



**STEFANIZZI**  
PROFESSIONAL CORPORATION  
CHARTERED PROFESSIONAL ACCOUNTANT



# Township of Tarbutt

Asset Management Plan

July 11, 2023



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July 12, 2023

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**To the Staff, Management, and Council of the Township of Tarbutt**

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On behalf of Stefanizzi Professional Corporation, I would like to thank you for the opportunity to work with the Township on a Comprehensive Asset Management Plan Project as approved by your Township council.

This project has resulted in the development of a comprehensive Asset Management Plan in accordance with the requirements of Ontario Regulation 588/17 for the Township of Tarbutt.

In order to accomplish this objective, we have split the project into three main deliverables:

1. Asset Management Processes and Staff Training
2. Asset Register and Level of Service Framework Workbooks
3. Final Asset Management Plan Report

As we have embarked on this journey together, the final stop is preparing the Asset Management Plan document enclosed within. This will help the Township move forward in an evolving, data-centric world to assist with budget and other decision-making.

Sincerely,

Jerry Stefanizzi, B.Comm., CA, CPA  
Stefanizzi Professional Corporation  
Chartered Professional Accountant

## INTRODUCTION

### Overview of Ontario Regulation 588/17

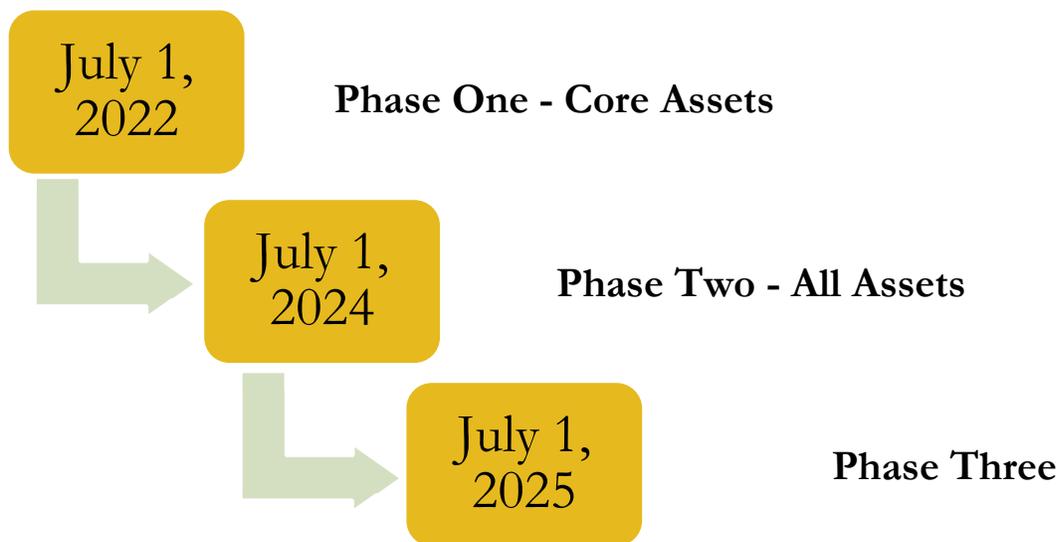
In December 2017, the Province of Ontario had approved Regulation 588/17 (“the Regulation”) to update the guidelines of the province related to Municipal Asset Management Planning. This Regulation serves as an update to the 2012 – Building Together: Guide for Municipal Asset Management Plans. It is the province’s goal to help each Municipality develop a modernized, data-based approach to their Asset Management Plans.

From the presentation prepared by the Ministry of Infrastructure on the new Regulation dated September 19, 2018, the following guidance was provided in relation to the **goals for data collection**:

1. One of the primary goals of the regulation is to gain a better understanding of the infrastructure challenges municipalities face.
2. Improving the standardization and consistency of asset management planning information will help the province and municipalities achieve this objective.
3. The province is considering the possibility of leveraging the Financial Information Return process to collect asset management planning information to gather a more complete picture of municipal infrastructure needs.
4. The Ministry of Municipal Affairs and Housing is currently in the process of conducting a pilot project to test the collection of municipal asset management planning information.
5. The purpose of this pilot is to seek input from local governments on how to collect key information on municipal asset management and to foster discussions around long term financial sustainability.

## Regulation Timeline

The new Regulation has been subject to a highly regimented approval process spanning all the way back to the early 2016. The Province of Ontario has required any municipality seeking provincial capital funding to prepare an asset management plan under this framework, in order to demonstrate how the funding would fit into its current and future spending. It has several upcoming deadlines required by each Municipality divided into three phases. A high-level summary of the Regulation requirements are as follows:

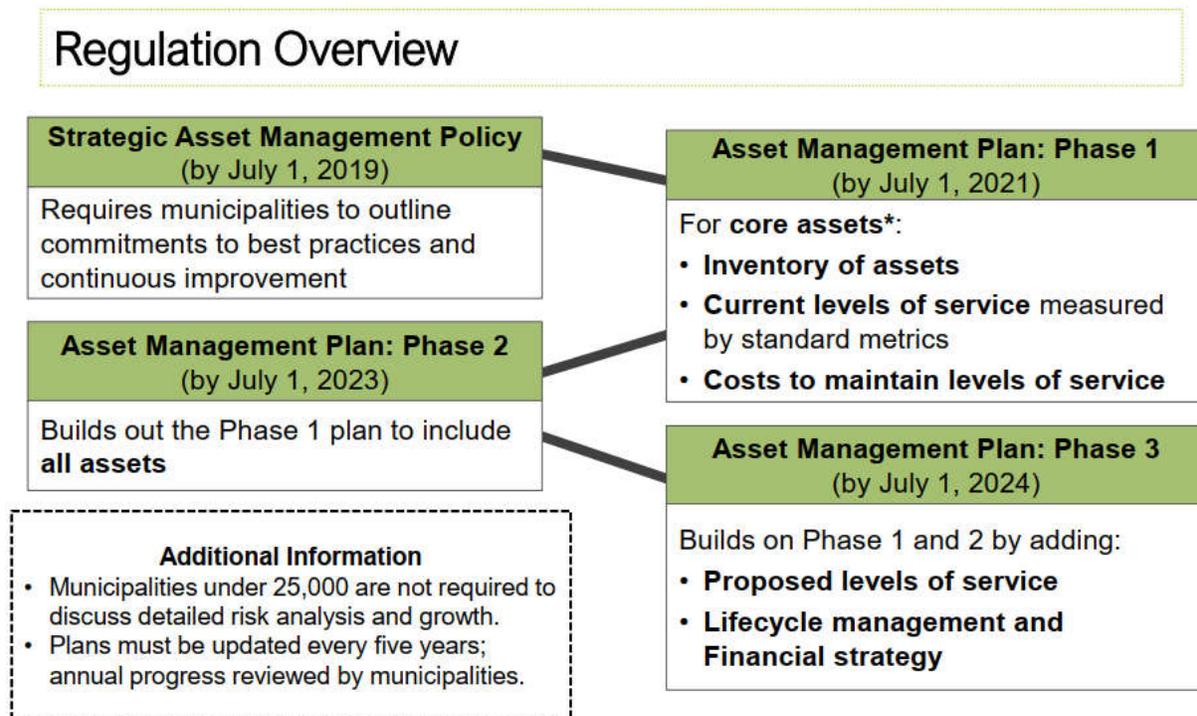


**Phase One:** will document the state of local infrastructure for all core assets, their current level of service, as well as expected costs to maintain these service levels. Core assets include roads, bridges, as well as sewer and water infrastructure.

**Phase Two:** will expand on Phase One to include all assets (i.e., buildings and other equipment).

**Phase Three:** is the final stage, done to incorporate a future-oriented strategy to help budget and fund necessary expenditures to provide the desired level of service for all infrastructure systems in the Township.

The following is taken from the Ministry of Infrastructure Municipal Asset Management Planning Regulation (O. Reg. 588/17) presentation dated September 19, 2018. The deadline for each phase has been extended one year since the original presentation.



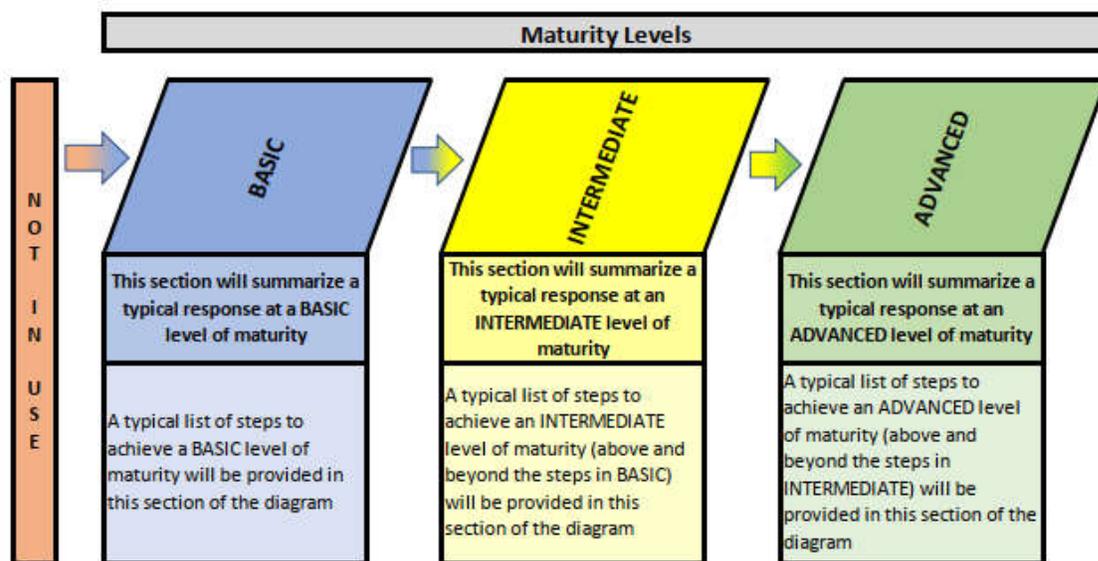
\*Core assets are municipal roads, bridges water, wastewater and stormwater assets

## PROJECT APPROACH

As stated above, the overall approach to the municipal development of asset management practices has been a detail-oriented, modular approach. In 2018, the Municipal Finance Officers’ Association of Ontario (MFOA) published an Asset Management Framework (AMF) to assist Ontario municipalities assess and improve their “maturity level” in all aspects of asset management planning. We will continue to refer to this framework throughout the plan as we cover the various sections of Municipal Asset Management.

The foundation of this document is to inform all municipal stakeholders on these results, for how staff and management have evolved their asset management practices. This is not only in accordance with the new regulation, but based on the original Asset Management Framework described herein. The goal is to help provide a true cultural overhaul and improved process at the highest level of decision-making, given the new tools available such as the Comprehensive Asset Register.

A sample maturity diagram from the framework is provided below:



## **SECTION ONE: ASSET MANAGEMENT POLICY**

On June 14, 2019, the Township of Tarbutt passed Bylaw 2019-13 with an effective date of June 19, 2019. This adopted By-law details the Strategic Asset Management Policy of the Municipality (Policy Number AMP 2019.6.14). The Policy itself provides guidance as to how staff and Council will interact with the Asset Management Plan, the Asset Register, and the Level of Service Framework, in accordance with the new Regulation.

### **Strategic asset management policy**

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

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

- iii. adaptation opportunities that may be undertaken to manage the vulnerabilities described in subparagraph i,
  - iv. mitigation approaches to climate change, such as greenhouse gas emission reduction goals and targets, and
  - v. disaster planning and contingency funding.
6. A process to ensure that the municipality's asset management planning is aligned with any of the following financial plans:
    - i. Financial plans related to the municipality's water assets including any financial plans prepared under the *Safe Drinking Water Act, 2002*.
    - ii. Financial plans related to the municipality's wastewater assets.
  7. A process to ensure that the municipality's asset management planning is aligned with Ontario's land-use planning framework, including any relevant policy statements issued under subsection 3 (1) of the *Planning Act*, any provincial plans as defined in the *Planning Act* and the municipality's official plan.
  8. An explanation of the capitalization thresholds used to determine which assets are to be included in the municipality's asset management plan and how the thresholds compare to those in the municipality's tangible capital asset policy, if it has one.
  9. The municipality's commitment to coordinate planning for asset management, where municipal infrastructure assets connect or are interrelated with those of its upper-tier municipality, neighbouring municipalities or jointly-owned municipal bodies.
  10. The persons responsible for the municipality's asset management planning, including the executive lead.
  11. An explanation of the municipal council's involvement in the municipality's asset management planning.
  12. The municipality's commitment to provide opportunities for municipal residents and other interested parties to provide input into the municipality's asset management planning.

**ABOUT THE TOWNSHIP OF TARBUTT**

**Overview**

The Corporation of the Township of Tarbutt is a township located within the Algoma District. It is located about 40 kilometres east of Sault Ste. Marie, with a total land area of 52.82 kilometres squared. Based on the 2016 Statistics Canada Census, this equates to approximately 10.1 citizens per kilometre squared.

**Township Population**

<b>YEAR</b>	<b>POPULATION</b>	<b>CHANGE (%)</b>
1996	442	0.70%
2001	446	5.40%
2006	388	-16.70%
2011	396	2.10%
2016	534	34.80%
2021	573	7.30%

From 1996-2011, the Township experienced a slight increase in population from 442 citizens of the community to 573 citizens as of 2021 (see the available Statistics Canada census). The large increase came from 2011 through 2016, for which the population grew by over 30%, or a total of 138 people.

## **SECTION TWO: STATE OF LOCAL INFRASTRUCTURE**

### **2.0 Requirements under Ontario Regulation 588/17**

The new regulation stipulates the following requirements with respect to asset inventories to be included in a municipalities' asset management plan:

1. A summary of assets in each category
2. The replacement cost of the assets in each category
3. The average age of the assets in each category, determined by assessing the average age of the components of the assets.
4. The information available on the condition of the assets in each category
5. A description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and general engineering principles.

## 2.1 General Asset Management Information

Each and every municipality manages their capital assets to provide services to their local community. The key questions with each municipality are about how well current services are performing, how to efficiently spend capital funding to maintain these current levels of service, and whether these services can be improved.

The new asset management regulation is all about data, as detailed in the five components above about what is required to be compiled in a municipality's asset inventory (otherwise known as the asset register).

### Preparing the Asset Register – Key Finding

Given the size of the Township of Tarbutt, what becomes readily available is the ability to store all data requirements in one comprehensive asset register. A comprehensive asset register is made of up all the integrated data sources to be analyzed and compiled by Township staff. Having multiple asset registers would create significant challenges, with the potential for inconsistencies in the data between each of the registers used.

### Sections of Data Compiled in the Asset Register

**Physical Data** – These components include all the data required to maintain the levels of services that each asset provides. This includes attributes such as general description, location, size, material type, and condition rating.

**Financial Data** – These components include all the asset financial details such as historical cost and replacement value. In part, the financial asset register forms part of the system that meets the Public Sector Accounting Board 3150 standards for tangible capital assets.

As a result of the comprehensive asset management plan project, the physical and financial asset registers exist in one data warehouse with the use of Microsoft Excel. This will allow the Township to easily navigate all historical physical and financial data for the Township.

### **Classification of Data Compiled in the Asset Register**

To appropriately lineup the reporting requirements of the municipality, the asset data is classified and analyzed in two separate categories. This includes the physical asset type or how it serves its community.

**Asset Data by Asset Type** – typical asset types for any municipality include Land, Building, Equipment, Furniture, Roads, Bridges, as well as Water & Sewer Infrastructure. Each asset type is depreciated by their individual useful life, as some assets will depreciate quicker than others simply because of it's type. Per the capital asset policy of the Township,

**Asset Data by Municipal Service** – for management reporting purposes, municipal operations and activities are organized by segment funds standardized across the province of Ontario. Funds were created for the purpose of recording specific activities to attain certain objectives in accordance with special regulations, restrictions, or limitations.

Municipal services are provided by departments and their activities are reported in these funds with descriptions as follows:

#### **General government**

The administration department oversees the delivery of all government services. The department is responsible for ensuring that there are adequate policies and procedures

in place to safeguard assets and to properly report financial activities. In addition, this department includes the governance activities of council.

### **Protection services**

Protection is comprised of the police, fire/emergency, by-law enforcement and building inspection departments. The mandate of the police is to ensure the safety of the lives and property of citizens; preserve peace and good order; prevent crimes from occurring; detect offenders; and enforce the law. The fire/emergency department is responsible to provide fire suppression service; fire prevention programs; training and education related to prevention, detection or extinguishments of fires. The by-law enforcement and building inspection department ensures properties are in compliance with applicable legislation, by-laws, building standards and construction codes.

### **Transportation services**

The transportation department is responsible for the delivery of municipal public works services related to the planning, development and maintenance of roadway systems, winter control and street lighting.

### **Environmental services**

The environmental department provides garbage collection and waste minimization programs and facilities for solid waste disposal.

### **Health services**

Through the Algoma Health Unit, the municipality contributes to public health services and education and through the Algoma District Services Administration Board, to ambulance services. In addition, this department oversees the care and maintenance of municipal cemeteries.

### **Social and family services**

Through the Algoma District Services Administration Board, the municipality contributes to social assistance payments, child care services and social housing.

### **Recreation and cultural services**

The recreation and cultural department provide public services that contribute to neighbourhood development and sustainability through the provision of recreation and leisure services such as parks, arena, fitness and sports programs. It provides public services that contribute to healthy communities through partnerships, promotion, prevention, protection and enforcement. The department also contributes towards the information needs of the municipality's citizens through the provision of library services.

### **Planning services**

The planning department provides a diverse bundle of services. It manages development for business interests, environmental concerns, heritage matters and neighbourhoods through planning and community development activities. It facilitates economic development by providing services for the approval of all land development plans.

### **Other Notes Regarding Data Compilation and the Asset Register**

#### **Linear vs. Non-Linear Assets**

- Data regarding non-linear assets is much easier to keep track of, as each asset exists on its own (i.e., equipment, automotive)

- Data regarding linear assets will have slightly different financial data columns. Year of original purchase to become year of replacement as they are location based and must exist at all times.

### **Capitalized Repair vs. Linear Asset Replacement**

- For capitalized repairs of linear assets, simply add the amount capitalized to the total cost based of the asset. Amortization will also proportionally increase as well, based on remaining useful life as a percentage of total useful life.
- For replacements of linear assets, the book value of the existing asset will need to be written off in the year of replacement. The replacement will require three rows in the register only for the year it occurred. The first line to contain the original asset information (for the asset being disposed), the second line for the disposal (a subtraction of the first line) and another third line for the new replacement. The year of replacement will then be updated to the current year on the third line. The first two rows can then be removed after the fiscal year.

### **Linear Asset Financial Data Allocation**

- As part of this project, all cost and amortization amounts are to be re-allocated for linear assets based on segmented locations (i.e., FROM – TO). This allocation will be based on the square meters of each asset as a % of total square meters of each section.
- Useful lives of individual assets will then be manually modified in the current year only (by adjusting the year of replacement) based on their condition rating. However, the ending accumulated amortization amount will be kept in mind to not stray too far from the ending amount per the financial statements.

## General Definitions of Lifecycle Activities and Options Available

The Ontario “Building Together Guide for Municipal Asset Management Plans” defines an asset management strategy as the set of planned that will enable the assets to provide the desired levels of service in a sustainable way, while managing the risk, at the lowest lifecycle cost. Each municipality will need to develop their own unique asset management strategy, based on their individual asset lifecycles, to obtain maximum output out of minimum costs. The actions defined and identified within lifecycle activities detail how assets, should be maintained, renewed, rehabilitated, and disposed or expanded upon. Activities are defined as follows:

**Non-Infrastructure Solutions** – include policies, processes, or strategies that reduce asset related costs and improve asset performance resulting in better service life. Examples include integrated infrastructure planning, land use planning, demand management, insurance, process optimization, managing failures, and the development of procurement policies.

**Maintenance Activities** – include the regularly scheduled costs to inspect or maintain assets. In some cases, this can include one-time repair costs that aren’t considered capital expenditures. (i.e., see Section 3150 of the PSAB financial reporting framework for the definition of a “betterment”).

**Rehabilitation Activities** – include significant repairs that in many cases extend asset life and improve service levels. These activities would me the direct definition of a betterment as described by PSAB Section 3150.

**Replacement Activities** – includes the identification of assets that no longer meet or are worth extending their service life. Involves the disposal of an asset currently in use for the replacement of a newly acquired asset. Assets that are linear in nature are typically not “replaced” since there are classified by the FROM-TO location.

## 2.2 Asset Categories Included in this Plan

This asset management plan summarizes the state of the infrastructure for the Township asset portfolio and establishes current levels of service of the associated technical and customer oriented key performance indicators (KPIs) for the asset categories listed below:



Buildings



Roads



Bridges & Culverts



Automotive



Land

### 2.3 Asset Condition Ratings

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Township’s asset portfolio. Asset conditions are determined based on visual inspections performed by management & following the criteria indicated below based on number and severity of deficiencies found.

Condition	Rating	Criteria	Risk of failure
Very good	9 - 10	Asset shows little or no signs of deterioration and should only require basic maintenance and upkeep.	Very low
Good	7 - 8		Low
Average	5 - 6	The asset is showing some signs of deterioration and may require some attention.	Moderate
Poor	3 - 4	The asset exhibits obvious signs of deterioration and should be monitored more closely or some form of intervention undertaken to improve the condition.	High
Very poor	1 - 2		Very high

## 2.4 Calculating the Reinvestment Rate

The reinvestment rate is a measurement of available or required funding relative to the total replacement costs. This is used to determine the township's ability to maintain good asset conditions and maintain the desired level of service.

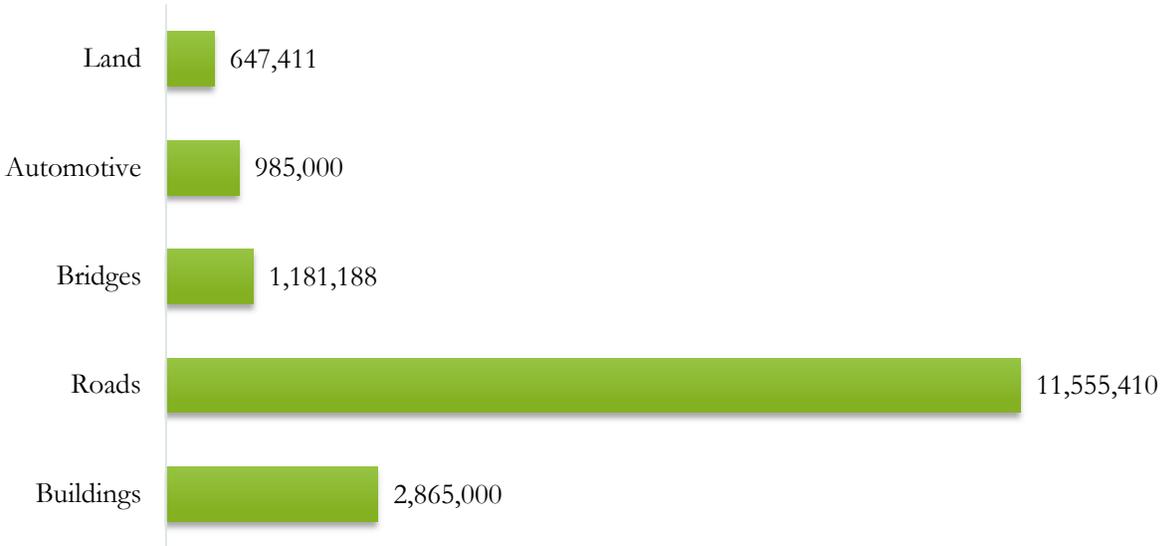
By comparing the actual vs. target reinvestment rate, the township can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

$$\text{Target Reinvestment Rate} = \frac{\text{Annual capital requirement}}{\text{Total replacement costs}}$$

$$\text{Actual Reinvestment Rate} = \frac{\text{Annual capital Funding}}{\text{Total replacement costs}}$$

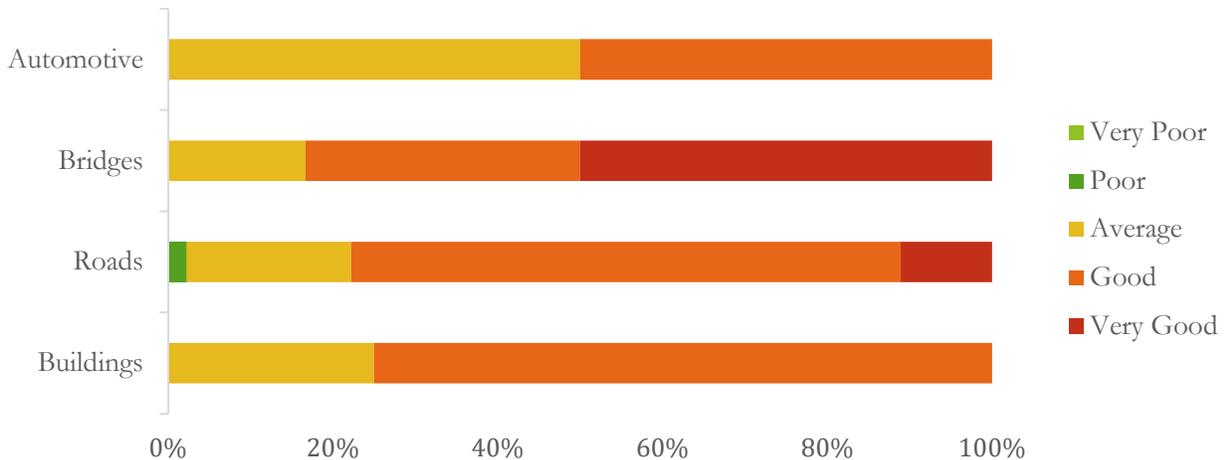
## 2.5 Portfolio Overview

### Total Replacement Costs of Asset Portfolio



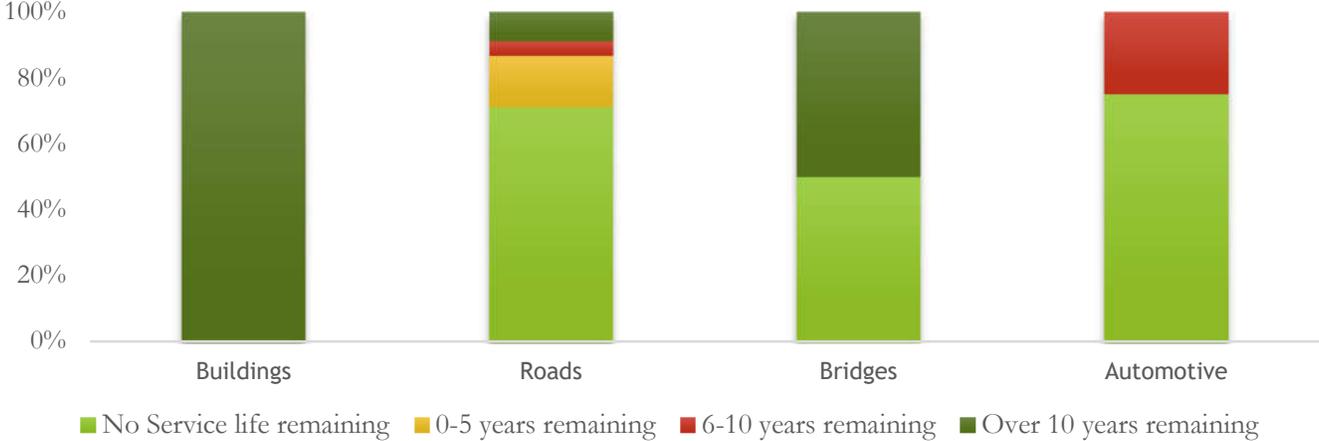
Total replacement costs for the asset portfolio amount to \$17.2 million and are predominately attributable to the Townships roads. These amounts are calculated by user-defined cost allocations set in each individual asset category.

### Condition of Asset Portfolio



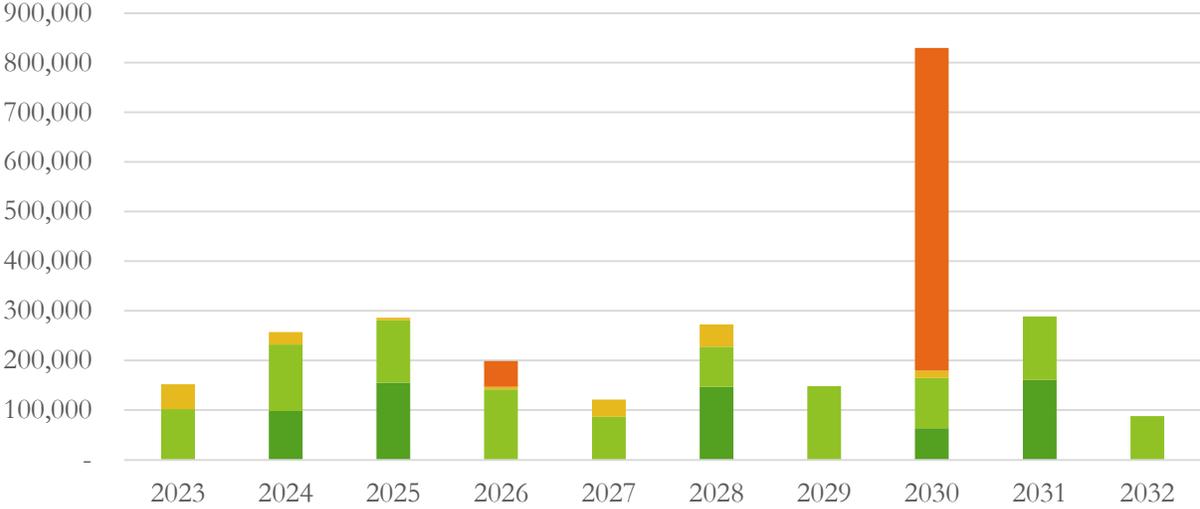
Asset conditions are measured by routine visual assessments performed by management. Collectively, 76% of the Townships assets are in above average condition.

### Estimated Service Life Remaining



Based solely on the estimated useful service life of the Township’s assets, (determined by assessing historical data industry standards), 80% of assets will require replacement or rehabilitation within the next 10 years. However, this does not factor in the condition ratings.

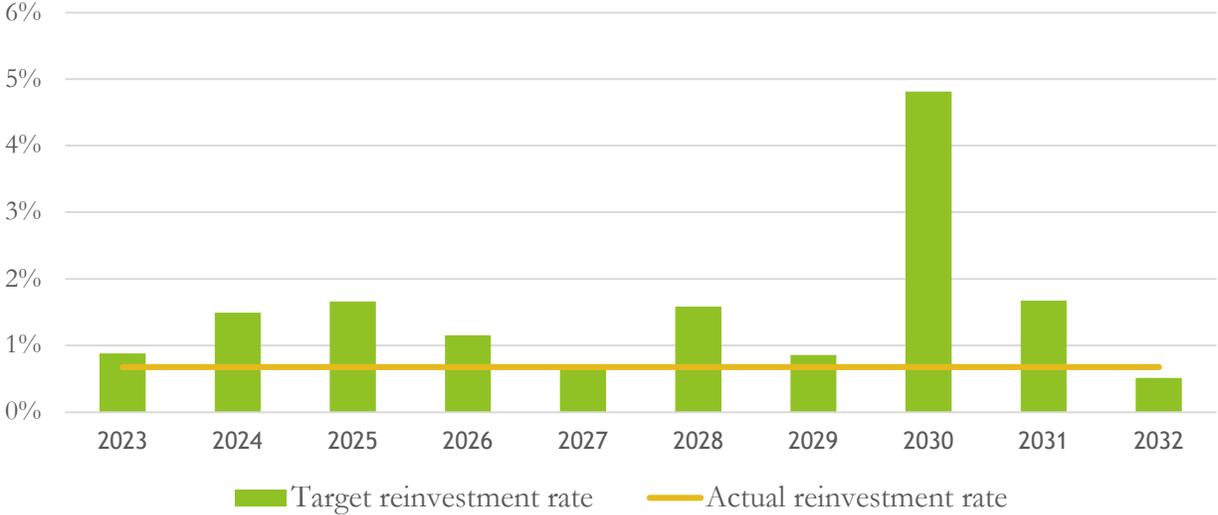
### Forecasted Capital Requirements



**Average annual capital requirements: \$ 264,255**

Projected capital requirements for asset maintenance, replacement, or rehabilitation amount to \$2.6 million over the next 10 years. This is determined by assessing historical data with industry standards while factoring in current asset conditions.

### Target vs Actual Reinvestment Rate



The graph portrays the funding gaps by comparing target vs actual reinvestment rates. That is, the target annual amounts that should be allocated to replacement costs which is nearly 1%, versus actual annual spending on infrastructure.

**2.6 Buildings**

The Township operates and maintains several facilities under various service segments such as general government, protection, transportation, environmental, & recreational services.

<b>General Government</b>	<b>Protection services</b>	<b>Transportation services</b>	<b>Environmental services</b>	<b>Recreation services</b>
- Municipal office	- Fire hall	- Sand shed - Garage	- Share shed	- MacLennan hall

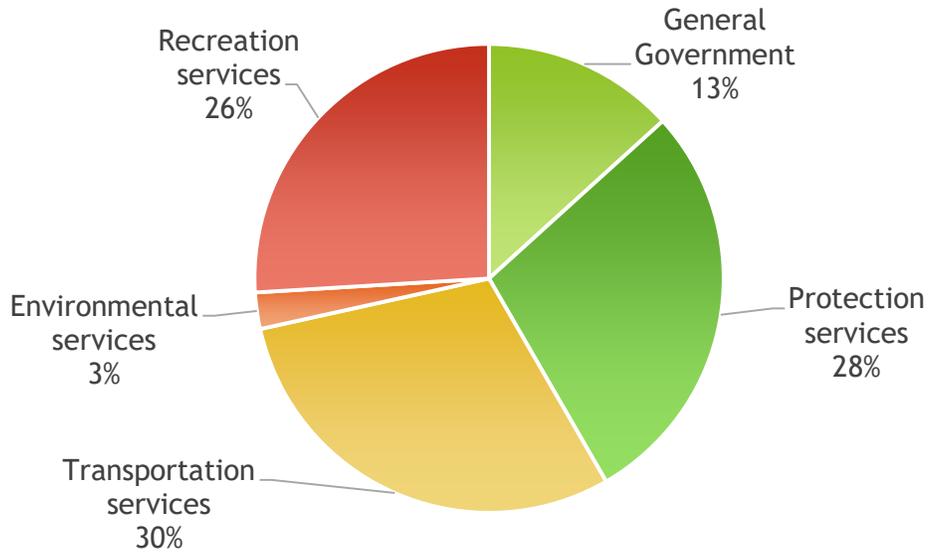
Lifecycle activities specific to building assets are detailed on the next page, provided from a past version of the municipal asset management plan.

**Lifecycle Activities for Buildings**

Activity	Description
<b>Asset Lifecycle</b>	Typically, 40 - 50 years of useful life
<b>Minimum Standards</b>	All buildings to adhere to the current requirements of the Ontario Building Code.
<b>Management Solutions</b>	Operational Manuals for buildings to outline requirements for their use and maintenance
<b>Maintenance Activities</b>	Regular maintenance and inspection activities to keep the structure in an appropriate level of service before the cost of rehabilitation becomes suboptimal.
<b>Rehabilitation Activities</b>	Complete rehabilitation of building components negatively impact facility use. Consideration given to energy saving and control systems.
<b>Replacement Activities</b>	Procurement regarding the facility replacement to be conducted through an open tender to receive the best value
<b>Disposal Activities</b>	Sale of asset components to the highest bidder.
<b>Expansion Activities</b>	Purchase of additional facilities to eliminate any contracted services

### 2.6.1 Replacement Costs

Building replacement costs have been estimated at a cost per square foot basis, based on a detailed assessment completed by the Township’s management.

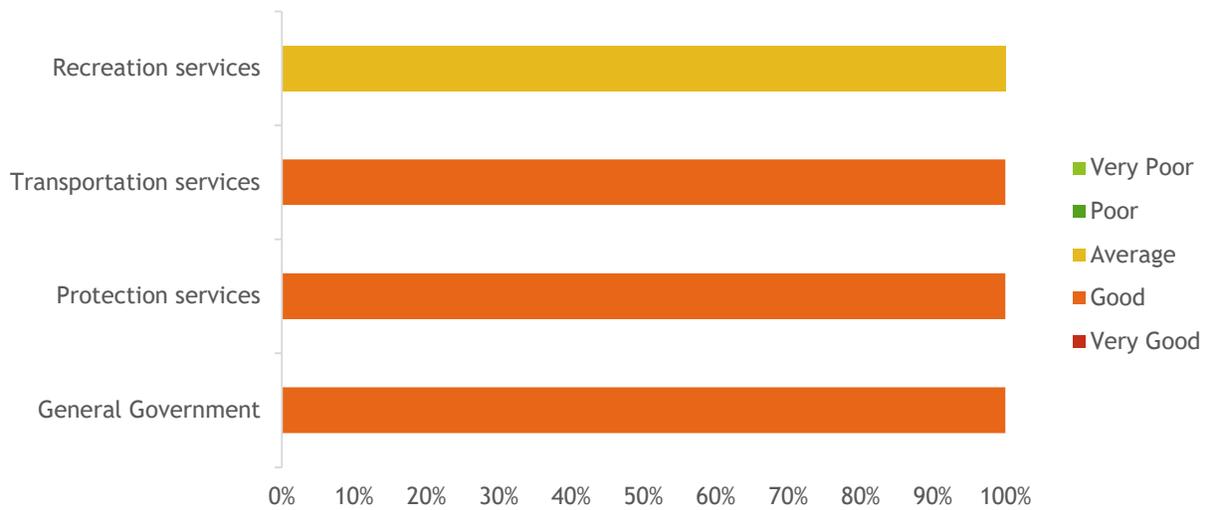


Service Segment	Size (Sqft)	Replacement Cost
General Government	1,268.00	380,400.00
Protection services	2,712.00	813,600.00
Transportation services	2,850.00	855,000.00
Environmental services	240.00	72,000.00
Recreation services	2,480.00	744,000.00
<b>Grand Total</b>	<b>9,550.00</b>	<b>2,865,000.00</b>

### 2.6.2 Condition Ratings

Asset condition ratings are used to determine asset lifecycle strategies and forecasted future cash flows. Ratings are allocated based on periodic visual assessments by management.

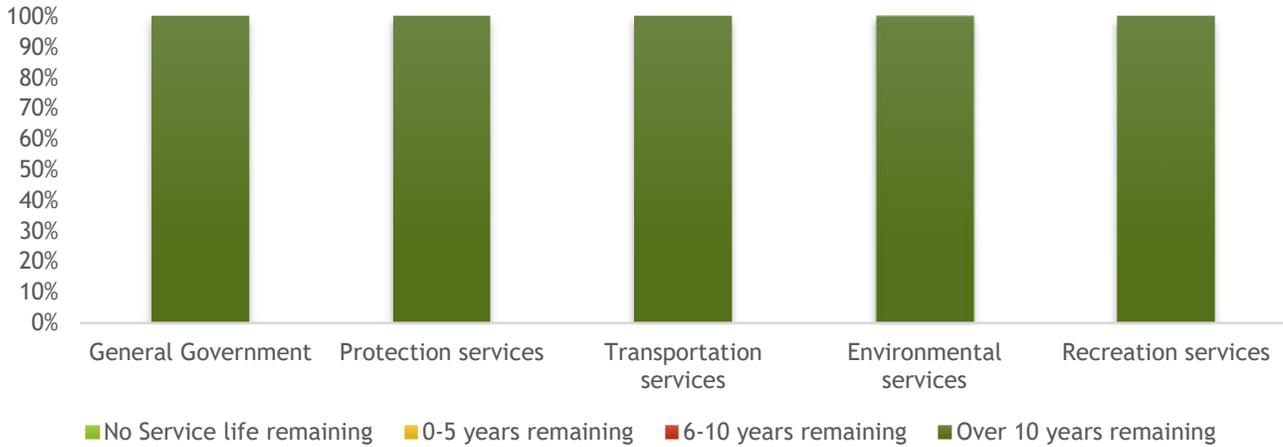
The average condition of the township’s facilities is good (7/10). Within the last 10 years, the township has invested in the maintenance & upkeep of buildings thus stabilizing their good condition.



Service Segment	Average Rating	Condition
General Government	7	Good
Protection services	7	Good
Transportation services	7	Good
Recreation services	5	Average
<b><i>Average</i></b>	<b><i>7</i></b>	<b><i>Good</i></b>

### 2.6.3 Average Age and Estimated Service Life Remaining

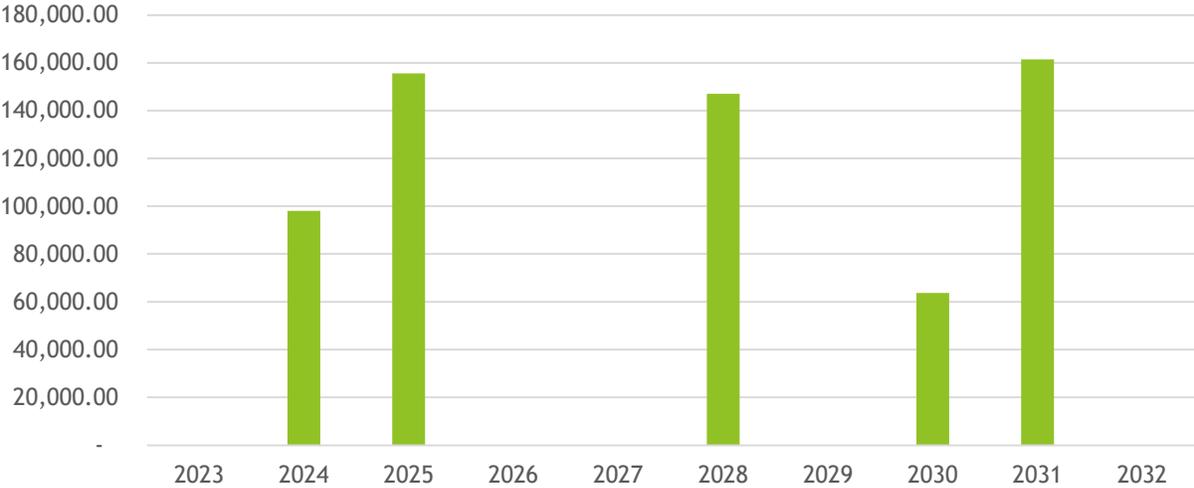
The estimated useful life is determined by analyzing both industry standards and assessments done by management. This information assists in planning for future maintenance. Asset conditions will gradually decay as the average age increases.



	Average age (years)	Estimated useful life	Average service life remaining
Environmental services	9	40	31
General Government	12	40	28
Protection services	12	40	28
Recreation services	9	40	31
Transportation services	24	40	16

### 2.6.4 Forecasted Capital Requirements

The below forecast is estimated based on historical data, while factoring in current asset conditions and estimated remaining useful service lives. An average of \$125,000 per year is needed to maintain building's service expectations.



**Average annual capital requirements: \$ 125,111**

## 2.7 Roads

As a core asset, the municipalities road structures are a critical component of providing safe and efficient transportation services. Lifecycle activities specific to road assets are detailed below, provided from a past version of the municipal asset management plan.

### Lifecycle Activities for Gravel Roads

Activity	Description
<b>Asset Lifecycle</b>	50 years of useful life based on PSAB 3150
<b>Minimum Standards</b>	Consideration to design speed, minimum right of way, road width, subbase, base, and horizontal radius
<b>Management Solutions</b>	Load limits at critical times and preventing heavy traffic. Amalgamated tenders for asset supply.
<b>Maintenance Activities</b>	Regular maintenance and inspection activities, including brushing, ditching, and shoulder stripping.
<b>Rehabilitation Activities</b>	Complete new ditching to provide proper road base drainage, culvert replacement, and frost treatments.
<b>Replacement Activities</b>	Unlikely activity given asset nature. Usually only for road base reconstruction or realignment.
<b>Expansion Activities</b>	Extending road service to complete minimum municipal road standard, no disposal expected.

**Lifecycle Activities for Asphalt Roads**

Activity	Description
<b>Asset Lifecycle</b>	10-20 years of useful life based on PSAB 3150
<b>Minimum Standards</b>	Consideration to design speed, minimum right of way, road width, subbase, base, and horizontal radius. Also, a review of asphalt surface volume
<b>Management Solutions</b>	Load limits at critical times and preventing heavy traffic. Amalgamated tenders for asset supply. Integrating road work with other infrastructure investments.
<b>Maintenance Activities</b>	Regular maintenance and inspection activities, including brushing, ditching, and shoulder stripping. Repair of cracks and other potholes with rout & seal. Patching of potholes and cracks with cold mix to prevent additional breakup
<b>Rehabilitation Activities</b>	Complete new ditching to provide proper road base drainage, culvert replacement, and frost treatments. Repair of cracks and other potholes with rout & seal. Additional spot treatments.
<b>Replacement Activities</b>	Processing of existing asphalt and underlying granular. This can include a complete restoration of the asphalt surface with new asphalt.
<b>Expansion Activities</b>	Providing proper connect with other roads or extending road service.

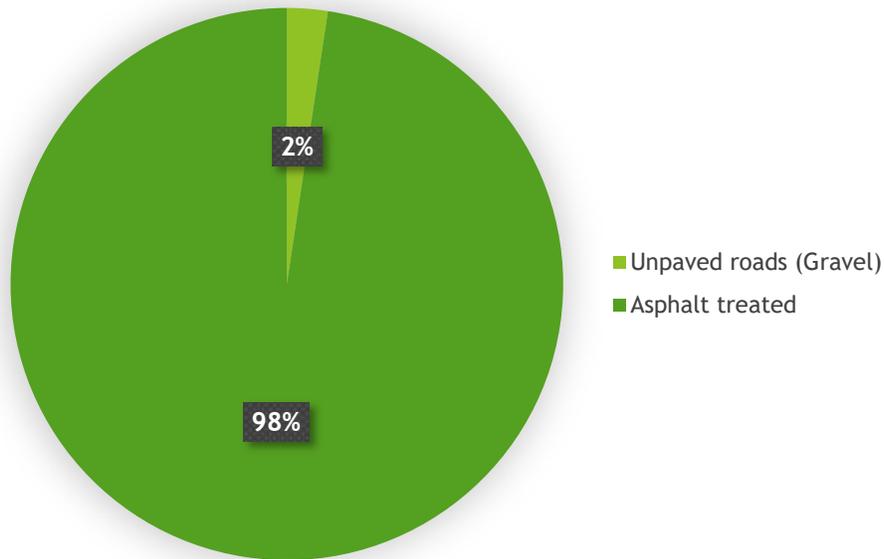
**Lifecycle Activities for Surface Treated Roads**

Activity	Description
<b>Asset Lifecycle</b>	10-20 years of useful life based on PSAB 3150
<b>Minimum Standards</b>	Consideration to design speed, minimum right of way, road width, subbase, base, and horizontal radius. Also, a review of number of applied treatments.
<b>Management Solutions</b>	Load limits at critical times and preventing heavy traffic. Amalgamated tenders for asset supply. Integrating road work with other infrastructure investments.
<b>Maintenance Activities</b>	Regular maintenance and inspection activities, including brushing, ditching, and shoulder stripping. Patching of cracks and other potholes with rout & seal, and cold mix to prevent additional breakup.
<b>Rehabilitation Activities</b>	Complete new ditching to provide proper road base drainage, culvert replacement, and frost treatments. Application of single course treatments every 10 to 15 years based on a deteriorating surface condition.
<b>Replacement Activities</b>	New double course surface treatment or reconstruction of the road base for hard surfacing upgrade to ensure proper performance.
<b>Expansion Activities</b>	Providing proper connect with other roads or extending road service. Development costs to be paid for by private investment.

### 2.7.1 Asset Inventory and Replacement costs

	Length (m)	Platform area (m)	Surface area (m)	Replacement cost
<b>Asphalt treated</b>	38,300	310,850	256,390	11,281,160
<b>Unpaved roads</b>	9,100	65,800	54,850	274,250
<b>Total</b>	<b>47,400</b>	<b>376,650</b>	<b>311,240</b>	<b>11,555,410</b>

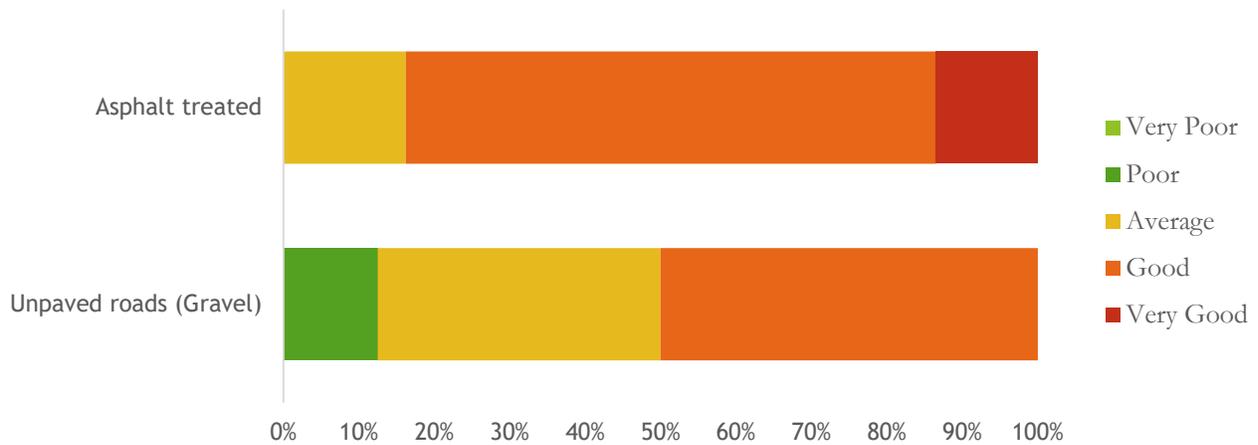
Replacement costs are estimated based on an allocated cost per square meter for gravel and for asphalt treated linear data. These cost allocations are based off historical data & a cost assessment completed by management.



### 2.7.2 Condition Ratings

Condition ratings are determined by township management based on periodic visual assessments. Roads are routinely checked to plan maintenance activities & note any significant deficiencies.

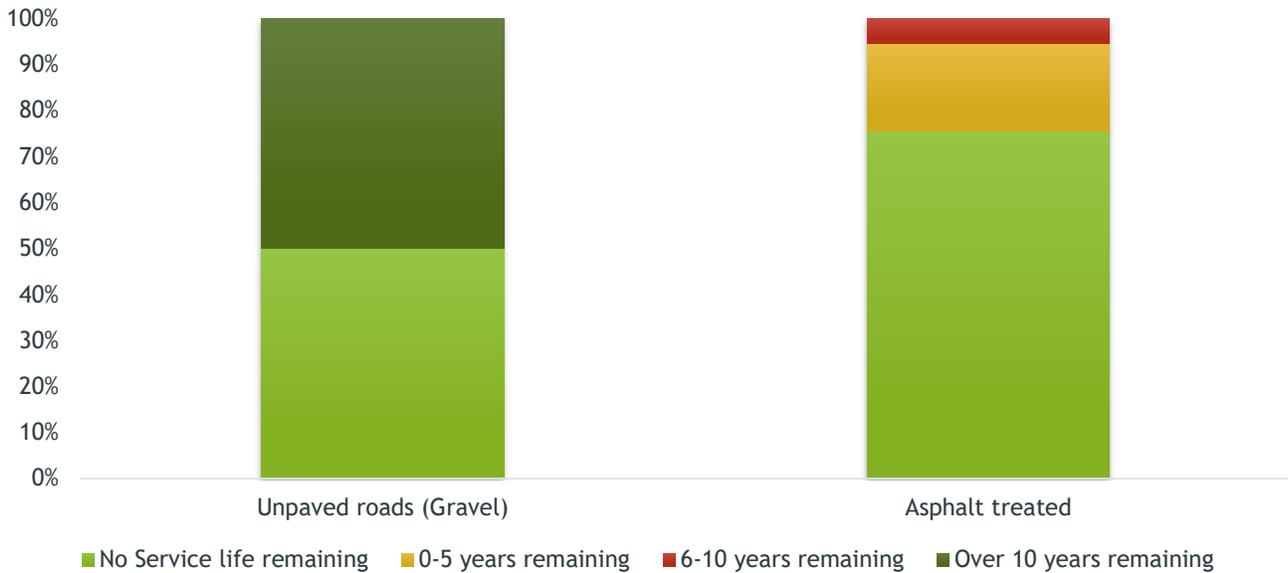
The average road’s condition is good (6.5/10). The majority of maintenance is attributable to asphalt treated roads.



Asset	Average rating	Condition
Unpaved roads (Gravel)	6	Average
Asphalt treated roads	7	Good
<b><i>Average</i></b>	<b><i>6.5</i></b>	<b><i>Good</i></b>

### 2.7.3 Asset Age and Estimated Service Life Remaining

The estimated useful life is determined by analyzing both industry standards and assessments done by management. This information assists in planning for future maintenance. Asset conditions will gradually decay as the average age increases.



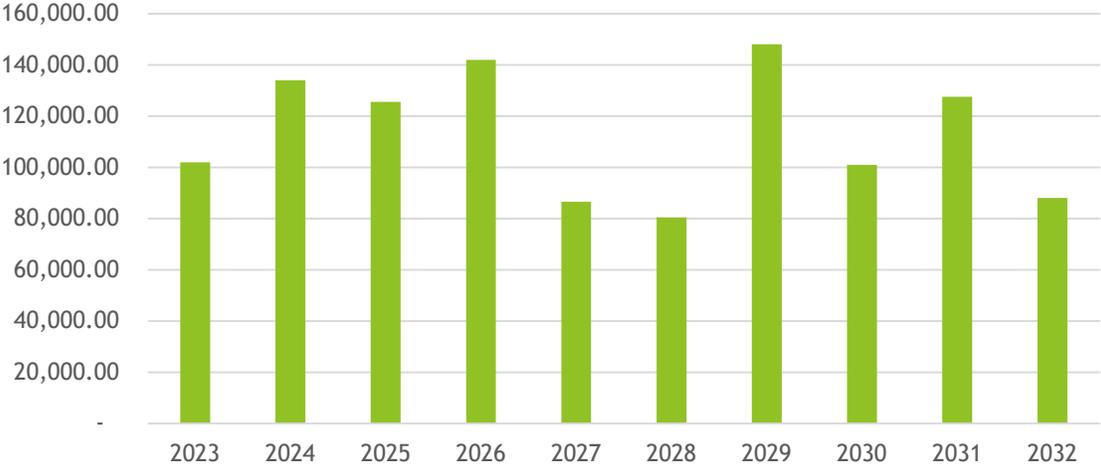
Asphalt treated roads are newer in comparison to gravel. Both road types appear to be extending beyond their estimated useful lives.

**Due to the significant different between useful life (NIL) and conditions (good) for asphalt treated roads, the Township is now considering revising the useful life estimate (i.e., to 20 years) to better align the financial data with actual condition.**

	Average age (years)	Estimated useful life	Average service life remaining
Unpaved roads (Gravel)	50	50	NIL
Asphalt treated	10	10	NIL

### 2.7.4 Forecasted Capital Requirements

The below forecast is estimated based on historical cost data, while factoring in current asset conditions and estimated remaining useful service lives. An average of \$113,500 per year is needed to maintain the roads conditions.



**Average annual capital requirements: \$ 113,500**

## 2.7.5 Levels of Service Analysis

### Community Levels of Service – Quality

#### Example One – Asphalt Treated Road (Pine Island Road)



#### Example Two – Gravel Treated Road (Puddingstone Road)



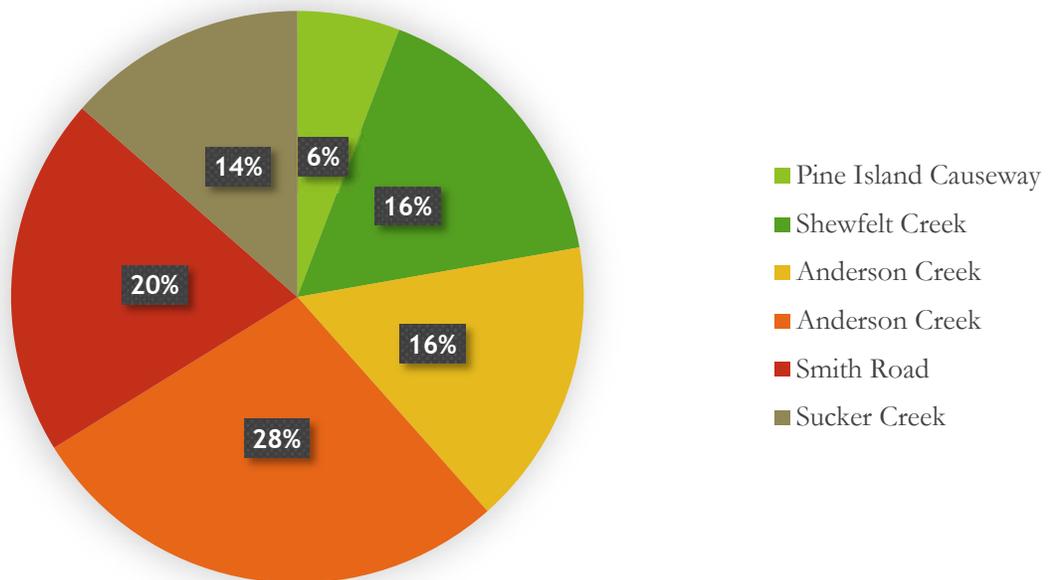
**Technical Service Level - On average, the condition of the Township's roads is good. 69% of all roads are in good or very good condition. The Township has land area of 52.82 km squared with road platform area of 311,240 meters squared (see above). This results in 0.5% of all municipal land area covered by a roads surface.**

## 2.8 Bridges & Culverts

Maintenance of bridges & culverts is another required component of services being provided. There are currently five culverts & three bridges located in the Township as outlined below.

Location	Asset Type	Replacement cost
Pine Island Causeway	Single culvert	68,346
Shewfelt Creek	Single culvert	194,259
Anderson Creek	Single culvert	191,596
Anderson Creek	Bridge	327,388
Smith Road	Bridge and culvert	239,649
Sucker Creek	Bridge and culvert	159,949
<b>Grand total</b>		<b>1,181,188</b>

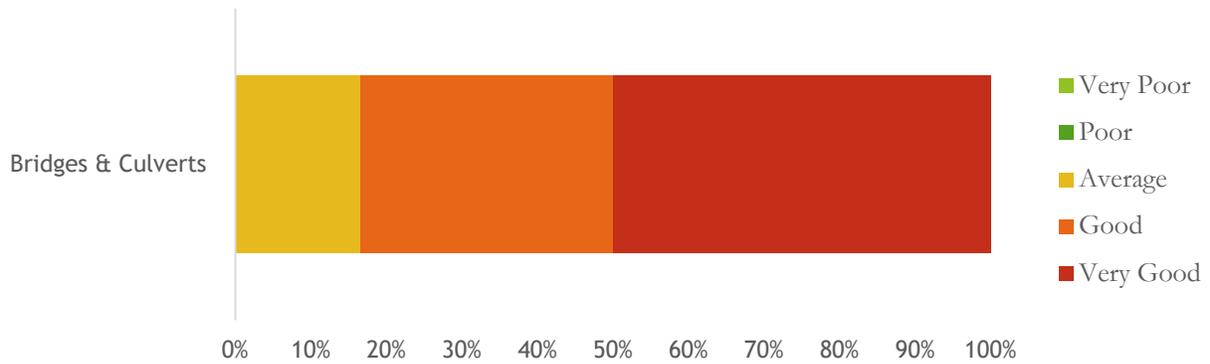
Replacement costs are determined by individual assessments of the specifically identified assets. This is based on an analysis of historical replacement costs & managements own assessment.



### 2.8.2 Condition Ratings

Condition ratings are determined by township management based on periodic visual assessments. Management routinely checks these asset categories to plan maintenance activities & note any significant deficiencies.

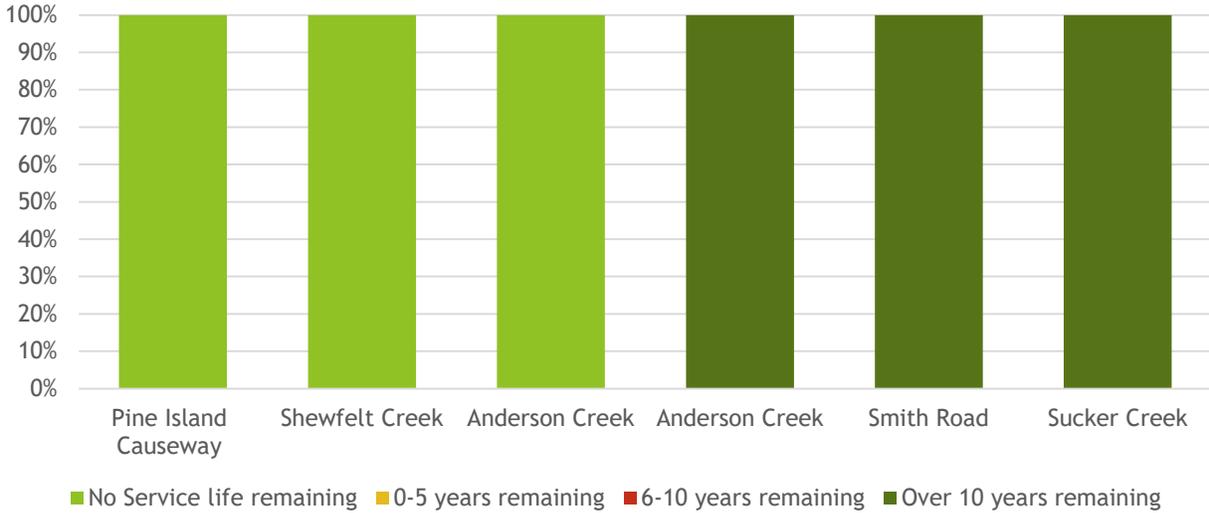
Condition ratings for both bridges & culverts are good with an 8/10 condition rating.



Location	Average rating	Condition
Pine Island Causeway	8	Good
Shewfelt Creek	5	Average
Anderson Creek	9	Very good
Anderson Creek	9	Very good
Smith Road	9	Very good
Sucker Creek	7	Good
<b><i>Average</i></b>	<b><i>8</i></b>	<b><i>Good</i></b>

### 2.8.3 Average Age and Estimated Service Life Remaining

The estimated useful life is determined by analyzing both industry standards and assessments done by management. This information assists in planning for future maintenance. Asset conditions will gradually decay as the average age increases.

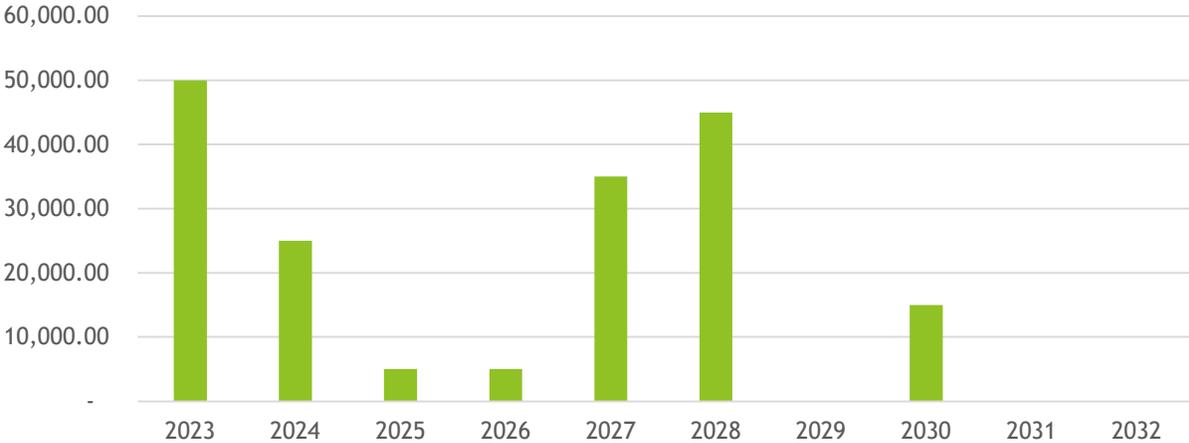


Although 60% of the townships bridges and culverts have over 10 years remaining of their estimated service life, the other 40% appears to have outlived their service life projections. Since all bridges & culverts appear to have good-very good condition ratings, no immediate concerns have been identified.

	Average age (years)	Estimated useful life	Average service life remaining
<b>Anderson Creek</b>	18	50	32
<b>Pine Island Causeway</b>	20	20	0
<b>Shewfelt Creek</b>	31	20	0
<b>Smith Road</b>	12	50	38
<b>Sucker Creek</b>	21	50	29

### 2.8.4 Forecasted Capital Requirements

The below forecast is estimated based on historical cost data, while factoring in current asset conditions and estimated remaining useful service lives. An average of \$25,000 per year is needed to maintain the streetlights & sidewalks conditions.



**Average annual capital requirements: \$ 25,714**

## 2.8.5 Levels of Service Analysis

### Pine Island Causeway



This is the Pine Island Causeway, which is has been currently labelled as in good condition. As a non-highway road, it can handle motor vehicles, emergency vehicles, pedestrians, and cyclists.

### Shewfelt Creek Single Culvert



This is the Shewfelt Creek Single Culvert, currently in average condition. As a non-highway road, it can handle motor vehicles, emergency vehicles, pedestrians, and cyclists.

**Anderson Creek – Single Culvert and Bridge**



This is the Anderson Creek Single Culvert and Bridge, currently in very good condition. As a non-highway road, it can handle motor vehicles, emergency vehicles, pedestrians, and cyclists.

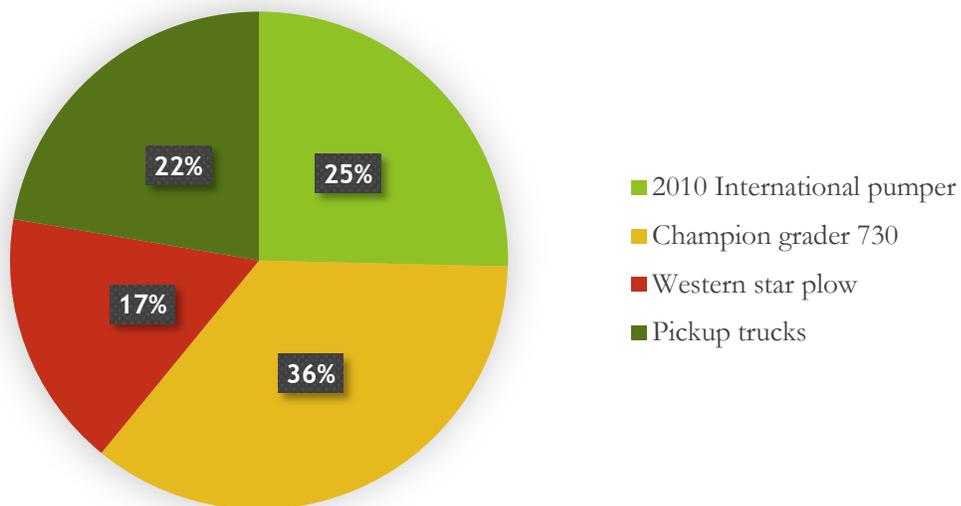
Photos available via Google Images. The Township also has a single culvert and bridge located on Smith Road and Puddingstone Road (similar to Anderson Creek pictured above), for a total of five Bridge Structures. Of the five structures, only the Pine Island Causeway has dimensional restrictions (single lane only), and none accommodate heavy transport vehicles as they are not provincial highway.

## 2.9 Automotive

Various vehicles are needed to either maintain conditions for asset categories (such as transportation) or provide additional services (such as rescue).

Service Segment	Quantity	Usage	Replacement cost
<b>Protection services:</b>			
2010 international pumper	1	Emergency services	250,000
<b>Transportation services:</b>			
Champion grader 730	1	Winter control	350,000
Western star plow	1	Winter control	165,000
Pickup trucks	3	Roadside operations	220,000
			735,000
<b>Total replacement costs</b>			<b>985,000</b>

Replacement costs are determined based on the market value of the specific assets identified. This approach was used given there are a total of 6 assets included within this asset class. A breakdown based on municipal service is provided below. Most assets belong to a combination of protection (17%) and transportation services (83%).

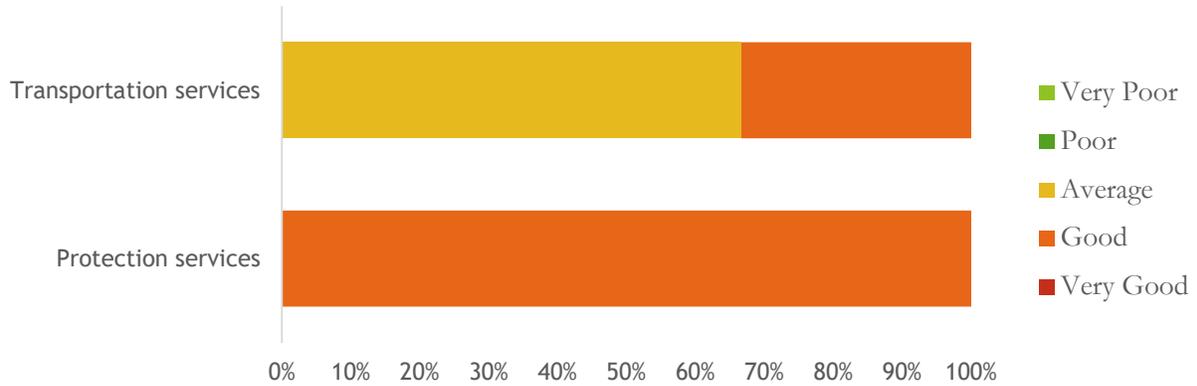


**Lifecycle Activities for Vehicles & Equipment**

Activity	Description
<b>Asset Lifecycle</b>	Typically, 10 - 30 years of useful life
<b>Minimum Standards</b>	Consideration given to hybrid use in winter climate (i.e., snowplows and grader attachments)
<b>Management Solutions</b>	Leasing vs. purchasing equipment. Determining lease terms given interest rate environment
<b>Maintenance Activities</b>	Maintenance activities based on manufacturer guidelines.
<b>Rehabilitation Activities</b>	Individual component replacements such as suspension, tires, or individual brakes
<b>Replacement Activities</b>	Purchase of new vehicles and equipment through the request for quotation (RFQ) process.
<b>Disposal Activities</b>	Sale of an individual asset to the highest bidder (i.e., closed auction). Consider sale partway through life expectancy to maximize the value of the asset.
<b>Expansion Activities</b>	The purchase of additional equipment to meet expected levels of service or to provide cost benefits by eliminating other contracted service requirements.

### 2.9.2 Condition Ratings

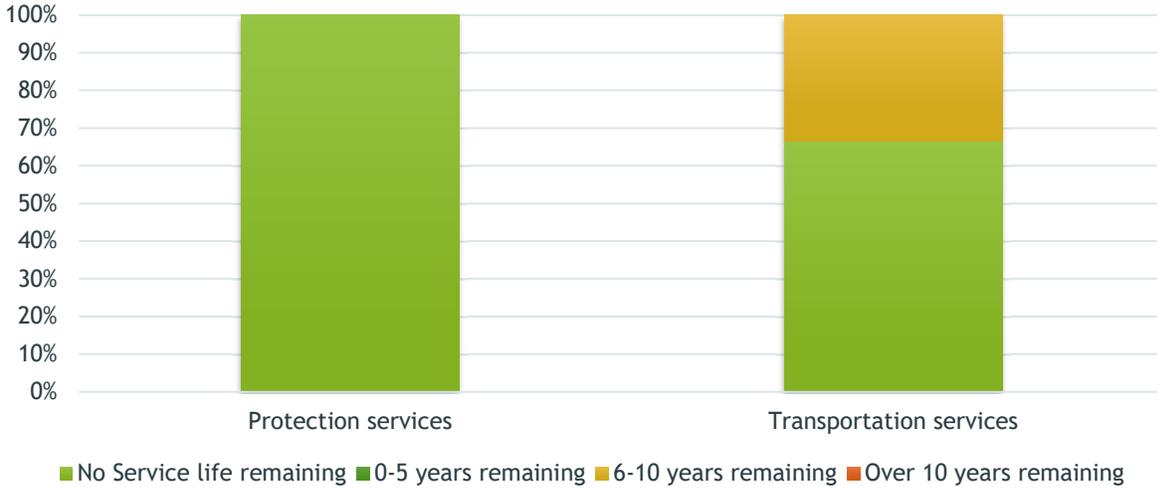
Condition ratings are determined by township management based on periodic visual assessments. Roads are routinely checked to plan maintenance activities & note any significant deficiencies. Equipment in all service segments appear to be in good or average condition.



Asset	Average Rating	Condition
2010 International pumper	7	Good
Champion grader 730	5	Average
Western star plow	8	Good
Pickup trucks	6	Average
<b><i>Average</i></b>	<b><i>7</i></b>	<b><i>Good</i></b>

### 2.9.3 Average Age and Estimated Service Life Remaining

The estimated useful life is determined by analyzing both industry standards and assessments done by management. This information assists in planning for future maintenance. Asset conditions will gradually decay as the average age increases.

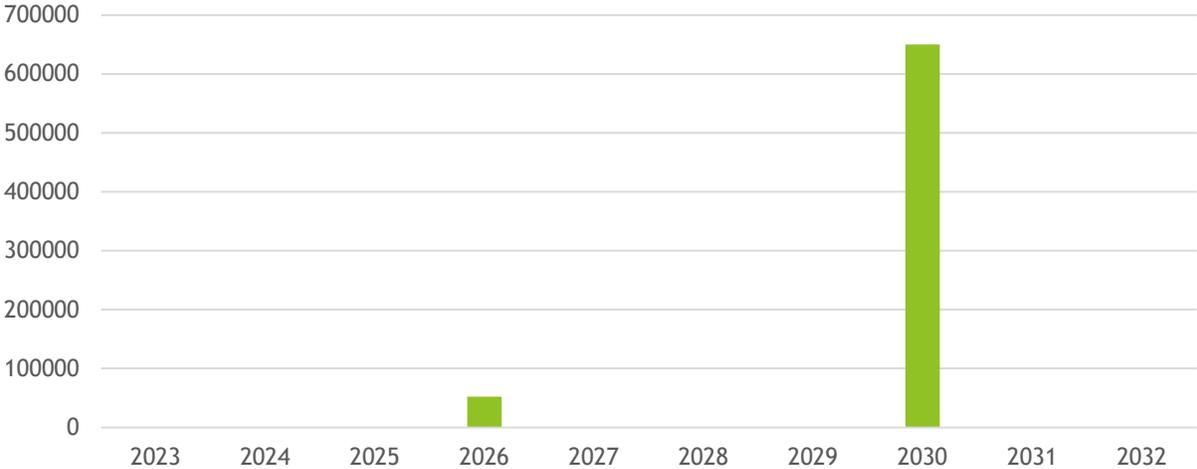


Vehicles & equipment placed in the transportation & recreational service segments appear to have extended beyond their estimated useful life. However, assets remain in good or average condition.

	Average age (years)	Estimated useful life	Average service life remaining
<b>2010 International pumper</b>	13	8	-5
<b>Champion grader 730</b>	18	12	-6
<b>Pickup trucks</b>	16	12	-4
<b>Western star plow</b>	3	12	9

### 2.9.4 Forecasted Capital Requirements

The below forecast is estimated based on historical cost data, while factoring in current asset conditions and estimated remaining useful service lives. An average of \$351,000 per year is needed to maintain the conditions of vehicles.



**Average annual capital requirements: \$ 351,000**

## 2.10 Land

Various properties located in Tarbutt with a total acreage of 29 m. Replacement costs are based off each property’s individual assessments.

	Acreage	Footage (m)	Replacement cost
1450 MacLennan Rd. S	1.2	26	82,000
27 Barr Rd. S	12.5	218	165,000
Barr road	0.6	27	10,700
Birch Hill Subdivision	0.9	96	14,500
Corner of MacLennan/Government	1.5	185	113,200
Government road	2.1	91	1,600
Hardwood Dr.	3.7	111	17,300
Highway 548	0.4	61	12,500
Partridge & Lakeshore Dr	2.6	37	64,000
Port Findlay Dock	0.2	30	69,000
Puddingstone road	3.5	66	17,200
Shewfelt Creek	0.0	13	1,000
Waste management Land			79,411
<b>Grand Total</b>	<b>29.2</b>	<b>962</b>	<b>647,411</b>



## **SECTION THREE: FINANCING STRATEGY**

### **3.1 Overview**

An asset management financing strategy outlines the suggested approach to funding the lifecycle management strategy (i.e. – the long-term forecast) that is proposed to be adopted by the municipality. The financing strategy forms an integral framework for ensuring the municipality makes optimal use of the various funding sources that it has at its disposal. It will provide a foundation for preparing other long-term financial plans including operating and capital budgets.

The financial strategy will have a derivative impact on the following:

- Taxation levies to the taxpayer
- Use of available grant and related opportunities
- Asset Management policies
- Pricing of user fees and charges
- Use of reserve and reserve funds where available
- Analyzing debt levels and the impact of rate sensitivity
- Calculation of the infrastructure funding gap

#### **The Township's Bottom-up Approach**

The Township's plan for capital expenditure spending at a very detailed level (i.e., spending on roads based on the specific road location). It is evident based on prior asset management plans.

This is inherently aided by the size of the Township, as all condition data can be reviewed with significant precision during an asset inspection by a third party. This is known as a bottom-up approach.

This practice will continue with regards to future asset management planning.

## 3.2 The Forecasting Process

### Developing a Forecast by Individual Asset

- Based on the completed asset register, the Township has approximately 200-300 individual assets to be managed and accounted for.
- Because of the smaller size of the community, there are less assets to manage. Township staff and council have a better ability to manage each asset individually relative to larger cities
- The forecast infrastructure surplus or deficit calculation will derive from the summary results of the individual forecast

### Consideration #1 - Results of the Completed Condition Assessments

- Based on the completed assessment of individual asset conditions, most assets have a rating of fair or higher
- This is because the Township is able to visually identify and inspect conditions of individual assets on a regular basis.
- The Township uses a mostly focuses on a maintenance and rehabilitation approach to maximize the lifecycle of each asset based on completed visual inspections.
- This keeps most of the Township's assets in good working condition on an annual basis, with the exception of environmental infrastructure since these assets are less readily available for inspection.

### Consideration #2 – The Lifecycle Management Approach

- The lifecycle management approach not only includes estimating future lifecycle costs, but also an overview of how the asset performs over its life while providing affordable services. This allows for a more holistic perspective instead of considering cost projections alone in a vacuum.
- Lifecycle costing is comprised of acquisition and construction, operating, maintaining, rehabilitating, replacing, disposal, expansion, as well as non-infrastructure solutions over the useful life of an asset. Asset managers typically

strive to achieve the lowest lifecycle cost for all assets. Definition for each individual lifecycle activity can be found in Section Two of this report above.

### **Preparing the Forecast Inputs**

As a result of the completed condition assessments, along with the individual cost elements of various lifecycle activities over the useful life of an asset, the following process will be performed to prepare the Asset Management Forecast

#### **(a) Non-Environmental Inputs:**

For the 2023 Township Asset Management Plan, inputs will be prepared by Stefanizzi Professional Corporation which includes a review of the ten most recent fiscal years of capital expenditures, with consideration given to current condition ratings and lifecycles of each asset group.

From this completed project, the Township will begin to use the forecast tool, along with the asset register, to provide better data-based decision making for their community. The Township will begin to take a more granular approach to preparing this forecast every five years. This will also allow major capital expenditures to be planned for well in advance (especially when then using the AMP to apply for Government Grants in the appropriate year).

### 3.2 Annual Funding Available

Average Annual Requirements	Annual Funding Available		Average Annual Deficit
	Canada Community Building Fund	Ontario Community Infrastructure Fund	
264,255	66,434	50,000	(147,821)

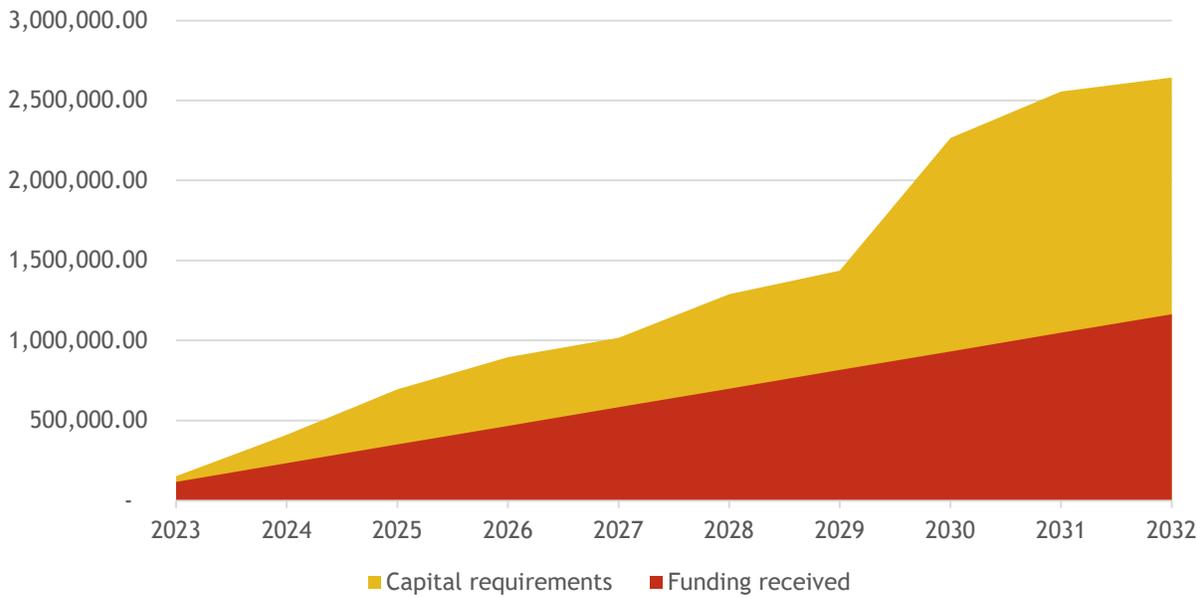
The Township of Tarbutt receives approximately \$116,434 in annual funding. With an average annual requirement of \$264,255, the township has a projected average annual deficit of \$147,821.



### 3.3 Infrastructure Funding Gap

#### What is the infrastructure funding gap?

As part of the long-term funding strategy, municipalities will need to calculate the level of annual investment in capital assets that is required per this asset management plan and compare it to the current level of funding available for capital investments. The difference between these amounts is the infrastructure funding gap, one of the most important metrics of asset management planning.



**Total 10 year deficit: \$ 1,478,213**

## **CONCLUSION: AVERAGE ANNUAL TAX CHANGE**

This is only the beginning of the next step in continuing to build a data-based and comprehensive asset management practice. With the completion of this asset management project, new infrastructure has now been setup to really detail information right to the individual asset level, and allow for more informed plans on capital asset spending.

The accumulated total funding gap over the next 10 years is \$1.4 million. As a financing strategy, the Township has calculated that a 1.35% annual increase in taxation revenue is required to eliminate this funding gap.



**Average Annual  
Tax Change**  
**1.35%**

## Appendix A – Capital Forecast Summary and Schedules

SOURCE OF FINANCING	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
Canada Community Building Fund	66,434.00	66,434.00	66,434.00	66,434.00	66,434.00	66,434.00	66,434.00	66,434.00	66,434.00	66,434.00	
Ontario Community Infrastructure Fund	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	
<b>Total Expected Revenue for Capital Financing</b>	<b>116,434.00</b>	<b>116,434.00</b>	<b>116,434.00</b>	<b>116,434.00</b>	<b>116,434.00</b>	<b>116,434.00</b>	<b>116,434.00</b>	<b>116,434.00</b>	<b>116,434.00</b>	<b>116,434.00</b>	
<b>FORECASTED COST BY ASSET TYPE</b>											
Land	-	-	-	-	-	-	-	-	-	-	
Waste management Land											
Buildings	-	98,000.00	155,512.00	-	-	147,031.00	-	63,632.28	161,378.19	-	
Furniture/Equipment	-	-	-	-	-	-	-	-	-	-	
Roads	102,000.00	134,000.00	125,500.00	142,000.00	86,500.00	80,500.00	148,000.00	101,000.00	127,500.00	88,000.00	
Bridge Structure	50,000.00	25,000.00	5,000.00	5,000.00	35,000.00	45,000.00	-	15,000.00	-	-	
Fleet	-	-	-	52,000.00	-	-	-	650,000.00	-	-	
<b>Total Forecast Cost by Asset Type</b>	<b>152,000.00</b>	<b>257,000.00</b>	<b>286,012.00</b>	<b>199,000.00</b>	<b>121,500.00</b>	<b>272,531.00</b>	<b>148,000.00</b>	<b>829,632.28</b>	<b>288,878.19</b>	<b>88,000.00</b>	
<b>INFRASTRUCTURE SURPLUS OR DEFICIT</b>	<b>-</b>	<b>35,566.00</b>	<b>-140,566.00</b>	<b>-169,578.00</b>	<b>-82,566.00</b>	<b>-5,066.00</b>	<b>-156,097.00</b>	<b>-31,566.00</b>	<b>-713,198.28</b>	<b>-172,444.19</b>	<b>28,434.00</b>

TOWNSHIP OF TARBUTT

FINANCING STRATEGY - ELEVEN YEAR REVIEW OF CAPITAL EXPENDITURES

ACTUAL EXPENDITURES	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTAL	AVERAGE
<b>Buildings</b>	37,854.75	-	-	-	129,276.68	8,743.19	7,085.55	127,380.90	9,616.32	30,774.77	146,821.97	497,554.13	45,232.19
<b>Equipment</b>	61,872.83	-	21,710.60	-	-	-	3,495.70	-	-	-	-	87,079.13	7,916.28
<b>Roads - Gravel</b>	-	47,953.09	34,598.44	45,396.14	39,055.03	41,411.17	19,977.12	-	-	-	-	228,390.99	20,762.82
<b>Roads Paved</b>	1,030,462.11	148,580.74	148,057.73	159,803.03	179,775.01	253,203.18	200,136.12	13,941.06	-	104,429.88	87,294.81	2,325,683.67	211,425.79
<b>Bridges</b>	185,370.99	-	-	-	-	-	8,344.32	-	-	-	-	193,715.31	17,610.48
<b>Fleet</b>	235,293.26	-	-	-	-	159,631.61	17,953.19	-	-	228,960.00	-	641,838.06	58,348.91
<b>TOTAL</b>	<b>1,550,853.94</b>	<b>196,533.83</b>	<b>204,366.77</b>	<b>205,199.17</b>	<b>348,106.72</b>	<b>462,989.15</b>	<b>256,992.00</b>	<b>141,321.96</b>	<b>9,616.32</b>	<b>364,164.65</b>	<b>234,116.78</b>	<b>3,974,261.29</b>	<b>361,296.48</b>

INFLATED TO TODAYS DOLLARS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTAL	AVERAGE
Inflation Rate (Macrotrends)	2.91%	1.52%	0.94%	1.91%	1.13%	1.43%	1.60%	2.27%	1.95%	0.72%	3.40%	6.30%		
CPI Compounded Annually	1.29	1.26	1.24	1.23	1.20	1.19	1.17	1.15	1.13	1.11	1.10	1.06		
<b>Buildings</b>	48,938.97	-	-	-	155,512.51	10,400.04	8,309.45	147,031.14	10,853.40	34,069.39	161,378.19	-	576,493.09	52,408.46
<b>Equipment</b>	79,989.76	-	26,865.63	-	-	-	4,099.52	-	-	-	-	-	110,954.92	10,086.81
<b>Roads - Gravel</b>	-	60,241.18	42,813.60	55,652.01	46,980.99	49,258.67	23,427.80	-	-	-	-	-	278,374.25	25,306.75
<b>Roads Paved</b>	1,332,190.90	186,654.89	183,213.02	195,905.65	216,259.14	301,185.66	234,706.00	16,091.66	-	115,609.71	95,949.39	-	2,877,766.02	261,615.09
<b>Bridges</b>	239,649.32	-	-	-	-	-	9,785.65	-	-	-	-	-	249,434.97	22,675.91
<b>Fleet</b>	304,189.29	-	-	-	-	189,882.10	21,054.28	-	-	253,471.50	-	-	768,597.17	69,872.47
<b>TOTAL</b>	<b>2,004,958.25</b>	<b>246,896.07</b>	<b>252,892.26</b>	<b>251,557.66</b>	<b>418,752.64</b>	<b>550,726.47</b>	<b>301,382.70</b>	<b>163,122.80</b>	<b>10,853.40</b>	<b>403,150.60</b>	<b>257,327.59</b>	<b>-</b>	<b>4,861,620.42</b>	<b>441,965.49</b>

### Appendix B – Map of the Township

