



STEFANIZZI
PROFESSIONAL CORPORATION
CHARTERED PROFESSIONAL ACCOUNTANT



Town of Bruce Mines

Asset Management Plan

January 27, 2023

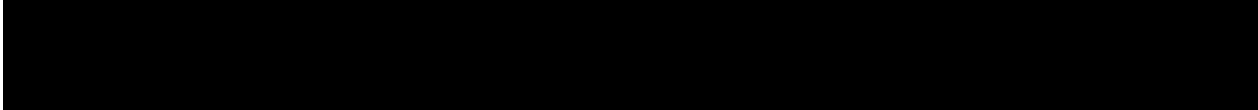


TABLE OF CONTENTS

INTRODUCTION	4
PROJECT APPROACH	7
SECTION ONE: ASSET MANAGEMENT POLICY	8
SECTION TWO: STATE OF LOCAL INFRASTRUCTURE	11
SECTION THREE: FINANCING STRATEGY	55
CONCLUSION: AVERAGE ANNUAL TAX CHANGE	60



2-207 NORTHERN AVE. E.
SAULT STE. MARIE
ONTARIO P6B 4H9
PH. 705.949.9616
FX. 705.949.8947
office@stefanizzi.ca

January 27, 2023

The Corporation of the Town of Bruce Mines
9126 Hwy. 17 East
Bruce Mines, Ontario
P0R 1C0

To the Staff, Management, and Council of the Town of Bruce Mines

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 Bruce Mines.

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

1. Asset Management Roadmap Document (“the Roadmap”)
2. Asset Management Processes and Staff Training
3. Asset Register and Level of Service Framework Workbooks
4. 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 Town 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

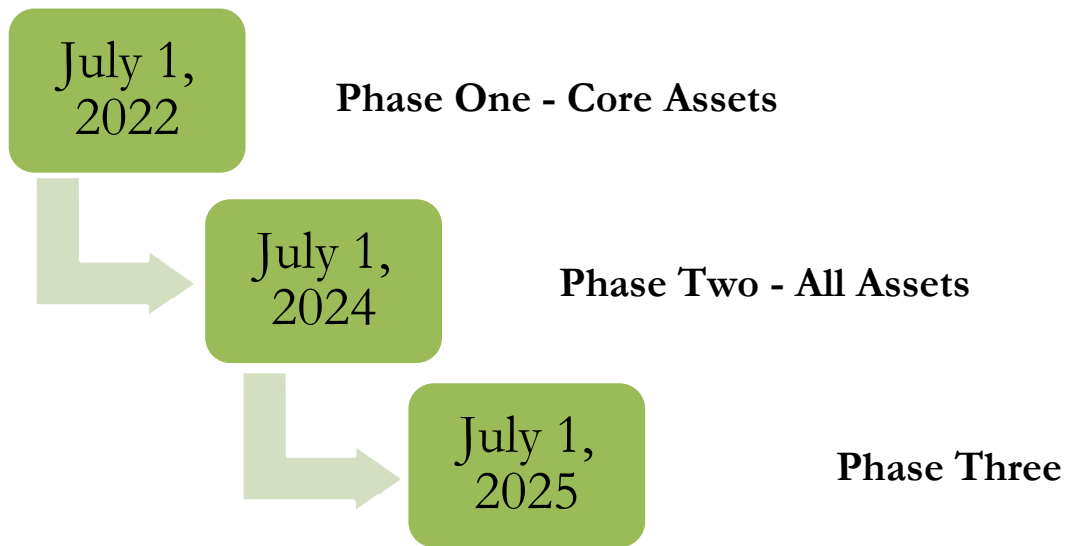
In December 2017, the Province of Ontario had approved Regulation 588/17 (“the Regulation”) to update the guidelines of the province related to Municipal Asset Management Planning. This Regulation serves as an update to the 2012 – Building Together: Guide for Municipal Asset Management Plans. It is the 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:

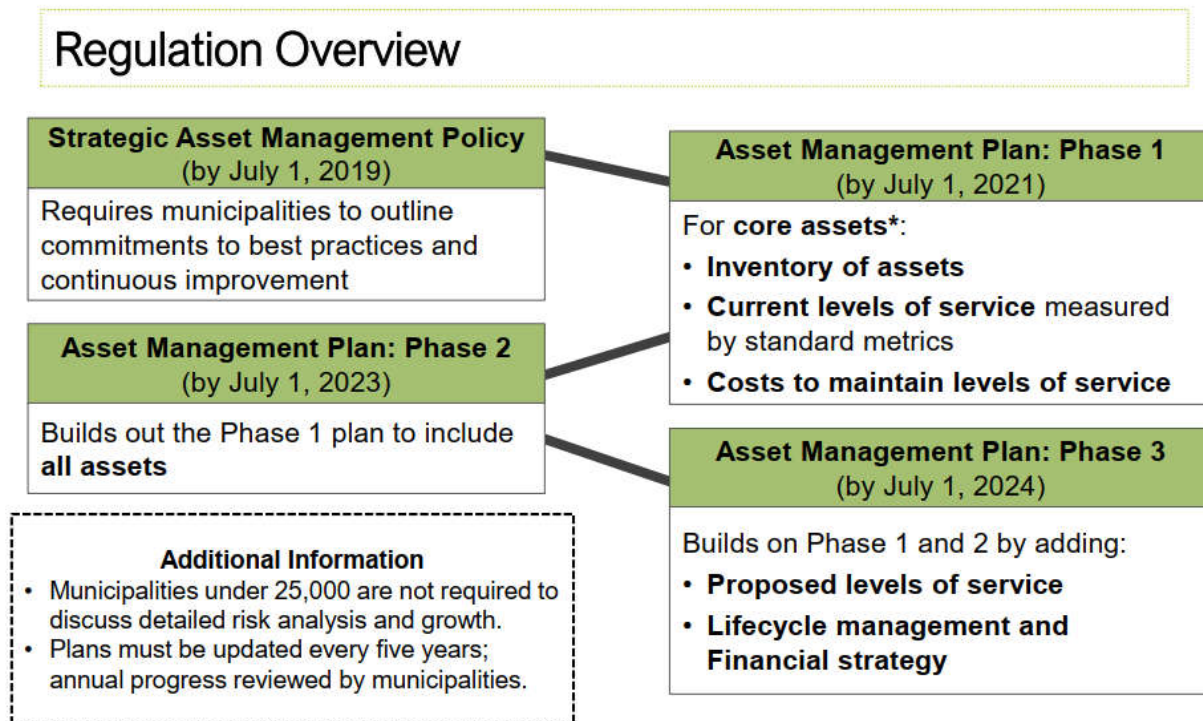


Phase One: will document the state of local infrastructure for all core assets, their current level of service, as well as expected costs to maintain these service levels. Core assets include roads, bridges, as well as sewer and water infrastructure.

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 Town.

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.



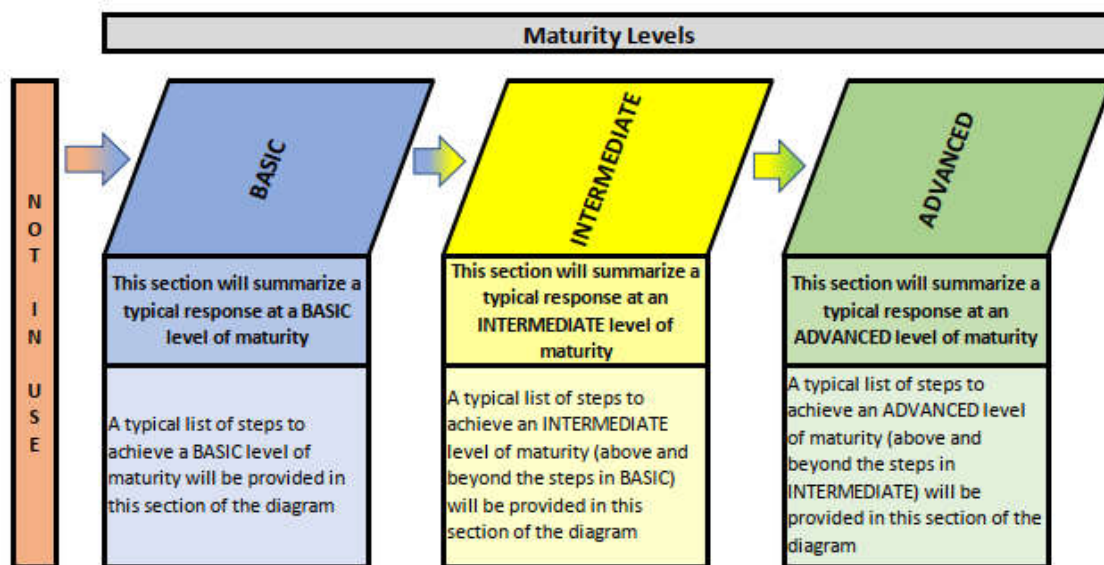
*Core assets are municipal roads, bridges water, wastewater and stormwater assets

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 24, 2019, the Town of Bruce Mines passed Bylaw 2019-29. Schedule “A” to the Bylaw details the Strategic Asset Management Policy of the Municipality. 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 TOWN OF BRUCE MINES

Overview

Bruce Mines is a small but vibrant community on the shores of the North Channel of Lake Huron. Nestled on a beautiful bay, the Town is located on Trans Canada Highway 17 about 65 km East of Sault Ste. Marie. The Town offers all of the amenities needed for families of all ages to live here, and a number of activities and entertainment events for visitors and residents alike.

Named after James Bruce, who was appointed as Governor General of Canada in 1846, the Town of Bruce Mines was first established that same year as a copper mining area by John Keating. The Mines employed skilled Cornish miners who had recently emigrated from England. The restored Simpson Mine Shaft demonstrates copper mining of the 1800’s and is open for guided tours during the summer months.

Town Population

YEAR	POPULATION	% CHANGE
1996	653	
2001	627	-3.98%
2006	584	-6.86%
2011	566	-3.08%
2016	582	2.83%
2021	582	0.00%

From 1996-2011, the Town experienced a slight decline in population from 653 citizens of the community to 582 citizens as of 2021 (see the available Statistics Canada census). However, this figure has been relatively stable since 2006, without any major expectation of change in population moving forward.

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 Town of Bruce Mines, 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 Town 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 Town to easily navigate all historical physical and financial data for the Town.

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 Town,

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 2021 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 Towns 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



Streetlights



Sidewalks



Vehicles/Equipment



Other

Please note the Asset Data regarding all environmental services (being water and sewer infrastructure) is detailed within a separate document. It is based on an asset management plan specific for water and wastewater systems completed by the Ontario Clean Water Agency.

2.3 Asset Condition Ratings

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Town'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 town's ability to maintain good asset conditions and maintain the desired level of service.

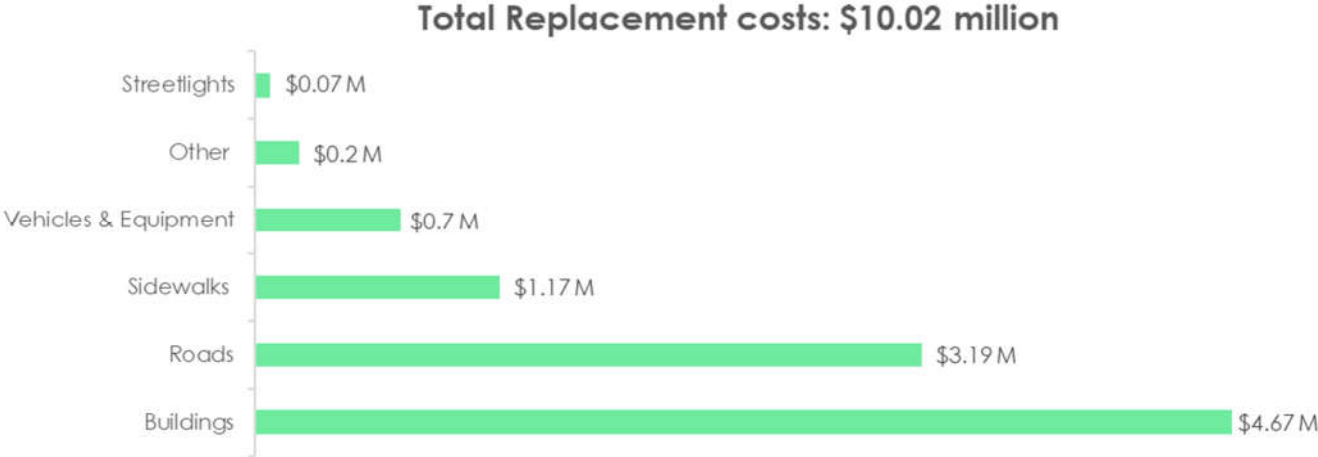
By comparing the actual vs. target reinvestment rate, the town can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

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

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

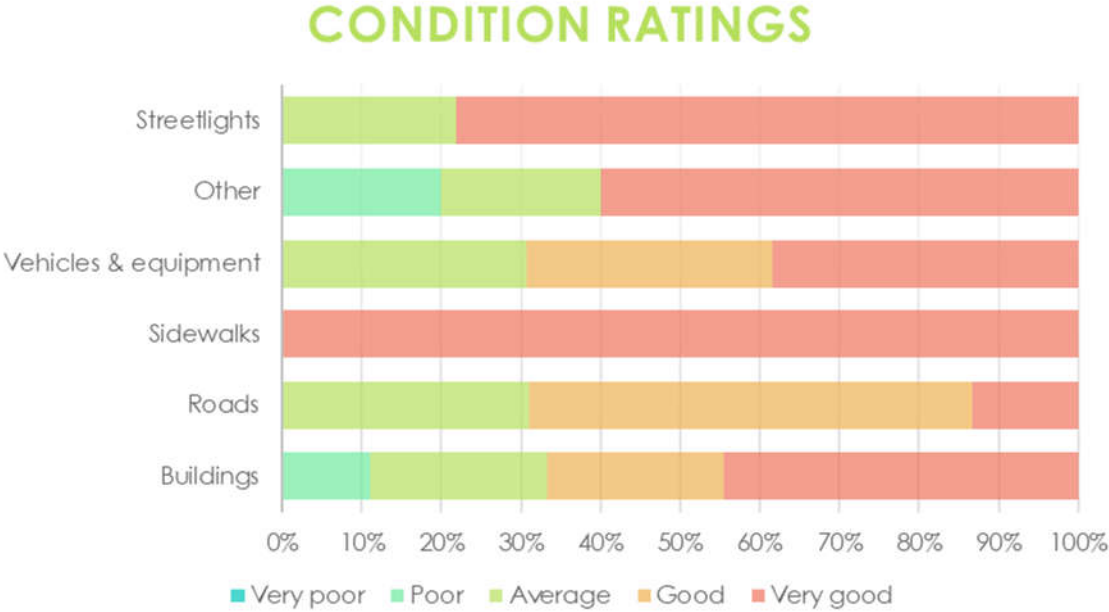
2.5 Portfolio Overview

Total Replacement Costs of Asset Portfolio



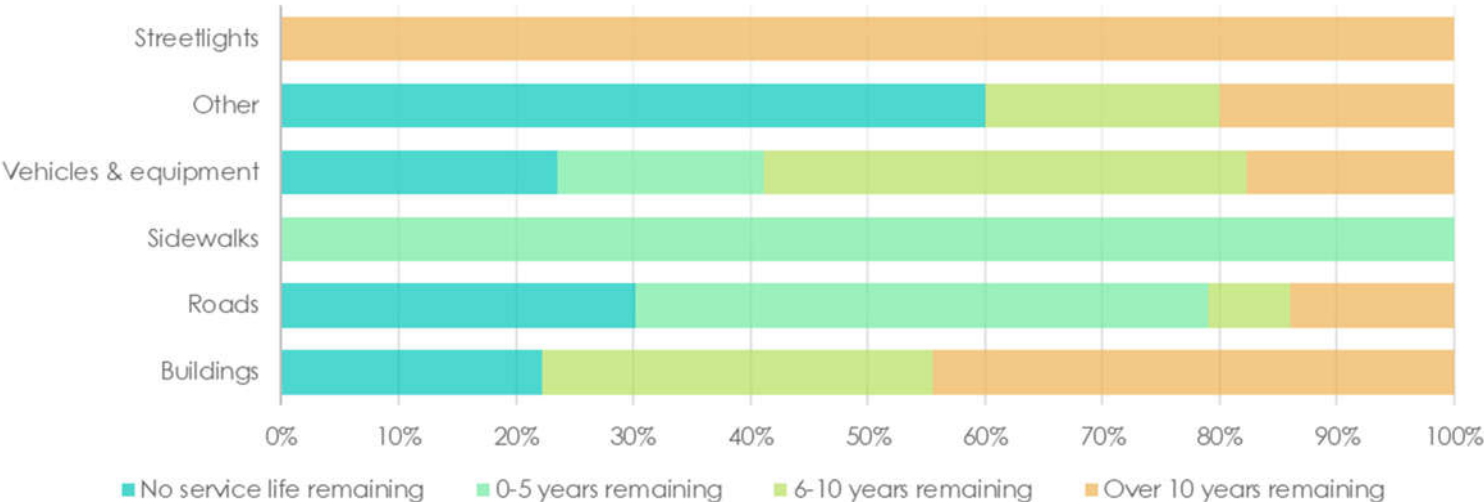
Total replacement costs for the asset portfolio amount to \$10.02 million. These amounts are calculated by user-defined cost allocations set in each individual asset category.

Condition of Asset Portfolio



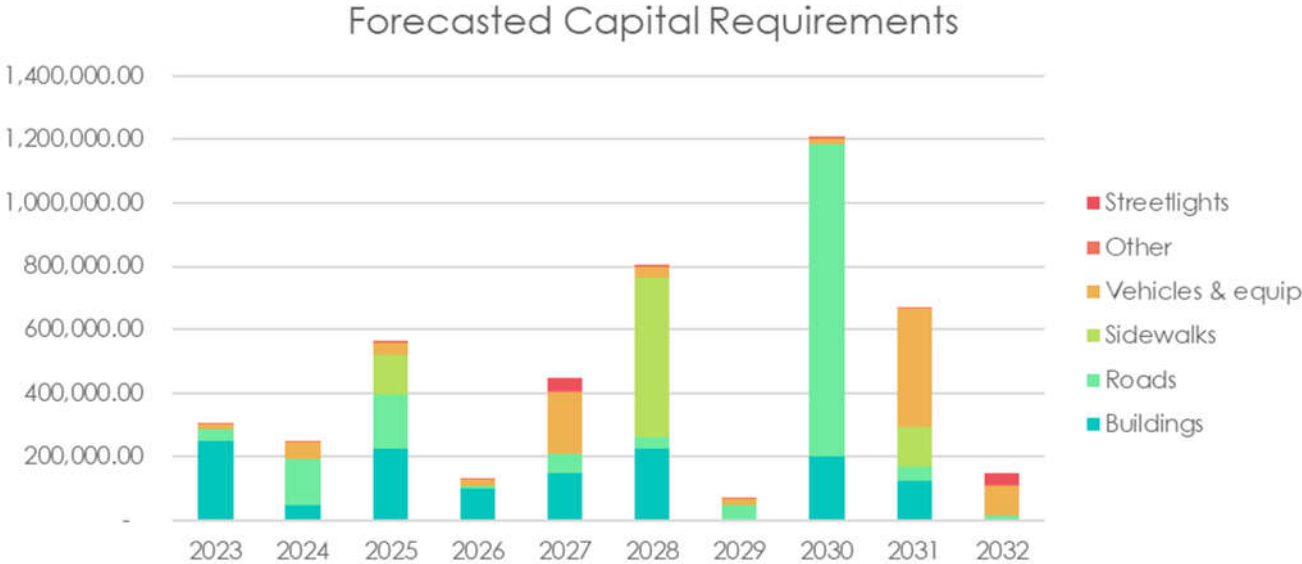
Asset conditions are measured by routine visual assessments performed by management. Collectively, 74% of the town’s assets are in good or very good condition, and only 1% in below average condition.

Estimated Service Life Remaining



Based solely on the estimated useful service life of the Towns 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.

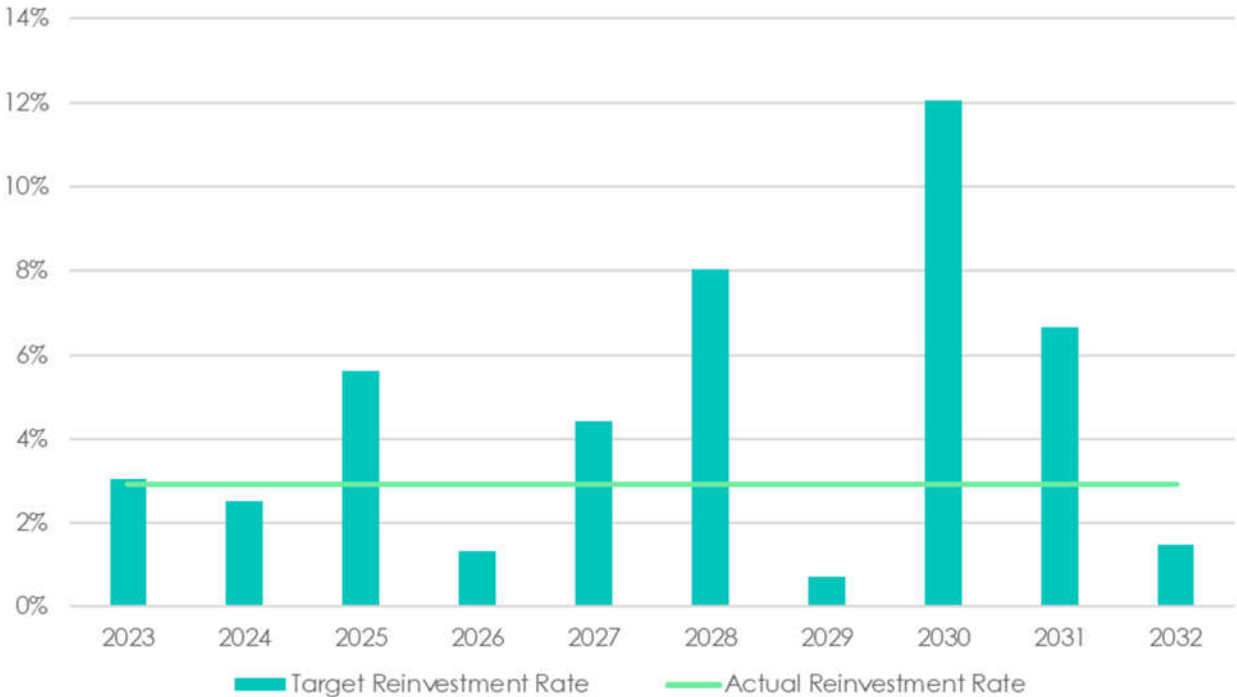
Forecasted Capital Requirements



Average Annual Capital Requirements: \$460,050.00

Projected capital requirements for asset maintenance, replacement, or rehabilitation amount to \$4.6 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 5%, vs actual annual spending on infrastructure, 3%.

2.6 Buildings

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

General government	Protection	Transportation	Health	Recreation
- Municipal office	- Fire hall	- Heated shop	- Health services building	- Trailer park
		- Cold storage		- Community hall
		- Sand shed		- Marina
				- Library

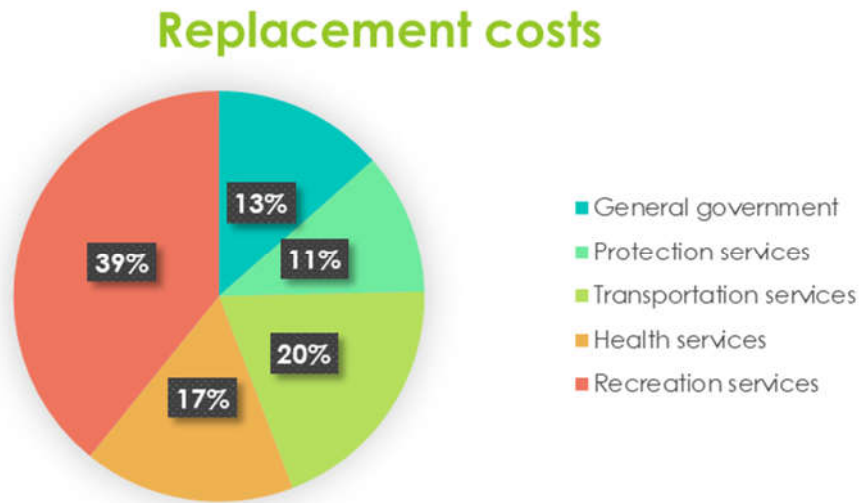
Lifecycle activities specific to building assets are detailed on the next page, provided from a past version of the municipal asset management plan.

Lifecycle Activities for Buildings

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

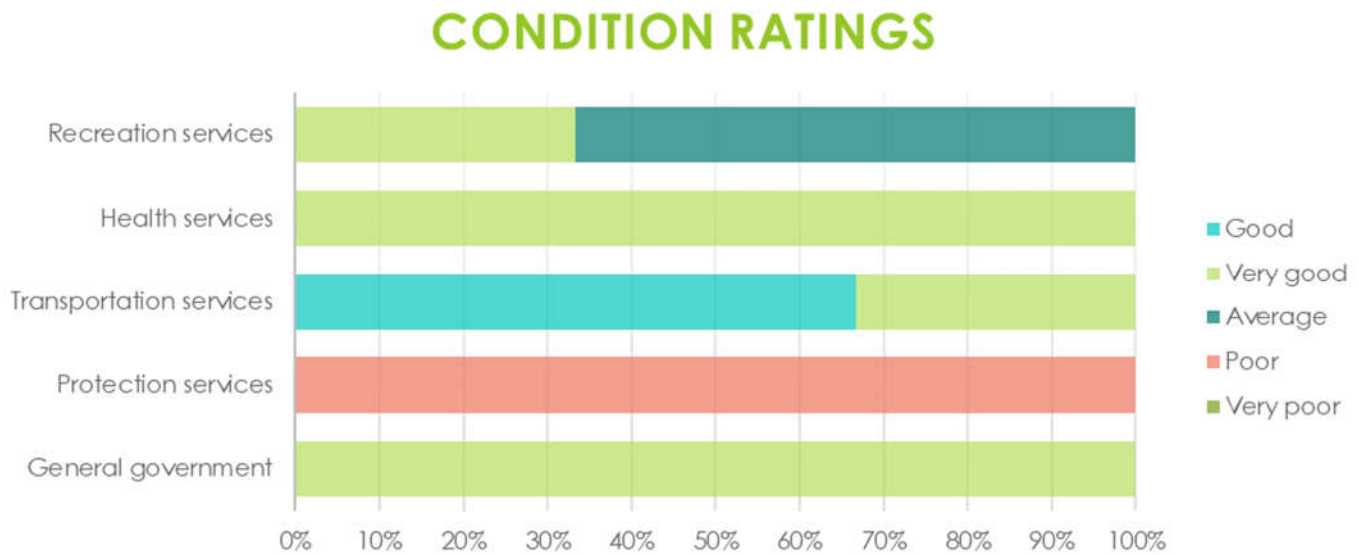


Service segment	Size (sqft)	Replacement cost
General government	2,520	630,000.00
Protection services	2,091	522,750.00
Transportation services	3,648	912,000.00
Health services	3,116	779,000.00
Recreation services	7,331	1,832,750.00
	18,706	4,676,500.00

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 town’s facilities is good (7/10). Within the last 10 years, the municipal office, community hall, health service building, and marina have undergone significant renovations to maintain good condition levels.

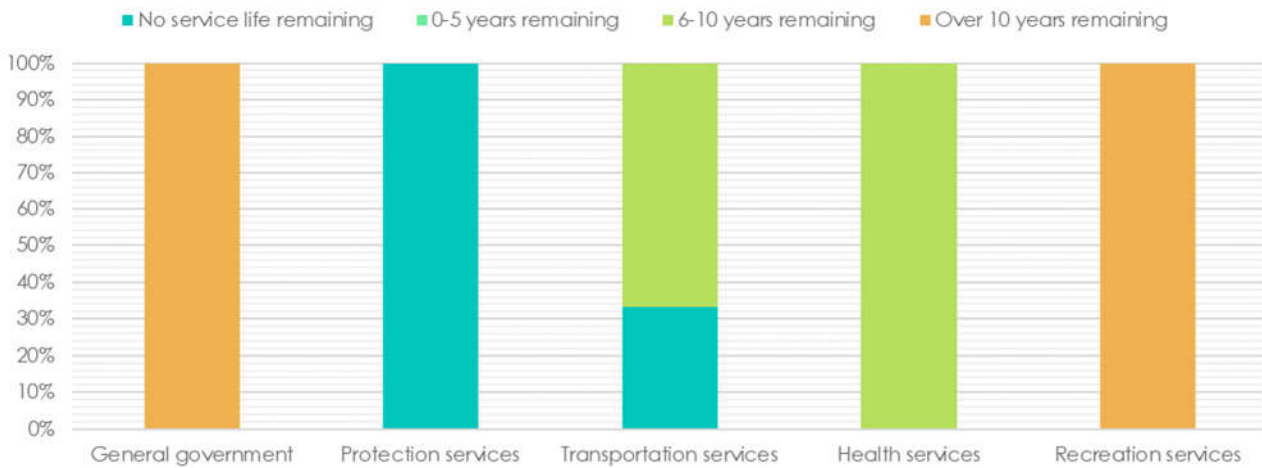


Service segment	Average condition rating	
General government	9	Very good
Protection services	4	Poor
Transportation services	9	Very good
Health services	9	Very good
Recreation services	7	Good
Average	7	Good

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.

Estimated Service Life Remaining



Service segment	Average age (years)	Estimated useful life	Average service life remaining
General government	24	40	16
Protection services	46	40	0
Transportation services	30	37	7
Health services	22	30	8
Recreation services	22	37.5	15.5

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 \$147,000 per year is needed to maintain building's service expectations.



Average annual capital requirements: \$ 147,222.22

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

Lifecycle Activities for Asphalt Roads

Activity	Description
Asset Lifecycle	20 years of useful life based on PSAB 3150
Minimum Standards	Consideration to design speed, minimum right of way, road width, subbase, base, and horizontal radius. Also a review of asphalt surface volume
Management Solutions	Load limits at critical times and preventing heavy traffic. Amalgamated tenders for asset supply. Integrating road work with other infrastructure investments.
Maintenance Activities	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
Rehabilitation Activities	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.
Replacement Activities	Processing of existing asphalt and underlying granular. This can include a complete restoration of the asphalt surface with new asphalt.
Expansion Activities	Providing proper connect with other roads or extending road service.

Lifecycle Activities for Surface Treated Roads

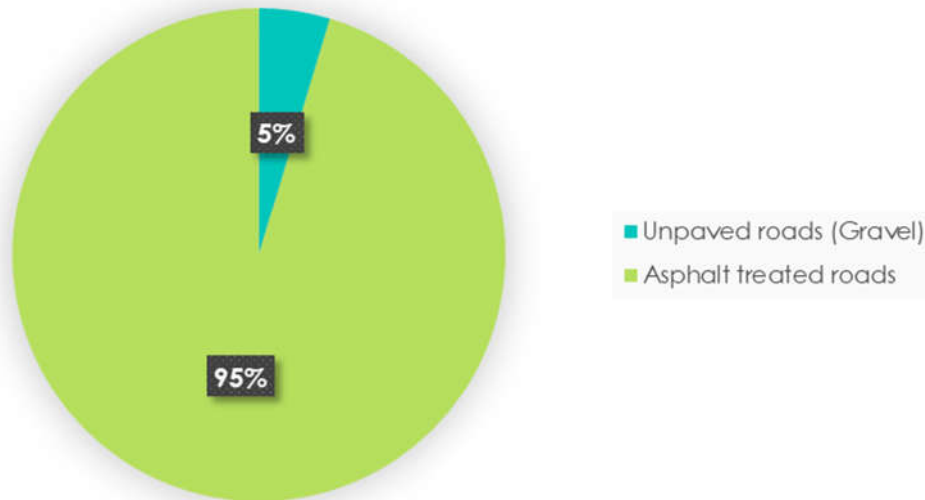
Activity	Description
Asset Lifecycle	10 years of useful life based on PSAB 3150
Minimum Standards	Consideration to design speed, minimum right of way, road width, subbase, base, and horizontal radius. Also, a review of number of applied treatments.
Management Solutions	Load limits at critical times and preventing heavy traffic. Amalgamated tenders for asset supply. Integrating road work with other infrastructure investments.
Maintenance Activities	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
Rehabilitation Activities	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
Replacement Activities	New double course surface treatment or reconstruction of the road base for hard surfacing upgrade to ensure proper performance
Expansion Activities	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 costs
Unpaved roads (Gravel)	5,100.00	35,490.00	29,470.00	148,700.00
Asphalt treated roads	11,200.00	80,320.00	69,160.00	3,043,040.00
	16,300.00	115,810.00	98,630.00	3,191,740.00

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.

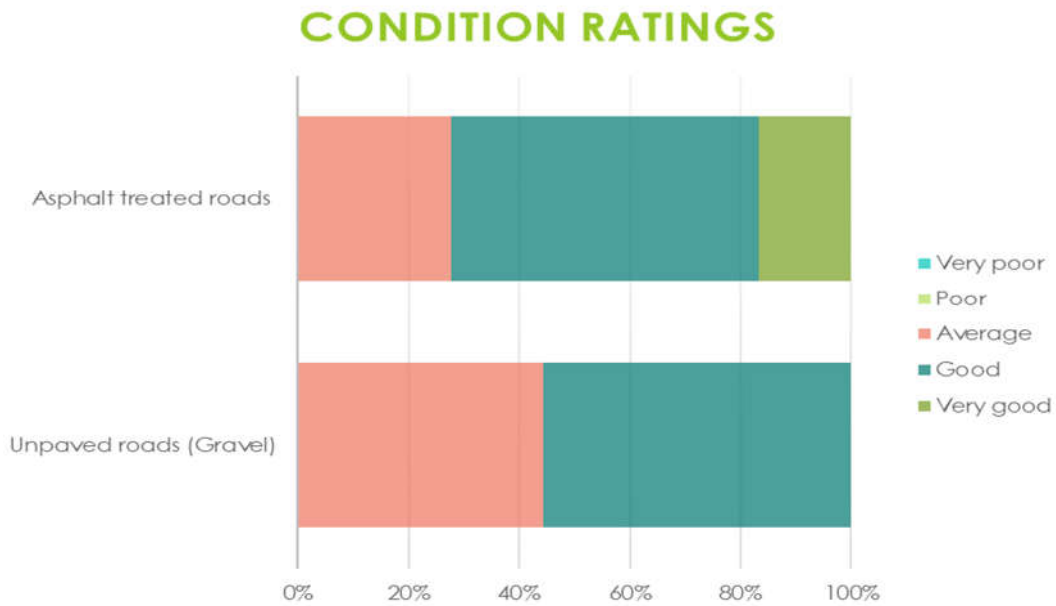
Replacement costs



2.7.2 Condition Ratings

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

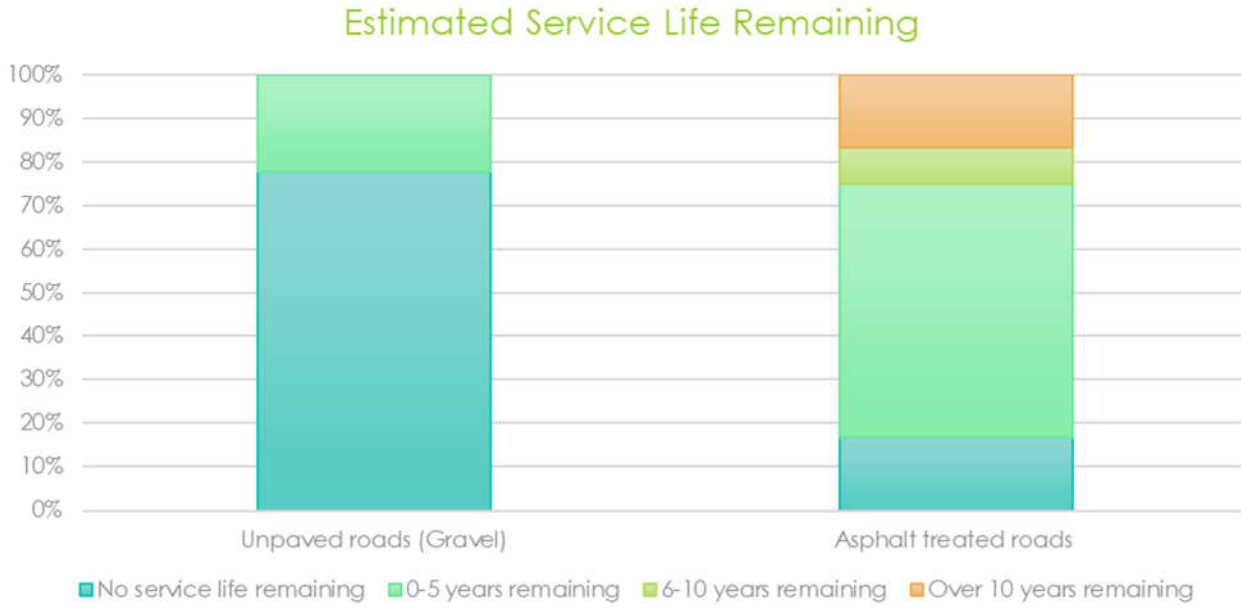
The average road’s condition is good (7/10). The majority of maintenance is attributable to asphalt treated roads.



Asset	Average Condition rating	
Unpaved roads (Gravel)	6	Average
Asphalt treated roads	7	Good
Average	7	Good

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.

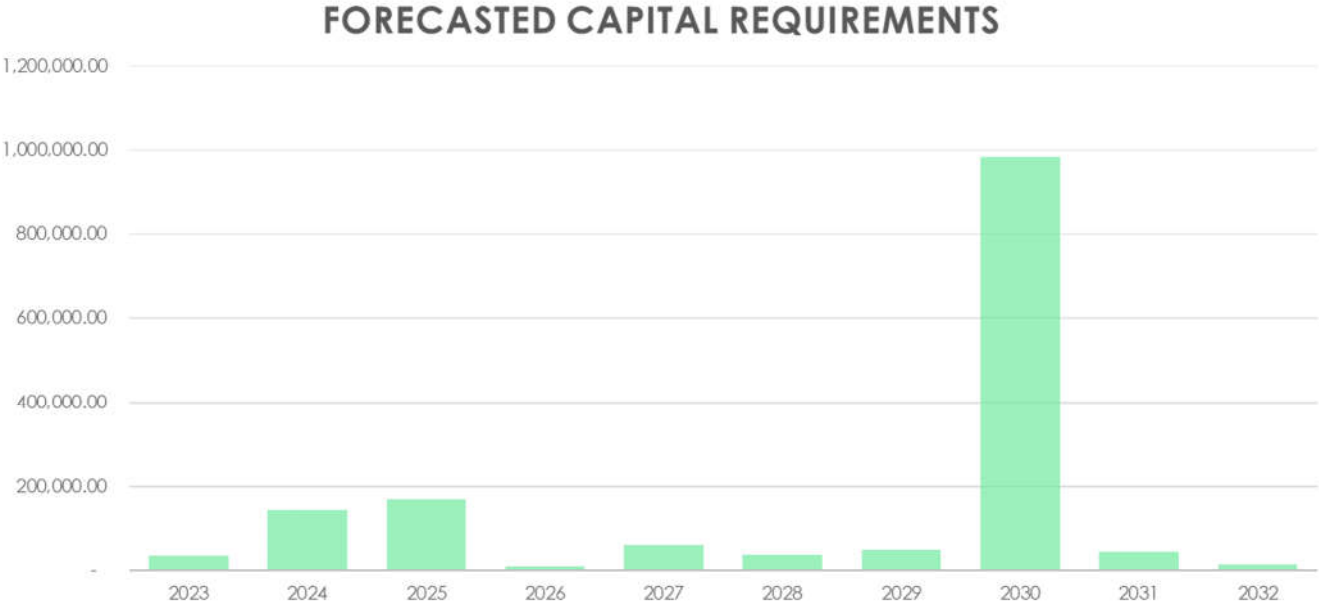


Asphalt treated roads are newer in comparison to gravel. However, gravel roads remain in good condition and are extending beyond their estimated useful service life.

Asset	Average age (years)	Estimated useful life	Average service life remaining
Unpaved roads (Gravel)	69	50	0
Asphalt treated roads	9	14	5

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 \$155,000 per year is needed to maintain the roads conditions.



Average annual capital requirements: \$155,100.00

2.7.5 Levels of Service Analysis

Community Levels of Service – Quality

Example One – Asphalt Treated Road (Crawford Street)



Example Two – Gravel Treated Road (Huron Street)



Technical Service Level - On average, the condition of the Town's roads is good. 69% of all roads are in good or very good condition. The Town has land area of 37.09 million meters (or 6.09 km squared) with road platform area of 115,080 meters squared (see above). This results in 0.3% of all municipal land area covered by a roads surface.

2.8 Streetlights & Sidewalks

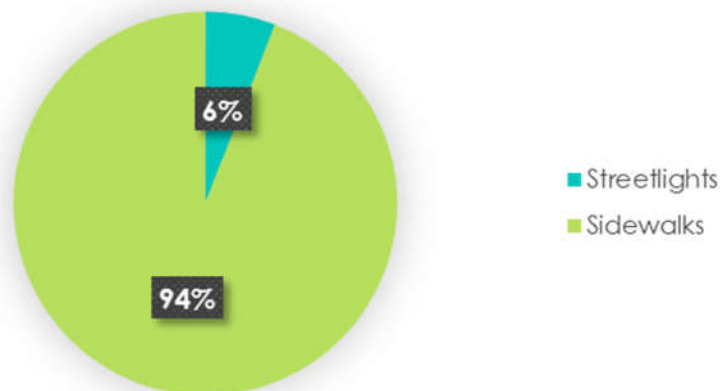
Maintenance of streetlights & sidewalks is integral to the transportation services provided by the town. There are currently 105 streetlights operating throughout & approximately 1,300 square meters of sidewalk located in the following areas,

- Crawford to Cunningham
- Cunningham to Legion North
- Mark Street to Taylor St South
- Legion to Highway 618 East
- Robinson street to Fosters St
- Taylor street to United Church

Asset	Quantity	Replacement costs
Streetlights	105	73,500.00
Sidewalks	1,300 m ²	1,170,000.00
		1,419,500.00

Replacement costs are determined at an allocated rate of \$700 per streetlight & \$900 for square meter of sidewalk. This is based on an assessment of historical replacement costs & managements own assessment.

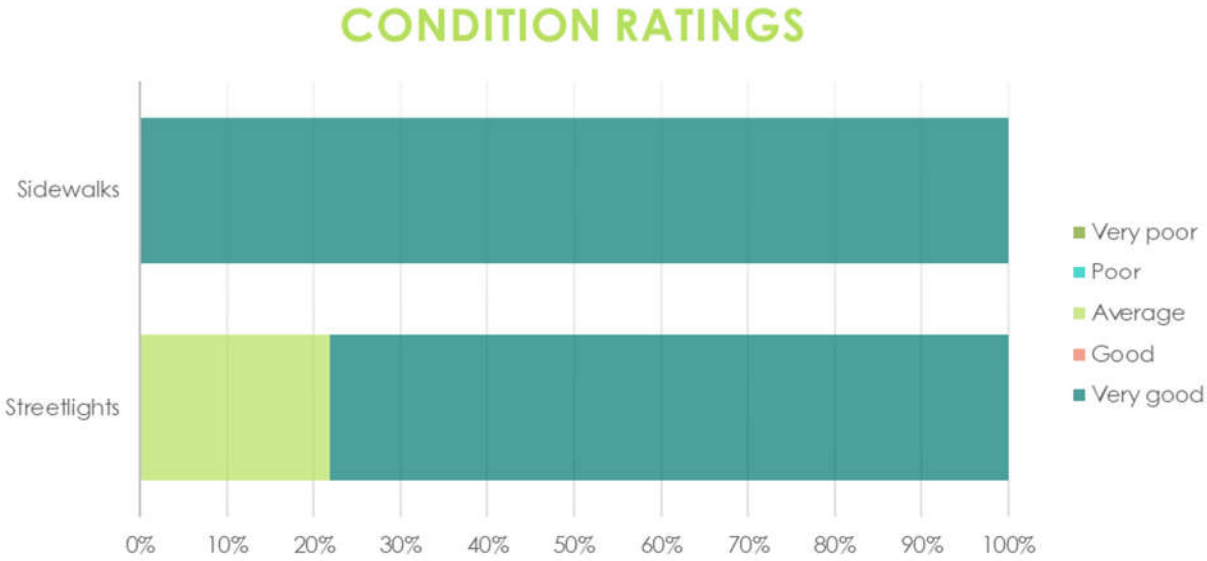
Replacement costs



2.8.2 Condition Ratings

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

Condition ratings for both streetlights & sidewalks are very good with a 9/10 condition rating. Of the 105 streetlights, 82 have been replacement within the last 3 years & the remaining are expected to be replaced in 2023.



Asset	Average Condition rating	
Streetlights	9	Very good
Sidewalks	9	Very good
Average	9	Very good

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.

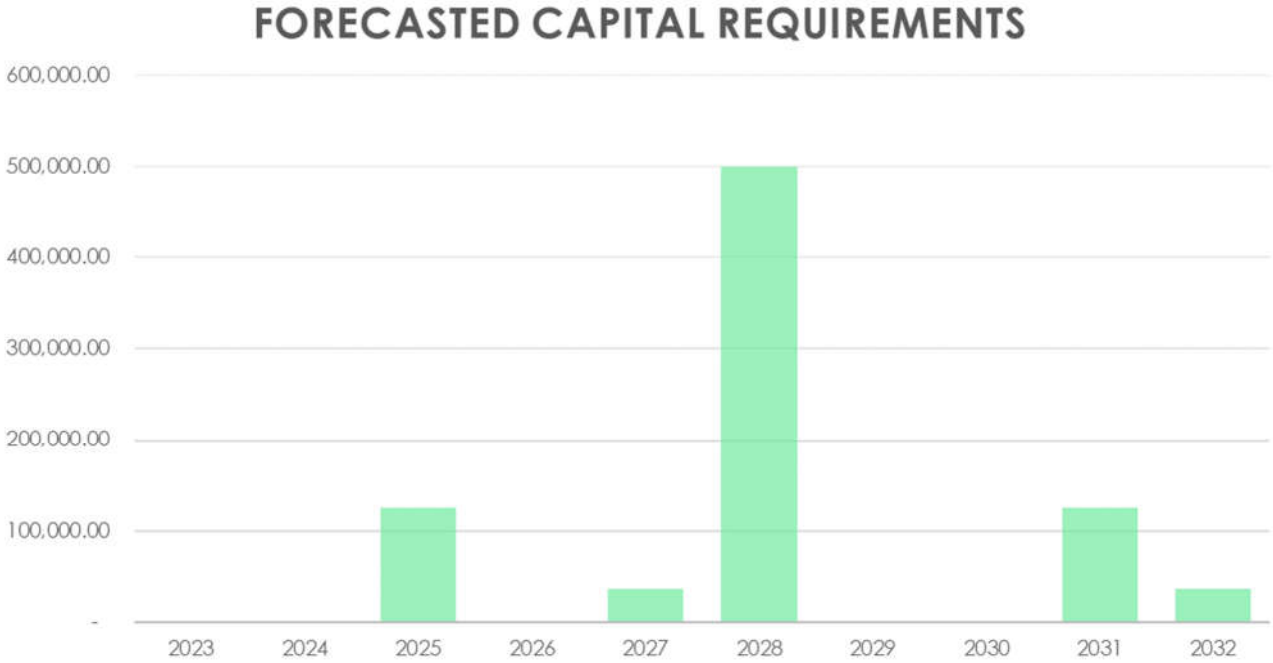


Since most streetlights have recently been replaced, they have 21 years remaining of their estimated useful service life. Sidewalks are close to the end of their estimated useful life; however, condition ratings are very good, and they are projected to extend beyond with routine maintenance.

Asset	Average age (years)	Estimated useful life	Average service life remaining
Streetlights	9	30	21
Sidewalks	9	10	1

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 \$164,700 per year is needed to maintain the streetlights & sidewalks conditions.

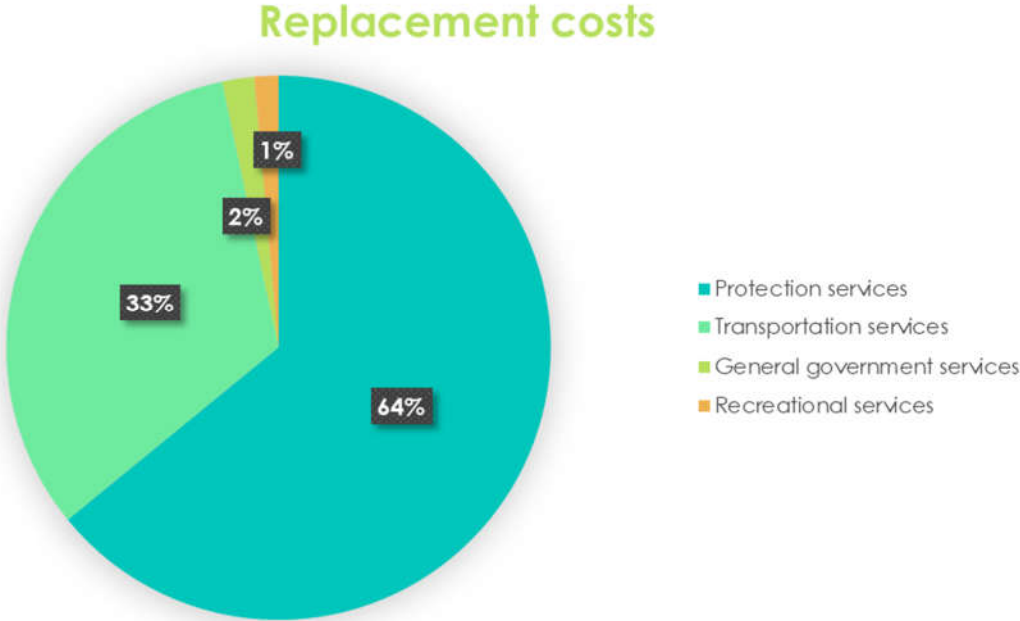


2.9 Vehicles & Equipment

Various vehicles & equipment are needed to either maintain conditions for asset categories (such as transportation and general government) or provide additional services (such rescue and recreation). Replacement costs are allocated based off specific asset identification & assessment.

Service segment	Quantity	Replacement costs
Protection services:		
- Fire rescue vehicles	(3)	419,170.00
- Rescue cutter & spreader	(1)	28,300.00
Transportation services:		
- Snow plows	(2)	100,300.00
- Tractors	(2)	113,037.00
- Chevrolet silverado	(1)	14,000.00
General government services:		
- Generator	(1)	6,000.00
- Riding lawnmower	(1)	7,225.00
Recreational services:		
- Various furnishings		10,000.00
		698,032.00

Replacement costs are determined based on the market value of the specific assets identified. This approach was used given there are a total of 11 assets included within this asset class. A breakdown based on municipal service is provided below. Most assets belong to a combination of protection (64%) and transportation services (33%).

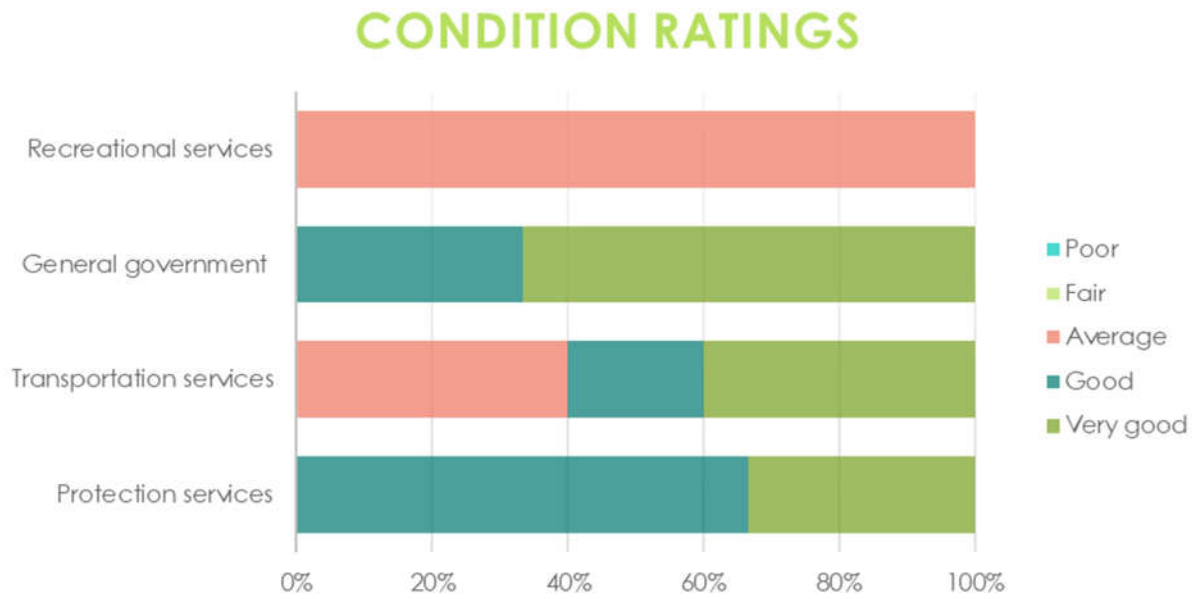


Lifecycle Activities for Vehicles & Equipment

Activity	Description
Asset Lifecycle	Typically, 10 - 30 years of useful life
Minimum Standards	Consideration given to hybrid use in winter climate (i.e., snowplows and grader attachments)
Management Solutions	Leasing vs. purchasing equipment. Determining lease terms given interest rate environment
Maintenance Activities	Maintenance activities based on manufacturer guidelines.
Rehabilitation Activities	Individual component replacements such as suspension, tires, or individual brakes
Replacement Activities	Purchase of new vehicles and equipment through the request for quotation (RFQ) process.
Disposal Activities	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.
Expansion Activities	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

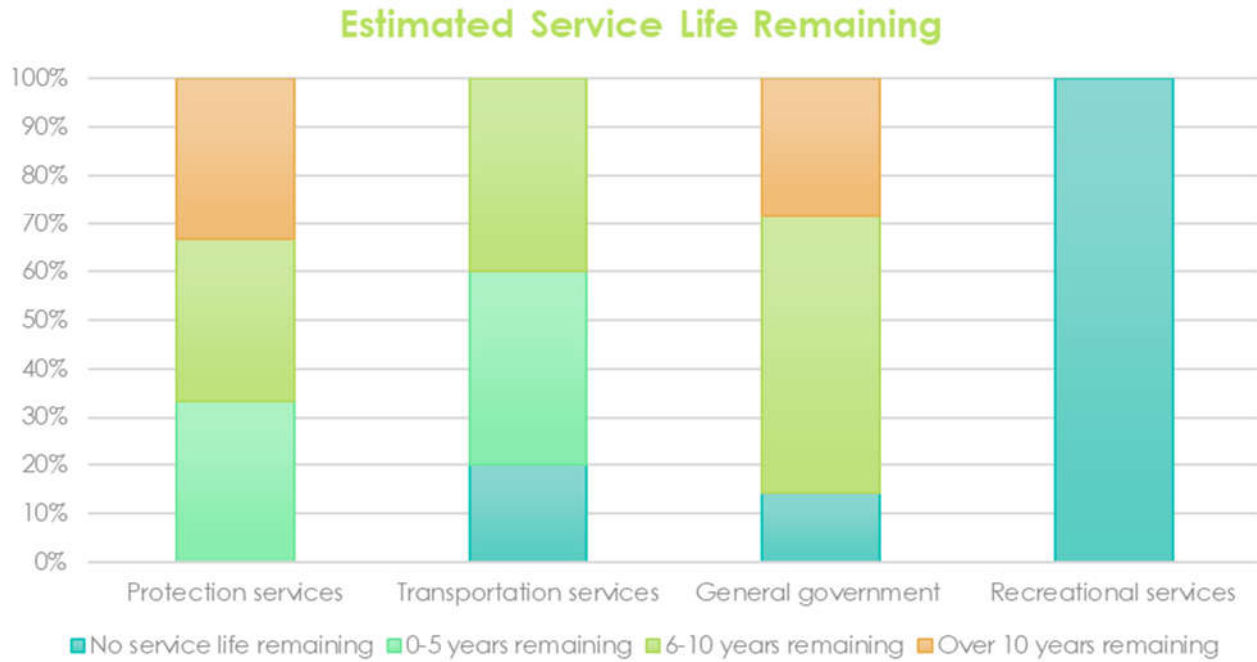
Condition ratings are determined by town management based on periodic visual assessments. Roads are routinely checked to plan maintenance activities & note any significant deficiencies. Equipment in all service segments appear to be in good or average condition.



Service segment	Average condition rating	
Protection services	8	Good
Transportation services	8	Good
General government	9	Very good
Recreational services	6	Average
Average	8	Good

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.

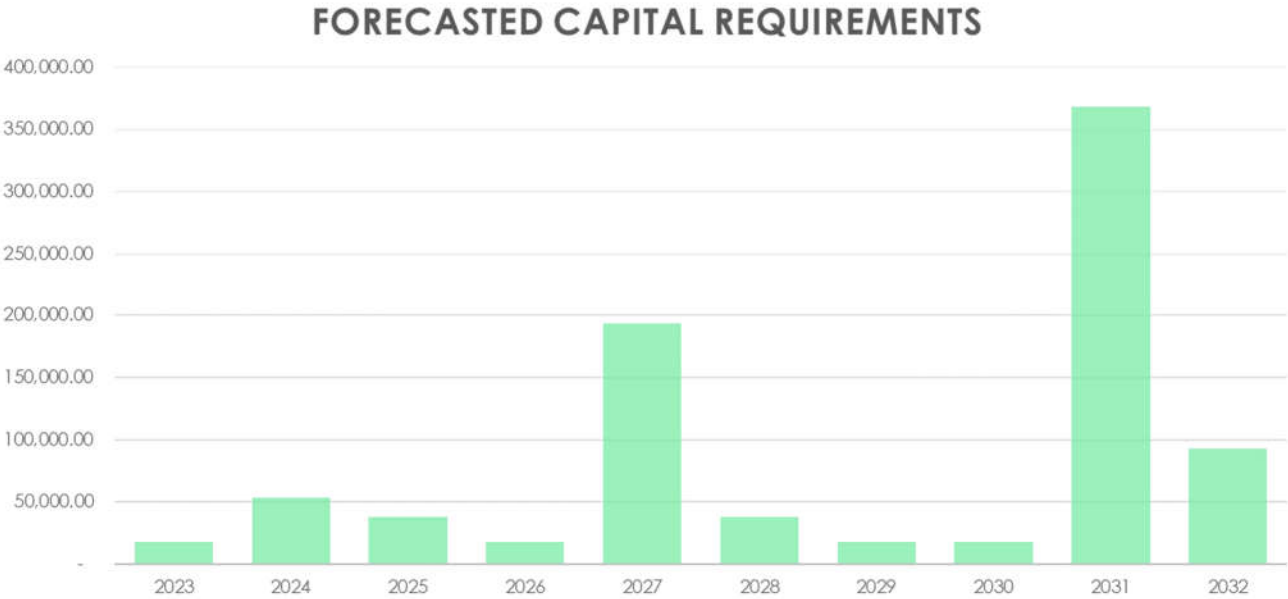


Vehicles & equipment placed in the transportation & recreational service segments appear to have extended beyond their estimated useful life. However, assets remain in good or average condition.

Service segment	Average age (years)	Estimated useful life	Average service life remaining
Protection services	12	20	8
Transportation services	10	10	0
General government	8	16	8
Recreational services	23	10	0

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 \$85,500 per year is needed to maintain the conditions of vehicles & equipment. The below forecast is estimated based on historical cost data, while factoring in current asset.



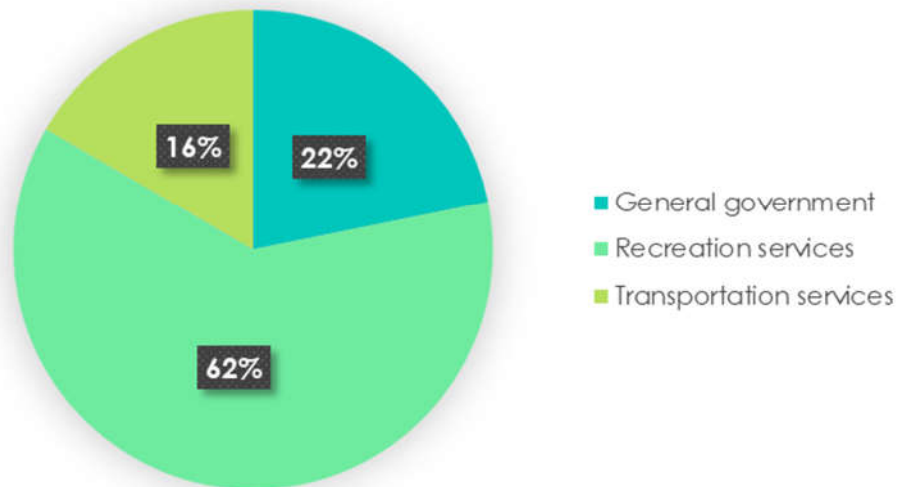
Average annual capital requirements: \$ 85,500.00

2.10 Other Miscellaneous Assets

Other miscellaneous assets include signage located at both the east & west entrance of the town, library books, and a culvert located on Trunk Road. Each miscellaneous asset’s replacement cost was determined using specific asset identification assessments by management.

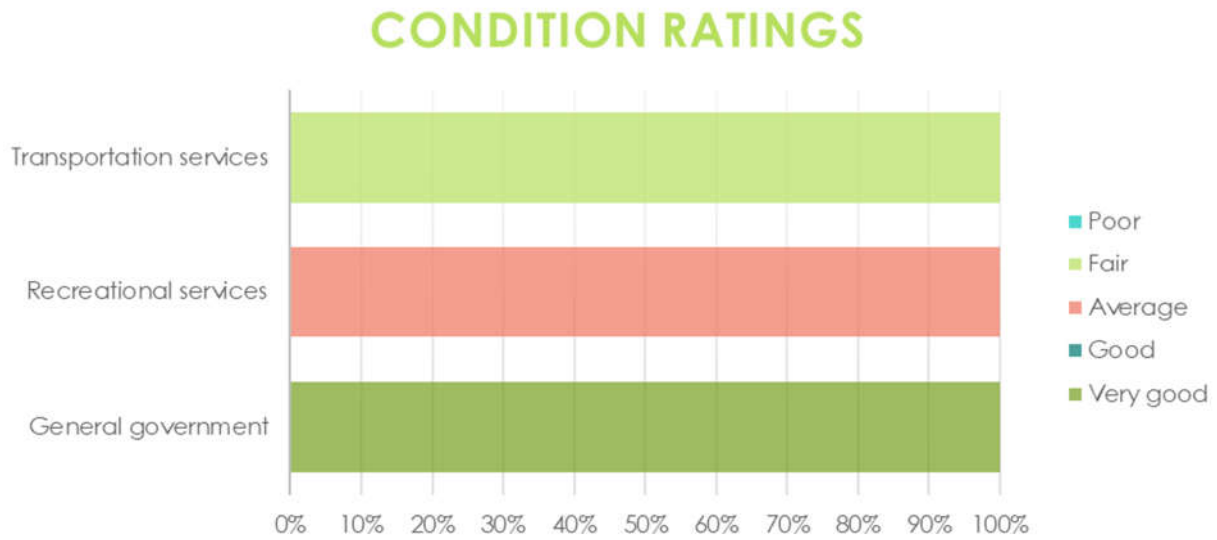
Service segment	Replacement costs
General government:	
- Signage	46,000.00
Recreational services:	
- Books	130,000.00
Transportation services:	
- Culverts	35,000.00
	211,000.00

Replacement costs



2.10.2 Condition Ratings

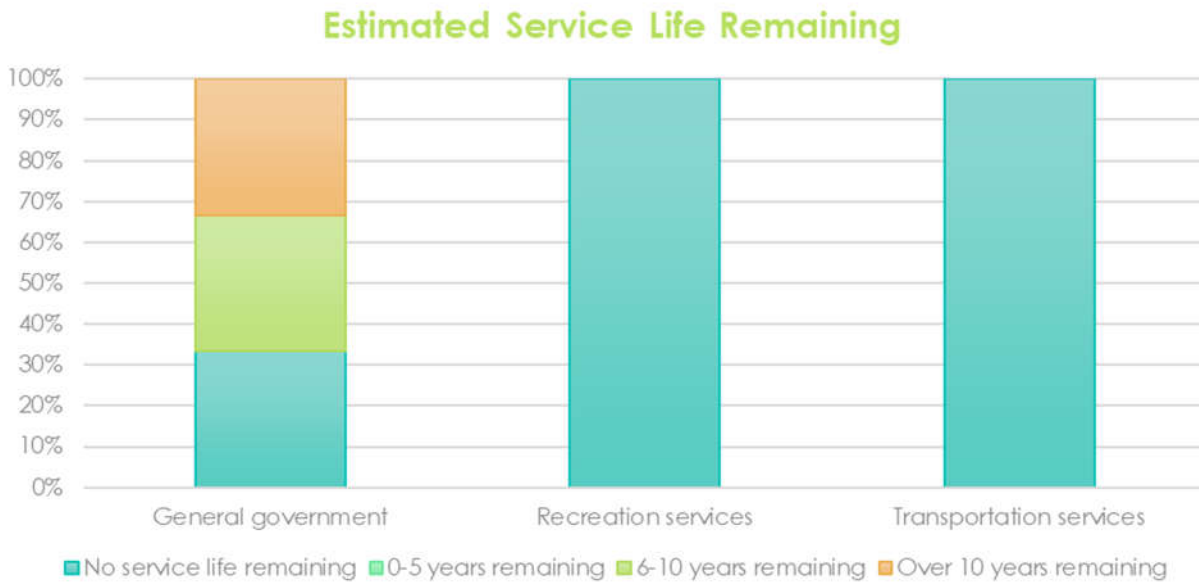
Condition ratings are determined by town management based on periodic visual assessments. Assets are routinely checked to plan maintenance activities & note any significant deficiencies. Miscellaneous assets appear to be in average condition. The culvert, assessed at fair condition, should be closely monitored for decay which may result in replacement/rehabilitation costs in the near future.



Service segment	Average condition rating	
General government	9	Very good
Recreational services	6	Average
Transportation services	4	Fair
Average	6	Average

2.10.3 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.



Recreation services & transportation services appear to have extended beyond their estimated service life. With the town’s culvert in fair condition, the asset should be monitored for decay as it may need to be replaced/rehabilitated soon.

Service segment	Average age (years)	Estimated useful life	Average service life remaining
General government	7	12	5
Recreation services	10	5	-
Transportation services	53	30	-

2.10.4 Forecasted Future Cash Flows

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 \$4,600 per year is needed to maintain the conditions of miscellaneous assets.



Average annual capital requirements: \$4,600.00

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 Town's Bottom-up Approach

The Town'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 Town, 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.

Note about the Financing Strategy

Whereas the rest of this asset management plan did not include discussion on environmental services, we have developed the 10 year forecast to be inclusive of all asset based on data integrated from the OCWA portion of the plan. This will allow us to calculate the infrastructure deficit or surplus for all assets owned by the Town.

3.2 The Forecasting Process

Developing a Forecast by Individual Asset

- Based on the completed asset register, the Town has approximately 400-500 individual assets to be managed and accounted for.
- Because of the smaller size of the community, there are less assets to manage. Town 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 Town is able to visually identify and inspect conditions of individual assets on a regular basis
- The Town 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 Town'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 Town Asset Management Plan, inputs will be prepared by Stefanizzi Professional Corporation based on 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 Town will begin to use the forecast tool, along with the asset register, to provide better data-based decision making for their community. The Town 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).

(b) Environmental Inputs:

The Town subcontracts most environmental decision making and asset investments to the Ontario Clean Water Agency. This includes condition assessments, rate studies, and other infrastructure decisions. As part of this project, The Ontario Clean Water Agency has already provided an updated ten year forecast on Environmental expenditures based on their assessment of the current state of local infrastructure. Please consult their published AMP for further information about the environmental infrastructure state.

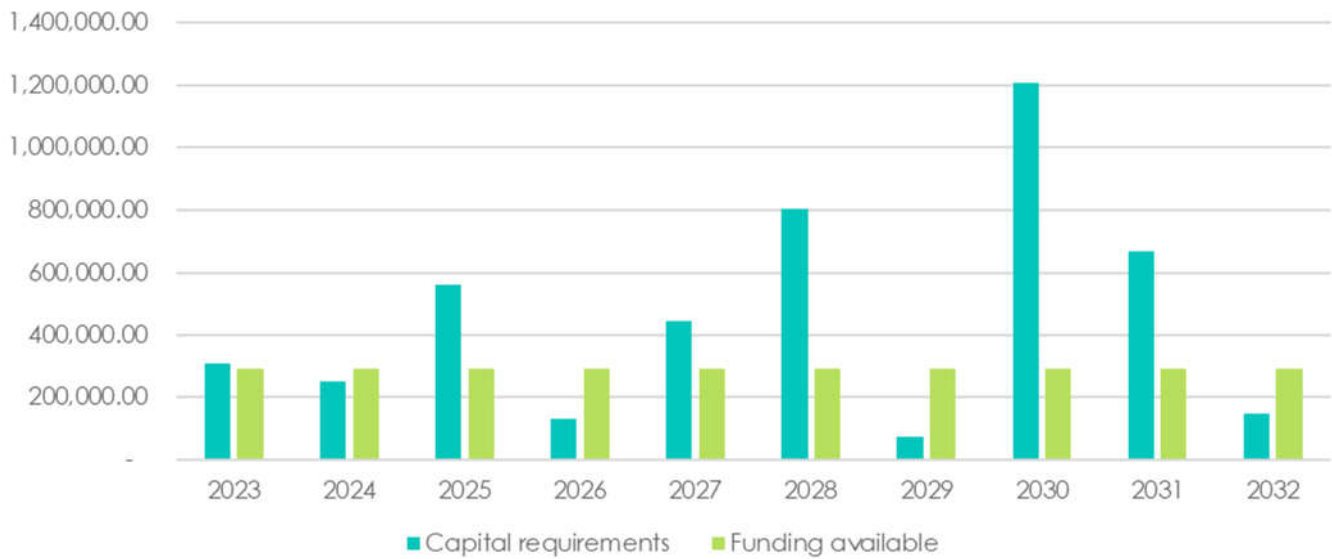
The environmental portion of their forecast took a detail approach consistent with the input process for non-environmental assets at the individual asset level.

The Town will engage OCWA every five years for the environmental service portion of an updated forecast.

3.2 Annual Funding Available

Average annual requirements	Annual funding available				Average annual deficit
	Canada Community Building Fund	Ontario Community Infrastructure Fund	Ontario Municipality Partnership Fund	Taxation Revenue	
460,050.00	72,000.00	50,000.00	51,225.00	120,000.00	(166,825.00)

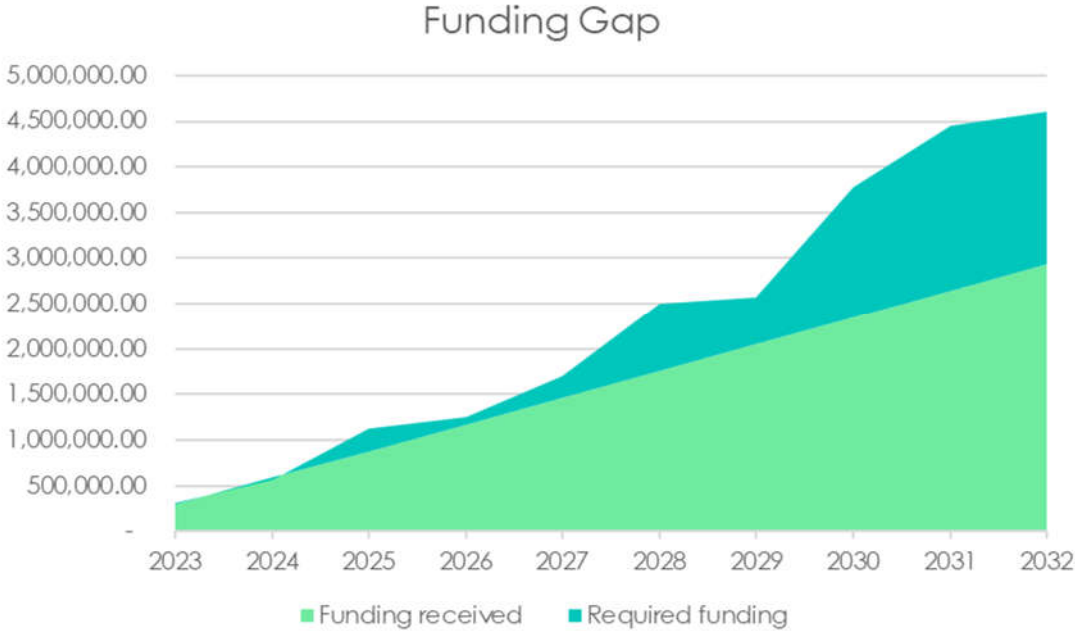
The Town of Bruce Mines receives approximately \$293,225 in annual funding, plus an allocated 15% of total taxation revenue for capital spending. With an average annual requirement of \$460,050, the town has a projected average annual deficit of \$166,825.



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.

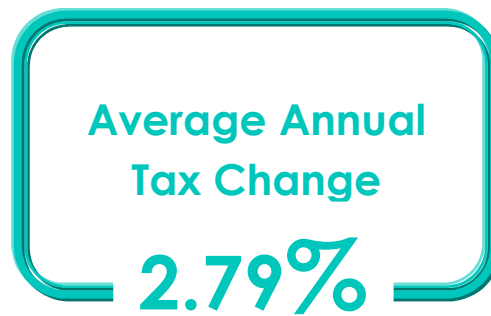


Total 10-year deficit: \$ 1,668,250.00

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 \$1.7 million. As a financing strategy, the Town has calculated that a 2.79% annual increase in taxation revenue is required to eliminate this funding gap.



**Average Annual
Tax Change**
2.79%

Appendix A – Capital Forecast Summary and Schedules

SOURCE OF FINANCING	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Canada Community Building Fund	72,000.00	72,000.00	72,000.00	72,000.00	72,000.00	72,000.00	72,000.00	72,000.00	72,000.00	72,000.00
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
Ontario Municipal Partnership Fund (15% of Total Grant for Cc	51,225.00	51,225.00	51,225.00	51,225.00	51,225.00	51,225.00	51,225.00	51,225.00	51,225.00	51,225.00
Taxation Revenue (15% of total net revenue)	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00
Total Expected Revenue for Capital Financing	293,225.00	293,225.00	293,225.00	293,225.00	293,225.00	293,225.00	293,225.00	293,225.00	293,225.00	293,225.00
FORECASTED COST BY ASSET TYPE										
Land	-	-	-	-	-	-	-	-	-	-
Buildings	250,000.00	50,000.00	225,000.00	100,000.00	150,000.00	225,000.00	-	200,000.00	125,000.00	-
Furniture/Equipment	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
Tech Equipment	-	-	-	-	-	-	-	-	-	-
Streetlights	-	-	-	-	36,750.00	-	-	-	-	36,750.00
Signs	4,600.00	4,600.00	4,600.00	4,600.00	4,600.00	4,600.00	4,600.00	4,600.00	4,600.00	4,600.00
Books	-	-	-	-	-	-	-	-	-	-
Roads	35,000.00	143,000.00	170,000.00	10,000.00	61,000.00	37,000.00	50,000.00	985,000.00	45,000.00	15,000.00
Sidewalks	-	-	125,000.00	-	-	500,000.00	-	-	125,000.00	-
Bridge Structure	-	-	-	-	-	-	-	-	-	-
Water Infrastructure	121,000.00	35,000.00	10,000.00	16,160.00	20,000.00	23,995.00	98,718.00	105,225.00	105,825.00	105,800.00
Sewer Infrastructure	140,000.00	10,000.00	10,000.00	10,000.00	10,000.00	7,018.89	22,754.70	21,638.22	22,435.54	73,540.52
Fleet	-	35,000.00	20,000.00	-	175,000.00	20,000.00	-	-	350,000.00	75,000.00
Total Forecast Cost by Asset Type	568,600.00	295,600.00	582,600.00	158,760.00	475,350.00	835,613.89	194,072.70	1,334,463.22	795,860.54	328,690.52
INFRASTRUCTURE SURPLUS OR DEFICIT	- 275,375.00	- 2,375.00	-289,375.00	134,465.00	-182,125.00	-542,388.89	99,152.30	-1,041,238.22	-502,635.54	-35,465.52

STEFANIZZI PROFESSIONAL CORPORATION

SUMMARY OF ACTUAL EXPENDITURES	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTAL	AVERAGE	
Buildings	228,592.71	-	697,351.98	-	144,656.08	12,402.90	-	10,273.00	-	-	-	1,093,276.67	99,388.79	
Equipment	16,703.90	-	112,368.15	4,609.41	-	-	13,434.10	-	-	-	13,437.80	160,553.36	14,595.76	
Roads - Unpaved	-	-	-	-	23,823.93	-	-	-	-	-	-	23,823.93	2,165.81	
Roads Asphalt	215,869.46	20,509.12	28,578.73	55,143.08	140,780.39	8,183.02	22,197.80	32,098.09	44,091.93	877,344.53	27,337.17	1,472,133.32	133,830.30	
Sidewalks	938,503.16	-	-	-	-	-	-	-	32,490.00	-	-	970,993.16	88,272.11	
Fleet	193,735.40	-	-	-	74,302.08	-	-	81,551.00	57,421.45	-	-	407,009.93	37,000.90	
Other Assets	110,193.84	-	-	-	-	-	13,501.84	-	27,653.45	6,664.82	4,299.87	162,313.82	14,755.80	
TOTAL	1,703,598.47	20,509.12	838,298.86	59,752.49	383,562.48	20,585.92	49,133.74	123,922.09	161,656.83	884,009.35	45,074.84	4,290,104.19	390,009.47	
INFLATED TO TODAY'S 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		
Buildings	295,526.76	-	862,933.42	-	174,013.06	14,753.27	-	11,857.75	-	-	-	-	1,359,084.26	123,553.11
Equipment	21,594.96	-	139,049.20	5,650.77	-	-	15,754.60	-	-	-	14,770.05	-	196,819.56	17,892.69
Roads - Unpaved	-	-	-	-	28,658.84	-	-	-	-	-	-	-	28,658.84	2,605.35
Roads Asphalt	279,078.03	25,764.63	35,364.55	67,600.98	169,350.82	9,733.72	26,032.07	37,049.66	49,764.07	971,269.37	30,047.43	-	1,701,055.32	154,641.39
Sidewalks	1,213,305.53	-	-	-	-	-	-	-	36,669.62	-	-	-	1,249,975.15	113,634.10
Fleet	250,462.91	-	-	-	89,381.19	-	-	94,131.35	64,808.34	-	-	-	498,783.79	45,343.98
Other Assets	142,459.61	-	-	-	-	-	15,834.04	-	31,210.88	7,378.33	4,726.17	-	201,609.03	18,328.09
TOTAL	2,202,427.79	25,764.63	1,037,347.17	73,251.74	461,403.90	24,486.99	57,620.70	143,038.76	182,452.92	978,647.70	49,543.65	-	5,235,985.94	475,998.72

Appendix B – Map of the Town

