Township of South Stormont 2023 Asset Management Plan (Non-core assets)

Executive Summary

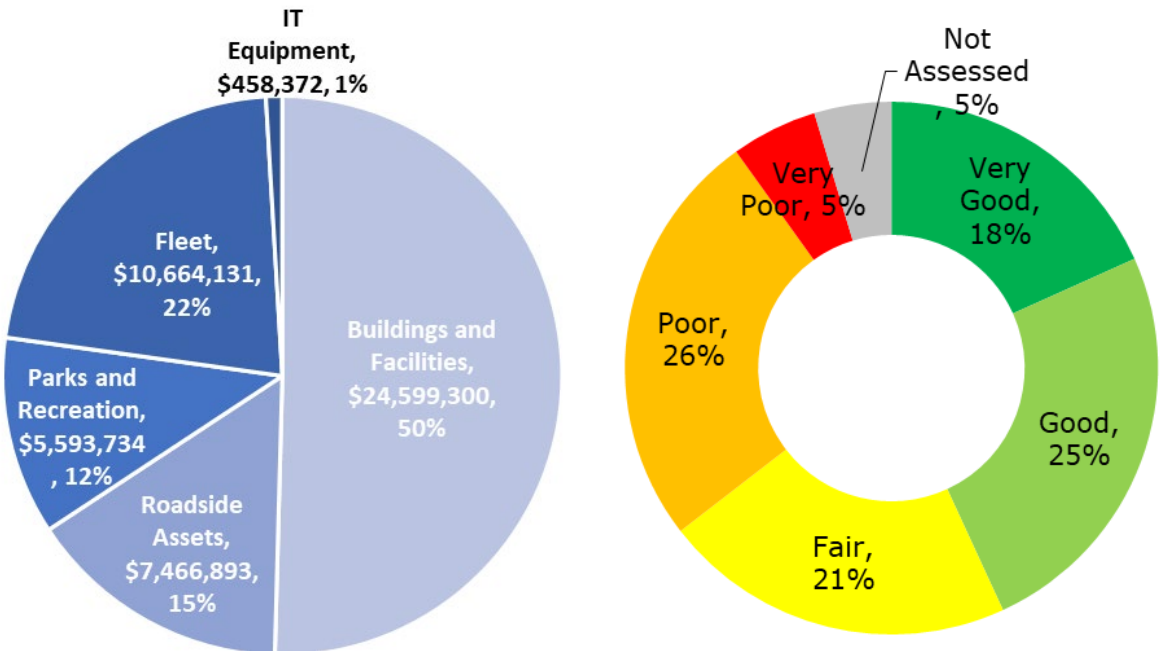
The Purpose of the Plan

This Asset Management Plan (AMP) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to be provided over the 10 year planning period. The AMP will link to a Long-Term Financial Plan which typically considers a 10 year financial and work project planning period.

State of the Infrastructure

The 2023 Non-Core Asset Management Plan includes buildings and facilities, roadside assets, parks and recreation, fleet, and IT equipment.

These non-core assets in scope of this plan have a total replacement value estimated at $48.78 million and 43% of all assets are in good or better condition. Good condition indicates that the infrastructure is adequate for now with some elements showing general signs of deterioration that require attention. The assets that are of concern to the Township are the assets listed in Poor or Very Poor condition. They may still be functioning but are at a questionable level of service and the Township needs to be prepared to respond to failures or proactively address them before they fail. The Poor and Very Poor assets are areas in need of investment.



Summary of Asset Value and Condition for Non-core Assets

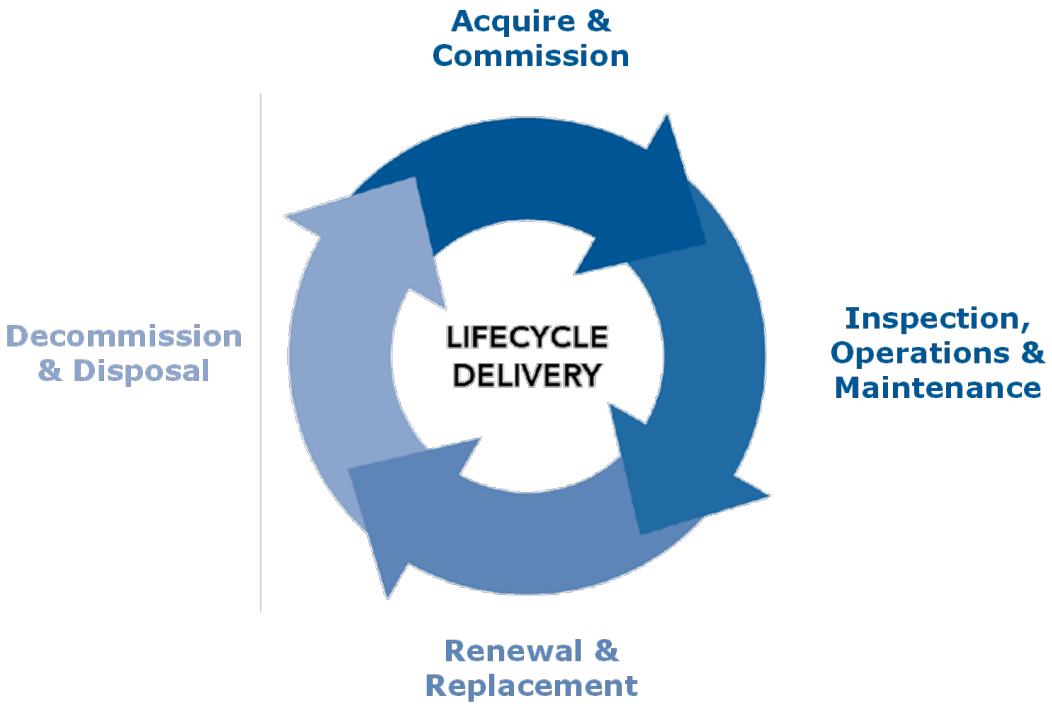
Levels of Service

For the 2023 Non-Core Asset Management Plan, the Township has started by reporting on the O. Reg. 588/17 requirements and have selected additional measures that will allow the Township to begin measuring performance and making decisions. For directly owned Township infrastructure assets, this AMP is compliant with the July 1, 2024 Regulation requirements. Furthermore, it also includes some components of the July 1, 2025 requirements.

The AMP quantifies the levels of service (LOS) provided by infrastructure systems through a series of performance metrics for each service area. LOS tables for each service division are developed and maintained through discussions with staff in all service areas that support the provision of the respective services. The structure of all the LOS tables is the same for each service division. Major components of the tables are: identifying customer values, and corporate/customer focused performance measures. The LOS measures are established through discussions with staff.

Asset Management Strategy

Asset management strategy is a set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, at the lowest life cycle cost. Simplified Township asset life cycle management strategies constitutes the following steps:



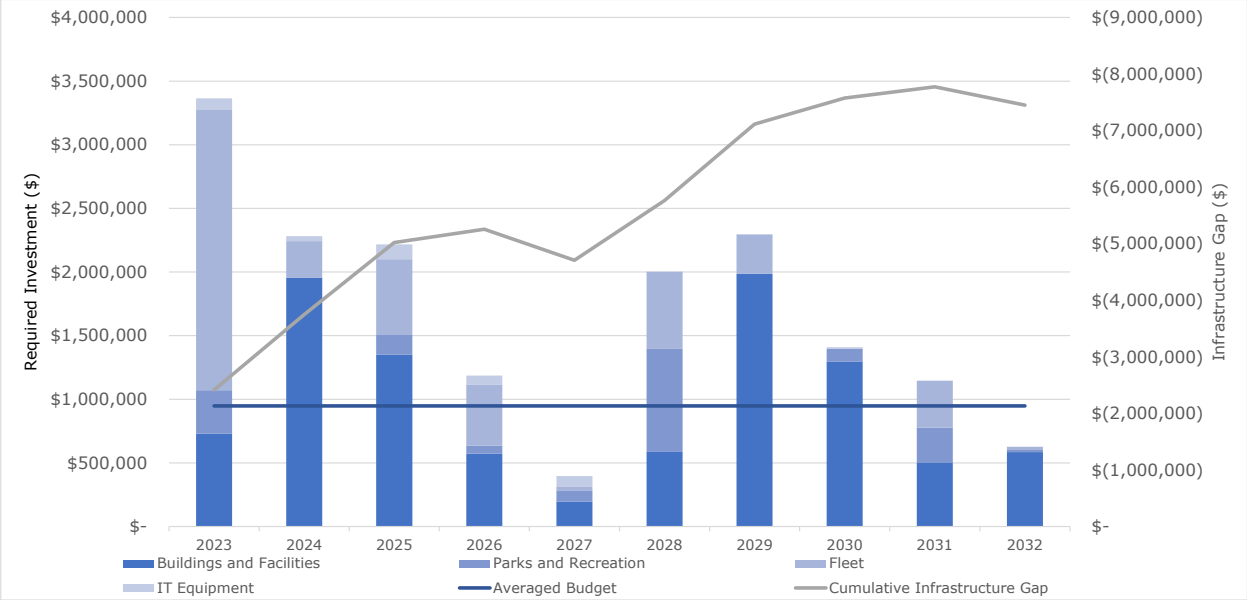
Understanding the overall risk exposure of an asset is critical for decision-making. Under a constrained budget scenario, decision-making is largely based on potential risks. As part of the Township's risk management strategy, a risk assessment framework is developed for quantifying the criticality and risk exposure of the Township's assets and enables the prioritization of projects across asset classes.

Financial Summary

A summary output from the AMP is the forecast of 10-year total outlays, which is estimated at $16.9 million or $1.7 million on average per year. Estimated available funding for the 10-year period is $9.5 million or $0.9 million on average per year as per the planned budget. This is 56.0% of the cost to sustain the current level of service at the lowest lifecycle cost.

The Township does not have sufficient funding to meet the unconstrained scenario needs, and therefore, an evaluation of different funding scenarios is required to determine an appropriate constrained level of funding that balances cost and the risk associated with LOS.

The Township will manage the 'gap' by developing this AMP to provide guidance on future service levels and financial resources required to provide these services in consultation with the Council.



Required Investment under the Unconstrained Budget Scenario for Buildings and Facilities, Parks and Recreation, Fleet, and IT Equipment

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List of Acronyms

COF Consequence of Failure

CRV Current Replacement Value

DC Development Charge

ESL Estimated Service Life

EUL Estimated Useful Life

FCI Facility Condition Index

ISO International Organization for Standardization

LOS Level of Service

O&M Operation and Maintenance

POF Probability of Failure

SDG Stormont, Dundas and Glengarry

1. Introduction

1.1. The Township of South Stormont and Growth at a Glance

South Stormont, a lower-tier municipality in the United Counties of Stormont, Dundas and Glengarry (SDG), is located in Eastern Ontario along the St. Lawrence River. It is conveniently located about 1 hour southeast of Ottawa and 1.5 hours west of Montreal. Two of the main shipping and transportation routes in Ontario pass through the Township; Highway 401 running east-west including 3 exits and the CN Railway running parallel to it.

The Township was originally divided into two smaller Townships prior to amalgamation in 1998; the Township of Osnabruck and the Township of Cornwall. The current-day Township is neighboured by South Dundas to the west, North Stormont to the north, South Glengarry to the east, and the City of Cornwall to the south. It is approximately 475 square kilometers, is home to over 14,000 residents and is composed of several villages and hamlets. Two of the larger villages, Ingleside and Long Sault, were carefully planned and built to accommodate the relocation of residents during the time of the St. Lawrence Seaway Project in 1958. They were planned from inception, making them a rarity in Ontario. Many families were relocated from their now-flooded communities into the two new communities. This history has residents feeling a deep sense of belonging to not only the towns and villages, but also the Township's rural and agricultural areas as well. This has created prideful, tight-knit communities.

Future versions of the Township's asset management plan must include assumptions regarding projected changes in population and economic activity informing the preparation of life cycle management and financial strategies. Historical growth data is useful in helping predict these changes as a future Township growth model is estimated in Figure 1.

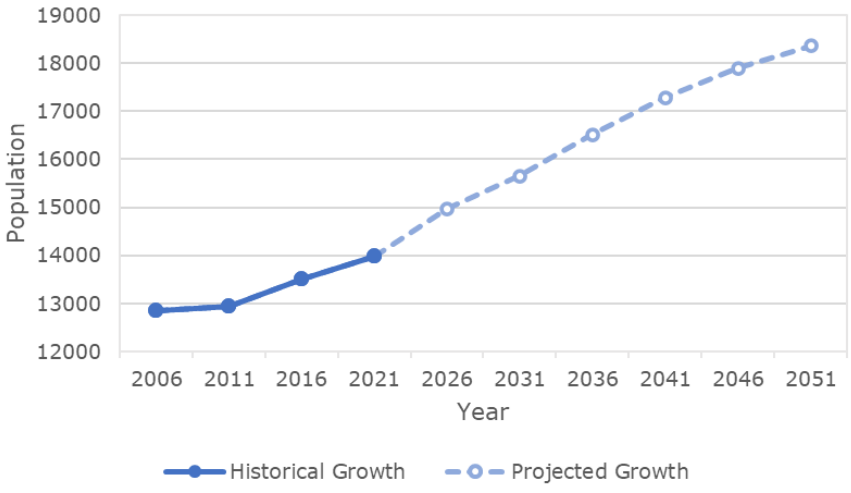


Figure 1: Township of South Stormont Population Growth

Planning for forecasted population growth may require the expansion of existing infrastructure and services. As growth-related assets are constructed or acquired, they should be integrated into the Township's Asset Management Plan (AMP). While the addition of residential units will add to the existing assessment base and offset some of the costs associated with growth, the Township will need to review the life cycle costs of growth-related infrastructure. These costs should be considered in long-term funding strategies that are designed to, at a minimum, maintain the current level of service.

The Township has developed and adopted numerous documents to guide strategic planning and promote growth. Such documents include the Uncommitted Reserve Capacity Study, Strategic Master Servicing Study, and Water and Wastewater Rate Study.

In addition to these documents, the Township invested in a comprehensive development charge (DC) background study. The Township is currently finalizing the study briefed above, which will inform the expected impact of growth on Township life cycle activities.

1.2. Goals and Objectives of Asset Ownership

Our goal for managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost-effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Managing the impact of growth through demand management and infrastructure investment,
- Providing a defined level of service and monitoring performance,
- Taking a life cycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing, and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how they will be allocated.

Key elements of the planning framework are:

- Levels of service – specifies the services and levels of service to be provided,
- Asset management practices – how we manage provision of the services,
- Life cycle management – how to manage its existing and future assets to provide defined levels of service,
- Risk Management – managing and limiting risks based on prescribed budgets,
- Financial summary – what funds are required to provide the defined services,
- Monitoring – how the plan will be monitored to ensure objectives are met, and

- Asset management improvement plan – how we increase asset management maturity.

1.3. Asset Management Plan Scope and Methodology

This AMP communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period.

The AMP is to be read alongside the Township planning documents. This should include the Strategic Asset Management Policy, along with other key planning documents:

- 2022 Development Charges Background Study
- 2023 Building Condition Assessment Study
- 2023 Strategic Action Plan

The non-core assets covered by this AMP include buildings and facilities, roadside assets, parks and recreation, fleet, and IT equipment assets. For a detailed summary of the assets covered in this AMP refer to Table 1 in Section 2.

The Township's organizational structure for service delivery from infrastructure assets is detailed in Figure 2.

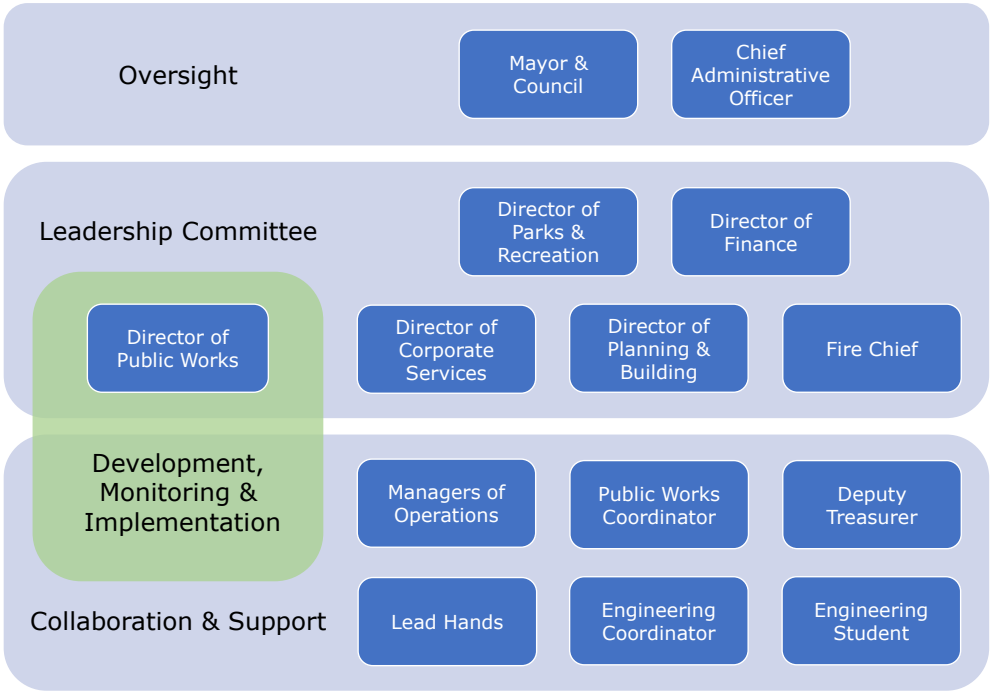


Figure 2: Township's Asset Management Governance Structure

1.4. Achievement of Provincial Asset Management Regulatory Requirements

The Infrastructure for Jobs and Prosperity Act, enacted in 2015, was established to encourage evidence-based and strategic long-term infrastructure planning in Ontario. It promoted not only job creation and training opportunities, but economic growth, environmental consideration and protection, and design excellence into infrastructure planning. In 2018, O. Reg. 588/17 came into effect mandating all Ontario municipalities to develop their asset management practices through a phased approach. This regulation was then amended by the Ontario Government on March 15, 2021, by extending deadlines by one year. This timeline includes the development of a Strategic Asset Management Policy as well as successional AMPs.

The extended deadline in respect to the submission of an AMP for all municipally owned core assets has been extremely beneficial for the Township. It has allowed for additional training sessions, the expansion of the municipal asset management team, a more extensive review of the inventory, a deeper look into levels of service, and additional time that allowed for the development of a thorough, practical, and useful plan that can be referred to for years to come. In this AMP, the following deliverables were achieved:

1. Current levels of service
2. Population growth forecasts
3. Inventory analysis
4. Life cycle activities to sustain LOS
5. Cost of life cycle activities
6. Risk assessment framework
7. Climate change consideration

The Township is currently working towards gathering more in-depth overview of population and economic growth impacts on the Township's life cycle management strategies as well as developing a financial strategy for the AMP by July 1, 2025.

The complete timeline for compliance with O. Reg. 588/17 including key Township milestones and important dates is illustrated in Figure 3.

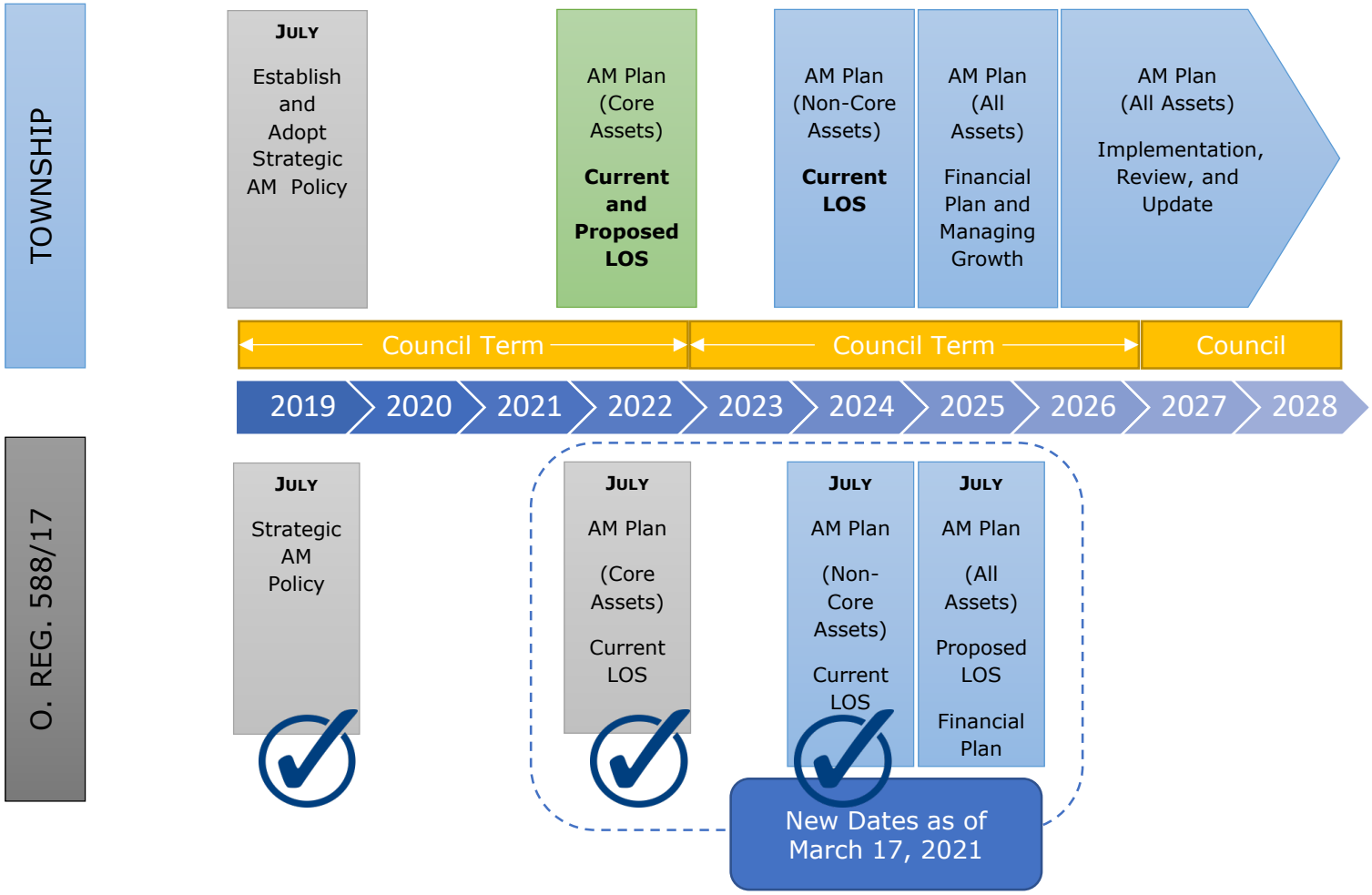


Figure 3: Overview of O. Reg. 588/17 Timeline

2. State of the Infrastructure

2.1. Inventory Overview

The Township's non-core asset inventory consists of infrastructure that is divided into the following 5 categories: buildings and facilities, roadside assets, parks and recreation, fleet, and IT equipment. All these categories contribute significantly to the health, safety, and overall quality of life in the community at large. The Township has identified non-core asset service areas and service divisions as presented in the hierarchy shown in Table 1.

Table 1: Core Asset Inventory Hierarchy

Service Area	Service Division
Buildings and Facilities	Culture And Recreation
	General Government
	Protective Services
	Social Services
	Transportation Services
Roadside Assets	Sidewalks
	Street Lights
	Street Signs
Parks and Recreation	Parks Amenity
	Parks Facility
	Parks Linear
Fleet	Building and Planning
	Fire Services and Bylaw
	Parks and Recreation
	Public Works
IT Equipment	Computers and Tablets
	Mobile Phones
	Printers and Scanners
	Data Room
	Corporate Security Emergency Equipment

2.2. Asset Valuation

The total value of all the Township's non-core assets on a full-replacement basis in 2023 dollars is approximately $48,782,430. Values were obtained by conducting internal research as well as with assistance from external consultants. Table 2 and Figure 4 provide summaries of the replacement cost values by asset type.

Table 2: Summary of Replacement Cost Values

Service Division	Replacement Value ($)	% of Total
Buildings and Facilities	24,599,300	50
Roadside Assets	7,466,893	15
Parks and Recreation	5,593,734	11
Fleet	10,664,131	22
IT Equipment	458,372	1
Total	**48,782,430**	**100**

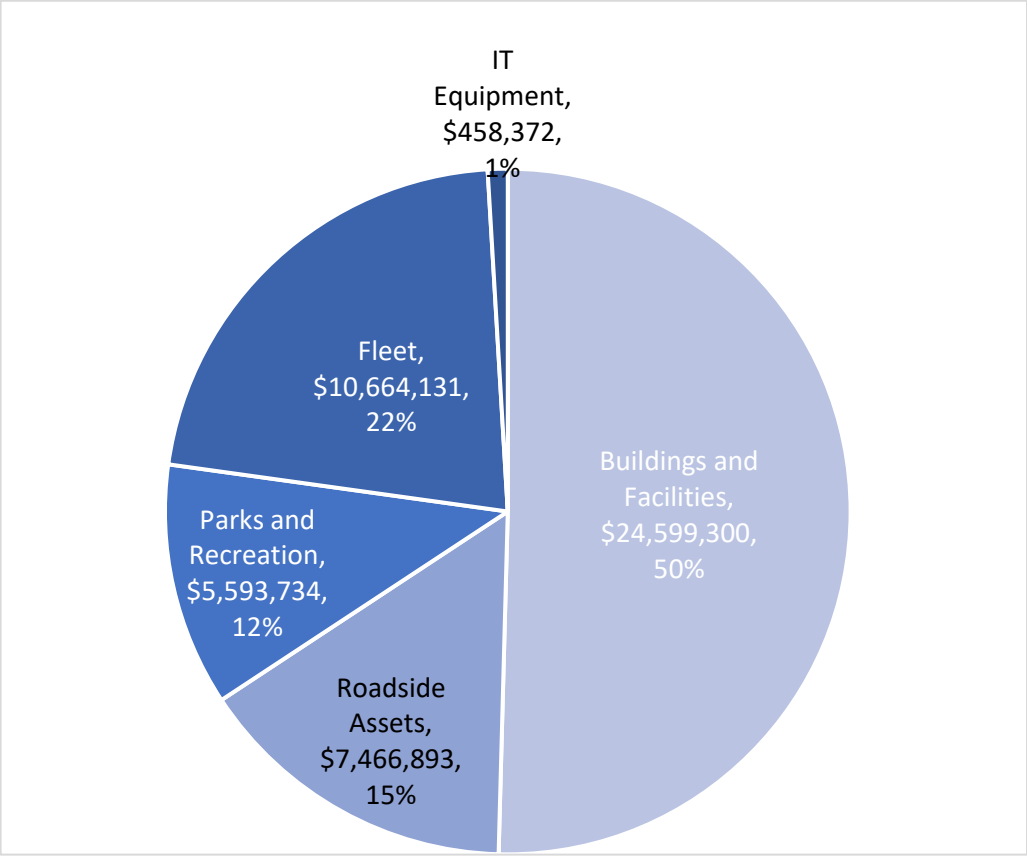


Figure 4: Summary of Replacement Cost Values

2.3. Asset Age

Recognizing the age of Township assets is important because it is generally inversely proportional to asset condition. The older the asset, the lower its expected condition will be. The average age of assets can be projected over their entire estimated useful lives to provide a quick glance at this relationship. Weighted averages for each core asset class were determined and are presented in Figure 5. As for buildings and

facilities, EUL is inconsistent and could not be calculated because the assessment was done on the assets' levels and not the entire buildings and facilities.

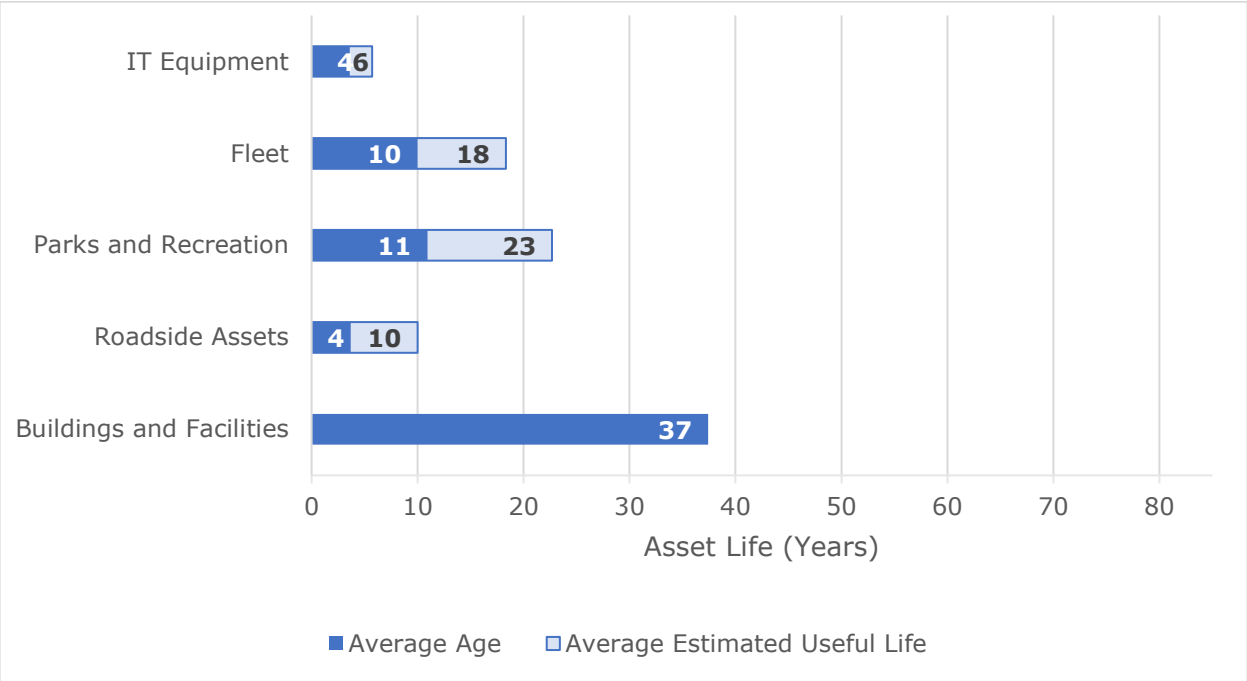


Figure 5: Average Asset Age as a Proportion of Average Useful Life (Non-Core Assets)

2.4. Asset Condition

Asset condition is defined as a measure of the physical state of an asset. An incomplete or limited understanding of asset condition can mislead long-term planning and decision-making. The condition of assets generally indicates their level of capital needs and maintenance requirements.

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the municipality's asset portfolio. A general condition rating system that poses as an umbrella over all Township assets is presented in Table 3.

Table 3: General Condition Rating Scale

Descriptive Ratings	Condition Score (minimum)	Condition Score (maximum)	Description of Condition*
Very Good	81	100	Very Good Condition – Only normal maintenance required
Good	61	80	Minor Defects Only – Minor maintenance required (5%)
Fair	41	60	Requires Maintenance – Significant maintenance required (10-20%)
Poor	21	40	Requires Renewal – Significant renewal/upgrade required (20-40%)
Very Poor	0	20	Asset Unserviceable – Over 50% of asset requires replacement

*General Condition Grading System (Source: IIMM, 2011)

The Township employs a combination of both formal and informal condition assessment programs for municipal assets. The buildings and facilities were assessed by an external consultant in 2023 as part of a condition a Building Condition Assessment (BCA) Study, and all sidewalks are inspected every year as per provincial regulations. Accordingly, condition ratings were assigned to assets using either field assessments or by using deterioration formulae to calculate theoretical values.

This AMP relies on assessed condition data for 76% of assets (replacement cost weighted); for the remaining portfolio, age is used as an approximation of condition. Table 4 outlines how condition ratings were assigned to assets.

Table 4: Sources of Condition Data

Service Division	Type of Condition Data	Source of Condition Data
Buildings and Facilities	Assessed	BCA Study
Roadside Assets	Assessed/Age-based	Inspection and Condition Rating/In-Service Date and EUL
Parks and Recreation	Assessed	Inspection and Condition Rating
Fleet	Age-based and Mileage	In-Service Date, EUL, Mileage, and Operating Hours
IT Equipment	Age-based	In-Service Date and EUL

The overall average core asset condition ratings are presented in Figure 6. Non-core asset condition details, broken down by category, are presented in Figure 7. Both figures are replacement cost weighted.

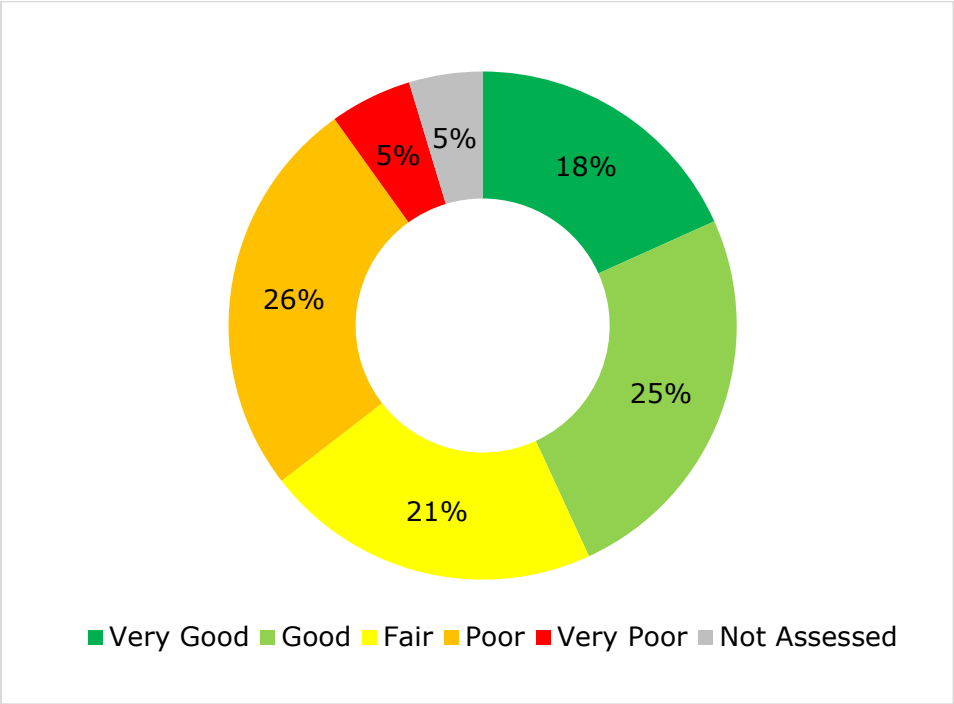


Figure 6: Asset Condition Summary (Non-Core Assets)

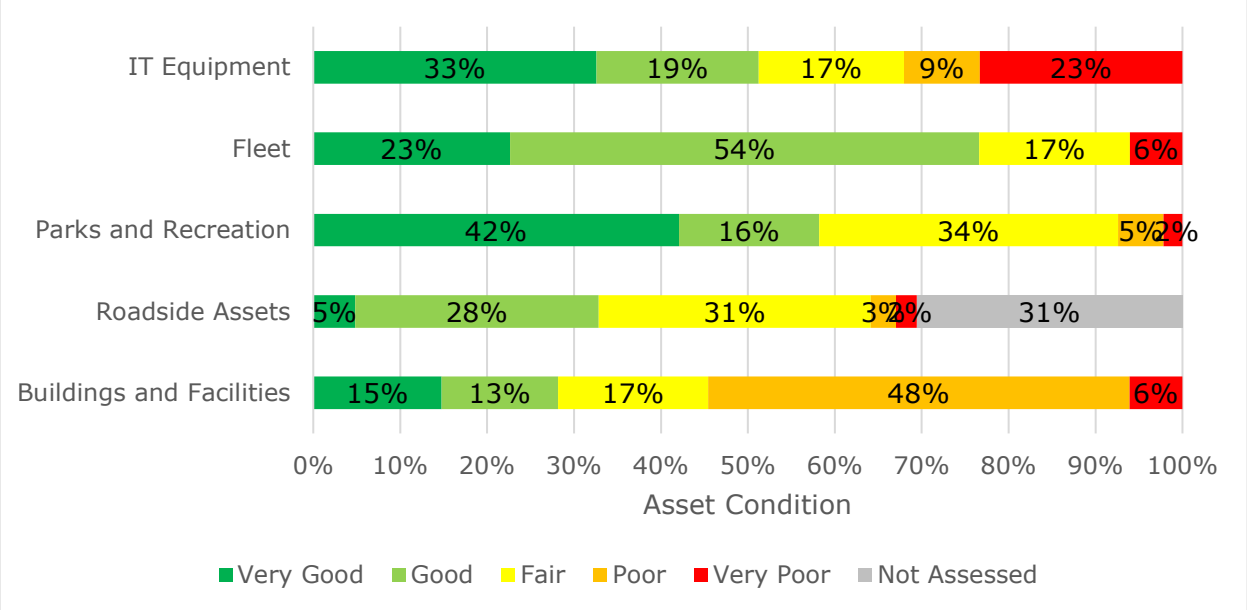


Figure 7: Asset Condition Detail (Non-Core Assets)

3. Levels of Service

3.1. Overview

This AMP is prepared to facilitate consultation prior to adoption of levels of service (LOS) by Council. Future revisions of the AMP will incorporate customer consultation on service levels and costs of providing the service. This will assist Council and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

In this section, defined LOS and associated performance metrics are documented for each service area. Major components of the LOS tables are: identifying customer values, corporate LOS objectives, and performance measures.

The Township aspires to advance our approach to LOS by moving beyond the regulation to develop measures that assess the extent to which we are meeting the needs and expectations of our communities. A leading practice LOS framework has been designed to align higher-level corporate objectives of the Township's Strategic Plan with measures that reflect the general public's understanding of the services provided by the Township's infrastructure systems and performance measures of managing that infrastructure. This framework has been developed based on ISO55000: Line of Sight. The LOS Hierarchy features the following:

- Strategic and Corporate Goals
- Customer Values
- Levels of Service

The LOS measures include the current performance. LOS measures incorporate expected trend based on planned budget. This enables us to complete trending over time to understand how changing our life cycle management strategy or expenditure levels impacts our LOS metrics. It should be noted that by July 1, 2025 our AMP will be required to identify targets for each LOS metric that we have identified in our LOS tables.

3.2. Strategic and Corporate Goals

This AMP is prepared under the direction of the Township's mission, vision, goals and objectives, as illustrated in Figure 8.

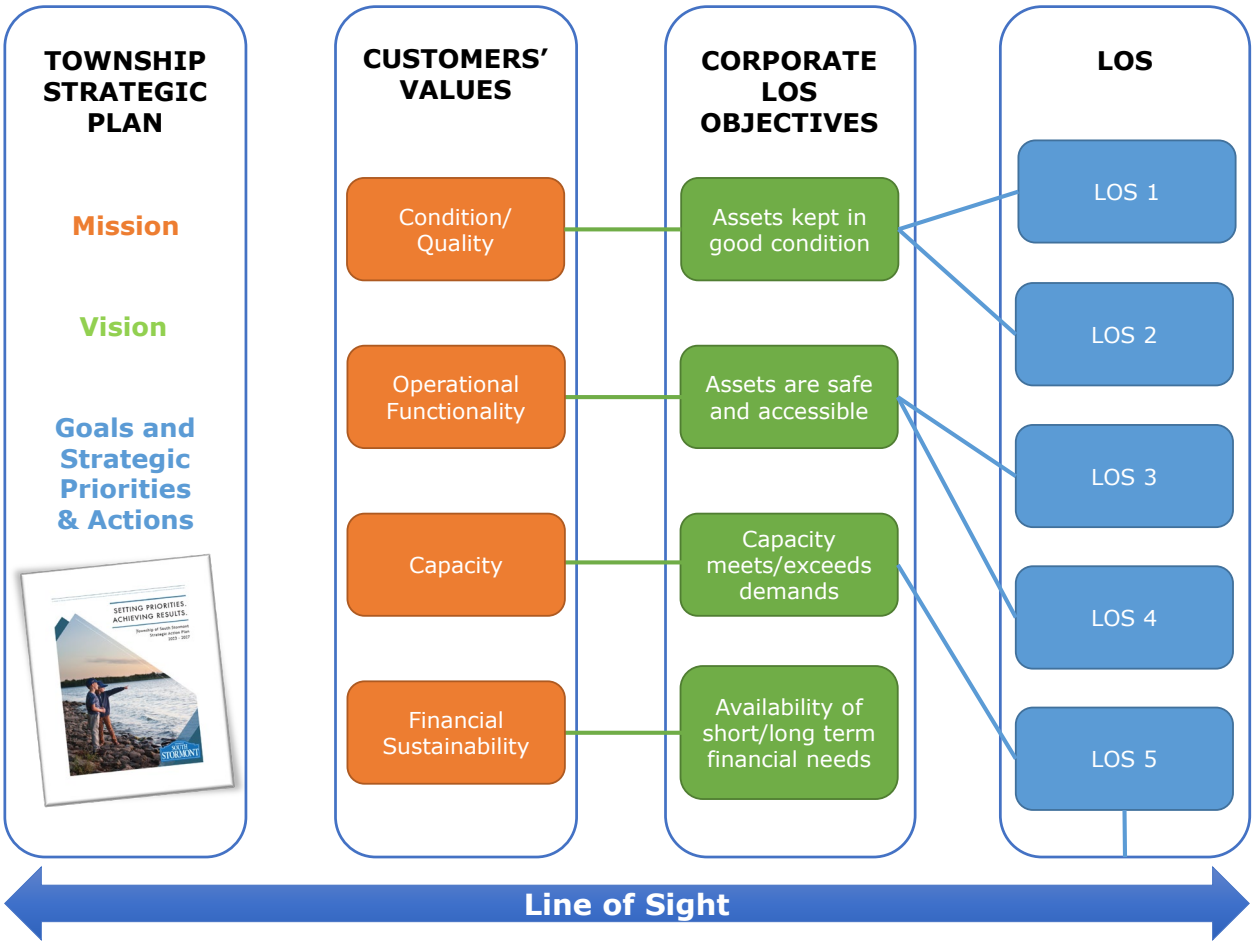


Figure 8: Level of Service Hierarchy

Our mission is:

Township of South Stormont delivers sustainable, quality services to its residents and businesses while ensuring a vibrant and healthy community for future generations through dedicated leadership and strong infrastructure.

Our vision is:

South Stormont is a progressive, family-friendly community, welcoming all to celebrate its natural beauty and exceptional quality of life.

Strategic goals have been set by the Township. The relevant goals and objectives and how these are addressed in this AMP are summarized in Table 5.

Table 5: Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
Safe and Reliable Infrastructure	Servicing Capacity	Taking an evidence-based approach to infrastructure renewal projects. Optimizing the delivery of essential services by maintaining and upgrading our facilities and equipment.
Exceptional and Accountable Government	Financial Sustainability	Continuously improve business process and practices ensuring open government and financial accountability. Diversifying our revenue sources to reduce reliance on residential taxpayers.

3.3. Customer Values

Service levels are defined in two ways, customer values and LOS.

Customer Value is a phrase that describes attributes of the service being provided (e.g., quality, functionality, etc.). These descriptions cover all aspects of the service and be easy for the customer/public to understand and recognize. Customer Values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided, and
- the likely trend over time based on the current budget provision.

Table 6 indicates the Township's Customer Values, their current performance, and their expected trend based on the current proposed budget.

Table 6: Customer Values

Customer Values	Current Performance	Expected Trend Based on Planned Budget
Condition/Quality	**B-**	→
Operational Functionality	**B+**	→
Capacity	**A+**	→
Financial Sustainability	**C+**	↗

By capturing what customers understand and expect of a given service, the Township will be better positioned to determine a clear set of actions to attain or maintain a

given level of service. As such, linking asset specific measures to the customer perspective measures will help support decision making.

3.4. Levels of Service

These LOS define how a service is perceived by the user, with measures for service goals.

- Corporate LOS objectives describe the outputs of the Customer Value. There may be one or multiple LOS statements written for each Customer Value. The output clearly states customer standards and is measurable.
- LOS measures are quantifiable metrics expressed in terms that describe the general public's understanding of services being provided by infrastructure systems. Performance measures are typically related to the service that is provided by the overall system supporting the service delivery, rather than the specific assets.

The focus is on measuring how the customer receives the service and ensuring that the Township is providing customer value. In Table 7, there is a summary of the performance measure being used and the current performance per service area.

These are measures of fact related to the service delivery outcome (e.g., ratio of reserve to replacement value or assets in fair or better condition) to provide a balance in comparison to the customer perception that may be more subjective.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

A more detailed discussion on LOS is provided in Appendices A to E for each service division.

Table 7: Levels of Service Metrics

Service Area	LOS Measure	Current Performance
Building/Facilities	Condition	**D+**
	Operational	**A+**
	Capacity	**A+**
	Financial	**D+**
Roadside Assets	Condition	**A+**
	Operational	**B+**
	Capacity	**A+**
	Financial	**F**
Parks and Recreation	Condition	**B+**
	Operational	**C+**
	Capacity	**A+**
	Financial	**A-**
Fleet	Condition	**B+**
	Operational	**A+**
	Capacity	**A+**
	Financial	**B-**
IT Equipment	Condition	**C+**
	Operational	**A+**
	Capacity	**A+**
	Financial	**A-**

4. Asset Management Strategy

4.1. Overview

Asset management strategy is a set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, at the lowest life cycle cost as per the Guide for Municipal Asset Management Plans. While based on the internationally recognized PAS55 by the Institute of Asset Management, asset management strategy can be defined as the continuous improvement of systematic and coordinated activities and practices through which the Township can optimally and sustainably manage its infrastructure systems, associated performance, risks and expenditures over their life cycles for the purpose of achieving the organizational strategic plan.

Overall, the Township has a strategy to manage the non-core assets through their life cycle (including operation, maintenance, renewal, and replacement) to provide approved levels of service (indicated in Section 3) in the most effective and efficient way. However, the Township does not have a strategy related to expansion activities driven by long range planning documents such as the Official Plan, Secondary Plans of subdivision, Master Plans, etc.

The township has developed life cycle models to describe the behaviors and deterioration of assets over time to provide the Township with ability to forecast required asset life cycle activities and their impacts on LOS, risk, and funding levels. Figure 9 shows a typical deterioration curve to further demonstrate the accentuated rate of deterioration as an asset transition from good to fair to poor condition.

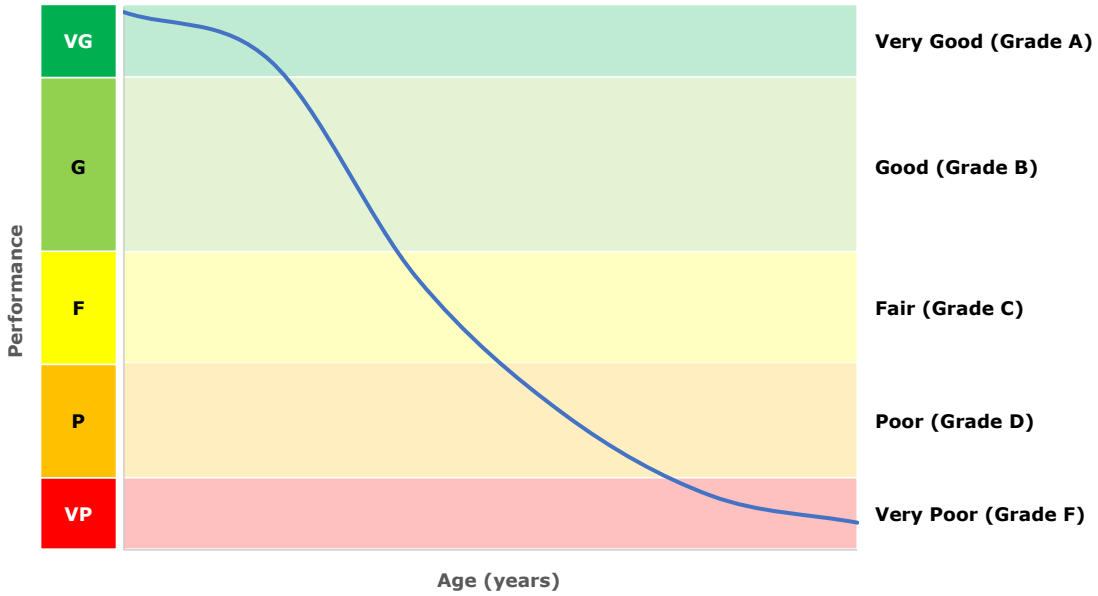


Figure 9: Schematic of an Asset's Deterioration Over Time

When an asset degrades along a deterioration curve and an intervention threshold is reached, the asset will require treatment (i.e., rehabilitation or replacement). After the treatment is applied, the performance (condition) of that asset will increase to a higher value, after which point, it will continue to degrade. Interventions are applied to extend the overall estimated service life (ESL) of the asset.

4.2. Life Cycle Management Strategies

Life Cycle management focuses on the specific activities the Township must undertake during all phases of the asset life cycle. Considering entire asset life cycles can ensure that the Township makes sound decisions that consider present and future service delivery needs.

The overarching goal of life cycle management is to maximize the long-term benefits and services our assets deliver while minimizing the associated costs and risks in the long run. Every asset has a life cycle cost, which is the total cost of all the activities undertaken throughout its service life. The following subsections describe activities across the life cycle of assets.

Any responsible owner of assets such as the Township has a desire to preserve the condition of their existing assets for as long as possible, by maintaining or even extending their design lives through routine activities such as maintenance and active intervention. The Township is continually acquiring infrastructure assets, but these assets require increased funding for operation and maintenance as they age. The Township is also responsible for the replacement of deteriorated assets as long as the service is required. While individual assets may have a useful life that can be predicted in years or decades, the service that the asset provides could be for a substantially longer duration (perhaps in perpetuity). Part of the purpose of the AM planning process is to fully understand and predict the long-range financial requirements for the Township's infrastructure to facilitate planning and resource management in the most cost-effective manner possible. Figure 10 illustrates how costs typically accumulate over an asset's life. It is worth noting that the accumulation of the ongoing operations and maintenance, refurbishment and disposal/replacement costs is many multiples of the initial acquisition costs.

The following subsections simply expressed the general types of life cycle strategies that are applied to assets to maintain LOS while lowering total life cycle cost. These strategies are applied over the life cycle of the asset, from planning and design to construction to disposal and replacement. The appendices include specific life cycle strategies applicable to each asset type and service area.

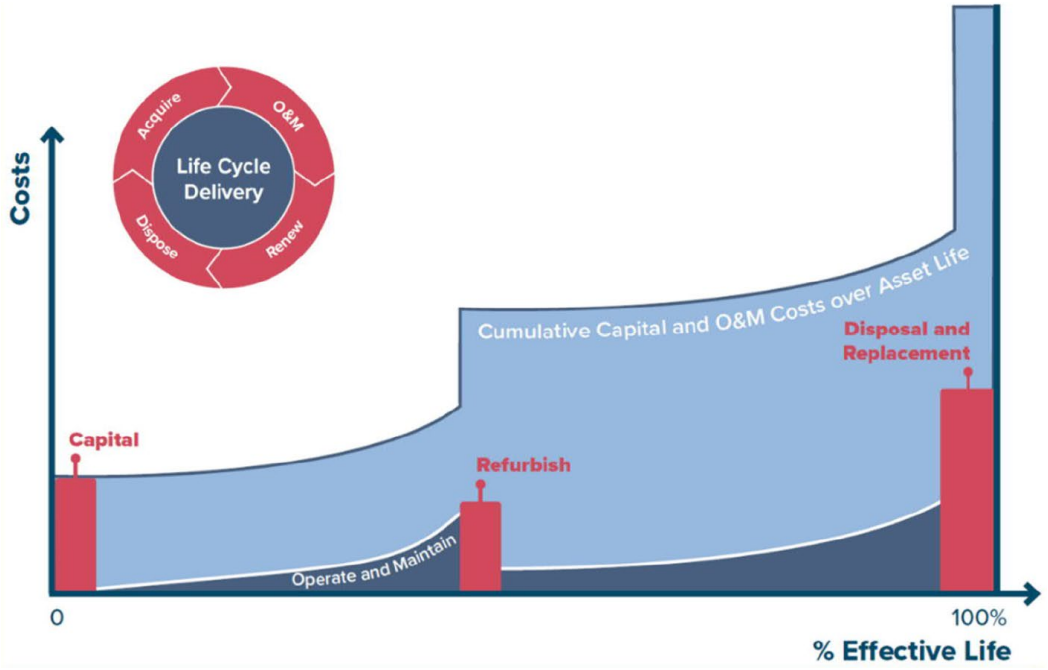
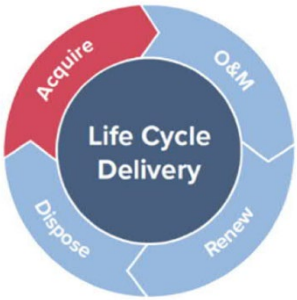


Figure 10: Life Cycle Cost Accumulation Over Asset Life

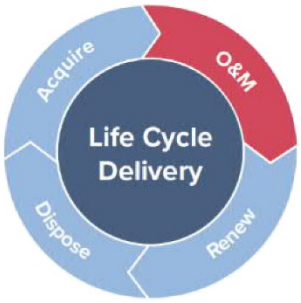
4.2.1. Asset Acquisition/Procurement/Construction



When acquiring new assets, the Township should evaluate credible alternative design solutions that consider how the asset is to be managed at each of its life cycle stages. Asset management and full life cycle considerations for the acquisition of new assets include, but are not limited to the following:

- The asset's operability and maintainability,
- Availability and management of spares,
- Staff skill and availability to manage the asset, and
- The manner of the asset's eventual disposal.

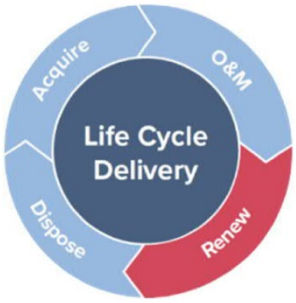
4.2.2. Asset Operations and Maintenance (O&M)



As new infrastructure is commissioned, the Township accepts the responsibility of operating and maintaining the infrastructure according to O&M standards to ensure that the infrastructure is safe and reliable. Operations staff provide the day-to-day support required to operate infrastructure. In few cases, operation costs are minor, but for most there are significant increases in operational costs. For example, street lights require almost no operational support while a

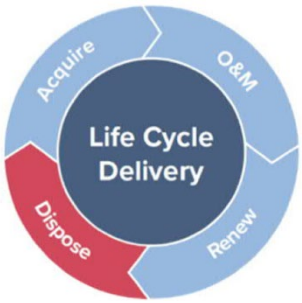
facility such as the arena requires full-time staff to operate the facility safely and efficiently. Maintenance expenses include periodic preventive maintenance to ensure that the infrastructure can provide reliable service throughout the life of the asset and corrective maintenance that is required to repair defective assets as and when needed. Inadequate funding for O&M will have an adverse impact on the lifespan of assets. The number of O&M resources required in any period is a function of the current inventory of infrastructure and total O&M needs required for each asset. As the inventory of infrastructure grows, total O&M requirements will also grow.

4.2.3. Asset Renewal and Replacement



The third portion of full life cycle costing relates to the renewal and replacement of infrastructure that has deteriorated to the point where it no longer provides the required LOS. Renewal cost is sometimes incurred during the life of an asset where an investment is made to improve the condition and/or functionality of the asset (e.g., sidewalk replacement). Disposal and replacement costs are incurred at the end of an asset's life when it is disposed of and replaced by a completely new asset. Canadian municipalities have not traditionally factored renewal or replacement costs into future budget projections, except for assets that have a relatively short life such as computer equipment and vehicles. The main reason behind this is the fact that large portions of this infrastructure inventory can have a very long life (e.g., from 75 to 100 years for buildings and facilities). Based on the experiences of more established Canadian cities (where vast inventories of old assets are now in dire need of renewal or replacement), it is vital that communities fully understand the looming obligations of infrastructure renewal or replacement and develop a strategy to respond in a manner that is fair and affordable.

4.2.4. Asset Decommissioning and Disposal



There will inevitably come a point in time when an asset must be removed from service and, depending on the type of asset, there may be significant costs associated with its decommissioning and disposal. Factors that may influence the decision to remove an asset from service include: changes to legislation that cause the asset to be in non-compliance, the inability of the asset to cope with increased service levels, technology advances that render the asset obsolete, the cost of retaining the asset is greater than the benefit gained, or the current risk associated with the asset's failure is not tolerable.

Normally, major costs that may be incurred during disposal and decommissioning derive from the environmental impact of the disposal and, if required, the rehabilitation and decontamination of land. In some cases, there will be residual liabilities and risks to consider if a decision is made to partially abandon the asset as opposed to fully disposing of its components (e.g., leaving an inactive building standing). However, some cost savings may be achieved through the residual value of the asset or by exploring alternative uses for the asset. In all cases, it is important to thoroughly consider disposal and decommissioning options as the strategy employed has the potential to attract significant stakeholder attention. For that reason, the costs and risks associated with disposal and decommissioning should be equally considered in the Township's capital investment decision-making process.

4.2.5. Non-Infrastructure Solutions

In addition to the previously mentioned strategies, it is crucial to consider a range of other activities to target the most effective solution and value for money, this includes the consideration of non-infrastructure solutions. Non-infrastructure solutions include but are not limited to studies, needs assessments, policy development, data collection, condition assessments and benchmarking against industry best practices. These solutions are implemented to explore and develop strategies that will result in extension of useful life of assets and/or lower total asset program costs in the future.

While assets run through various stages during their service lives, approximately 80 to 85% of the asset's life cycle costs are incurred during its O&M. Therefore, building maintenance and rehabilitation programs and implementing them is necessary to ensure funds are wisely allocated and spent during the O&M phase.

A more detailed discussion on life cycle management strategies is provided in Appendices A to E for each service division. Each service division section also documents the risks associated with each life cycle activity.

4.3. Risk Management Strategy

The goal of risk management is to control future outcomes effectively and as much as possible by being proactive rather than reactive. Ideally, risks should be mitigated prior to their occurrence as much as possible. Conversely, it is important to have a plan in place so that the organization understands how to deal with risks should they occur. Two key parameters involved in risk management include the possibility of a risk occurring and its potential impact. Under a constrained budget scenario, decision-making is largely based on potential risks.

4.3.1. Background

In analyzing risk for all infrastructure assets, the first step is to identify which assets are most critical. Critical assets are those that will potentially have the greatest impact on service delivery and performance objectives should they fail. The fundamental principle of consequence models is that they evaluate the relative importance of assets based on select criteria. The approach to risk analysis within this project is aligned with one of the industry's best practices which is the International Organization for Standardization (ISO) 31000:2009 Risk Management – Principles and Guidelines

By applying specific indices, the risk assessment framework generates a risk (or priority) score for each asset. The risk score is a rating of the asset based on the detailed assessment of the likelihood and consequence of failure based on several key parameters. All parameters are then equated in the following formula:

$$\boldsymbol{Risk = Probability\ of\ Failure \times Consequence\ of\ Failure}$$

Based on this principle, the risk associated with a given asset's failure can be managed by limiting the likelihood of this occurring, or the impact realized, should it occur.

4.3.2. Probability of Failure (POF)

POF expresses the likelihood of an asset to fail due to different conditions depending on the asset type. Generally, the age of an asset plays a role in the assessment of condition due to the general assumption that an old asset will have a greater probability of failure than a newer one. In the absence of formal, detailed condition assessment programs, age is typically used as a proxy.

Probability scores are assigned from 1-5, with a probability of 1 indicating a low likelihood of failure and a condition rating of "Very Good" and a probability of 5 indicating a high likelihood of failure and a "Very Poor" condition rating. Table 8 summarizes the probability of failure for the 5 core asset divisions.

Table 8: Probability of Failure Matrices

Service Division	Risk Criteria	Criteria Weighting	Value/ Range	Chance of Failure Score
Buildings and Facilities	FCI	100%	>30	1
			10-30	2
			5-10	3
			3-5	4
			0-3	5

Service Division	Risk Criteria	Criteria Weighting	Value/ Range	Chance of Failure Score
Roadside Assets	Assessed/Age-based	100%	81-100	1
			61-80	2
			41-60	3
			21-40	4
			0-20	5
Parks and Recreation	Assessed	100%	81-100	1
			61-80	2
			41-60	3
			21-40	4
			0-20	5
Fleet	Asset Category Runtime or Mileage	60%	81-100	1
			61-80	2
			41-60	3
			21-40	4
			0-20	5
	Age-Based	40%	81-100	1
			61-80	2
			41-60	3
			21-40	4
			0-20	5
IT Equipment	Age-Based Condition	100%	81-100	1
			61-80	2
			41-60	3
			21-40	4
			0-20	5

4.3.3. Consequence of Failure (COF)

COF reflects relative impact of a given asset's failure. While traditionally these have been looked at as purely economic terms (for example, repair costs and loss of revenue), the truth is that investment decisions can often be driven by non-economic factors. Understanding both the economic and non-economic impacts associated with loss or limitation of service help in categorizing an asset's criticality and justifying infrastructure decisions in a consistent and defensible manner. Even without understanding when failure will occur, categorizing assets based on criticality or failure consequence allows for effectively targeting management strategies aimed at mitigating risk. The following tables summarize the consequence of failure for the 5 non-core asset divisions.

Table 9: COF (Buildings and Facilities)

Risk Criteria	Criteria Weighting	Value/Range	Consequence of Failure Score
Service Area	30%	Protection Services	5
		General Government	4
		Recreation & Culture Services	2
		Social Services	3
		Transportation Services	2
		Environmental Services	1
Replacement Cost	70%	$50,000 and below	1
		$250,000 and below	2
		$500,000 and below	3
		$2,000,000 and below	4
		$2,000,001 and above	5

Table 10: COF (Roadside Assets - Sidewalk)

Risk Criteria	Criteria Weighting	Value/Range	Consequence of Failure Score
Replacement Cost	100%	$10,000 and below	1
		$20,000 and below	2
		$50,000 and below	3
		$100,000 and below	4
		$100,001 and above	5

Table 11: COF (Parks and Recreation)

Risk Criteria	Criteria Weighting	Value/Range	Consequence of Failure Score
Replacement Cost	100%	$10,000 and below	1
		$20,000 and below	2
		$50,000 and below	3
		$1,00,000 and below	4
		$1,00,001 and above	5

Table 12: COF (Fleet)

Risk Criteria	Criteria Weighting	Value/Range	Consequence of Failure Score
Asset Criticality	40%	Qualitative Description	1
			2
			3
			4
			5
Replacement Cost	60%	$14,000 and below	1
		$26,000 and below	2
		$51,000 and below	3
		$130,000 and below	4
		$130,001 and above	5

Table 13: Asset Criticality Criteria (Fleet)

Criticality	Assets	Qualitative Description	Impact	Consequences of Failure Score
Very High	-Fire Trucks -Tankers -Pumpers -Rescues	-Life Safety or critical to deliver essential service -Significant financial loss	Severe	5
High	-Snowplows -Tandem Trucks -Sidewalk Plows -Loaders -Graders -Dump Trucks -Roller -Packer -Backhoe	-Threatens delivery of public transportation, cemetery, or sanitation service level. -Financial Loss	Major	4
Medium	-Supervisory Vehicles -Fire Support Vehicles -Water Tanker	-Threatens the integrity of defined service level. -Moderate Financial Loss	Moderate	3
Low	-Corporate Fleet for Transportation -Other Equipment	-Simplifies the delivery of defined service level. -Inefficient process leading to financial loss	Minor	2
Very Low	-Light Equipment	-Service level target can be 90% achieved without particular asset	Insignificant	1

Table 14: COF (IT Equipment)

Risk Criteria	Criteria Weighting	Value/Range	Consequence of Failure Score
Replacement Cost	100%	$500 and below	1
		$1,000 and below	2
		$1,500 and below	3
		$2,000 and below	4
		$2,001 and above	5

4.3.4. Risk Score

As previously stated, understanding the overall risk exposure of an asset is critical for decision-making. Risk exposure is evaluated with the risk equation once the POF and COF parameters have been determined. The risk assessment calculations often require a calibration process such that the output is comparable with real-world situations. Upon calculating risk scores, the Township can prioritize interventions in the form of condition assessment or rehabilitation needs based on risk exposure.

The risk score will range between 1 and 25. The supplied number represents the risk of each segment depending on its criticality and condition.

The risk score, ratings, and definitions are defined in Table 15. The table can be used to assign qualitative risk ratings per asset using the corresponding ranges in the table. A risk matrix is also developed on the ratings and risk value breakpoints (Figure 11).

Table 15: Risk Rating and Definition

Calculated Risk Value	Risk Rating	Definition
1-5	Insignificant	These assets are not prioritized in the short or long term. Generally, they can run to failure.
6-8	Negligible	These assets are intervened in the long-term.
9-10	Moderate	These assets are generally prioritized in the medium to long-term.
11-16	Extensive	These assets are generally prioritized in the medium to short-term.
17-25	Significant	These assets are prioritized for intervention in the immediate to short-term.

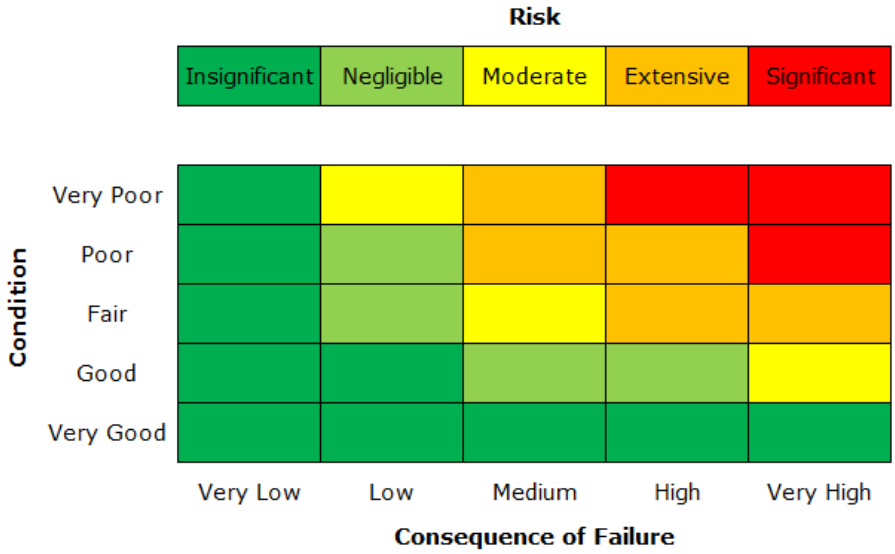


Figure 11: Risk Matrix

4.4. Climate Change Consideration

Climate change will be considered as part of the Township's asset management approach embedded in local asset management planning methods. This approach will balance the potential cost of vulnerabilities to climate change impact and other risks with the cost of reducing these vulnerabilities. The balance will be struck in the levels of service delivered through operations, maintenance schedules, disaster response plans, contingency funding, and capital investments. The Township's contribution to climate change through greenhouse gas emissions will be mitigated in accordance with its local reduction targets, including alignment with the Township's financial capacity and stakeholder support. The Township will continue to work with the County regarding climate change mitigation and adaptation.

The Township recognizes the need for stakeholder input into the planning process and will foster informed dialogue using the best available information.

5. Financial Summary

5.1. Budget Process

This process allows for the Township to have a detailed plan that implements functional infrastructure that adheres to current regulations and standards. The AMP will ultimately help the way the Township plans for its future infrastructure. The budgeting process is outlined in Figure 12.

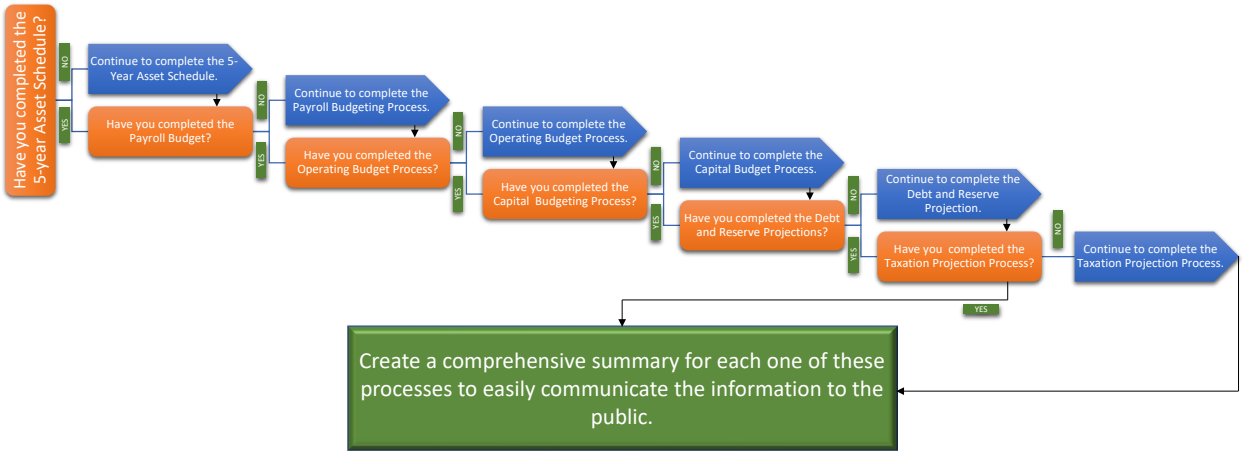


Figure 12: The Budgeting Process

All departments are responsible for the completion of their own operating budgets which is then added into the Townships complete operating budget. All departments provide information for the capital budgets.

The finance department is responsible for most of the completion of the annual budget. The finance department is responsible in assisting the other departments in the completion of all six steps in the budgeting process and is responsible for the debt and reserve projection, taxation analysis, and payroll projection steps independently.

The Township's council will need to approve the entire budget for it to be complete. If Council does not approve, the departments will need to review and alter any critique that the Council members may have had about a certain part of the budget.

The budget is presented to the public as the final step of the budgeting process. Consultation with the public is an important step in the budgeting process. It is essential that the public vote on certain projects that may be developed.

5.4. Infrastructure Gap Assessment

The Township's averaged annual capital budget is approximately $0.95 million. The sources of funding to support operating and capital budgets include taxes, gas tax, utility rates, and OCIF.

Evaluating budget vs. required investments show that the Township's 10-year infrastructure gap is about $7.5 million. Required investment values presented are based on condition ratings for assessed assets and estimates of age and expected useful life for non-assessed ones.

The following figure summarizes the required investment forecast for Township's non-core assets under unconstrained budget scenario.

As seen in Figure 13, the unconstrained forecast indicates the Township would need $2.4 million in the first year to clear the infrastructure backlog, and an average expenditure per year of $1.7 million over the next 10 years. The annual averaged funding for capital projects is $0.9 million.

The township does not have sufficient funding to meet the unconstrained scenario needs, and therefore, an evaluation of different funding scenarios is required to determine an appropriate constrained level of funding that balances cost and the risk associated with LOS. Currently, the Township is working on developing a 10-year Long-Term Financial Plan to assist in addressing this issue.

Service outcomes are always an equilibrium between investment, service level targets and risk of service delivery. If the forecasted outcomes are considered unacceptable, increased investment, or changes in service level targets are ways to impact service risk.

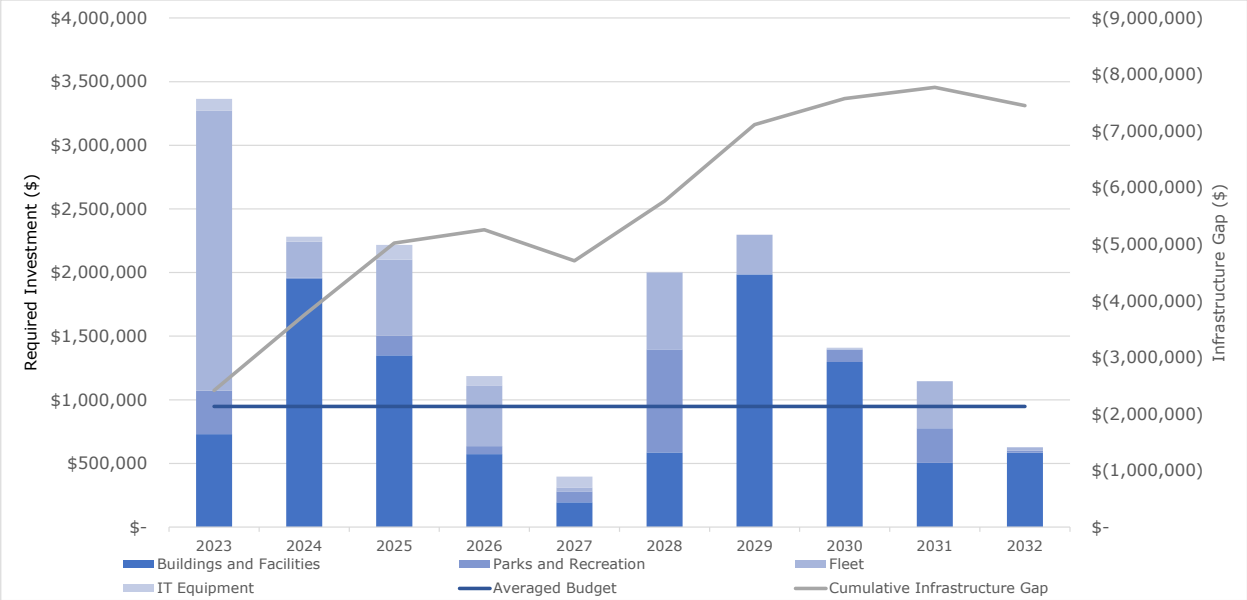


Figure 13: Required Investment under the Unconstrained Budget Scenario for Buildings and Facilities, Parks and Recreation, Fleet, and IT Equipment

Appendices

Appendix A: Buildings/Facilities

A.1. Introduction

The Township owns and operates a number of buildings and facilities that provide a wide range of public services. This includes recreation and culture, fire and personal protection, public works operation, administrative services, and general government. These facilities need to be managed and maintained in order to meet building code requirements as well as functional requirements depending on their use. They are crucial components in providing local communities with a certain quality of life.

As the services offered by the Township expand, so does the need to have proper buildings to facilitate such changes. The acquisition and disposal of these assets is largely decided on by senior management and Council upon deliberations on servicing needs. Detailed condition inspections on buildings are routinely performed on every Township owned facility. These visual based inspections encompass the examination of building envelope, interior finishes, mechanical and electrical systems, and accessible structural components to determine, if any, material defects or performance deficiencies exist and to define any required maintenance needs.

This section does not include water and wastewater facilities. These are considered as core assets and included in the Township's 2021 AMP.

A.2. State of the Infrastructure

A.2.1. Inventory Overview

The Township's buildings and facilities are divided into categories that include Cultural and Recreational, General Government, Protective Services, Social Services, and Transportation Services. The Township's buildings and facilities assets can be broken down into the following hierarchy, as presented in Table 16.

Table 16: Buildings and Facilities Inventory Hierarchy

Service Area	Asset Class/Component
Buildings/Facilities	Cultural and Recreational
	General Government
	Protective Services
	Social Services
	Transportation Services

In total the township owns and maintains 22 buildings ranging from storage sheds to fire stations. The quantity of building assets based on department can be seen in Table 17.

Table 17: Asset Inventory (Buildings/Facilities)

Asset Type	Asset	Inventory	Unit	% of Total
Buildings/Facilities	Culture And Recreation	8	ea	36.3
	General Government	4	ea	18.2
	Protective Services	4	ea	18.2
	Social Services	1	ea	4.6
	Transportation Services	5	ea	22.7
Total		**22**	**ea**	**100**

F.2.2. Asset Valuation

The total replacement value of the structures in 2023 dollars is $24.59 million and is presented in Table 18. A breakdown of the unit costs was used to determine the total overall value. Best engineering and approximation practices were used to come up with the unit rates.

Table 18:Replacement Cost Values

Asset Type	Department	Replacement Value ($)	% of Total
Buildings/Facilities	Culture And Recreation	6,931,400	28.2
	General Government	5,131,800	20.9
	Protective Services	5,325,700	21.6
	Social Services	1,822,000	7.4
	Transportation Services	5,388,400	21.9
Total		**24,599,300**	**100**

F.2.3. Asset Age

The age distribution of the building infrastructure is presented in Figure 14. It should be noted that this is not always the best indicator of an asset's actual condition. Assets such as buildings undergo constant maintenance and rehabilitation processes which prolong the life of the asset. EUL is inconsistent and could not be calculated because the assessment was done on the assets' levels and not the entire buildings and facilities.

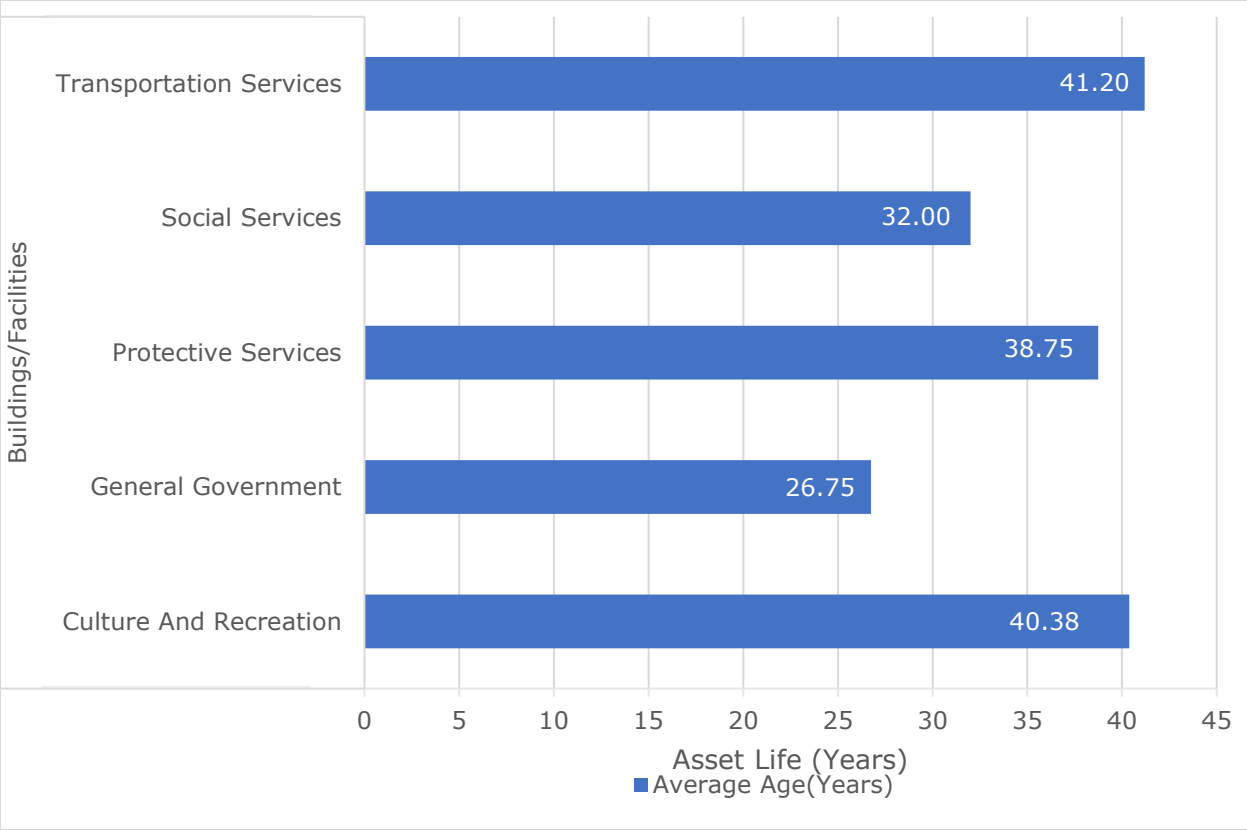


Figure 14:Average Asset Age (Buildings/Facilities)

F.2.4. Asset Condition

The Facility Condition Index (FCI) is the total cost of the existing maintenance, repair, or renewal of the facility divided by the total estimated replacement value (or CRV, current replacement value) of the facility. The higher the FCI, the poorer the condition of the facility. The International Facility Management Association offers the following scale as presented in Table 19.

Table 19:Condition Scale (Buildings/Facilities)

Scale	FCI Range
Very Good	0-3%
Good	3-5%
Fair	5-10%
Poor	10-30%
Very Poor	>30%

Even if a facility is in a good range, its condition should be documented on a regular basis. It can be used to prioritise maintenance and help determine how long a building

should stay in operation. For instance, if a building with a 15% FCI rating is scheduled for redevelopment in three (3) or four (4) years, inexpensive maintenance projects can be prioritised to keep the building running until demolition is scheduled; meanwhile, expensive maintenance projects can be deferred as long as they don't prevent the building from being used. Individual components or building systems within the building can also be measured separately using the FCI in order to help maximise the whole life of the building. The age-based scale goes from 1-5, as illustrated in Table 20.

Table 20: Condition Rating Scale (Buildings/Facilities)

Descriptive Ratings	Condition	FCI	Qualitative Description
Very Good	1	0-3%	Asset is physically sound and is performing its function as originally intended. Asset is new or at the beginning of it's service life.
Good	2	3-5%	Asset is physically sound and is performing its function as originally intended. Typically, asset has been used for some time but is within mid-stage of its expected life.
Fair	3	5-10%	Asset is showing signs of deterioration and is performing at a lower level than originally intended.
Poor	4	10-30%	Asset is showing significant signs of deterioration and is performing to a much lower level than originally intended.
Very Poor	5	>30%	Asset is physically unsound and/or not performing as originally intended. Asset has reached end of life and failure is imminent.

The average age-based condition ratings for the Township's facilities are presented in Figure 15 below. The asset condition detail of these assets is presented in Figure 16.

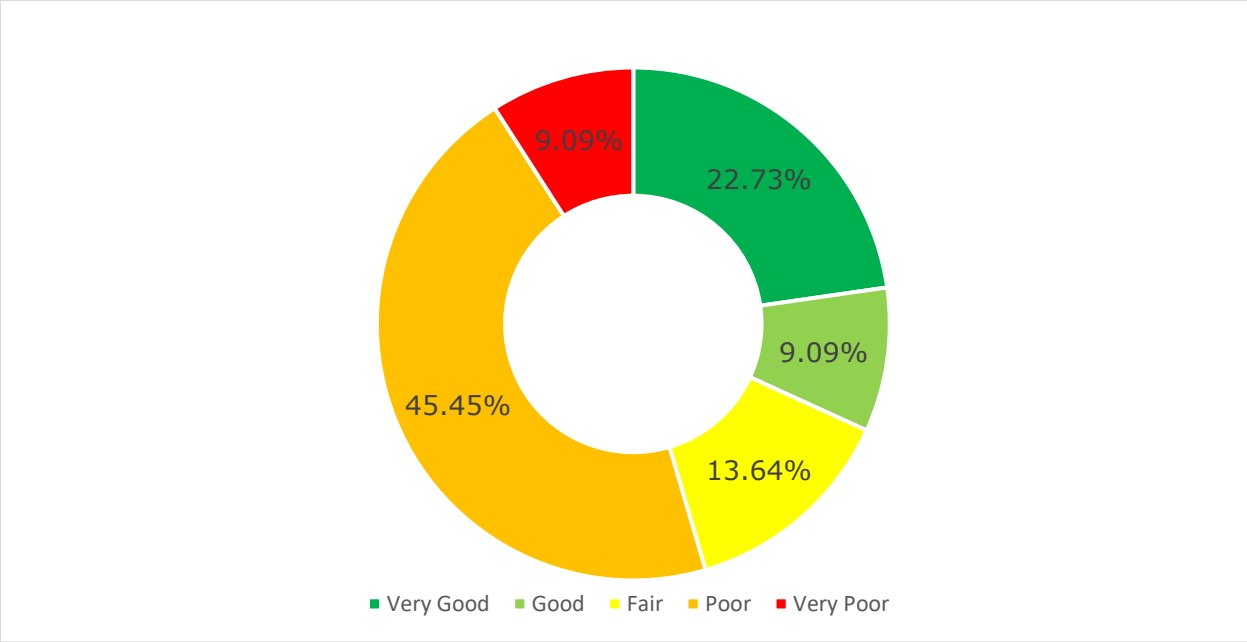


Figure 15: Asset Condition Summary (Buildings/Facilities)

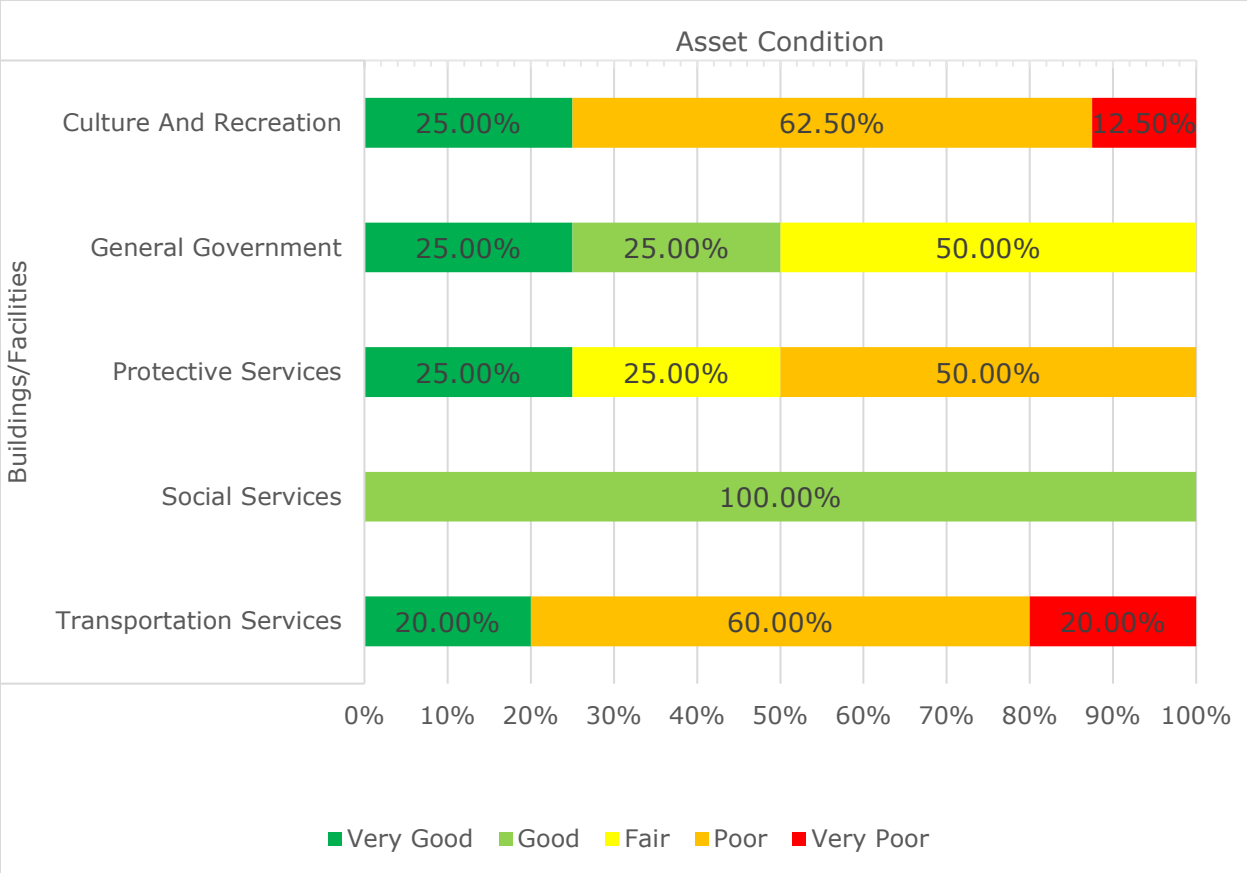


Figure 16: Asset Condition Detail (Buildings/Facilities)

A.3. Levels of Service

A.3.1. Levels of Service Metrics

In setting performance measures, the focus is on measuring how the customer receives the service and ensuring that the Township is providing customer value. These may be qualitative or quantitative measures.

Table 21:Levels of Service Metrics (Buildings/Facilities)

Corporate LOS Objective	Customer LOS Measure	Current Performance	Expected Trend Based on Planned Budget
Assets are kept in good condition	Facilities in fair or better condition	45.5%	↗
Assets are as safe and accessible as possible throughout the year	Percentage of outstanding work orders	5.5%	→
Capacity meets or exceeds current demands	Inadequate space to support occupant load (occupancy/design capacity ratio)	None	→
	Generator availability	100%	→
Availability of near-term financial needs	Ratio of 10-year budget to need	14.5%	↗
Replacement Cost is held in reserve	Ratio of reserve to replacement value	8.4%	↗

A.4. Asset Management Strategy

An asset management strategy involves a set of planned actions that enables assets to provide the desired levels of service in a sustainable manner, while managing risk, at the lowest life cycle cost. An outline of these activities for the Township's buildings and facilities and the associated risks of not performing them is presented in Table 22.

Table 22 Management Activities or Planned Actions and Associated Risks of Neglection (Buildings/Facilities)

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
Non-Infrastructure Solutions	Policy development	Failing to consider non-infrastructure solutions can result in overlooked opportunities for the organization to save costs.
	Management strategies	
Asset Acquisition / Procurement / Construction	Asset growth (net new or expansion)	Failing to acquire needed assets can lead to resource shortages and hinder growth and expansion.
Asset Maintenance Activities	Proactive and reactive maintenance -Cleaning -Inspections -Calibration -Testing	Neglecting maintenance increases the risk of unexpected breakdowns, leading to unplanned downtime and loss of productivity.
		Poorly maintained assets can pose safety risks to employees and contribute to workplace accidents.
	Reliability Centered Maintenance	Lack of maintenance can shorten the lifespan of assets, leading to premature replacements and increased costs.
Asset Renewal and Replacement	Asset upgrade Like for like replacement Minor and major rehabilitation activities Major Repairs and refurbishments	Neglecting asset renewal can lead to reliance on outdated technology, hindering efficiency and innovation. Aging assets might consume more resources and energy, resulting in higher operating expenses. Outdated equipment might not meet current standards, resulting in reduced output quality or lower productivity.
Asset Decommissioning and Disposal	Recycling Donating	Improper disposal can harm the environment and lead to legal and reputational consequences.
	Scrapping Selling	Failure to properly dispose of assets can tie up resources that could otherwise be used more effectively.

Description of Maintenance Activities

Preventative maintenance plans are a key tool required in order to optimize the life cycle of a building asset. A collection of strategies has been used in the development of a preliminary universal ongoing preventative maintenance plan for all Township owned buildings. The implementation of this maintenance plan will ensure routine maintenance is not neglected, helping to mitigate costly emergency repairs and equipment failures, all while ensuring that the asset is operating at the desired level of service.

The preventative maintenance plan is a tool to be used in every one of the Township's buildings. The maintenance activities incorporated within the plan are not solely limited to annual inspections, such as checking smoke/CO detectors; inspecting and replacing furnace filters for example should be performed on a quarterly basis. The recommended activity dates throughout the year are indicated on the maintenance plan to ensure sufficient inspections are performed throughout the year.

The Township routinely conducts maintenance on building assets. The main maintenance activities are HVAC and generator maintenance, including end of life replacement and major repairs that are capital in nature. Other major maintenance activities include plumbing and electrical upgrades, door and window repairs and replacements, painting upgrades, and carpet/floor cleaning. The Township has implemented a work order system that tracks when maintenance and repairs are due.

Description of Rehabilitation and Replacement Activities

The first consideration for available funds for the renewal and reconstruction strategy of the Township's buildings is to ensure that any deficiency(ies) with a rating of "Poor" or "Very Poor" are amended. Correspondingly, scheduled replacement times of individual building components should coincide with the end of their individual expected service lives to ensure adequate funding has been allocated.

Buildings in general are comprised of several different components, from the roof to the foundation, all of which influence each other in terms of performance. A leak in a roof for example could have a drastic impact on several building components from the subsequent water damage. Over the course of a building's life there will almost always be some volume of deterioration due to the inherent faults in building materials and construction methods. In order to prolong the buildings useful life while maintaining the desired levels of service it is pertinent that these faults be continuously rectified.

Through timely scheduling, this should allow for the on-going renewal/replacement of the various components, thus ensuring the desired LOS is maintained while also extending the remaining service life of the building assets.

Appendix B: Roadside Assets

B.1. Introduction

Roadside assets exist throughout the entirety of the Township with a majority of them being located in strategic, high-density areas. This consists of sidewalks, streetlights and road signs. Combined, this infrastructure works together to promote transportation services, public safety and order, and an overall healthier community.

Roadside infrastructure is continually being constructed and acquired by the Township. This growth is being experienced mainly in urban areas, as per the Township's subdivision design guidelines, as the most populated villages expand. Other additions are made to the roadside inventory as deemed necessary by Council and staff. Upkeep and maintenance of existing infrastructure is performed in-house and by contractors as necessary.

B.2. State of the Infrastructure

B.2.1. Inventory Overview

As previously mentioned, roadside assets consist of sidewalks, streetlights, and road signs. The Township's structure inventory can be broken down into the following hierarchy, as presented in Table 23.

Table 23: Roadside Asset Inventory Hierarchy

Service Area	Service Division	Asset Class/Component
Roads and Transportation	Roadside Assets	Sidewalks
		Streetlights
		Road Signs

A summary of roadside assets is presented in Table 24.

Table 24: Asset Inventory (Roadside Assets)

Asset Type	Asset	Inventory	Unit	% of Total
Sidewalks	Asphalt	2547.8	km	8.0
	Concrete	29300.6	km	92.0
Total		**31,848.4**	**km**	**100**
Streetlights		996	ea	100
Total		**996**	**ea**	**100**
Road Signs	Information	25	ea	2.0
	Regulatory	481	ea	37.7
	Warning	741	ea	58.1
	Unassigned	29	ea	2.3
Total		**1,276**	**ea**	**100**

B.2.2. Asset Valuation

The replacement value of the entire roadside assets in 2023 dollars is $7.47 million. Note that all total replacement values in this section are rounded to the nearest tenth. Table 25, presented below, provides a summary of replacement cost values. These replacement values are based on unit rates provided to the Township by a hired contractor/vendor. Some replacement value information is not available, and the township identifies this gap, and this is a work in progress.

Table 25: Replacement Cost Values (Roadside Assets)

Asset Type	Asset	Replacement Value ($)	% of Total
Sidewalk	Asphalt	510,115	9.9
	Concrete	4,654,797	90.1
Total		**5,164,912**	**100**
Streetlights		2,272,500	100
Total		**2,272,500**	**100**
Road Signs	Information	782	2.6
	Regulatory	11,377	39.1
	Warning	17,323	58.3
Total		**29,482**	**100**
Total Combined		**7,466,893.4**	**100**

B.2.3. Asset Age

The age of the Township road signs was able to be determined but not that of sidewalks and streetlights, and the Township identifies this gap, and this is a work in progress. A summary of the average age of Township's road signs as a proportion of their average useful lives is presented in Figure 17.

B.2.4. Asset Condition

The condition of the Township road signs and sidewalks was able to be determined but not that of streetlights, and the Township identifies this gap, and this is a work in progress. A summary of the average age-based condition of Township's sidewalks and road signs is presented in Figure 18, Figure 19 ,Figure 20 and Figure 21.

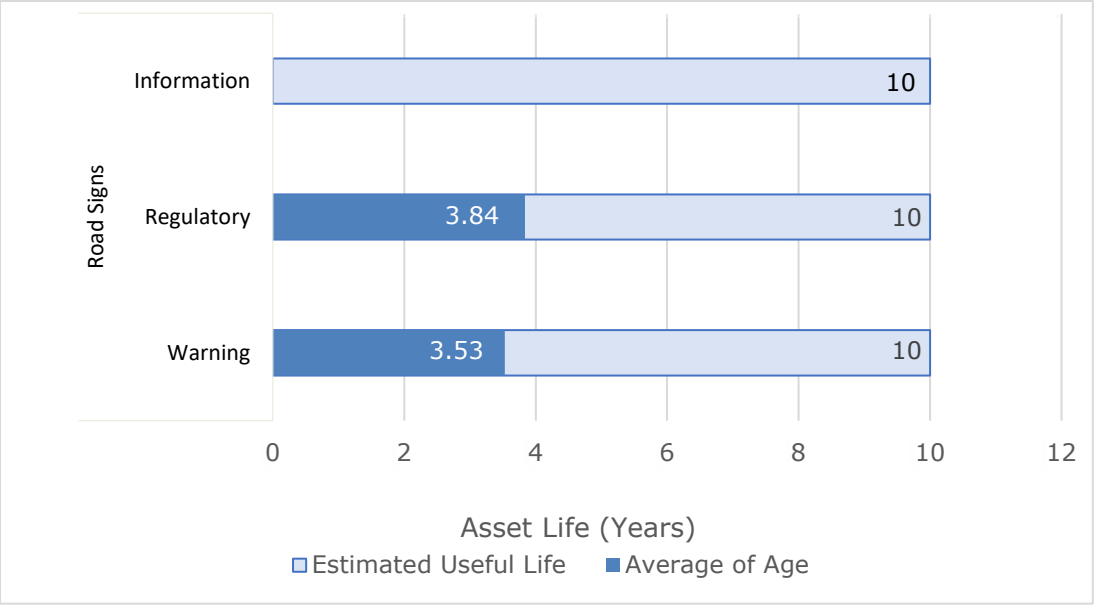


Figure 17: Average Asset Age as a Proportion to Average Useful Life (Road Signs)

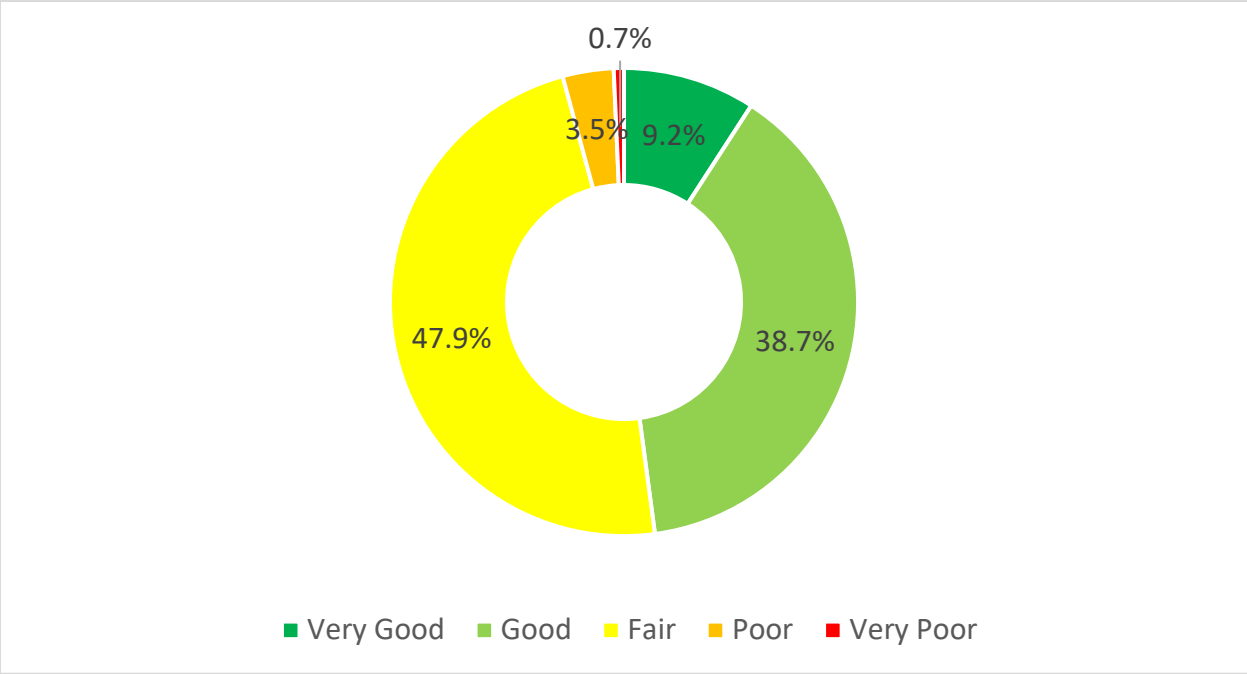


Figure 18:Asset Condition Summary (Sidewalks)

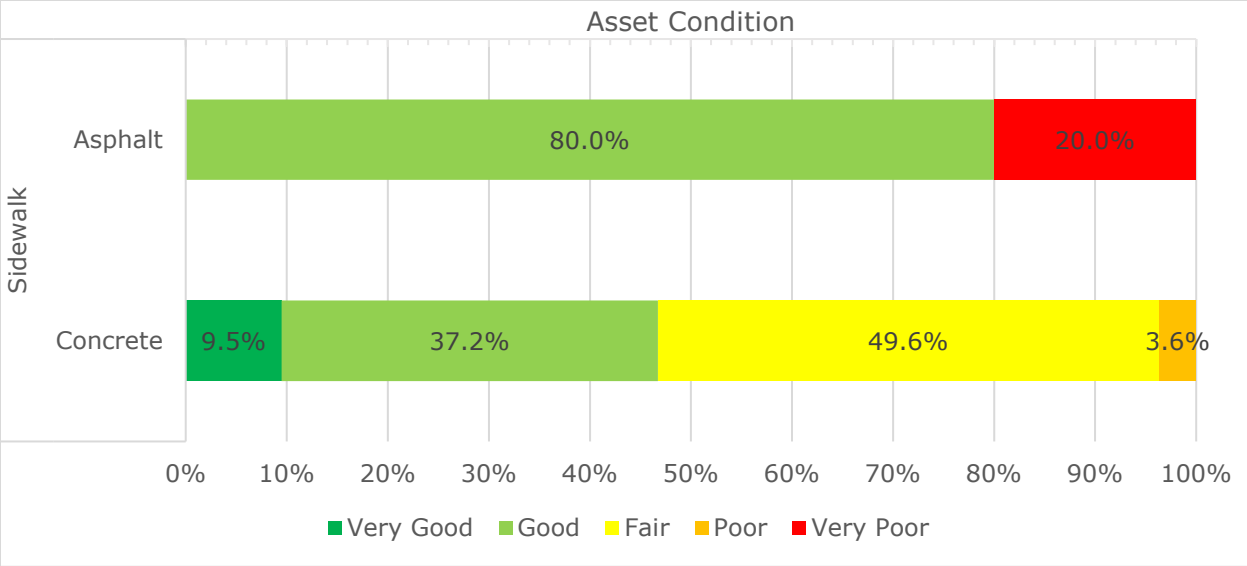


Figure 19: Asset Condition Detail (Sidewalks)

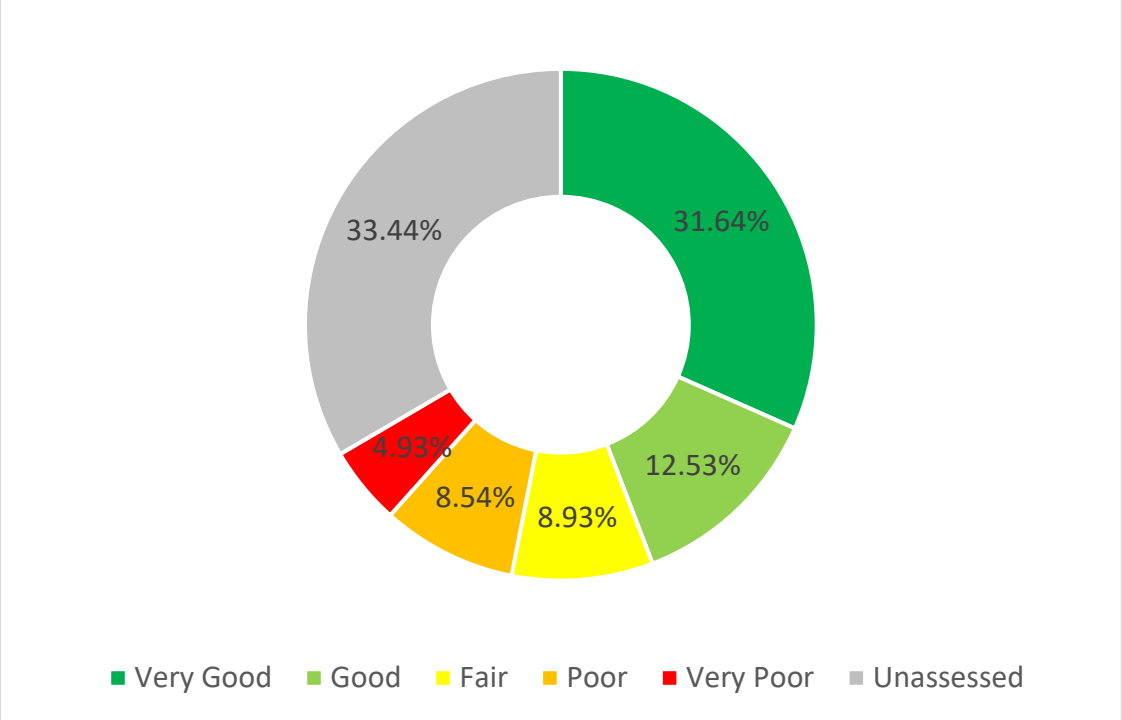


Figure 20: Asset Condition Summary (Road Signs)

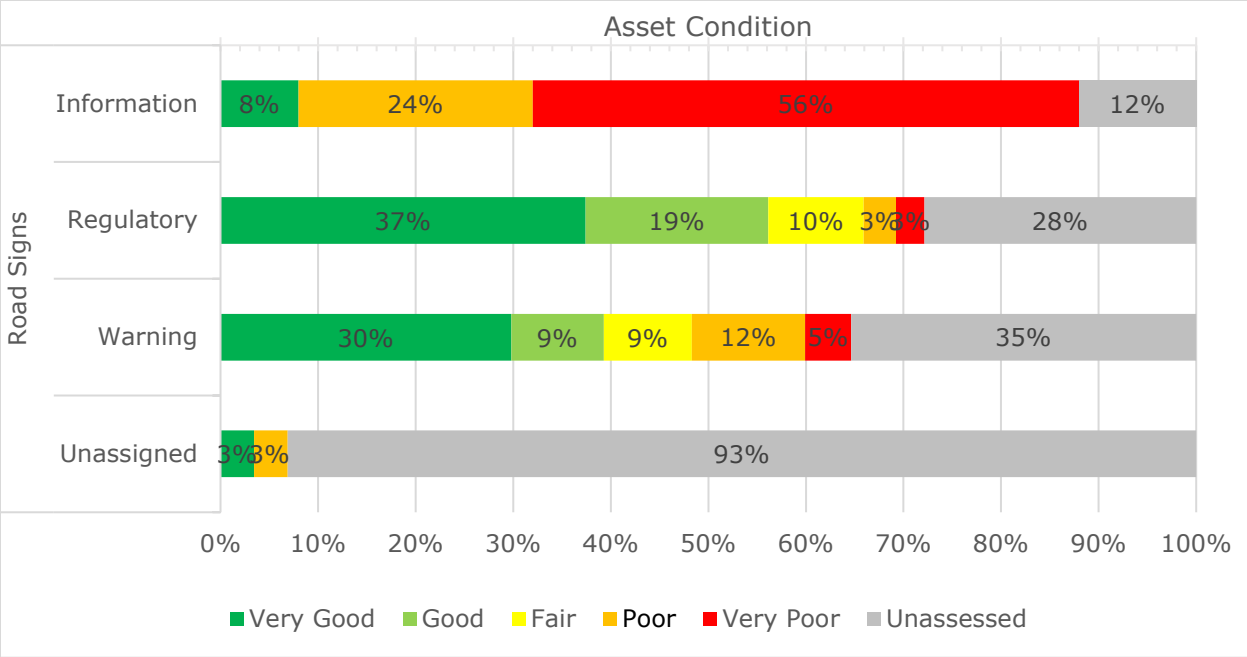


Figure 21:Asset Condition Summary By Type (Road Signs)

B.3. Levels of Service

O. Reg. 588/17 required reporting on certain qualitative and quantitative current LOS for core infrastructure by the previous deadline. The regulation also requires reporting on these items for non-core infrastructure, but the descriptions and metrics are to be as established by the municipality. These metrics, that go beyond the foundational or regulation required metrics are considered advanced. They indicate service divisions have documented planned approaches for operation and maintenance of infrastructure and have considered trending indicators if the result is planned to be decreased, increased, or to be approximately equal in future years. These metrics are listed in Table 26.

B.3.1. Levels of Service Metrics

In setting performance measures, the focus is on measuring how the customer receives the service and ensuring that the Township is providing customer value. These may be qualitative or quantitative measures.

Table 26: Levels of Service Metrics (Roadside Assets)

Corporate LOS Objective	LOS Measure	Current Performance	Expected Trend Based on Planned Budget
Assets are kept in good condition	Roadside assets in fair or better condition	Sidewalk: 95.8% Streetlights: N/A Road Signs: 53.1%	➔
Assets are as safe and accessible as possible throughout the year	Percentage of outstanding work orders	Sidewalk: 18.8% Streetlights: 18.5% Road Signs: 0%	➔
Capacity meets or exceeds current demands	Ensure that roadside assets are reliable and accessible for use	Very Good	➔
Availability of near-term financial needs	Ratio of 10-year budget to need	N/A	
Replacement Cost is held in reserve	Ratio of reserve to replacement value	N/A	

B.4. Asset Management Strategy

An asset management strategy involves a set of planned actions that enables assets to provide the desired levels of service in a sustainable manner, while managing risk, at the lowest life cycle cost. An outline of these activities for the Township's roadside assets and the associated risks of not performing them is presented in Table 27.

Table 27: Management Activities or Planned Actions and Associated Risks of Neglection (Roadside Assets)

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
Non-Infrastructure Solutions	Acquisition of asset management software to assist with data management for the asset management plan	Without good data management the supporting information for the asset condition and remaining useful life will be poor.
	Visual Inspection by road patrol	Deficiencies that might be missed via data collection can be highlighted by visual inspection
	Public education to ensure residents have proper knowledge of the importance of roadside assets	Infrastructure gets misused, damaged or stolen.

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
Asset Acquisition / Procurement / Construction	Follow Township Procurement Policy	Failure to follow the procurement policy may result in loss of competitive advantages and funding.
	Ensure staff is trained to manage new assets	Failure to provide training will result in shortening our asset's useful service life.
Asset Maintenance Activities	Sidewalks - Annual inspections as per the minimum maintenance standards - Winter maintenance on designated routes	- Deficiencies go unnoticed and liability is increased. - Minimum maintenance standards are not met.
	Streetlights - Replacement of LED fixture and straightening of poles is contracted out	- Increased safety concerns related to nighttime visibility and loss of aesthetics.
	Road signs - Regulatory and warning signs are tested annually for their reflectivity - Repairing defective signs and signals - Signs are replaced based on these findings and on staff observations with priority being given to regulatory signs	- Minimum maintenance standards are not met. - Low visibility of signs increases liability and decreases driver awareness.
	- Public inspection triggered through AccessE11 or corporate customer website.	- Customer dissatisfaction with road disruptions
Asset Renewal and Replacement	Sidewalks - Full-depth reconstruction including granular base layer - Capping of sidewalk resulting in a slight grade raise	- Risk of failure and increased liability. - Surface becomes unwalkable.
	Streetlights and road signs - Complete or partial asset replacement	- Risk of failure and increased liability.
Asset Decommissioning and Disposal	Ensure assets are disposed of in compliance with waste regulations in Ontario	Failure to dispose of spent assets in accordance with Ontario Regulations increases liability of the Township.

Description of Maintenance Activities

Sidewalks

In an effort to increase public safety, the correction of trip edges is mandated by Ontario Regulation 239/02, which dictates the minimum maintenance standards whereby sidewalks must be inspected annually to identify and correct any vertical surface discontinuities in excess of 2 cm. As per the regulation, these discontinuities must be addressed within 14 days of identification.

The Township's Public Works Department addresses these hazards immediately by marking the hazards with fluorescent paint during the inspection. These deficiencies are then corrected by having the trip edges grounded down as soon as practically possible.

Street Lights

Complying with O.Reg 239/02, which dictates the minimum maintenance standards, the streetlight system is inspected annually at a minimum via the Public Works department. Upon becoming informed of a deficient luminaire on a highway the asset is repaired and/or replaced within a time conforming to the guidelines set forth in the O. Reg. 239/02, s. 10 table. If a deficient streetlight has been identified on a local street, repair or replacement is performed as soon as practically possible.

Description of Rehabilitation and Replacement Activities

Sidewalks

The first consideration for the renewal and reconstruction strategy of the sidewalk system is to take into account the volume of pedestrian traffic along each roadway and the fact that a good majority of the roads within Long Sault and Ingleside have sidewalks on both sides. In many cases dual sidewalks are not a necessity as many of these local roads see little traffic.

It is proposed that the sidewalks being eliminated will simply be removed and reclaimed with topsoil and sod and/or turned into drainage ditches.

These assumptions rely on public and council consultation; however, this solution provides the most economic and financially responsible option. Reducing the number of sidewalks will reduce the financial burden associated with the annual maintenance and future replacement costs. This will allow funds to be allocated to a more critical service, such as roads or water and wastewater infrastructure.

Within the ten year plan the reconstruction of the sidewalk system prioritizes assets with a condition rating of "Poor" or "Very Poor" ensuring that they have their replacement scheduled in conjunction with any adjacent major road construction.

Coordinating these adjacent reconstruction projects should result in the minimization of costs and disruptions to the public.

Street Lights

Currently the repair or replacement of deficient streetlights is covered by the manufacturer's ten-year warranty. The only capital expense associated with streetlights is a roughly consistent $15,000 annually for the installation of new lights. Despite this being a relatively low capital cost, funds should be annually allocated to reserves for the eventual complete replacement program upon the simultaneous expiration of the networks service life.

It is anticipated that at the time of replacement, a newer and even more efficient technology will have been developed. For this reason, it proves difficult to accurately anticipate the cost of the future replacement program.

Appendix C: Parks and Recreation

C.1. Introduction

Parks, recreational and cultural spaces are scattered throughout the Township with larger concentrations existing in urban areas. Many of these locations contain a wide variety of playground equipment, sporting infrastructure, and rest and relaxation appurtenances; all of which require maintenance and accountability. Attention and consideration of these assets contribute to pride of place and sense of belonging while allowing for escape, discovery, recreation and exploration of nature.

Growth and expansion of parks and recreation assets occur when upgrades are made to current equipment and when parkland is dedicated to the Township as part of subdivision development. This growth is expected at a rapid rate as Long Sault and Ingleside continue along their current development trend. Upkeep, maintenance and inspections by internal staff are key factors in the continuity of delivering parks and recreational services efficiently.

C.2. State of the Infrastructure

C.2.1. Inventory Overview

Within the Township's parks and recreation includes a total of 185 parks amenity, 7 parks facilities, and 5 kilometers parks linear. The Township's parks and recreation inventory can be broken down into the following hierarchy, as presented in the table below.

Table 28: Parks and Recreation Inventory Hierarchy

Service Division	Asset Class/Component
Parks and Recreation	Parks Amenity
	Parks Facility
	Parks Linear

Table 29: Asset Inventory (Parks and Recreation)

Asset	Asset Type	Inventory	Unit
Parks and Recreation	Parks Amenity	185	ea.
	Parks Facility	7	ea.
	Parks Linear	5	km

H.2.2. Asset Valuation

The total value of the Parks and Recreation on a full-replacement basis in 2023 dollars is $5.57 million. Table 30, presented below, provides a summary of replacement cost

values. The replacement cost includes the replacement cost of the assets and installation cost in some assets is excluded.

Table 30: Replacement Cost Values (Parks and Recreation)

Asset Type	Asset	Replacement Value ($)	% of Total
Parks and Recreation	Parks Amenity	3,209,234	57.6
	Parks Facility	528,500	9.5
	Parks Linear	1,831,000	32.9
Total		**5,568,734**	**100.0**

H.2.3. Asset Age

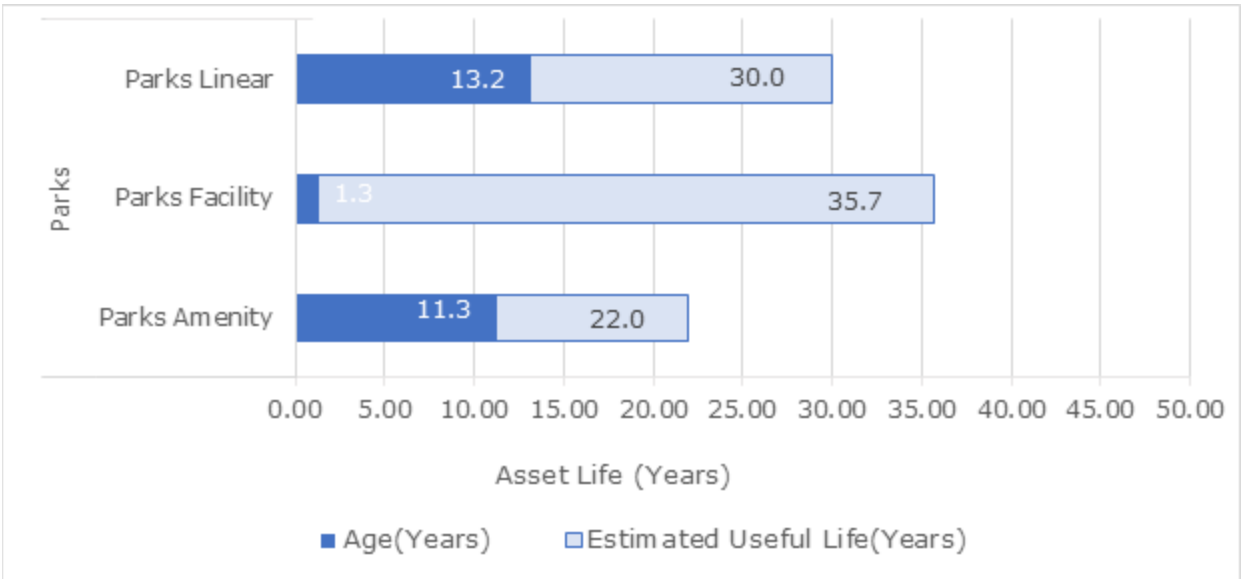


Figure 22:Average Asset Age as a Proportion of Average Useful Life (Parks and Recreation)

H.2.4. Asset Condition

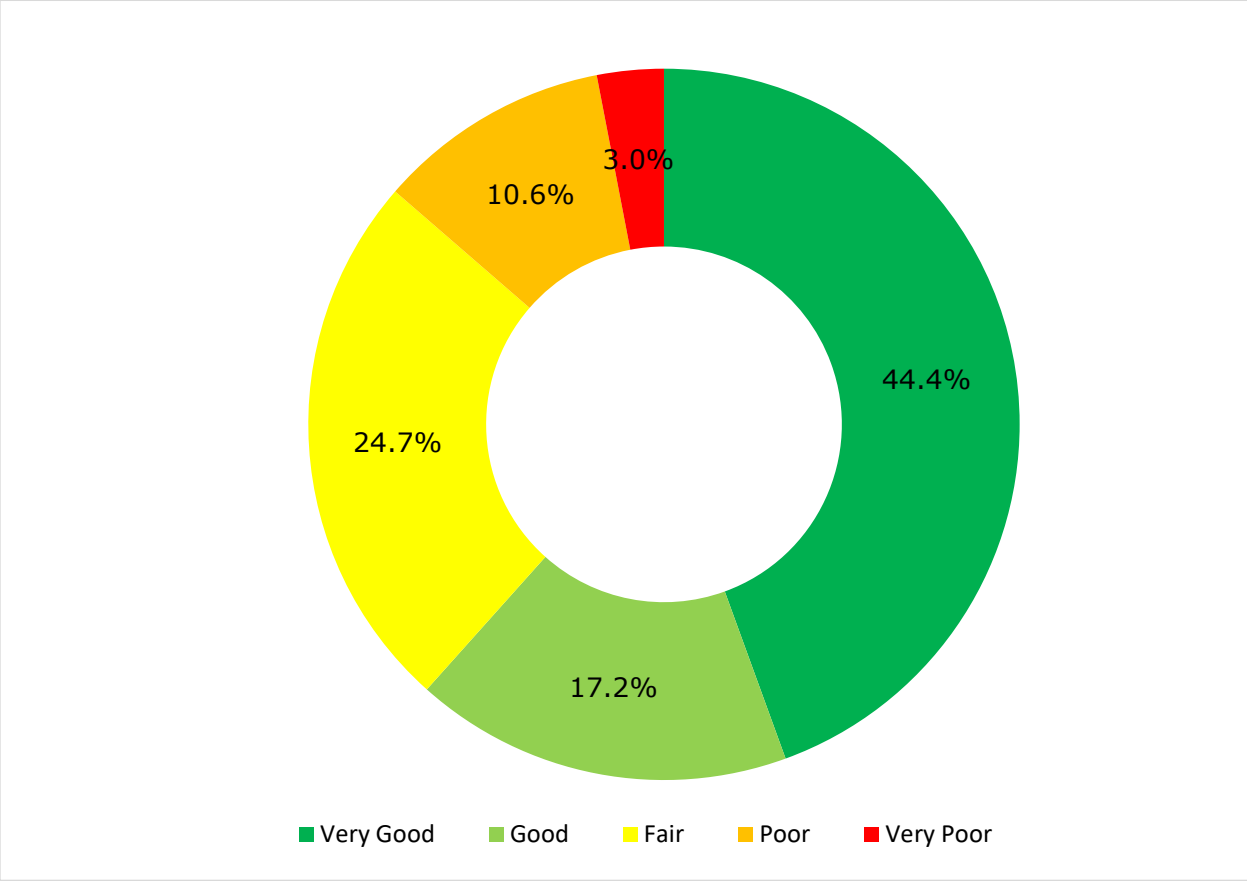


Figure 23: Asset Condition Summary (Parks and Recreation)

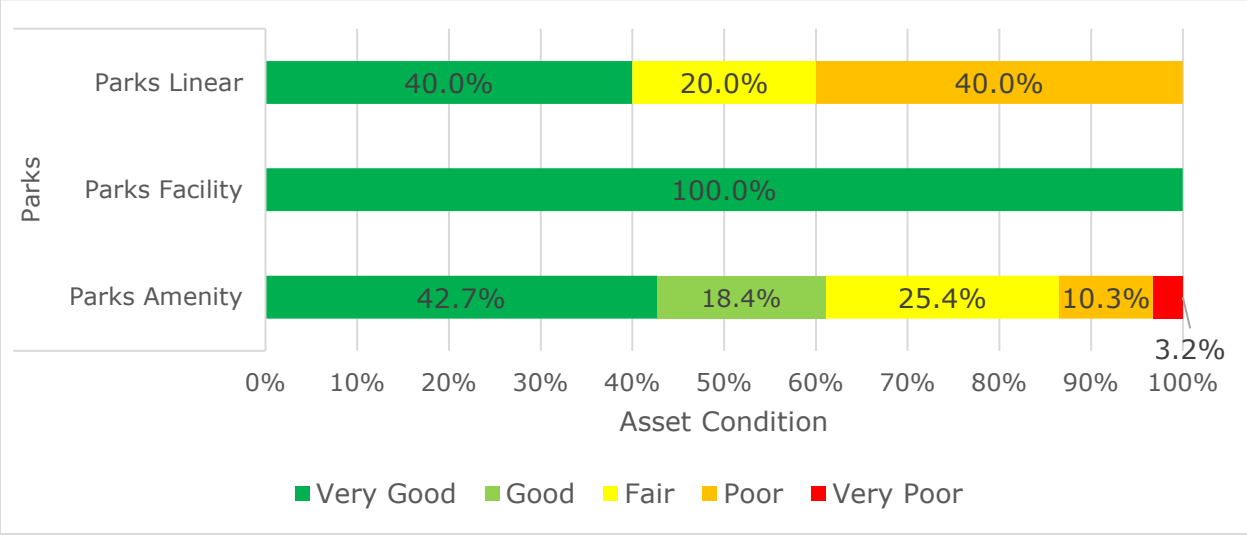


Figure 24:Asset Condition Detail (Parks and Recreation)

C.3. Levels of Service

O. Reg. 588/17 required reporting on certain qualitative and quantitative current LOS for core infrastructure by the previous deadline. The regulation also requires reporting on these items for non-core infrastructure, but the descriptions and metrics are to be as established by the municipality. These metrics, that go beyond the foundational or regulation required metrics are considered advanced. They indicate service divisions have documented planned approaches for operation and maintenance of infrastructure and have considered trending indicators if the result is planned to be decreased, increased, or to be approximately equal in future years. These metrics are listed in Table 31.

H.3.1. Corporate/Customer Focused Levels of Service Metrics

In setting performance measures, the focus is on measuring how the customer receives the service and ensuring that the Township is providing customer value. These may be qualitative or quantitative measures.

Table 31: Levels of Service Metrics (Parks and Recreation)

Corporate LOS Objective	Customer LOS Measure	Current Performance	Expected Trend Based on Planned Budget
Assets are kept in good condition	Parks and recreation assets in fair or better condition	86.4%	↗
Assets are as safe and accessible as possible throughout the year	Percentage of outstanding work orders	22.0%	→
Capacity meets or exceeds current demands	Ensuring parks are consistently open and available	9 am to 10 pm 7 days/week (with exception of washrooms during winter)	→
Availability of near-term financial needs	Ratio of 10-year budget to need	146.2%	→
Replacement Cost is held in reserve	Ratio of reserve to replacement value	18.8%	↗

C.4. Asset Management Strategy

An asset management strategy involves a set of planned actions that enables assets to provide the desired levels of service in a sustainable manner, while managing risk, at the lowest life cycle cost. An outline of these activities for the Township's parks

and recreation assets and the associated risks of not performing them is presented in Table 32.

Table 32: Management Activities or Planned Actions and Associated Risks of Neglection (Parks and Recreation)

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
Non-Infrastructure Solutions	Acquisition of asset management software to assist with data management for the asset management plan	Without good data management the supporting information for the asset condition and remaining useful life will be poor.
	Encouragement of conservation of Parks and associated infrastructures assets through policy, procedures, public outreach, etc.	Regulatory requirements, standards, criteria change or do not exist.
	Continue researching and implementing park infrastructure in conformance with Provincial, Federal and Municipal policies.	Asset deterioration is underestimated leading to failure
	The lifecycle management needs includes the direct care of the building envelope, mechanical and electrical systems, etc.	Inaccurate growth forecasts or estimation of funding
Asset Acquisition / Procurement / Construction	Follow Township Procurement Policy	Failure to follow the procurement policy may result in loss of competitive advantages and funding.
	Ensure spares, special tools and spare parts are available	Failure to have spares, special tools and spare parts will delay in the maintenance of assets potentially shortening their useful life.
	Ensure staff is trained to manage new assets	Failure to provide training will result in shortening our asset's useful service life.
Asset Maintenance Activities	A program to maintain equipment is in place. Equipment is monitored and inspected regularly, and problems addressed when triggered by staff observations and public feedback.	Completing planned maintenance activities while managing the need to execute reactive maintenance activities.
	Critical equipment maintenance and overhaul	Incorrectly planned maintenance activities can lead to premature asset failure.
	Park is monitored and problems addressed when triggered by	Deficiencies are not identified through inspections due to

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
	staff observations, anticipated lifecycle timing, and public feedback.	concealed components or difficult access
	Smaller wooden structures, such as outdoor rink boards or volleyball court posts, require an enhanced inspection and maintenance program to extend their lifespan.	Wooden structures are more susceptible to failure caused by prolonged exposure to climate conditions, vandalism, or lack of continuing care/treatment.
Asset Renewal and Replacement	Scheduling equipment rehabilitation in a systematic format.	Incorrect assumptions regarding improved expected useful life after rehabilitating a pathway.
		Increased lifecycle cost if renewal/rehab activities are done improperly or not as scheduled
Asset Decommissioning and Disposal	Ensure assets are disposed of in compliance with waste regulations in Ontario	Failure to dispose of spent assets in accordance with Ontario Regulations increases liability of the Township.

Description of Maintenance Activities

The Township has established preventative maintenance schedules for assets and equipment to meet or exceed legislative requirements, municipal policy, and industry best practices. This proactive maintenance schedule helps regulate or improve the expected life cycle of the assets while reducing unexpected deficiencies and costly repairs.

Description of Rehabilitation and Replacement Activities

The Township has established a life cycle rehabilitation/replacement schedule for all assets with data collected from on-going inspection reports, building condition assessments, and manufacturer recommendations for asset life expectancy. Proposed rehabilitation or replacement of assets are proposed as part of annual budget deliberations with Council and funding to complete projects comes from taxation, asset reserves, grant funding, debenture, or donations.

Appendix D: Fleet

D.1. Introduction

The Township owns, operates and manages a fleet that provides safe and reliable services everywhere within the municipal boundary. The fleet consists of light, medium, and heavy vehicles and equipment that are classified based on their weight and intended use. They allow for ongoing fire and personal protection services, planning and building inspections, parks and recreational uses, maintenance on core infrastructure and the general transportation of staff members for other purposes.

The optimal Township fleet largely depends on the number and types of services that are being delivered to the public. An increase in services generally indicates a need for additional transportation resources. Regular maintenance and upkeep of the municipal fleet is key in achieving longevity of fleet lifespans and maximizing their public duty.

D.2. State of the Infrastructure

D.2.1. Inventory Overview

Several services are offered through the Township's fleet. The fleet includes vehicles and equipment. The Township's fleet inventory can be broken down into the following hierarchy, as presented in Table 33.

Table 33: Fleet Inventory Hierarchy

Service Area	Service Division	Asset Class/Component
Fleet	Vehicles	Light Vehicle
		Medium Vehicle
		Heavy Vehicle
	Equipment	Light Equipment
		Medium Equipment
		Heavy Equipment

The township has 56 assets in its fleet. The quantity of the Township of South Stormont's fleet assets based on asset class and department is presented in Table 34 and Table 35.

Table 34: Asset Inventory (Fleet)

Asset Type	Asset	Inventory	Unit	% of Total
Vehicle	Heavy Vehicle	23	ea.	41.1
	Medium Vehicle	3	ea.	5.4
	Light Vehicle	14	ea.	25.0

Asset Type	Asset	Inventory	Unit	% of Total
Equipment	Heavy Equipment	7	ea.	12.5
	Medium Equipment	1	ea.	1.8
	Light Equipment	8	ea.	14.3
Total		**56**	**ea.**	**100**

The Township's fleet are categorised as per departments. The departments are as follows: Buildings and Planning, Fire Services and Bylaw, Parks and Recreation, and Public Works.

Table 35:Asset Inventory (Department)

Department	Asset Type	Asset	Inventory	Unit	% of Total
Building and Planning	Vehicle	Light Vehicle	1	ea	1.8
Fire Services and Bylaw	Vehicle	Heavy Vehicle	12	ea	21.4
		Medium Vehicle	1	ea	1.8
		Light Vehicle	3	ea	5.4
	Equipment	Light Equipment	1	ea	1.8
Parks and Recreation	Vehicle	Light Vehicle	2	ea	3.6
	Equipment	Medium Equipment	1	ea	1.8
		Light Equipment	1	ea	1.8
Public Works	Vehicle	Heavy Vehicle	11	ea	19.6
		Medium Vehicle	2	ea	3.6
		Light Vehicle	8	ea	14.3
	Equipment	Heavy Equipment	7	ea	12.5
		Light Equipment	6	ea	10.7
Total			56	**ea**	**100**

D.2.2. Asset Valuation

The replacement value of the entire fleet inventory in 2023 dollars is $10.66 million and is presented in Table 36. Note that all total replacement values in this section are rounded to the nearest integer. Table 36, presented below, portrays a summary of replacement cost values. It is important to note that the values of Township fleet have been captured within the facility they reside at. A breakdown of the unit costs was used to determine the total overall value. Best engineering and approximation practices were used to come up with the unit rates.

Table 36:Fleet Replacement Cost Valuation

Department	Replacement Value ($)	% of Total
Building and Planning	38,000.0	0.4
Fire Services and Bylaw	4,663,536.6	43.7
Parks and Recreation	223,428.4	2.1
Public Works	5,739,165.8	53.8
Total	**10,664,130.8**	**100**

D.2.3. Asset Age

Many Township's fleet dates for a decade or over. Although the fleet has seen additions over the years, much of the existing fleet were properly to maintain preservation. In some cases, it is suspected that the recorded in-service dates of some fleet do not reflect the true age, since much of the existing fleet were properly maintained to retain fine state preservation. For this reason, the perceived ages were also estimated based on the projected remaining useful lives of the fleet. A summary of the average age of Township's fleet as a proportion of their average useful lives is presented in Figure 25.

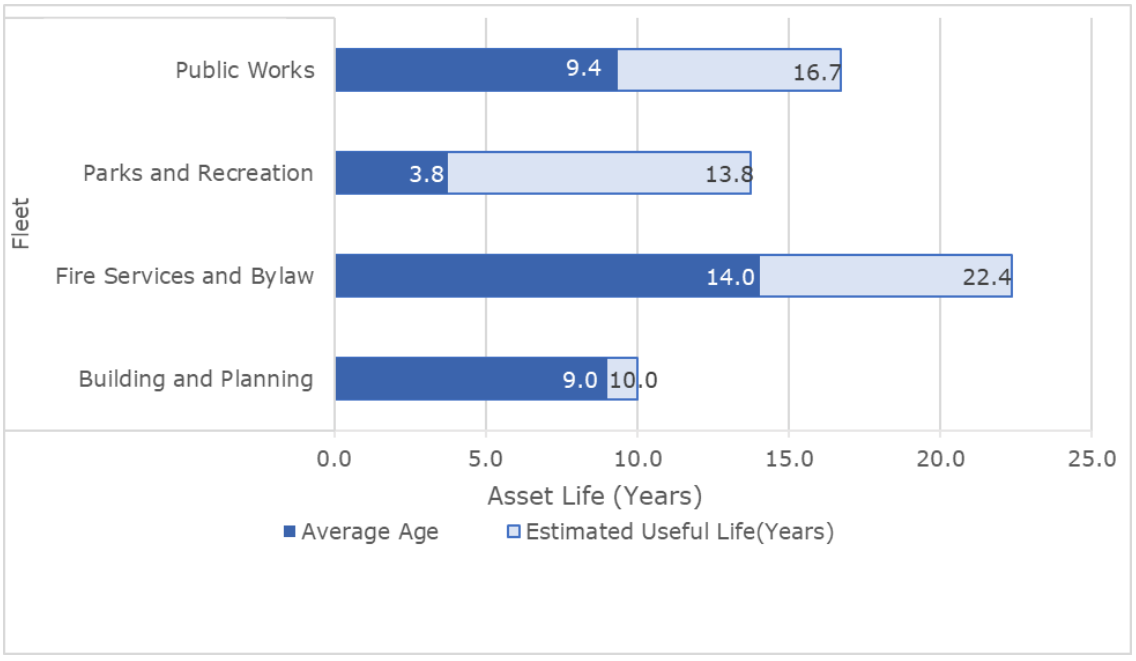


Figure 25: Average Asset Age as a Proportion of Average Useful Life (Fleet)

D.2.4. Asset Condition

The condition rating of each asset has been categorized as "Very Good", "Good", "Fair", "Poor", and "Very Poor". The condition is appointed based on the percent of service life remaining and mileage assessments for vehicles and machinery. As for equipment with no engine runtime, their condition is assessed based solely on the percent of service life remaining.

A total of 83.9% of the inspected vehicles and equipment have been assigned a condition of "fair" or better. The average condition ratings are presented in below Figure 26. The asset condition detail of the Township's fleet is presented in Figure 27.

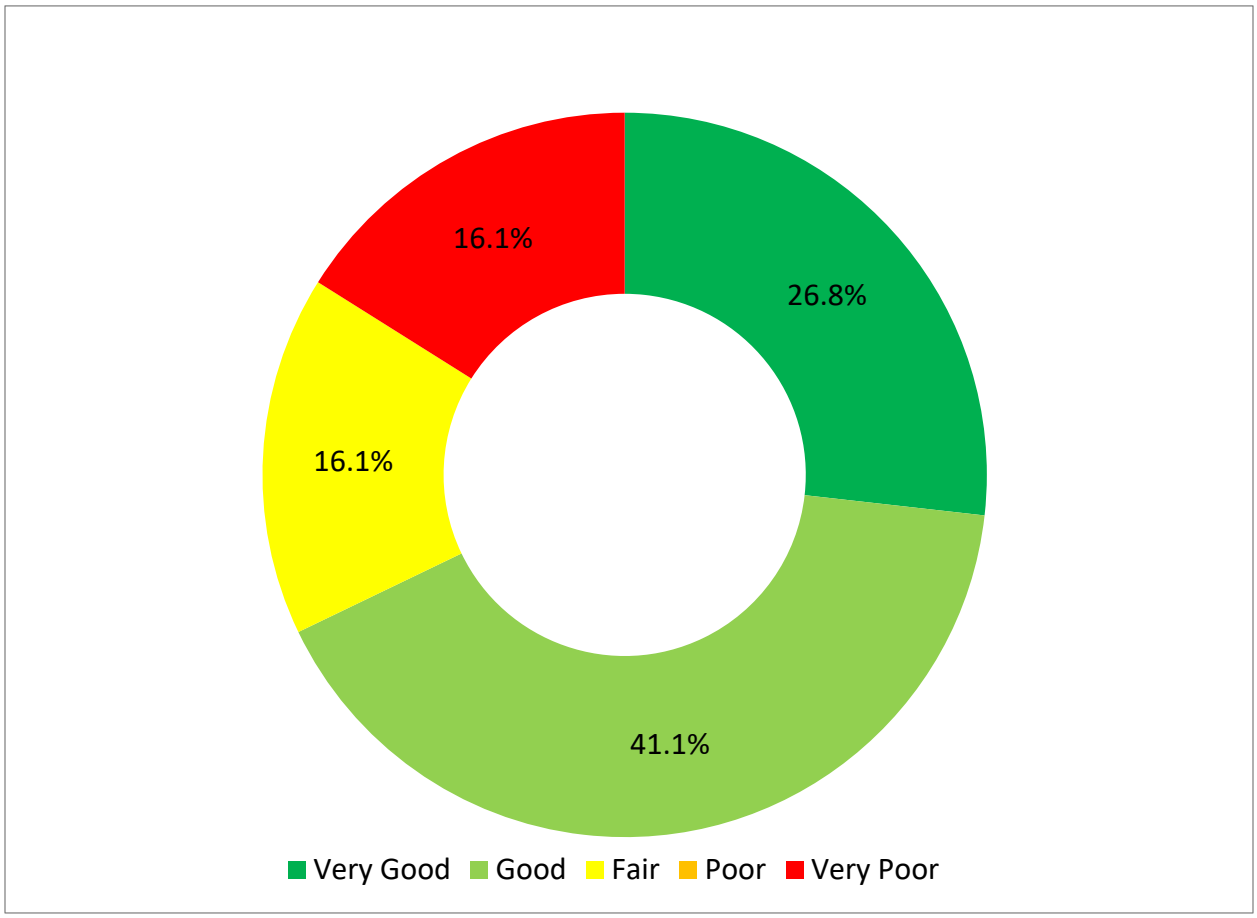


Figure 26:Asset Condition Summary (Fleet Services)

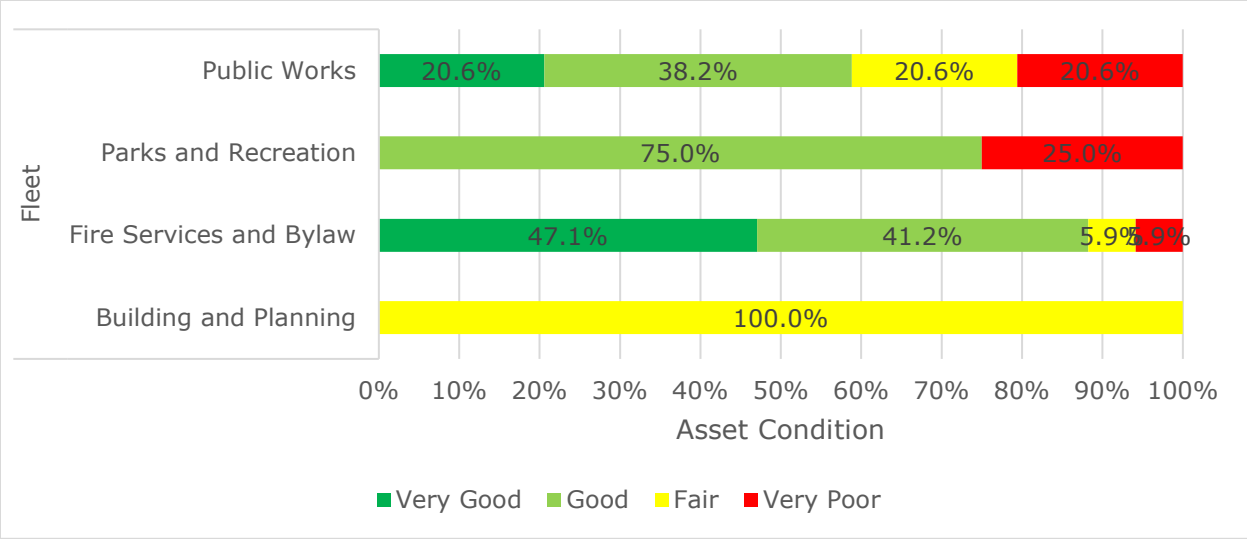


Figure 27: Asset Condition Detail (Fleet Services)

D.3. Levels of Service

O. Reg. 588/17 required reporting on certain qualitative and quantitative current LOS for core infrastructure by the previous deadline. The regulation also requires reporting on these items for non-core infrastructure, but the descriptions and metrics are to be as established by the municipality. These metrics, that go beyond the foundational or regulation required metrics are considered advanced. They indicate service divisions have documented planned approaches for operation and maintenance of infrastructure and have considered trending indicators if the result is planned to be decreased, increased, or to be approximately equal in future years. These metrics are listed in Table 37.

D.3.1. Levels of Service Metrics

In setting performance measures, the focus is on measuring how the customer receives the service and ensuring that the Township is providing customer value. These may be qualitative or quantitative measures.

Table 37: Levels of Service Metrics (Fleet)

Corporate LOS Objective	Customer LOS Measure	Current Performance	Expected Trend Based on Planned Budget
Assets are kept in good condition	Fleet assets in fair or better condition	83.9%	→
Assets are as safe and accessible as possible throughout the year	Percentage of outstanding work orders requests greater than 30 days	0	→
Capacity meets or exceeds current demands	Ensure that roadside assets are reliable and accessible for use	Very Good	→
Availability of near-term financial needs	Ratio of 10-year budget to need	96.2%	→
Replacement Cost is held in reserve	Ratio of reserve to replacement value	6%	↗

D.4. Asset Management Strategy

An asset management strategy involves a set of planned actions that enables assets to provide the desired levels of service in a sustainable manner, while managing risk, at the lowest life cycle cost. An outline of these activities for the Township's fleet and the associated risks of not performing them is presented in Table 38.

Table 38: Management Activities or Planned Actions and Associated Risks of Neglection (Fleet)

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
Non-Infrastructure Solutions	Acquisition of asset management software to assist with data management for the asset management plan	Without good data management the supporting information for the asset condition and remaining useful life will be poor.
	Cost and lifecycle review of assets throughout their entire service lives	Low remarketing value, increased risk of failure and higher maintenance costs past expected useful lives.
Asset Acquisition / Procurement / Construction	Follow Township Procurement Policy	Failure to follow the procurement policy may result in loss of competitive advantages and funding.

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
	Ensure spares, special tools and spare parts are available	Failure to have spares, special tools and spare parts will delay in the maintenance of assets potentially shortening their useful life.
	Ensure staff is trained to manage new assets	Failure to provide training will result in shortening our asset's useful service life.
Asset Maintenance Activities	Carry out regular preventative maintenance of entire fleet	Neglecting regular maintenance activities can shorten the asset's life cycle and increase service disruptions.
	Conduct reactive maintenance as failures and breakdowns occur under circumstances that cannot be easily mitigated or controlled	Neglecting reactive maintenance activities can cause lengthy service delays and shorten the asset's life cycle.
	Track breakdowns and their probable reasons for occurrence	Improper management of records can cause the recurrence of similar failures or unnecessary spending.
Asset Renewal and Replacement	Partial replacement of integral operational components of equipment and heavy vehicles	Fleet may be unable to perform their intended tasks.
	Complete replacement or addition of new vehicles/equipment	Service delivery decreases as staff members are not able to keep up with operational demand.
Asset Decommissioning and Disposal	Ensure assets are disposed of in compliance with waste regulations in Ontario	Failure to dispose of spent assets in accordance with Ontario Regulations increases liability of the Township.
	Fleet planning to optimize salvage value and put assets on the market during peak demand	Loss of potential income.

Description of Maintenance Activities

All the Township's fleet assets are maintained through routine preventative maintenance dependent upon the type of vehicle, its specific use and as per the manufacturer's recommendations. In order to practice good fleet management, the township maintains accurate and up to date vehicle maintenance and fuel usage logs. These logs can in turn be used to help determine the overall lifecycle cost of each asset.

Description of Rehabilitation and Replacement Activities

Generally fleet assets have shorter useful lives which require more frequent ongoing maintenance and repair activities. There is a limited amount of renewal activities performed on equipment that can be classified as capital work, such as the replacement of an engine or transmission on a heavy truck. Vehicles and equipment tend to degrade rapidly upon reaching the end of their useful lives leading to escalating maintenance costs. Additionally, as the frequency of repairs increases so too does the time the asset spends in the public works garage adding to the costs incurred by the township. It is quite often more economical to replace the assets entirely, instead of performing major overhauls. Due to this fact, the Township's most economic option to maintain its fleet at the optimum level of service is to maintain and adhere to its 10-year capital replacement plan.

Appendix E: IT Equipment

E.1. Introduction

IT equipment exists at many Township owned facilities that allow for the management of information and assets and the use of applications and software necessary for ongoing operations. It also provides safety and protection of Township data and computer systems and a means of efficient communication between internal and external parties. This equipment consists of computers and tablets, mobile phones, printers and scanners, data room, and corporate security emergency equipment.

E.2. State of the Infrastructure

E.2.1. Inventory Overview

Several services are offered through the township's IT assets. The Township's IT inventory can be broken down into the following hierarchy, as presented in Table 39.

Table 39: IT Inventory Hierarchy

Asset Type	Asset
Computer and Tablets	Desktop
	Desktop (tiny)
	Laptop
	Tablet
	Workstation Desktop
Mobile Phones	iPhones
Printers and Scanners	Copier
	Letter/ Envelope Folder
	Postage Machine
	Printer
	Printer (receipt)
	Scanner

Asset Type	Asset
Data Room	CCTV Recorder
	Firewall appliance
	Router
	Router (repurposed as WiFi access point)
	Starlink Modem/Dish
	Switch
	Switch (non-POE)
	Switch (POE
	Switch (POE)
	Switch (POE+)
	WiFi Access Point
	WiFi Management Switch
Corporate Security Emergency Equipment	

The Township has 236 assets in its IT department. The quantity of the Township of South Stormont's fleet assets based on asset type is presented in Table 40.

Table 40: Asset Inventory(IT Equipment)

Asset Type	Asset	Inventory	Unit	% of Total
Computer and Tablets	Desktop	15	ea	12.4
	Desktop (tiny)	3	ea	2.5
	Laptop	67	ea	55.4
	Tablet	29	ea	24.0
	Workstation Desktop	7	ea	5.8
Total		**121**	**ea**	**100**
Mobile Phones		36	ea	100
Total		**36**	**ea**	**100**

Printers and Scanners	Copier	3	ea	15.8
	Letter/ Envelope Folder	1	ea	5.3
	Postage Machine	1	ea	5.3
	Printer	12	ea	63.2
	Printer (receipt)	1	ea	5.3
	Scanner	1	ea	5.3
Total		**19**	**ea**	**100**
Data Room	CCTV Recorder	1	ea	3.0
	Firewall appliance	8	ea	24.2
	Router	2	ea	6.1
	Router (repurposed as WiFi access point)	1	ea	3.0
	Starlink Modem/Dish	2	ea	6.1
	Switch	1	ea	3.0
	Switch (non-POE)	3	ea	9.1
	Switch (POE	1	ea	3.0
	Switch (POE)	1	ea	3.0
	Switch (POE+)	2	ea	6.1
	WiFi Access Point	10	ea	30.3
	WiFi Management Switch	1	ea	3.0
Total		**33**	**ea**	**100**
Corporate Security Emergency Equipment		27	ea	100
Total		**27**	**ea**	**100**
Total		**236**	**ea**	**100**

J.2.2. Asset Valuation

The replacement value of the entire IT inventory in 2023 dollars is $0.46 million and is presented in Table 41. Note that all total replacement values in this section are rounded to the nearest tenth, presented below, portrays a summary of replacement cost values. It is important to note that the values of Township IT equipment have been captured within the facility they reside at. A breakdown of the unit costs was used to determine the total overall value. Best engineering and approximation practices were used to come up with the unit rates.

Table 41: Replacement Cost Values (IT Equipment)

Asset Type	Asset	Replacement Value($)	% of Total
Computer and Tablets	Desktop	37500	13.0
	Desktop (tiny)	7500	2.6
	Laptop	176000	61.0
	Tablet	46500	16.1
	Workstation Desktop	21000	7.3
Total		**288,500**	**100**
Mobile Phones		44280	100
Total		**44,280**	**100**
Printers and Scanners	Copier	21000	49
	Letter/ Envelope Folder	-	-
	Postage Machine	-	-
	Printer	10400	24.2
	Printer (receipt)	1500	3.5
	Scanner	10000	23.3
Total		**42,900**	**100**
Data Room	CCTV Recorder	-	-
	Firewall appliance	28000	53.8
	Router	4000	7.7
	Router (repurposed as WiFi access point)	500	1.0
	Starlink Modem/Dish	2000	3.8
	Switch	2000	3.8
	Switch (non-POE)	3000	5.8
	Switch (POE	2000	3.8
	Switch (POE)	2000	3.8
	Switch (POE+)	3000	5.8
	WiFi Access Point	5500	10.6
	WiFi Management Switch	-	-
Total		**52,000**	**100**
Corporate Security Emergency Equipment		30691.84	100
Total		**30,691.8**	**100**
Total		**458,371.8**	**100**

J.2.3. Asset Age

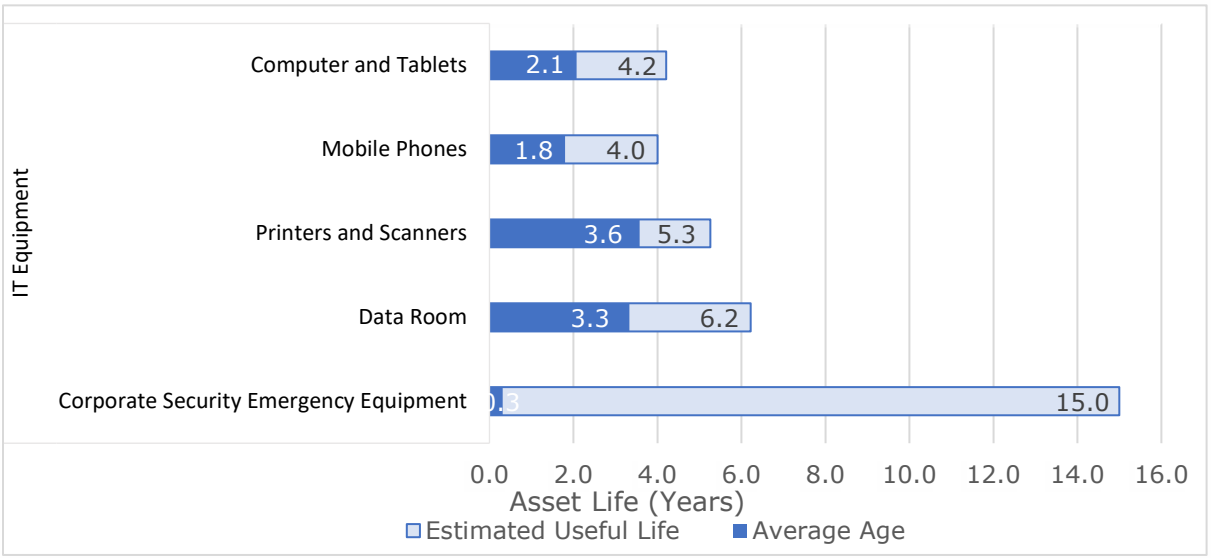


Figure 28: Average Asset Age as a Proportion of Average Useful Life (IT Services)

J.2.4. Asset Condition

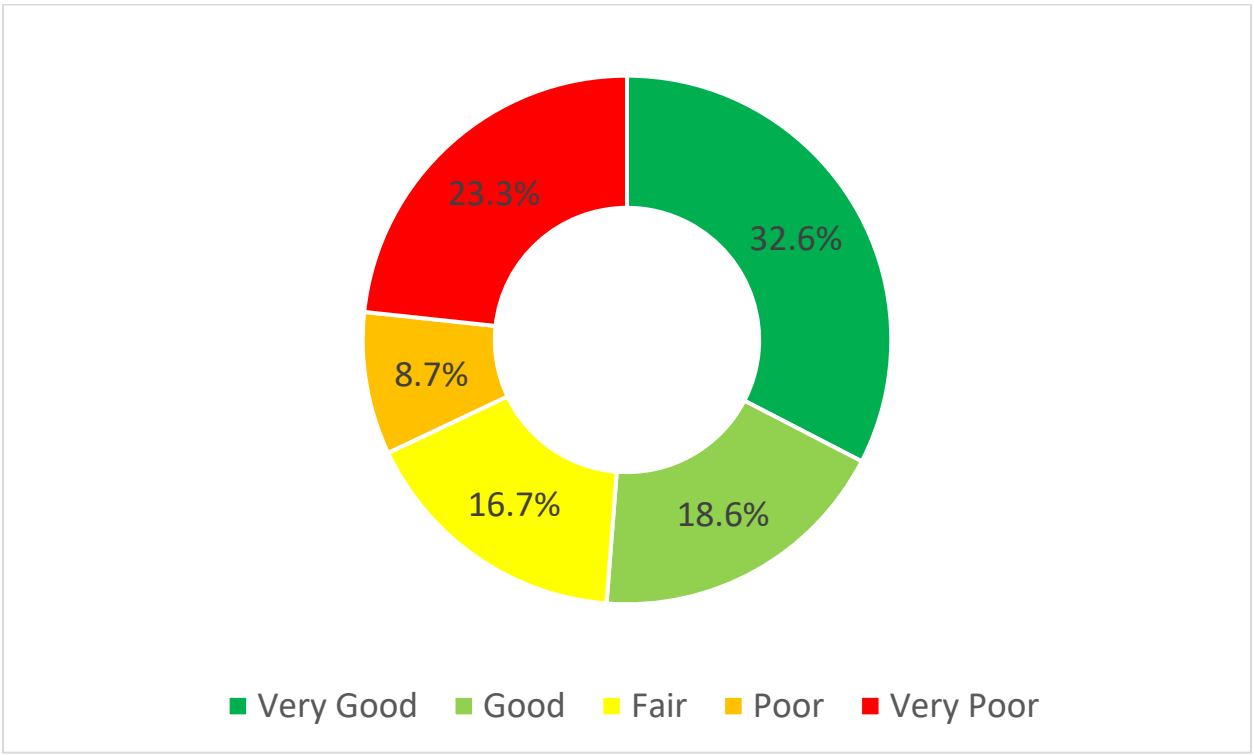


Figure 29: Asset Condition Summary (IT Equipment)

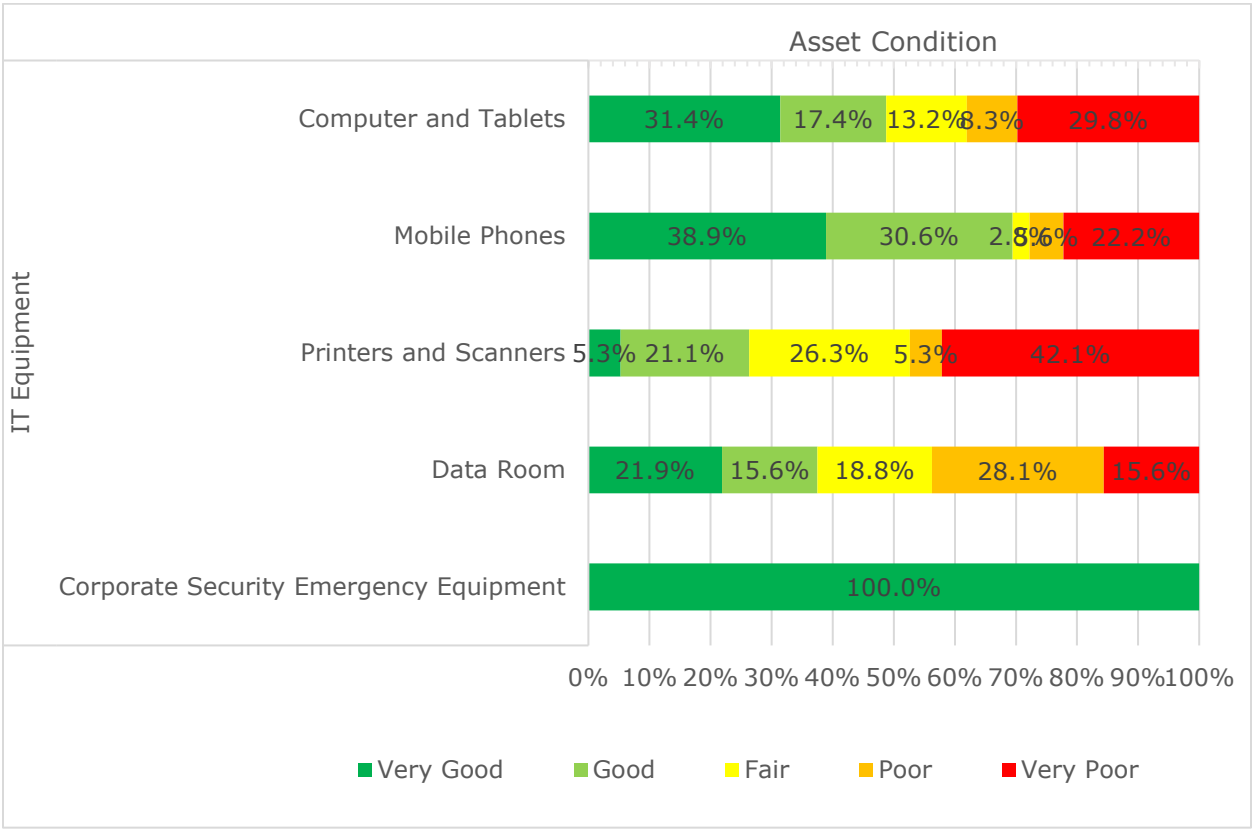


Figure 30: Asset Condition Detail (IT Equipment)

E.3. Levels of Service

O. Reg. 588/17 required reporting on certain qualitative and quantitative current LOS for core infrastructure by the previous deadline. The regulation also requires reporting on these items for non-core infrastructure, but the descriptions and metrics are to be as established by the municipality. These metrics, that go beyond the foundational or regulation required metrics are considered advanced. They indicate service divisions have documented planned approaches for operation and maintenance of infrastructure and have considered trending indicators if the result is planned to be decreased, increased, or to be approximately equal in future years. These metrics are listed in Table 42.

E.3.1. Levels of Service Metrics

In setting performance measures, the focus is on measuring how the customer receives the service and ensuring that the Township is providing customer value. These may be qualitative or quantitative measures.

Table 42: Levels of Service Metrics (IT Equipment)

Corporate LOS Objective	Customer LOS Measure	Current Performance	Expected Trend Based on Planned Budget
Assets are kept in good condition	IT equipment assets in fair or better condition	67.9	↗
Assets are as safe and accessible as possible throughout the year	No. of significant security measures implemented in previous 12 months	-	→
Capacity meets or exceeds current demands	Number of outstanding IT hardware requests greater than 30 days	1	→
Availability of near-term financial needs	Ratio of 10-year budget to need	152.0%	→
Replacement Cost is held in reserve	Ratio of reserve to replacement value	17.5%	↗

E.4. Asset Management Strategy

An asset management strategy involves a set of planned actions that enables assets to provide the desired levels of service in a sustainable manner, while managing risk, at the lowest life cycle cost. An outline of these activities for the Township's IT equipment and the associated risks of not performing them is presented in Table 43.

Table 43: Management Activities or Planned Actions and Associated Risks of Neglection (IT Equipment)

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
Non-Infrastructure Solutions	Acquisition of asset management software to assist with data management for the asset management plan	Without good data management the supporting information for the asset condition and remaining useful life will be poor.
	Monitor and track age and amount of time the asset considered a priority as to when the asset should be replaced.	Inability to mitigate malware/cyber attacks resulting from deteriorated and non-supported asset.
	Focus is to ensure that asset is considered 'in support' to mitigate potential malware/cyber-attacks and ensure asset is operating efficiently for individuals using the asset.	Failure to understand corporate needs or security risks may result in loss of productivity

Asset Management Activities	Specific Activities or Planned Actions	Specific Risks of Neglecting Activities or Planned Actions
	Coordinate business needs with anticipated IT support to determine prioritization of IT asset replacement	
Asset Acquisition / Procurement / Construction	Follow Township Procurement Policy	Failure to follow the procurement policy may result in loss of competitive advantages and funding.
	Scheduled replacement programs in place. Replacement programs exist for Township's directly owned cable network.	Cost over-runs during large, complex design and construction projects.
	Ensure staff is trained to manage new assets	Failure to provide training will result in shortening our asset's useful service life.
Asset Maintenance Activities	Maintain proper communication with existing system vendors to ensure continuous support indefinitely	Failure to complete planned maintenance can lead to premature asset failure and disruption of services
		Urgent work requests may not be supported if sufficient resources are not allocated to ensure IT Service coverage
Asset Renewal and Replacement	Rehabilitation programs exist for Township's directly owned assets. Proactive rehabilitation of Township software programs also exist and would be referred to as 'supported' software.	Incorrect assumptions about renewal or replacement activities may result in increased funding needs and premature replacement.
		Failure to complete renewal or rehabilitation can lead to premature asset failure and disruption of service
Asset Decommissioning and Disposal	Ensure assets are disposed of in compliance with waste regulations in Ontario	Failure to dispose of spent assets in accordance with Ontario Regulations increases liability of the Township.

Description of Maintenance Activities

IT hardware maintenance activities for the Township include replacing or repairing defective hardware as it fails, usually under warranty. It is rare for IT assets to require repair or replacement due to hardware failure within the expected useful lifespan. An IT hardware asset is usually replaced and/or decommissioned when it becomes unusable due to reduced battery life (laptops), or when it becomes a security risk due to the manufacturer no longer releasing security updates (end of support).

Description of Rehabilitation and Replacement Activities

The useful lives of equipment can range from 4 years for computers (Administration) to over 15 years for the emergency Communication System (Fire Department). Some assets may be repurposed or relocated due to the low frequency of use, resulting in the minimal degradation in condition. These factors lead to the condition assessment renewal approach wherein the fate of age-assed assets are re-evaluated upon receiving a designation of "Very Poor". For the purposes of this plan, with respect to equipment assets the degree and amount of renewal activities that can be classified as capital work are limited.