabilitation that extends the life of the asset beyond the original estimates. These types of interventions, when planned well, result in a lower overall cost.

Question 6: “How much will it cost?”
Question 6 looks at total lifecycle costs which include the operational, maintenance and end of life capital costs. In a municipal context, the operational and maintenance costs will typically be funded through the annual Operating Budget, and the end of life costs identified and funded through the Capital Budget and Forecast. Common practice is to have a 10 year capital forecast based on the current condition of assets, prioritizing funding for specific projects. However, given the projected lifespan of long-lived assets, a more sustainable approach is to adopt a longer term capital strategy based on end of life replacement of assets that spans 20+ years. The longer term view creates a forecast for how much funding will be required annually to replace end of life assets, and provides information about when peaks in funding needs may occur.

Question 7: “How will we fund it?”
Finally question 7 addresses where the money will come from and how different financial strategies can be used to manage the total costs over the long-term. It requires an examination of forecasted expenditures, and funding and revenue sources through the Operating Budget, Capital Budget and Reserve Funds.

Together these questions provide a road map for the development of a comprehensive municipal Asset Management Plan.

1.5 Assets Included in the Plan

The plan addresses the needs of all of the assets under the control of the Township including:

- Administrative Facilities
- Culture, Recreation and Sports Facilities
- Emergency Services Infrastructure
- Information Technology
- Libraries
- Parking
- Transportation Infrastructure
- Vehicles and Equipment

Although not included in the current version of the plan, future editions should also consider additional assets including:

- Digital and non-digital records
- Ecological/Environmental assets on municipal properties

1.6 Duration and Updates to the Plan

Traditional capital forecasting at the Township has been based on five and more recently ten year projections. This duration is acceptable at a tactical level but in order to be effective, a long term asset renewal outlook is necessary to capture the full lifecycle of the assets when identifying the timing of asset replacement and rehabilitation requirements and associated costs. Many of the assets under Township management have life expectancies that span decades and therefore a 100 year timeframe is desirable to ensure that the complete lifespan of each asset is captured. This should be the objective.

The completion of such a long term requires a firm understanding of the required levels of service which will not be addressed until the latter half of 2024. As an interim step the term of the plan has been expanded to 25 years. This will provide a more strategic view of asset planning until the longer range plan becomes available.

NOTE: Appendix III includes a detailed Levels of Service Study completed in 2025.

The update of our asset management related data should be incorporated into our normal business processes so that the Township's ongoing operations can be based on the best available information. The asset management plan should be fully re-evaluation and updated at least every four to five years or following a major update of the Township's Strategic Plan.

1.7 Developing a Corporate Asset Management Plan

A structured approach was followed to develop the plan. This process will be further refined in future iterations. An outline of key tasks, the stakeholders involved, and limitations of the work plan are provided in the following sections.

1.7.1 Key Tasks

The Asset Management Plan was developed by the Public Works Department in conjunction the other departments within the Township organization and forms part of a broader asset management work plan that began in 2014. The development of this initial plan primarily included data collection, compiling data from multiple inventories and sources and developing analyses of the accumulated data. This plan builds and expands on the work of the initial plan The key tasks of the most recent initiative were:

1. **State of the Assets**
   - Background data collection
   - Develop initial condition estimates
   - Develop replacement costs
   - Create the asset management plan template, and analyze and summarize data
2. **Levels of Service**
   - Identify current levels of service by group
   - Identify current regulations by group
3. **Asset Management Strategy**
   - Document current decision making strategies and business processes
   - Document O&M, rehabilitation, and replacement strategies
   - Document capital planning process
4. **Financial Management Strategy**
   - Document sustainable funding levels
   - Document financing and funding strategies
5. **Draft Asset Management Plan**
   - Draft Development
   - Submit to SLT for review
   - Address Comments
6. **Final Asset Management Plan**
   - Incorporate revisions and development of a draft Asset Management Plan
   - Present final Plan to Committee for review and comment
   - Council adoption of the final Asset Management Plan
   - Creation of Asset Management page on the Township website

1.7.2 Who Was Involved

Table 3 summarizes the roles and responsibilities of the key stakeholders who were involved in the development of the Plan.

Table 3. Corporate Asset Management Plan Stakeholders

Stakeholder Team	Roles and Responsibilities
Director of Public Works **Director of Finance**	▪ Coordinate and manage the work plan. ▪ Collate asset and historical data. ▪ Compile and reconcile asset inventory. ▪ Develop tools and conduct analysis. ▪ Research levels of service and current asset management strategies. ▪ Develop draft and final plan. ▪ Address comments. ▪ Present and publish the final plan.
SLT	▪ Provide direction to the overall asset management work plan. ▪ Support the development of the asset management plan through ensuring staff availability where required. ▪ Review and provide comment on the draft asset management plan. ▪ Approve the final asset management plan.
Departmental Staff	▪ Supply and collate service area specific inventory data, levels of service, documents and other pertinent information. ▪ Attend update meetings. ▪ Review the draft asset management plan.
General and Finance Committee	▪ Review and endorse the final asset management plan for publication.
Township Council	▪ Approve the final asset management plan.

1.7.3 Limitations

The Asset Management Plan was developed based on the best available information making assumptions using and professional judgement to address gaps. Limitations of this Plan include assumptions made regarding:

- Installation dates, where they were unavailable.
- Allocation of total replacement costs of facilities to the various sub-components (such as structural, electrical, and mechanical) due to the differing life expectancies of eachcomponent.
- Use of age-based condition assessment in the absence of actual condition information, and estimates of costs based on professional judgment where cost information was unavailable.

In addition to the previous assumptions, some limitations were encountered as the Plan was developed. These are as follows:

- Different service areas within the Township have different approaches to asset management, limiting capabilities for comparisons and prioritization.
- There is no centralized asset management system that offers a complete inventory or summary of project information. The implementation of the City Works System has started the process and basic information is available. This will improve with time. In the interim the Township relies on a variety of manual and digital means to collect most of its asset information. There is limited integration between the systems at this time.

- There have been significant gaps in inventory and condition information. Many of these gaps have been closed but further effort will be required to consolidate information from multiple sources.
- The Township does not have a level of service register and has no system to track levels of service for most service areas. There is a need for the Township to complete a level of service framework to guide future asset management planning; this will be discussed further on in this plan.
- The Township does have an informal enterprise risk management framework. This needs to be expanded upon and formally adopted by Council.
- The Township does not address condition information in a consistent way. Condition can be technically assessed and reported on in a quantifiable way. A technically based approach is the most accurate but the most expensive (e.g. Pavement Condition Index). Condition can also be based on age and estimated service life. Finally, condition may be based on the expert opinion of staff using the asset. By contrast, many asset types do not have objective condition assessment information. Given the type and level of data available for condition, risk and level of service indicators there is limited ability to accurately determine trends at a detailed level.
- Currently, projects are compared and prioritized based on cost and perception of need. This results in decisions being made without the benefit of the considerations available through an optimized decision-making process that allows triple bottom line considerations, risk and level of service to enter the discussions.

The development and implementation of a corporation-wide asset management plan will support the opportunity to generate data that will improve confidence in the condition rating of assets, and the through the work plan, the Township will develop the ability to optimize decision making using level of service and risk factors. Where any of the above assumptions have been utilized, a corresponding action item has been developed to close any gaps in the future. All of these limitations will be resolved over time as the Asset Management Program evolves.

1.8 Evaluation and Improvement

This document is the next step in the Township's transition to a comprehensive approach to asset management and provides a high-level overview of the asset management program at a corporate level. The document is simply the tip of the iceberg and will be developed and improved as the Township completes the prioritized list of work plan items identified in Section 6. In addition, this plan and associated documents will be routinely reviewed to update to the most accurate data as background processes and information are continually improved.

The Township's approach to corporate asset management needs to be founded on the principles of continuous improvement, transparency, and accountability. This plan is just one part of the overall quality management system for asset management that needs to be established based on best practices. Staff will complete regular audits of asset management practices with comparison against industry best practices.

SECTION 2: STATE OF THE ASSETS

2 State of the Assets

The state of the assets report card provides a quantitative assessment of the asset portfolio in terms of overall value and estimated remaining life.

The primary objective of the report card is to provide high-level insights into the overall age and condition of the asset portfolio based on typical asset lifecycles. Where actual condition assessment data exists, it has been incorporated to provide the most accurate insights possible based on available data. When reviewing the results that are presented, it is important to bear in mind the confidence in the data. In some cases, where condition, age or cost data does not exist, professional judgment has been used to provide the fullest picture possible. To assist the reader, as well as the Township in future data improvement efforts, an average data confidence rating has been provided alongside each of the results. As an outcome of this plan, the Township will develop a strategy to improve the data and address gaps. Readers will see adjusted results and confidence ratings in future updates as the background data improves.

Although based on several assumptions such as asset ages and deterioration, asset report cards are a valuable tool in establishing an understanding of the current state of assets, trends, potential levels of service and upcoming issues or opportunities. This methodology is widely used in the industry, and in particular is used by the Canadian Infrastructure Report Card.[1] While the Township currently has significant data regarding the structural condition of a large majority of its asset classes, a number of data gaps exist around physical performance.

This asset report card:

- Translates the consolidated, estimated age or condition of the assets within each of the asset systems into a five-level rating system ranging from Very Poor to Very Good.
- Aggregates the ratings for each of the asset systems into the overall portfolio rating using a weighted average.
- Uses a methodology that is repeatable and consistent with the Canadian Infrastructure Report Card to enable comparative analysis and benchmarking over time.
- Provides transparency in terms of the confidence of the input data, to provide context to the reader.
- Improves over time as the overall confidence of the background data improves.

[1] *The Canadian Infrastructure Report Card Website [Online http://canadianinfrastructure.ca/en/index.html].*

2.1 Asset Types

An inventory for the Township's assets was developed using the Township's detailed asset data for each of the asset systems. Each program area was divided into the asset systems as shown in **Table 4**. Though not shown in the table, the asset classes were further broken down to the individual asset level for the analysis (for example, a section of road on a particular street or individual vehicles).

Table 4. Asset Inventory Classification

Asset System	Asset Category	Asset	Count	Size/ Area	Unit
Administrative Facilities	Civic	Admin Building	1	17,528	Sq ft
	Medical	Health Hub	1	3200	Sq ft
	Works Yards	Garages, Sand, Salt Sheds	4	30,054	Sq ft
Culture, Sports, and Recreation	Cultural Facilities	Cemeteries	12	8814	Plots
		Community Centres	14	68,550	Sq ft
		Docks and Wharves	42	-	Ea
		Library	1	7500	Sq ft
		Parks	17	TBD	Ha
		Public Washrooms	9	5703	Sq ft
		Pavilions	4	6172	Sq Ft
		Trails	6	10.5	Km
	Sports	Arenas	2	51,437	Sq ft
		Golf Course	1	9	Holes
		Sport Parks	2	17	Acres
		Tennis Courts	2	520	Sq m
Emergency	Fire	Fire Halls	11	28,286	Sq ft
		Fire Equipment	17	-	Ea
		Fire Vehicles	10	-	Ea
Information Technology	Hardware	Computers, Peripherals	930	-	Ea
	Network	Connectivity / WiFi	28	-	Ea
	Records	Digital	TBD*	-	Ea
	Software	Operational	13	-	Ea
Parking	Surface Parking	Parking Lots	177	-	stalls
		Street Parking	139	-	stalls
Storm Water Management	Drainage Systems	Rural	-	649.59	km
		Urban	-	2422	m
		Dam	1	59	m
Transportation	Bridges and Culverts	Bridge	13	1582	Sq m
		Culverts (>3.0m)	8	1013	Sq m
	Roads^	Hard Top	324	222.74	Km
		Loose Top	156	133.32	Km
	Railway Crossings	Protected	3	-	Ea
		Unprotected	2	-	Ea
	Sidewalks	Concrete	-	2002	m
		Pavers	-	1201	m
	Signs	Informational	416	72.8	Sq m
		Regulatory	850	269.4	Sq m
		Warning	522	152.5	Sq m
		LED	443	-	Ea

	Streetlighting	INC	3	-	Ea
		Poles	129	-	Ea
Vehicles and Equipment	Equipment	Attachments	33	-	Ea
		Fuel System	3	D-31,400/ G-9,000	Ea
		Heavy Equipment	9	-	Ea
		Light Equipment	39	-	Ea
		Medium Equipment	10	-	Ea
		Tools & Small Equipment	66	-	Ea
	Vehicles	Heavy Duty Vehicle	12	-	Ea
		Light Duty vehicle	18	-	Ea
		Medium Duty Vehicle	8	-	Ea

* *To be determined: The data is currently unavailable; placeholders have been included to be potentially populated in future iterations of the Corporate Asset Management Plan.*

^ *Roads includes seasonally maintained roads but excludes non-maintained roads on public ROW's*

The Township was amalgamated in January 1971 and is made up of several former townships including the Township of Cardwell, the Township of Watt, the United Townships of Medora and Wood, a portion of the former Township of Monck, the Town of Bala, the Village of Port Carling and the Village of Windermere. Given this background it is not surprising to note that the amount of infrastructure under Township jurisdiction is significantly more than would be expected given the scope and size of the Township's responsibilities.

2.2 Financial Accounting Valuation and Replacement Cost Valuation

In the asset management industry, there are two generally accepted methods of reporting the value of asset portfolios, the accounting valuation method, and the replacement cost valuation method. Some key differences between the two methods are:

- **The Accounting Valuation:** Includes the full historical cost to acquire and commission the asset, which is depreciated over the expected life of the asset. The 'Net Book Value' follows financial accounting principles defined by the Public Sector Accounting Board (PSAB);
- **Replacement Cost Valuation:** Based on current industry pricing and inflation to the year of replacement and/or rehabilitation.

The two approaches and their implications for the Township are discussed below.

2.2.1 Accounting Valuation

The accounting valuation is based on the PSAB 3150 reporting requirements at December 31, 2020 and is taken from the Township's FIR submission to the Ministry of Municipal Affairs and Housing. The accounting valuation assumes straight line depreciation of the value of the assets over their useful life.

The valuation of assets by asset type is shown in **Table 5,** and indicates the following:

- The accumulated amortization is approximately $75,807,149 which means that the total asset base is approximately 55 per cent through its life expectancy; and
- The Net Book Value of the asset portfolio is approximately $60,873,786.

Table 5. Muskoka Lakes 2022 FIR Values

Asset Group	2022 Opening Cost Balance	2022 Accumulated Amortization	2022 Closing Net Book Value	Life Remaining (%)
Administration				
Administrative Facilities	11,723,494	1,814,680	9,908,814	84%
Health Hub	1,877,980	306,152	1,571,828	84%
Subtotal	13,601,474	2,120,832	11,480,642	84%
Recreation and Cultural Services				
Cemeteries	536,357	386,555	149,802	28%
Libraries & Cultural Services	3,157,075	1,795,494	1,361,581	43%
Parks	12,103,075	7,479,033	4,624,042	38%
Recreational Facilities	10,655,683	6,975,857	3,679,826	35%
Subtotal	26,452,190	16,636,939	9,815,251	39%
Emergency Services				
Fire	15,875,808	7,812,940	8,062,868	51%
Building Permit & Inspection Services	447,075	278,815	168,260	38%
Subtotal	16,322,883	8,091,755	8,231,128	50%
Transportation Services				
Roads	65,629,573	42,770,995	22,858,578	35%
Bridges and Culverts	10,703,116	3,846,159	6,856,957	62%
Roads- Traffic Operations	3,971,699	2,340,469	1,631,230	41%
Subtotal	80,304,388	48,957,623	31,346,765	38%
Total Tangible Capital Assets	136,680,935	75,807,149	60,873,786	45%

Financial accounting valuation is completed on an annual basis at the Township of Muskoka Lakes to meet financial reporting requirements of the Ministry of Municipal Affairs and Housing. It is not however, used for asset management purposes. In the PSAB reporting, a straight line depreciation method is used to estimate the amortization. Based on this approach, many assets that are beyond their service lives have been fully depreciated. From an asset management perspective however, although many have “no value” they continue to provide adequate levels of service. Therefore, while the net book value is a valuable approach for financial reporting, it is not necessarily indicative of the condition and performance of the asset. In addition, the value is based upon the historical cost, and not the current cost to replace the asset. Using the historical cost understates the costs when planning future replacements. For this reason it is preferable to evaluate the portfolio using replacement cost valuation. The replacement values provide a more accurate estimate of the future cost required to replace the asset at the end of their life.

2.2.2 Replacement Cost Valuation

The replacement cost valuation is developed using a combination of current industry practices for the assets and indexing historical costs to current year to reflect the value in 2022 dollars. Several methods were used to estimate the replacement costs of the assets, including:

- **Tender pricing and recent unit costs:** Based upon recent closed tender pricing, which provides an accurate perspective of the anticipated cost to replace a similar asset.
- **Condition assessment replacement costs:** Based upon third-party cost estimates.
- **Property insurance values:** In the absence of tender pricing and recent unit costs, recent insurance replacement cost valuations were used.
- **Market unit cost indices:** If none of the above were available, industry cost indices were used

such as Altus Group Canadian Costing Guide (2023) and Hanscomb (2023) Yardsticks for Costing: Cost Data for the Canadian Construction Industry.

- **Inflated historic costs:** When none of the above was available, the historic cost was inflated to present day dollars using the Non-Residential Building Construction Price Index [2]

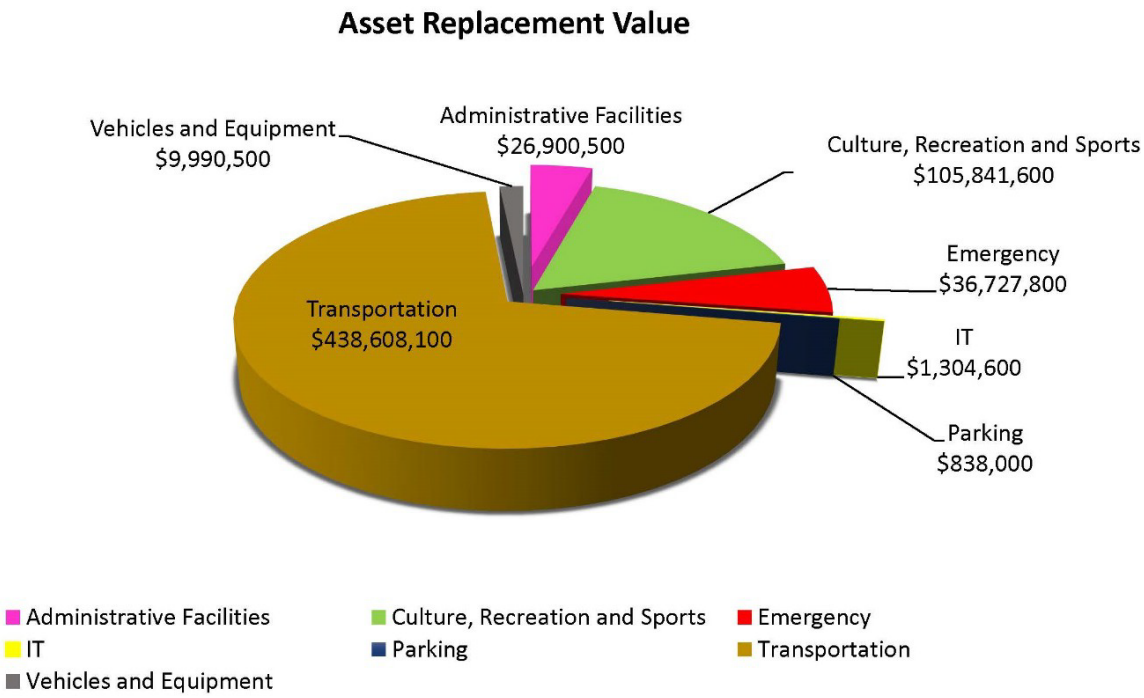
Table 6 provides the estimated replacement value of the Township's asset inventory across the asset classes. The total replacement value of the Township's entire portfolio is estimated to be approximately $620 million in 2022 dollars. This is the estimated cost that would be incurred if the Township were to replace all of its assets in their current configuration. It is important to note that while the estimates identify the cost to replace the asset in like kind it should not be considered the cost to build a new asset. Many of the townships assets do not conform to current standards and any replacement would be required to be in compliance with current codes of practice and standards. As a consequence actual construction costs may be significantly higher. It should be noted that land costs are not included in assets replacement costs for facilities but are included in assets where the main value is the land (trails, sports fields).

Table 6. Replacement Costs

Asset System	Asset Category	Asset	Replacement Cost
Administrative Facilities	Civic	Admin Building	$12,229,000
	Medical	Health Hub	$2,232,600
	Works Yards	Garages, Sand, Salt Sheds	$12,438,900
Culture, Sports, and Recreation	Cultural Facilities	Cemeteries	$88,300
		Community Centres	$45,859,000
		Library	$7,215,500
	Recreation Facilities	Docks and Wharves	$6,240,000
		Parks	$11,767,000
		Parks Buildings	$2,933,500
		Trails	$728,000
	Sports	Arenas	$29,464,800
		Sports Fields Etc	$1,545,500
Emergency	Fire	Fire Halls	$25,758,800
		Fire Equipment	$10,969,000
Information Technology	Hardware	Computers, Peripherals	$773,400
	Network	Connectivity / WiFi	$85,700
	Records	Digital	TBD
	Software	Operational	$445,500
Parking	Surface Parking	Parking Lots	$407,100
		Street Parking	$430,900
Storm Water Management	Drainage Systems	Rural	$41,703,000
		Urban	$4,058,500
		Dam	$7,325,000
Transportation	Bridges and Culverts	Bridge	$19,775,000
		Culverts (>3.0m)	$5,567,500
	Roads	Hard Top	$236,612,000
		Loose Top	$119,900,700
	Railway Crossings	Protected	$600,000
		Unprotected	$100,000
	Sidewalks	Concrete	$400,400
		Pavers	$48,300
	Signs	Informational	$124,800
		Regulatory	$255,000
		Warning	$156,600
		LED	$548,300

	Streetlighting	INC	$8,000
		Poles	$1,425,000
Vehicles and Equipment	Public Works Fleet	Vehicles and Equipment	$9,990,500
		Total	**$620,211,100**

Figure 4. Asset Replacement Value



2. *Statistics Canada (2016) Table 327-0043 Price indexes of non-residential building construction, by class of structure, annual [Online: http://www5.statcan.gc.ca/cansim/a47].*

Clearly the Township's transportation assets represents the largest single investment with an estimated replacement value of just over $439 M or 71% of all assets. Within this asset class roads represents $356 M or 81% of the value of the assets in that category. Next in the order of significance at 17% is the Township's culture parks and recreation asset class with an estimated value of $106 M. Within this class of assets community centres are the largest component with an estimated value of $46 M or 43% of the total within the asset class. The remaining assets representing 13% of the value of assets under township control. While they are a comparatively small portion of the total, they are not insignificant in terms of their value at approximately $76 M.

2.3 Asset Age Distribution

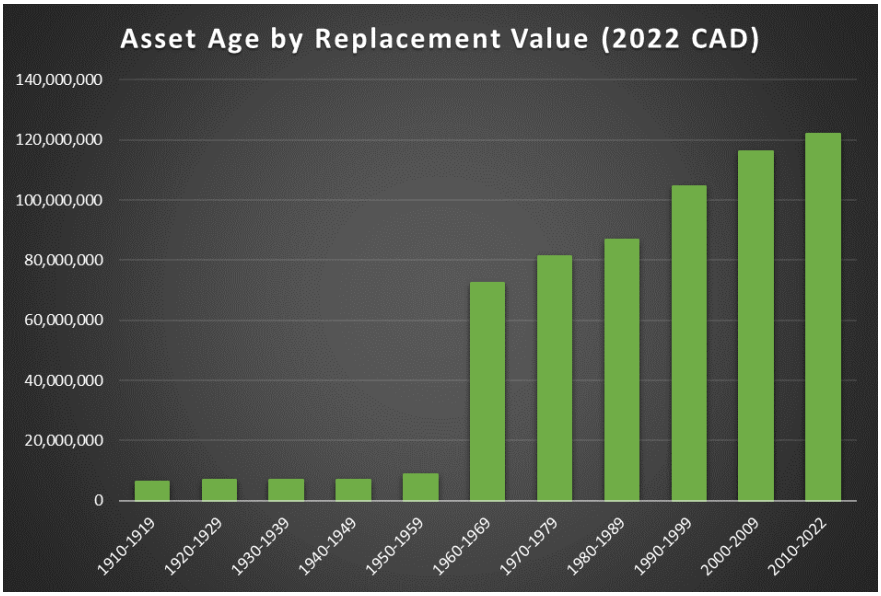
An asset's estimated service life is the period of time that it is expected to be of use and fully functional to the Township of Muskoka Lakes. For the purposes of this analysis, unless condition and performance data exists, once an asset has reached the end of its service life, it has been deemed to have deteriorated to a point that necessitates replacement. Individual estimated service lives were used in conjunction with original construction dates to determine the theoretical remaining service life of each asset.

Table 7. Useful Life of Assets

Asset	Asset Component	Useful Life
Buildings	Architectural	15-40
	Electrical	20
	Mechanical	15-20
	Structural	60-80
Fixtures and Furniture	All	5-15
Land Improvements	Cemeteries	50-100
	Docks	20-50
	Facility Grounds	20-40
	Parking Lots	20
	Parks	15-30
Library	Collections	5-15
Machinery and Small Equipment	Arena	5-20
	Fire	10-15
	IT	3-15
	Library	5-15
	Parks and Rec	5-15
Stormwater	Catch Basins / Manholes	40-80
	Ditches	10-20
	Ponds	20-30
	Storm Sewers	80-100
	Dam	80-100
Transportation	Bridges	80-100
	Culverts	20-40
	Roads Surface	10-20
	Roads Base	20-40
	Sidewalks	20-40
	Signs	5-15
	Streetlights	15-25
Vehicles and Heavy Equipment	Light Duty	5-7
	Medium Duty	5-10
	Heavy Duty	10-15

Figure 5 summarizes the theoretical year of installation by replacement value for the asset portfolio by decade.

Figure 5. Muskoka Lakes Asset Age Distribution by Replacement Value (2022 CAD)



Given that the bulk of the municipalities assets have a relatively short service life ranging from 10 to 40 years, it is to be expected that the bulk of the Township's assets would have a theoretical age falling within the last 30 years.

2.4 Remaining Service

Using the estimated service life, and knowing the age of the asset it is possible to determine the theoretical remaining life of the asset. The remaining life is a useful indicator of the state of the assets and can be reflective of the condition of the asset. Using the rubric identified in Table 8 below the remaining life is converted into physical condition data and can be used to give a general assessment of the condition of the group of assets.

Table 8. Rating Categories Based on Service Life and Condition

Condition State	Percent of Remaining Service Life	Definition
Very Good	80% - 100%	**Fit for the Future** - The assets in the system is generally in very good condition, typically new or recently rehabilitated.
Good	65% - 79%	**Adequate for Now** - Some assets elements show general signs of deterioration that require attention. A few elements exhibit deficiencies
Fair	45% - 64%	**Requires Attention** – The assets in the system shows general signs of deterioration and require attention with some elements exhibiting significant deficiencies. Rehabilitation is required
Poor	30% - 45%	**At Risk** - The assets in the system is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration. Run to failure and reconstruction is the only viable option.
Very Poor	<30%	**Unfit for Sustained Service** - The assets in the system are below standard condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which may be affecting service or increasing risks.

In terms of process the remaining life is calculated for each asset within an asset category and these are converted to one of five condition ratings ranging from very good to very poor. Using the respective replacement costs, a weighted average remaining life score was computed for each asset category. Individual asset scores were then aggregated up to the asset system, and then a weighted overall portfolio rating was obtained. The approach and rating scale is consistent with the Canadian Infrastructure Report Card (2019)[3] to facilitate benchmarking between the Township of Muskoka Lakes and other Canadian municipalities.

Understanding the percentage remaining life for each of the asset systems helps to provide insights into the age and condition distribution, as wells as potential areas that may need further investigation due to increasing probability of failure and subsequent deteriorating levels of service. It is important to note that some low-risk assets may also be feasible to run-to-failure, and though they may have exceeded their estimated service lives, they may be fully functional and meet level of service requirements for many years. Through effective asset management planning, one can diagnose and evaluate the impacts of such a scenario.

Table 9 provides an overview of the condition rating of Township-owned assets, categorized into each asset system based on remaining service life. The replacement value, estimated average remaining service life, and summary of the poor and very poor categories are also shown. Overall, the Township's asset portfolio has approximately 55 per cent remaining service life. Of the portfolio, approximately 11 per cent or $70,016,100 in assets are within the poor and very poor rating categories. When interpreting the ratings, it is important to note that there is a significant variation in the service lives of assets, ranging from under 10 years to over 100 years.

Table 9. Asset System Ratings Based on Service Life and Condition

Asset System	Asset Category	Asset	Replacement Cost	Remaining Value	% Life Remain	Condition State	% of Assets Poor or Very Poor	Poor and Very Poor Replace Value
Administrative Facilities	Civic	Admin Building	$12,229,000	$4,178,209	34.2%	Poor	11.7%	$1,432,037
	Medical	Health Hub	$2,232,600	$1,519,351	68.1%	Good	0.0%	-
	Works Yards	Garages, Sand, Salt Sheds	$12,438,900	$5,033,979	40.5%	Poor	7.7%	$955,846
Culture, Sports, and Recreation	Cultural Facilities	Cemeteries	$88,300	$36,448	41.3%	Poor	0.0%	-
		Community Centres	$45,859,000	$15,504,843	33.8%	Poor	4.6%	$2,156,274
		Docks and Wharves	$6,240,000	$1,993,512	31.9%	Poor	22.0%	$1,370,393
		Library	$7,215,500	$1,927,185	26.7%	V Poor	0.0%	-
	Recreation Facilities	Parks	$11,767,000	$9,245,400	78.6%	Good	0.2%	$22,190
		Parks Buildings	$2,933,500	$1,037,000	35.4%	Poor	4.6%	$93,628
		Trails	$728,000	$175,000	49.7%	Fair	0.0%	-
	Sports Facilities	Arenas	$29,464,800	$1,592,300	5.4%	V Poor	5.8%	$1,720,793
		Sport Fields Etc	$1,545,500	$435,400	28.2%	V Poor	3.2%	$50,110
	Fire	Fire Halls	$25,758,800	$8,639,200	33.5%	Poor	4.4%	$1,134,584

Emergency Services		Fire Vehicles & Equipment	$10,969,000	$5,013,700	45.7%	Fair	0.0%	-
Information Technology	Hardware Network	Computers, Peripherals	$773,400	$310,600	40.2%	Poor	37.4%	$289,582
		Connectivity / WiFi	$ 85,700	$2,200	2.6%	V Poor	99.1%	$84,953
	Software	Operational	$445,500	$246,900	55.4%	Fair	22.4%	$120,000
Parking	Surface Parking	Parking Lots	$407,100	$155,000	38.1%	Poor	4.5%	$18,400
		Street Parking	$430,900	$3,100	0.7%	V Poor	92.8%	$399,900
Storm Water Management	Drainage Systems	Rural	$41,703,000	$11,935,000	28.6%	V Poor	0%	$0
		Urban	$4,058,500	$2,211,100	54.5%	Fair	0%	$0
		Dam	$7,325,000	$0	0.0%	V Poor	100%	$7,325,000
Transportation	Bridges and Culverts	Bridge	$19,775,000	$9,424,219	47.7%	Fair	17.8%	$3,512,500
		Culverts (>3.0m)	$5,567,500	$2,530,000	45.4%	Fair	27.1%	$1,510,000
	Roads	Hard Top	$236,612,000	$166,711,024	70.5%	Good	40.3%	$30,500,900
		Loose Top	$119,900,700	$80,873,100	67.5%	Good	53.2%	$14,984,100
	Railway Crossings	Protected	$600,000	$290,000	48.3%	Fair	0.0%	-
		Unprotected	$100,000	$25,000	25.0%	V Poor	0.0%	-
	Sidewalks	Concrete	$400,400	$142,500	35.6%	Poor	0.6%	$2,429
		Pavers	$48,300	$12,800	26.5%	V Poor	0.0%	-
	Signs	Informational	$124,800	$58,500	46.9%	Fair	3.2%	$1,200
		Regulatory	$255,000	$74,700	29.3%	V Poor	6.0%	$15,300
		Warning	$156,600	$28,500	18.2%	V Poor	53.6%	$84,000
	Street Lighting	LED	$548,300	$418,100	76.3%	Good	0.0%	-
		INC	$8,000	$2,400	30.0%	Poor	0.0%	-
		Poles	$1,425,000	$747,500	52.5%	Fair	0.0%	-
Vehicles and Equipment		Vehicles and Equipment	$ 9,990,500	$3,626,800	36.3%	Poor	24.3%	$2,432,000
		Total	**$620,211,100**	**$336,160,570**	**54.2%**	**Fair**	**11.3%**	**$70,129,226**

Figure 6 summarizes the replacement value of assets within each of the condition rating categories. Presently, approximately 11 percent of Muskoka Lakes' overall asset portfolio is in poor and very poor condition.

Asset Rating Category Summary by Replacement Value

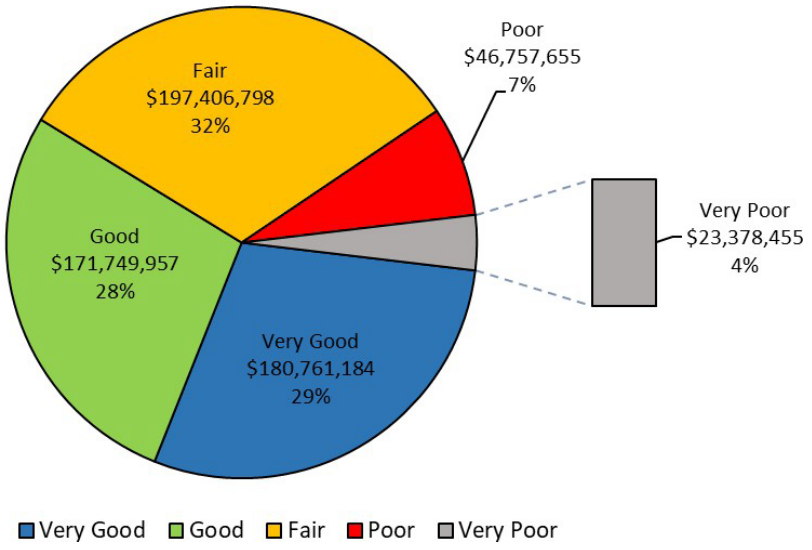
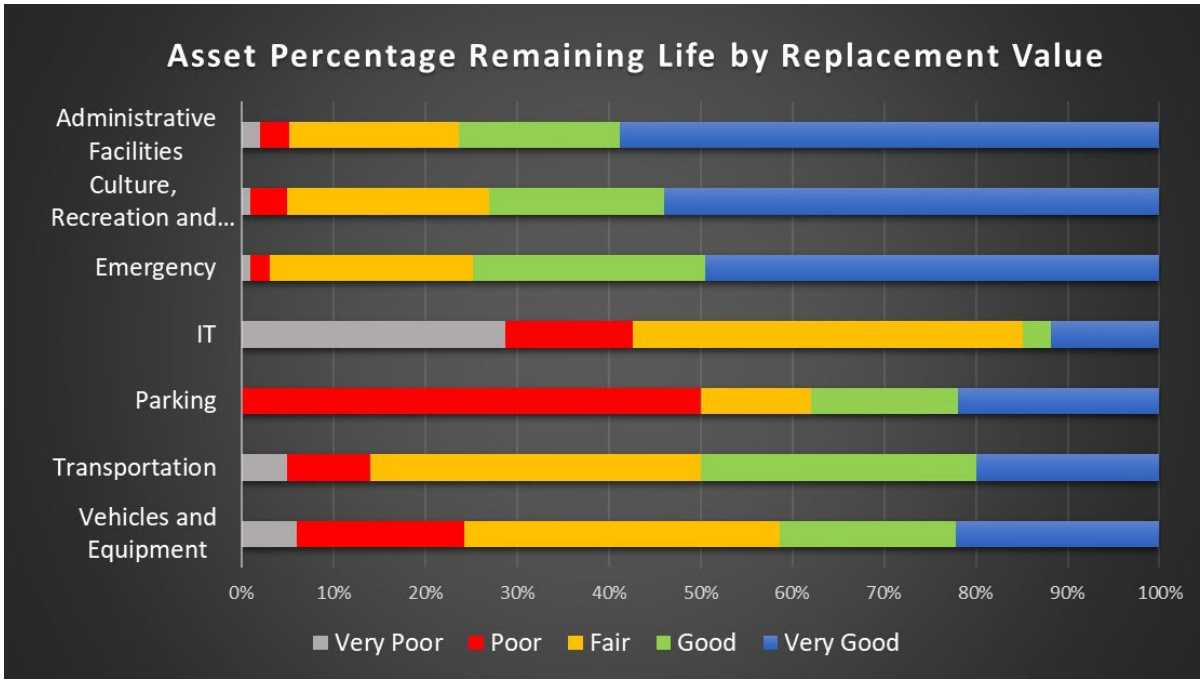


Figure 7 shows the breakdown of assets by rating category for each of the asset systems.

Figure 7. Asset Percentage Remaining Life by Replacement Value



As can be seen from **Table 9,** the weighted average remaining service life for the Township's asset portfolio falls is estimated to be approximately 54% of their design life. This translates to an overall condition rating of fair. However, as has been noted, this number is approximate, it is predominantly based upon age and lifecycle assumptions and does not necessarily mean that the assets are insufficiently supporting the service. In order to improve the confidence in this number, and better understand asset risks, the Township must continue to complete condition and performance assessments on a regular predictable basis in order to inventory and properly assess the condition of the assets and the time for replacement. For example, the majority of buildings had building condition audits last completed in 2021 and 2022. These reports should be updated at least every five years in order that their true condition is accurately reflected in future reports.

The value of the assets with an estimated remaining service life below 45% amounts to approximately $66.4 M. This equates to the value of assets in poor or worse condition and in need of replacement. This should be considered the backlog of immediate needs for replacement within the asset portfolio.

2.5 Current Asset Condition Assessment Practices

The Township conducts various types of inspections, which can be broadly categorized as follows:

- **Operations and Maintenance (O&M) Inspections:** Visual inspections typically carried out by Township staff on a regular basis according to operational needs. Scheduling is sporadic and standardized procedures need to be established to schedule inspections in accordance with regulatory requirements.
- **General Condition Assessments:** Assessments typically carried out by a third-party, generally covering the full inventory within an asset category at prescribed intervals based on regulatory requirements or industry best practice.
- **Detailed Testing and Condition Assessments:** Specific testing or assessments carried out on a

specific group of assets. Detailed condition assessments are not currently covered within this asset management plan however will be covered in the Asset System Management Plans to be developed by 2023.

NOTE: The 2025 budget approved by Council includes the completion of an updated Road Needs Study, OSIM Bridge and Culvert Study, Building Condition Assessment Reports for all Township buildings, docks and wharfs and a Traffic Count Study to assist in classifying the existing road network. These studies are not represented in the 2025 Asset Management Plan update but will be incorporated into future capital budgets.

Table 10 provides an overview of the current state of general condition assessments, as well as recommendations to move towards asset management best practice.

Table 10. Summary of Current Condition Assessment Practices

Asset System	Condition Assessment Comment	Status (2025)
Administrative Facilities	Completed in conjunction with the update of the AMP. Detailed condition assessment recommended every five years. Data partially entered into GIS/AMS	Detailed Building Condition Assessments are being completed in 2025. GIS data has been entered.
Culture, Sports and Recreation	Completed in conjunction with the update of the AMP. Detailed condition assessment recommended one to three years depending on the asset and in no case less frequently that every five years. Data partially entered into GIS/AMS. Parks and Recreation Master Plan is currently underway. P&RMP update recommended ideally every five years and no longer than every ten years	Detailed Building Condition Assessments are being completed in 2025. GIS data has been entered. Parks, Recreation & Culture Master Plan and Parks & Trails Manual has been completed. The Arena Feasibility implementation plan is proposed to be completed in 2026
Emergency	Condition assessments every two to five years (fleet and most equipment) Partially entered into GIS/AMS. Fire Master Plan update currently in process. Recommended updates every five years	Detailed Building Condition Assessments are being completed in 2025. GIS data has been entered. The Fire Master Plan and Fire Location Study/Implementation Plans have been completed.
Parking	Completed in conjunction with the update of the AMP. Condition assessment recommended every five years. Available data partially entered into the GIS. Features and condition data outstanding	GIS data has been entered.
Stormwater	Condition assessments have not been completed since construction. Condition assessments recommended every five years. Available data entered in GIS/AMS	GIS data has been entered.

Transportation	Bridges and structures condition assessments required every two years in accordance with the Ontario Structure Inspection Manual. Last update in 2021. Note some retaining walls and outlet structures have been inspected, however a full inventory and condition assessment program should be developed. Data in spreadsheets. Requires uploading in GIS/AMS Public road network assessed every two years. Last update in 2020. Unmaintained and private roads on public lands not included. To be included in 2022 update. Data in spreadsheets. Requires uploading in GIS/AMS. Sidewalks assessed annually for trip and fall hazards. Data partially entered into GIS/AMS. Railway crossings have recently been inspected by the railway authorities and it is recommended that a routine assessment program be established. Data partially entered into GIS/AMS. A first ever, full inventory of traffic signs completed in 2021. Data entered in GIS/AMS. Condition is estimated based on reflectometer readings. Updating of the conditions assessments recommended every five years. A full inventory of streetlights including poles completed in 2018. Data entered in GIS/AMS. A Transportation Master Plan is recommended every ten years. Scheduled for completion in 2022	The 2025 budget approved by Council includes the completion of an updated Road Needs Study, OSIM Bridge and Culvert Study, Building Condition Assessment Reports for all Township docks and wharfs and a Traffic Count Study to assist in classifying the existing road network. These studies are not represented in the 2025 Asset Management Plan update but will be incorporated into future capital budgets.
Vehicles and Equipment	Annual assessment at time of recertification. Data is not currently included in GIS/AMS.	The assessment of fleet is included in the current 10 year capital plan but not yet entered into GIS.

2.6 Condition vs Performance

The Township uses a variety of investigative techniques to determine and track the physical condition of its infrastructure. In the case of roads and bridges, each asset is condition rated in accordance with approved methodologies established by MTO. For storm water pipes, they are regularly inspected using CCTV (closed circuit television). These inspections are guided by standard principals of defect coding and condition rating that allow for a physical condition "score" for the infrastructure to be developed. This is the most accurate means to determine the condition of the assets and assess their performance. Condition assessments are carried out on a component basis and rolled up to the asset level using the weight average replacement value.

For infrastructure without a standardized approach to condition assessment such as buildings etc., information such as visual inspections, condition audits, failure records and demands for routine maintenance are used in establishing the condition of the asset components. These are being aggregated to a condition rating for the asset as a whole on a weighted average basis. Again using the rubric from Table 5 it is possible to determine the ability of the asset to provide an acceptable service to the users. Table 11 reflects the condition assessments for the Township's portfolio of assets

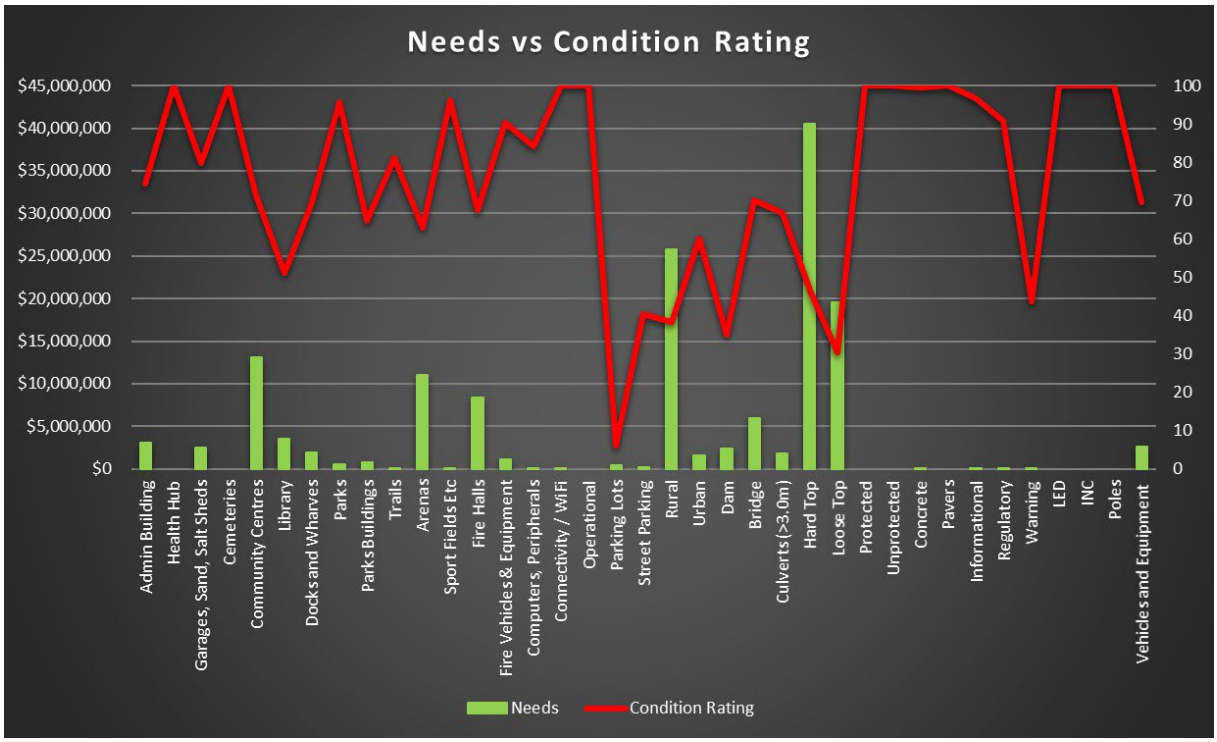
Table 11: Asset Condition Ratings Based on Needs

Asset System	Asset Category	Asset	Replacement Cost	Needs	Condition Rating	Condition State
Administrative Facilities	Civic	Admin Building	$12,229,000	$3,118,500	74.5	Good
	Medical	Health Hub	$2,232,600	-	100.0	V Good
	Works Yards	Garages, Sand, Salt Sheds	$12,438,900	$2,503,000	79.9	Good
Culture, Sports, and Recreation	Cultural Facilities	Cemeteries	$88,300	-	100.0	V Good
		Community Centres	$45,859,000	$13,139,800	71.3	Good
		Library	$6,240,000	$3,519,000	51.2	Fair
		Docks and Wharves	$7,215,500	$1,905,000	69.5	Good
	Recreation	Parks	$11,767,000	$514,700	95.6	V Good
		Parks Buildings	$2,933,500	$726,200	64.6	Fair
		Trails	$728,000	$137,000	81.2	V Good
	Sports	Arenas	$29,464,800	$10,975,200	62.8	Fair
		Sport Fields Etc	$1,545,500	$57,800	96.3	V Good
Emergency Services	Fire	Fire Halls	$25,758,800	$8,359,700	67.5	Good
		Fire Vehicles & Equipment	$10,969,000	$1,104,000	90.4	V Good
Information Technology	Hardware	Computers, Peripherals	$773,400	$122,500	84.2	V Good
	Network	Connectivity / WiFi	$85,700	$80,700	100.0	V Good
	Records	Digital	TBD			
	Software	Operational	$445,500	-	100.0	V Good
Parking	Surface Parking	Parking Lots	$407,100	$381,900	6.2	V Poor
		Street Parking	$430,900	$256,900	40.4	Poor
Storm Water Management	Drainage Systems	Rural	$41,703,000	$25,728,000	38.3	Poor
		Urban	$4,058,500	$1,623,400	60.0	Fair
		Dam	$7,325,000	$2,368,800	34.9	Poor
Transportation	Bridges and Culverts	Bridge	$19,775,000	$5,937,500	70.0	Good
		Culverts (>3.0m)	$5,567,500	$1,847,500	66.8	Good

	Roads	Hard Top	$236,612,000	$40,541,200	46.5	Fair
		Loose Top	$119,900,700	$19,559,600	30.5	Poor
	Railway Crossings	Protected	$600,000	-	100.0	V Good
		Unprotected	$100,000	-	100.0	V Good
	Sidewalks	Concrete	$400,400	$2,400	99.4	V Good
		Pavers	$48,300	-	100.0	V Good
	Signs	Informational	$124,800	$1,200	96.8	V Good
		Regulatory	$255,000	$23,700	90.7	V Good
		Warning	$156,600	$88,200	43.7	Poor
	Streetlighting	LED	$548,300	-	100.0	V Good
		INC	$8,000	-	100.0	V Good
		Poles	$1,425,000	-	100.0	V Good
Vehicles	Public Works Fleet	Vehicles and Equipment	$9,990 500	$2,626,500	69.5	Good
		Total	$620 211 100	$149,381,900	59.1	Fair

Table 10 indicates that overall the assets have a condition rating of 59.1. This would suggest that portfolio is generally performing reasonably well, at or above the fair condition state which is general accepted as the trigger point for major rehabilitation or replacement of the asset. Because the ratings are based on an assessment of each individual asset, the analysis is considered more rigorous than the remaining service life analysis. The value of the outstanding needs are considered a more accurate reflection of the existing backlog of deferred maintenance and repairs.

Figure 8. Needs vs Condition Rating



From the above data, a condition vs performance report card was prepared for the asset portfolio and is provided in **Table 12** below.

Table 12: Condition vs Performance Report Card

Asset System	Asset Category	Replacement Value	Score	Grade
Administrative Facilities	Civic	$26,900,500	4	B-
	Medical		5	
	Works Yards		3	
Culture, Sports, and Recreation	Cultural Facilities	$105,841,600	4	B-
	Recreation Facilities		4	
	Sports Facilities		3	
Emergency	Fire Buildings	$36,727,800	3	B-
	Vehicles and Equipment		4	
Information Technology	Hardware	$1,304,600	4	B
	Network		4	
	Software		3	
Parking	On Street Parking	$838,000	1	F
	Parking Lots		1	
Storm Water	Drainage Systems	$53,086,500	2	D-
Transportation	Bridges and Culverts	$25,342,500	3	D+
	Roads	$356,512,700	2	
	Railway Crossings	$700,000	5	
	Sidewalks	$448,700	5	
	Signs	$536,400	4	
	Streetlighting	$1,981,300	4	
Vehicles	Vehicles and Equipment	$9,990,500	3	C
	Totals	**$620,211,100**	**2.5**	**D+**

The Township receives a passing grade in terms of the overall performance of the infrastructure portfolio relative to its condition.

It is insightful to understand how the Township compares to other municipalities. **Table 13** provides a comparison between the Muskoka Lakes asset report card and the Canadian Infrastructure Report Card[3]. Generally speaking, the condition Muskoka Lakes has a comparable percentage of assets in the poor and very poor rating categories compared to the national average.

Table 13. Township of Muskoka Lakes Compared to the 2019 Canadian Infrastructure Report Card

Asset System	Township of Muskoka Lakes		Canada- Wide	
	Percentage Poor and Very Poor Condition	Percentage Fair Condition	Percentage Poor and Very Poor Condition	Percentage Fair Condition
Buildings	8.9	17.8	8.6	22.7
Culture Recreation and Sport	6.2	23.3	12.7	19.8
Storm Water	15.5	37.4	11.3	19.0
Bridges	15.5	31.8	12.4	26.3
Roads	12.76	29.1	16.4	22.6

Source: CIRC (2019), Figure 5.

3. *Canadian Infrastructure Report Card: Informing the Future. Figure 5. [Online: http://canadianinfrastructure.ca/en/index.html*

In aggregate Table 12 would suggest that the Township's experience is not dissimilar to that of the municipalities that participated in the survey and in some asset classes may well be performing better than average. It should be noted that a higher than average portion of the Township's assets are in the fair category and many just barely make it into the range of good condition. This would suggest that there is an accumulation of assets in the lower condition states and implies significant needs could be on the horizon. There is a glut of assets which will pass into the fair or worse condition state in the next few years without intervention.

2.7 Risk Assessment and Prioritization

By the definition asset management is the coordinated activity of an organization to realize value from assets. One fundamental component of realizing the value of assets is achieving the desired balance of cost, risk and performance. Risk-based planning therefore should form the foundation of a mature asset management program.

It is recommended that the Township adopt an Enterprise Risk Management Framework. The framework should be based on a common language within the organization pertaining to risks. It should include business processes and tools to evaluate the likelihood and consequences of failure of assets owned by the Township. The defined processes will assist in predictive modeling, and will support optimized decision making. **Table 14** illustrates a the risk management framework used for the current assessment.

Table 14: Recommended Risk Management Framework for Asset Management Decision Making

Probability of Failure	Consequence of Failure				
	Insignificant	Minor	Moderate	Major	Significant
Rare	L	L	M	M	H
Unlikely	L	M	M	M	H
Possible	L	M	M	H	E
Likely	M	M	H	H	E
Almost Certain	M	H	H	E	E

On the basis of the above noted framework, the probability and consequence of failure was assessed for each asset. In all cases current condition was used to assess the probability of failure. For buildings and facilities, consequences were based on the importance of the asset or facility to the community or business unit continuity under post disaster conditions. In the case of bridges and culverts the consequence of failure was assessed in terms the ability to detour around the site and the length of the detour that would be required if the structure failed. In the case of roads, traffic volume was used as an indicator of the numbers of the risk to vehicles or the trips that might be interrupted as a result of a failure. In the case of drainage systems an assessment was made of the potential for flooding affecting access and property.

Table 15 gives an assessment of the risk across each asset class in the Township's asset portfolio.

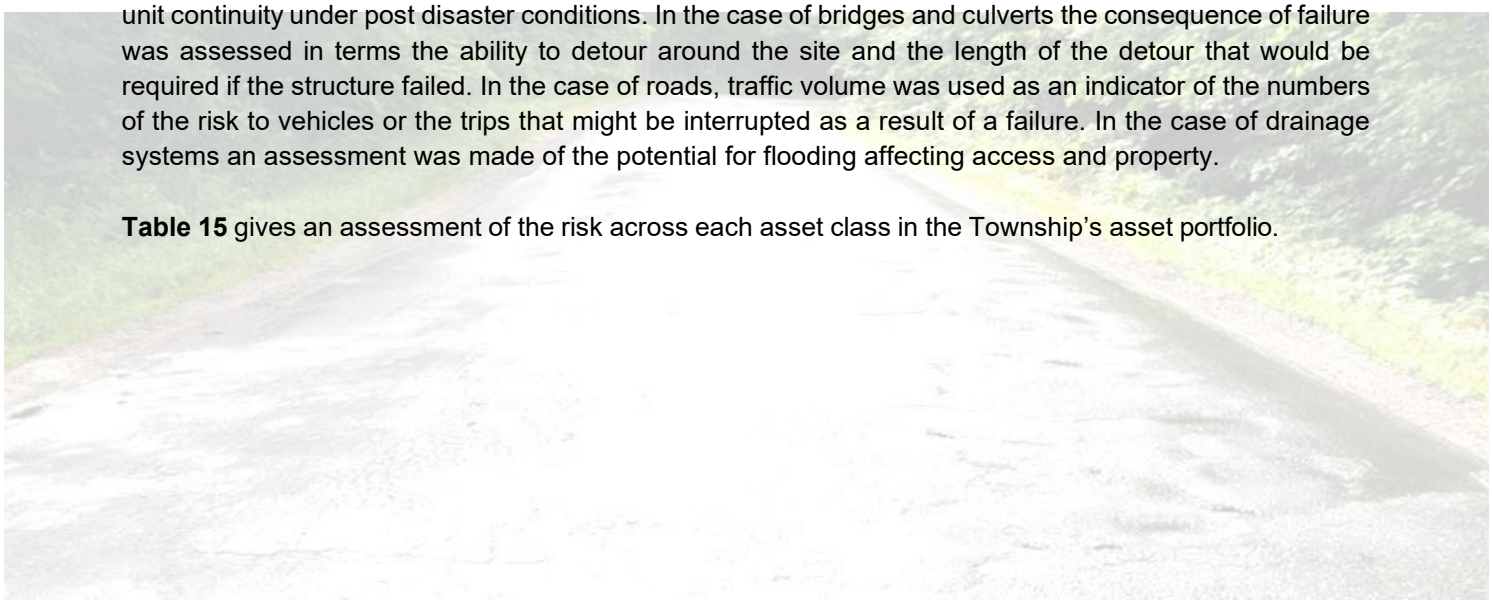


Table 15: Risk Assessments

Asset System	Asset	Probability of Failure	Consequence of Failure	Risk
Administrative Facilities	Admin Building	Unlikely	Major	Moderate
	Health Hub	Rare	Minor	Low
	Garages, Sand, Salt Sheds	Unlikely	Major	Moderate
Culture, Sports and Recreation Facilities	Cemeteries	Rare	Insignificant	Low
	Community Centres	Unlikely	Minor	Moderate
	Docks and Wharves	Possible	Minor	Moderate
	Library	Rare	Minor	Low
	Parks	Rare	Minor	Low
	Public Washrooms	Possible	Minor	Moderate
	Pavilions	Unlikely	Insignificant	Low
	Trails	Possible	Insignificant	Low
	Arenas	Possible	Significant	Extreme
	Golf Course	Rare	Insignificant	Low
	Sport Parks	Rare	Insignificant	Low
	Tennis Courts	Rare	Insignificant	Low
Emergency Services	Fire Halls	Unlikely	Significant	Extreme
	Equipment & Vehicles	Unlikely	Significant	Extreme
Information Technology	Computers, Peripherals	Possible	Major	High
	Connectivity / WiFi	Possible	Major	High
	Digital Records	Possible	Major	High
	Software	Possible	Major	High
Parking	Parking Lots	Unlikely	Minor	Moderate
	Street Parking	Unlikely	Minor	Moderate
Stormwater Management	Rural	Likely	Major	High
	Urban	Possible	Major	High
	Dam	Possible	Significant	Extreme
Transportation	Bridge	Unlikely	Major	Moderate
	Culverts (>3.0m)	Possible	Moderate	Moderate
	Hard Top	Possible	Major	High
	Loose Top	Possible	Major	High
	Protected RR Crossings	Unlikely	Moderate	Moderate
	Unprotected RR Crossings	Rare	Minor	Low
	Sidewalks Concrete	Unlikely	Minor	Moderate
	Sidewalks Pavers	Possible	Minor	Moderate
	Informational	Possible	Insignificant	Low
	Regulatory	Possible	Major	High
	Warning	Possible	Major	High
	Streetlight Luminaires	Almost Certain	Minor	High
	Poles	Rare	Minor	Low
Vehicles and Equipment	Vehicles	Almost Certain	Minor	Moderate
	Equipment	Almost Certain	Moderate	High

2.8 Data Confidence and Data Gaps

As with any data-intensive quantitative analysis, the results are only as good as the data that they are based upon. The Township recognizes that there are gaps in the background information that has been used for the development of this asset management plan, which may impact the validity of the results. To overcome this challenge, and to not present misleading information, a standardized approach has been adopted to measure the confidence in the data and then to develop work plan to improve the confidence in the data for future iterations. This approach gives the reader a measure of how accurate the results of the analysis may be, and also aids in understanding deficiencies in the data and identifying areas for improvement. **Table 16** provides an overview of the inventory data confidence rating scales and descriptions.

Table 16. Inventory Data Confidence Rating Scale

Data Quality Rating	Equivalent Percentage	Description
5	80%-100%	No assumptions, with the age and value known. Reliable data source (e.g. structural report, building condition assessment, database with proven track record).
4	60%-79%	No assumptions, with the age and value known. Data is moderately reliable (e.g. out of date inventory or study, purchasing records, and internally maintained records).
3	40%-59%	One reliable data source, including minor assumptions from moderately reliable source (e.g. out of date inventory or study, purchasing records, internally maintained records).
2	20%-39%	Data from significantly out of date documents (i.e. seven or more years), relatively unreliable documents, or anecdotal, but both age and replacement value.
1	1%-19%	Moderately reliable data available for age or value, but not both. Second item not from a reliable source.
0	0%	No data available.

The data was rated using a numerical scale to indicate levels of confidence in the reliability of the information. As previously mentioned, data was gathered from a wide range of sources. Preference was given to the most current condition assessments, purchasing documents, and maintenance records. It was also occasionally necessary to utilize documentation that is, by industry standards, out of date, or reach out to staff that may be knowledgeable about the assets in question. While all these resources provide valuable insight into the history of the asset, there remains a degree of uncertainty due to the age of these documents, or fallibility of human memory. As such, efforts were taken to track information sources, and a rating assigned based on the type and reliability of the source of information.

There are a few key factors that contribute to the confidence rating, one being the age of the data source. The more recently completed or comprehensively updated a source was, the greater the confidence in its accuracy. For example, a bridge or arena condition assessment for a facility completed in the previous year would receive a rating of five, whereas a condition assessment for a facility completed 5 years ago would receive a four.

Another factor is the type, amount, and number of assumptions made, which are often interrelated issues in this process. Frequently, when information is gathered from a variety of sources there is a lower rating because more assumptions were required to fill any gaps. For example, in some instances it was necessary to pull value information from insurance documents. This information source does not typically provide age, or upgrade, information, meaning it is necessary to source this from elsewhere. The use of insurance documents was typically due to there not being available building or structural assessments, or that those documents were out of date. Therefore, age information, while likely available for the original construction of the facility, will not necessarily reflect any renewal or rehabilitation work, and are therefore less reliable.

Additionally, while reasonably accurate in providing a baseline cost for the asset, these sources are not intended to be used as a valuation system for asset management or construction, therefore not suited to purpose. In this scenario, depending on the combination of assumptions, the data source would typically be rated either a four or a three.

Finally, there are instances where information on either age or value were known, but not both (and occasionally, not either). In these instances typically stakeholders were consulted and best efforts were made to fill the gaps. Assets with information generated in this manner were rated with lower confidence ratings. The asset confidence ratings were the collated to establish the weighted average rating (by asset replacement value) for the overall category.

Table 17 provides the confidence ratings for each of the asset systems including comments summarizing the causes for the ratings.

Table 17. Inventory Data Confidence Rating for Asset Systems

Asset System	Average Data Confidence Percentage	Comments
Administrative Facilities	85%	Data is generally accurate. Some assumptions made with respect to replacement costs.
Culture, Sports, and Recreation	75%	Assessment based on current information and assumptions with respect to cost.
Emergency	90%	Age and condition well understood. Minor assumptions made on life cycle and costs.
Information Technology	85%	Age well understood. Condition ratings inferred from age.
Parking	60%	Urban areas well understood. Rural areas based on estimates of the quantities and condition only.
Storm Water	65%	Most location information is available. Some assumptions in terms of quantity and condition. Limited information relating to age and condition information is available.
Transportation	85%	Inventory information is based on data collected in the field and condition assessments completed in late 2021 and early 2022. The data is considered reliable.
Vehicles and Equipment	90%	Age and condition well understood.

The fire, fleet and transportation inventory information is considered the most accurate. Asset management principles have been practiced in these areas with greater rigor than has been the case in other areas of the Townships operations. Condition assessments are based on field data collected and are current with assessments completed in late 2021 and early 2022. They are considered highly accurate. By contrast historical data particularly as it relates to age is limited or non-existent and is therefore inferred. Costs are based on tender results in the recent past and while not precise, they provide a reasonable estimate of the expected cost under normal market conditions. The overall confidence rating with respect to the infrastructure data in these areas is rated as good to very good at 85% to 90%.

By contrast the infrastructure data in the other areas of the Townships operations has not been a priority in past years and as a consequence the confidence in the information is lower. Considerable effort has been applied to gathering current and accurate data for the purposes of the development of the asset management plan based on a number of simplifying assumptions and data confidence is improving.

NOTE: The 2025 budget approved by Council includes the completion of an updated Road Needs Study, OSIM Bridge and Culvert Study, Building Condition Assessment Reports for all Township buildings, docks and wharfs and a Traffic Count Study to assist in classifying the existing road network. These studies are not represented in the 2025 Asset Management Plan update but will be incorporated into future capital budgets.

Following Policy C-FS-13 and the approval of this plan, the principles of asset management will be eventually incorporated into all applicable routine business practices of all Township operations. The deployment of the CityWorks AMS/WMS will greatly assist in improving the quantity and quality of asset information in the coming years.

2.9 Asset System Condition Summaries

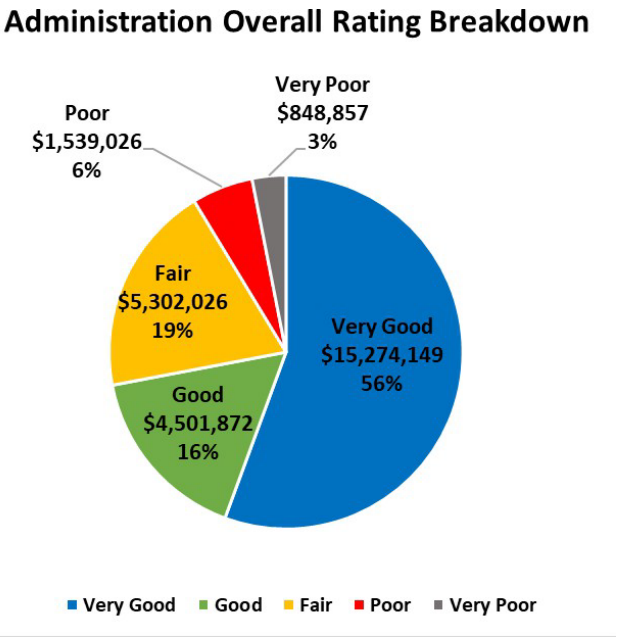
The following section summarizes the available replacement value and condition information specific to each asset system and their major asset types. At this time digital and non-digital assets have not been included, however are planned to be included in future iterations of the Asset Management Plan.

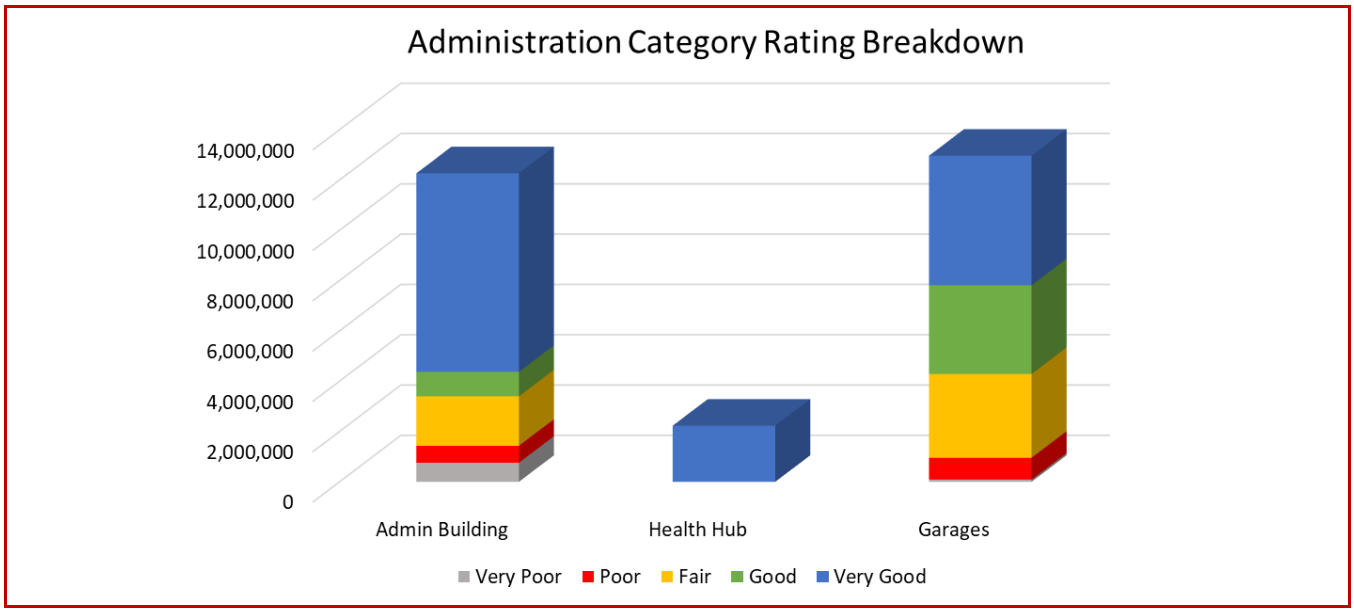
2.9.1 Administration Facilities

Replacement Value:	**$26,900,500**	**Data Confidence Grade:**	85%

Summary:

The asset category is made up the main Township office, the Health Hub and the three patrol facilities. The majority of facilities and their components are rated as being in good condition (CR= 79) While the assets are in good physical condition they are well advanced in the life cycle and in fact beyond the end of their useful lives. The assets require significant investments to remain serviceable. As noted in a recent study, the Township Office is functionally obsolete, not AODA compliant and requires upgrades to many of its systems. The Patterson Garage is beyond the end of its useful and requires replacement in the near term with approximately 29 percent of the facility rated as being in poor or worse condition.



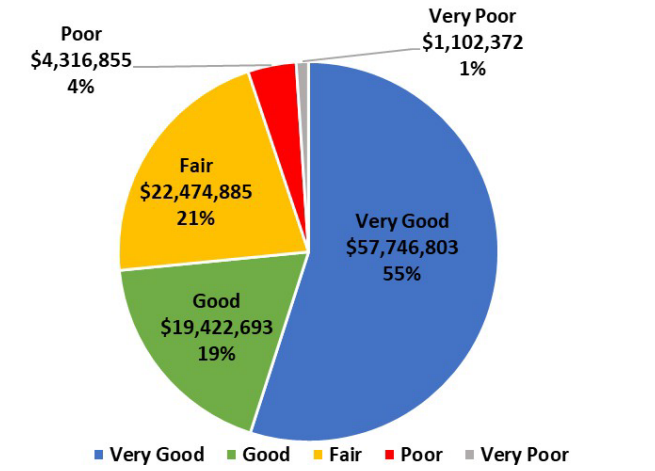

Administration Category Rating Breakdown
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Admin Building
Health Hub
Garages
Very Poor
Poor
Fair
Good
Very Good

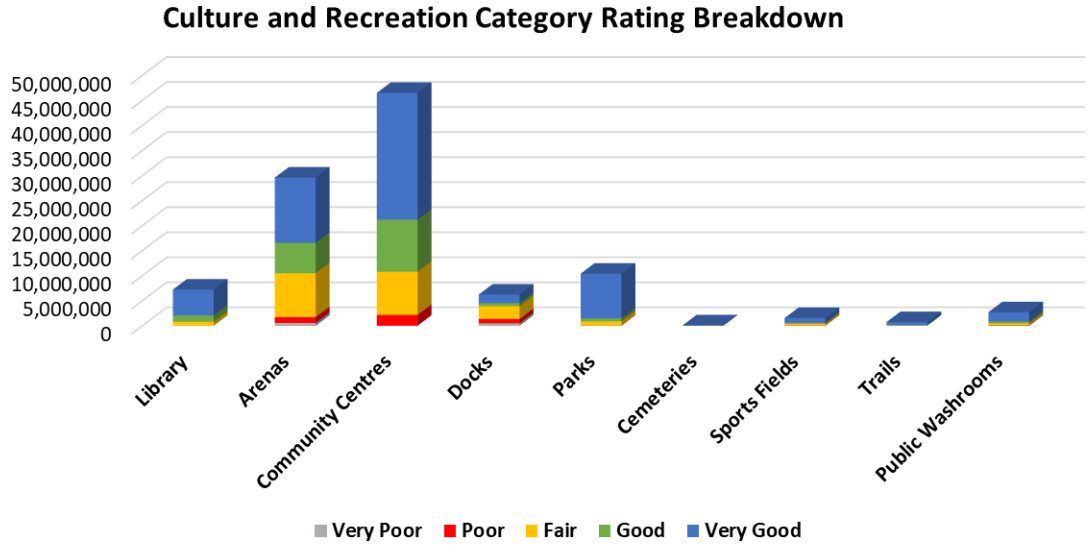
2.9.2 Culture Parks and Recreation

Replacement Value:	$105,841,600	Data Confidence Grade:	75%

Summary:

The Culture Parks and Recreation facilities are made up of the arenas, community centres, library and the parks and associated recreation infrastructure. Generally the infrastructure is in fair to good condition with an overall condition rating of 70.6 equating to a good condition state. As noted in several recent reports the arenas and several of the community centres are in fair to good physical condition but are beyond the end of their service lives and will require significant investments or replacement to remain in service. A number of the docks and wharves, particularly those inherited from the federal government in the mid 1990's will require significant rehabilitation or replacement within the next five to ten years. In the cemeteries, of the 8,814 plots, approximately 5,050 plots remain available. Based on current internment rates the supply should last for another 40+ years. Note that this does not account for geographic preferences. Parks infrastructure is generally in fair to good condition and should remain serviceable with normal maintenance. The Public Works Department recently completed a detailed Parks and Recreation Master Plan which addresses the need for infrastructure in depth.



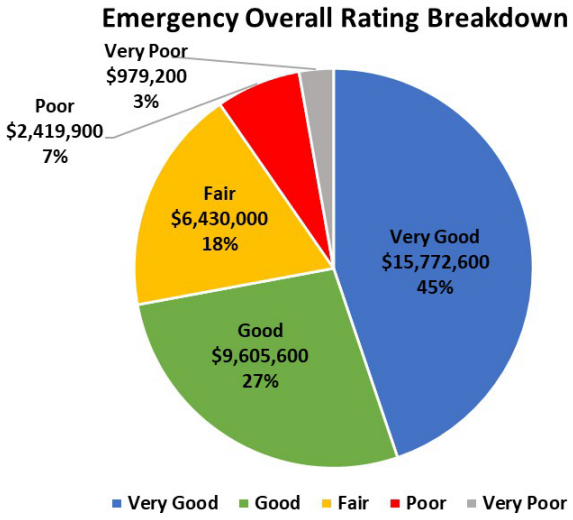


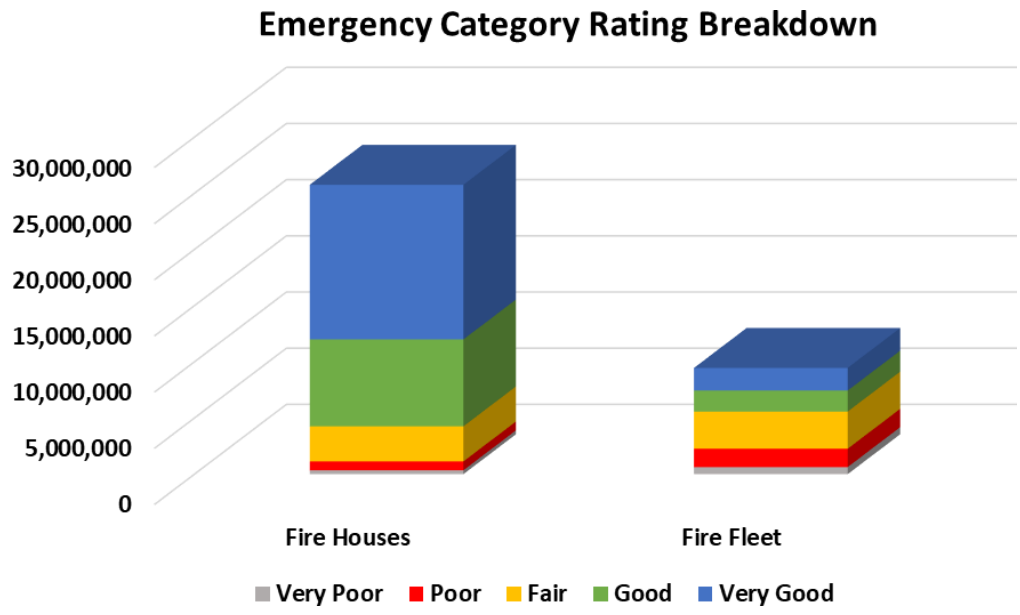
2.9.3 Emergency

Replacement Value:	$36,727,800	Data Confidence Grade:	90%

Summary:

The Emergency Services category is made up of all fire halls and outbuildings, and fire apparatus. The assets have a condition rating of 74.3 equivalent to being in good or better condition. The balance of the assets consist of those which are approaching the end of their useful lives as defined by NFPA guidelines or are functionally obsolete and require replacement. The Fire Department recently completed a detailed Fire Master Plan which will address the need for infrastructure in depth. One of the key recommendations is to undertake a detailed review of the condition of the halls including the degree to which they comply with NFPA standards and their location. Future replacement schedules should be dictated by the outcome of the location study.



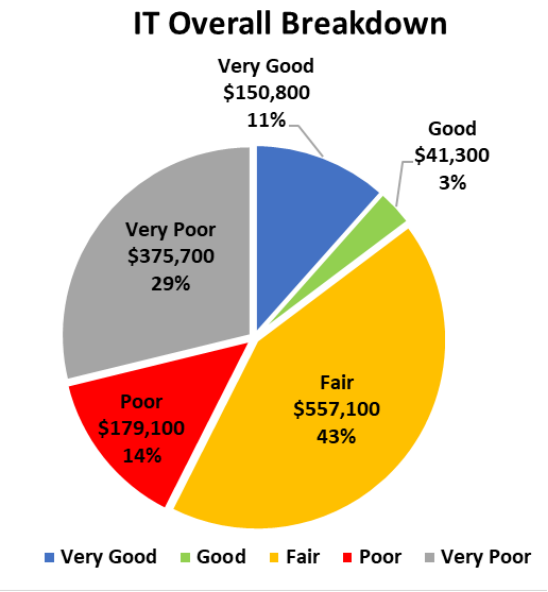


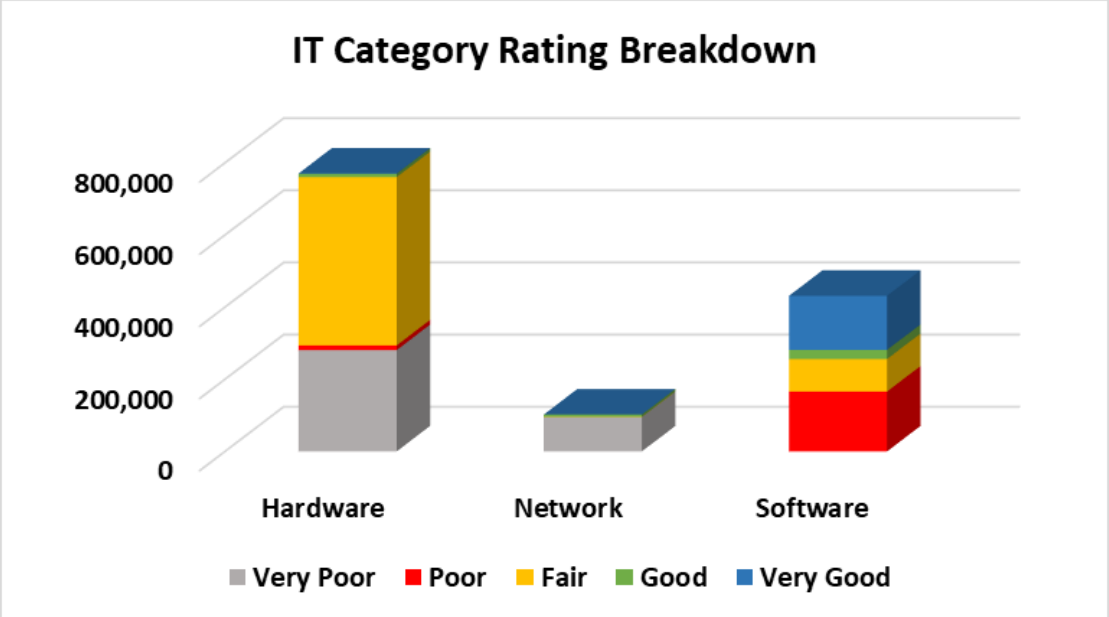
2.9.4 Information Technology

Replacement Value:	$1,304,650	Data Confidence Grade:	85%

Summary:

The department completed a master plan in 2022 which noted the need for significant updates to the Township's IT infrastructure. At that time 42.5 percent of the assets were rated as being in poor or worse condition. Substantial investments in 2023 and planned for 2024 and 2025 will significantly improve the current state particularly in terms of the hardware. It should be noted that the Township has several core software systems that are at or will reach the end of their lives within the next three to five years and will require replacement. Of particular importance in this regard is the financial system. NOTE: Appendix III page 24 indicates 2025 status of these assets showing an overall improvement to the condition.



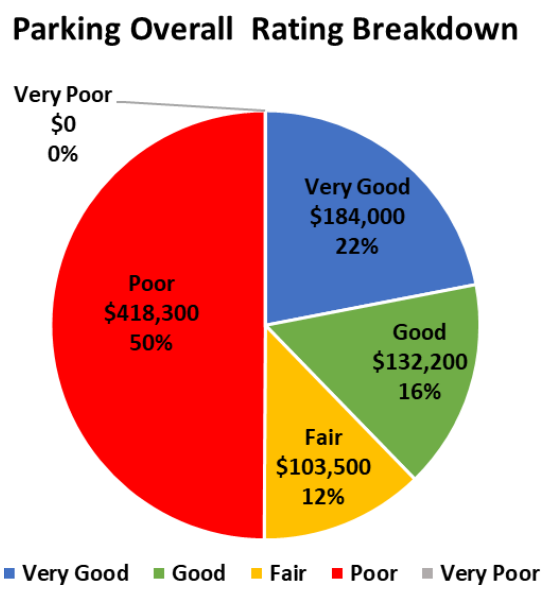


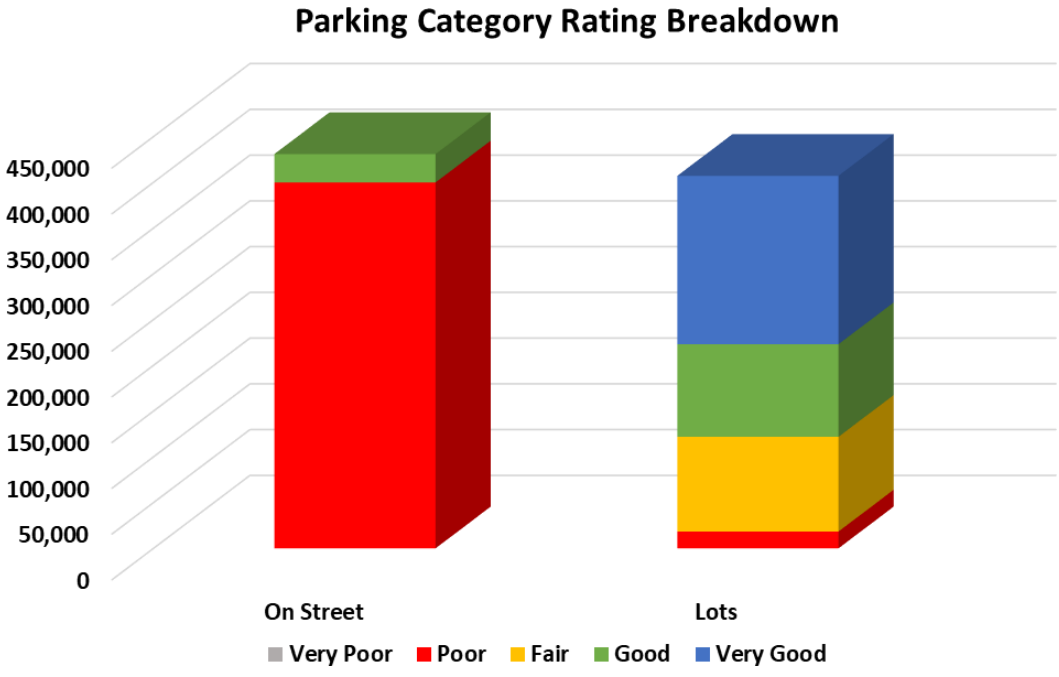
2.9.5 Parking

Replacement Value:	$838,000	Data Confidence Grade:	50%

Summary:

The parking category is made up of 139 on street stalls, predominantly located in Bala and Port Carling and an estimated 177 stalls located in designated parking areas mainly in Bala and Port Carling. Approximately half of the parking stalls (49.9% or $418,300) are rated as being in poor condition. The on street stalls are a function of the adjacent roadways and any capital improvements would be addressed at the time of the work on those roads which are predominantly under district jurisdiction.



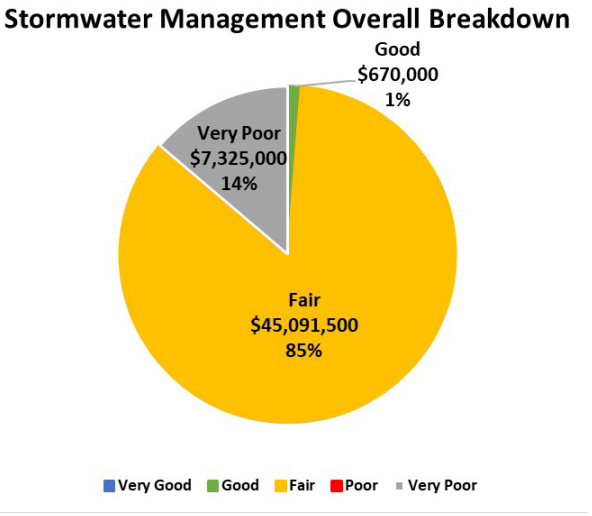


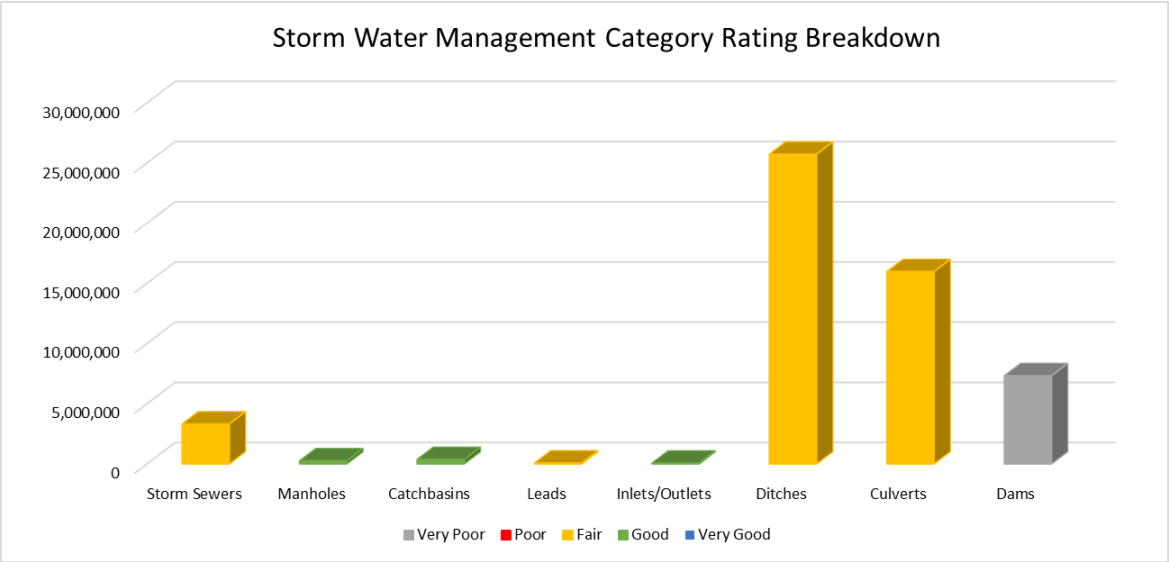
2.9.6 Storm Water Management

Replacement Value	$53,086,500	Data Confidence Grade:	65%

Summary:

This asset category is comprised of those drainage assets located in the Townships public rights of way and the Burgess Dam located in Bala. The majority of infrastructure (92% or $220,645,900) is rated as being in poor or worse condition. While remainder of (8 percent) of the inventory is rated as being in fair condition.



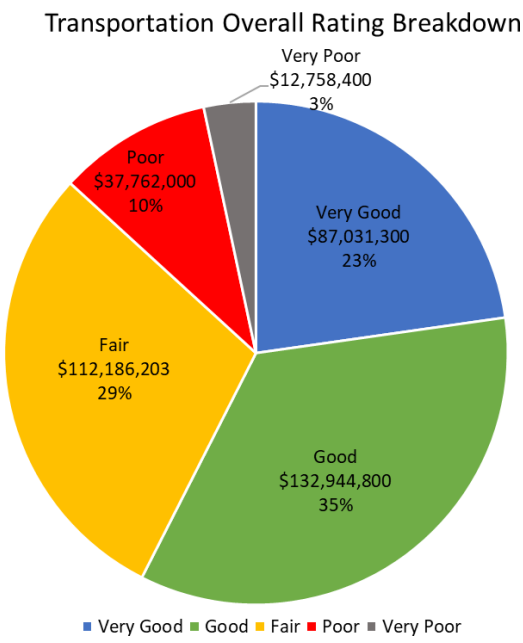


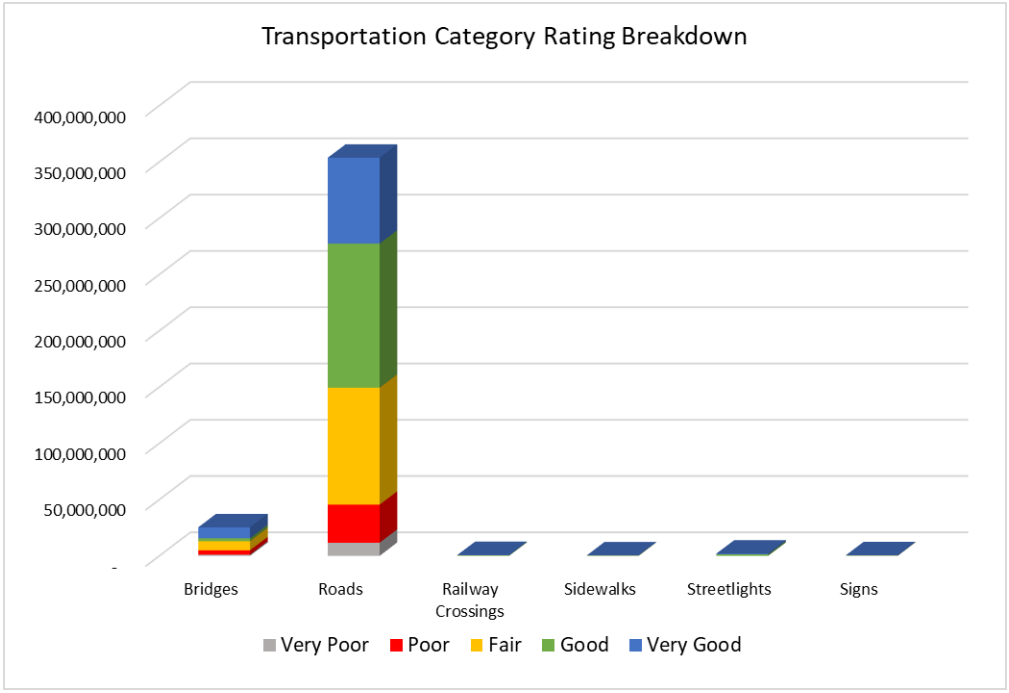
2.9.7 Transportation

Replacement Value	$385,521,600	Data Confidence Grade:	85%

Summary:

This asset category is comprised of those assets located in the Townships public rights of way and includes bridges and culverts, roads, sidewalks, signs and streetlights. This is the largest asset class by value of the assets under Township jurisdiction. The majority of infrastructure (92% or $356,512,700) is rated as being in poor or worse condition. The remainder of the assets in the category are rated as being in good or better condition. It is important to bear in mind that the transportation assets represent a significant value (385,521,600) in absolute terms and make up a large portion of the total replacement value for all assets (62 %) under Township jurisdiction.



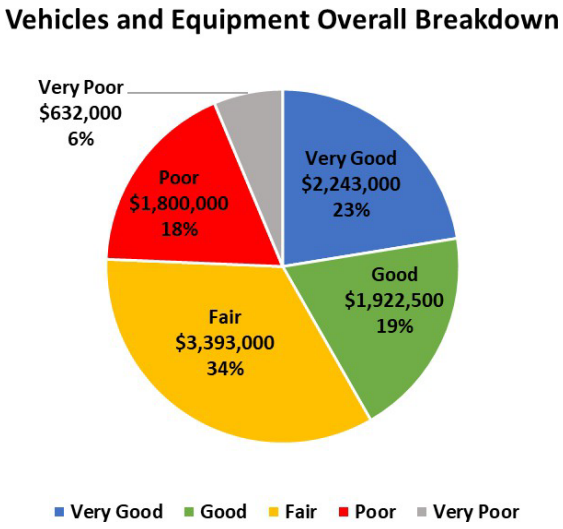


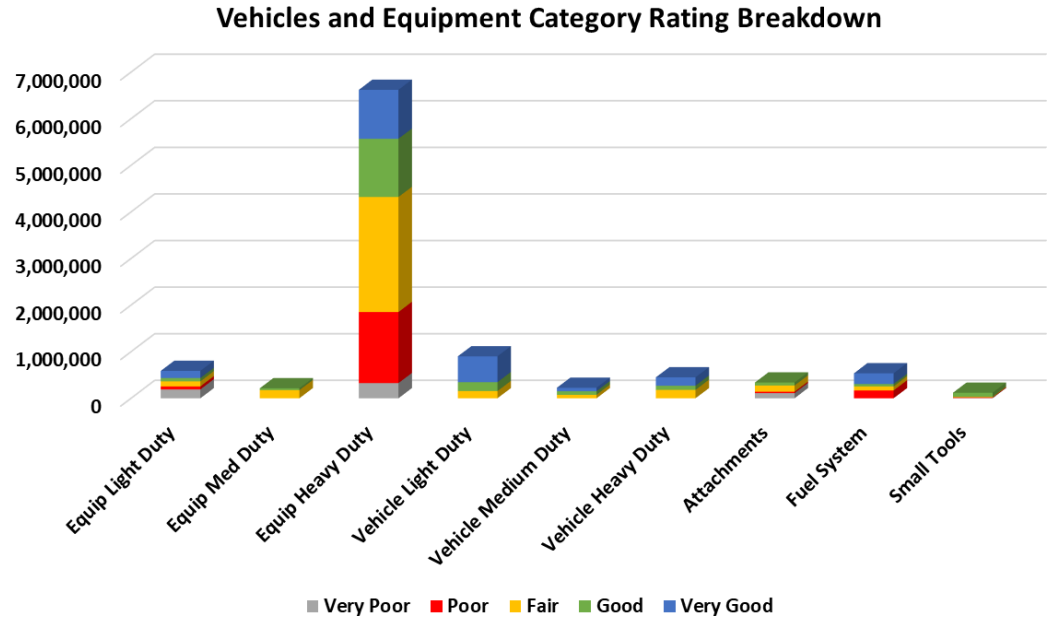
2.9.8 Vehicles and Equipment

Replacement Value:	$9,990,500	Data Confidence Grade:	90%

Summary:

This category includes all vehicles and equipment in the Development Services, Parks and Public Works Departments. Fire Equipment and Vehicles are reported in a separate category. As should expected the condition of the assets appear to be normally distributed. Over 42 percent or of the fleet ($4,165,500) is rated as being in good or better condition with 34 percent or $3,393,000 in fair condition and the balance in either poor or very poor condition. These latter to groups include vehicles that are at or beyond their useful lives and are scheduled for replacement in the near term.





2.10 Updating Asset Data

As previously mentioned, there are currently a variety of data sources that contribute to this plan. At the beginning of the process the vast majority of the records were in the form of hard-copy reports. One of key data sources was the MAM work management software system. This software system was obsolete and unstable was replaced in 2022 with the City Works Computerized Asset/Maintenance Management System. The new system is linked to the Esri GIS mapping system.

One of the initiatives started as part of the preparation of this report was the establishment of a Geographic Information System (GIS) database, in which to store the records associated with the asset portfolio. At this point approximately 100 percent of the base data has been transferred to the system and this project is completed as of 2025. Bringing the new system online will enable staff to update the database on an ongoing basis as part of the normal workflows. This will allow for more current data and more accurate and timely decision making.

It is important to note that the development of the system was completed with a significant reliance on external resources. It is strongly recommended that an internal resource will be required to maintain the system into the future if the data is to remain relevant.

SECTION 3: LEVELS OF SERVICE (SEE APPENDIX III FOR UPDATE/LEVELS OF SERVICE STUDY)

3 Levels of Service

(see update - Appendix III)

The updated Asset Levels of Service included in Appendix III was completed by GHD Ltd. and accepted by Council in July 2025. The Levels of Service Study (September 12, 2025) includes detailed existing and desired levels of service in the following service areas:

- Information Technology
- Stormwater Management
- Culture, Sports & Recreation
- Culture, Sports & Recreation – Library
- Vehicles & Equipment
- Transportation
- Emergency Services
- Administrative Facilities

And adds to, updates, supplements, and/or supersedes where necessary the following section.

In Section 2 (State of Local Infrastructure), the value and condition of the Township's infrastructure was identified based on the expected life span and condition of the assets. Section 3 of the Asset Management Plan builds on Section 2 by defining current practices with respect to the minimum acceptable condition during their expected lifespan. In other words, this Section answers the question "How are the assets performing?" By way of example, the expected lifespan of the surface of a road may be 40 years, but this expected life is only meaningful if the driving surface remains in an acceptable condition over that time frame. What constitutes an acceptable condition is known as the level of service.

Levels of service can mean different things in different contexts. As it relates to asset management, best practice recommends that levels of service focus on quantifying asset performance criteria and how deficiencies are addressed. In the Township's asset management context, levels of service should

be defined to include:

- The correct quantity of assets to meet the Township's needs
- Target Condition - what properly functioning assets looks like and achieve;
- Performance Measure - how the target condition is measured; and
- Target - the minimum performance or physical characteristic threshold for an asset before repair, replacement or maintenance is required, and/or the timeframe to restore an asset to proper performance.

Key drivers for asset management levels of service should, at a minimum, include:

- Regulatory requirements;
- Best practices for sustainable asset management;
- Community demand for service and satisfaction; and
- Municipal priorities such as environmental benefits, community benefits and beautification.

The Township's levels of service should be first and foremost focused on meeting regulatory requirements. As regulatory requirements are more focused on safety than sustainable long term asset condition or providing quality of life in the community, the Township should also have levels of service for asset condition and community satisfaction.

Acceptability in the eyes of the public is usually quantified by conducting regular community satisfaction surveys. Surveys should be conducted every few years to provide high-level indication of whether the asset management levels of service and maintenance are meeting the expectations of the residents. As an option this could be coordinated with updates to the various Master Plans that the Township has undertaken or committed to.

This section will present levels of service for assets as they exist today in Muskoka Lakes as a starting point for future improvements. Levels of service for each asset class, and asset subclass where applicable, are described in Sections 3.3 to 3.9. While some asset classes like roads and bridges

currently have at least a basic level of service defined, most others do not. Even within those asset classes, where the level of service is defined, some assets are more thoroughly covered than others. In many cases, the existing levels of service are incomplete, such as where there may be performance measures but no associated targets. These performance measures may still be valuable even without a firm target value, as they allow us to look at trends, comparing current results with those from previous years.

Moving forward, there is an opportunity for all asset classes to incorporate methodologies from other parts of the organization, perform benchmarking and improve comprehensiveness. The Township should be undertaking corporate wide level of service study for the assets in 2024. The results of these studies should be integrated in future updated versions of the Asset Management Plan.

3.1 Defining Levels of Service

One of the Township's key goals is to understand the balance between the asset cost, performance and risk. Well-defined levels of service can be used to:

- Inform decision makers and ratepayers of the current level of service provided and any proposed changes to level of service and the associated cost;
- Measure performance against defined levels of service;
- Identify the costs and benefits of the services; and
- Enable customers to consider the level of service provided within the context of affordability.

The goal should be to establish the level of service requirements and better understand the relationship between the levels of service and costs to provide the service. This will be achieved through the completion of master plans and other reviews planned to be completed over the next several years. In the interim, Staff are developing tools and techniques to predictively model levels of service over time. The key initiatives planned included:

- Corporate level of service initiative;
- Service reviews; and
- Corporate wide performance and accountability frameworks.

Under the Corporate Asset Management Program, levels of service will be guided by service attributes, level of service statements, and performance measures as shown in **Table 18**.

Table 18. Concepts of Levels of Service

Concept	Attributes	Examples
Key Service Attributes	Aspects or characteristics of a service.	Accessibility, affordability/cost efficiency, quality, quantity, reliability, responsiveness, safety.
Levels of Service Statement	What the organization intends to deliver. Levels of service statements describe attributes of the service from a customer point of view.	Provision of high quality recreation experiences. Provision of high-speed internet access to the Township Office.
Customer Performance Measure	How the customer receives or experiences the service. Customer measures are generally those that would be uses in public documents, and should be easily understood by the average person.	Tangible measures: Appearance of facilities, frequency of disruptions, incidence of illness Intangible measures: Staff attitude, ease of receiving the service, etc.
Technical performance measure	What the organization does to deliver the service. These measures support customer measures and tend to be used internally to measure performance against service levels	Number of times public washrooms are cleaned each day, average wait times at intersections, the average condition rating of playgrounds.

The formal definitions of a level of service project is required to be finalized by the middle of 2024. The register of Levels of Service Frameworks, developed for each of the critical, asset-intensive services identified through the development of the project, will be a living database.

3.2 Regulatory Requirements and Agreements

While not specifically levels of service, regulatory requirements often dictate levels of service provided, and therefore must be considered. Overall, the Township aims to meet all regulatory requirements. Below is a summary of some of the key regulatory requirements and documented agreements for each of the asset categories. The 2024 level of service initiative will evaluate the specific level of service criteria and performance indicators related to meeting the levels of service.

Some regulations have influence over the entire asset portfolio, whereas others are more specific to a particular area. General regulatory requirements that are applicable to the entire portfolio are as follows:

- Accessibility for Ontarians with Disabilities Act (AODA)
- Environmental Assessment Act, R.S.O. 1990, c. E.18
- Environmental Protection Act, R.S.O. 1990, c. E.19
- Highway Traffic Act, R.S.O. 1990, c. H.8
- MOECC Reg 347: General – Waste management (hazardous material transport)
- Municipal Act, 2001, S.O. 2001, c. 25
- National Fire Code
- Occupational Health & Safety Act
- Ontario Building Code
- Ontario Fire Code (Ontario Regulation 67/87)
- O. Reg 424/97: Commercial motor Vehicle Operators Information (Highway Traffic Act, R.S.O. 1990)
- O. Reg. 104/97: Standards For Bridges
- O. Reg 239/02 Minimum Maintenance Standards for Municipal Highways
- Ontario Water Resources Act, R.S.O. 1990, c. O.40National Building Code
- Public Transportation and Highway Improvement Act, R.S.O. 1990, c. P.50

3.3 Buildings

3.3.1 Target Condition and Function

Well-functioning buildings provide reliable, safe and predictable access and amenities for the purposes for which they were designed, such as administrative facilities, arenas, community centres, operational facilities etc. Architectural electrical and mechanical components perform in a way they do not detract from the experience or purpose of the building while minimizing energy and water usage.

3.3.2 Levels of Service

The levels of service for the Buildings asset class are largely focused on the condition of the buildings, measuring the extent and timeliness of maintenance and reinvestment (Table 19).

Table 19. Levels of Service

Asset	Performance Measure	Measure Type	Target	Results (2022)
Buildings	Energy Conservation	Regulatory	No target defined	Reportable on a case by case basis
	Facility Condition Index (FCI)	Condition	No target defined	Reportable on a case by case basis
	Repair Responsiveness: Urgent Repairs	Safety & Condition	No target defined	Reportable on a case by case basis
	Repair Responsiveness: Urgent Repairs	Community Survey	No target defined	No Report
	Recreation Facilities: % Satisfied or Very Satisfied	Community Survey	No target defined	2021 50% to 55% Depending on facility
	Manufacturer's recommended scheduled maintenance	Best Practice	No target defined	Reportable on a case by case basis

The primary level of service should be an overall target condition for the Township's buildings, using an industry standard such as a Facility Condition Index (FCI) measure. The Facility Condition Index is a measure of annual reinvestment needed to maintain the building at or above a specified condition. In Muskoka Lakes' case, the Council has not adopted a target for building condition. In most jurisdictions the generally accepted objective is to maintain buildings in an overall fair condition or better. Other levels of service include following the manufacturer's recommended preventative maintenance schedules, a target timeframe for routine and urgent repairs to be completed, patron satisfaction with the condition of the facilities and replacement of components at their end of life. Regulatory requirements for energy conservation and accessibility should be met through an annual capital reinvestment program.

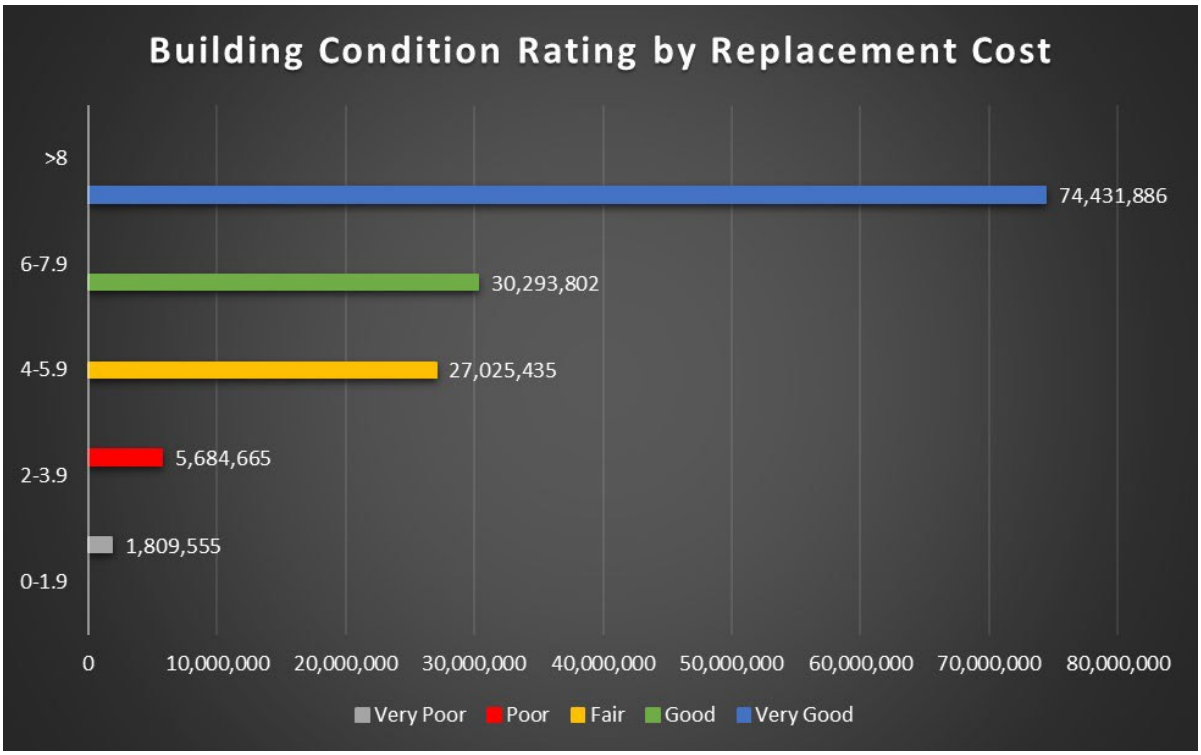
3.3.3 External Trends and Issues

The past practices in the management of the Township's buildings have not followed the principles of asset management. Past activity have been largely reactive and only when something is broken is it fixed and only when funds have been available to do so. Prioritization has largely been based on a worst first approach. Such an approach has been demonstrated to be the most expensive over the long term and produces the lowest levels of satisfaction. Many of the building systems are antiquated and do not comply with modern codes of practice or industry standards. Bringing the facilities into compliance will represent a major challenge and to do so in the context of modern requirements for energy conservation and emission controls will draw into question their sustainability. A longer term, more holistic approach must be considered balancing access to amenities with fiscal reality.

3.3.4 Key Findings

It is desirable that Council adopt a facility condition index target with the intention to keep the Township's buildings in "fair" or better condition over the long term. The Buildings levels of service include measures for condition, repairs and safety, resident satisfaction, preventative maintenance and capital reinvestment. Similar to the Roadway System, there is an opportunity to set additional targets to measure performance and there is a data management opportunity to improve reporting on repair responsiveness and preventative maintenance to meet manufacturer's specifications. The system to track the work orders performed on the Township's buildings each year has recently been installed and new data management processes and tools will be developed achieve this objective.

Figure 9. Building Condition Rating by Replacement Value



3.4 Fire

3.4.1 Target Condition and Function

Well-functioning fire apparatus & equipment assets support the delivery of efficient and effective fire services and the management of those assets ensuring that they meet all regulated requirements and are safe and efficient to operate. Because of the nature of the functions they perform reliability is of paramount importance.

3.4.2 Levels of Service

Fire vehicles and equipment are a highly regulated asset class. As a result, the majority of levels of service involve meeting the regulations for certification as fire vehicles as well as commercial vehicles (Table 20). Other levels of service include following the manufacturer's recommended preventative maintenance schedules and guidelines for retirement of the assets at end of life according to NFPA standards. The department has completed a fire master plan. One of the chief recommendations is an examination of the deployments of the fire stations through the community. This review is currently under way. The outcome of this plan could have significant implications in terms of both quantity and quality of the vehicles and equipment in the inventory.

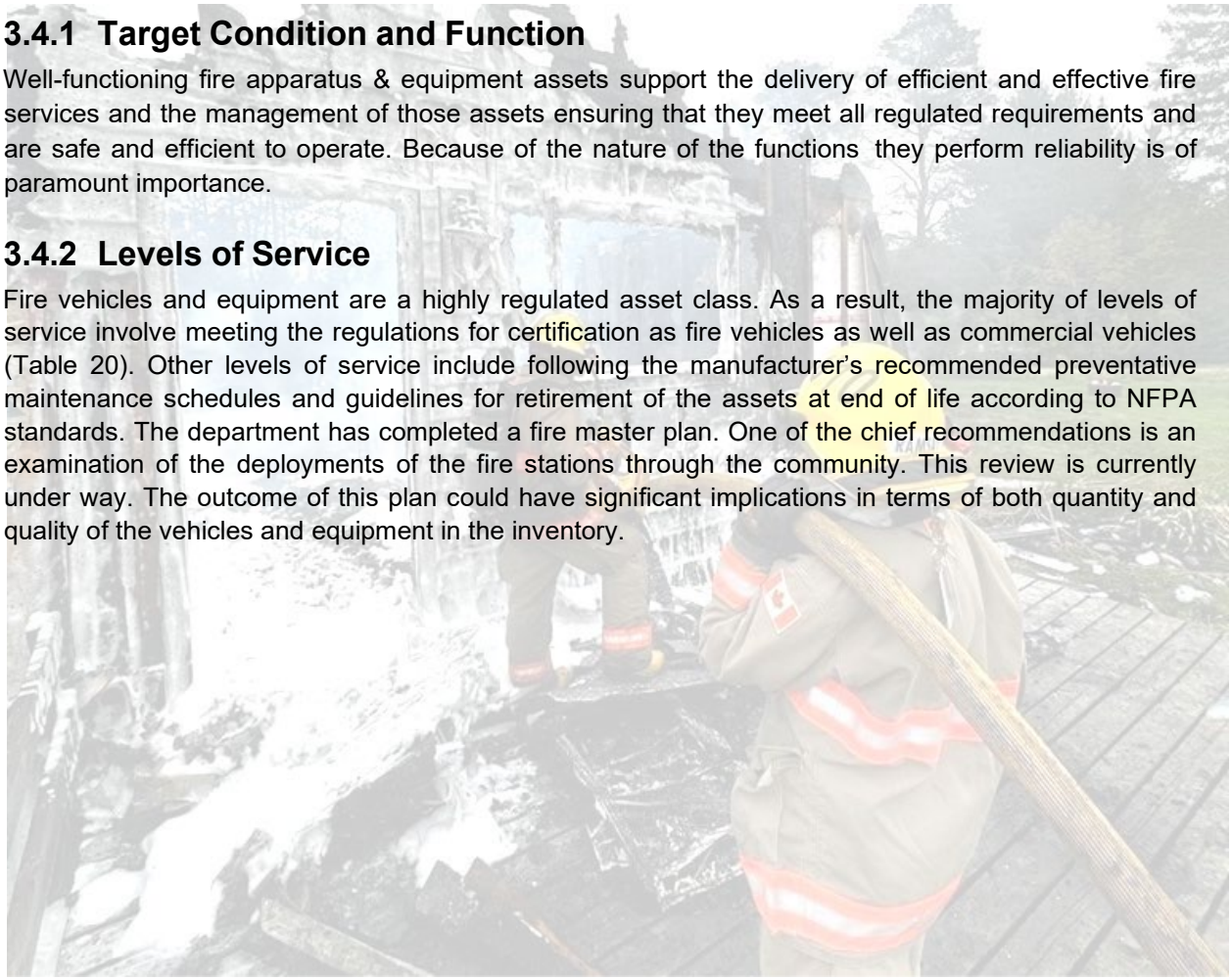


Table 20. Fire Levels of Service

Asset	Performance Measure	Measure Type	Target	Results (2022)
Fire Vehicles and Equipment	Regulatory Compliance MTO, NFPA	Regulatory*	Meet or exceed Ministry of Transportation requirements for each vehicle	Reportable on a case by case basis
	Manufacturer's recommended scheduled maintenance	Best Practice	No target defined	Reportable on a case by case basis
	Fleet Disposal Guideline NFPA Guidelines	Condition	No target defined	Reportable on a case by case basis
	Energy Efficiency	Best Practice	No target defined	Reportable on a case by case basis

3.4.3 External Trends and Issues

As shorter-lived assets, there are few risks that can affect the asset management of existing vehicles, but substantial changes to the fire vehicle fleet composition may be required in the coming years. These changes may include emissions reduction requirements, increased expectations for use of electric vehicles and charging stations, autonomous (self-driving) vehicles and use of alternative fuels.

3.4.4 Key Findings

The current focus of the apparatus and equipment asset levels of service is on:

- complying with the extensive regulatory requirements that govern fire, commercial and off road vehicles in Ontario,
- adherence to NFPA guidelines
- following manufacturers recommended maintenance schedules, and
- identifying vehicles for end of life replacement.

As shorter- lived assets that are easily seen and managed, the Township has developed good practices for maintenance, repair and replacement. Though the Township is meeting the regulatory requirements and is following best practice, there is a data management opportunity to improve reporting. There is also an opportunity as part of the Fire Master Plan to establish guidelines for right sizing the fleet and better aligning individual vehicles with their intended uses.

3.5 Information Technology

3.5.1 Target Condition and Function

Well-functioning Information Technology assets support the delivery of municipal services and the management of assets. They provide a reliable, efficient and secure environment for the storage and use of information.

3.5.2 Levels of Service

Levels of service for the Information Technology asset class are predominantly driven by best practice, including replacing computers, peripherals, network components and software based on functionality rather than avoiding failures, and offering technical service through the Help Desk. There are no formal levels of service related to the condition of hardware assets, telecommunications assets or software assets.

Table 21. IT Levels of Service

Asset	Performance Measure	Measure Type	Target	Results (2022)
Information Technology	Help Desk Responsiveness	Best Practice	No target defined	Reportable on a case by case basis
	Data Integrity	Best Practice	No target defined	Daily, weekly, monthly and yearly data backups
	Security Monitoring	Best Practice	No target defined	Reportable on a case by case basis
	Hardware Replacements	Best Practice	Replace every four years	Reportable on a case by case basis
	Administrative Services: %Satisfied or Very Satisfied	Organization Survey	No target defined	Reportable on a case by case basis

3.5.3 External Trends and Issues

Muskoka Lakes has several risks and asset management challenges that are associated with the rapidly changing Information Technology sector. These were identified in considerable detail in the IT Strategic plan completed in 2022. These risks include the need to update foundational Information Technology systems to support newer application technologies, software upgrade delays where the rollouts are complicated by bypassing some versions to the most recent version, and maintenance of proprietary applications that are no longer supported. These risks emphasize the need for strong asset management of IT assets. Under-investment in Information Technology greatly limits asset management strategies for all other asset classes.

3.5.4 Key Findings

While there is an extensive number of operating and maintenance activities carried out to ensure that Information Technology Systems perform efficiently and reliably and are secure, levels of service for the overall Information Technology system are poorly defined. This is especially pronounced in the underlying foundational hardware systems which have aged, and in the approach to proprietary software and software upgrades. An Information Strategic Plan was recently completed and a number of applications are either being replaced or are proposed to be replaced. This presents an opportunity to establish performance measures and targets to incorporate into future asset management plans.

3.6 Parks and Recreation

3.6.1 Target Condition and Function

Well-functioning Parks & Outdoor Recreation assets provide reliable, safe and predictable outdoor access and amenities for residents to be active and involved as well as contributing to environmental protection.

3.6.2 Levels of Service

There are few levels of service for the Parks & Outdoor Recreation asset class (Table 22). Most of the focus for this asset class is on operations and maintenance to facilitate the large number of people that use these facilities on a daily basis, without target conditions being set for the assets themselves. One

area where there is a clear level of service requirement is for playgrounds which are assessed against the standard CSA Z614 “Children’s Play Spaces and Equipment”.

Table 22. Parks & Recreation Levels of Service

Asset	Performance Measure	Measure Type	Target	Results (2022)
Playgrounds	Canadian Standards Association (CSA Z614) requirements	Regulatory	Meet or exceed Canadian Standards Association (CSA) requirements for each facility	Reportable on a case by case basis
Parks & Outdoor Recreation	Parks Redevelopment Prioritization Rating System	Asset Condition	No target defined	Priority projects incorporated into ten year capital forecast
	Parks, Open Space and Pathways: % Satisfied or Very Satisfied	Community Survey	No target defined	2021 37%
	Canadian Standards Association (CSA Z614) requirements	Regulatory	Meet or exceed Canadian Standards Association (CSA) requirements for each facility	Reportable on a case by case basis

Additional levels of service arise from community survey which was completed as part of the Parks and Recreation Master Plan in the summer/fall of 2021. There are also capital replacement needs that are based upon lifecycle condition of parks assets, but the absence of performance measures or targets makes this program difficult to link to a level of service.

Further development of levels of service for Parks & Outdoor Recreation assets is underway is recommended as part of the Parks and Recreation Master Plan. When implemented they will expand condition based levels of service to a wider range of parks assets, including establishing target conditions and performance measures for the assets.

3.6.3 External Trends and Issues

The key factor affecting the delivery of service levels in parks and outdoor recreation is the ability to acquire sufficient parkland in areas of the Township. Over-use of assets in certain areas may also make it difficult to keep pace with service level expectations from the community. Additional analysis into this asset class will require the establishment of more comprehensive service levels for asset condition. The proposed level of service study slated for 2024 in combination with the setting of parks standards will assist in advancing the understanding of this area of the asset portfolio

3.6.4 Key Findings

While there is an extensive number of operating and maintenance activities carried out to ensure that parks assets are being kept in a safe, enjoyable condition, levels of service for the condition of Parks & Outdoor Recreation assets are currently poorly defined. A Parks Operations Levels of Service Study is recommended as part of the PRMP to provide performance measures and targets to incorporate into future asset management plans.

3.7 Parking Lots

3.7.1 Target Condition and Function

Well-functioning Parking Lots have driving surfaces and sidewalks that are smooth, clean, safe, durable, well lit, and that drain well, with signs and markings that provide clear direction to motorists and pedestrians. They support the economic vitality of our communities.

3.7.2 Levels of Service

Levels of service for parking lots assets are under consideration and are expected to mirror roads & traffic operations service levels. The levels of service are anticipated to closely follow the Ontario Minimum Maintenance Standards for Roadways, interpreting them for their applicability in parking lots. Currently asset management decisions for Township parking lots rely on the judgment of Township staff or are complaint driven.

3.7.3 External Trends and Issues

The influx of seasonal residents and visitors to the Township places considerable pressure on the demand for short term parking spaces, particularly in Port Carling where there is a lack of available land for this purpose. Pressures can be expected to increase for the foreseeable future.

3.7.4 Key Findings

A condition assessment of all parking lots was completed in 2021. Service levels were defined in terms of condition. An orderly program should be developed to monitor, maintain and replace parking lots, moving forward.

3.8 Roads

3.8.1 Target Condition and Function

A well-functioning roadway system has roads and sidewalks that are smooth, clean, safe, drain well; durable, and well lit where appropriate. Appropriate and visible traffic signage and pavement marking should be in place to provide consistent control of intersections, clear direction to motorists and pedestrians and adequate warning to motorists of non-standard conditions.

3.8.2 Levels of Service

Levels of service for Muskoka Lakes' roadway system (Table 23) are primarily defined by the Ontario Minimum Maintenance Standard (MMS), the MTO/Transportation Association of Canada (TAC) Geometric Highway Design Manual and the Ontario Traffic Manual. As was previously observed, the standards are focused on safety and avoidance of liability claims rather than achieving long-term sustainability of asset condition and quality of service. While the Township strives to maintain its roads and related infrastructure to meet the minimum requirements, additional levels of service for the roadway surface and sidewalks that go beyond the legislated requirements should be considered for adoption. Further development of levels of service for the roadway system, as well as a community survey on satisfaction with Muskoka Lakes' roads, will occur as a result of the Transportation Master Plan and the operational levels of service assessment which will be required for the 2025 version of the AMP in order to comply with O. Reg 588/17 requirements. This work will expand on the condition based levels of service to a wider range of roadway system assets and including design standards, target conditions and performance measures.

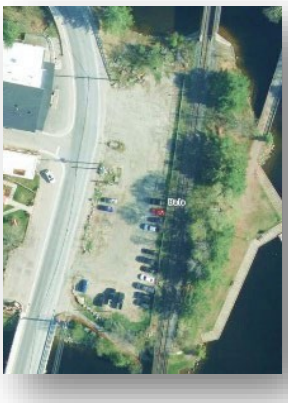


Table 23 Roadway System Levels of Service and Community Satisfaction Measures

Asset	Performance Measure	Measure Type	Target	Results (2022)
Road Bed & Road Surface	Ontario Minimum Maintenance Standards (MMS) for Potholes, Shoulder Drop-offs, Cracks, Debris, Surface Discontinuities	Regulatory	Meet or exceed Minimum Maintenance Standards (MMS)	Reportable on a case by case basis. Generally exceed MMS
	Pavement Condition Index (PCI)	Condition	No target defined	PCI = 6.5 (Fair)
	Road Condition: % in Good or Very Good Condition	Condition	No target defined	% Gd & V Gd = 57.8 %
	Road Quality and Maintenance:	Community Survey	No target defined	No Report
Railway Crossings	Transport Canada At Grade Crossing Standards	Regulatory	Meet or exceed At Grade Crossing Standards	Meet or exceed minimum standards
Sidewalks	Ontario Minimum Maintenance Standards (MMS) for Sidewalk surface discontinuities	Regulatory	Meet or exceed Minimum Maintenance Standards (MMS)	Reportable on a case by case basis
	Sidewalk Condition Rating	Condition	No target defined	Reportable on a case by case basis
	Sidewalks: % Satisfied or Very Satisfied	Community Survey	No target defined	No Report
Signs	Ontario Minimum Maintenance Standards (MMS), for traffic signs	Regulatory	Meet or exceed Minimum Maintenance Standards (MMS)	Reportable on a case by case basis
Streetlights	Ontario Minimum Maintenance Standards (MMS) for Luminaires	Regulatory	Meet or exceed Minimum Maintenance Standards (MMS)	Achieve MMS Reqmts
	Streetlighting: % Satisfied or Very Satisfied	Community Survey	No target defined	No Report

3.8.3 External Trends and Issues

The Roadway System is integrated with the other infrastructure located under the road surface, such as water, wastewater and utilities (in urban areas) and stormwater assets. The levels of service for the roadway can therefore affect the condition and longevity of these other assets. For example, inadequate provision for stormwater drainage can cause water infiltration from the road surface into the roadbed resulting in poor performance of the road and damage to the underground assets. Conversely, failure to meet the levels of service for water, wastewater and stormwater assets can damage the roadway itself, with the potential for water leaking from pipes and undermining the roadbed.

There are some external influences on the Roadway System that need to be considered when planning for levels of service. One is the relationship between the Township of Muskoka Lakes and District of Muskoka. The District owns and operates the water and wastewater systems. It also takes advantage of the Township's stormwater drainage system. This necessitates an extra level of coordination required when work is required on roads that contain district infrastructure or is impacted by a District Road.

Climate change is increasingly having an influence on the design and construction of the road system.

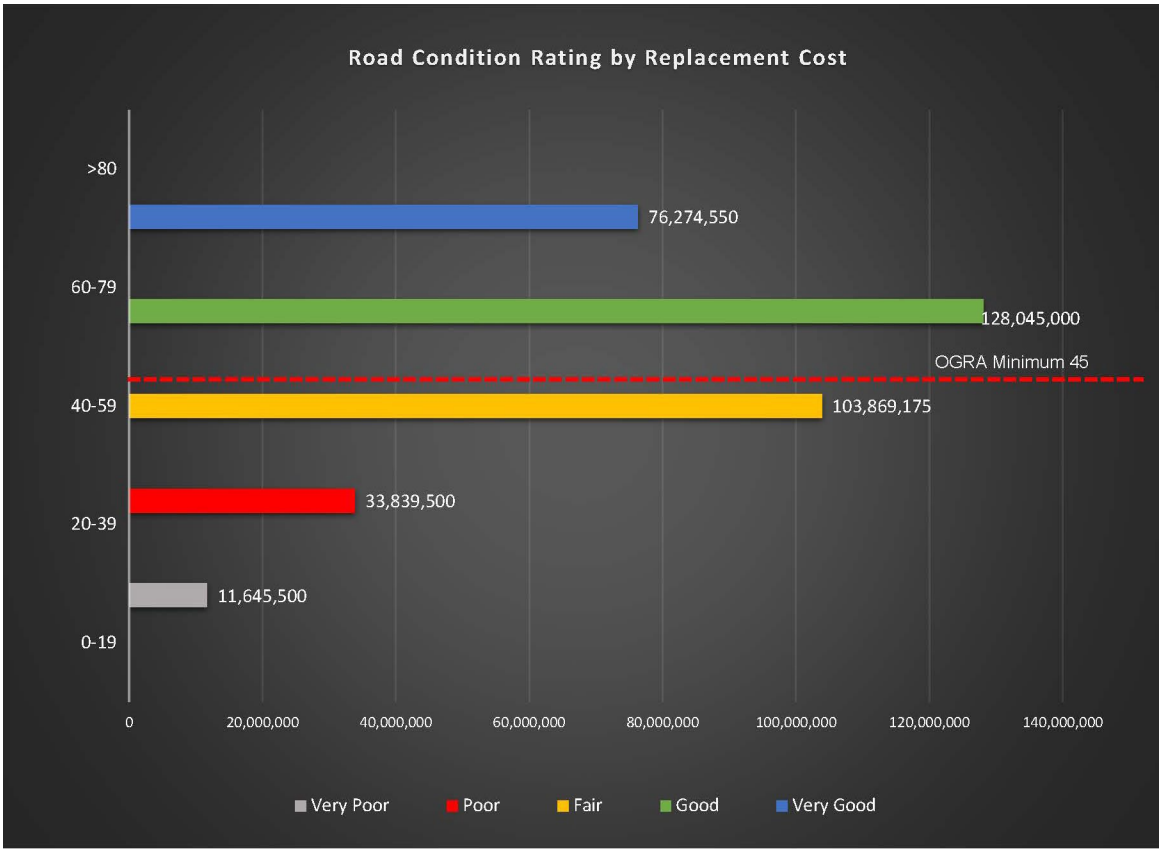
With the increased intensity and frequency of the significant weather events, the risk of flooding and blockage of the roadway due to deadfalls etc. is increasing. Consideration will have to be given to driving changes to design, construction and maintenance specifications.

3.8.4 Key Findings

A condition assessment of the road network was completed in 2022, which has provided a Township-wide insight into the current roads levels of service and backlog. Based upon the condition assessments completed, a visual map of the entire Township can be established to identify the overall level of service provided. Through the level of service initiative, the Staff plans to work with Council and the community to establish the desired target levels of service for roads, among other asset types.

Figure 10 shows the current value of roads according to its current condition state. Current Township practice is to construct the asset, allow it to deteriorate to the point of unacceptability and then plan to replace it. This is the most expensive approach to management of the asset and results in poor service to the public for upwards to half of the time that it remains in service. This approach has resulted in a current backlog of needs in excess of $22.5 M. The dotted line in the figure represents the recommended minimum level of service according to OGRA. Adoption of this standard would increase the needs from $22.5M to $30. As stated previously, these figures do not include any new infrastructure stemming from the Transportation Master Plan.

Figure 10. Road Condition Rating by Replacement Value



The maturity of the asset management practices for roads assets is less well developed than is the case for bridges and culverts. The traditional approach of managing strictly based on condition and adopting a worst first approach to reconstruction to achieving compliance with minimum requirements is not delivering value to the residents. Council should adopt a multi layered levels of service approach for the roadway system, based upon regulatory, condition, pavement quality and resident satisfaction

performance measures. As was the case for the bridge and culverts, there are two major opportunities for improvement:

- Establishing targets will provide a clearer measure of whether roadway assets are performing adequately.
- Improved reporting through the CityWorks Works and Asset Management System will address this issue.

Historically, the Township, not unlike most other municipalities, has relied on an asset stewardship approach to asset management that places emphasis on ensuring reliability of the assets. For at least a decade, there has been a paradigm shift towards customer-centric asset management. This new philosophy bases decisions upon the asset's ability to provide value to the customer. One of the key measures of value is the level of service that will be achieved. Levels of service need to relate to quality, quantity, reliability, responsiveness, environmental acceptability as well as cost.

Through the application of asset management principles, the Township should aim to understand the relationship between the levels of service and the cost of providing the service. This relationship can then be evaluated in consultation with the community to determine the optimum level of service they are willing to pay for. The end goal is that the Township can quantitatively evaluate and communicate the impacts of decisions on levels of service.

3.9 Storm Water Management

3.9.1 Target Condition and Function

Well-functioning Storm Water Management assets provide unobstructed flow of water from rainfall and runoff events into the storm sewer piping/ditch systems and storm water management facilities (including dams and control structures) and release that water in a controlled manner to rivers and streams, protecting the community from flooding, and the natural environment from erosion and water quality impacts.

3.9.2 Levels of Service

Levels of service for the stormwater management asset class are a mix of regulatory requirements and performance measures to identify priorities for end of life replacement (Table 24). The Township is required to comply with conditions in the Environmental Compliance Approval (ECA) for each stormwater management facility, keeping them in good working order. The legislated requirements for stormwater management focus on the "end of pipe" quality and rate of the water discharge that flows into natural watercourses, as well as ensuring the components of the facility are in good working order and there is adequate capacity in the facility.

The condition of the stormwater network assets is considered in the Road Reconstruction Priority Rating System, monitoring and ensuring that there is adequate drainage for the roadway and that the catchbasins and drainage pipes are in good repair. Similarly, the Stormwater Management Facility Prioritization system defines criteria for rehabilitation and replacement of the stormwater management facilities based upon condition and risk. Both the Road Reconstruction Priority Rating System and the Stormwater Management Facility Prioritization System identify priorities for the 10 year capital investment plan, based on the prioritization scores from these systems.

Table 24 Stormwater Management Levels of Service and Community Satisfaction Measures

Asset	Performance Measure	Measure Type	Target	Results (2022)
Stormwater Network	System Condition Rating	Asset Condition	No target defined	% Gd and V Gd = 1.3%
Stormwater Management Facility	Environmental Compliance Approval (ECA) requirements	Regulatory	Meet or exceed the conditions in the Environmental Compliance Approval (ECA) requirements for each facility	Reportable on a case by case basis
	Stormwater Management Facility Prioritization System	Asset Condition	No target defined	Priority projects incorporated into ten year capital forecast

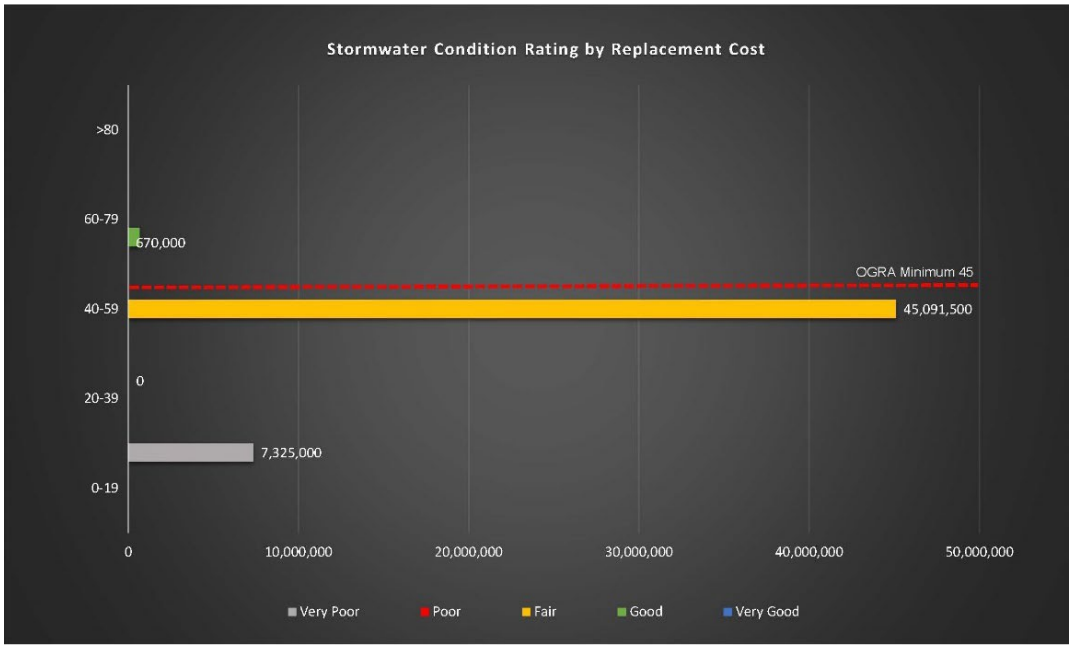
3.9.3 External Trends and Issues

There is strong coordination and integration between the storm water asset management strategies and the management of the roadway system assets as much of the storm water network provides drainage from the road surface and is located under or adjacent to the road bed. The major risk to maintaining levels of service for storm water assets is the changing weather conditions associated with climate change. These changing conditions have the potential to render storm water assets ineffective to handle storms long before these assets reach their end of life. Storm water management continues to evolve rapidly and levels of service need to take into consideration new storm water treatment technologies as well as source and conveyance controls.

3.9.4 Key Findings

Of the core infrastructure levels of service for the storm water assets is the least well developed within the Township, or throughout the industry as a whole. The past practice has been to construct the assets and then respond to failures. There has been a lack of regard for assets in this class. Figure 11 provides the breakdown in the value of the asset in each condition state. Although the assessment is based on the best available information, it should be considered suspect. Further data collection is required to improve the reliability of the analysis. Nonetheless, based on the current approach to asset management, the backlog of needs is approximately $1.6 M. Adoption of a more rigorous standard such as an extension of the OGRA recommendations would increase the value of the backlog to in excess of $4.1 M.

Figure 11 Storm Water Condition Rating by Replacement Value



The current focus of the levels of service for Storm Water Management assets is on complying with regulatory requirements and on identifying priorities for end of life replacement. There is an opportunity to implement a level of service for underground storm water pipes aligned with the scheduled camera inspection program to assess condition of these assets every five years.

Climate change is the single biggest risk to maintaining levels of service for this asset class, and the Township should work with other agencies involved in storm water management to plan for mitigation and adaptation strategies.

3.10 Structures (Bridges and Culverts)

3.10.1. Target Condition and Function

A bridge that is in a good state of repair has approaches and travelled surfaces that smoothly transition on and off the structure, are clean, well-drained, durable and safe. The structure is stable without significant defects that would draw into question its safety. The waterway the structure spans is unobstructed and free flowing so as to not cause a backup or flooding. All necessary protective measures are in place. Regulatory and warning signs are in place and clearly visible.

3.10.2. Levels of Service

Levels of service for the bridge system (Table 14) are primarily defined by the:

- Bridge Act RSO 1990;
- Canadian Highway Bridge Design Code (CHBDC) as amended by the MTO Structural Manual; and
- Minimum Maintenance Standard (MMS).

These standards are focused on safety rather than long-term sustainability of the asset. In order to ensure that the Township obtains the full value of the investment it has made in its structures, it should adopt additional levels of service that go beyond the legislated requirements for the primary components of the structure. Further development of levels of service will occur in 2023 for incorporation in the 2024 version of the asset management plan as required by O. Reg. 588/17. That analysis will expand condition based levels of service to a wider range of assets, including establishing target conditions and performance measures.

Table 25 Roadway System Levels of Service and Community Satisfaction Measures

Asset	Performance Measure	Measure Type	Target	Results (2022)
Bridge System	Overall System Condition: % in Good or Very Good Condition	Condition	70%	% Gd & V Gd = 59.4%
Bridges & Culverts	Canadian Highway Bridge Design Code (CHBDC) as amended by the MTO Structural Manual	Regulatory	Meet or exceed CHBDC Standards	Reportable on a case by case basis
	Ontario Minimum Maintenance Standards (MMS) for Deck Spalls, Cracks, Surface Discontinuities, Debris	Regulatory	Meet or exceed Minimum Maintenance Standards (MMS)	Reportable on a case by case basis
	Bridge Condition Index	Condition	No target defined	71
	Resident Satisfaction; % Satisfied or Very Satisfied	Community Survey	No target defined	No Report

3.10.3. External Trends and Issues

The bridges and culverts are integrated with the adjacent road infrastructure as well as any private or public utilities that may be attached to the structures. The levels of service for the structure can therefore affect the condition and longevity of these other assets. For example, runoff from the bridge surface onto the approaches can cause damage to the receiving structures and adjacent assets. Conversely, failure to meet the levels of service for the approach can cause damages to the structure and shorten its life expectancy.

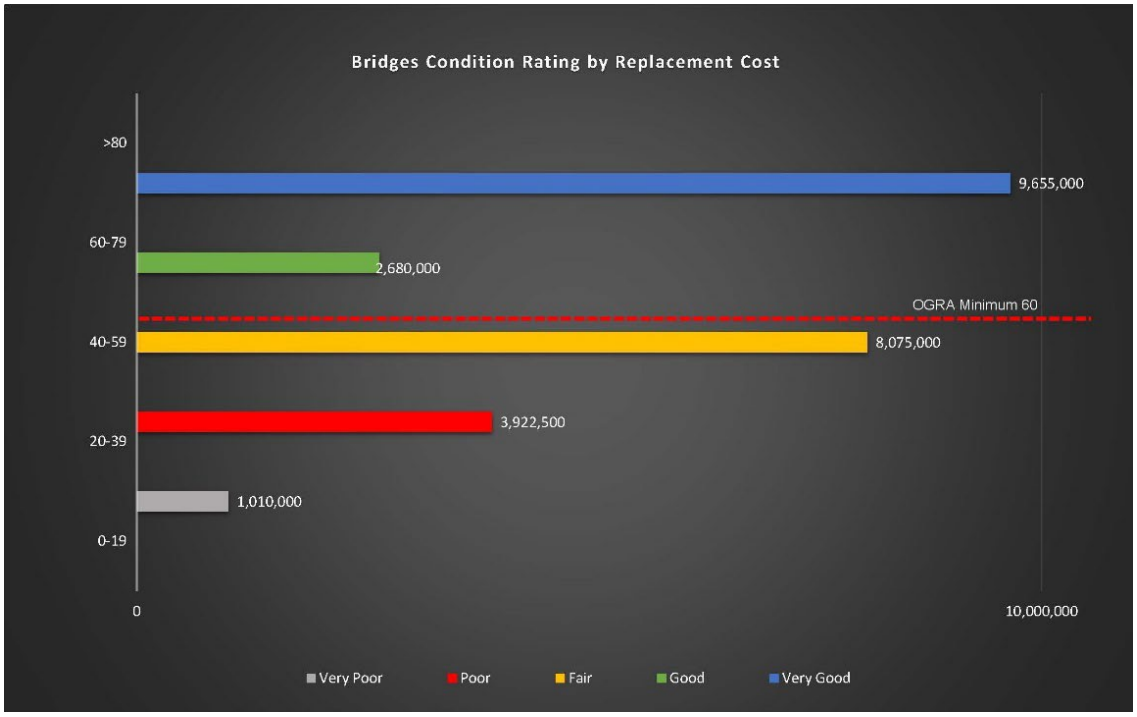
There are other external influences on the bridge system that need to be considered when planning for levels of service. One is the relationship between the Township of Muskoka Lakes and District of Muskoka. The District owns and operates the arterial roads, the water and wastewater systems and the public transit systems. There is an extra level of coordination required when roadwork is necessary on a road that connects to a District road or includes underground utilities.

Climate change will also have a significant and ever increasing influence on these structures, with the risk of flooding that could cause serious damage to the structures and the roadway approaches. This will drive changes to design and construction specifications.

3.10.4. Key Findings

Figure 12 illustrates the value of the bridge and culvert inventory in each condition state. At present, the estimated value of the needs for the Township's Bridge's and culverts is in excess of $5.2 M. Past practice has been to focus almost exclusively on safety and only consider the asset for replacement after it falls into the poor or very poor condition state. This approach has resulted in a poor level of service to the community, increased operating and maintenance expenditures and a higher lifecycle cost. Industry standards would suggest that the targets should be that all structure should be kept in a good condition state or better. If this becomes the target, the backlog of needs increases from $5.2 M to $8.2 M.

Figure 12: Bridge and Culvert Value According to Condition State



The maturity of the asset management practices for bridge assets is a reflection of the high level of importance placed on these assets. The majority of the practices however are focused on safety and not necessarily on obtaining the greatest value for the expenditure of public funds. The concept of level of service should be expanded to include safety, condition and resident satisfaction performance measures. The following are two major opportunities for improvement:

- many of the performance measures lack defined targets and establishing targets will provide a clearer measure of whether roadway assets are performing adequately; and
- there is a data management challenge with reporting on regulatory performance. The work is being done to meet the Ontario Minimum Maintenance Standards, but the system of tracking work orders for the numerous minor repairs that need to be performed on the bridge and culvert system each year requires new data management processes and tools. However, improved reporting and data management through the new CityWorks Works and Asset Management System is expected.

3.11 Vehicles and Equipment

3.11.1. Target Condition and Function

Well-functioning Vehicles & Equipment assets support the delivery of municipal services and the management of assets; they meet all regulated requirements, and are safe and efficient to operate.

3.11.2. Levels of Service

Heavy vehicles and equipment are a highly regulated asset class. As a result, the majority of levels of service involve meeting the regulations for commercial and off road vehicles (Table 26). Other levels of service include following the manufacturer's recommended preventative maintenance schedules and guidelines for disposal of the assets at end of life. Additionally a fleet utilization policy to right size the fleet and better align individual fleet vehicles for the uses intended, including the provision of energy efficient vehicles, should be developed.

Table 26 Levels of Service Vehicles and Equipment

Asset	Performance Measure	Measure Type	Target	Results (2022)
Vehicles and Equipment	Regulatory Compliance MTO, Highway Traffic Act	Regulatory	Meet or exceed Ministry of Transportation requirements for each vehicle	Reportable on a case by case basis
	Manufacturer's recommended scheduled maintenance	Best Practice	No target defined	Reportable on a case by case basis
	Fleet Disposal Guideline	Condition	No target defined	Reportable on a case by case basis
	Energy Efficiency	Best Practice	No target defined	Reportable on a case by case basis

3.11.3. External Trends and Issues

As shorter-lived assets, there are few risks that can affect the asset management of existing vehicles, but substantial changes to the vehicle fleet composition may be required in the coming years. These changes may include emissions reduction requirements, increased expectations for use of electric vehicles and charging stations, autonomous (self-driving) vehicles and use of alternative fuels.

3.11.4. Key Findings

The current focus of the Vehicles & Equipment asset levels of service is on: complying with the extensive regulatory requirements that govern commercial and off road vehicles in Ontario, following manufacturers recommended maintenance schedules, and identifying vehicles for end of life replacement. As shorter- lived assets that are easily seen and managed, Muskoka Lakes has developed good practices for maintenance, repair and replacement.

Though Muskoka Lakes is meeting the regulatory requirements and is following best practice, there is a data management opportunity to improve reporting. There is also an opportunity as part of a Fleet Utilization Review to establish guidelines for right sizing the fleet and better aligning individual vehicles with their intended uses.

3.12 Other Considerations

The asset management plan is intended to address the needs of the existing infrastructure and provide a plan for addressing those needs over the term of the plan. This will not however address the anticipated future needs and therefore will not provide Council with a complete picture of the total needs facing the community.

Since the release of the Core Asset Management Plan, the Township has completed three master planning exercises including:

- Parks and Recreation Master Plan
- Fire Master Plan
- Transportation Master Plan

In addition two follow up studies; the Arena Feasibility Study and the Fire Station Location Study have been initiated to examine high priority level of service questions stemming from the respective master plans. Each master plan has highlighted the need for improved and expanded levels of service to meet unfulfilled needs in the current programs and/or additional expectations from the community. These include:

Parks and Recreation Master Plan:

The P&RMP identified 111 recommendations in three broad service directions;

- Enhance Program Offerings and Partnerships
- Rethinking Facilities
- Creating an Effective Recreation Organization

The recommendations promote a future vision for the Township and the direction will of necessity have an impact on current assets. It is therefore relevant to the asset management issue.

Of the recommended improvements approximately half would involve staff time for implementation of the initiative. The remaining recommendations represent a potential commitment of $51,835,000 over the next 25 years and may involve the creation of new assets including a new field complex, new arena(s) and new indoor recreations space(s). This amount equates to an average annual expenditure of $2,073,400 per year. If the recommendations are implemented Council will have to consider a potential consolidation of several facilities into a smaller number of more centralized and efficient assets with greater number of amenities and an expanded offering of more outdoor focused recreation opportunities. The net affect will be right sizing of assets with a short term reduction in operating expense and the potential for the proceeds from possible sales of existing assets devoted to new assets better suited to the needs of the community.

Given that new facilities are being created there may be an opportunity to fund these projects using a combination of grants and debt financing. The cost of these projects can't be determined at this time. Council will have to identify the priority and timing of these projects and adjust financial projections accordingly

Fire Master Plan:

The Fire Master Plan and Community Risk Assessment identified 58 recommendations involving

improvements in three categories;

- People (Firefighter recruitment and retention, & training) 5 recommendations
- Processes (By-law, policies, agreements & procedures) 46 recommendations
- Product (Capital assets, software investments) 7 recommendations

The cost of these recommendations should be considered as part of the overall asset management plan in order that proper financial planning can take place over the next 25 years. The bulk of the recommendations are operational and will be considered as part of future operating budget discussions. The 'product' recommendations represent a potential commitment of $2,300,000 over the next 25 years with potential of $11,400,000 in fire station investments. This amount equates to an average annual expenditure of $548,000 per year."

Transportation Master Plan:

The TMP identified 82 recommendations involving improvements in five broad categories;

- local road and bridge,
- public transit,
- active transportation,
- parking and
- lake access

The cost of these recommendations should be considered as part of the overall asset management plan in order that proper financial planning can take place over the next 25 years. Of the recommended improvements approximately half (38) would fall under the authority of either the District or MTO who would bear the bulk of the responsibility for implementation of the initiative. The remaining 44 recommendations represent a potential commitment of $12,742,900 over the next 25 years. This amount equates to an average annual expenditure of $510,000 per year.

On the basis of the foregoing, Council consider an average annual allocation of approximately $1.5 M to address growth and related needs with sporadic larger investments to fund larger individual projects at least for the term of the plan. The allocation should be revised with the update of each of the master plans so that adequate allowances can be made in the Township's financial plan.

3.13 Levels of Service Framework

A Level of Service Framework formally documents the expectations and approach for the maintenance and upkeep of the Township's assets. The framework is typically the product of a core services review and should be used to inform the final version of the AMP in 2025.

The project should commence with identification and documentation of current performance and the practices and procedures in place to

achieve the current level of service. The second phase of the review should focus on establishing targets and engaging a broad group of stakeholders, both internal and external, in the conversation around levels of service within the Township. The work is intended to be a living process that will undergo reviews and regular updates to ensure that these vital documents remain current and applicable and reflect the changing needs of the community.

The project should consist of the following tasks:

1. Service Inventory Review/Update: A background review of the asset data and operating and capital budgets to identify the services provided by the Township.

2. Best Practice Review of LOS Frameworks: LOS frameworks from different municipalities around the province to provide perspective on LOS approaches that have already been established and ensure that the Township of Muskoka Lakes' LOS Frameworks will align with experience and best practices from elsewhere.

3. Development of Public Engagement Strategy: A public engagement strategy to consult the public

on their infrastructure priorities and values so they can be used as part of the process to develop capital and operational expenditure plans.

4. Service Level Agreements: Service level agreements to define the services that will be provided to the customer and establish the relationship between the service provider and customer.

5. Key Service Attributes: The LOS frameworks to include key service attributes, which are phrases that describe the service that will be provided.

6. Level of Service Statements: The LOS frameworks to include LOS statements, which are short sentences that describe the outputs of the service that align with the key service attributes. Some key service attributes may have more than one LOS statement.

7. Performance Measures: Develop targets for each of the service areas for identified metrics from the Levels of Service Frameworks. This will be achieved by engaging both internal and external stakeholders in a dialogue centred on around the desired level of service, considering both the cost of the level of service and the desired output. Customer and technical performance measures should be SMART (specific, measurable, achievable, relevant, and time-bound).

8. Risk Assessment: Risk assessments for all services identified in the service inventory review.

9. A 10-year implementation plan with recommendations on how to update and improve existing levels of service information.

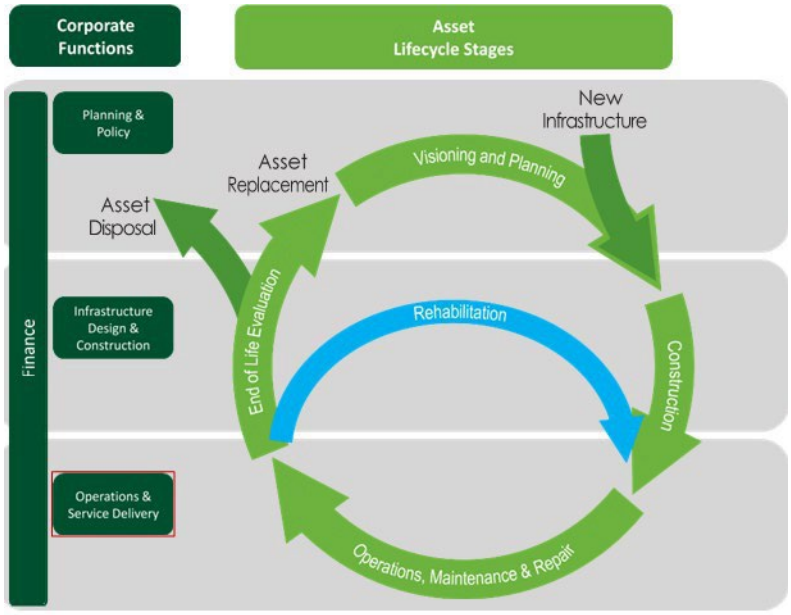

MUSKOKA
GLEN
ORCHARD
CEMETERY

SECTION 4: ASSET MANAGEMENT STRATEGIES

4 Asset Management Strategies

Asset management strategies are a series of planned actions that Township will use to manage its infrastructure in order to meet defined levels of service. The life cycle of an asset typically starts with the identification of a need. Once the need has been defined, the asset is acquired or constructed. The asset is then operated and maintained on an ongoing basis until a more invasive treatment or renewal is required. As the asset nears the end of its life, a plan is established to replace the asset in like kind, upgrade the asset to meet the future needs or decommissioned and disposed of the asset if no longer required. These activities collectively represent the asset's lifecycle as illustrated in Figure 13 below.

Figure 13: Asset Management Life Cycle



4.1. Asset Management Strategies

In asset management, the focus should be on using a full lifecycle approach when considering the acquisition of an asset. The planned actions throughout the asset's full lifecycle will enable the assets to provide desired levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost. It is important to note that an asset management strategy is the set of actions that, taken together, has the lowest total cost – not the set of actions that each has the lowest cost individually. As an example, it does not make long term sense to purchase an asset cheaply if the extra operation and maintenance requirements of that asset, or its shortened life expectancy, will cost more than purchasing a more durable or reliable asset. It is also not effective to continue to maintain and repair an asset when it would be less costly to replace the asset. Determining the optimum set of management strategies requires the analysis of a number of options and the risks associated with each one. This is particularly relevant when it comes to making a decision to replace an asset.

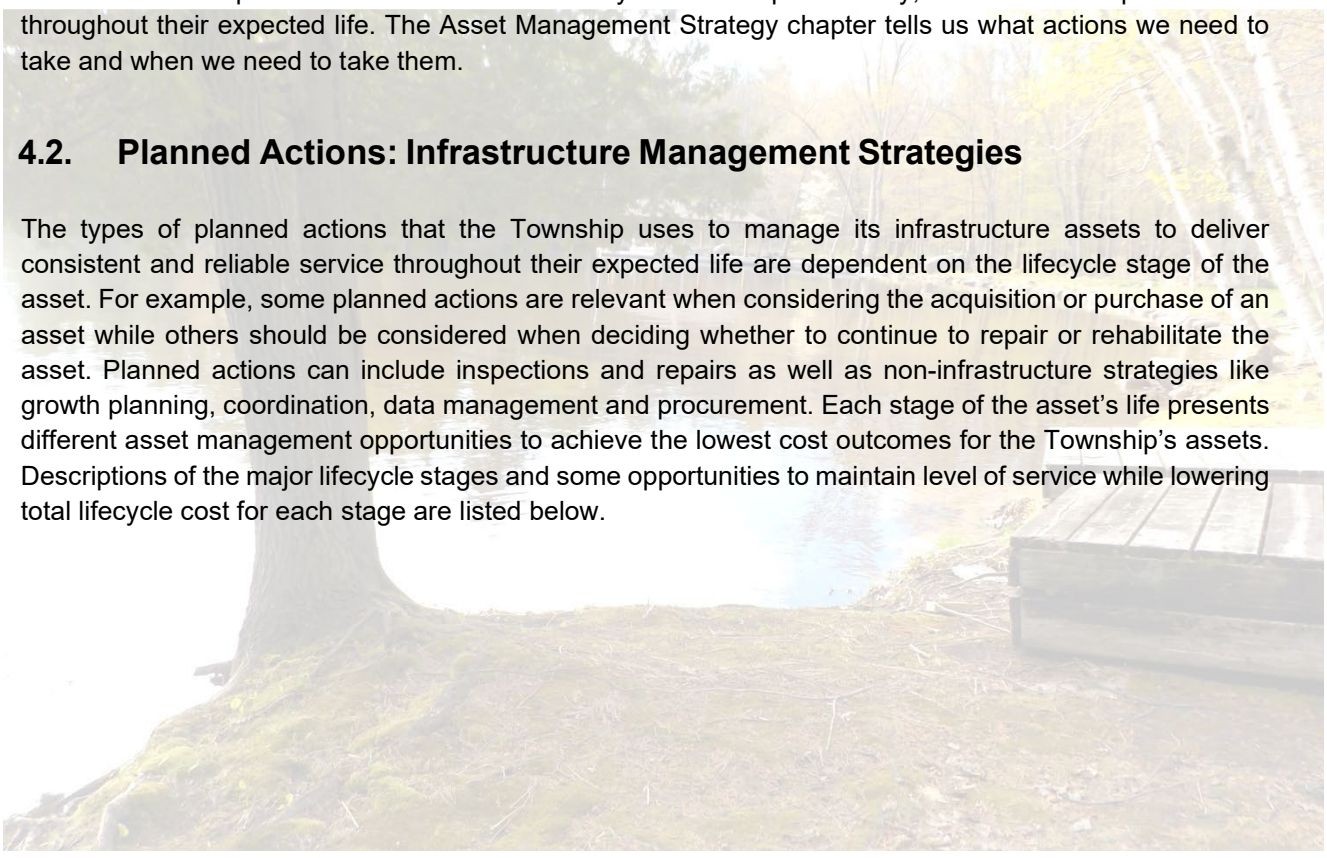
As specified in the Building Together Guide, lifecycle management strategies can be broadly grouped into the following key categories:

- Non-infrastructure solutions: Actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures).
- Maintenance activities: Including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- Renewal/rehabilitation activities: Significant repairs designed to extend the life of the asset. For example, the sealing of a roadway to defer the need for replacement.
- Replacement activities: Activities that are expected to occur once an asset has reached the end of its useful life and renewal/ rehabilitation is no longer an option.
- Disposal activities – the activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
- Expansion activities – planned activities required to extend services to previously un-serviced areas – or to expand services to meet growth demands.

These actions help to maintain our assets so they do not fail prematurely, but continue to perform well throughout their expected life. The Asset Management Strategy chapter tells us what actions we need to take and when we need to take them.

4.2. Planned Actions: Infrastructure Management Strategies

The types of planned actions that the Township uses to manage its infrastructure assets to deliver consistent and reliable service throughout their expected life are dependent on the lifecycle stage of the asset. For example, some planned actions are relevant when considering the acquisition or purchase of an asset while others should be considered when deciding whether to continue to repair or rehabilitate the asset. Planned actions can include inspections and repairs as well as non-infrastructure strategies like growth planning, coordination, data management and procurement. Each stage of the asset's life presents different asset management opportunities to achieve the lowest cost outcomes for the Township's assets. Descriptions of the major lifecycle stages and some opportunities to maintain level of service while lowering total lifecycle cost for each stage are listed below.



4.2.1. Asset Acquisition

Many of the Township's assets like roads and bridges belonged to the former municipalities prior to the formation of the Township of Muskoka Lakes. These municipal infrastructure assets were added to as land in the Township was developed or redeveloped by the private sector. Where this is the case, ownership of an asset is transferred to the municipality after construction. The standards and specifications for public infrastructure were not established until relatively recently. As a consequence, the Township has some infrastructure with deficiencies which must be resolved when reconstruction occurs. This represents a considerable liability to the municipality. The adoption of standards and specifications are key non-infrastructure solutions for the municipality to manage the future reconstruction and expansion of its infrastructure.

4.2.2. Non-Infrastructure Solutions

These are actions or policies that can lower costs or extend asset life such as better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc. Muskoka Lakes should incorporate non-infrastructure solutions into its asset management strategies using the following:

- Strategic Plans and Land-Use Planning (eg. Strategic Plan, Official Plan)
- Standards and Specifications for new infrastructure
- Procurement By-law, Policies and Procedures
- Coordination of multiple asset replacements at the same time
- Coordination with other levels of government

The majority of the Township's procurement activities are undertaken competitively to ensure the lowest cost bidder that meets the specifications and standards is awarded the contract. Efforts to strengthen the consideration and application of total lifecycle cost as a criterion in the procurement process need to remain a priority. Regardless of how an asset is acquired there is an opportunity to include up to date information on new assets into the asset database at the time of acquisition to improve data confidence for future decisions. A major question to be considered during the asset acquisition stage is whether designing to a higher standard or purchasing a different type of asset can result in lower costs later in its lifecycle.

4.2.3. Operations & Maintenance

A key asset management strategy is inspection, assessment, and preventative maintenance of the assets to prevent potential problems before a failure occurs or before more significant maintenance would be required. This includes a range of routine planned actions such as street sweeping, calcium stabilization, catchbasin cleaning, flushing of sewers and quarterly and annual equipment servicing. Major questions to be considered during the operations and maintenance stage are whether the asset can be operated in a way that reduces day to day costs or whether additional inspection, assessment and maintenance before failures occur could reduce costs and minimize service interruptions.

4.2.4. Repair

The repair of damaged infrastructure is a key asset management strategy when Operations & Maintenance is not sufficient to maintain assets in acceptable condition or when damage is unexpected. This includes a wide spectrum of actions ranging from concrete repairs to a bridge deck or sidewalk to repairing potholes. Major questions to be considered during the repair stage are whether repairs can be avoided without affecting the level of service, whether they can be performed at a lower cost through a different service delivery mechanism, or whether they should be used to extend the life of the asset that is nearing the end of its life expectancy.

4.2.5. Rehabilitation

Some infrastructure assets can be restored to near-new condition and have their expected life extended through planned rehabilitation actions if the actions are implemented in a timely fashion. In many instances this may be more cost effective than allowing assets to reach their end of life. It also results in a higher level of service and higher levels of resident satisfaction. This approach has not traditionally been followed by the Township. A condition assessment analysis often provides the detailed information needed to determine the scope of the rehabilitation. Examples of rehabilitation of Township's assets are sealing of road surface or sewer re-lining where a smaller diameter pipe is inserted into the existing sewer or an asphalt overlay program where several kilometers of roads are milled and/or resurfaced each year. Major questions when considering rehabilitation are whether it would be more economical to continue to repair the asset even as the frequency of repairs increase, whether rehabilitation is required to restore level of service, or whether enough interconnected components of the infrastructure are degraded to the point where it makes no sense to rehabilitate part of the infrastructure.

4.2.6. Replacement

There comes a time in the lifecycle of most infrastructure assets when the most cost-effective strategy is to replace the asset. This may be reached when it no longer makes sense to repair or rehabilitate the asset, such as when a road is in poor condition and its underlying sewer/drainage system is experiencing frequent failures. It may also be due to the asset no longer meeting the need of a community such as a single lane bridge where the traffic has grown to the point that the width needs to be increased to accommodate two lanes. Some of the key questions at the replacement stage are whether the original design or the service level associated with the asset needs to be re-evaluated, and whether coordinating multiple asset replacements can reduce total costs.

4.2.7. Disposal & Decommissioning

Some assets result in a substantial liability at their end of life which may include demolition costs and land restoration, and more rarely includes land contamination remediation and disposal of hazardous waste. Disposal and decommissioning costs should be included in the total lifecycle costs and asset management practices for municipal assets. A key question at this stage is how the financial, environmental and social costs can be minimized during the disposal of an asset. This is becoming an issue of increasing importance especially as it relates to some of our buildings. The Township should do a periodic risk assessments associated with decommissioning and disposal of assets. With the recent completion of the asbestos surveys of all Township building, the Township is much better informed as to the extent of this long term liability. Asbestos was found in 10 out of the 44 buildings surveyed. Of the ten buildings, three of the locations are friable and require immediate attention. These situations will be addressed in 2024. The remaining seven sites are considered stable and of no immediate concern. These will require remediation at the time of the next rehabilitation of the facility or upon disposal of the asset. The estimated cost of the remediation is $210,000.

4.3. Options Analysis

In order to achieve the lowest for the assets it is important to consider the options available at each stage of the lifecycle while maintaining the level of service for that asset. Given the range of potential options at any stage in the lifecycle of an asset, achieving the goal of minimizing the total lifecycle cost requires a defined process to evaluate the potential options and determine the best decision to make. The Township should have options analysis processes focused on different stages in the lifecycle including acquisition, operations, maintenance & repairs, rehabilitation and replacement. Each of these are discussed below.

4.3.1. Asset Acquisition

Muskoka Lakes has a recently embarked on comprehensive process to plan for the future growth of the Township through the development of a series of master plans. In particular the he Township is guided by a number of planning documents including the Strategic Plan (2020), Official Plan (2023), Parks and Recreation Master Plan (2022), Fire Master Plan (2022) and a Transportation Master Plan (2023). Each of these documents has been developed through the lens of setting a vision for the municipality and roadmap to deliver on that vision keeping in mind the options available and risk mitigation to best serve the residents of the Township currently and into the future. The expansion of services to new areas or extension of existing services to meet future demands should coordinated through the 10 year capital forecast, balancing funding allocations amongst the growth needs of the master plans, and funding rehabilitation and replacement of existing assets. There is an opportunity to review and improve the asset acquisition standards and policies to reduce total lifecycle costs.

4.3.2. Operations, Maintenance & Repairs

Options for optimizing operating and maintenance activities should be considered every budget cycle and should be the focus of internal reviews, such as a core services review. There are opportunities to develop more options analysis at the operations, maintenance and repairs stages of the lifecycle resulting in lower costs. Options analysis during the operations phase of asset lifecycles should be a future focus in the ongoing development of the CityWorks work and asset management program as more data becomes available.

4.3.3. Rehabilitation

Infrastructure assets which are candidates for rehabilitation should be a more detailed options analysis supported by detailed condition assessment reports. There are several triggers for rehabilitation depending upon the asset class. For example, roads have a Pavement Condition or Quality Index that triggers rehabilitation activities which combines asset condition information with age information to create a list of assets that are candidates for rehabilitation. Similar indices exist for facilities. Incorporated into the option analysis should be a requirement to evaluate alternatives to improve service and decrease cost. As the asset management plan and processes mature there is an opportunity to focus more on rehabilitation activities, which often results in lower total asset lifecycle costs, instead of the current focus on asset replacement.

4.3.4. Replacement

In Muskoka Lakes, like most municipalities, prioritization is set based on the worst first approach. Some of the major asset classes have guiding measures to aid in the identification of the highest priorities for replacement. These guiding indicators are based on traditional approaches prescribed by the Province of Ontario when it took a more active role in municipal management. Prioritization systems should be more broadly based and include criteria to evaluate the level of risk the asset presents, based on condition, function, opportunities, benefits and costs so informed decisions can be made. They should also consider the opportunities for coordinated or integrated action on different asset classes, such as the roadway system with its underground water, wastewater and storm water assets, to avoid impacts and unnecessary costs.

4.3.5. Asset Replacement Priority Rating Systems

For each asset class, different considerations are weighted when prioritizing major asset rehabilitation and replacement work, balancing technical analysis, risk and community expectations.

In addition to the project prioritization rating systems, each capital project proposal should include a option analysis that assesses the risks and advantages of the proposed project implementation options. Each option analysis case should address:

- Historical statistics supporting the need for the capital project;
- Identify any risk to the community or the corporation;

- How the completion of this project will service the current and future needs of the community;
- How the risks with the current strategy will be reduced though the completion of this project Qualitative (non-financial) impacts of completing the capital project;
- How it is in support of the overall objectives of the Township or Department. How other municipalities or related organizations are performing this function;
- The comparative advantages and disadvantages of each alternative implementation, demonstrating that staff have exercised due diligence in arriving at the recommended project;
- Overall capital costs, and provide an estimate on the operational costs of the capital asset's first year of operations and the first full year of operations. Where possible, include a forecast provision for capital impacts as a result of ongoing studies, master plans, recommendations, and development charge updates, etc.; and
- Other possible funding opportunities besides Reserves, Development Charge or tax rate including: third party funding recovery, partnership opportunities and Federal Gas Tax

A description of the specific options analysis processes associated with each asset class can be found in sections 4.4 to 4.12.

4.4. Buildings

4.4.1. Asset Management Strategies

Although Muskoka Lakes has a range of buildings that accommodate different uses, the strategies to maintain the buildings at their target condition are similar. There is only one set of asset management strategies for Muskoka Lakes's buildings instead of strategies for each type of building, which is an industry-wide approach. For example, maintenance of heating, ventilation and air conditioning are similar, regardless of the type of building, as are the maintenance strategies for the electrical systems, foundation and interior walls. One drawback to this approach relates to Heritage Buildings. While most components of Heritage Buildings can be managed like a conventional building, others, like the designated heritage features, need specific attention.

Traditionally asset management of buildings in Muskoka Lakes consisted of regular cleaning and fixing what was broken when it happened. Staff moved continuously from one crisis to the next. There was not any proactive asset management strategies in place for each stage of a building's lifecycle. In the last five years the Township has adopted a more proactive approach to the management of its building assets. Table 30 identifies as recommended approach which is robust and will serve the Township well into the future. As a first step the monitoring, operation, maintenance and repair stages of the lifecycle have been strengthened. It is recommended that these measures should be formalized through the adoption of a level of service guideline. The guideline should outline responsibilities for daily weekly, monthly, quarterly and annual inspection, operating and maintenance requirements and service level standards for repairs. Within the buildings asset management strategies a strong emphasis should be placed on preventative maintenance and following the manufacturers recommended maintenance programs.

Major component replacements, such as the replacement of lighting and heating systems, follow well established processes, as do the rehabilitation of facilities. Several of Muskoka Lake's buildings such as the Raymond and Ullswater Community Centres as well as the Township Offices have undergone major renovations to keep these facilities within their target condition, to meet accessibility and energy conservation requirements, and to adapt to the changing needs of the community. Only rarely is it necessary to decide that a building is at its end of life, and then decommission the building and possibly build a new one. Finally, energy audits and energy conservation goals may result in early replacement of building components where the savings justify the costs.

Table 27. Buildings Life Cycle Actions

Buildings Life Cycle Actions	
Life Cycle Stage	Actions
Monitoring	Building automation system monitoring Daily, weekly, monthly, quarterly annual inspections as per the Service Level Agreement
Condition Assessment	Asset condition surveys every 5 years
Operations & Maintenance	Daily, weekly, monthly, quarterly, annual operations as per the level of service guidelines Preventative maintenance work orders
Repairs	Demand maintenance work orders
Rehabilitation	Building rehabilitation/renovation subject to capital option analysis
End of Life	Building replacement/disposal subject to option analysis

4.4.2. Options Analysis and Project Prioritization

There are asset management strategies for major building components at each stage of a building's lifecycle. The majority follow manufacturers recommended maintenance schedules, which is a strong approach. Decisions to apply asset management strategies to operate, maintain and repair buildings should be established through a level of service guideline and tracked through the CityWorks Work and Asset Management System. Rehabilitation, including the replacement of building system components or major renovations to facilities should be guided by a lifecycle planning tool and option analysis which should include the evaluation of alternatives.

4.4.3. Key Findings

There is an opportunity to establish specific asset management strategies for the Township's buildings, to look at a process to identify components that are not near their end of life but are requiring frequent repairs and to look at standards for the initial construction of a building in the context of minimizing overall lifecycle costs.

4.5. Fire

4.5.1. Asset Management Strategies

Asset management strategies for Muskoka Lakes's fire vehicles & equipment are largely driven by Ontario regulations, National Fire Prevention Association guidelines and following manufacturers recommended maintenance schedules (Table 28). The majority of these strategies are in the monitoring and preventative maintenance stages of the lifecycle to try to minimize unplanned service interruptions and costs. At the End of Life, vehicles are replaced taking into consideration changes in technology, fuel efficiency and intended use. Once the replacement vehicle is in place it is placed in reserve and the displaced vehicle is sent to auction to recoup residual value.

Table 28 Fire Vehicle Life Cycle Strategies

Vehicles and Equipment Life Cycle Actions	
Life Cycle Stage	Actions
Monitoring	Daily Circle Checks Annual Inspection and certification Annual Safety Validation Emissions testing
Condition Assessment	Annually at time of certification
Operations & Maintenance	Annual service Seasonal service Manufacturer recommended scheduled maintenance Retorque wheels
Repairs	Demand Work Orders
Rehabilitation	Capital option analysis
End of Life	Disposal of Vehicles & Equipment (Auction)

4.5.2. Options Analysis and Project Prioritization

End of life decisions are dictated by NFPA guidelines which recommend that fire apparatus be replaced every 15 years. When vehicles near their End of Life the condition and annual operating cost for the vehicle are evaluated to determine whether vehicles can be kept in service. NFPA guidelines allow for extension of the life for up to an additional five years subject to annual certification. In this way capital costs are kept to a minimum. Additionally, a Station Location Optimization Study has recently been initiated. Depending on the outcome of the study there may be an opportunity to right-size the fleet. The recently deployed CityWorks fleet management module will significantly improve staff's ability to track the monitoring, operations & maintenance and repair actions in the future.

4.5.3. Key Findings

Asset management strategies for Muskoka Lake's fleet of fire vehicles & equipment assets follow regulated requirements and the manufacturers recommended preventative maintenance schedules. Options analysis is focused around the timing of the end of life disposal of a vehicle and around purchase of new vehicles. A station location optimization study is underway which will establish options for right-sizing both the stations and the fleet.

4.6. Information Technology

4.6.1. Asset Management Strategies

Asset Management Strategies for the Information Technology assets focus on monitoring and preventative maintenance such as keeping hardware and software secure and virus free, providing software updates, backing up data and following manufacturers recommended maintenance schedules (Table 29). A Helpdesk is available to assist users with issues that are affecting their use of Information Technology assets.

End of life replacement of desktop hardware is on a four year cycle and the intention is to plan for network hardware replacement on a five year cycle. Replacement frequency of smartphones and cellphones is based on contract renewal dates of 3 to 4 years and replacement of other Information Technology assets is subject to an option evaluation.

Table 29 Information Technology Life Cycle Strategies

Information Technology Life Cycle Actions			
Life Cycle Stage	Hardware	Software	Telecom
Monitoring	Security & Virus Scans	Security & Virus Scans	
Operations & Maintenance	Data backups Manufacturers recommended maintenance Annual maintenance contracts	Software updates	
Repairs	Service requests through eService and Helpdesk	Service requests through eService and Helpdesk	Service requests through eService and Helpdesk
End of Life	Desktop computers replacement: 4 years Network components replacement: 5 years Capital option analysis	Capital option analysis	Capital option analysis

4.6.2. Options Analysis and Project Prioritization

Options analysis and project prioritization of Information Technology assets is currently undertaken on a project by project basis through the annual IT Capital Planning process. The Township should look to improve this approach to include more proactive asset management strategies. An Information Technology Strategy was completed in 2022 to update the asset management strategies and create a roadmap for keeping Muskoka Lake's information technology systems effective and current.

4.6.3. Key Findings

Asset management strategies for Information Technology assets and data focus on scheduled monitoring and preventative maintenance as well as service requests through the eService portal. The development of an Information Technology Strategy, the recent shift to a new service provider and an update to the eService portal are expected to improve options analysis and project prioritization from a project by project basis to a more planned and integrated approach.

4.7. Parking Lots

4.7.1. Asset Management Strategies

Asset management strategies are not in place for the Township-owned parking lots. Protocols should be put in place and should consist of strategies adapted from the roadway system for use in a parking lot context. A full range of asset management strategies are proposed for this highly visible asset class (Table 30) moving forward.

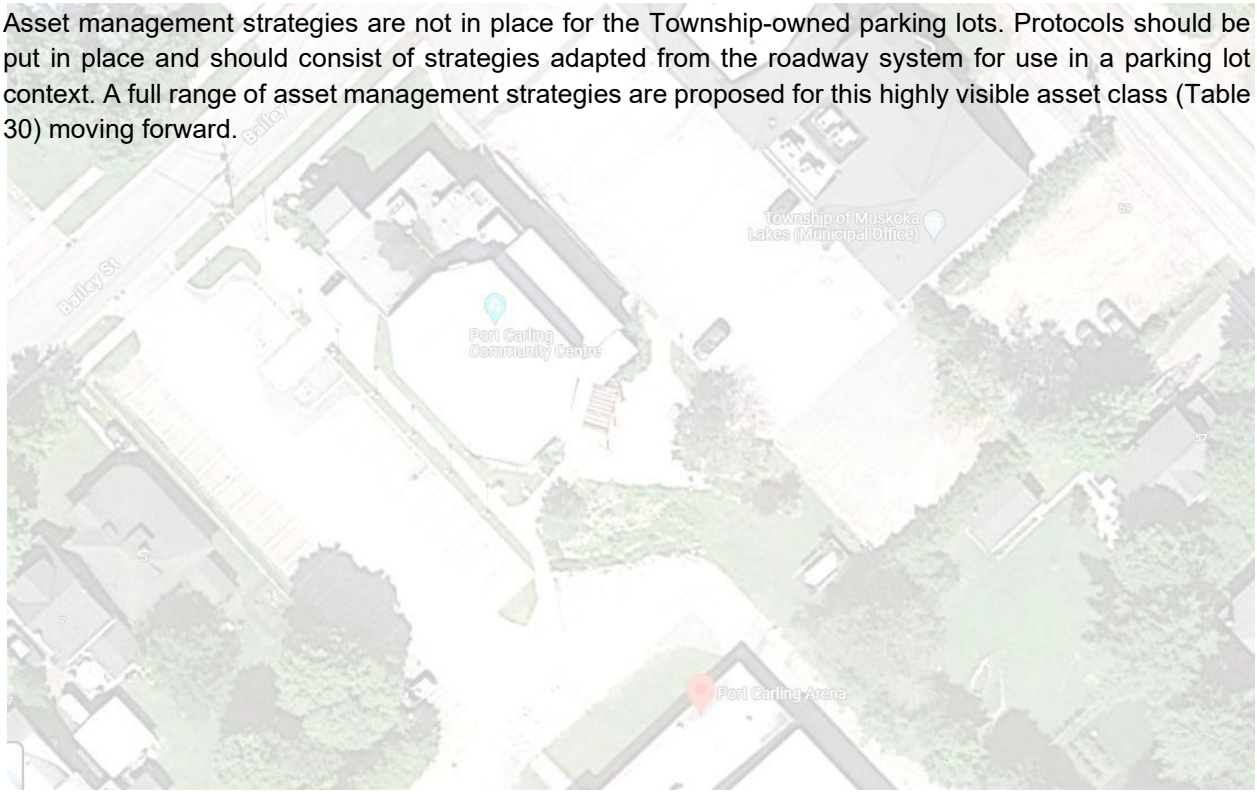


Table 30 Parking Lot Life Cycle Strategies

Parking Lot Life Cycle Actions	
Life Cycle Stage	Actions
Monitoring	Monthly inspection (Road Patrol)
Condition Assessment	PMS update every 3 years. PQI used to rate parking lot surface condition Annual Sidewalk Rating System
Operations & Maintenance	Sweeping Debris removal Crack sealing Asphalt cold patching Winter maintenance Line and marking repainting Light standards annual test Light standards annual maintenance
Repairs	Shouldering Curb repair Sign and post repair Graffiti removal Fence repair or replace Asphalt hot patching Asphalt cold patching Concrete grinding Mud jacking Interlocking base repair/reinstall Luminaire replacement Pole repair Pole replacement Electrical supply repair
Rehabilitation	Asphalt shave and pave Asphalt full overlay Asphalt infrared seal Asphalt micro-seal Sidewalk bay replacement
End of Life	Capital option analysis

4.7.2. Options Analysis and Project Prioritization

Currently, Muskoka Lake's parking lots have limited inspections and repairs are carried out on an as-needed basis. Moving forward there is an opportunity to adapt strategies similar to those for the roadway system to the parking lot context and to track monitoring, operations & maintenance and repair decisions through the CityWorks Work and Asset Management System. From an options analysis perspective, much of what is applied to the management of the roadway system is applicable to parking lot assets.

The need for rehabilitation is identified by condition assessment results and each project should be supported with an option analysis which should include an evaluation of alternatives. A condition assessment has been recently completed for several of the parking lots. The recommendations from the condition assessment will be incorporated into the Township's ten year capital forecast on an ongoing basis.

End of life replacement of parking lot assets may be included during the upgrade of the associated facilities, carried out as part of a major building renovation, or proceed separately subject to an approved option analysis.

4.7.3. Key Findings

Asset management strategies and options analysis for parking lots need to be defined. Previously, Muskoka Lake's parking lots were inspected irregularly and repairs were carried out on an as-needed basis. Many of the strategies for monitoring, operations & maintenance, repairs and rehabilitation of the roadway system are suitable to be adapted to the parking lot context. A condition assessment of some assets has identified

the need for repairs and rehabilitation which should be incorporated into the Township's ten year capital forecast.

4.8. Parks and Recreation

4.8.1. Asset Management Strategies

Muskoka Lakes has a substantial system of parks and outdoor recreation assets that are widely used by the community. Parks and outdoor recreation assets are highly visible to the community and currently much of the Township's management efforts go into maintaining the appearance and usability of these facilities through general operational activities like mowing grass and sanitation. While Muskoka Lakes meets the regulatory requirements for monthly inspection of playgrounds it needs to move towards a more preventative maintenance approach. The remainder of the strategies involve repairing assets on an as needed basis (Table 31). The need for better monitoring and preventative maintenance strategies has been identified and a study is proposed to proceed in 2024 to establish a range of strategies to better manage parks and outdoor recreation assets with an emphasis on monitoring and preventative maintenance.

Rehabilitation strategies usually involve replacing individual components of a park that can no longer be kept in target condition through repairs, such as a playground equipment replacement. Rehabilitation activities are typically initiated inspections. End of life replacement should be triggered through either an lifecycle analysis or a park redevelopment approach.

Table 31 Parks and Trails Life Cycle Strategies

Parks and Trails Items Life Cycle Actions				
Life Cycle Stage	Paths & Trails	Playgrounds	Servicing & Furnishings	Sports Facilities
Monitoring	Monthly Inspection	Weekly Inspection	Weekly Inspection	Monthly Inspection
Condition Assessment	Annual Condition Assessment	Annual Condition Assessment	Annual Condition Assessment	Annual Condition Assessment
Operations & Maintenance	Snow removal Mowing General Turf Maintenance Sanitation	General Surface /Turf Maintenance Sanitation	May be undertaken to support capital option analysis	Diamond Dragging Lining Fields Mowing Fertilization Aeration Top Dressing Overseeding
Repairs	Repairs Path/Walkway Repairs Bridges Repairs Parking Lots/ Roads	Repairs Play Equipment Repairs	Repairs Fences/Gates Repairs Parks Furniture/ Signs/ Shelters/Bleachers Repairs Utilities/ Servicing Repairs Irrigation Repairs Sports Field Lighting Repairs Pathway Lighting	Sports Facility Repair
Rehabilitation	Capital option analysis	Capital option analysis	Case option analysis	Capital option analysis
End of Life	Park Redevelopment Process or lifecycle analysis identifies priority projects to include in the Ten Year Capital Forecast	Park Redevelopment Process or lifecycle analysis identifies priority projects to include in the Ten Year Capital Forecast	Park Redevelopment Process or lifecycle analysis identifies priority projects to include in the Ten Year Capital Forecast	Park Redevelopment Process or lifecycle analysis identifies priority projects to include in the Ten Year Capital Forecast

4.8.2. Options Analysis and Project Prioritization

As the focus for the management of Muskoka Lake's parks and outdoor recreation assets for much of their lifecycle is on general operational activities and repairs when needed, there is little options analysis currently being undertaken until the assets near their end of life. One exception is for sports fields where there have been recent efforts to improve turf quality. A study is proposed for 2024 which will determine additional strategies to better manage parks assets focusing on monitoring and preventative maintenance.

Monitoring, operations and maintenance and repair actions are currently tracked through the CityWorks Work and Asset Management System, but with insufficient detail to evaluate the effectiveness of the different strategies.

The need for rehabilitation is identified on the basis of condition assessment results.

End of Life replacement for the parks & outdoor recreation assets are currently being completed on an adhoc basis. A more planned approach utilizing a lifecycle planning and prioritization tool is recommended. The lifecycle approach should track the condition of different assets in a park and when a number of assets are nearing end of life, an evaluation should be made to determine whether it would be advantageous to plan for the replacement of the entire park. Parks redevelopment plans should be prepared for the Township's community parks to determine whether there is an opportunity to redevelop parks to better meet the need of the changing community based on established criteria. These projects should then be recommended for inclusion in the Township's ten year capital forecast.

4.8.3. Key Findings

Asset management strategies for Muskoka Lake's Parks & Open Space System are currently focused on general operations and repairs. A study is proposed to expand the number of strategies and place more emphasis on better monitoring and preventative maintenance. This will facilitate a stronger approach to options evaluation during the monitoring, operations & maintenance and repair stage of the asset lifecycle. Rehabilitation activities should be undertaken following the preparation of an option analysis. There is a need for a stronger end of life process which covers the need to replace parks and outdoor assets either due to condition or changing needs in the community.

4.9. Roads and Ancillary Items

4.9.1. Asset Management Strategies

The roadway system is a well-used and most highly visible community infrastructure asset in the Township's asset inventory. The life cycles of the various components are reasonably well understood. Similarly the road bed and road surface have the most extensive and generally accepted range of asset management strategies, having a range of planned actions for each of the stages of the road's lifecycle (Table 32). These actions are largely driven by the Ontario Minimum Maintenance Standards. The Township has not traditionally followed these actions.

Table 32 Roads and Ancillary Items Life Cycle Strategies

Roads and Ancillary Items Life Cycle Actions					
Life Cycle Stage	Road Bed	Road Surface	Sidewalks	Streetlights	Signage
Monitoring	Monthly inspection (Road Patrol)	Monthly inspection (Road Patrol)	Monthly inspection (Road Patrol)	Monthly inspection (Road Patrol) Online public reporting	Monthly inspection Annual inspection
Condition Assessment	Roads condition assessment every two to four years (concurrent with road surface) SAR used to rate condition	Roads condition assessment every two to four years. PCI used to rate condition	Annual Sidewalk condition assessment. SCI used to rate condition	Condition assessment every five years.	Reflectometer Survey Biennially
Operations & Maintenance	Shoulder grading Debris removal Ditching Crack sealing Asphalt patching	Sweeping Debris removal Asphalt patching Grading Calcium stabilization Crack sealing Slurry seal Line and marking repainting Winter maintenance	Sweeping Crack sealing	Annual monitoring Annual maintenance	Annual test Annual maintenance
Repairs	Localized base repairs Localized drainage improvements Asphalt hot patch Asphalt cold patch Grading Dust control Granular patch	Shouldering Curb repair Regrade and re-seed Boulevard restoration Guide rail repair or replace Fence repair or replace Asphalt hot patch Asphalt cold patch Grading Dust control Granular patch	Concrete grinding Asphalt cold patch Asphalt hot patch Mud jacking Interlocking base repair/ reinstall	Luminaire replacement Pole repair Pole replacement Electrical supply repair	Component repair if damaged/ vandalized Component replacement if beyond repair
Rehabilitation	Capital option analysis	Shave and pave Full overlay Infrared seal Micro-seal	Sidewalk bay replacement Asphalt full overlay	Capital option analysis	
End of Life	Road Reconstruction Priority Rating System identifies priority projects to include in the Ten Year Capital Forecast	Road Reconstruction Priority Rating System identifies priority projects to include in the Ten Year Capital Forecast	Sidewalk Priority Rating System or Road Reconstruction Priority Rating System identifies priority projects to include in the Ten Year Capital Forecast	Assessed when roads projects are added to the Ten Year Capital Forecast	Assessed when roads projects are added to the Ten Year Capital Forecast

Signs and streetlights should have regular inspection and maintenance programs, but there are fewer options to correct or rehabilitate malfunctioning components. Usually malfunctioning or substandard components are replaced which restores their function and end of life replacement occurs when a road is being reconstructed or when a decision is made to replace the whole system such as with the LED light conversion project completed in 2018.

The management of the Township's pavement quality provides a good example of how different asset management strategies can help to achieve the lowest lifecycle cost of an asset. At the early stages of a roadway lifecycle, regular inspection and routine maintenance such as sweeping and debris removal are sufficient to keep the Township's roads at their target condition. The early stages, when the roads are in good or very good condition, are also the time to begin to take preventative action on small deficiencies that may become bigger later on, such as crack sealing, slurry sealing and single surface treatment.

At the middle stages of the lifecycle, when road conditions are in the fair to good range, more repairs are necessary to keep the road at its target condition. There may be a need to undertake more significant repairs around culverts, catchbasin and manhole covers, etc. and there will likely be a need for more localized patching and even the resurfacing of some larger sections to fix surface roughness and protect the underlying road bed.

As the road surface condition moves from fair to poor, the frequency and size of these types of repairs will increase to the point where it is time to evaluate whether it would be more cost- effective to undertake rehabilitation of the surface of the road. At this point in the lifecycle, many of the longer lived road components will still be in good condition making the costly reconstruction of the entire roadway unnecessary. A condition assessment such as the pavement management assessment that the Township is now undertaking on its roads every two years is a good way to identify candidates for rehabilitation. The Township has a range of strategies available for rehabilitating different classes of roads. For example, micro seal asphalt rehabilitation is a strategy that may be suited for roads that service industrial areas, whereas a shave and pave or full overlay may be better suited to residential areas. After rehabilitation of the road surface the condition of the road will move back into the very good condition again, with minimal maintenance requirements.

A road surface may be rehabilitated once or twice before it is necessary to reconstruct the entire road but at some point in time the other roadway components and the underlying infrastructure such as sewer and water pipes will also need attention. This is the time that the replacement of the entire road needs to be considered. Such project may require coordination with the District. The Township should adopt a road reconstruction priority rating system to evaluate roads that are a priority to be reconstructed. The reconstruction listing should extend out at least in the next ten years and potentially as far out as 20 or 25 years. When Council confirms that a road is to be reconstructed, the unusable portions of the old road are decommissioned and disposed of and a new road designed and built, which is the end of the lifecycle of the original road and the beginning of the next.

At the asset replacement stage, in some cases it is important to re-evaluate whether the road in its original configuration is sufficient to meet current standards and future conditions. The redesign of the road and its underlying services will take direction from key documents such as the Official Plan, Transportation Master Plan, the Community Improvement Plan, and any other local planning and engineering studies.

4.9.2. Options Analysis and Project Prioritization

Asset management strategies to ensure that an asset remains in acceptable condition must be implemented in the correct order and in a timely fashion if they are to be effective.

Monitoring, Operations & Maintenance and Repair decisions are not currently tracked. The Township's Work and Asset Management System is currently in the process of being deployed. There is an opportunity to improve decision making by comparing the cost-effectiveness of various strategies applied at different frequencies to find the best combination. For example, would it be better to conduct crack sealing to reduce

the need for pothole patching and surface rehabilitation later on. Changing how assets are maintained may result in requests through the budget for more resources to undertake preventative maintenance in order to extend the lifecycle and eventual replacement of the asset, reducing the capital repair and replacement costs.

The need for rehabilitation is identified by condition assessment results and triggers creation of a option analysis which includes the evaluation of alternatives. There is an opportunity to strengthen the evaluation of alternatives to include the implications of the proposed rehabilitation actions on the entire lifecycle.

End of life replacement for rural roads should be prioritized using a road reconstruction priority rating system. This rating system will form the basis for future roadway system asset replacement prioritization decisions.

The suggested approach to the road reconstruction priority rating system is strong as it includes criteria for condition, function and risk and integrates with other asset classes which are linked to and affected by changes to the roadway system. A second rating system for sidewalks, should focus on prioritizing upgrades of sidewalks and paths to increase mobility options.

The most significant opportunity to improve the options analysis for the roadway system is to link the decisions made at the initial construction of an asset with those made during operations, maintenance, repair, rehabilitation and end of life to see how each decision affects the longevity and lifecycle cost of the asset. This will evolve over time.

4.9.3. Key Findings

There is a wide range of asset management strategies in place for most components of Township's Roadway System. The management of the roadway surface is a good example of the use of planned actions at different stages of an asset's lifecycle to cost effectively manage the asset. Decisions to apply asset management strategies should be made through the Work and Asset Management System to operate, maintain and repair the asset, through condition assessment and option analysis at the rehabilitation stage and through an integrated priority rating system at end of life. There is an opportunity to strengthen the options analysis at each stage as well as link the decisions across the stages to see how they affect the overall longevity and lifecycle cost of the asset.

Recommended Road Reconstruction Priority Rating System

- Roadworks: Pavement Structure, Pavement Surface, Road Width, Maintenance Demand, Drainage
- Water and Sewer (in urban areas):
- Road Usage: Road Class, School/Community Centres/Parks, Sidewalks
- Recommended Sidewalk Priority Rating System
- Road Function
- Traffic Characteristics (25%)
- Importance to network

4.10. Stormwater (Rural and Urban)

4.10.1. Asset Management Strategies

The Township's storm water management assets play an important but not commonly known function in protecting the environment and protecting our community. Storm water management assets are integrated into the other assets in the community and need to be coordinated with other asset classes. Storm water ditches catchbasins and manholes are adjacent to or in the surface of the road and are generally maintained as part of the roadway surface. Culverts and storm water pipes are located within the road structure, and storm water outfalls and storm water management facilities may be in or adjacent to parks and open space.

The long expected life of storm water assets means that much of the asset lifecycle and the resulting asset management strategies are focused on operations, maintenance and repairs to maintain their function.

There are a range of asset management strategies for storm water assets (Table 33) but they are mainly for reactive inspection, maintenance and repair actions rather than planned actions. There is an opportunity to evaluate whether there would be value in investing more in planned preventative maintenance. Camera inspection of the underground storm sewer pipes has been initiated and should be updated every five years to help determine whether there are deficiencies building up that needs to be addressed by better preventative maintenance.

Strategies for the rehabilitation of storm water management facilities should be developed through condition assessments. Rehabilitation of components of the storm water network are infrequent and should be initiated by a capital option analysis case, after being detected because of failure of the asset or by detecting deficiencies through routine maintenance or the camera inspection program. End of Life replacement for both the storm water network and the storm water management facilities should have established rating systems. The storm water network components should be considered as part of the road reconstruction priority rating system.

Table 33: Stormwater Life Cycle Actions

Stormwater Life Cycle Actions		
Life Cycle Stage	Stormwater Network	Stormwater Management Facilities
Monitoring	Monthly inspection of catchbasins/manholes (Road Patrol) Inspection of inlets/outlets twice annually Inspection of inlets/outlets around major rainfall events Storm manhole visual inspection Storm box culvert visual inspection Oil-grit separator visual inspection	Monthly hydrological data Inspection of inlets, outlet, water elevation twice annually Detailed annual inspection
Condition Assessment	Storm Catchbasin Leads TV Inspection Storm Lateral Line TV Inspection Storm Main Line CCTV every 5 years	Dam Safety Assessment every 5 years
Operations & Maintenance	Debris removal Sediment removal Storm main line flushing Catchbasin cleaning Oil-grit separator maintenance Oil-grit separator cleaning Storm box culvert maintenance Manhole maintenance	Debris removal Flushing
Repairs	Concrete headwall repair Grate repair Ditch excavation & regrade Culvert replacement Catchbasin frame/cover replacement Catchbasin moduloc repair Manhole frame/cover replacement Manhole moduloc repair Storm catch basin leads repair Storm lateral line blocked Storm lateral line repair Storm lateral line replace Storm main line blocked Storm main line repair Storm main line replace	Outlet maintenance Concrete repair Fence repair/replace Grate repair/replace Weir repair/replace Fill and reinforce
Rehabilitation	Capital option analysis	Sediment removal Capital option analysis
End of Life	Road Reconstruction Priority Rating System considers Stormwater Network when identifying priority projects to include in the Ten Year Capital Forecast	Stormwater Management Facility Prioritization system identifies priority projects to include in the Ten Year Capital Forecast

4.10.2. Options Analysis and Project Prioritization

The bulk of the focus for the management of Township's storm water management assets should be on inspections and the correction of deficiencies. Minimal options analysis is being undertaken until the assets near their end of life. There is an opportunity to evaluate the current deficiencies in assets of different ages

and ask whether establishing a preventative maintenance program would be cost-effective for these long lived assets.

Monitoring, Operations & Maintenance and Repair actions are not currently being tracked through the work and asset management system. There is insufficient detail for most of the subcomponents to determine what deficiencies are being addressed. Even if there is insufficient value identified in the option analysis for investing in more preventative maintenance, better descriptions of the types of actions being taken should be pursued so that informed operational decisions can be made.

The need for rehabilitation for storm water Network assets is identified through condition assessment of the assets, which may be due to the failure of the asset or detection of a deficiency through the camera inspection program. These should be outlined in a option analysis option analysis which includes the evaluation of alternatives. The need for rehabilitation of storm water management facilities should be identified through condition surveys, and candidate projects are proposed to be added to the capital program.

End of Life replacement for the storm water network assets should be prioritized as part of the road reconstruction priority rating system. A second rating system for storm water management facilities, should focus on prioritizing upgrades to achieve storm water standards. The suggested approach to use the road reconstruction priority rating system is strong as it includes criteria for condition, function and risk and integrates with other asset classes which are linked to and affected by changes to the storm network.

Recommended Storm Water Management Prioritization

- Flood Protection
- Statutory and Regulatory Requirements
- Risk Management / Health and Safety Issues
- Operations and Maintenance Considerations
- Cost Benefit Analysis
- Erosion control and slope stabilization
- Spills management
- Environmental issues
- Community concerns

There is a strong rationale for the inclusion of management facility projects in the ten year capital forecast. Future editions of the AMP should consider the inclusion of a program and priority rating system to address the repair and remediation of watercourses that the storm water flows through. This should be addressed as part of a consideration of environmental assets.

4.10.3. Key Findings

The Township's storm water assets are integrated with other asset classes. The focus for these assets needs to be primarily on inspections and then responding to deficiencies. It is unclear whether more preventative maintenance would be cost-effective although this question should be investigated. There is an opportunity to track maintenance and repair actions in more detail, especially for the underground components of the urban storm water network. The approach to rehabilitation and end of life replacement will have a significant impact contributing to sound lifecycle management decisions for this asset class.

4.11. Structures (Bridges and Culverts)

4.11.1. Asset Management Strategies

The bridges and structural culverts within the Townships roadway system are very high concentrations of public investment that are well used and highly visible community infrastructure assets. The lifecycles of the various components are well understood. The bridge surface and above grade components have the most extensive asset management strategies and a range of planned actions for each of the stages of the

bridge's lifecycle (Table 34). These actions are largely driven by the Ontario Minimum Maintenance Standards.

Table 34 Bridges and Culverts Life Cycle Actions

Bridges and Culverts Life Cycle Actions	
Life Cycle Stage	Actions
Monitoring	Monthly inspection (Road Patrol) Visual inspections twice per year Visual inspections after storm events
Condition Assessment	OSIM* standard, every 2 years
Operations & Maintenance	Debris removal Deck drain and bearing seat flushing (power wash) Expansion joint cleaning
Repairs	Concrete repair Handrail repair Guiderail Repair Sign repair/ replacement
Rehabilitation	Capital option analysis
End of Life	Capital option analysis

**OSIM – Ontario Structure Inspection Manual*

At the early stages of a bridge lifecycle, regular inspection and routine maintenance such as sweeping cleaning and debris removal are sufficient to keep the asset at its target condition. When the bridge is in good or very good condition, is also the time to begin to take preventative action on small deficiencies that may become bigger later on, such as crack sealing and concrete patching.

At the mid stages of the lifecycle, when bridges and culverts are still good to fair condition, more repairs are necessary to keep it at its target condition. There may be a need to undertake more significant repairs around expansion joints, end blocks, barriers, etc. and there will likely be a need for more localized patching and even the resurfacing of some larger sections in order to fix surface roughness and protect the underlying structure and road bed.

Eventually, as the structure moves from fair to towards poor, the frequency and size of these types of repairs increase to the point where it is time to evaluate whether it would be more cost- effective to undertake rehabilitation of the structure. At this point in the lifecycle, many of the longer lived components will still be in good condition making the costly reconstruction of the entire bridge and approaches unnecessary. A condition assessment such as a deck condition survey is a good way to identify candidates for rehabilitation. There are a wide range of strategies available for rehabilitating different types of structures. For example, a patch, overlay or patch waterproof and pave are strategies that can be employed cost effectively depending on the extent of the deterioration. Patching or encapsulation or fibre reinforcement are strategies that can be used to address damaged or weakened concrete components. Regardless of the option selected the objective of the rehabilitation is to move the condition of the structure into the very good condition again, requiring minimal maintenance on a go forward basis for the foreseeable future.

A bridge may be rehabilitated two or perhaps three times before it is necessary to replace it. In the later stages of the life of the structure the decision to replace the structure should be based on a option analysis assessing the cost to further repair or rehabilitate the structure and the likely extension of life compared to the cost to replace the structure and its corresponding life span. The assessment should occur approximately ten years in advance of the likely replacement date and updated again five years before replacement.

At the asset replacement stage, it is important to re-evaluate whether the structure in its original configuration is sufficient to meet current standards and future conditions. The redesign of the structure and

associated approached should take direction from key documents such as the Official Plan, the Transportation Master Plan, and any other applicable planning and engineering studies.

4.11.2. Options Analysis and Project Prioritization

The Township has a wide range of asset management strategies available to it. However, in order to be effective, the right strategies need to be applied at the right times.

Monitoring, Operations & Maintenance and Repair decisions are not currently tracked. This short coming will be corrected through the implementation of the CityWorks Work and Asset Management System. There is an opportunity to improve decision making by comparing the cost-effectiveness of various strategies applied at different frequencies to find the best combination. For example, would it be better to conduct more frequent concrete sealing to reduce the need for spalling and surface rehabilitation later on. Changing how assets are maintained may result in requests through the budget process for more resources to undertake preventative maintenance in order to extend the lifecycle and eventual replacement of the asset, reducing the capital repair and replacement costs.

The need for rehabilitation is identified by condition assessment results and triggers creation of an option analysis which includes the evaluation of alternatives. There is an opportunity to strengthen the evaluation of alternatives to include the implications of the proposed rehabilitation actions on the entire lifecycle.

The use of the Bridge Sufficiency Index (BSI) is a good approach to prioritizing bridge projects as it includes criteria for condition, function and risk and integrates with other asset classes which are linked to and affected by changes to the bridge.

The most significant opportunity to improve options analysis for the bridge system is to link the decisions made at the initial construction of an asset with those made during operations, maintenance, repair, rehabilitation and end of life to see how each decision affects the longevity and lifecycle cost of the asset. To take advantage of this opportunity it is essential that the commitment to the development and use of the CityWorks Asset Management System remain.

4.11.3. Key Findings

There are a wide range of asset management strategies in place for most components of Township's system of bridges and culverts. The management of the bridge deck surface is a good example of the use of planned actions at different stages of an asset's lifecycle to cost effectively manage the asset. Decisions to apply asset management strategies should be made through the Work and Asset Management System to operate, maintain and repair the asset, through condition assessment and option analysis at the rehabilitation stage and through an integrated priority rating system at end of life. There is an opportunity to strengthen the options analysis at each stage as well as link the decisions across the stages to see how they affect the overall longevity and lifecycle cost of the asset.

4.12. Vehicles and Equipment

4.12.1. Asset Management Strategies

Asset management strategies for Muskoka Lake's vehicles & equipment are largely driven by Ontario regulations for the safe operation of motor vehicles and following manufacturers recommended maintenance schedules (Table 35). The majority of these strategies are in the monitoring and preventative maintenance stages of the lifecycle to try to minimize unplanned service interruptions and costs. At the end of life, an option analysis is prepared for a replacement vehicle taking into consideration changes in technology, fuel efficiency and intended use. Replaced vehicles are sent to auction to recoup residual value.

Table 35 Vehicles and Equipment Life Cycle Strategies

Vehicles and Equipment Life Cycle Actions	
Life Cycle Stage	Actions
Monitoring	Daily Circle Checks Annual Inspection Annual Safety Validation Emissions testing
Condition Assessment	Annually at time of certification
Operations & Maintenance	Annual service Seasonal service Manufacturer recommended scheduled maintenance Retorque wheels
Repairs	Demand Work Orders
Rehabilitation	None
End of Life	Disposal of Vehicles & Equipment (Auction) Capital option analysis for replacement

4.12.2. Option Analysis and Project Prioritization

Options analysis for vehicles and equipment assets features most significantly as decisions are made to take the vehicle out of service at its end of life and when decisions are made to purchase a new vehicle. When vehicles near their end of life, the condition and annual operating cost for the vehicle are evaluated to determine whether vehicles can be kept in service for an additional season. This is helping to offset the need for seasonally leased vehicles. A fleet utilization study should be undertaken to establish fleet utilization standards for the cost-effective use of a vehicle over its lifecycle, identify under-utilized vehicles and make recommendations to right-size the fleet. Monitoring, operations and maintenance and repair actions are not currently actively tracked. The soon to be deployed CityWorks Fleet Management module will facilitate a more proactive approach to fleet management.

4.12.3. Key Findings

Asset management strategies for Muskoka Lake's vehicles & equipment assets follow regulated requirements and the manufacturers recommended preventative maintenance schedules. Options analysis is focused around the timing of the end of life disposal of a vehicle and around purchase of new vehicles. A fleet utilization study should be completed within five years to establish standards for the optimum usage of vehicles and right-sizing the fleet.

SECTION 5: FINANCING STRATEGY (SEE APPENDIX IV FOR UPDATE – FINANCIAL STRATEGY)

5 Financing Strategy
(See Update - Appendix IV)

The updated Financial Strategy included in Appendix IV was completed by Watson & Associates Economists Ltd. and accepted by Council in July 2025. The Financial Strategy provides a more detailed estimate of the costs required to meet the Asset Levels of Service as outlined in Appendix III, and adds to, updates, supplements, and/or supersedes where necessary the following section.

The Financial Strategies Section is the last chapter of the story describing the current state of asset management planning in Muskoka Lakes. It is intended to combine the state of our infrastructure, the levels of service and asset management strategies with financial planning and budgeting to ensure that there is a sustainable revenue stream to fund the long term management of the Township's assets. Each piece of the asset management plan tells us something important. The State of Local Infrastructure (Section 2) tells us the life expectancy of our core assets and their replacement cost. The Levels of Service and Asset Management Strategies (Sections 3 and 4) tell us what we need to do to maintain our assets in a condition that meets the needs of the community. Finally, the Financial Strategies (Section 5) identify options to fund the management actions that we need to take. This section answers the questions, ''how much will it cost?' and 'how can we fund it?'

It is important to note that the requirements of O. Reg. 588/17 requires the current version of the plan to address the Township's infrastructure assets based on the delivery of the current level of service and the current level of annual investment. Decisions on proposed service levels will involve an in depth analysis of cost scenarios which will ultimately yield a financing strategy. For this reason, no funding scenarios are presented in this version of the Plan. The level of service analysis will occur in 2024 subject to Council's approval.

To ensure that Council has the complete picture respecting the Township's needs, the results from the various Master Plans (Fire, Recreation, Parks and Trails, and Transportation) will need to be to be layered in on top the next version of the plan. This will then give Council the appropriate level of information on which to examine alternatives and tradeoffs and arrive at the ultimate levels of service levels and the means to support them, which O. Reg. 588/17 requires to be in place by 2025.

The financial strategies revolve around the budget process. The budget is informed by the strategic plan and the adopted master planning documents. Through the budget process, revenue sources are confirmed and forecasting is undertaken including the management of reserves. The budgets ultimately authorize spending and identify the funding sources for projects and programs

5.1 Annual Budget Process

The Township's budget is made up of two components:

- The Operating Budget and
- The Capital Budget

The operating budget consists of expenses that cover day-to-day activities or operations, including items

such as utilities, rent, insurance, staff wages and benefits, program supplies, maintenance and repairs. In the context of the asset management plan, the operating budget allocates funds for the operation, maintenance and repair lifecycle stages of these assets.

The capital budget and 10 year capital forecast represent a comprehensive financial plan that addresses the financial requirements of the renewal and replacement of the existing infrastructure. In the context of asset management planning, the annual Capital Budget allocates funds each year for the rehabilitation and replacement lifecycle stages of existing infrastructure assets funded primarily from tax levy. The 10 Year Capital Forecast is a comprehensive plan identifying priority projects for growth, rehabilitation, and replacement over the next ten years. The preparation of the Township's budget is guided by the three primary objectives. These are:

- Maintain existing service levels;
- Minimize the tax rate impact;
- Remain true to our financial principles; which are:
    - Thorough short and long term planning;
    - Prudent consideration of reserves;
    - Leverage available funding sources.

The budget is informed by the strategic plan and the adopted master planning documents. Through the budget process, revenue sources are confirmed and forecasting is undertaken including the management of reserves. The budgets ultimately authorize spending and identify the funding sources for projects and programs.

5.2 Revenue Sources

The Township has several sources of revenue to support the ongoing management of its core infrastructure assets. These are identified in Table 36 below.

Table 36: Sources of Revenue

Revenue Source	Description
Property Tax	Residential and commercial property owners pay an annual tax to the Town, which pays for many of the services used by the residents and owners.
Sale of Assets	This includes but is not limited to the sale of surplus land, vehicles and equipment that have reached end of life.
Interest on Reserve Balances	The Town holds money in reserve funds for regulated and discretionary reasons. These funds earn interest that is a revenue stream.
Development Charges	Contributions from developers used to fund growth related infrastructure.
Local Improvement Charges	Fees charged to property owners for local upgrades, such as upgrading the road network from a rural to urban standards.
Federal Gas Tax Grants	A long term grant agreement with the Federal government that provides a portion of the Federal gas tax revenues to municipalities.
Grants	Grants are contributions from parties external to the organization. This typically comes from grants from senior levels of government.
Debt*	Normally used to purchase an asset outright. Must be offset with new future revenue or a reallocation of revenue.
Public Private Partnership (P3)	A financing and risk-sharing arrangement contracted with a private company for the design, build and financing of a government-owned asset. Must be offset with new future revenue or a reallocation of revenue. Not normally applicable to core infrastructure.

A number of these revenue sources are restricted to the acquisition of growth assets, which are usually acquired or funded through the development process. A few others may be beyond the scope of the

Township's operations. Consequently, the range of alternatives available to operate, maintain, repair, rehabilitate and replace existing infrastructure is restricted to property taxes, grants and debt for all practical purposes.

5.2.1 Historic Revenues

Asset management activities to operate and maintain existing infrastructure are funded through the Operating Budget. From 2018 to 2022 total revenues that support operations, including asset management strategies, has grown from just over $17.9 million to almost $21.6 million (Table 37). The majority of revenues are funded by property tax, which accounts for over 63% of total revenues. The remaining sources each contribute individually an average of 1 to 3% of the annual total operating revenue.

Table 37 Historical Revenue Sources

Source	2018	2019	2020	2021	2022
Property Tax Levy	$11,653,018	$12,323,847	$12,549,825	$12,971,679	$13,346,672
Fees and User Charges	3,188,191	3,429,053	2,952,077	3,041,497	3,756,313
Federal Grants	-	234,603	599,510	409,799	372,138
Ontario Grants	1,725,336	2,699,623	2,370,650	2,528,894	2,269,833
Interest Earned	749,642	426,295	233,705	112,288	483,345
Interest and Penalties on Tax Arrears	476,483	549,510	523,885	665,289	544,295
Sale of Assets	43,901	71,926	261,565	33,924	81,294
Contributed capital assets	6,300	10,500		169,987	
Development Charges Earned	12,616	22,137		600,614	587,659
Parkland Charges earned	65,753	281,062	161,718	81,864	101,150
Donation Income	2,487	68,902	6,221	6,492	4,140
Total	**17,923,727**	**20,117,458**	**19,423,755**	**20,622,327**	**21,546,839**

Figure 14. Historical Revenues by Source

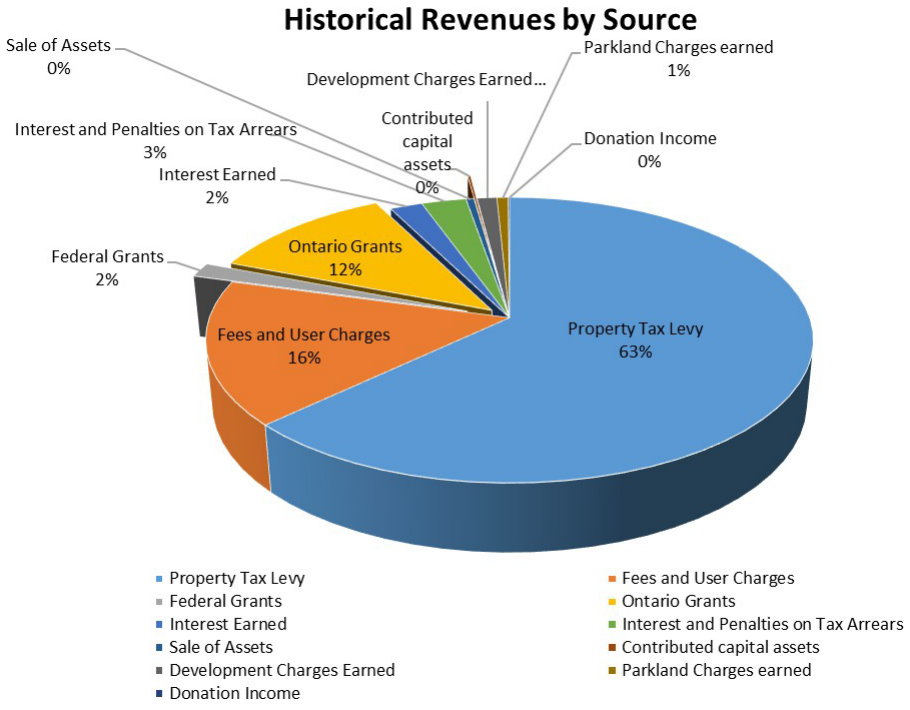
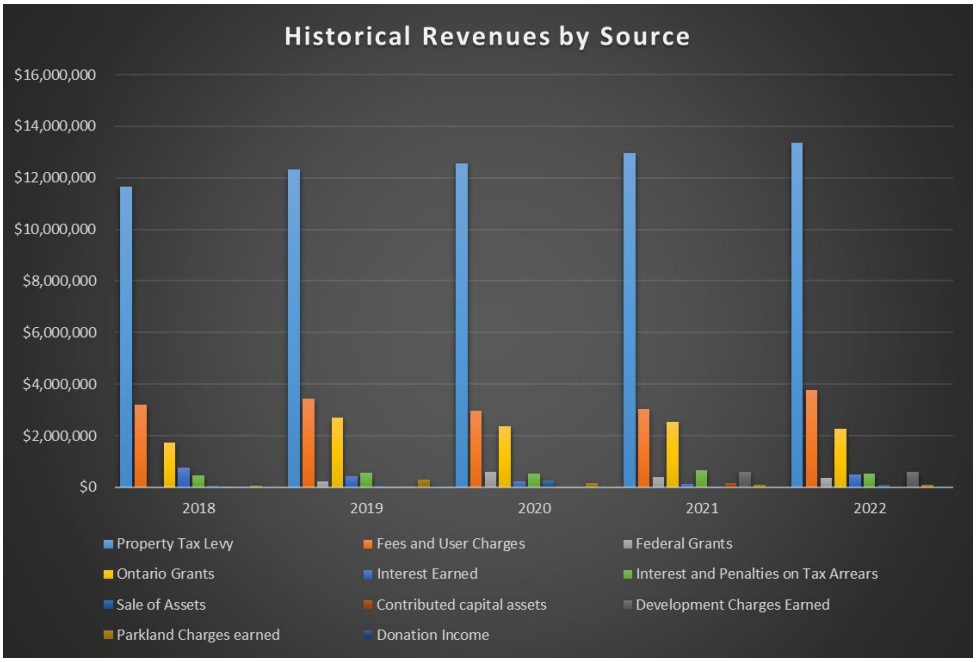


Figure 15. Historical Revenues by Source



Asset management activities involving major repair, rehabilitation and replacement of existing infrastructure assets have funding allocated through the Capital Budget. The funding sources for the Capital Budget are typically reserve funds which have accumulated revenue over the years from property tax, user fees, gas tax or sales of assets revenue sources.

From 2018 to 2022 the capital budget devoted to rehabilitation or replacement of existing assets (Table 38) averaged $ 3.98 million per year and ranged from $2.01 to $6.63 million.

Table 38 Historical Capital Budget Revenue for Asset Management of Infrastructure

2018	2019	2020	2021	2022
$2,011,201	$3.311,613	$3,394,089	$4,555,424	$6,615,359

The biggest funding source for rehabilitation or replacement of existing assets are the Assets Repair & Replacement Reserve funds. It is interesting to note that the Township engaged in debt financing for the first time in the recent past to fund the Streetlight LED conversion project based upon the business case that the savings in electricity will pay back the debt in a reasonable length of time.

One funding source that is significant but has been under-represented over the past five years is project specific grant funding. Since 2018, the Township has brought in approximately $240,000 in grant funding. Averaged out over this period, grant funding would amount to about $48,000 per year. However, the timing of grants is unpredictable and difficult to forecast. It should not be considered a reliable source of funding.

5.2.2 Reserve Funds

The Capital Budget describes and authorizes spending of funds on infrastructure replacement, rehabilitation and major repairs, and the sources of funds are different than the Operating Budget. All capital budget items are funded from reserve funds, each of which holds money for specific purposes. Some reserves are intended to accumulate money to pay for future asset maintenance. Others are used to stabilize the revenue demands where there is volatility in the amount of money needed each year, with the reserve growing in low demand years and being drawn down in higher cost years.

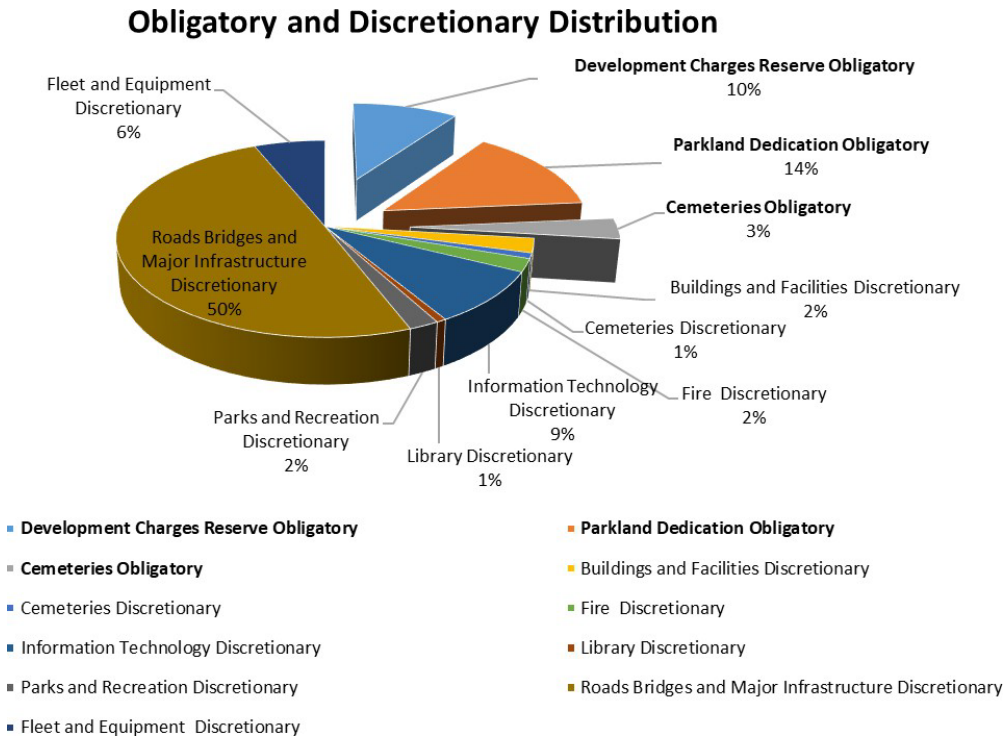
The use of reserves for growth assets are highly regulated with clear definitions of allowable uses. A small number of reserve funds can be used for building new assets associated with growth or for rehabilitation

and replacement of existing assets, based on direction from Council. Because growth reserve funds cannot be used for capital maintenance, rehabilitation, or replacement of existing assets, only the funds that can be used for existing assets are modeled in the next sections of the Asset Management Plan.

Table 39: Capital Reserve Funds

Reserve	Permitted Use	Description	2022 Balance
Development Charges Reserve	Obligatory Growth Related Assets	Contributions from developers are used to fund eligible growth related infrastructure	$1,499,446
Parkland Dedication	Obligatory Growth and Existing Assets	Contributions from developers dedicated for park or other public recreational purposes	$2,138,307
Buildings and Facilities	Discretionary Existing Assets	To provide funding for capital projects for replacement of existing assets and new items not eligible for funding from Development Charges.	$365,667
Cemeteries	Discretionary Existing Assets	To provide funding for capital projects for replacement of existing assets and new items not eligible for funding from Development Charges.	$137,726
Cemeteries	Obligatory Endowment	Perpetual care of cemeteries under the Townships care and control. Only interest can be used. Principal must be maintained.	$515,500
Fire	Discretionary Existing Assets & Service Expansion	To provide for repairs and infrastructure replacement of apparatus and equipment.	$333,377
Information Technology	Discretionary Existing Assets & Service Expansion	To provide funding for capital projects for replacement of existing assets and new items not eligible for funding from Development Charges.	$1,385,679
Library	Discretionary Existing Assets and Service Expansion	To provide funding for capital projects for replacement of existing assets and new items not eligible for funding from Development Charges.	$104,876
Parks and Recreation	Discretionary Existing Assets and Service Expansion	To provide funding for capital projects for replacement of existing assets and new items not eligible for funding from Development Charges.	$319,139
Roads Bridges and Major Infrastructure	Discretionary Growth & Existing Assets	To provide funding for capital projects for replacement of existing assets and new items not eligible for funding from Development Charges.	$7,666,942
Fleet and Equipment	Discretionary Existing and New Assets	To provide funding for capital projects for replacement of existing assets and new items not eligible for funding from Development Charges.	$956,260
Total Reserves At December 31,2022			**$15,422,919**

Figure. 16. Obligatory and Discretionary Distribution



5.2.3 Contributions to Reserve

The Operating Budget identifies annual contributions to the Reserves to maintain the capacity to fund projects identified in the 10 Year Capital Forecast. Annual contributions from 2018 to 2022 (projected) are identified in Table 40 for key reserve funding sources for funding asset management strategies.

Table 40: Historical Contributions to Reserve from Tax Levy - 2018 to 2022

Reserve Provisions	2018	2019	2020	2021	2022
Transfers to Reserve	2,020,261	2,414,999	3,417,882	3,558,990	3,559,000

5.3 Expenditures

5.3.1 Historical Expenditures

Through the annual Operating and Capital Budgets, the Township authorizes expenditures to manage our infrastructure assets through the different stages of their life cycle. The range of asset management strategies that are available to cost-effectively manage the Township's assets have been described in Section 4.

5.3.2 Operating Expenditures

The budgets allocate the resources the Township is applying to different asset management strategies. From 2018 to 2022 the largest budgeted expenditure ($9.3 million over five years) for both core and non-core assets were for the roadway system. The distribution of expenditures between operating and capital is illustrated. Currently, budgeted expenditures are not categorized according to the asset management strategies or lifecycle stages. There is an opportunity in the future to better align tracking of expenditures to the life cycle stages of the assets.

Table 41: Historic Operating Expenditures

Asset System	2018	2019	2020	2021	2022
Administrative Facilities	269,271	277,275	230,429	253,905	317,643
Culture Recreation and Sports	2,037,433	2,118,939	1,786,145	1,873,326	2,225,529
Emergency Services	1,371,100	1,334,774	1,334,156	1,360,019	2,626,200
Information Technology	453,317	681,335	625,987	463,316	477,900
Parking	0	0	0	0	0
Stormwater	83,567	52,681	172,210	115,682	52,476
Transportation	1,567,623	1,635,425	1,891,134	2,079,206	2,121,966
Vehicles and Equipment	534,772	621,578	592,333	844,922	709,715
Total	**6,317,083**	**6,722,007**	**6,632,394**	**6,990,376**	**8,531,429**

5.3.3 Capital Expenditures

The Council approved capital budget for each asset system from the previous five years is provided in **Table 42**.

Table 42. Historical Capital Investment Trend by Asset Type ($'000)

Asset System	2018	2019	2020	2021	2022
Administrative Facilities	306,774	1,927	31,950	174,826	183,067
Culture Recreation and Sports	51,309	577,607	419,397	440,819	572,937
Emergency Services	299,570	845,712	266,100	384,041	1,163,518
Information Technology	86,284	286,828	73,141	108,906	(278,987)
Parking	0	0	0	0	0
Stormwater	0	0	0	0	0
Transportation	1,143,089	1,054,182	1,928,356	3,158,418	4,581,411
Vehicles and Equipment	210,519	545,357	184,355	142,872	105,612
Total	**2,011,261**	**3,311,613**	**2,903,299**	**4,409,882**	**6,327,558**

Note: *Amounts exclude non-asset related budgets.

5.4 Financial Strategies

5.4.1 Funding Sources

Several financing strategies are available to fund capital projects. These strategies vary on a project-by-project basis. The typical financing strategies used by the Township are as follows:

- **Pay as you go:** Saving all funds in advance of building or acquiring an asset. This strategy is long range in nature and sometimes requires foregoing needs in the short term until enough capital has been saved to carry out the required project.
- **Reserve Accounts:** Contributing revenues to a reserve account, and drawing funds from the account. This strategy allows a reserve 'threshold' to be set to provide a buffer for unexpected expenditures. It also allows lifecycle contributions to be made on an annual basis whichcan be drawn upon when needed.
- **Debenture Financing:** A loan issued to the organization for building or acquiring an asset, which involves repayment annually with interest. The Province has limits on the total amount of debt which is based on an annual payment limit or 25 per cent of the municipality's source revenue.
- **Third-Party Contributions:** Contributions from parties external to the organization. This typically comes from contributions, subsidies and recoveries from development or grants from senior levels of government. This funding strategy impacts rates (except in the case of grants and subsidies).
- **User Fees:** Rates charged to the users of a service, which is typically based on a fullcost recovery model.

For the most part, the Township uses a combination of all of the above funding strategies depending on the specific project. It should be pointed out that the Township has traditionally had an aversion to the use of debt financing for the funding of projects.

Like most municipalities across Canada, the Township has experienced a dramatic decrease in funding available for municipal operations from the senior levels of government. This has resulted in significant increases in property tax rates. It should be noted however that despite these increases funding has not kept pace with the rate of inflation or deterioration and do not reflect the true cost of delivering the service. Therefore, staff have been tasked with the responsibility to actively seek alternative funding strategies in order to fund needed work and realize the greatest value for Township residents. These have been largely unsuccessful. As a consequence Council should not rely on grant funding in any significant way to fund the future maintenance of public infrastructure.

The Township uses short- and long-term analyses with the goal of developing sustainable capital plans and financing strategies. These analyses include 10-year capital budgets, and reserve fund forecasts.

5.5 Expenditure Forecasts

5.5.1 Key Assumptions

This asset management plan was developed based on the best available information and making assumptions using professional judgment to address gaps. The analysis conducted in this lifecycle assessment is based upon the following key assumptions:

- Assets degrade linearly;
- Installation dates, where they were unavailable, were assumed;
- Total replacement costs of facilities have been allocated based on the percentage allocation of Section E "Gross Building Costs – Representative Samples" from the Altus (2023). 'Yardstick for Costing: Cost Data for the Canadian Construction Industry' to the various sub- components (such as substructure, structure, exterior enclosure, partitions & doors etc.) due to the differing life expectancies of each component;
- All assets perform based on industry standard service lives;
- Use of age-based condition assessment in the absence of actual condition information; and
- Estimates of costs based on professional judgment where cost information was unavailable.
- Where any of the above assumptions have been used, a corresponding action item has been developed to close any gaps in the future.

It should be noted that the forecasts do not include inflation as this level of sophistication is not warranted

at this time given the uncertainties inherent within the analysis. Future versions of the plan should include an allowance for the impacts of inflation where appropriate.

5.5.2 Forecasted Needs

Long term asset investment forecasts provide insight into prospective investment requirements which may fall outside of the 10-year planning horizon typically used for capital budgeting processes. Large quantities of asset construction during a short time span will require equally heavy investment once those assets reach the end of their service lives. If those investment requirements are not addressed appropriately, levels of service could potentially decline and operations and maintenance costs could increase. The 25-year forecast expands on the current 10 year approach. Council should consider projecting out an 80 to 100 year forecast with a view to covering the entire lifecycle of their assets and allowing for the identification of such trends.

Funding and re-investment requirements were developed for each asset system. The investment forecast takes into consideration estimated service lives, and replacement costs to provide trends of costs to sustain the infrastructure in a state of good repair. The replacement trends can then be used to develop long-term (25-year) replacement requirements and average annual costs. The replacement costs are based on 2022 average tender prices, condition assessments, asset valuations, and insurance assessed values.

Figure 17 depicts the estimated annual capital investment requirements across the Township's entire asset portfolio over the next 25 years. The figure shows various spikes in the investment forecasts, which is typically due to large assets with high replacement values, or groups of assets, being required to be rehabilitated, or replaced in a given year. An example of this can been seen in areas of post-war growth where communities were built and developed en-masse with significant investments in new assets made over a relatively short time period. The average annual expenditure required over the next 25 years to service the current and future needs is expected to be approximately $18.5 M per year.

Figure 17. 25-Year Lifecycle Investment Requirements – Overall

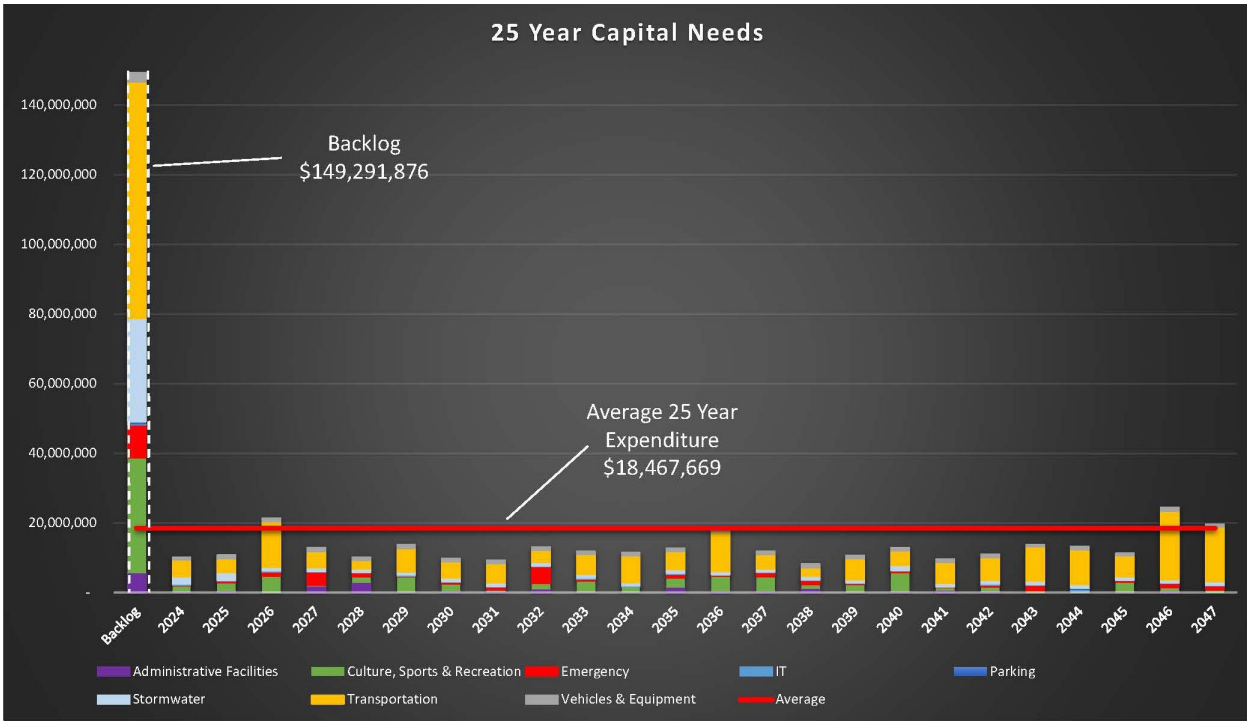


Figure 17 shows that there are currently deferred investment (backlog) needs of at least $149.3 M or 24.0 percent of total asset value. The 'deferred investment needs' refers to an outstanding capital need, which arose in the past, but has not been addressed (i.e. assets that fall within the poor and very poor rating

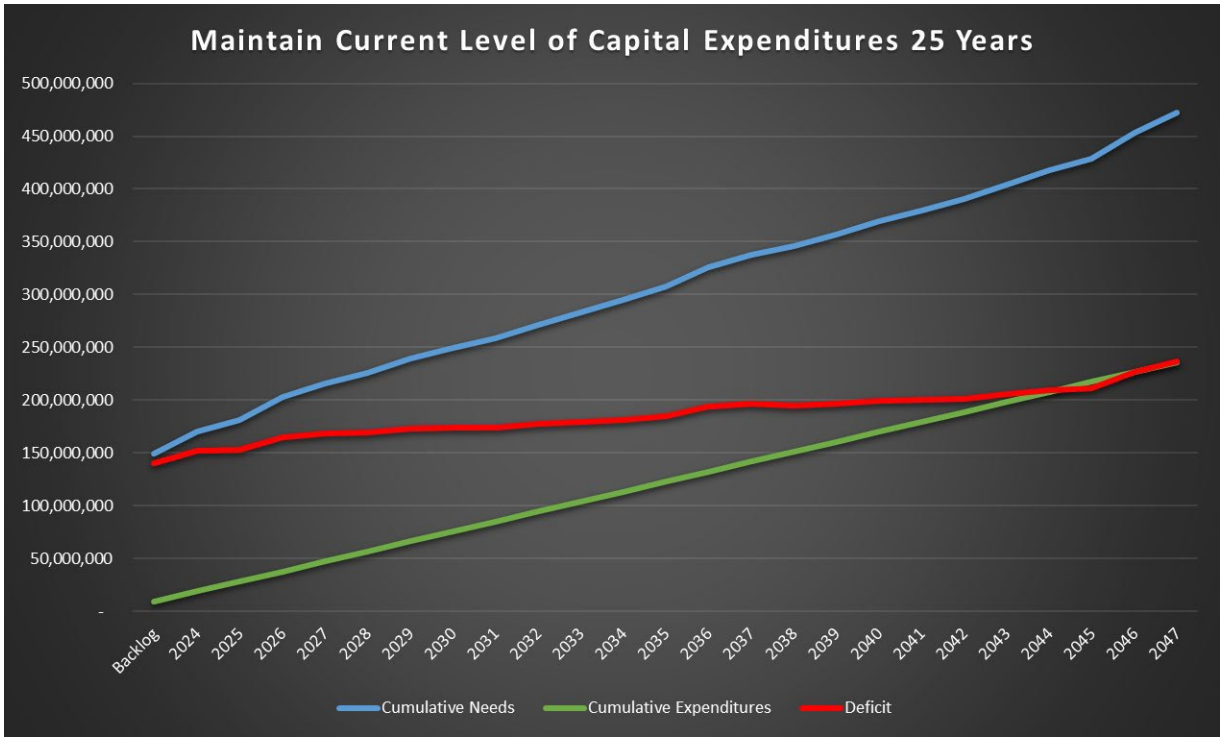
category because their remaining service life is below zero). This could be related to asset deterioration, capacity shortfalls or required service standard upgrades.

It is to be noted that Figure 19 does not include growth related needs. These needs should be included in future versions of the plan. If the analysis is to be expanded to identify the 100 Year Lifecycle Reinvestment Requirements, careful consideration will need to be given to the value of expansion for at least the first 25 years of the plan. To achieve this, it is imperative that the Township incorporate the findings from the recently completed master plans currently (Parks, Fire, Transportation) and ensure that these are coordinated in successive versions of the Development Charges Study. Beyond 2048 consideration should be given to inclusion of percentage allowance for growth related needs.

5.5.3 Growing Needs and Funding Shortfalls

Figure 18 illustrates the cumulative impact of maintaining the current levels of expenditure over the next 25 years. This analysis is based on assumptions of industry standard timeframes for major rehabilitation or replacement work to the asset to ensure performance. Levels of service can dictate these timeframes through a process of determining preferred levels of service, and acceptable asset performance in supporting these services.

Figure 18: Impact of Current Level of Capital Investment



It is anticipated that the needs over the course of next 25 years will be approximately $460.2 M. Based on maintaining the current level of the re-investment in the infrastructure ($9.4 M per year), the backlog of unmet needs shows a steady increase from the current $149.3 M to a maximum of $224.2 M or 31.1 percent of overall asset value by 2047. This equates to an average annual increase of 1.64% compounded. The increase in the value of the backlog should be interpreted to be indicative of a corresponding decrease in the condition of the infrastructure.

It should be noted that the analysis considers only capital funding and does not consider the impacts of the current reserve position. Therefore, the percentage annual increase does not specifically correlate to a

direct increase to rates or the tax levy, as funding could come from a variety of sources, including but not limited to existing reserves, debt or grants and subsidies. In future versions of the plan, further analysis is be completed by asset class to evaluate options for funding.

5.5.4 Mitigating Costs

There are techniques that can be employed to disperse costs over the years to reduce immediate impacts. One approach could be to extend assumed asset service lives. The typical industry practice is to assume extensions in service lives by up to 10 per cent. This would reduce capital expenditures as well as spread out significant maintenance costs (such as replacing large motors, finishes, surfacing on roadways and sidewalks, etc.). However, the consequences of this approach would be a corresponding increase in regular maintenance costs (more repairs to motors, more partial finish replacements in buildings, more potholes requiring fixing on roadways, etc.). Additionally, it is likely that the overall levels of service would be impacted, and likely reduced.

Another potential solution could involve an in depth examination of the required levels of service, which is required by O. Reg. 588/17. In general, if the desired level of service is reduced then associated costs can also be reduced. Lowering the levels of service will result in reduced capital and maintenance costs (for example, all roads can be of poor condition or better rating, rather than maintaining all roads in fair condition or better rating). Of course, it is essential to balance the desired levels of service against costs, and risks. Reduction of the levels of service, however, can also result in other negative consequences and increased risks not the least of which is a shortened life of the asset, premature failure and the consequent loss of public confidence. For example, consider a reduction in the frequency of servicing a community centre's HVAC system and a plan to run this item to failure. Lowering the frequency of inspections, and associated minor repairs, will result in an immediate cost reduction, allowing the funding allocated to this item to be reallocated to other initiatives. However, by reducing the maintenance, the performance of the system is also likely to be reduced. This can mean that occupant comfort will be reduced, resulting in an increase in complaints concerning temperature and humidity, or even higher frequencies of asset failures. All surrounding equipment and finishes will be exposed to higher levels of humidity, potentially resulting in quicker decay and failure. The asset itself will experience a shortened life span because critical issues may go unnoticed, or unresolved, and the HVAC system itself may fail unexpectedly, resulting in loss of revenue and negative public feedback.

It is essential to carefully assess all decisions, and potential consequences, before committing to a course of action, and to balance out the risks, levels of service, condition requirements, and costs with one another.

5.5.5 Backlog

It is suggested that the extent of the projected backlog may be too large and that steps may have to be taken to reduce the value to a more manageable level. What that more appropriate level is, is a matter of debate. Asset management seeks to determine the optimal approach to lifecycle management. Over the next year the Township will conduct a level of service analysis which should include a benchmarking review of municipalities of a comparable nature, with the purpose of understanding their levels of service and re-investment needs. This will assist Council in assessing potential levels of service to ensure acceptable performance in all areas of the asset lifecycle and that will inform capital and maintenance planning.

The tax-funded capital work, in particular, will struggle with shortfalls of funding that cannot be compensated for, either through reductions of services or condition expectations, and will be untenable to mitigate through debt financing. In these instances, it will be particularly important to engage in risk analysis to identify these areas beforehand and allow staff to prioritize investment funding accordingly. This will allow identification of which assets are low priority or can be run to failure if the need arises, and where funding can be redirected from areas of the budget with the least negative consequence.

5.5.6 Funding vs Needs Report Card

The second report card evaluation reflects the status of funding dedicated to improve the current condition of the asset through rehabilitation or replacement of the existing infrastructure. Infrastructure systems need funding that is dedicated, indexed, and long-term. The primary measure is the actual amount of funding provided versus the estimated investment required to meet or maintain the desired levels of service. The calculated ratio is then placed into one of five rating categories ranging from Very Good to Very Poor as shown in the table below.

Table 42: Report Card Rating Categories Based on Funding Levels

Rating Cat. Description	Criteria	Grade
Very Good	91% - 100% of the Funding need is supported.	A
Good	76% - 90% of the Funding need is supported	B
Fair	61% - 75% of the Funding need is supported.	C
Poor	46% - 60% of the Funding need is supported.	D
Very Poor	< 45% of the Funding need is supported.	F

Table 43: Funding Report Card

Asset System	Est. Ten Year Expenditure	Est. Ten Year Needs	% Needs Satisfied	Score
Administrative Facilities	2,875,000	6,428,000	44.7%	F
Culture Recreation and Sports	14,118,000	48,775,900	28.9%	F
Emergency Services	10,902,000	16,540,900	65.9%	B-
Information Technology	3,095,000	1,250,000	247.6%	A+
Parking	300,000	955,000	31.4%	F
Stormwater	1,146,000	24,902,250	4.6%	F
Transportation	33,859,000	122,816,400	27.6%	F
Vehicles and Equipment	7,755,000	15,476,500	50.1%	D-
Overall Grade	**$72,904,000**	**$237,144,050**	**30.7%**	**F**

The overall rating based on current levels of expenditure is F indicating that the Township is underfunding its infrastructure to a significant degree.

SECTION 6: IMPROVEMENT AND MONITORING

6 Improvement and Monitoring

One of the goals of this asset management plan is to establish a baseline of the current asset management practices, to inform a work plan for continuous improvement. Any assumptions made and opportunities identified have been documented to serve as the basis for continuous improvement. This section, presents the proposed continuous improvement program in terms of two components:

- Actions related to improving future asset management plans; and
- Actions to advance the Township's overall asset management capabilities.

Where possible, the benefits and costs of the proposed actions are included to support planning processes.

6.1 Improving Future Asset Management Plans

The future improvement initiatives to minimize gaps in this asset management plan are categorized by section, and identified below:

6.1.1 Improvements to Existing Sections

Section 1: Introduction

- None at this time.

Section 2: State of the Assets

The majority of the actions related to the state of the assets section are based upon improving data accuracy, in particular:

- Conducting additional/updated condition assessments on key asset groups;
- Expanding upon the centralized asset inventory;
- Updating and improving cost estimates for all key assets to reflect current conditions; and
- Improving lifecycle analysis tools for more automation and incorporation of various deterioration curves to improve predictive models.

Strides have been made through the implementation of the City Works system to document the state of the assets and to monitor the conditions on a more proactive basis. The data must be continually updated as part of the departments ongoing business practices if it is to remain valid and useful.

Section 3: Desired Levels of Service

Incorporate the following key sub-sections:

- Customer Research and Expectations:
  - Background and customer research undertaken and proposed approach to future

consultation; and
    - Details of how knowledge of customer requirements has been considered in setting levels of service.
- Strategic and corporate goals:
    - Organization strategic goals and impacts on levels of service.
- Legislative Requirements:
    - Incorporate additional background legislation or regulations that will affect asset operation or require certain levels of service.
- Current Levels of Service:
    - Define current levels of service being provided by the assets;
    - Identify related performance measures; and
    - Incorporate how the City compares to other organizations.
- Desired Levels of Service:
    - Provide details on the level of service desired if different from what is being provided, and what options have been considered in determining that level of service; and
    - Provide details of the differences between current and desired levels of service and how these gaps will be progressively closed.

These will in large measures be addressed through the forthcoming asset level of service analysis planned for 2024. The onus will then be on Council and Staff to keep it current so that it remains an accurate decision support tool for future plans.

NOTE: Appendix III includes a detailed analysis of the current and desired levels of service.

Section 4: Lifecycle Management Strategies

Addition of the following sections:

- Non-Infrastructure:

○ Detailed forecast and itemized list of non-infrastructure projects and initiatives.

- Operations and Maintenance:
    - Documentation of trends (i.e. past expenditures, complaints) and issues;
    - Maintenance decision making processes (planned and unplanned);
    - Defining maintenance strategies, methods to meet the required levels of service;
    - How maintenance tasks are prioritized;
    - Risks associated with alternative maintenance standards;
    - Forecast of planned and unplanned operations and maintenance work cost; and
    - Quantification of deferred maintenance and associated risks.
- Renewal/Replacements:
    - Define how replacements/renewals are identified and to what standards the assets are to be replaced (i.e. modes of failure, options for treatment, risk);
    - End of life projections; and
    - Define and document renewal decision making processes.
- Expansions:
    - Selection criteria: Formal procedure to rank asset creation/acquisition projects.
    - Capital Investment strategies: Strategies to ensure the new asset best meets the needs of the organization and are completed on time and to the required standard and cost, covering:
- Value management during the design phase;
- Procedures and criteria for assessment of design options (including consideration of lifecycle costs, optimized renewal decision making and risk assessment);
    - Project management procedures and project review;
    - Quality assurance and audit trails for design and project management; and
    - Risks are associated with alternatives and how these will be managed.
    - Disposals:
        - Forecast future disposal of assets including timing and costs; and
        - Cash flow forecast of income/expenditure from asset disposal.

Life cycle management strategies will largely depend on the early adoption of maintenance standards and policies across the spectrum of all assets. Some efforts in this regard will be initiated early in 2024.

Section 5: Financial Strategy

Add the following sections:

- Valuation Forecasts:
  - Forecast the future value of asset and valuation methodology
    - Forecast depreciation.
- Key Assumptions made in the Financial Forecasts:
  - Documentation of the key assumptions made in the forecasts and the risks that they might change.
- Forecast Reliability and Confidence:
  - Sensitivity analysis quantifying the variations in the forecasts resulting from possibly scenarios relating to variations of the key assumptions.

NOTE: Appendix III and IV includes a detailed analysis of the Levels of Service and Financial Strategy including valuation, forecasts and sensitivity analysis.

Section 6: Improvement and Monitoring

Include the following:

- Status of Asset Management Practices:
  - Current and desired state of Asset Management processes, data and systems.
- Improvement Program:
  - Details of actions proposed and timetables for improving accuracy and confidence in the asset management plan, indicating responsibility of each actions; and
  - Details of resources required to implement the improvement program.
- Monitoring and Review Procedures:
  - Procedures and timetable for performance reporting (e.g. independent audits, self-assessments etc.).
  - Timetable for external audit and review (of process, data integrity and level of service).
- Performance Measures:
  - Outline performance measures for the asset management system; and
  - Describe hoe the effectiveness of the asset management plan will be measured.

6.1.2 New Sections to be Added

Future Demand (to be added before Section 4: Lifecycle Management Strategies). This new section will provide details of growth forecasts which affect the management and utilization of assets, and will include:

- Demand Drivers: Factors influencing demand – anticipated changes in customer expectations, changes in technology, population changes, economic changes, etc.
- Demand Forecasts: Details of projected growth or decline of demands on services.
- Demand Impacts on Assets: Impacts of changes in demand on assets (utilization/capacity, load/condition).
- Demand Management Plan: Non-asset solutions available as alternatives to asset-based solutions (i.e. demand management, insurance, managed failures).
- Asset Programs to Meet Demand: Major programs and costs. Details to be linked with the “Expansions” categories in the Lifecycle management plan.

Risk Management Plan (to be added before Section 5: Financial Strategy). This new section will detail the processes of identifying risks that may affect the ongoing delivery of services from infrastructure, including the risk context (probability, consequence, and risk rating tables):

- Critical Assets: How critical assets are identified and managed.
- Risk Assessment: Approach to assessing risks, referencing an adopted enterprise risk management framework; and Top risks and how they will be managed.
- Risk Management and Resilience: A summary of the approaches and strategies to manage the risks and resilience (such as business continuity planning, new infrastructure, assessments

etc.); and A summary of the key outcomes of the above, including cost/benefit analysis.

6.2 Advancing Corporate Asset Management Capabilities

As has been mentioned earlier in this document, there are a number of industry standards for asset management that have been released in recent years including:

- MFOA
- ISO 55000;
- International Infrastructure Management Manual, 2015; and
- BSI PAS55:2008.

Each of the above standards have been developed over a number of years based on provincial, federal and international collaboration, and are widely regarded as best practices in the field of asset management. Each of them defines the key principles of asset management maturity, and includes frameworks upon which an organization can evaluate its maturity and diagnose opportunities to advance maturity and capabilities in asset management.

In order for the Township to evaluate the current capabilities and develop a work plan towards asset management maturity, the Township should conduct periodic reviews of the asset management system. The outcome of the assessment should be an analysis that identifies performance strengths and weaknesses across a range of domains. This will help guide the Township towards future enhancements contributing to the path to maturity.

Figure 19 provides a radar chart that shows an evaluation of the current level of maturity, against the overall target maturity. This chart provides a visual tool to evaluate gaps against targets for the asset management system. It should be noted that this represents a corporate-wide perspective, and it is challenging to generalize across all asset systems.

Figure 19. Current and Target Asset Management Maturity based on the IIMM and ISO55000

A formal review with each asset system should be planned to be completed in 2024 as part of the update of the corporate asset management policy.

As an outcome of the internal reviews and development of this plan, key opportunities for asset management improvement initiatives to advance the Township's alignment with industry best practices have been identified. These opportunities have been used as the basis to develop the Corporate Asset Management work plan presented in the next section. Each opportunity, the targeted benefits, the proposed timeline, and estimated costs are presented in **Table 44**.

Table 44. 2023 to 2025 Asset Management Work Plan Initiatives

2023 Work Plan (Complete With the Adoption of This Plan)				
ID	**Work Plan Item**	**Timing**	**Targeted Benefits**	**Status (2025)**
1.1	Data Update	2023	▪ Input new data to the Asset Management System ▪ Update existing information core and non-core assets to reflect best available data.	Completed (2024)
1.2	Corporate Asset Management Plan	2023	▪ Expand Asset Management Plan to cover all assets under Township control.	Completed (2024)
2024 Work Program				
ID	**Work Plan Item**	**Timing**	**Targeted Benefits**	**Status (2025)**
2.1	Level of Service Analysis	2024	▪ Analysis of activities necessary to keep infrastructure in good state of repair ▪ Prepare long term capital forecasts a minimum of one lifecycle	Completed (2025)
2.2	Data Update	2024	▪ Input new data to the Asset Management System ▪ Update existing information core and non-core assets to reflect best available data.	Completed (2025)
2.3	Asset Management Policy Update	2024	▪ Updates to incorporate any best practices, strategic document, or regulatory changes.	Completed (2024)
3.3	Financial Plan Development	2024	▪ Consolidate long term needs ▪ Identify funding alternatives ▪ Financial plan development for all assets	Completed (2025)
2025 Work Program				
ID	**Work Plan Item**	**Timing**	**Targeted Benefits**	**Status (2025)**
3.1	Corporate Asset Management Plan	2025	▪ Clarifies the vision for Asset Management of all assets and provides a mandate and direction for staff. ▪ Forms the basis of discussion with Council regarding the impact on levels of service and changes to the capital works budget. ▪ Provides a business case for the long term financial forecasts.	To be included in full Asset Management Plan update in 2030 *

* Council may wish to outsource future updates of the plan depending on the skill sets of future staff resources.

SECTION 7: CONCLUSIONS

7 Conclusions

The Township of Muskoka Lakes Corporate Asset Management Plan documents the current processes and practices in place to maintain the Township's services over the next 25 years. Asset management practices within some asset groups are more advanced than others however overall the Townships asset management practices are relatively early in their development. A number of strategies are identified to advance the overall level of practice over the next few years.

Table 45 provides an overview of the current value of the assets under Township jurisdiction and an assessment of their condition. Overall, the Township's asset portfolio has approximately 54.2 per cent remaining service life (weighted by replacement value). Of the portfolio, approximately 11.3 per cent, or $70.1 M in assets are within the poor and very poor rating categories and are beyond their typical service lives.

Table 45. Asset System Ratings Based on Service Life and Condition

Asset System	Asset Category	Asset	Replacement Cost	% Life Remain	Condition State	% of Assets Poor or Very Poor	Replace Value Poor and Very Poor Assets
Administrative Facilities	Civic	Admin Building	$12,229,000	34.2%	Poor	11.7%	$1,432,037
	Medical	Health Hub	$2,232,600	68.1%	Good	0.0%	-
	Works Yards	Garages, Sand, Salt Sheds	$12,438,900	40.5%	Poor	7.7%	$955,846
Culture, Sports, and Recreation	Cultural Facilities	Cemeteries	$88,300	41.3%	Poor	0.0%	-
		Community Centres	$45,859,000	33.8%	Poor	4.6%	$2,156,274
		Docks and Wharves	$6,240,000	31.9%	Poor	22.0%	$1,370,393
		Library	$7,215,500	26.7%	V Poor	0.0%	-
	Recreation Facilities	Parks	$11,767,000	78.6%	Good	0.2%	$22,190
		Parks Buildings	$2,933,500	35.4%	Poor	4.6%	$93,628
		Trails	$728,000	49.7%	Fair	0.0%	-
	Sports Facilities	Arenas	$29,464,800	5.4%	V Poor	5.8%	$1,720,793
		Sport Fields Etc	$1,545,500	28.2%	V Poor	3.2%	$50,110
Emergency Services	Fire	Fire Halls	$25,758,800	33.5%	Poor	4.4%	$1,134,584
		Fire Vehicles & Equipment	$10,969,000	45.7%	Fair	0.0%	-

Information Technology	Hardware Network	Computers, Peripherals	$773,400	40.2%	Poor	37.4%	$289,582
		Connectivity / WiFi	$ 85,700	2.6%	V Poor	99.1%	$84,953
	Software	Operational	$445,500	55.4%	Fair	22.4%	$120,000
Parking	Surface Parking	Parking Lots	$407,100	38.1%	Poor	4.5%	$18,400
		Street Parking	$430,900	0.7%	V Poor	92.8%	$399,900
Storm Water Management	Drainage Systems	Rural	$41,703,000	28.6%	V Poor	0%	$0
		Urban	$4,058,500	54.5%	Fair	0%	$0
		Dam	$7,325,000	0.0%	V Poor	100%	$7,325,000
Transportation	Bridges and Culverts	Bridge	$19,775,000	47.7%	Fair	17.8%	$3,512,500
		Culverts (>3.0m)	$5,567,500	45.4%	Fair	27.1%	$1,510,000
	Roads	Hard Top	$236,612,000	70.5%	Good	40.3%	$30,500,900
		Loose Top	$119,900,700	67.5%	Good	53.2%	$14,984,100
	Railway Crossings	Protected	$600,000	48.3%	Fair	0.0%	-
		Unprotected	$100,000	25.0%	V Poor	0.0%	-
	Sidewalks	Concrete	$400,400	35.6%	Poor	0.6%	$2,429
		Pavers	$48,300	26.5%	V Poor	0.0%	-
	Signs	Informational	$124,800	46.9%	Fair	3.2%	$1,200
		Regulatory	$255,000	29.3%	V Poor	6.0%	$15,300
		Warning	$156,600	18.2%	V Poor	53.6%	$84,000
	Street Lighting	LED	$548,300	76.3%	Good	0.0%	-
		INC	$8,000	30.0%	Poor	0.0%	-
		Poles	$1,425,000	52.5%	Fair	0.0%	-
Vehicles and Equipment		Vehicles and Equipment	$ 9,990,500	36.3%	Poor	24.3%	$2,432,000
		Total	**$620,211,100**	**54.2%**	**Fair**	**11.3%**	**$70,129,226**

In 2024, it is proposed that the Township embark on a level of service analysis the outcome of which will be to define levels of service for each asset category over the long term. The vision is that the Township will establish the key levels of service requirements and better understand the relationship between the levels of service, risk and costs to provide the service. This will allow the Township to then accurately forecast its future financial obligations. The Township should also develop tools and techniques to predictively model levels of service over time. NOTE: Appendix III and IV attached to this amended report include desired levels of service and related financial strategy.

This plan also highlights lifecycle activities which are tied to lifecycle funding forecasts. The activities were categorized into non-infrastructure, maintenance, renewal/rehabilitation, replacement, disposal, and expansion activities.

A projection of the current value of deferred capital needs (backlog) has been completed. The analysis demonstrates a current value in excess of a $149.4 M or 24% of total asset value. A projection of the impact of maintaining current funding levels (currently the only measure of level of service) on the value of the deferred needs over the next 25 years was completed. If the current situation remains unaltered the value of deferred capital needs can be expected to increase to over $224.2 M or 31.1 % of total asset value (2022 values). At the same time as reported under separate reports, provisions for reserve remain well below the

sustainable level to meet the needs of the current levels of capital funding. It should be noted that the analysis considers only capital funding, and does not consider the current reserve position. Therefore, the percentage annual increase to reduce or eliminate the backlog of needs does not specifically correlate to a direct increase to rates or the tax levy.

Council could potentially fund the reduction of the backlog from a variety of sources including but not limited to taxation, existing reserves or grants, debt and subsidies. In future versions of the asset management plan, further analysis needs to be completed by asset system to evaluate options for funding. An effort should be made to diversify revenues and reduce the reliance on property taxes as the primary source of income. Other alternatives that should be considered include the disposal of assets that may not be consistent with the needs and future direction of the municipality. It should be noted however that failure to address the issue will result in higher operating expenses to maintain levels of service above the minimum regulated levels.

Council has adopted a series of master plans to chart a course for the future of the Township. Many of the recommendations involve the creation of new infrastructure or pursuing alternative directions that may not included in the scope of the asset management plan. At a very high level the estimate of the value of these could be as much as $75.9 M over the next 25 years

One of the goals of this asset management plan was to establish a high-level baseline of the asset management practices which will inform a work plan to continually improve the asset management maturity. Throughout this process, any assumptions and opportunities have been documented to serve as the basis of a continuous improvement program. This plan presents a proposed continuous improvement program in terms of two components:

- Actions related to improving future asset management plans; and
- Actions to advance the Township's overall asset management capabilities.

Asset management provides a mechanism for reliable, repeatable, and transparent decision making. However, asset management is more than just a project, and to realize the full benefits, the principles should be systematically developed, embedded and integrated into day to day operations across all asset-owning departments, if the true benefits are to be realized.

TOWNSHIP OF
MUSKOKA
Lakes

APPENDIX I

Français

ONTARIO REGULATION 588/17

made under the

INFRASTRUCTURE FOR JOBS AND PROSPERITY ACT, 2015

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ASSET MANAGEMENT PLANNING FOR MUNICIPAL INFRASTRUCTURE

CONTENTS

INTERPRETATION AND APPLICATION

Definitions

1. (1) In this Regulation,

"asset category" means a category of municipal infrastructure assets that is,

(a) an aggregate of assets described in each of clauses (a) to (e) of the definition of core municipal infrastructure asset, or

(b) composed of any other aggregate of municipal infrastructure assets that provide the same type of service; ("catégorie de biens")

"core municipal infrastructure asset" means any municipal infrastructure asset that is a,

(a) water asset that relates to the collection, production, treatment, storage, supply or distribution of water,

(b) wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater,

(c) stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater,

(d) road, or

(e) bridge or culvert; ("bien d'infrastructure municipale essentiel")

"ecological functions" has the same meaning as in Ontario Regulation 140/02 (Oak Ridges Moraine Conservation Plan) made under the *Oak Ridges Moraine Conservation Act, 2001*; ("fonctions écologiques")

"green infrastructure asset" means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces and green roofs; ("bien d'infrastructure verte")

"hydrological functions" has the same meaning as in Ontario Regulation 140/02; ("fonctions hydrologiques")

"joint municipal water board" means a joint board established in accordance with a transfer order made under the *Municipal Water and Sewage Transfer Act, 1997*; ("conseil mixte de gestion municipale des eaux")

"lifecycle activities" means activities undertaken with respect to a municipal infrastructure asset over its service life, including constructing, maintaining, renewing, operating and decommissioning, and all engineering and design work associated with those activities; ("activités relatives au cycle de vie")

"municipal infrastructure asset" means an infrastructure asset, including a green infrastructure asset, directly owned by a municipality or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board; ("bien d'infrastructure municipale")

"municipality" has the same meaning as in the *Municipal Act, 2001*; ("municipalité")

"operating costs" means the aggregate of costs, including energy costs, of operating a municipal infrastructure asset over its service life; ("frais d'exploitation")

"service life" means the total period during which a municipal infrastructure asset is in use or is available to be used; ("durée de vie")

"significant operating costs" means, where the operating costs with respect to all municipal infrastructure assets within an asset category are in excess of a threshold amount set by the municipality, the total amount of those operating costs. ("frais d'exploitation importants")

(2) In Tables 1 and 2,

"connection-days" means the number of properties connected to a municipal system that are affected by a service issue, multiplied by the number of days on which those properties are affected by the service issue. ("jours-branchements")

(3) In Table 4,

"arterial roads" means Class 1 and Class 2 highways as determined under the Table to section 1 of Ontario Regulation 239/02 (Minimum Maintenance Standards for Municipal Highways) made under the *Municipal Act, 2001*; ("artères")

"collector roads" means Class 3 and Class 4 highways as determined under the Table to section 1 of Ontario Regulation 239/02; ("routes collectrices")

"lane-kilometre" means a kilometre-long segment of roadway that is a single lane in width; ("kilomètre de voie")

"local roads" means Class 5 and Class 6 highways as determined under the Table to section 1 of Ontario Regulation 239/02. ("routes locales")

(4) In Table 5,

"Ontario Structure Inspection Manual" means the Ontario Structure Inspection Manual (OSIM), published by the Ministry of Transportation and dated October 2000 (revised November 2003 and April 2008) and available on a Government of Ontario website; ("manuel d'inspection des structures de l'Ontario")

"structural culvert" has the meaning set out for "culvert (structural)" in the Ontario Structure Inspection Manual. ("ponceau structurel")

Application

2. For the purposes of section 6 of the Act, every municipality is prescribed as a broader public sector entity to which that section applies.

STRATEGIC ASSET MANAGEMENT POLICIES

Strategic asset management policy

3. (1) Every municipality shall prepare a strategic asset management policy that includes the following:

1. Any of the municipality's goals, policies or plans that are supported by its asset management plan.
2. The process by which the asset management plan is to be considered in the development of the municipality's budget or of any long-term financial plans of the municipality that take into account municipal infrastructure assets.
3. The municipality's approach to continuous improvement and adoption of appropriate practices regarding asset management planning.
4. The principles to be followed by the municipality in its asset management planning, which must include the principles set out in section 3 of the Act.
5. The municipality's commitment to consider, as part of its asset management planning,
    i. the actions that may be required to address the vulnerabilities that may be caused by climate change to the municipality's infrastructure assets, in respect of such matters as,
        A. operations, such as increased maintenance schedules,

B. levels of service, and

C. lifecycle management,

ii. the anticipated costs that could arise from the vulnerabilities described in subparagraph i,

iii. adaptation opportunities that may be undertaken to manage the vulnerabilities described in subparagraph i,

iv. mitigation approaches to climate change, such as greenhouse gas emission reduction goals and targets, and

v. disaster planning and contingency funding.

6. A process to ensure that the municipality's asset management planning is aligned with any of the following financial plans:

i. Financial plans related to the municipality's water assets including any financial plans prepared under the *Safe Drinking Water Act, 2002*.

ii. Financial plans related to the municipality's wastewater assets.

7. A process to ensure that the municipality's asset management planning is aligned with Ontario's land-use planning framework, including any relevant policy statements issued under subsection 3 (1) of the *Planning Act*, any provincial plans as defined in the *Planning Act* and the municipality's official plan.

8. An explanation of the capitalization thresholds used to determine which assets are to be included in the municipality's asset management plan and how the thresholds compare to those in the municipality's tangible capital asset policy, if it has one.

9. The municipality's commitment to coordinate planning for asset management, where municipal infrastructure assets connect or are interrelated with those of its upper-tier municipality, neighbouring municipalities or jointly-owned municipal bodies.

10. The persons responsible for the municipality's asset management planning, including the executive lead.

11. An explanation of the municipal council's involvement in the municipality's asset management planning.

12. The municipality's commitment to provide opportunities for municipal residents and other interested parties to provide input into the municipality's asset management planning.

(2) For the purposes of this section,

"capitalization threshold" is the value of a municipal infrastructure asset at or above which a municipality will capitalize the value of it and below which it will expense the value of it. ("seuil de capitalisation")

Update of asset management policy

4. Every municipality shall prepare its first strategic asset management policy by July 1, 2019 and shall review and, if necessary, update it at least every five years.

ASSET MANAGEMENT PLANS

Asset management plans, current levels of service

5. (1) Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets by July 1, 2021, and in respect of all of its other municipal infrastructure assets by July 1, 2023.

(2) A municipality's asset management plan must include the following:

1. For each asset category, the current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan:

i. With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.

ii. With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.

2. The current performance of each asset category, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency, and based on data from at most two calendar years prior to the year in which all information required under this section is included in the asset management plan.

3. For each asset category,

i. a summary of the assets in the category,

ii. the replacement cost of the assets in the category,

iii. the average age of the assets in the category, determined by assessing the average age of the components of the assets,

iv. the information available on the condition of the assets in the category, and

v. a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate.

4. For each asset category, the lifecycle activities that would need to be undertaken to maintain the current levels of service as described in paragraph 1 for each of the 10 years following the year for which the current levels of service under paragraph 1 are determined and the costs of providing those activities based on an assessment of the following:

   i. The full lifecycle of the assets.

   ii. The options for which lifecycle activities could potentially be undertaken to maintain the current levels of service.

   iii. The risks associated with the options referred to in subparagraph ii.

   iv. The lifecycle activities referred to in subparagraph ii that can be undertaken for the lowest cost to maintain the current levels of service.

5. For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, the following:

   i. A description of assumptions regarding future changes in population or economic activity.

   ii. How the assumptions referred to in subparagraph i relate to the information required by paragraph 4.

6. For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census, the following:

   i. With respect to municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are set out in Schedule 3 or 7 to the 2017 Growth Plan, those forecasts.

   ii. With respect to lower-tier municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are not set out in Schedule 7 to the 2017 Growth Plan, the portion of the forecasts allocated to the lower-tier municipality in the official plan of the upper-tier municipality of which it is a part.

   iii. With respect to upper-tier municipalities or single-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the municipality that are set out in its official plan.

   iv. With respect to lower-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the lower-tier municipality that are set out in the official plan of the upper-tier municipality of which it is a part.

   v. If, with respect to any municipality referred to in subparagraph iii or iv, the population and employment forecasts for the municipality cannot be determined as set out in those subparagraphs, a description of assumptions regarding future changes in population or economic activity.

   vi. For each of the 10 years following the year for which the current levels of service under paragraph 1 are determined, the estimated capital expenditures and significant operating costs related to the lifecycle activities required to maintain the current levels of service in order to accommodate projected increases in demand caused by growth, including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets.

(3) Every asset management plan must indicate how all background information and reports upon which the information required by paragraph 3 of subsection (2) is based will be made available to the public.

(4) In this section,

"2017 Growth Plan" means the Growth Plan for the Greater Golden Horseshoe, 2017 that was approved under subsection 7 (6) of the *Places to Grow Act, 2005* on May 16, 2017 and came into effect on July 1, 2017; ("Plan de croissance de 2017")

"Greater Golden Horseshoe growth plan area" means the area designated by section 2 of Ontario Regulation 416/05 (Growth Plan Areas) made under the *Places to Grow Act, 2005*. ("zone de croissance planifiée de la région élargie du Golden Horseshoe")

Asset management plans, proposed levels of service

6. (1) Subject to subsection (2), by July 1, 2024, every asset management plan prepared under section 5 must include the following additional information:

1. For each asset category, the levels of service that the municipality proposes to provide for each of the 10 years following the year in which all information required under section 5 and this section is included in the asset management plan, determined in accordance with the following qualitative descriptions and technical metrics:

   i. With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.

   ii. With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.

2. An explanation of why the proposed levels of service under paragraph 1 are appropriate for the municipality, based on an assessment of the following:
    i. The options for the proposed levels of service and the risks associated with those options to the long term sustainability of the municipality.
    ii. How the proposed levels of service differ from the current levels of service set out under paragraph 1 of subsection 5 (2).
    iii. Whether the proposed levels of service are achievable.
    iv. The municipality's ability to afford the proposed levels of service.
3. The proposed performance of each asset category for each year of the 10-year period referred to in paragraph 1, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency.
4. A lifecycle management and financial strategy that sets out the following information with respect to the assets in each asset category for the 10-year period referred to in paragraph 1:
    i. An identification of the lifecycle activities that would need to be undertaken to provide the proposed levels of service described in paragraph 1, based on an assessment of the following:
        A. The full lifecycle of the assets.
        B. The options for which lifecycle activities could potentially be undertaken to achieve the proposed levels of service.
        C. The risks associated with the options referred to in sub-subparagraph B.
        D. The lifecycle activities referred to in sub-subparagraph B that can be undertaken for the lowest cost to achieve the proposed levels of service.
    ii. An estimate of the annual costs for each of the 10 years of undertaking the lifecycle activities identified in subparagraph i, separated into capital expenditures and significant operating costs.
    iii. An identification of the annual funding projected to be available to undertake lifecycle activities and an explanation of the options examined by the municipality to maximize the funding projected to be available.
    iv. If, based on the funding projected to be available, the municipality identifies a funding shortfall for the lifecycle activities identified in subparagraph i,
        A. an identification of the lifecycle activities, whether set out in subparagraph i or otherwise, that the municipality will undertake, and
        B. if applicable, an explanation of how the municipality will manage the risks associated with not undertaking any of the lifecycle activities identified in subparagraph i.
5. For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, a discussion of how the assumptions regarding future changes in population and economic activity, set out in subparagraph 5 i of subsection 5 (2), informed the preparation of the lifecycle management and financial strategy referred to in paragraph 4 of this subsection.
6. For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census,
    i. the estimated capital expenditures and significant operating costs to achieve the proposed levels of service as described in paragraph 1 in order to accommodate projected increases in demand caused by population and employment growth, as set out in the forecasts or assumptions referred to in paragraph 6 of subsection 5 (2), including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets,
    ii. the funding projected to be available, by source, as a result of increased population and economic activity, and
    iii. an overview of the risks associated with implementation of the asset management plan and any actions that would be proposed in response to those risks.
7. An explanation of any other key assumptions underlying the plan that have not previously been explained.

(2) With respect to an asset management plan prepared under section 5 on or before July 1, 2021, if the additional information required under this section is not included before July 1, 2023, the municipality shall, before including the additional information, update the current levels of service set out under paragraph 1 of subsection 5 (2) and the current performance measures set out under paragraph 2 of subsection 5 (2) based on data from the two most recent calendar years.

Update of asset management plans

7. (1) Every municipality shall review and update its asset management plan at least five years after the year in which the plan is completed under section 6 and at least every five years thereafter.

(2) The updated asset management plan must comply with the requirements set out under paragraphs 1, 2 and 3 and subparagraphs 5 i and 6 i, ii, iii, iv and v of subsection 5 (2), subsection 5 (3) and paragraphs 1 to 7 of subsection 6 (1).

Endorsement and approval required

8. Every asset management plan prepared under section 5 or 6, or updated under section 7, must be,

(a) endorsed by the executive lead of the municipality; and

(b) approved by a resolution passed by the municipal council.

Annual review of asset management planning progress

9. (1) Every municipal council shall conduct an annual review of its asset management progress on or before July 1 in each year, starting the year after the municipality's asset management plan is completed under section 6.

(2) The annual review must address,

(a) the municipality's progress in implementing its asset management plan;

(b) any factors impeding the municipality's ability to implement its asset management plan; and

(c) a strategy to address the factors described in clause (b).

Public availability

10. Every municipality shall post its current strategic asset management policy and asset management plan on a website that is available to the public, and shall provide a copy of the policy and plan to any person who requests it.

TABLE 1

WATER ASSETS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	1. Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system. 2. Description, which may include maps, of the user groups or areas of the municipality that have fire flow.	1. Percentage of properties connected to the municipal water system. 2. Percentage of properties where fire flow is available.
Reliability	Description of boil water advisories and service interruptions.	1. The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system. 2. The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.

TABLE 2

WASTEWATER ASSETS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	Percentage of properties connected to the municipal wastewater system.
Reliability	1. Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes. 2. Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches. 3. Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes. 4. Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in paragraph 3. 5. Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.	1. The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system. 2. The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system. 3. The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.

TABLE 3

STORMWATER MANAGEMENT ASSETS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	1. Percentage of properties in municipality resilient to a 100-year storm. 2. Percentage of the municipal stormwater management system resilient to a 5-year storm.

TABLE 4

ROADS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity.	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.
Quality	Description or images that illustrate the different levels of road class pavement condition.	1. For paved roads in the municipality, the average pavement condition index value. 2. For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).

TABLE 5

BRIDGES AND CULVERTS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	Percentage of bridges in the municipality with loading or dimensional restrictions.
Quality	1. Description or images of the condition of bridges and how this would affect use of the bridges. 2. Description or images of the condition of culverts and how this would affect use of the culverts.	1. For bridges in the municipality, the average bridge condition index value. 2. For structural culverts in the municipality, the average bridge condition index value.

COMMENCEMENT

Commencement

11. This Regulation comes into force on the later of January 1, 2018 and the day it is filed.

Français

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TOWNSHIP OF MUSKOKA Lakes

APPENDIX II

Corporate Policy

Policy:	**STRATEGIC ASSET MANAGEMENT POLICY FOR THE TOWNSHIP OF MUSKOKA LAKES**
Main Contact:	**Operational Services Department**
Last Revision:	**May 2019**

PURPOSE

This asset management policy expresses the commitment of Township of Muskoka Lakes Council and staff to plan, design, construct, acquire, operate, maintain, renew, replace and dispose of the Township's infrastructure assets in a way that ensures sound stewardship of public assets while delivering valued customer services and improving the quality of life.

POLICY STAEMENT:

The Corporation of the Township of Muskoka Lakes will employ a program to manage assets in a strategic, comprehensive, organization-wide manner known as Corporate Asset Management (CAM) program.

The CAM program requires that we treat all assets as essential components in an interrelated system, rather than as isolated parts. Service areas will evaluate, enhance, and maintain assets using a common framework and collaborative processes.

CAM is an integrated business approach that relies on well devised strategies, sustainable assets, trained knowledgeable staff and good communication to achieve desired service results.

The CAM program focuses everyone in our organization on four fundamental goals:

- Providing efficient, effective and sustainable service to meet the needs of our community,
- Optimizing asset value while minimizing lifecycle costs,
- Managing risks to service delivery,
- Committing to continual improvement of the CAM program.

The CAM program is the method by which the Township will ensure sound stewardship of public assets and meet its customer service commitments to present and future citizens in an effective, efficient and sustainable manner

This asset management approach will support delivery of the Township of Muskoka Lakes' strategic objectives for sustainable infrastructure and services. The CAM program will create and maintain clear links between the broader corporate objectives, policies &strategies and the more detailed day-to-day operations / maintenance activities.

Specifically, the CAM program is committed to the following objectives:

- Customer Focused
- Provide assurance to our customers through clearly defined levels of service and adhere to optimal asset management processes and practices, including investment, that are supported by continually updated asset data and performance measures.
- Innovative
- Continually improve our asset management approach, rededicating ourselves to innovation as new tools, techniques and solutions are developed.
- Fact Based Decision Making
- Uses of a formal but flexible, consistent, and repeatable approach to cost effectively manage our infrastructure assets.

- Optimal
- Make informed decisions between competing factors such as service delivery, asset quality & value, cost and risk by determining which option will deliver the optimal lifecycle value.
- Whole Lifecycle Perspective
- Consider the full impact of managing assets through their life cycle from acquisition to disposal including level of service, risk, maintenance & operating activities and costs.
- Integrated System Focused
- Evaluate an asset in terms of its role and value within the context of the greater system, as opposed to examining individual assets in isolation.
- Forward Looking & Sustainable
- Incorporate social, legislative, environmental and financial considerations into our decisions to adequately address our present and future land use planning framework, customer service commitments, environmental stewardship and regulatory requirements.
- Regulatory Compliant
- Comply with all relevant legislative, regulatory and statutory requirements.
- Risk-based
- Direct our resources, expenditures, and priorities in a way that achieves the established levels of service & benefits at an acceptable level of risk. The Corporation will provide sufficient training and resources to enable this policy to be achieved.

SCOPE

The asset management policy applies to all physical assets under the jurisdiction and control of the Township of Muskoka Lakes for the benefit of the residents of the township. Asset management is a broad strategic framework that encompasses many disciplines and involves all departments of the Township of Muskoka Lakes, from planning, finance, engineering, maintenance to operations. The TML Governance and Corporate Asset Management Frameworks (Appendices 1& 2) rely on key organizational strategies aligned with each other to deliver the desired outcomes.

- Strategies to manage risk, level of service and communication.
- Asset management strategies for lifecycle and data management for different asset classes.

- Planning based on optimized decision making model to report on capital, maintenance and financial plans.
- The Township will also comply with the capital asset reporting requirements and integrate the CAM program throughout the Township.
- The context and integration of asset management throughout the Township's lines of business will be formalized through references and linkages between corporate documents. Where possible and appropriate, staff will consider this policy and integrate it in the development of corporate documents such as:
- Corporate strategic plan
- Corporate financial plan
- Capital budget plan
- Climate change adaptation plan
- Operational plans and budgets
- Annual reports
- Design criteria and specifications
- Infrastructure servicing, management and replacement plans

DEFINITIONS AND EXAMPLES

For the purposes of this document, the following definitions will apply consistent with the ISO 55000:2014(E) - International Standard for Asset Management and the International Infrastructure Management Manual (IIMM).

Asset – An item, thing or entity that has potential or actual value to an organization.

Asset Management (AM) – the application of sound technical, social and economic principles that consider present and future needs of users and the service/performance of the assets to guide the Township to achieve its strategic objectives. It is a combination of management, financial, economic, engineering, and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner at an acceptable level of risk. It involves data-driven decision-making and actions throughout the lifecycle of assets.

Corporate Asset Management (CAM) – the application of asset management practices at a corporate level to maximize consistency among the diverse asset groups and create efficiency by harmonizing service levels and business process while considering climate adaptation plans and sustainability strategies.

Corporate Asset Management Steering Committee – The Director of Finance and the Director of Public Works supported by internal staff and external consultants as required.

Strategic Asset Management Plan (SAMP) – Plan that documents and specifies how the organizational objectives are to be converted into AM objectives, the approach for developing AM plans and the role of the asset management system in supporting the achievement of AM objectives.

State of Infrastructure Report (SOIR) – Report presenting information on the asset portfolio including details of the asset inventory, valuation of the asset base (replacement value), condition/performance of the asset base, accompanied by information on supporting data.

Asset Management Plans (AMPs) – asset specific plans which are regularly updated to develop data-driven strategies and operational recommendations necessary to achieve objectives and service level expectations.

Asset Management System – a set of interrelated and interacting elements of an organization, including the AM policy, AM objectives, AM Strategy, AM Plans and the processes to achieve these objectives.

Asset Lifecycle – set of phases through the life of an asset that characterizes the ability of the asset to meet an expected level of service and retain its identity as an asset.

Lifecycle Cost – the total cost of ownership of an asset throughout its life. This may include but is not limited to capital costs, operating costs, maintenance costs, renewal costs, replacement or disposal costs, and environmental costs.

Physical Asset or Tangible Capital Asset (TCA) – Non-financial assets having physical substance that are acquired or constructed/developed and:

- Are used on a continuing basis in the Township's operations
- Have useful lives extending beyond one accounting period
- Are not held for re-sale in the ordinary course of operations

Level of Service (LOS) – The parameters or combination of parameters that reflect social, political, economic and environmental outcomes that the organization delivers. LOS

statements describe the outputs or objectives an organization or activity intends to deliver to customers.

Resilience – The capacity to function, survive and thrive no matter what changes, stresses or shocks encountered.

Sustainability - Meeting the needs of today without compromising the needs of future generations. It is about maintaining or improving the standard of living by protecting human health, conserving the environment, using resources efficiently and advancing long-term economic competitiveness. It requires the integration of environmental, economic and socio-cultural priorities into policies and programs with actions at all levels.

RESPONSIBILITIES

The Corporate Asset Management Policy shall be approved by the Council of Township of Muskoka Lakes and communicated to public through the Township's website. Responsibility for developing and implementing companion guidelines and practices and for enabling the principles of the Corporate Asset Management Policy will rest with Township Staff, as outlined in the table below.

Role	Responsibility
Identification of issues and development of policy updates	CAM Steering Committee
Exercise stewardship of assets, adopt policy and budgets	Council, Senior Management Team
Implementation of policy	Senior Management Team, CAM Steering Committee, Departments
Development of guidelines and practices	CAM Steering Committee, Departments
On-going review of policies	CAM Steering Committee

PROCEDURES/STEPS

Staff will implement the Corporate Asset Management Policy through the use of the Governance and Corporate Asset Management Frameworks together with strategies and practices.

The key principles of the Asset Management Policy are outlined as follows:

- Take an optimized approach to asset related decisions, including acquisitions, disposals and trade-offs, which considers all revenues and costs (including operation, maintenance, replacement and decommissioning) and strives to minimize the total life cycle costs of assets
- Establish organizational accountability and responsibility for asset management, including for asset inventory and data management, asset condition monitoring, asset utilization and maintenance of asset performance levels
- Define and articulate asset service, maintenance and replacement levels in relation to service delivery objectives and desired Customer Service outcomes.
- Implement asset management software solutions in alignment with the Corporate Technology Strategy to document and share asset knowledge and information to provide the essential outputs for effective asset management.
- Minimize risks to asset users, and risks associated with failures.
- Integrate corporate, financial, business, technical and budgetary planning for all asset classes.
- Plan for and provide stable long term funding through the utilization of capital reserves while aligned with the long-term financial plan.
- Ensure that the Township's asset management planning process is aligned with the provincial policy statements.
- Ensure coordination with the District of Muskoka, area municipalities and other agencies for an integrated asset management system.
- Manage assets to be sustainable through the best user of available resources and the implementation of best practices.
- Integrate stakeholder input, climate change impact, environmental goals and social and sustainability objectives into a comprehensive asset management strategy.
- Utilize the Township's Public Engagement charter to fully involve/engage the public in the CAM process.
- Report on the performance of the CAM program for review and approval by Council.

This policy shall be implemented by staff to meet the requirements of O.Reg.588 /17: Asset Management Planning in Municipal Infrastructure regulation, using accepted industry guidelines and practices such as Ontario Building together – Guide for municipal asset management plans, the ISO 55000:2014(E) - International Standard for Asset

Management and the International Infrastructure Management Manual (IIMM, 2015). These guidelines shall form the basis for the Township's SAMP and AMPs.

Asset management plans will be developed for specific asset classes and will outline long term goals, processes and steps toward how they will be achieved. The AMPs will be based on current inventories and condition (acquired or derived), projected asset performance and remaining service life and risk consequences of losses. The plans will reflect details, such as replacement portfolios and associated financial plans while considering alternative scenarios and risks.

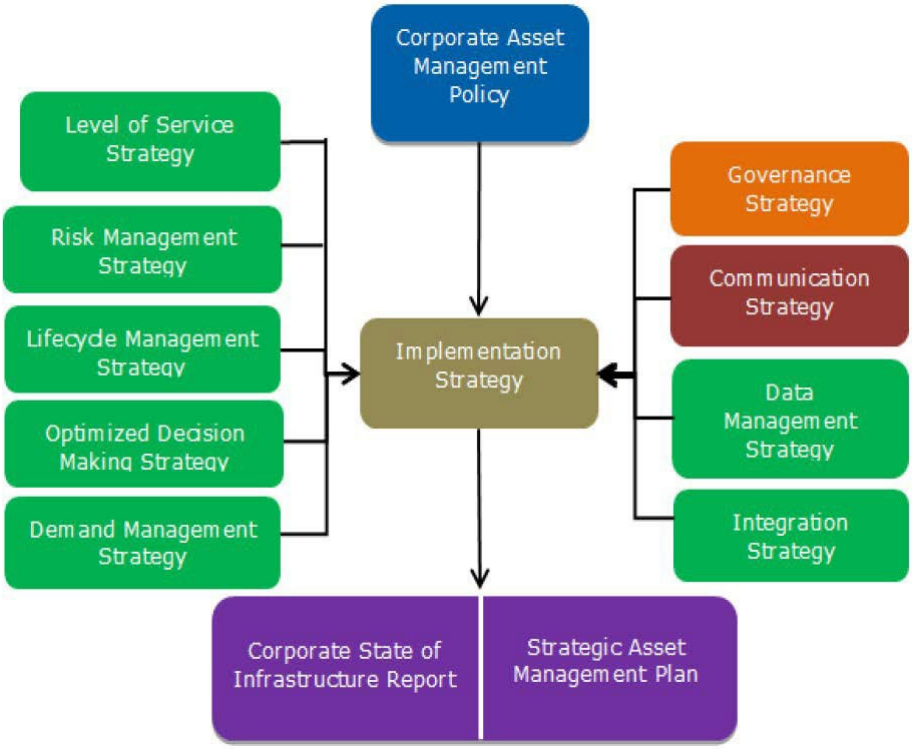
RECORDS MANAGEMENT AND PRIVACY

All records relating to any issue pursuant to this policy shall be maintained in accordance with the Municipality's record retention schedule. Throughout all processes outlined in this policy, all Members of Council and municipal employees shall adhere to all applicable legislation regarding privacy in accordance with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA). Individuals should be aware that certain circumstances may identify them during an investigation.

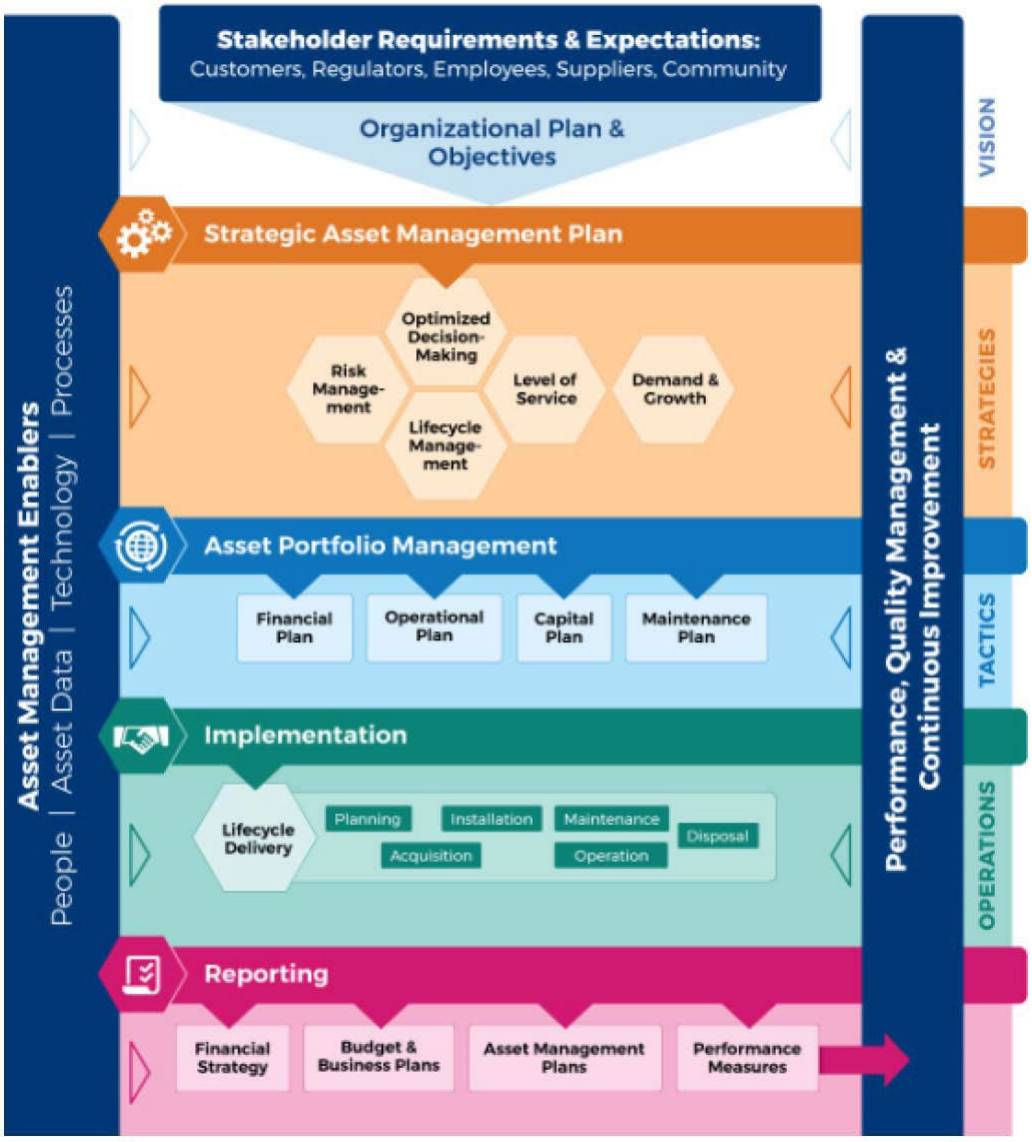
CHANGE HISTORY

Policy Name	Effective Date	Significant Changes	By-law/Resolution No.

APPENDIX 1
GOVERNANCE FRAMEWORK



APPENDIX 2
CORPORATE ASSET MANAGEMENT FRAMEWORK



TOWNSHIP OF MUSKOKA Lakes

APPENDIX III

Level of Service Study Report

Township of Muskoka Lakes

Asset Level of Service Study Report

Updated September 12th, 2025

Contents

Project name		Township of Muskoka Lakes – Asset Level of Service Study					
Document title		Asset Level of Service Study Report					
Project number		12634161					
File name		12634161-RPT-AssetLevelofServiceStudy					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S1 Draft	1	J. Durdan	G. Edwards	*on file	J. Matthews	*on file	April 23, 2025
S2 Final	1	J. Durdan	G. Edwards	*on file	W. Francisco	*on file	June 18, 2025
S2 Final	2	J. Durdan	G. Edwards		G. Edwards		Sept 8, 2025

Limitations

This report has been prepared by GHD for the Township of Muskoka Lakes ("the Township") and may only be used and relied on by the Township for the purpose agreed between GHD and the Township. GHD otherwise disclaims responsibility to any person other than the Township arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible. The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by the Township and others who provided information to GHD, which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The analysis, findings, and recommendations presented in this report have been developed based on financial information provided by the Township, including data prepared by a third-party consultant, as outlined in Phase 4 of this report. While reasonable efforts have been made to incorporate and interpret this information accurately, GHD has not independently verified the underlying data. Accordingly, no representations or warranties are made regarding the completeness or accuracy of the financial inputs provided. This report should not be relied upon for financial or investment decision-making without further independent review.

Report Assumptions and Scope

Scope Statement

The scope for this report was the development an Asset Level of Service Study for the Township of Muskoka Lakes, and the identification of Service Area services for inclusion into an Asset Level of Service Framework for Township Asset Classes in response to Provincial Legislative requirements and a means to allow the Township to identify key elements in determining appropriate Levels of Service provided.

Assumptions

In preparing this report the following assumptions have been made:

- There is no comprehensive risk assessment and evaluation process for The Township.
- The Township currently has no decision support system (DSS).
- The Township needs to identify and adopt the most appropriate Level of Service (LOS) to be carried forward to implementation. The LOS will be adopted as part of the Townships Asset Management Plan.
- The adoption time frame for changes to service delivery has been assumed and will need to be evaluated by the Township.
- The Township measures costs at the asset level; therefore the focus of activities was set to identifying and document service standards and costs at the asset level.

Data:

- Data used in the development of this report has been provided by the Township. Documents and data points consulted and used in development can be found in Appendix A.
- 2025 cost data is used as the baseline year for projections. GHD has trusted that the data provided is accurate and reflects the needs of the Township.
- Cost projections are based on The Townships' service area teams estimations and represent a 1-year planning process snapshot (the year 2025) which is then used as the basis to model 10-year projections to meet O. Reg 588/17 requirement for the 10-year planning process. Cost estimates were valued based on best approximate data available at the time. Projections were supplied by The Township subject matter experts (SME) and/or Project Managers.
- The original report was based upon financial data provided by the Township. This revised report now includes updated financial outcomes provided through a separate financial model completed by a different consultant.

Introduction

Overview

The Township of Muskoka Lakes (TML) is a picturesque community in Ontario, recognized for its natural beauty, vibrant local culture, and strong sense of community. It has a permanent population of approximately 7,600 residents, which increases significantly to approximately 26,000 during the summer months, reflecting its appeal as a seasonal destination. Spanning approximately 781 square kilometers, the Township encompasses several villages and communities, each contributing to its unique character and regional significance.

Formed in 1971 through the amalgamation of multiple smaller municipalities, the Township operates as a lower-tier municipality within a two-tiered government system (the District Municipality of Muskoka). This governance structure provides a framework for delivering services efficiently while aligning with broader regional priorities.

Community Services Delivered

The Township provides a diverse range of essential services tailored to both permanent and seasonal residents, enabling sustainability, accessibility, and responsiveness to community needs. These services are:

- **Emergency Services** – Meet public safety needs through fire, rescue, and emergency response operations.
- **Culture, Sports, and Recreation** – Supporting community participation through cultural programming, libraries, recreational facilities, and spaces that support organized sports.
- **Transportation** – Maintaining road infrastructure, active transportation networks, and seasonal mobility (snow clearing etc.).
- **Stormwater Management** – Implementing drainage systems and environmental measures to mitigate flooding and water quality impacts.
- **Administrative Services** – Overseeing municipal governance, financial administration, and regulatory compliance and infrastructure that supports service delivery.
- **Vehicles and Equipment** – Managing municipal fleet assets for service delivery and operational efficiency.
- **Information Technology** – Maintain digital infrastructure and IT systems that support the efficient delivery of municipal services.

Introduction (cont.)

Purpose of the Study

This report developed a Level of Service (LOS) Framework developed in response to provincial legislative requirements while providing tools for the Township to develop, evaluate, and manage the service levels for the services it provides.. The study also provides a structured approach to defining Levels of Service consistently and efficiently, aligning with good industry practices and community needs.

This study supports the Township activities in meeting regulatory requirements and deadlines imposed by Ontario Regulation O.Reg 588/17, for compliance with the July 1, 2025, requirement for municipalities to develop a strategic approach to service levels and asset management.

The LOS Framework developed for Township Service Areas through this study:

- Helps the Township make informed decisions by assessing service performance and financial sustainability.
- Supports future investment and asset strategies by providing data-driven insights into service delivery needs.
- Aligns services with community expectations while maintaining financial responsibility.
- Positions the Township for long-term sustainability, to adapt to future demands and fiscal constraints.
- Establishes a clear and structured approach to service levels, enhancing decision-making, improving operational efficiency, and setting the Township on a pathway to sustainable service delivery.

Figure 1: Levels of Service Descriptions

Report Structure

This report follows a structured methodology used to identify and assess the Township's municipal service levels and Township alignment with regulatory requirements, financial sustainability, and community expectations. The methodology was designed to provide a clear process for; evaluating current service levels, identifying target service outcomes, and integrating financial considerations into decision-making. The assessment process is structured into distinct phases, beginning with a review of baseline service area data, followed by the development of service area-specific Levels of Service (LOS), engagement with service area leaders, and a financial analysis of service delivery costs. The report is structured to reflect these key phases, providing a logical progression from baseline assessment to strategic recommendations.

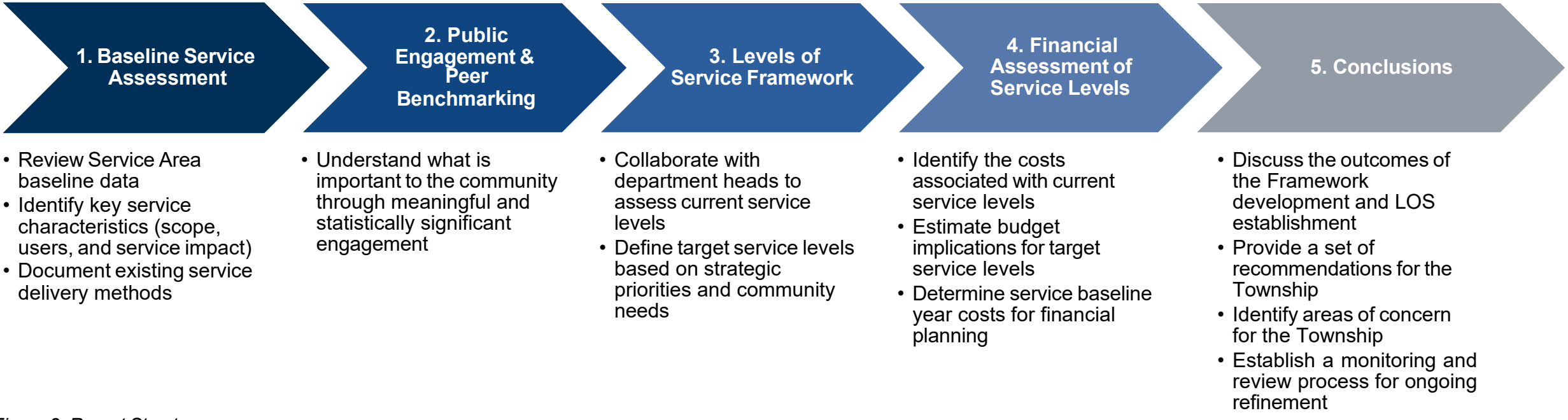


Figure 2: Report Structure

Levels of Service: *Ontario Regulation 588/17*

Introduction

The need to express and document a community's level of service standard is driven by *Ontario Regulation 588/17: ASSET MANAGEMENT PLANNING FOR MUNICIPAL INFRASTRUCTURE (*O. Reg. 588/17).

Summary of Regulatory Requirements

O. Reg. 588/17, under the Infrastructure for Jobs and Prosperity Act, 2015, requires municipalities to develop asset management plans (AMPs) that include:

1. **Current Levels of Service**: A description of the current LOS for core infrastructure assets, using both community and technical metrics.
2. **Proposed Levels of Service**: A description of the proposed LOS for the next ten years, including the lifecycle activities and costs associated with maintaining these levels

Implementation Framework

To comply with O. Reg. 588/17, municipalities are required to complete:

- **Asset Inventory and Condition Assessment**: Conduct a comprehensive inventory and assess the condition of all core infrastructure assets
- **Define Levels of Service**: Establish both community (customer) and technical levels of service. Community LOS should reflect the end-user experience, while technical LOS should use measurable metrics
- **Lifecycle Management**: Identify the lifecycle activities required to maintain the current and proposed LOS, including maintenance, renewal, and replacement activities
- **Financial Strategy**: Develop a financial strategy to support the lifecycle activities, to enable sustainable funding for the proposed LOS
- **Monitoring and Reporting**: Implement a system for ongoing monitoring and reporting of LOS to meet compliance requirements and drive continuous improvement

Desired Outcome

By adhering to the requirements of O. Reg. 588/17, municipalities can enhance their asset management practices, leading to more informed decision-making and improved infrastructure sustainability. This regulation provides a structured approach to managing municipal assets, to enable service delivery that efficiently and effectively meets community needs.

Levels of service are a composite indicator that reflects the social and economic goals of the community

(National Guideline to Sustainable Municipal Infrastructure – Canada)

They are the cornerstone of asset management planning & decision making

(AMONTario – Asset Management Ontario)

GHD Advisory

Phase 1

→ Baseline Service Assessment

- Process
- Service Area Review
- Assumptions

Assessment Process

Purpose

The objective of Phase 1 was to establish an understanding of the current service landscape, including the outcomes achieved, available resources, and performance measurement frameworks. This phase served as the foundation for identifying service gaps, constraints, and opportunities for future service modeling.

To achieve this, Phase 1 focused on:

- Reviewing Service Area Baseline Data – Collecting and analyzing key data to understand the current state of service delivery.
- Identifying Key Service Characteristics – Assessing the scope, users, and service impact of each municipal service area.
- Documenting Existing Service Delivery Methods – Understanding how services are structured, resourced, and delivered to the community.
- Assessing Available Assets and Resources – Evaluating the capacity and capability of existing infrastructure, personnel, and funding.
- Understanding Success Measurement Approaches – Reviewing the metrics and KPIs used to assess service performance.
- Identifying Service Gaps and Constraints – Highlighting limitations in current service delivery models that may impact desired outcomes.
- Defining Service Areas for Future Modeling – Selecting service areas for further assessment in subsequent modeling exercises.

A detailed list of documents consulted during this phase is provided in Appendix A.

Key Assumptions

The analysis in Phase 1 was conducted based on the following key assumptions:

- Costing Methodology: Where possible, costs were estimated using unit cost data, input from subject matter experts, or best professional judgment.
- Operating Cost Consideration: Service costs were assumed to equate to operating costs.
- Operating Cost Scope: Operating costs were included in both baseline and unconstrained models to provide an accurate representation of ongoing service expenditures.
- Inflation and Growth Factors: A 4% annual rate adjustment was applied, with 2% allocated to population growth and 2% accounting for costs associated with meeting mandated standards.

Peer Community Benchmarking

Only one of the communities contacted responded with an acceptance of the invitation to participate in the survey. Two more peer communities outside of Ontario were contacted with limited success. In leu of meaningful comparative data, secondary sources with peer information from municipalities within Ontario were selected. GHD has completed several recent peer benchmarking surveys, the use of additional data was conditional under the proviso that participants were to remain anonymous to ensure confidentiality. It was agreed with TML that the approach was acceptable and that the data could be used to add more comparisons for discussion. The change in focus to Ontario base peers enables the comparison of the Townships' progress with LOS development as it is important to compare against other municipalities' efforts towards the same endeavour of O.Reg. 588/17 compliance.

Peer to peer benchmarking shouldn't be the sole drive to change and develop LOS, with a focus being more in line with national averages. Instead it should be TML that set desired LOS performance standards. Information from benchmarking activities in this context can be useful for highlighting issues where the Townships performance may be unusually high or low and should be reviewed. More relevant for LOS development are internal benchmarks, based on previous trends, and the drive for improvement.

With all survey data (in total 10 Ontario communities are represented in the information review) the discussion process assessed trends and gained insights into how other municipalities have leveraged staff resources and contracted services to support existing LOS. Special attention was made to the peer municipalities selected for benchmarking as size, demographics, socio economic and regional discrepancies can influence customer satisfaction and therefore LOS measure put in place by a municipality. A discussion agenda and questionnaire for was prepared to drive conversations, create consistency and comparability of responses from the selected municipalities.

The interview process with participants used a final checklist of 11 questions to gauge opinions and garner ideas on the importance of Proposed LOS to community AM practices, individual and team functioning and success, evaluation of the activities and challenges encountered. This enabled comparative benchmarking of Township services and LOS and identified transferable PLOS for consideration by the Township.

The interview process discussed respective team and organisation level dynamics in order to determine the baseline behaviours and perceptions in the creation, management and distribution of Proposed LOS.

#	Question
1	How do you set the target LOS (performance) for the next 10 years for: • service capacity (asset growth) • functionality (upgrade) • reliability (renewal and maintenance)?
2	How do you assess the appropriateness of the proposed target LOS (performance) for the next 10 years relative to risk and affordability for: • service capacity (asset growth) • functionality (upgrade) • reliability (renewal and maintenance)?
3	How do you forecast the LOS (performance) for the next 10 years for: • service capacity (asset growth) • functionality (upgrade) • reliability (renewal and maintenance)?
4	How do you forecast the cost to deliver the target LOS (performance) for the next 10 years for: • service capacity (asset growth) • functionality (upgrade) • reliability (renewal and maintenance)?
5	How have you included impacts of climate change in your proposed community and technical levels of service measures?
6	Describe your measures related to affordability and financial sustainability.
7	How have you addressed the financial implications to sustain the proposed LOS over the next 10 years (i.e. infrastructure or funding gaps)?
8	Have you consulted with the community to receive input on desired levels of service and willingness to pay for each service area and asset category? If so, please describe the media used, results, and lessons learned.
9	What is your plan to implement and sustain the proposed LOS such as actions, resources, timing, costs, responsibilities, and measures for success?
10	Have you or do you plan to update business processes, use of information technology, roles and responsibilities?
11	Please provide any additional information related to your experiences with LOS.

Table 1 : Benchmarking Questions

Proposed LOS.

Overview of Service Areas

The following service areas were included as a focus for the Asset LOS Study. Below describes, at a high-level their key service functions

Emergency Services

Emergency Services in the Township are delivered by volunteer firefighters across 10 fire stations, providing: Fire response and suppression, water rescue operations, motor vehicle collision response and public outreach and fire safety education

Public engagement highlighted fire services as a key community priority, reinforcing the importance of maintaining service levels and infrastructure.

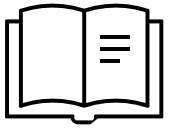
Culture Sports, Recreation

The Culture, Sports, and Recreation service area encompasses key community assets that support recreation, wellness, and social engagement. For this Asset Level of Service Study, the following asset categories are included: Arenas, Community Centers, Docks & Wharves, Parks, Trails, and Outdoor Recreation Assets.

Stormwater Management

Stormwater management assets within the Township are limited, with infrastructure primarily associated with the right-of-way (ROW). The Township's Asset Management Plan identifies the following key stormwater assets: Culverts, Storm Sewer Network (Limited to Port Carling), Catch Basins and Ditches

Library Services



The Township's Library Services provide an important community function through the facilitation of library services through its main branch in Port Carling and satellite branch in Bala. The Library provides traditional book and digital collections, as well as community internet access and programs offered through the library.

Information Services

The Township's Information Technology (IT) services support municipal operations by providing the necessary software and hardware for service delivery, staff communication, and administrative functions. Recent improvements have enhanced remote work capabilities and digital service delivery, though limited broadband and cellular connectivity remain constraints in some areas.

Administrative Services

The Administrative Services function supports both customer service delivery and internal municipal operations. This service area includes: The Administrative Building (Township Hall), The Health Hub and Municipal Garages.

These facilities play a critical role in municipal governance, service coordination, and public interaction.

Vehicles and Equipment

The Vehicles and Equipment service area supports key municipal operations, enabling the Township to deliver Culture, Sports & Recreation services, Development Services, Emergency Services and Public Works. This function includes: Equipment for maintaining parks, community centres, recreation assets, Vehicles and machinery for road maintenance and infrastructure upkeep, Municipal staff vehicles for travel across the Township and Emergency Response vehicles including fire trucks

Transportation Services

Additional assets under Transportation Services include bridges, structural culverts, streetlights, sidewalks, parking and retaining walls. Some of these assets are mandated by the O.Reg, while others capture assets within the responsibility of the Transportation service area

GHD Advisory

Phase 2

→ Public Engagement

- Process
- Public Engagement
- Results
- Key Themes
- Impact on Study Outcomes

Purpose - Public Engagement and Community Input

Purpose of Public Engagement

Public consultation is a core element of an Asset Level of Service (LOS) Study, allowing the community perspectives to be incorporated into municipal decision-making. As required under Ontario Regulation O.Reg 588/17, municipalities must engage with residents to align service level planning with community expectations, financial realities, and long-term sustainability goals.

The Township's engagement efforts were guided by two key focus areas:

– **Service Direction** – Understanding which services are most important to Township residents and so that future service levels reflect community priorities.

– **Financial Direction** – Exploring the community's general willingness to pay for both current and future service levels, acknowledging that affordability considerations require further analysis.

The outcomes of the Peer Community Benchmarking exercise were used as a comparator and were carried forward in evaluating the Township through its community engagement.

Value of Public Engagement

While required by the O.Reg for compliance, there was considerable value in gathering community feedback to help set the direction of the LOS and to reflect community aspirations for investment and policy. Feedback gathered allowed the Township and GHD to understand sentiments towards service areas, gather both broad and specific feedback about these services areas and compare responses to what was existing community sentiment.

Approach to Public Engagement

To achieve broad representation and meaningful input, the Township used a multi-channel engagement strategy to reach the community. This included:

– **Community Workshops & Open Houses** – Facilitating direct discussions on service priorities and expectations.

– **Public Information Sessions** – Educating residents on the LOS framework and the challenges associated with service delivery.

– **Surveys & Online Engagement** – Gathering data on resident preferences for municipal services and funding models.

These engagement methods provided valuable insights into public perceptions of service importance, performance expectations, and financial sustainability considerations.

Consideration of Financial Feasibility

While public engagement explored the community's general willingness to pay for services, it is important to note that this study did not include a formal assessment of affordability or ability to pay. A separate feasibility study would be required to evaluate the long-term financial capacity of the community to sustain agreed-upon service levels.

Outcomes of Public Engagement

The findings from Phase 2 provided a community-driven foundation for shaping future service delivery. The engagement process:

– **Validated community priorities** for service investment and improvement.

– **Highlighted areas of concern** where service levels do not currently align with public expectations.

– **Provided directional input** on financial sustainability, guiding future discussions on service funding and resource allocation.

The insights from Phase 2 directly inform Phase 3, where the Township refined service level definitions, assessed financial impacts, and developed strategies for sustainable service delivery.

Approach - Public Engagement and Community Input

Methodology

Achieving a statistically significant and representative public engagement process required a collaborative approach between Township staff and GHD. The methodology was designed to leverage the Township's local knowledge of community dynamics while applying a structured, multi-stage engagement process. This approach achieved an outreach effort that was effective, inclusive, and aligned with best practices for municipal consultation.

To maximize participation and capture a diverse range of perspectives, the Township adopted a three-pronged engagement strategy:

- Public Open House – Hosting community meetings to facilitate face-to-face discussions and gather qualitative insights.
- Public Survey (Online & Paper Copies) – Providing a structured questionnaire to capture a broad range of community opinions.
- Participation at a Community Event – Engaging residents in an informal setting, meeting them where they felt most comfortable.

This multi-stage approach promoted accessibility and inclusivity, allowing residents to provide feedback in a format that best suited them. The combination of structured surveys, open dialogue, and event-based participation provided the best opportunity to achieve statistical significance in engagement results.

Areas of Public Consultation

Public input was solicited across three key question areas, facilitating a deeper understanding of community needs, expectations, and financial perspectives:

- Services – Capturing insights on community use, perceptions, and satisfaction with various service areas.
- Infrastructure – Identifying which municipal assets are considered satisfactory and where improvements are needed.
- Financial Considerations – Exploring the community's willingness to pay for both maintaining and enhancing municipal services.

Respondent Participation & Key Questions

To drive meaningful input, respondents were asked to:

Review each service area and rate their level of satisfaction with services and infrastructure (quality, availability, usability).

- Identify priority areas for Township investment based on community needs.
- Indicate service delivery preferences, specifying whether services should be decreased, maintained, or increased.
- Express willingness to accept tax increases to support future service delivery and improvements.

The insights gained from this engagement process will inform service level decisions, financial modeling, and future municipal planning efforts, reflecting the Township's desire for its strategic direction to meet community priorities while maintaining financial sustainability.

Public Engagement Objective

Understand how the community views the services they access through Township assets

Public Open House – September 24, 2024

Format and Participation

The Public Open House was conducted as a 1.5-hour session from 6:00 PM to 7:30 PM, offering both in-person and virtual participation options to maximize accessibility. A total of 19 residents participated, with 16 joining virtually and 3 attending in person.

Feedback Themes Identified

Participants engaged in discussions focused on municipal service delivery and asset management priorities. The following key themes emerged:

- **Community Centers:**
  - Multiple participants raised concerns about the potential closure of community centers as an outcome of this study.
  - Residents emphasized the importance of community centers as vital hubs for social, recreational, and cultural activities.
- **Emergency Services**:
  - Residents expressed concerns regarding the preparedness of emergency services, particularly in response to climate change-related challenges such as extreme weather events and wildfires.

Additional Feedback Points Identified

Beyond the core discussion areas, participants also raised specific concerns regarding municipal infrastructure, including:

- Safe bike lanes on regional roads, advocating for enhanced active transportation infrastructure.
- Access to health services, particularly in rural areas.
- Condition of boat launches, with calls for investment in maintenance and improvements.

The feedback gathered from this session reflects both infrastructure and service delivery concerns, highlighting key community priorities and perceptions.

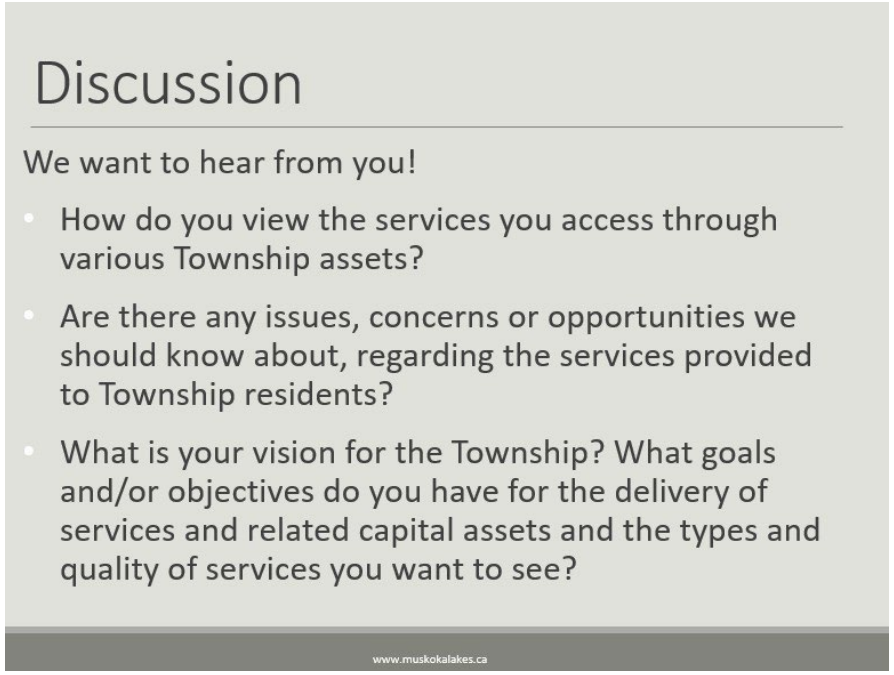


Figure 5: Sample of Engagement Prompts

Bala Cranberry Festival – October 18-20, 2024

Format and Participation

The Township hosted a booth at the Bala Cranberry Festival, a major regional event that provided an opportunity to engage with a broad cross-section of the community. The booth was active across the three days of the festival, allowing for extensive in-person interactions.

Engagement activities included a dot survey where participants placed stickers on priority service areas, indicating both:

– Assets needing improvement

– Areas where greater investment is required

The response rate was significant*, with:

– 450+ participants completing the dot survey

– 1,000+ interactions with community members

Priority Areas Identified

The results of the engagement exercise highlighted three key infrastructure priorities:

1. Health Services – Identified as the greatest area of concern for residents (but out of scope for this study).
2. Public Washrooms – Cited as a critical municipal service requiring upgrades and increased accessibility.
3. Outdoor Tennis & Pickleball Courts – Popular recreational amenities that residents identified as needing investment.

Investment Priorities

When asked where municipal funding should be directed, the most frequently cited areas included:

– Recreational and Sports Facilities – Reflecting a strong community emphasis on active living.

– Fire and Local Health Services – Demonstrating a concern for both emergency preparedness and healthcare access.

The results from this engagement session provided a clear indication of priorities, reinforcing the importance of health, safety, and recreational investments in future service planning.

**it is noted that being a resident of the Township was not a requirement to respond*

Needs Improvement - Asset	Count
Roads and Bridges	13
Public Washrooms	15
Outdoor Tennis/Pickleball Courts	15
Health Facilities	19
Docks and Wharves	13

Table 2: Summary of Results of Assets Needing Investment

Investment Focus – Service Area	Count
Transportation and Parking	26
Recreation and Sports Facilities	**77**
Fire and Local Health Services	**115**
Technology	17
Administration Facilities and Vehicles and Equipment	9

Table 3: Summary of Results of Service Areas Needing Investment

Community Survey Online & Paper Submissions

August to November 2024

Format and Participation

The Township conducted a structured survey available in both online and paper formats over a three-month period. The survey was designed to capture statistically significant (when using the Township's full time resident population of approximately 7,600) insights regarding:

- Satisfaction with municipal services and infrastructure
- Investment priorities
- Willingness to pay for future service delivery

A total of 184 responses were received consisting of 147 online responses and 37 paper submissions.

Key Findings

From the 184 responses received the following feedback is noted :

Taxation and Service Level Preferences

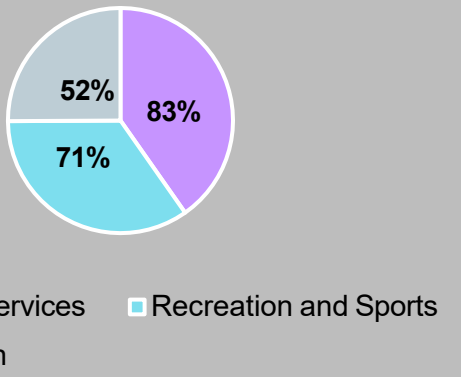
- 50% of online respondents expressed support for slightly increased taxes to maintain service levels.
- Reducing taxes with corresponding service cuts was unfavorable to respondents.

Selected Resident Comments

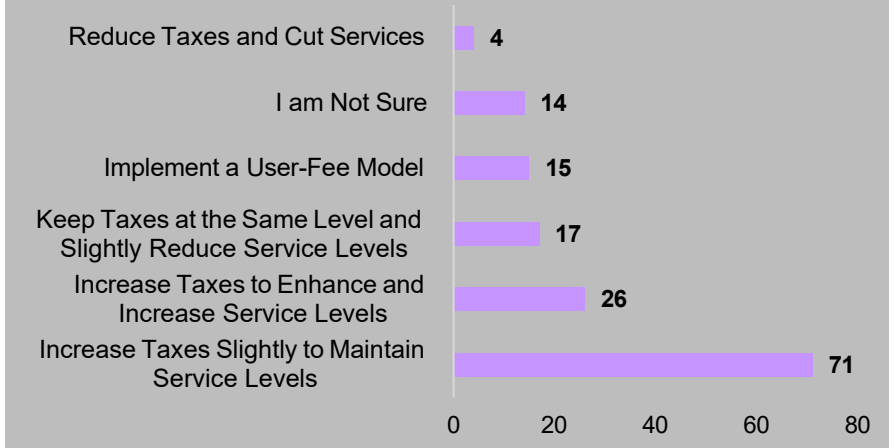
- "Look at reducing trails and halls. Consult with locals before making expensive changes to facilities."
- "Need our small community halls more available for use to the neighborhood."
- "No tax increases—review wasteful spending. If there is population growth, there should be additional tax revenues."
- "A combination of user fees and slight tax increases would be a good balance."

The survey results indicate a general willingness to support taxation adjustments for maintaining service levels, but also highlight concerns over municipal spending efficiency.

Top 3 Service Areas by Responses



Funding Willingness (# of respondents)



Summary of Public Engagement Findings

The engagement exercises for the Township received more than 1000 responses from the community. Through the public open house, the Bala cranberry festival and online / paper survey, the Township was able to identify common themes of the community perception of service areas.

Key Themes from All Engagement Methods

1. **Community Centers & Recreational Facilities**
   i. Strong public sentiment against potential closures of community centers.
   ii. Increased demand for sports and recreation facilities, particularly pickleball and tennis courts.
2. **Emergency & Health Services**
   i. Concerns over gaps in local health services, particularly in rural areas.
   ii. Support for increased investment in fire services and emergency response.
3. **Infrastructure Needs**
   i. Calls for improved bike lanes, public washrooms, and boat launches.
1. **Financial Considerations**
   ii. Moderate support for slight tax increases to maintain service levels.
   iii. Concerns over inefficient municipal spending, with suggestions for alternative funding models (e.g., user fees).

Implications for Service Level Planning

The findings from public engagement helps inform investment prioritization, service level recommendations, and long-term financial planning. The Township now has a clear understanding of community needs and can use this feedback to develop a

balanced and sustainable approach to municipal service delivery.

GHD Advisory

Phase 3

→ Level of Service Framework

- Process
- Current State vs. Target State

Defining Levels of Service - Development

Overview

Phase 3 defined Levels of Service (LOS) for each Service Area, with a focus on the asset classes that deliver and achieve service performance outcomes at the asset level, and on the regulatory requirements, and community expectations for integration into asset-based service planning. Additionally, these asset level LOS targets helped to identify strategies for the Township to achieve its Customer LOS, which are not reflected in this study. The asset planning and expenditure requirements are carried through the technical LOS developed.

The development of LOS requirements is informed by two primary sources:

1. Regulatory Compliance – Ontario Regulation 588/17, which mandates LOS definitions for core municipal assets such as roads, bridges, water, wastewater, and stormwater systems.
2. Municipality-Specific Considerations – Characteristics unique to the Township of Muskoka Lakes, including local infrastructure, service delivery constraints, and community priorities identified through stakeholder engagement.

The costs associated with each service area in scope are found in a high-level in Phase 4 – Financial Assessment of Service Levels and in greater detail by service cost in Appendix B. The cost associated with the current performance of each service area is based on the budget year 2025 for the Township.

In addition to provincially mandated service areas, the Township should evaluate circumstances where there is no provincially mandated requirement for a service target to determine whether the level is appropriate based on both needs and cost.

Development of Levels of Service

To establish a consistent and measurable framework for Levels of Service (LOS), a structured methodology was used to define LOS where none previously existed. This process involved collaboration with Subject Matter Experts (SMEs), benchmarking against industry standards, and facilitating quantitative and qualitative assessments of service performance.

SME Engagement and Framework Development

Each Service Area Subject Matter Expert (SME) participated in a structured process to define, assess, and set targets for LOS:

1. Initial LOS Discussion: SMEs reviewed their service areas, identifying services delivered, outlining existing performance measures and gaps where LOS definitions were unclear or incomplete.
2. LOS Framework Development: SMEs were provided with a structured LOS framework, aligning with regulatory requirements, municipal priorities, and best practices.

Defining Levels of Service - Scoring

Performance Scoring and Target Setting

A quantitative performance assessment was conducted for each service area to create objective, measurable LOS definitions:

– Through the baseline review and in concert with the Township, the services provided by each service area were identified.

– GHD worked with the Township to identify service standards and agreed the measures associated with these standards.

– Data for each of the agreed services was identified and provided to document service performance and cost.

– Service performance was determined using a Normalized Measures / Levels scale, with current service performance scores discussed and agreed by Service Area specialists. The Township participated, whereby:

  • SMEs provided quantitative data to assess their current performance levels and confirm target performance levels.

  • This data was converted into a standardized 1 to 100 scale to facilitate comparison across service areas. Some data provided, both required and not required by the O.Reg, are indicators and not performance points. These are not marked based on the scale or normalized measure.

– SMEs were supported in setting target performance levels on the same scale, identifying goals that were practical and aligned with municipal priorities.

To improve clarity and communication, performance scores were also translated into qualitative ratings, using a scale ranging from Unaware/Innocent to Excellent. This approach allows for more accessible interpretation by decision-makers and stakeholders.

Achieving Alignment with Strategic Priorities

Throughout this process, SMEs were guided for developing their respective Service Area LOS targets that:

– Align with regulatory and operational requirements.

– Reflect community expectations as identified through public engagement.

– Are achievable within existing financial and resource constraints.

By combining Township data, expert input, quantitative scoring, and benchmarking, the Township now has a structured approach to defining LOS that supports data-driven municipal planning and decision-making.

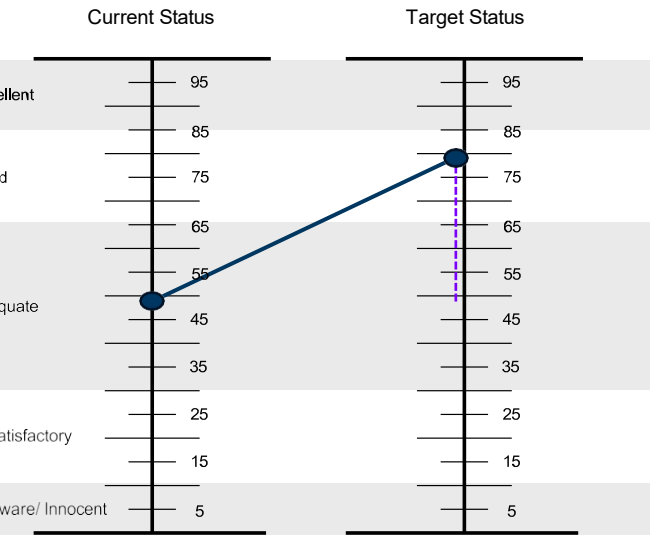


Figure 6: Illustration of relative performance

Normalized Measure / Level	Status
Excellent	86 – 100
Good	66 – 85
Adequate	31 – 65
Unsatisfactory	11 – 30
Unaware / Innocent	0 – 10

Figure 7: Qualitative Performance

Overview

The Township's Information Technology (IT) services support municipal operations by providing the necessary software and hardware for service delivery, staff communication, and administrative functions. Recent improvements have enhanced remote work capabilities and digital service delivery, though limited broadband and cellular connectivity remain constraints in some areas.

Current State

– Internal IT staff indicate that current service needs are met, with minimal additional requirements.

– Public engagement findings show that the Township website meets community needs, with little feedback on required IT service improvements. It is noted that the Township website is currently being updated to improve usability by the community.

Constraints

– Limited broadband and cellular connectivity impact service accessibility in some remote areas.

Target Service Levels

– No significant IT service expansions are currently required.

– Connectivity limitations remain an external challenge but do not require immediate municipal intervention.

Technical LOS Measure	Asset Type	Current Performance	Target Performance
Percentage of Hardware within optimal service life of 5 years.	Hardware	70% - Good	85% - Good
Percentage of Computer Systems within optimal service life of 5 years.	Computer Systems	90% - Excellent	85% - Good
Percentage of sites with acceptable Internet & Wi-Fi connections based on site location and requirements	Internet	70% - Good	85% - Good
Percentage of phones within optimal service life of 3-5 years.	Telecommunications	70% - Good	85% - Good

Stormwater Management

Overview

Stormwater management assets within the Township are limited, with infrastructure primarily associated with the right-of-way (ROW). Due to the small inventory of stormwater assets, comprehensive performance data was not readily available, making it difficult to assess service levels or track asset condition effectively. Data management and governance systems are in the process of being developed for this area.

Current State

- Performance data for some services is limited, restricting the ability to define the asset level Technical Levels of Service (TLOS).
- Budgeting for stormwater management is not tracked separately as a stand alone cost centre, making it difficult to determine the true cost of service delivery.
- Stormwater assets are managed reactively as part of the transportation network, with no dedicated service area for long-term planning.

Constraints

- Limited data availability makes it difficult for staff to track asset condition and asset level performance.
- Stormwater management is not classified as a separate cost center, which creates limitations for effective lifecycle management and financial tracking/planning.
- The large geographic domain of the Township adds to flood management challenges, emphasizing the need for targeted interventions where necessary.

Target Service Levels

- It is suggested, where there is a data absence, that the Township Improve asset level data collection and financial costs to improve budgeting of stormwater operational costs to build a more comprehensive inventory and understanding of cost over time.
- For the first-generation LOS there are no additional strategic initiatives are being carried forward for the Stormwater Service Area, as the existing portfolio is small and not a current priority for expansion. A focus on data and network awareness could eventually lead to future initiatives.

Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance
% of municipal stormwater management system resilient to a 5-year storm **(O.Reg. 588)**	Drainage Systems	64% - Adequate	85% - Good
% of properties resilient to a 100-year storm **(O.Reg. 588)**		*No Data*	75% - Good
% of stormwater management facilities in compliance with legislative requirements	Drainage System – Stormwater Facilities	*No Data*	85% - Good
% of road culvert pipes <3m in fair or better condition	Drainage Systems - Rural	*No Data*	85% - Good
% of storm sewers pipes in fair or better condition	Drainage systems - Urban	90% - Excellent	90% - Excellent
% of storm sewers appurtenances in fair or better condition	Drainage Systems - Urban	99% - Excellent	100% - Excellent
# of stormwater related customer service requests/ 1,000 people served	Drainage Systems – Rural and Urban	<25	<25
% Storm Sewer Pipes cleaned every 5 years	Drainage Systems - urban	75% - Good	85% - Good
% of catch basin sumps cleaned every year	Drainage Systems - urban	100% - Excellent	100% - Excellent

Culture, Sports and Recreation – Arenas, Sports Facilities/Fields, Parks, Trails & Playgrounds

Overview

The Culture, Sports, and Recreation service area encompasses key community assets that support recreation, wellness, and social engagement. These assets play a vital role in supporting the Township's community life and quality of living, serving both permanent and seasonal residents across its widely dispersed communities. On the following page, additional measures for the service area are described relating to indoor recreation and culture as well as docks and wharves

Current State

- The importance of these assets has been repeatedly emphasized through public engagement, reinforcing their role in community wellbeing.
- Existing recreation facilities support a wide range of activities, contributing to both social and physical health.

Constraints

- Geographic distribution of facilities creates challenges in equitable service access across the Township.
- Aging infrastructure and funding constraints may impact future maintenance and enhancements.

Target Service Levels

- Maintain and enhance existing recreation infrastructure to enable high levels of community utilization, recognizing its importance
- Consider strategic investments and consider the Service Area as a priority-area where recreation assets are identified through public engagement feedback.

Technical Level of Service Measure	Asset Type	Current Performance	Target Performance
% of Arenas in fair or better condition	Arenas	30% - Unsatisfactory	85% - Good
% of Sports Fields/Courts in fair or better condition	Sports Fields/Courts	60% - Adequate	85% - Good
# of related customer service requests / 1,000 people served	Sports Facilities	<10	<10
% of public spaces that fully AODA compliant	Sports Facilities	20% - Unsatisfactory	40% - Adequate
% of administrative facilities where Climate Mitigation Plan recommendations have been implemented	Sports Facilities	20% - Unsatisfactory	40% - Adequate
% of Parks in fair or better condition	Parks	60% - Adequate	85% - Good
% of Building Envelope in fair or better condition	Parks Buildings	40% - Adequate	85% - Good
% of Trails in fair or better condition	Trails	80% - Good	85% - Good
% of Playgrounds in fair or better condition	Playgrounds	50% - Adequate	85% - Good

Culture, Sports and Recreation – Recreation Facilities, Cemeteries, Community Centres and Docks and Wharves

Overview

Additional assets that are a part of Culture, Sports, and Recreation service area include indoor recreation fitness and culture as well as docks and wharves. These assets play a vital role in supporting the Township's community interaction and access to the area's natural beauty. Similarly, these assets serve both permanent and seasonal residents across its widely dispersed communities.

Current State

- The current state of cemeteries, community centres and docks and wharves are regarded as adequate by Township SMEs.
- In some cases there are recreation and cultural facilities do not meet AODA requirements or Climate Mitigation Plan recommendations.

Constraints

- Aging infrastructure not designed to meet current standards challenges the Township to meet requirements / recommendations.
- The large count of assets reflective of the current state and may impact future ability to deploy maintenance activities and service enhancements for all assets as and when needed.

Target Service Levels

- Investigate in more detail and where appropriate enhance existing recreation infrastructure to align with target AODA and Climate Mitigation Plan needs.
- Prioritize the Service Area and where appropriate consider strategic investments in recreation assets and services in line with community expectations identified through public engagement feedback.

Technical Level of Service Measure	Asset Type	Current Performance	Target Performance
# of related customer service requests / 1,000 people served	Recreation Facilities	<10	<10
% of public spaces that fully AODA compliant	Recreation Facilities	20% - Unsatisfactory	40% - Adequate
% of administrative facilities where Climate Mitigation Plan recommendations have been implemented	Recreation Facilities	20% - Unsatisfactory	40% - Adequate
% of Building Envelope in fair or better condition	Cemeteries	60% - Adequate	85% - Good
% of Building Envelope in fair or better condition	Community Centres	50% - Adequate	85% - Good
% of Building Envelope in fair or better condition	Docks and Wharves	40% - Adequate	85% - Good
# of related customer service requests / 1,000 people served	Cultural Facilities	<10	<10
% of public spaces that fully AODA compliant	Cultural Facilities	20% - Unsatisfactory	40% - Adequate
% of administrative facilities where Climate Mitigation Plan recommendations have been implemented	Cultural Facilities	20% - Unsatisfactory	40% - Adequate

*Cultural Facilities Include: Museum, Port Carling Wall, Scenic Lookouts

Culture, Sports and Recreation - Library Services

Overview

The Township provides funding to the Muskoka Lakes Public Library Board which provides Library Services through The Norma and Miller Alloway Muskoka Lakes Library (Port Carling branch) and a satellite branch in Bala. The Service Area provides residents with access to library resources and programming. While current services and programs are effective, continued evaluation and adaptability will be essential to respond to future growth, changing community needs, and emerging trend

Current State

- Library services effectively meet community needs, considering the size and geographic distribution of the Township.
- Programs and resources are sufficient to serve Township residents.

Constraints

- The Township determined no significant constraints were identified impacting service delivery or accessibility.

Target Service Levels

- Maintain current service levels and where appropriate initiate activities and measures that will help reach target performance for services identified as not meeting target.

Technical Level of Service Measure	Current Performance	Target Performance
% of Building Envelope in fair or better condition	65% - Good	85% - Good
% of library collection assets under 5 years old	60% - Excellent	50% - Excellent
% library furnishing assets in fair or better condition (based on age)	30% - Unsatisfactory	66% - Good
Titles held per capita*	Excellent (16.64)	Excellent (15)
Library Facility Space per Capita	Excellent (1.29)	Excellent (>1sf p.p.)

- In cases where Library services are over performing consider evaluating the service quality and standard needed to achieve desired outcomes.

Overview

The Vehicles and Equipment service area supports key municipal operations, enabling the Township to deliver and support Emergency Services, Culture, Sports & Recreation services, Development Services, and Public Works. This service activities and functions include:

– Equipment for maintaining parks, community centres, and recreation assets.

– Vehicles and machinery for road maintenance and infrastructure upkeep

– Municipal staff vehicles for travel across the Township.

– Emergency Response vehicles including fire trucks

These assets are foundational in supporting and enabling for service delivery of most other service areas.

Current State

– Current vs. target performance is reasonable, with some areas requiring attention.

– Maintenance is performed both in-house and externally, with assets replaced as they reach end-of-life.

Constraints

– Aging assets require ongoing monitoring and replacement planning.

Target Service Levels

– Continue to maintain a structured replacement plan so that assets can remain in serviceable condition.

– Legislative compliance is a key driver, particularly for emergency response vehicles where response time of vehicles is paramount.

Technical Levels of Service Measure	Asset Type	Current Performance	Target Performance
% of Light Equipment in fair or better condition	Equipment – Light Equipment	50% - Adequate	85% - Good
% of Medium Equipment in fair or better condition	Equipment – Medium Equipment	100% - Excellent	85% - Good
% of Heavy Equipment in fair or better condition	Equipment – Heavy Equipment	75% - Good	85% - Good
% of Light Duty Vehicles in fair or better condition	Vehicles – Light Duty Vehicle	100% - Excellent	100% - Excellent
% of Medium Duty Vehicles in fair or better condition	Vehicles – Medium Duty Vehicle	100% - Excellent	100% - Excellent
% of Heavy Duty Vehicles in fair or better condition	Vehicles – Heavy Duty Vehicle	67% - Good	100% - Excellent
% of vehicles replaced in accordance with the expected service life	Vehicles	68% - Good	85% - Good
% of equipment replaced in accordance with the expected service life	Equipment	75% - Good	85% - Good
% of fleet where Climate Mitigation Plan recommendations have been implemented	Vehicles	10% - Innocent/Unaware	25% - Unsatisfactory
% of Fire Emergency Vehicles in fair or better condition	Fire – Fire Vehicles	100% - Excellent	100% - Excellent

Transportation – Roadway Assets

Overview

The Transportation service area is responsible for the Townships roadway assets, including roads, sidewalks, and streetlights. Roadways in the Township boundaries are a split responsibility between the Township and the District of Muskoka. Obligated transportation measures that are required under the O.Reg are reflected in the Service Area service measures, while others have been added to reflect additional asset level services in the Township.

Current State

- For meeting the O.Reg required service measures, current vs. target performance is regarded as good by Township SMEs.
- Public engagement identified the quality of roadway assets as a key concern for residents.

Constraints

- The size of the Township and number of lane kilometers of roadways under its jurisdiction
- Unavailable data for some performance measures

Target Service Levels

- Maintain a structured replacement plan to achieve roadway maintenance needs.
- Legislative compliance is a key driver for roadways, maintain compliance with both the O.Reg and additional legislation.

*Parking assets were part of original discussions with the Township, however, were removed in as part of the final analysis as submitted by Township SME's. This exclusion has been confirmed with the Township given the lack of assets

Technical Level of Service Measure	Asset Type	Current Performance	Target Performance
% of bridges in the municipality with loading or dimensional restrictions (O.Reg.588)	Bridges and Culverts – Bridge & Culverts (>3.0m)	17% - Good	0% - Excellent
For bridges in the municipality, the average bridge condition index (BCI) value. (O.Reg. 588)	Bridges and Culverts – Bridge	73	85
For structural culverts (>3m) in the municipality, the average bridge condition index (BCI) value. (O.Reg. 588)	Bridges and Culverts – Culverts (>3.0m)	73	85
% of roadway bridges in good or better condition	Bridges and Culverts – Bridge	75% - Good	100% - Excellent
% of roadway structural culverts (>3m) in good or better condition	Bridges and Culverts – Culverts (>3.0m)	55% - Adequate	75% - Good
% bridge decks washed annually	Bridges and Culverts – Bridge	100% - Excellent	90% - Excellent
# of lane-kilometres of arterial roads as a proportion of square kilometres of land area of the municipality (lane-km/km2) (O.Reg.588)	Roads – Hard Top & Loose Top	Inform - Not Applicable	Inform - Not Applicable
# of lane-kilometres of collector roads as a proportion of square kilometres of land area of the municipality (lane-km/km2) (O.Reg.588)	Roads – Hard Top & Loose Top	0.02	0.02
# of lane-kilometres of local roads as a proportion of square kilometres of land area of the municipality (lane-km/km2) (O.Reg.588)	Roads – Hard Top & Loose Top	0.8	0.8
For paved (hard top) roads in the municipality, the average Pavement Condition Index (PCI) value. (O.Reg. 588)	Roads – Hard Top	69	70
% of paved (hard top) roads in fair or better condition	Roads – Hard Top	100% - Excellent	100% - Excellent
For unpaved (loose top) roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor). (O. Reg 588). Surface condition is based on average Pavement Condition Index (PCI)	Roads – Loose Top	74	85
% of unpaved (loose top) roads in fair or better condition	Roads – Loose Top	95% - Excellent	100% - Excellent
% of Township roads with year-round maintenance	Roads – Hard Top & Loose Top	86% - Excellent	86% - Excellent
% of rural roads with roadside mowing completed once per year	Roads – Hard Top & Loose Top	100% - Excellent	100% - Excellent

Emergency Services

Overview

- Emergency Services provide the Township with primarily fire response services, delivered through 10 stations throughout the Township.
- Primary responsibilities include fire response, water rescue, motor vehicle collisions and public education / outreach.

Current State

- Current vs. target performance is reasonable, with some equipment areas requiring attention.
- Target performance is, for some services, stipulated in legislation and has to attain the highest service standard

Constraints

- The number of fire stations creates a need for excess equipment, to meet minimum station equipment requirements, per the NFPA standards.
- The condition of some of the fire stations within the Township represents a challenge for the Township.

Target Service Levels

- Maintain equipment inventory levels that are consistent with NFPA standards for equipment.
- Plan and operate a service delivery model for the Township that could consider the recommendations of the Fire Station Location Study, that leads to a right sized set of services for the Township that are financially sustainable and meet needs community needs.

Service Area	Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance
Emergency Services	Each fire station has a rescue	Fire Vehicles Rescues, Command	71% - Good	100% - Excellent
Emergency Services	Each station has a pumper and tanker and one reserve truck for every 8 vehicles	Large Fire Vehicles	77% - Good	100% - Excellent
Emergency Services	Communications Equipment assets need to be upgraded to meet future needs	Communications Equipment	95% - Excellent	100% - Excellent
Emergency Services	Personal Protective Equipment in fair or better condition	Personal Protective Equipment	50% - Adequate	100% - Excellent
Emergency Services	Suppression Equipment in fair or better condition	Suppression Equipment	90% - Excellent	100% - Excellent
Emergency Services	Extrication Equipment in fair or better condition	Extrication Equipment	100% - Excellent	100% - Excellent
Emergency Services	Hazardous Material Rescue	Hazardous Material Equipment	25% - Unsatisfactory	80% - Good
Emergency Services	Water Rescue Equipment in fair or better condition	Water Rescue Suits, Rope, Rescue boats	95% - Excellent	100% - Excellent

Administrative Facilities

Overview

The Administrative Services function supports both customer service delivery and internal municipal operations. This service area includes:

- The Administrative Building (Township Hall)
- The Health Hub
- Public Works Buildings
- Fire Halls

These facilities play a critical role in municipal governance, service coordination, and public interaction.

Current State

- Administrative facilities and assets are regarded as not meeting targets with current performance less than required, discussion with Township SME and review of available Township data confirms service performance .
- The Township Administrative Building is in poor condition, requiring maintenance and repair treatments.
- The Administrative Building is essential for the facilitation and delivery of municipal services to the community.

Constraints

- Aging infrastructure limits operational efficiency and increases maintenance demands.
- Facility conditions impact service delivery, requiring ongoing workarounds to maintain functionality.
- Long-term facility planning is needed to address deficiencies and support future service delivery needs.

Target Service Levels

- Facility improvements and renovations are required, with an initial focus on the Administrative Building as a priority.
- Ongoing maintenance and capital planning will be necessary to support service continuity. Additional building condition data will help identify the prioritization and investment needed

Technical Level of Service Measure	Asset Type	Current Performance	Target Performance
% of Building Envelope in fair or better condition	Civic – Admin Building	40% - Adequate	85% - Good
% of Building Envelope in fair or better condition	Medical – Health Hub	100% - Excellent	85% - Good
% of Building Envelope in fair or better condition	Works Yards	30% - Unsatisfactory	85% - Good
% of Building Envelope in fair or better condition	Fire Halls	50% - Adequate	85% - Good
# of related customer service requests / 1,000 people served	Administrative Facilities	<10	<10
% of public spaces that fully AODA compliant	Administrative Facilities	20% - Unsatisfactory	40% - Adequate
% of administrative facilities where Climate Mitigation Plan recommendations have been implemented	Administrative Facilities	20% - Unsatisfactory	40% - Adequate

Phase 4

→ Financial Assessment of Service Levels

- Assessment Process
- Baseline Models – All Service Areas

Financial Assessment Overview

Overview

The financial modeling activities for the developed Levels of Service (LOS) standards helps with the high-level cost implications of delivering both current and target / future services. This modeling aims will support the Township in gaining an appreciation for the high order cost of service associated with selected level of service.

The financial models evaluate service delivery costs over a 10-year period, providing insights into the financial sustainability of maintaining or enhancing municipal services. The cost of individual services under the baseline and unconstrained model is reflected in Appendix B. Work was completed with the Township SME's to identify, where possible the cost of services. Where cost data was not available across Service Areas the Township SME adopted a standardized, aggregation where costs in relation to total budgets were estimated.

:

Model Description

To assess financial requirements, two primary models were developed. A third model was developed by the Township for inclusion in the modelling exercise:

1. Current (Baseline / Status Quo Model)

This model reflects the Township's current service delivery approach, maintaining existing service levels. Key assumptions include:

– Service levels and performance against targets remain unchanged, with adjustments only for cost escalation.

– ***Service Area Operating Costs***

  • Cost escalation is estimated at 2.23% annually for operating expenditures based on a 20-year historical average of the consumer price index (CPI).

2. Immediate (Unconstrained Model)

This scenario assumes that funding and resources are not a constraint, allowing all service areas to immediately achieve their target LOS. Key assumptions include:

– ***Service Area Operating Costs***

  • Service gaps between current and target LOS are closed in in Year 1 (2026) and cost escalation is then consistent with baseline at 2.23%.

3. Constrained (Phase-In Model)

This scenario noted in the following slides was developed through the separate model by the Township's 3rd party consultant. GHD was not involved in production of these numbers and has not verified the outputs. GHD notes that additional cost categories may have been included in the Constrained amounts, given that the Constrained amounts are now higher than Unconstrained amounts.

– ***Service Area Operating Costs***

  • Service gaps between current and target LOS are closed over 10 years (2035) via gradual annual increases and cost escalation consistent with baseline at 2.23%.

Financial Implications

Each model provides insights into the cost trajectory of service delivery, helping to identify:

– The financial feasibility of maintaining current services.

– The order of magnitude investment required to reach target LOS across all service areas.

– Considering both models in parallel will enable the Township to decide on the suitability and performance standards for future LOS.

– Potential funding gaps and financial planning considerations.

This financial modeling informs the outcomes and recommendations of this report, to help the Township achieve a sustainable future.

Model Parameters

- Service areas were modelled for baseline and unconstrained over a 10-year period to develop high level financial forecasts.
- Description and summary notes of the service area is provided to add additional context to the operating considerations
- An overall performance rating is provided based on:
  - Current vs. target performance for each service area
  - Asset needs by service area
  - Asset data and maturity
  - Incorporation of public feedback
- The modelling exercise undertaken for the baseline and unconstrained relied upon the best available Township data and Township specialist input, to develop high level projections. It was recognized that there were some data gaps and some areas will need readjustment in the near future and thereafter as an activity within an ongoing process. It is acknowledged by the Township SME's that the snapshot numbers presented in the modelling exercise will need refinement in the future. This could include refinement from updating capital expenditure and outcomes from additional surveys and reports.

Overall Performance Result	Good / Excellent

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Estimated Cost	1 $802,400	$810,900	$810,900
	2035 Estimated Cost	2 $999,700	$1,010,000	$1,010,000
	Anticipated 10-Year Increase	3 $197,300 approx.	$199,100 approx.	$199,100 approx.
	Forecast 10 Year Capital-Budget	4 $1,154,700	$1,319,700	$1,384,000
Summary		– Township staff consulted on the state of IT assets describe confidence in the availability and functionality of equipment that meets the needs of the Township, its staff and the broader community. – There is no noted change in performance required for IT assets based on consultation with SME's. – Survey results did not indicate particular concern with the state of IT related assets within the Township.		
Public Feedback		– No specific feedback.		
Notes		– None		

1. 2026 Operating Costs were used to establish baseline costs
2. 2035 Operating Costs were determined using a 2.23% growth factor for the baseline model. In the unconstrained model, the same growth factor is included, however the service area reaches its target performance
3. Forecast 10-year increase is the difference between the 2026 and 2035 operating budgets
4. Forecast 10 Year Capital Budget figures describe the capital requirements for each service area under the three models

Information Technology

Overall Performance Result	Good / Excellent

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$802,400	$810,900	$810,900
	2035 Operating Cost	$999,700	$1,010,000	$1,010,000
	Anticipated 10-Year Increase	$197,300 approx.	$199,100 approx.	$199,100 approx.
	Forecast 10 Year Capital-Budget	$1,154,700	$1,319,700	$1,384,000
Summary		– Township staff consulted on the state of IT assets describe confidence in the availability and functionality of equipment that meets the needs of the Township, its staff and the broader community. – There is no noted change in performance required for IT assets based on consultation with SME's. – Survey results did not indicate particular concern with the state of IT related assets within the Township.		
Public Feedback		– No specific feedback.		
Notes		– None		

Stormwater Management

Overall Performance Result	Adequate

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$128,800	$153,800	$128,800
	2035 Operating Cost	$168,600	$199,200	$199,800
	Anticipated 10-Year Increase	$39,800 approx.	$45,400 approx.	$71,000 approx.
	Forecast 10 Year Capital-Budget	$8,338,490	$8,612,990	$8,721,890
Summary		– Monitoring and accounting for Stormwater asset needs are a requirement under the O.Reg 588/17, focused on the condition of Stormwater assets and property resiliency to storms. – The Township owns a limited number of stormwater management assets and does not currently have specific asset performance measures. Similarly, there is limited data for the cost of operating the stormwater system. – Throughout the engagement, stormwater management was not flagged as an area of interest / concern by the community. – Stormwater assets have a large backlog of work required, particularly around ditches and culverts. – Three Technical LOS have no current data points. It is recommended that the Township work to define the performance and associated cost of its existing asset classes to further their understanding of infrastructure gaps.		
Public Feedback		– No specific feedback.		
Notes		– None		

Culture, Sports & Recreation

Arenas, Sports Facilities/Fields, Parks, Trails & Playgrounds

Overall Performance Result	Adequate

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$1,632,600	$2,035,000	$1,632,600
	2035 Operating Cost	$1,986,900	$2,477,700	$2,488,000
	Anticipated 10-Year Increase	$354,300 approx.	$442,700 approx.	$856,000 approx.
	Forecast 10 Year Capital-Budget	$19,405,250	$21,192,750	$21,833,060
Summary		– During public engagement, the importance of culture, sports and recreation assets to the community was communicated. This sentiment is recognized by the Township as the facilitation of the service area is critical to maintaining the cultural fabric of the Township. – Particular feedback centered on the future of the Townships arena and community centres. These sentiments were also raised during evaluation with Culture, Sports and Rec SME's. – There is particular concern for the current condition and needs of both arenas in the Township, reflecting their importance in serving as a community hub. Similarly, community centres across the Township are considered important meeting places but have a varying degree of use and short- and long-term operating & capital needs. – During the evaluation and review of Culture, Sports and Recreation assets, it was flagged that the service area requires additional funds to meet its target performance. Overall, most measures perform adequately.		
Public Feedback		– Culture, Sports and Recreation were flagged for both their importance to the community and the need for short- and long-term investments in infrastructure. Additional specific feedback in found in the community engagement section.		
Notes		– None		

Culture, Sports & Recreation

Recreation Facilities, Cemeteries, Community Centres and Docks and Wharves

Overall Performance Result	Adequate

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$553,000	$725,500	$553,000
	2035 Operating Cost	$691,400	$901,700	$906,400
	Anticipated 10-Year Increase	$138,400 approx.	$176,200 approx.	$353,400 approx.
	Forecast 10 Year Capital-Budget	$2,294,100	$2,981,600	$3,334,590
Summary		– During public engagement, the importance of culture, sports and recreation assets to the community was communicated. This sentiment is recognized by the Township as the facilitation of the service area is critical to maintaining the cultural fabric of the Township. – Particular feedback centered on the future of the Townships arena and community centres. These sentiments were also raised during evaluation with Culture, Sports and Rec SME's. – There is particular concern for the current condition and needs of both arenas in the Township, reflecting their importance in serving as a community hub. Similarly, community centres across the Township are considered important meeting places but have a varying degree of use and short- and long-term operating & capital needs. – During the evaluation and review of Culture, Sports and Recreation assets, it was flagged that the service area requires additional funds to meet its target performance. Overall, most measures perform adequately.		
Public Feedback		– Culture, Sports and Recreation were flagged for both their importance to the community and the need for short- and long-term investments in infrastructure. Additional specific feedback in found in the community engagement section.		
Notes		– None		

Culture, Sports & Recreation – Library

Overall Performance Result	Good

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$622,400	$622,400	$622,400
	2035 Operating Cost	$758,500	$758,500	$758,500
	Anticipated 10-Year Increase	$136,100 approx.	$136,100 approx.	$136,100 approx.
	Forecast 10 Year Capital-Budget	$529,500	$1,255,000	$1,417,700
Summary		– Overall, the library provides levels of service that matches the community expectations and needs – Township SME confirmed for the size of the Township, the library is appropriately used and contains sufficient collections for the community. – Community engagement did not reveal any substantial concerns with the state of library services and fit within the community. – Overtime, the library could be considered for relocation if a more centralized service delivery was desired as well as exploring additional options to further expand the reach of the library into additional communities.		
Public Feedback		No specific feedback.		
Notes				

Vehicles & Equipment

Overall Performance Result	Good

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$871,000	$1,021,000	$871,000
	2035 Operating Cost	$1,078,300	$1,261,100	$1,265,300
	Anticipated 10-Year Increase	$207,300 approx.	$240,100 approx.	$394,300 approx.
	Forecast 10 Year Capital-Budget	$11,214,510	$11,689,510	$11,865,110
Summary		– Overall, the performance of Vehicles and Equipment measures is strong with SME evaluation revealing no major issues with the current performance of equipment and/or staff. – Most vehicle types have condition ratings of fair or above, with Light Equipment falling short. This is not flagged as a current issue. – Additional consideration is raised for actioning the outcomes from the Township's Climate Mitigation Plan – It is important for vehicles and equipment to continue to function as needed to enable service outcomes across the Township.		
Public Feedback		– No specific feedback.		
Notes		– None		

Transportation

Overall Performance Result	Good

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$2,615,700	$2,710,700	$2,615,700
	2035 Operating Cost	$3,355,800	$3,471,700	$3,474,200
	Anticipated 10-Year Increase	$740,100 approx.	$761,000 approx.	$858,500 approx.
	Forecast 10 Year Capital-Budget	$5,637,400	$23,237,400	$5,637,400
Summary		– Transportation represents the largest operating cost for the Township and can be attributed to its size. – As previously discussed, the Township splits responsibility for road operations and maintenance with the District Municipality of Muskoka. – During public engagement, there was interest in the quality-of-service delivery relating particularly to road conditions throughout the Township. This is recognized, however, per O.Reg standards and SME evaluation the roadways meet requirements. – In its current state, the transportation service area performs well. Short-term needs are recognized and adequately addressed through the Township's planning. However, longer-term affordability will need to be considered based on a suggested future review of long-term needs. It is suggested that the update of future Township Asset Management Plans will provide the impetus for review.		
Public Feedback		– Feedback included multiple suggestions that the current condition of roads does not meet expected standard of the community. Additional specific feedback in found in the community engagement section.		
Notes		– None		

Emergency Services

Overall Performance Result	Good

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$2,171,900	$2,171,900	$2,171,900
	2035 Operating Cost	$2,689,500	$2,689,500	$2,689,500
	Anticipated 10-Year Increase	$517,600 approx.	$517,600 approx.	$517,600 approx.
	Forecast 10 Year Capital-Budget	$14,207,160	$16,822,160	$17,749,760
Summary		– Emergency Services across the Township represent significant costs for both operating and capital needs. It is recognized that emergency services perform well, with asset gaps that require addressing. – Current levels of Personal Protective Equipment does not meet recommend amounts (2 pairs of PPE) and represents a one-time associated cost of approximately $750,000 to acquire the equipment. Additional consideration would be required for the replacement of this equipment. – Additional consideration needs to look at the capital requirement for asset maintenance associated with the 10 fire stations across the Township. These stations and their related minimum requirement asset needs represent substantial financial needs. It is recognized that the current model is the result of municipal amalgamation and may not represent optimal service costs for the Township. The Township hired a consultant to complete the Fire Station Location Study to review the operating model of the emergency services in the Township.		
Public Feedback		– “The Minett Fire Hall meets few of the requirements of a proper fire hall. Which will be corrected with the building of a new fire hall in the future.” – “Firehalls need to be updated.” – “Service priorities I would like to see township prioritize resources towards are public health and safety (such as health facilities, fire halls, community centres/libraries)		
Notes		– None		

Administrative Facilities

Overall Performance Result	Adequate

		Baseline	Unconstrained	Constrained (Phase-In)
Operating	2026 Operating Cost	$577,000	$577,000	$577,000
	2035 Operating Cost	$709,500	$709,500	$709,500
	Anticipated 10-Year Increase	$132,500	$132,500	$132,500
	Forecast 10 Year Capital-Budget	$18,613,700	$18,888,700	$18,999,000
Summary		– Per the review of the service area, it is noted that overall, Administrative Facilities are in need of repairs and possibly replacement. – Particular attention is paid to the Township Administrative Building and Public Works Buildings – The Township Administrative Building is old and has limited capacity. Assets are overall in a satisfactory to poor condition. The Township anticipates completing a building condition assessment in 2025 to update facility needs .		
Public Feedback		– *“The Township administrative building needs to be upgraded desperately to allow for better and safer service”* – *“The Township Municipal Office Building in Port Carling although a registered historic property is in poor condition and no longer resembles anything of historic value after decades of renovations and additions.”*		
Notes		– The Facilities Budget figure includes building costs associated with the Township Hall, Health Hub, and Public Works Garage.		

Phase 4 Projections - Operating

Following the evaluation of each service area, the baseline and unconstrained costs for the service areas in question are estimated.

Baseline (Current) Results

For service delivery operating costs under a baseline model, the following costs can be anticipated:

2026: $9.9 million

2035: $12.4 million

Operating expenses for service delivery grow by roughly $2.5 million over that time.

Unconstrained (Immediate) Results

The model demonstrates the needs of the Township in meeting all Target LOS performances in Year 1.

For service delivery operating costs under an unconstrained model, the following costs can be anticipated:

2026: $10.0 million

2035: $13.5 million

Operating expenses grow by approximately $3.5 million from the 2026 baseline model, including $850,000 in Year 1, with an average $295,000 per year over the remaining years.

Constrained (Phase-In) Results

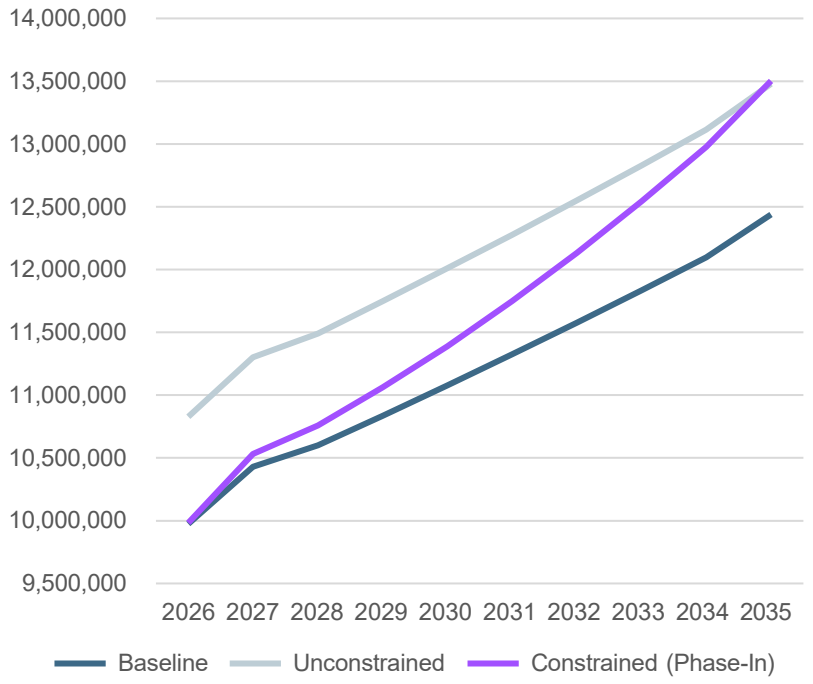
GHD is unable to comment on the outcomes of the Constrained (Phase-In) approach as the financial modeling was completed using a separate financial model created by another consultant.

The model demonstrates the needs of the Township in meeting all Target LOS performances over 10 years.

2026: $9.9 million

2035: $13.5 million

Operating expenses grow by approximately $3.5 million from the 2026 baseline mode; the increase occurs gradually each year with approximately $50,000 in Year 1 to over $550,000 in Year 10 (average $350,000 per year).



GHD Advisory

Conclusion

→ Outcomes and Recommendations

Discussion of Outcomes

The Township of Muskoka Lakes owns, maintains and operates a significant number of assets relative to its size, and is largely as an outcome to history associated with the Townships creation. The asset counts are the result of historical amalgamations of smaller communities.

The following themes have been identified from the study:

- The community values the services delivered, but has concerns about the state of infrastructure and access to additional services
- The Townships services are currently affordable but will potentially require significant investment to meet longer-term future needs.
- Community engagement suggested the potential for financial instruments, including slightly higher taxes for maintaining or improving service levels

The Township, through the management of and performance of its assets, provides services that ae regarded by the community and Township SME to be good / reasonable This was confirmed via feedback from the community and engagement with Township staff and SME's. For each service area the current to target performance gaps are largely related to aging assets or for assets that need to be brought up to a standard to meet legislative compliance requirements

The Township is delivering services that are defined under its current state baseline model. For the longer-term investment planning and service management decisions are required to enable affordable longer term service delivery that is financially sustainable and meets the needs of the community.

The Township has the opportunity to begin planning for future service quality by reviewing target performance, especially those targets that specify a very high service quality where target performance has been set to excellent rating.

The Asset LOS Study delivers a LOS framework across service areas, including targets and measures that will help the Township meet provincial requirements and also the unique needs of the Township.

The cost associated with the framework have been documented, with models highlighting any required or opportunistic changes for consideration, giving the Township the required insight to plan, manage and grow, where desired, its service outcomes.

Recommendations

The following represents a series of recommendations for consideration by Township staff and Council based on the outcomes of this study. The recommendations combine both legislated requirements under the O.Reg. 588/17 and specific recommendations to the Township based on the findings from the study. This document and associated service measures should be considered “living”, with the Township retaining the ability to update service levels to maintain relevance and applicability.

In concluding this Levels of Service report the following recommendations are suggested to Council and the Township leadership team for consideration:

1. Council should adopt the Levels of Service framework developed and incorporate into the Townships asset management plan.
2. Council should review the current and target standards and agree on an acceptable level of target performance for future service provision. Outcomes can include maintaining recommendations, lowering expectations on service quality and lowering ratings from excellent performance where unachievable or unnecessary.
3. The Township should aspire for an overall good performance rating for service areas where appropriate and in the absence of legislative mandates.
4. Council should adopt the agreed upon identified services and service standards and include within the Townships asset management plan.
5. The Township should leverage the anticipated results of the 2025 Building Condition Assessments to revisit appropriate Technical LOS and adjust service standards according to survey outcomes. This will help the Township better understand current and future needs and tie financial requirements to the outcomes and particularly focus on areas where recommendations around future service delivery have been made.
6. Recognizing the results of the Level of Service Study, leverage existing studies in making recommendations for service delivery, particularly focusing on the outcomes and recommendations from the Fire Station Location Study and Arena Feasibility Study. The Township should identify and understand timelines for major decisions, building on work previously completed.
7. The Township should engage in regular community engagement exercises that review the community's perception of service delivery.
8. There are competing needs within service areas and across service areas. These needs will require evaluation and coordination according to Township prioritization requirements. The modelled financial projections will require continual updating as new data is available and should be treated as living process that will contribute to the prioritization of outcomes. It is recommended that the Township consider developing a LOS data management plan that enables data to be collected and used in support of the service areas LOS data needs.

The scenarios presented in this report are intended to support the calibration of services relative to cost. Once a decision has been made regarding the availability of necessary funding and the finalization of the desired service level, this information should be reintegrated into the Asset Management Plan. This step is essential to meet compliance requirements with Ontario Regulation 588/17 (O.Reg 588/17), which mandates alignment between financial planning and service delivery objectives.

Appendices

→ Appendix A

Appendix B

Appendix A – Documents Reviewed

The following documents, reports and data points were reviewed and considered as part of the Levels of Service Study:

- TML Strategic Plan (2024 – 2028)
- TML Asset Management Plan
- Fire Station Location Study
- Arena Feasibility Study
- Transportation Master Plan
- Community Improvement Plan
- Township Official Plan
- Parks and Recreation Master Plan
- Fire Master Plan
- Township Budgets (2024, 2025)

Appendix B
Financial Assessments

Service Area	Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance	Step Change	% of Budget	Baseline Cost	Unconstrained Cost
Information Technology	Percentage of Hardware within optimal service life of 5 years.	Hardware	70% - Adequate	86-100% - Excellent	16%	25%	$196,150	$227,534
Information Technology	Percentage of Computer Systems within optimal service life of 5 years.	Computer Systems	90% - Excellent	86-100% - Excellent	0%	25%	$196,150	$196,150
Information Technology	Percentage of sites with acceptable Internet & Wi-Fi connections based on site location and requirements	Internet	70% - Good	90-100% - Excellent	20%	25%	$196,150	$235,380
Information Technology	Percentage within optimal service life of 3-5 years.	Telecommunications	70% - Good	90-100% - Excellent	20%	25%	$196,150	$235,380

Service Area	Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance	% of Budget	Step Change	Baseline Cost	Unconstrained Cost
Stormwater Management	% of municipal stormwater management system resilient to a 5-year storm (O.Reg. 588)	Drainage Systems	64%	100%	N/A	36%	Unknown	Unknown
Stormwater Management	% of properties resilient to a 100-year storm (O.Reg. 588)		No Data	75%	N/A	N/A	Unknown	Unknown
Stormwater Management	% of stormwater management facilities in compliance with legislative requirements	Drainage System – Stormwater Facilities	No Data	100%	N/A	N/A	Unknown	Unknown
Stormwater Management	% of road culvert pipes <3m in fair or better condition	Drainage Systems - Rural	No Data	90%	0.60%	N/A	$95,136.00	Unknown
Stormwater Management	% of storm sewers pipes in fair or better condition	Drainage systems - Urban	99%	100%	0.08%	1%	$12,684.80	$12,811.65
Stormwater Management	% of storm sewers appurtenances in fair or better condition	Drainage Systems - Urban	99%	100%	0.02%	1%	$3,171.20	$3,202.91
Stormwater Management	# of stormwater related customer service requests/ 1,000 people served	Drainage Systems – Rural and Urban	<25	<25	N/A	N/A	Unknown	Unknown
Stormwater Management	% Storm Sewer Pipes cleaned every 5 years	Drainage Systems - urban	75%	100%	0.06%	25%	$9,513.60	$11,892.00
Stormwater Management	% of catch basin sumps cleaned every year	Drainage Systems - urban	100%	100%	0.02%	0%	$3,171.20	$3,171.20

Service Area	Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance	Step Change	% of Budget	Baseline Cost	Unconstrained Cost
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Arenas	30%	85%	55%	6%	$126,270	$195,719
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Sports Fields/Courts	40%	85%	45%	2%	$42,090	$61,031
Culture, Sports and Recreation	# of related customer service requests / 1,000 people served	Sports Facilities	10	10	N/A	N/A	Unknown	Unknown
Culture, Sports and Recreation	% of public spaces that fully AODA compliant	Sports Facilities	0%	100%	100%	N/A	Unknown	Unknown
Culture, Sports and Recreation	% of administrative facilities where Climate Mitigation Plan recommendations have been implemented	Sports Facilities	0%	100%	100%	N/A	Unknown	Unknown
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Parks	60%	85%	25%	6%	$126,270	$157,838
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Parks Buildings	40%	85%	45%	1%	$21,045	$30,515
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Trails	80%	85%	5%	1%	$21,045	$22,097
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Playgrounds	50%	85%	35%	1%	$21,045	$28,411
Culture, Sports and Recreation	# of related customer service requests / 1,000 people served	Recreation Facilities	10	10	N/A	N/A	Unknown	Unknown
Culture, Sports and Recreation	% of public spaces that fully AODA compliant	Recreation Facilities	10%	100%	N/A	N/A	Unknown	Unknown
Culture, Sports and Recreation	% of administrative facilities where Climate Mitigation Plan recommendations have been implemented	Recreation Facilities	0%	100%	100%	N/A	Unknown	Unknown
Culture, Sports and	% of Building Envelope in fair or better condition	Cemeteries	60%	85%	25%	1%	$21,045	$26,306
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Community Centres	50%	85%	35%	3%	$63,135	$85,232
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Docks and Wharves	40%	85%	45%	1%	$21,045	$30,515
Culture, Sports and Recreation	% of Building Envelope in fair or better condition	Library	70%	85%	15%	2%	$42,090	$48,404
Culture, Sports and Recreation	# of related customer service requests / 1,000 people served	Cultural Facilities	10	10	N/A	N/A	Unknown	Unknown
Culture, Sports and Recreation	% of public spaces that fully AODA compliant	Cultural Facilities	25%	100%	75%	N/A	Unknown	Unknown
Culture, Sports and Recreation	% of administrative facilities where Climate Mitigation Plan recommendations have been implemented	Cultural Facilities	0%	100%	100%	N/A	Unknown	Unknown

Service Area	Technical Levels of Service (TLOS) Measure	Current Performance (%)	Target Performance (%)	Step Change	% of Budget	Baseline Cost	Unconstrained Cost
Library	% of Building Envelope in fair or better condition	70%	85%	15%	2.00%	$12,018	$13,821
Services	% of library collection assets in fair or better condition	60%	50%	-10%	7.72%	$46,365	$46,365
Library	% of library technology (staff computers, public computers, printers/fax/scanning, and internet connection)	70%	75%	5%	3.62%	$21,753	$22,840
Services	% library furnishing assets in fair or better condition (based on age)	30%	66%	36%	0.46%	$2,752	$3,743
		Excellent (16.64)	Excellent (15)	Unknown	7.71%	$46,329	$46,329
Library		Excellent (1.29)	Excellent (>1sf p.p.)	Unknown	14.60%	$87,731	$87,731
Services							
Library							
Services							
Library Services	Titles held per capita*						
Library Services	Library Facility Space per Capita						

Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance	Step Change	% of Budget	Baseline Cost	Unconstrained Cost
% of bridges in the municipality with loading or dimensional restrictions (O.Reg.588)	Bridges and Culverts – Bridge & Culverts (>3.0m)	17%	0%	N/A	N/A	Unknown	Unknown
For bridges in the municipality, the average bridge condition index (BCI) value. (O.Reg. 588)	Bridges and Culverts – Bridge	73.4	85	N/A	N/A	Unknown	Unknown
For structural culverts (>3m) in the municipality, the average bridge condition index (BCI) value. (O.Reg. 588)	Bridges and Culverts –Culverts (>3.0m)	73	85	N/A	N/A	Unknown	Unknown
% of roadway bridges in good or better condition	Bridges and Culverts – Bridge	75%	100%	25%	0.09%	$ 14,270	$ 17,838
% of roadway structural culverts (>3m) in good or better condition	Bridges and Culverts –Culverts (>3.0m)	55%	100%	45%	0.07%	$ 11,099	$ 16,094
% bridge decks washed annually	Bridges and Culverts –Bridge	100%	100%	0%	N/A	Unknown	Unknown
# of lane-kilometres of arterial roads as a proportion of square kilometres of land area of the municipality (lane-km/km2) (O.Reg.588)	Roads – Hard Top & Loose Top	0	0	N/A	N/A	Unknown	Unknown
# of lane-kilometres of collector roads as a proportion of square kilometres of land area of the municipality (lane-km/km2) (O.Reg.588)	Roads – Hard Top & Loose Top	0.02	0.02	N/A	N/A	Unknown	Unknown
# of lane-kilometres of local roads as a proportion of square kilometres of land area of the municipality (lane-km/km2) (O.Reg.588)	Roads – Hard Top & Loose Top	0.8	0.8	N/A	N/A	Unknown	Unknown
For paved (hard top) roads in the municipality, the average Pavement Condition Index (PCI) value. (O.Reg. 588)	Roads – Hard Top	69	85	16%	3.50%	$ 554,960	$ 643,754
% of paved (hard top) roads in fair or better condition	Roads – Hard Top	90%	100%	10%	3.50%	$ 554,960	$ 610,456
For unpaved (loose top) roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor). (O. Reg 588). Surface condition is based on average Pavement Condition Index (PCI)	Roads – Loose Top	74	85	11%	2.40%	$ 380,544	$ 422,404
% of unpaved (loose top) roads in fair or better condition	Roads – Loose Top	95%	100%	5%	2.40%	$ 380,544	$ 399,571
% of Township roads with year-round maintenance	Roads – Hard Top & Loose Top	86%	86%	0%	6.50%	$ 1,030,640	$ 1,030,640
% of rural roads with roadside mowing completed once per year	Roads – Hard Top & Loose Top	100%	100%	0%	0.16%	$ 25,370	$ 25,370

Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance	% of Budget	Step Change	Baseline Cost	Unconstrained Cost
% of Light Equipment in fair or better condition	Equipment – Light Equipment	50%	100%	10%	50%	$ 59,250	$ 88,875
% of Medium Equipment in fair or better condition	Equipment – Medium Equipment	100%	100%	10%	0%	$ 59,250	$ 59,250
% of Heavy Equipment in fair or better condition	Equipment – Heavy Equipment	75%	100%	10%	25%	$ 59,250	$ 74,063
% of Light Duty Vehicles in fair or better condition	Vehicles – Light Duty Vehicle	100%	100%	10%	0%	$ 59,250	$ 59,250
% of Medium Duty Vehicles in fair or better condition	Vehicles – Medium Duty Vehicle	100%	100%	10%	0%	$ 59,250	$ 59,250
% of Heavy Duty Vehicles in fair or better condition	Vehicles – Heavy Duty Vehicle	67%	100%	10%	33%	$ 59,250	$ 78,803
% of vehicles replaced in accordance with the expected service life	Vehicles	68%	100%	10%	32%	$ 59,250	$ 78,210
% of equipment replaced in accordance with the expected service life	Equipment	75%	100%	10%	25%	$ 59,250	$ 74,063
% of fleet where Climate Mitigation Plan recommendations have been implemented	Vehicles	0%	100%	10%	100%	$ 59,250	$ 118,500
% of Fire Emergency Vehicles in fair or better condition	Fire – Fire Vehicles	100%	100%	10%	0%	$ 59,250	$ 59,250

Service Area	Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance	% of Budget	Step Change	Baseline Cost	Unconstrained Cost
Emergency Services	Each fire station has a rescue	Fire Vehicles Rescues, Command	71%	100%	0.70%	29%	$ 14,735	$ 19,008
Emergency Services	Each station has a pumper and tanker and one reserve truck for every 8 vehicles	Large Fire Vehicles	77%	100%	1.00%	23%	$ 21,050	$ 25,892
Emergency Services	Communications Equipment assets need to be upgraded to meet future needs	Commutations Equipment	95%	100%	0.50%	5%	$ 10,525	$ 11,051
Emergency Services	Personal Protective Equipment in fair or better condition	Personal Protective Equipment	50%	100%		50%	$ -	$ -
Emergency Services	Suppression Equipment in fair or better condition	Suppression Equipment	90%	100%	3.00%	10%	$ 63,150	$ 69,465
Emergency Services	Extrication Equipment in fair or better condition	Extrication Equipment	100%	100%	1.00%	0%	$ 21,050	$ 21,050
Emergency Services	Hazardous Material Rescue	Hazardous Material Equipment	25%	80%		55%	$ -	$ -
Emergency Services	Water Rescue Equipment in fair or better condition	Water Rescue Suits, Rope, Rescue boats	95%	100%		5%	$ 11,200	$ 11,760

Technical Levels of Service (TLOS) Measure	Asset Type	Current Performance	Target Performance	Step Change	% of Budget	Baseline Cost	Unconstrained Cost
% of Building Envelope in fair or better condition	Civic – Admin Building	40%	85%	45%	1%	$ 158,560	$ 229,912
% of Building Envelope in fair or better condition	Medical – Health Hub	100%	85%	-15%	1%	$ 158,560	$ 158,560
% of Building Envelope in fair or better condition	Works Yards	30%	85%	55%	2%	$ 317,120	$ 491,536
% of Building Envelope in fair or better condition	Fire Halls	50%	85%	35%	2%	$ 317,120	$ 428,112
# of related customer service requests / 1,000 people served	Administrative Facilities	10	10	0	N/A	Unknown	Unknown
% of public spaces that fully AODA compliant	Administrative Facilities	25%	100%	75%	N/A	Unknown	Unknown
% of administrative facilities where Climate Mitigation Plan recommendations have been implemented	Administrative Facilit	0%	100%	100%	N/A	Unknown	Unknown

TOWNSHIP OF MUSKOKA Lakes

APPENDIX IV
Financial Strategy Model

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Reserve Fund Balance (Year-end)	3,927,843	1,564,599	1,564,599	2,270,635	1,564,599	1,893,755	1,564,599	2,139,503	6,134,737	10,241,682	14,193,688
Interest Earned	174,000	259,117	220,710	234,903	277,713	293,746	334,287	353,916	405,946	530,157	660,807
Net Operating Expenditures	11,384,900	11,702,700	12,154,900	12,524,200	12,893,300	13,287,800	13,716,400	14,171,500	14,652,000	15,159,000	15,689,200
Debt Servicing Costs (P&I)	134,100	134,100	172,417	622,766	622,766	678,990	678,990	1,222,312	1,222,312	1,222,312	1,222,312
Capital Expenditures (non-growth)	12,710,500	12,609,900	16,518,900	10,156,700	13,584,100	13,382,900	21,835,000	16,413,300	15,014,100	17,116,900	19,828,090
Tax Levy Revenue	17,569,000	18,553,300	19,486,700	21,016,000	22,819,600	24,778,000	26,904,500	29,213,500	31,720,600	34,442,900	37,398,700
Grants and Donations	2,915,100	2,852,100	2,748,800	2,758,800	2,682,100	2,607,100	2,722,100	2,814,600	2,757,100	2,632,100	2,632,100
Debt Proceeds	-	418,939	6,390,008	-	614,716	-	5,940,347	-	-	-	-

Model Error Check	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK

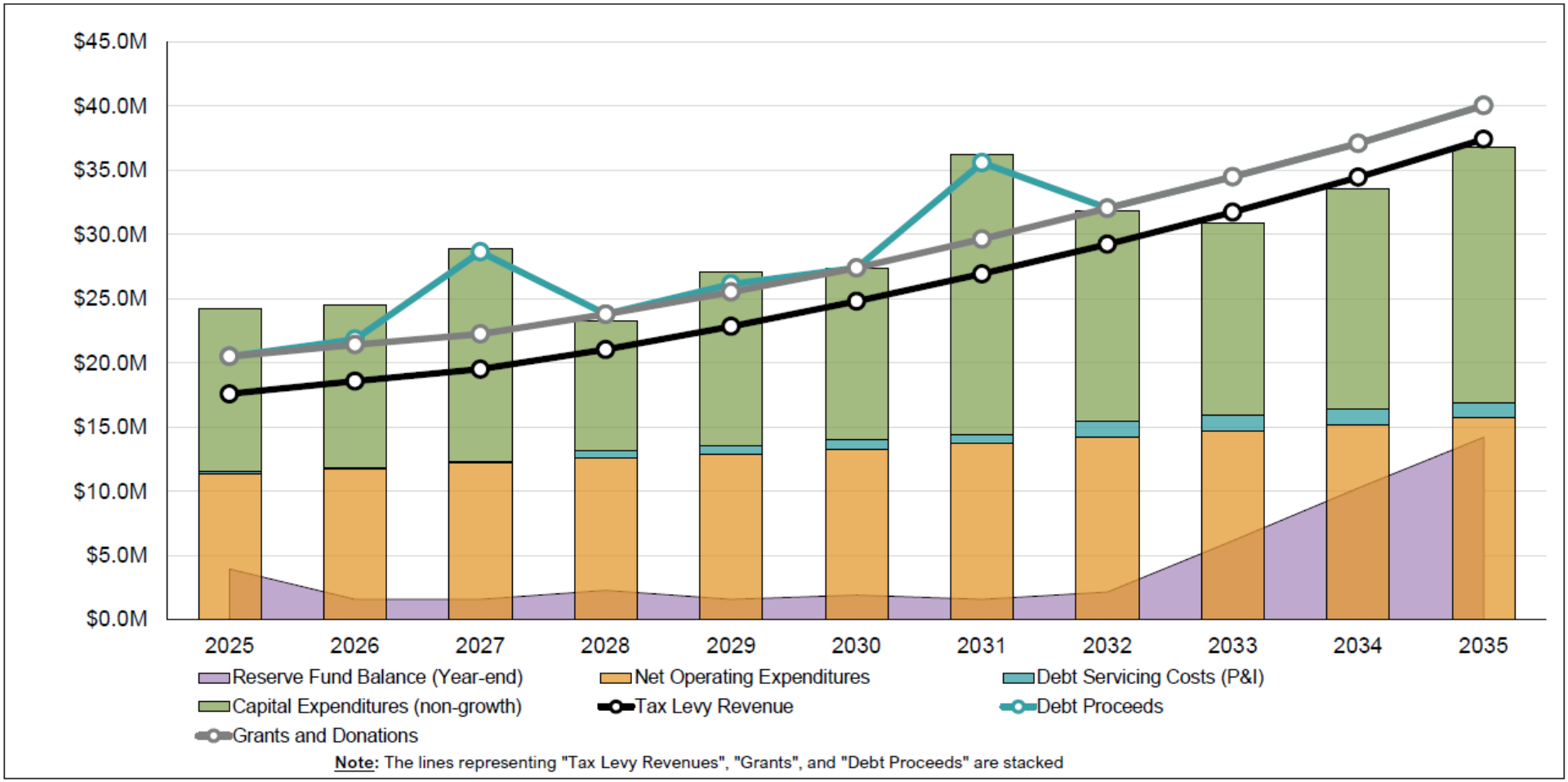


Table 1
Township of Muskoka Lakes
Financial Strategy
Capital Budget Forecast
Inflated $

Description	Total Forecast	Budget 2025	Forecast 2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capital Expenditures												
Administration	2,585,300	179,000	518,000	19,500	261,000	47,500	40,000	1,076,000	123,500	193,500	55,000	251,300
Development Services and Environmental Sustainability	1,612,000	225,000	215,000	80,000	150,000	65,000	220,000	100,000	360,000	180,000	75,000	167,000
Fire and Emergency Services	14,206,500	1,197,900	1,115,500	1,299,000	1,146,000	1,613,700	1,814,500	1,895,400	2,043,400	435,900	1,442,700	1,400,400
Muskoka Lakes Public Library	529,500	53,500	47,000	51,500	49,000	54,000	51,100	56,600	53,100	59,100	55,100	53,000
Operations	109,849,380	11,306,600	10,825,700	16,153,800	9,008,700	11,080,600	9,158,800	15,980,600	9,002,600	8,455,600	9,168,800	11,014,180
Sub-Total Baseline Capital Expenditures	**128,782,680**	**12,962,000**	**12,721,200**	**17,603,800**	**10,614,700**	**12,860,800**	**11,284,400**	**19,108,600**	**11,582,600**	**9,324,100**	**10,796,600**	**12,885,880**
Incremental Capital Expenditures (proposed LOS)												
Information Technology	203,200		26,100	27,300	-	-	37,400	71,600	40,800	-	-	-
Fire and Emergency Services	3,542,600		-	-	482,800	-	124,600	-	1,361,200	1,183,500	297,300	93,200
Muskoka Lakes Public Library	888,200		52,300	45,900		458,000	82,900	-	249,100	-	-	-
Operations - Stormwater Management	383,400		-	10,900	14,300	19,100	24,900	32,600	43,600	59,700	77,300	101,000
Operations - Culture, Sports and Recreation (arena, fields, parks, tra	2,427,800		-	51,600	71,900	112,700	157,000	225,700	300,100	380,900	491,700	636,200
Operations - Culture, Sports and Recreation (faciliites, CCs, cemete	1,040,300			22,100	30,800	48,300	67,300	96,700	128,600	163,200	210,700	272,600
Operations - Fleet	650,600		-	27,300	34,200	41,700	53,000	65,100	78,300	96,000	115,200	139,800
Operations - Roads	24,676,900		-	327,600	684,800	1,192,700	1,745,000	2,344,600	3,130,800	3,983,000	5,054,300	6,214,100
Administration	385,300		-	8,200	11,400	17,900	24,900	35,800	47,600	60,500	78,000	101,000
Total Non Growth Costs - Funded from Other Capital Sources	**169,170,390**	**12,710,500**	**12,609,900**	**16,518,900**	**10,156,700**	**13,584,100**	**13,382,900**	**21,835,000**	**16,413,300**	**15,014,100**	**17,116,900**	**19,828,090**
Total Growth Costs - Funded from Development Charges	**6,772,590**	**251,500**	**189,700**	**1,605,800**	**1,788,200**	**1,167,100**	**218,500**	**145,700**	**549,400**	**236,800**	**4,200**	**615,690**
Total Capital Expenditures	**175,942,980**	**12,962,000**	**12,799,600**	**18,124,700**	**11,944,900**	**14,751,200**	**13,601,400**	**21,980,700**	**16,962,700**	**15,250,900**	**17,121,100**	**20,443,780**
Capital Financing												
Contributions from Operating Reserves & Reserve Funds	1,868,900	363,000	290,000	186,700	186,700	110,000	35,000	150,000	242,500	185,000	60,000	60,000
Contributions from Capital Reserves & Reserve Funds	153,937,480	12,347,500	11,900,961	9,942,192	9,970,000	12,859,384	13,347,900	15,744,653	16,170,800	14,829,100	17,056,900	19,768,090
Other Contributions (e.g from Building Reserve Fund)	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	13,364,010	-	418,939	6,390,008	-	614,716	-	5,940,347	-	-	-	-
Contributions from Development Charges Reserve Fund	6,772,590	251,500	189,700	1,605,800	1,788,200	1,167,100	218,500	145,700	549,400	236,800	4,200	615,690
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Financing	**175,942,980**	**12,962,000**	**12,799,600**	**18,124,700**	**11,944,900**	**14,751,200**	**13,601,400**	**21,980,700**	**16,962,700**	**15,250,900**	**17,121,100**	**20,443,780**
	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK

Table 2-A
Township of Muskoka Lakes
Financial Strategy
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year	New Debt (Inflated)	Budget 2025	Forecast 2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2025 (Existing)	1,650,000	134,100	134,100	134,100	-	-	-	-	-	-	-	-
2026	418,939			38,317	38,317	38,317	38,317	38,317	38,317	38,317	38,317	38,317
2027	6,390,008				584,449	584,449	584,449	584,449	584,449	584,449	584,449	584,449
2028	-					-	-	-	-	-	-	-
2029	614,716						56,224	56,224	56,224	56,224	56,224	56,224
2030	-							-	-	-	-	-
2031	5,940,347								543,322	543,322	543,322	543,322
2032	-									-	-	-
2033	-										-	-
2034	-											-
2035	-											
Total Annual Debt Repayments	**15,014,010**	**134,100**	**134,100**	**172,417**	**622,766**	**622,766**	**678,990**	**678,990**	**1,222,312**	**1,222,312**	**1,222,312**	**1,222,312**

Table 2-B
Township of Muskoka Lakes
Financial Strategy
Schedule of Growth Related Debenture Repayments
Inflated $

Debenture Year	New Debt (Inflated)	Budget 2025	Forecast 2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2025 (Existing)	-	-	-	-	-	-	-	-	-	-	-	-
2026	-			-	-	-	-	-	-	-	-	-
2027	-				-	-	-	-	-	-	-	-
2028	-					-	-	-	-	-	-	-
2029	-						-	-	-	-	-	-
2030	-							-	-	-	-	-
2031	-								-	-	-	-
2032	-									-	-	-
2033	-										-	-
2034	-											-
2035	-											
Total Annual Debt Repayments	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Table 2-C
Township of Muskoka Lakes
Financial Strategy
Annual Repayment Limit
Inflated $

Description	Budget 2025	Forecast 2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Annual Debt Repayments	134,100	134,100	172,417	622,800	622,800	679,000	679,000	1,222,300	1,222,300	1,222,300	1,222,300
Own Source Revenue	24,613,000	25,934,900	27,118,000	28,773,200	30,722,900	32,830,700	35,109,900	37,575,200	40,241,900	43,127,400	46,249,900
Annual Repayment Limit - 25%	**6,153,250**	**6,483,725**	**6,779,500**	**7,193,300**	**7,680,725**	**8,207,675**	**8,777,475**	**9,393,800**	**10,060,475**	**10,781,850**	**11,562,475**
Remaining Annual Repayment Limit	**6,019,150**	**6,349,625**	**6,607,083**	**6,570,500**	**7,057,925**	**7,528,675**	**8,098,475**	**8,171,500**	**8,838,175**	**9,559,550**	**10,340,175**
Debt Load (Annual Debt Repayment relative to Own-Source Revenue)	2.18%	2.07%	2.54%	8.66%	8.11%	8.27%	7.74%	13.01%	12.15%	11.34%	10.57%

Table 3-A
Township of Muskoka Lakes
Financial Strategy
Schedule of Capital Reserves & Reserve Funds Continuity
Inflated $

Description	Budget	Forecast									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	7,499,243	3,927,843	1,564,599	1,564,599	2,270,635	1,564,599	1,893,755	1,564,599	2,139,503	6,134,737	10,241,682
Transfer from Operating	6,050,000	6,716,500	7,159,383	7,869,034	9,303,534	10,811,210	12,509,110	13,819,688	15,846,288	18,061,588	20,487,188
OMPF Revenue	1,525,700	1,525,700	1,525,700	1,525,700	1,525,700	1,525,700	1,525,700	1,525,700	1,525,700	1,525,700	1,525,700
OCIF Revenue	785,800	785,800	785,800	785,800	785,800	785,800	785,800	785,800	785,800	785,800	785,800
CCBF Revenue	240,600	250,600	250,600	260,600	260,600	260,600	260,600	260,600	260,600	260,600	260,600
Transfer to Capital	(12,347,500)	(11,900,961)	(9,942,192)	(9,970,000)	(12,859,384)	(13,347,900)	(15,744,653)	(16,170,800)	(14,829,100)	(17,056,900)	(19,768,090)
Interest Earned	174,000	259,117	220,710	234,903	277,713	293,746	334,287	353,916	405,946	530,157	660,807
Closing Balance	**3,927,843**	**1,564,599**	**1,564,599**	**2,270,635**	**1,564,599**	**1,893,755**	**1,564,599**	**2,139,503**	**6,134,737**	**10,241,682**	**14,193,688**
Closing Balance excluding Interest Earned	**3,753,843**	**1,305,482**	**1,343,889**	**2,035,733**	**1,286,886**	**1,600,009**	**1,230,312**	**1,785,587**	**5,728,792**	**9,711,526**	**13,532,881**
Reserve Floor (10% of average capital expenditures)		**1,564,599**	**1,564,599**	**1,564,599**	**1,564,599**	**1,564,599**	**1,564,599**	**1,564,599**	**1,564,599**	**1,564,599**	**1,564,599**
	12,347,500	11,900,961	9,942,192	9,970,000	12,859,384	13,347,900	15,744,653	16,170,800	14,829,100	17,056,900	19,768,090

Table 3-B
Township of Muskoka Lakes
Financial Strategy
Schedule of Growth-Related Funds (Development Charges and Parkland Dedication) Continuity
Inflated $

Description	Budget	Forecast									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	3,177,200	3,508,200	3,916,400	2,862,300	1,540,200	802,200	1,019,000	1,292,500	1,097,100	1,215,000	1,579,400
Obligatory Reserve Revenue	450,000	450,000	450,000	425,000	425,000	425,000	400,000	350,000	350,000	350,000	350,000
Transfer to Capital	(251,500)	(189,700)	(1,605,800)	(1,788,200)	(1,167,100)	(218,500)	(145,700)	(549,400)	(236,800)	(4,200)	(615,690)
Interest Earned	132,500	147,900	101,700	41,100	4,100	10,300	19,200	4,000	4,700	18,600	-
Growth Related Debenture Payments	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	**3,508,200**	**3,916,400**	**2,862,300**	**1,540,200**	**802,200**	**1,019,000**	**1,292,500**	**1,097,100**	**1,215,000**	**1,579,400**	**1,313,710**
Closing Balance excluding Interest Earned	**3,375,700**	**3,768,500**	**2,760,600**	**1,499,100**	**798,100**	**1,008,700**	**1,273,300**	**1,093,100**	**1,210,300**	**1,560,800**	**1,313,710**
Required from Obligatory Reserves	**251,500**	**189,700**	**1,605,800**	**1,788,200**	**1,167,100**	**218,500**	**145,700**	**549,400**	**236,800**	**4,200**	**615,690**

Table 4
Township of Muskoka Lakes
Financial Strategy
Operating Budget Forecast
Inflated $

Description	Budget	Forecast									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Expenditures											
Operating Expenditures											
Baseline Operating Expenditures											
Administration	3,961,600	4,170,300	4,176,300	4,269,300	4,364,400	4,461,600	4,561,000	4,662,600	4,766,400	4,872,600	4,981,100
Development Services and Environmental Sustainability	5,082,300	5,112,500	5,230,400	5,346,900	5,466,000	5,587,700	5,712,100	5,839,300	5,969,300	6,102,200	6,238,100
Fire and Emergency Services	2,126,200	2,193,800	2,277,600	2,328,300	2,380,200	2,433,200	2,487,400	2,542,800	2,599,400	2,657,300	2,716,500
Muskoka Lakes Public Library	594,650	608,650	622,150	636,000	650,200	664,700	679,500	694,600	710,100	725,900	742,100
Public Works	6,664,150	6,990,550	7,377,450	7,541,800	7,709,800	7,881,500	8,057,000	8,236,400	8,419,800	8,607,300	8,799,000
Sub-Total Baseline Operating Expenditures	**18,428,900**	**19,075,800**	**19,683,900**	**20,122,300**	**20,570,600**	**21,028,700**	**21,497,000**	**21,975,700**	**22,465,000**	**22,965,300**	**23,476,800**
Incremental Operating Expenditures (proposed LOS)											
Information Technology		8,500	8,700	8,900	9,100	9,300	9,500	9,700	9,900	10,100	10,300
Fire and Emergency Services		-	-	-	-	-	-	-	-	-	-
Muskoka Lakes Public Library		-	-	-	-	-	-	-	-	-	-
Operations - Stormwater Management		-	1,600	3,700	6,600	9,500	13,100	16,900	21,500	26,800	31,200
Operations - Culture, Sports and Recreation (arena, fields, parks, trails)		-	54,900	82,300	114,700	156,300	211,700	277,700	346,500	422,500	501,700
Operations - Culture, Sports and Recreation (faciliites, CCs, cemeteries, docks)			23,500	35,300	49,100	67,000	90,700	119,000	148,500	181,100	215,000
Operations - Fleet		-	10,500	21,400	32,800	47,400	65,600	84,600	113,300	146,300	187,000
Operations - Roads		-	3,100	7,500	13,700	22,300	34,200	49,600	68,600	91,400	118,400
Administration		-	-	-	-	-	-	-	-	-	-
Sub-Total Incremental Operating Costs (proposed LOS)	-	**8,500**	**102,300**	**159,100**	**226,000**	**311,800**	**424,800**	**557,500**	**708,300**	**878,200**	**1,063,600**
Transfers to Operating Reserves	-	-	-	-	-	-	-	-	-	-	-
Sub-Total Operating Expenditures	**18,428,900**	**19,084,300**	**19,786,200**	**20,281,400**	**20,796,600**	**21,340,500**	**21,921,800**	**22,533,200**	**23,173,300**	**23,843,500**	**24,540,400**
Capital Related Expenditures											
Debt Repayment	134,100	134,100	172,417	622,800	622,800	679,000	679,000	1,222,300	1,222,300	1,222,300	1,222,300
Transfers to Capital Reserves	6,050,000	6,716,500	7,159,383	7,869,034	9,303,534	10,811,210	12,509,110	13,819,688	15,846,288	18,061,588	20,487,188
Sub-Total Capital Related Expenditures	**6,184,100**	**6,850,600**	**7,331,800**	**8,491,834**	**9,926,334**	**11,490,210**	**13,188,110**	**15,041,988**	**17,068,588**	**19,283,888**	**21,709,488**
Total Expenditures	**24,613,000**	**25,934,900**	**27,118,000**	**28,773,234**	**30,722,934**	**32,830,710**	**35,109,910**	**37,575,188**	**40,241,888**	**43,127,388**	**46,249,888**
Revenues											
User Fees	576,800	583,600	592,200	605,400	618,900	632,700	646,800	661,200	675,900	691,000	706,400
Other Tax Revenues	948,000	954,500	966,000	966,000	966,000	966,000	966,000	966,000	966,000	966,000	966,000
License, Permits and Rentals	3,247,100	3,263,700	3,303,600	3,377,200	3,452,400	3,529,300	3,607,900	3,688,300	3,770,400	3,854,400	3,940,200
Fines and Penalties	185,000	450,000	710,000	725,800	742,000	758,500	775,400	792,700	810,400	828,400	846,800
Cost Recoveries	1,390,900	1,431,100	1,455,200	1,487,600	1,520,700	1,554,600	1,589,200	1,624,600	1,660,800	1,697,800	1,735,600
Other Grants	123,400	126,100	128,800	128,800	128,800	128,800	128,800	128,800	128,800	128,800	128,800
Investment Income	328,000	203,400	203,900	208,400	213,000	217,700	222,500	227,500	232,600	237,800	243,100
Other Revenues	144,800	149,200	154,600	158,000	161,500	165,100	168,800	172,600	176,400	180,300	184,300
Transfer from Operating Reserves	100,000	220,000	117,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Total Revenues	**7,044,000**	**7,381,600**	**7,631,300**	**7,757,200**	**7,903,300**	**8,052,700**	**8,205,400**	**8,361,700**	**8,521,300**	**8,684,500**	**8,851,200**

Table 5-A
Township of Muskoka Lakes
Financial Strategy
Target Tax Levy
Inflated $

Description	Budget	Forecast									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Target Tax Levy	17,569,000	18,553,300	19,486,700	21,016,000	22,819,600	24,778,000	26,904,500	29,213,500	31,720,600	34,442,900	37,398,700
Tax Levy Increase %		5.60%	5.03%	7.85%	8.58%	8.58%	8.58%	8.58%	8.58%	8.58%	8.58%

Table 5-B
Township of Muskoka Lakes
Financial Strategy
Target Tax Levy Impact
Inflated $

Description	Budget	Forecast									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Target Tax Levy Impact											
Target Tax Levy	17,569,000	18,553,300	19,486,700	21,016,000	22,819,600	24,778,000	26,904,500	29,213,500	31,720,600	34,442,900	37,398,700
Prior Year Tax Levy		17,569,000	18,553,300	19,486,700	21,016,000	22,819,600	24,778,000	26,904,500	29,213,500	31,720,600	34,442,900
Add: Tax Revenues from Incremental Assessment		221,513	233,923	245,691	264,973	287,713	312,405	339,216	368,328	399,938	434,261
Tax Revenues at 0% Tax Rate Increase		17,790,513	18,787,223	19,732,391	21,280,973	23,107,313	25,090,405	27,243,716	29,581,828	32,120,538	34,877,161
Additional Increase in Tax Levy		762,787	699,477	1,283,609	1,538,627	1,670,687	1,814,095	1,969,784	2,138,772	2,322,362	2,521,539
Total Tax Revenues		18,553,300	19,486,700	21,016,000	22,819,600	24,778,000	26,904,500	29,213,500	31,720,600	34,442,900	37,398,700
Estimated Impact on Tax Bills		4.29%	3.72%	6.51%	7.23%	7.23%	7.23%	7.23%	7.23%	7.23%	7.23%

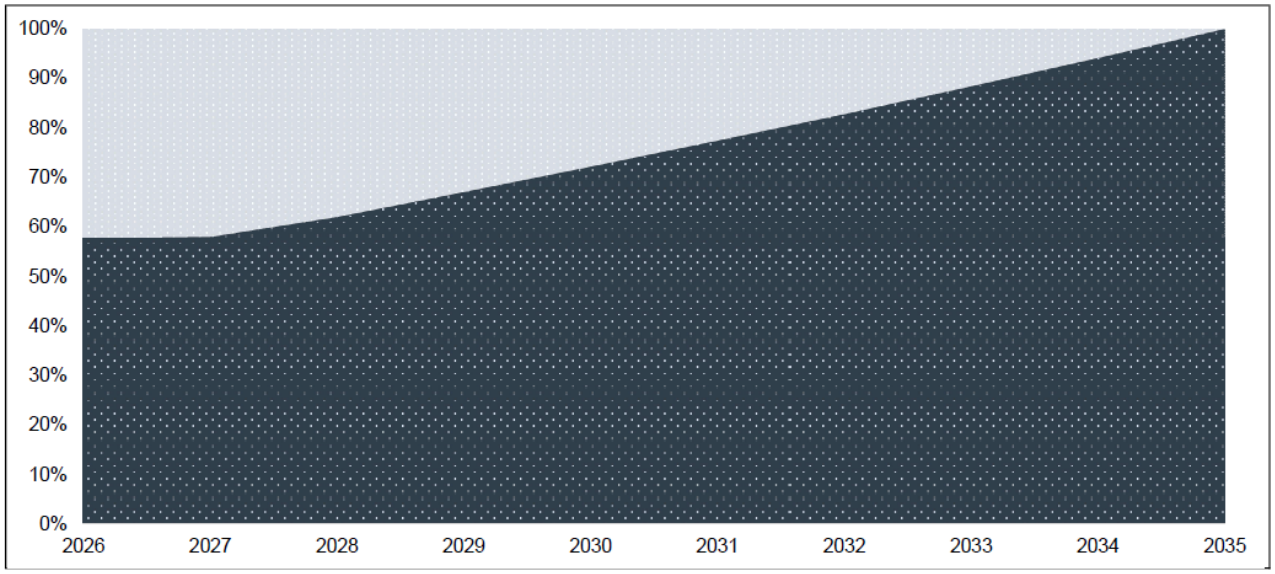
Table 5-C
Township of Muskoka Lakes
Financial Strategy
Target Tax Bill per $100,000 of Residential Assessment
Inflated $

Description	Budget	Forecast									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tax Bill (per $100,000 of Residential Assessment)	161.92	168.86	175.15	186.54	200.03	214.49	230.00	246.63	264.46	283.58	304.09

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Model Error Check	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK	CHECK

Table 6:
Township of Muskoka Lakes
Financial Strategy
Funding Gap
Inflated $

Description	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Funding Gap $	6,921,232	7,175,667	6,774,434	6,143,323	5,418,995	4,598,479	3,661,478	2,593,071	1,379,119	(36)
Funding Gap %	58%	58%	62%	67%	72%	77%	83%	88%	94%	100%



Capital Budget Forecast
Uninflated $

Description	Total	Budget 2025	Forecast 2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capital Expenditures												
Administration	2,764,300	179,000	518,000	19,500	261,000	47,500	40,000	1,076,000	123,500	193,500	55,000	251,300
Development Services and Environmental Sustainability	1,837,000	225,000	215,000	80,000	150,000	65,000	220,000	100,000	360,000	180,000	75,000	167,000
Fire and Emergency Services	15,404,400	1,197,900	1,115,500	1,299,000	1,146,000	1,613,700	1,814,500	1,895,400	2,043,400	435,900	1,442,700	1,400,400
Muskoka Lakes Public Library	583,000	53,500	47,000	51,500	49,000	54,000	51,100	56,600	53,100	59,100	55,100	53,000
Public Works	121,155,980	11,306,600	10,825,700	16,153,800	9,008,700	11,080,600	9,158,800	15,980,600	9,002,600	8,455,600	9,168,800	11,014,180
Total Non Growth Costs - Funded from Other Capital Sources	134,972,090	12,710,500	12,531,500	15,998,000	8,826,500	11,693,700	11,065,900	18,962,900	11,033,200	9,087,300	10,792,400	12,270,190
Total Growth Costs - Funded from Development Charges	6,772,590	251,500	189,700	1,605,800	1,788,200	1,167,100	218,500	145,700	549,400	236,800	4,200	615,690
Total Capital Expenditures	141,744,680	12,962,000	12,721,200	17,603,800	10,614,700	12,860,800	11,284,400	19,108,600	11,582,600	9,324,100	10,796,600	12,885,880
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Municipality Name:	**Township of Muskoka Lakes**
Model Year	**2025**
Interest Earned on Capital R&RFs:	**2.00%**
Term of New Debt (Years):	**15**
Interest Paid on New Debt:	**4.35%**
# of Debt Repayments Per Year:	**2**
Capital Inflation Rate:	**4.50%**
CPI - Average Annualized Change %:	**2.23%**
Average Annualized Growth:	**1.26%**

Ontario Community Infrastructure Fund (OCIF) Recipient	2024	2025
Township of Muskoka Lakes	687,956	785,800

Canada Community-Building Fund (CCBF) Recipient	2024	2025	2026	2027	2028
Township of Muskoka Lakes	240,580	250,600	250,600	260,600	260,600

Source File: https://www.muskokalakes.ca/en/resourcesGeneral/Documents/Clerks/AMP-2024-Final.pdf

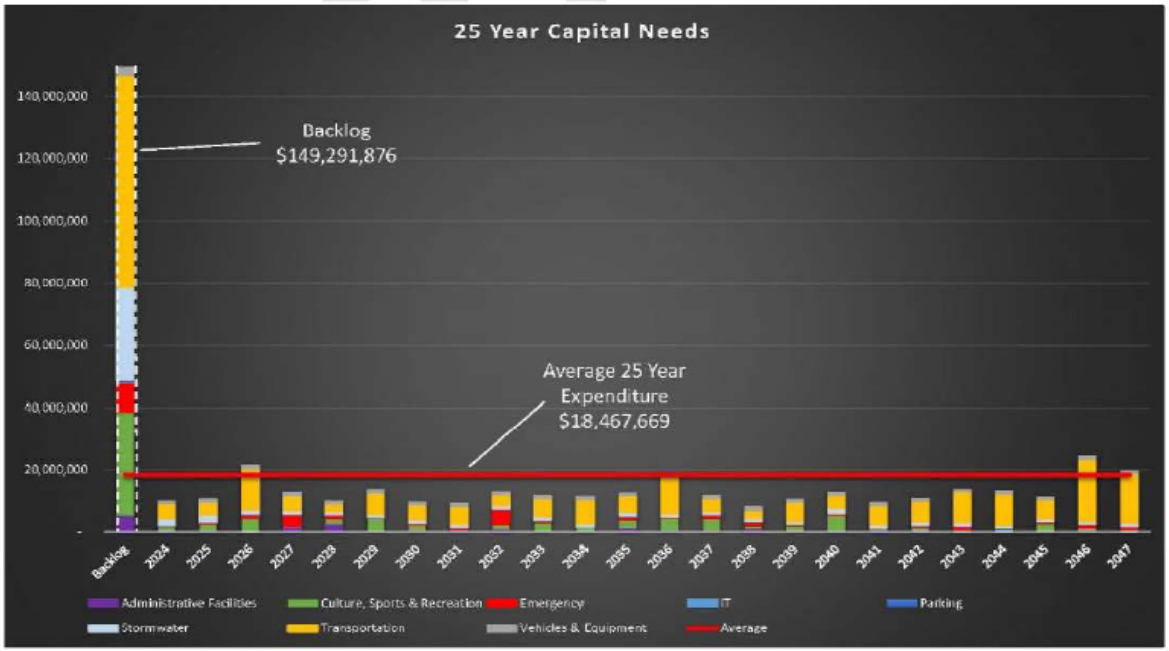
$ Values Reported As At (Year):	2023

Asset Class	Average Annual Lifecycle Cost
Total	$ 15,000,000
	$ 18,467,669

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Average Annual Lifecycle Cost	$ 15,630,000	$ 16,333,932	$ 17,069,567	$ 17,838,334	$ 18,641,723	$ 19,481,295	$ 20,358,679	$ 21,275,578	$ 22,233,771	$ 23,235,119	$ 24,281,564
											$ 16,500,000

Funding and investment requirements were developed for each asset system to establish an average annual lifecycle cost. **Figure 1** provides the overall lifecycle investment requirements over the 25 year time horizon.

Figure 1. 25 Year Lifecycle Investment Requirements



As can be seen from the figure, the current backlog of needs is approximately $149.4 M and average annual capital cost of $18.5 M is forecasted to be required over the 25-year period in order to keep pace with the rate of deterioration.