

Asset Management Plan

Town of Parry Sound

2022



This Asset Management Program was prepared by:



Empowering your organization through advanced
asset management, budgeting & GIS solutions

Key Statistics

Replacement cost of
asset portfolio

\$435.1 million

Replacement cost of
infrastructure per household

\$123,670

Percentage of assets in fair
or better condition

65%

Percentage of assets with
assessed condition data

48%

Annual capital
infrastructure deficit

\$9.9 million

Recommended timeframe
for eliminating annual
infrastructure deficit

15 Years

Target reinvestment
rate

3.4%

Actual reinvestment
rate

1.1%

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Executive Summary

Municipal infrastructure provides the foundation for the economic, social, and environmental health and growth of Parry Sound through the delivery of critical services. The goal of asset management is to deliver an adequate level of service in the most cost-effective manner. This involves the development and implementation of asset management strategies and long-term financial planning.

All municipalities in Ontario are required to complete an asset management plan (AMP) in accordance with Ontario Regulation 588/17 (O. Reg. 588/17). This AMP outlines the current state of asset management planning in Parry Sound. It identifies the current practices and strategies that are in place to manage public infrastructure and makes recommendations where they can be further refined. Through the implementation of sound asset management strategies, the Town can ensure that public infrastructure is managed to support the sustainable delivery of infrastructure services.

This AMP includes the following asset categories:

Asset Category

 Road Network	 Bridges & Culverts
 Storm Water Services	 Rolling Stock
 Sanitary Services	 Buildings
 Equipment	 Land Improvements
 Water Services	

The overall replacement cost of the asset categories included in this AMP totals \$435.1 million 65% of all assets analysed in this AMP are in fair or better condition and assessed condition data was available for 48% of assets. For the remaining assets, assessed condition data was unavailable, and asset age was used to approximate condition. This is a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP uses a combination of proactive lifecycle strategies (Roads, Bridges & Culverts, Sanitary Services and Storm Water Services) and replacement only strategies (all other assets) to determine the lowest cost option to maintain the current level of service.

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the Town's average annual capital requirement totals \$14.8 million. Based on a historical analysis of sustainable capital funding sources, the Town is committing approximately \$4.9 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of \$9.9 million.

It is important to note that this AMP represents a snapshot in time and is based on the best available processes, data, and information at the Town. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.

This AMP identifies the current practices and strategies that are in place to manage public infrastructure and makes recommendations where they can be further refined. Through the implementation of sound asset management strategies, the Town can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

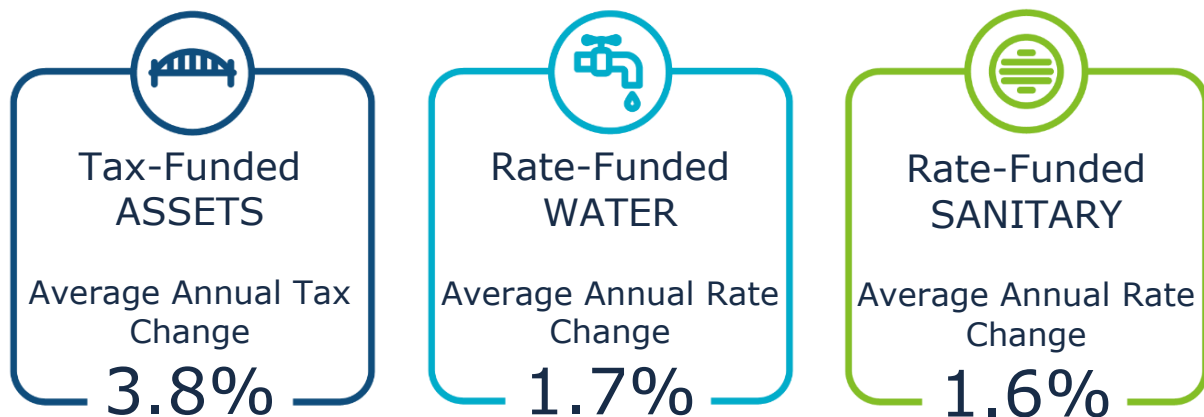
With the development of this AMP Parry Sound has achieved compliance with O. Reg. 588/17 to the extent of the requirements that must be completed by July 1, 2022. There are additional requirements concerning proposed levels of service and growth that must be met by July 1, 2024 and 2025.

Annual Deficit
Per Household



Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax/rate change required to eliminate the Town's infrastructure deficit based on a 15-year plan for tax funded assets, 10-year plan for the Water Network, and 5-year plan for Sanitary Sewer Network:



Recommendations to guide continuous refinement of the Town's asset management program include:

- Review data to update and maintain a complete and accurate dataset
- Develop a condition assessment strategy with a regular schedule
- Review and update lifecycle management strategies
- Develop and regularly review short- and long-term plans to meet capital requirements
- Measure current levels of service and identify sustainable proposed levels of service

1 Introduction & Context

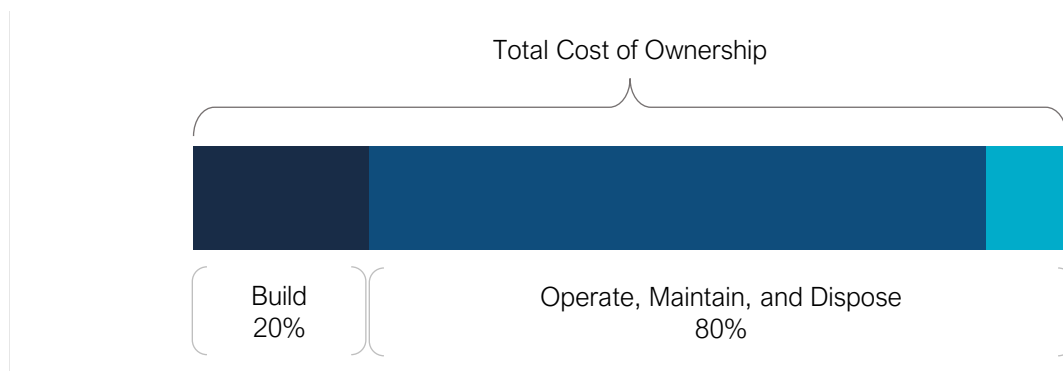
Key Insights

- The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, and manage the associated risks, while maximizing the value rate payers receive from the asset portfolio
- The Town's asset management policy provides clear direction to staff on their roles and responsibilities regarding asset management
- An asset management plan is a living document that should be updated regularly to inform long-term planning
- Ontario Regulation 588/17 outlines several key milestones and requirements for asset management plans in Ontario between July 1, 2022 and 2025

1.1 Asset Management Overview

Municipalities are responsible for managing and maintaining a broad portfolio of infrastructure assets to deliver services to the community. The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, and manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio.

The acquisition of capital assets accounts for only 10-20% of their total cost of ownership. The remaining 80-90% derives from operations and maintenance. This AMP focuses its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.



These costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of a broader asset management program. The industry-standard approach and sequence to developing a practical asset management program begins with a Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

This industry standard, defined by the Institute of Asset Management (IAM), emphasizes the alignment between the corporate strategic plan and various asset management documents. The strategic plan has a direct, and cascading impact on asset management planning and reporting.

1.1.1 Asset Management Policy

An asset management policy represents a statement of the principles guiding the Town’s approach to asset management activities. It aligns with the organizational strategic plan and provides clear direction to Town staff on their roles and responsibilities as part of the asset management program.

The Town adopted the “Strategic Asset Management Policy” on July 1st, 2019 in accordance with Ontario Regulation 588/17.

The objectives of the policy include:

- Provide leadership and commitment to asset management
- Guide the consistent use of asset management across the organization
- Facilitate logical and evidence-based decision-making
- Support the delivery of sustainable community services now and in the future

1.1.2 Asset Management Strategy

An asset management strategy outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. It provides greater detail than the policy on how the Town plans to achieve asset management objectives through planned activities and decision-making criteria.

The Town’s Asset Management Policy contains many of the key components of an asset management strategy and may be expanded on in future revisions or as part of a separate strategic document.

1.1.3 Asset Management Plan

The asset management plan (AMP) presents the outcomes of the Town’s asset management program and identifies the resource requirements needed to achieve a defined level of service. The AMP typically includes the following content:

- State of Infrastructure
- Asset Management Strategies
- Levels of Service
- Financial Strategies

The AMP is a living document that should be updated regularly as additional asset and financial data becomes available. This will allow the Town to re-evaluate the state of infrastructure and identify how the organization’s asset management and financial strategies are progressing.

1.2 Key Concepts in Asset Management

Effective asset management integrates several key components, including lifecycle management, risk management, and levels of service. These concepts are applied throughout this asset management plan and are described below in greater detail.

1.2.1 Lifecycle Management Strategies

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including an asset’s characteristics, location, utilization, maintenance history and environment. Asset deterioration has a negative effect on the ability of an asset to fulfill its intended function, and may be characterized by increased cost, risk and even service disruption.

To ensure that assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation or replacement. The following table provides a description of each type of activity and the general difference in cost.

Lifecycle Activity	Description	Example (Roads)	Cost
Preventative Maintenance	Activities that prevent defects or deteriorations from occurring	Crack Seal	\$
General Maintenance	Activities that focus on current defects or inhibit deterioration	Pothole Repairs	\$
Rehabilitation/ Renewal	Activities that rectify defects or deficiencies that are already present and may be affecting asset performance	Mill & Re-surface	\$\$
Replacement/ Reconstruction	Asset end-of-life activities that often involve the complete replacement of assets	Full Reconstruction	\$\$\$
Replacement Upgrade	Asset end-of-life activities that involve the replacement of an asset to an 'upgraded' asset	Gravel Road to a Surface Treated Road	\$\$\$\$

Depending on initial lifecycle management strategies, asset performance can be sustained through a combination of maintenance and rehabilitation, but at some point, replacement is required. Understanding what effect these activities will have on the lifecycle of an asset, and their cost, will enable staff to make better recommendations.

The Town's approach to lifecycle management is described within each asset category outlined in this AMP. Developing and implementing a proactive lifecycle strategy will help staff to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

1.2.2 Risk Management Strategies

Municipalities generally take a 'worst-first' approach to infrastructure spending. Rather than prioritizing assets based on their importance to service delivery, assets in the worst condition are fixed first, regardless of their criticality. However, not all assets are created equal. Some are more important than others, and their failure or disrepair poses more risk to the community than that of others. For example, a road with a high volume of traffic that provides access to critical services poses a higher risk than a low volume rural road. These high-value assets should receive funding before others.

By identifying the various impacts of asset failure and the likelihood that it will fail, risk management strategies can identify critical assets, and determine where maintenance efforts, and spending, should be focused.

This AMP includes a high-level evaluation of asset risk and criticality. Each asset has been assigned a probability of failure score and consequence of failure score based on available asset data. These risk scores can be used to prioritize maintenance, rehabilitation and replacement strategies for critical assets.

1.2.3 Levels of Service

A level of service (LOS) is a measure of what the Town is providing to the community and the nature and quality of that service. Within each asset category in this AMP, technical metrics and qualitative descriptions that measure both technical and community levels of service have been established and measured as data is available.

These measures include a combination of those that have been outlined in O. Reg. 588/17 in addition to performance measures identified by the Town as worth measuring and evaluating. The Town measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories (Roads, Bridges & Culverts, Stormwater) the Province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP. For non-core asset categories, the Town has determined the qualitative descriptions that will be used to determine the community level of service provided. These descriptions can be found in the Levels of Service subsection within each asset category.

Technical Levels of Service

Technical levels of service are a measure of key technical attributes of the service being provided to the community. These include mostly quantitative measures and tend to reflect the impact of the Town's asset management strategies on the physical condition of assets or the quality/capacity of the services they provide.

For core asset categories (Roads, Bridges & Culverts, and Stormwater) the Province, through O. Reg. 588/17, has provided technical metrics that are required to be included in this AMP. For non-core asset categories, the Town has determined the technical metrics that will be used to determine the technical level of service provided. These metrics can be found in the Levels of Service subsection within each asset category.

Current and Proposed Levels of Service

This AMP focuses on measuring the current level of service provided to the community. Once current levels of service have been measured, the Town plans to establish proposed levels of service over a 10-year period, in accordance with O. Reg. 588/17.

Proposed levels of service should be realistic and achievable within the timeframe outlined by the Town. They should also be determined with consideration of a variety of community expectations, fiscal capacity, regulatory requirements, corporate goals and long-term sustainability. Once proposed levels of service have been established, and prior to July 2025, the Town must identify a lifecycle management and financial strategy which allows these targets to be achieved.

1.3 Ontario Regulation 588/17

As part of the *Infrastructure for Jobs and Prosperity Act, 2015*, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure (O. Reg 588/17). Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

The diagram below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

2019

Strategic Asset Management Policy

2024

Asset Management Plan for Core and Non-Core Assets

2022

Asset Management Plan for Core Assets with the following components:

1. Current levels of service
2. Inventory analysis
3. Lifecycle activities to sustain LOS
4. Cost of lifecycle activities
5. Population and employment forecasts
6. Discussion of growth impacts

2025

Asset Management Policy Update and an Asset Management Plan for All Assets with the following additional components:

1. Proposed levels of service for next 10 years
2. Updated inventory analysis
3. Lifecycle management strategy
4. Financial strategy and addressing shortfalls
5. Discussion of how growth assumptions impact lifecycle and financial

1.3.1 O. Reg. 588/17 Compliance Review

The following table identifies the requirements outlined in Ontario Regulation 588/17 for municipalities to meet by July 1, 2022. Next to each requirement a page or section reference is included in addition to any necessary commentary. For this AMP the Town has met all requirements for July 1, 2022 for core assets and has also partially met requirements for July 1, 2024 for non-core assets.

Requirement	O. Reg. Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	4.1.1 - 5.2.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	4.1.1 - 5.2.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	4.1.3 - 5.2.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	4.1.2 - 5.2.2	Complete
Description of Town's approach to assessing the condition of assets in each category	S.5(2), 3(v)	4.1.2 - 5.2.2	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	4.1.6 - 5.2.6	Complete for Core Assets Only
Current performance measures in each category	S.5(2), 2	4.1.6 - 5.2.6	Complete for Core Assets Only
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	4.1.4 - 5.2.4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	Appendix A	Complete
Growth assumptions	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	6.1-6.2	Complete

2 Scope and Methodology

Key Insights

- This asset management plan includes 7 tax funded asset categories and 2 rate funded asset categories
- The source and recency of replacement costs impacts the accuracy and reliability of asset portfolio valuation
- Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life

2.1 Asset categories included in this AMP

This asset management plan for Parry Sound is produced in compliance with Ontario Regulation 588/17. The July 2022 deadline under the regulation—the first of three AMPs—requires analysis of only core assets (roads, bridges & culverts, sanitary services, water services and storm water services).

The AMP summarizes the state of the infrastructure for the Town’s asset portfolio, establishes current levels of service and the associated technical and customer oriented key performance indicators (KPIs), outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to reach sustainability for the asset categories listed below.

Asset Category	Source of Funding
Bridges & Culverts	Tax Funded
Buildings	
Machinery & Equipment	
Land Improvements	
Road Network	
Storm Water Services	
Rolling Stock	Rate Funded
Water Services	
Sanitary Services	

2.2 Deriving Replacement Costs

There are a range of methods to determine the replacement cost of an asset, and some are more accurate and reliable than others. This AMP relies on two methodologies:

- **User-Defined Cost and Cost/Unit:** Based on costs provided by Town staff which could include average costs from recent contracts; data from engineering reports and assessments; staff estimates based on knowledge and experience
- **Cost Inflation/CPI Tables:** Historical cost of the asset is inflated based on Consumer Price Index or Non-Residential Building Construction Price Index

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual

costs that the Town incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.3 Estimated Useful Life

The estimated useful life (EUL) of an asset is the period over which the Town expects the asset to be available for use and remain in service before requiring replacement or disposal. The EUL for each asset in this AMP was assigned according to the knowledge and expertise of Town staff and supplemented by existing industry standards when necessary.

2.4 Reinvestment Rate

As assets age and deteriorate they require additional investment to maintain a state of good repair. The reinvestment of capital funds, through asset renewal or replacement, is necessary to sustain an adequate level of service. The reinvestment rate is a measurement of available or required funding relative to the total replacement cost.

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:

$$\text{Target Reinvestment Rate} = \frac{\text{Annual Capital Requirement}}{\text{Total Replacement Cost}}$$

$$\text{Actual Reinvestment Rate} = \frac{\text{Annual Capital Funding}}{\text{Total Replacement Cost}}$$

2.5 Deriving Asset Condition

An incomplete or limited understanding of asset condition can mislead long-term planning and decision-making. Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life.

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Town’s asset portfolio. The table below illustrates a typical condition rating system applied to determine asset condition. This rating system is aligned with the Canadian Core Public Infrastructure Survey which is used to develop the Canadian Infrastructure Report Card. When assessed condition data is not available, service life remaining is used to approximate asset condition.

Condition	Description	Criteria	Service Life Remaining (%)
Very Good	Fit for the future	Well maintained, good condition, new or recently rehabilitated	80-100
Good	Adequate for now	Acceptable, generally approaching mid-stage of expected service life	60-80
Fair	Requires attention	Signs of deterioration, some elements exhibit significant deficiencies	40-60
Poor	Increasing potential of affecting service	Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration	20-40
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable	0-20

The analysis in this AMP is based on assessed condition data only as available. In the absence of assessed condition data, asset age is used as a proxy to determine asset condition. Appendix B includes additional information on the role of asset condition data and provides basic guidelines for the development of a condition assessment program.

3

Portfolio Overview

Key Insights

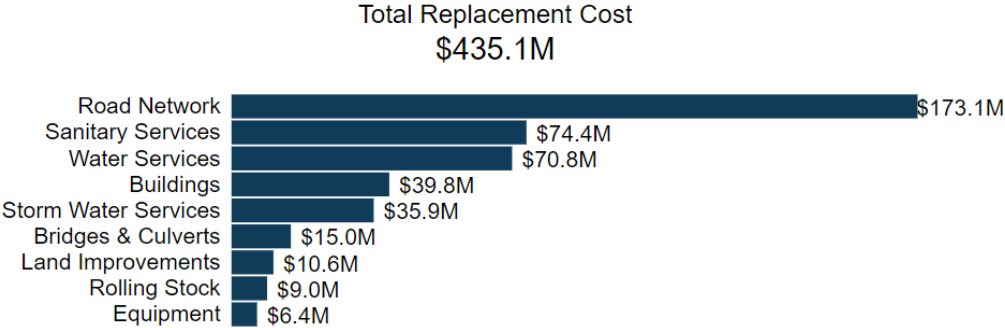
- The total replacement cost of the Town's asset portfolio is \$435.1 million
- The Town's target re-investment rate is 3.4%, and the actual re-investment rate is 1.1%, contributing to an expanding infrastructure deficit
- 65% of all assets are in fair or better condition
- Average annual capital requirements total \$14.8 million per year across all assets

3.1 State of the Infrastructure Summary

Asset Category	Replacement Cost	Average Condition	Financial Capacity	
Road Network	\$173M	Fair	Annual Requirement:	\$8,076,000
			Funding Available:	\$1,717,000
			Annual Deficit:	\$6,359,000
Buildings	\$40M	Fair	Annual Requirement:	\$949,000
			Funding Available:	\$149,000
			Annual Deficit:	\$800,000
Bridges & Culverts	\$15M	Good	Annual Requirement:	\$320,000
			Funding Available:	\$6,000
			Annual Deficit:	\$314,000
Storm Water Services	\$36M	Good	Annual Requirement:	\$545,000
			Funding Available:	\$34,000
			Annual Deficit:	\$511,000
Water Services	\$71M	Fair	Annual Requirement:	\$1,433,000
			Funding Available:	\$804,000
			Annual Deficit:	\$629,000
Sanitary Services	\$74M	Good	Annual Requirement:	\$1,701,000
			Funding Available:	\$1,352,000
			Annual Deficit:	\$349,000
Land Improvements	\$11M	Poor	Annual Requirement:	\$371,000
			Funding Available:	\$122,000
			Annual Deficit:	\$249,000
Equipment	\$6M	Fair	Annual Requirement:	\$507,000
			Funding Available:	\$224,000
			Annual Deficit:	\$283,000
Rolling Stock	\$9M	Fair	Annual Requirement:	\$900,000
			Funding Available:	\$468,000
			Annual Deficit:	\$432,000
Overall	\$435M	Fair	Annual Requirement:	\$14,802,000
			Funding Available:	\$4,876,000
			Annual Deficit:	\$9,926,000

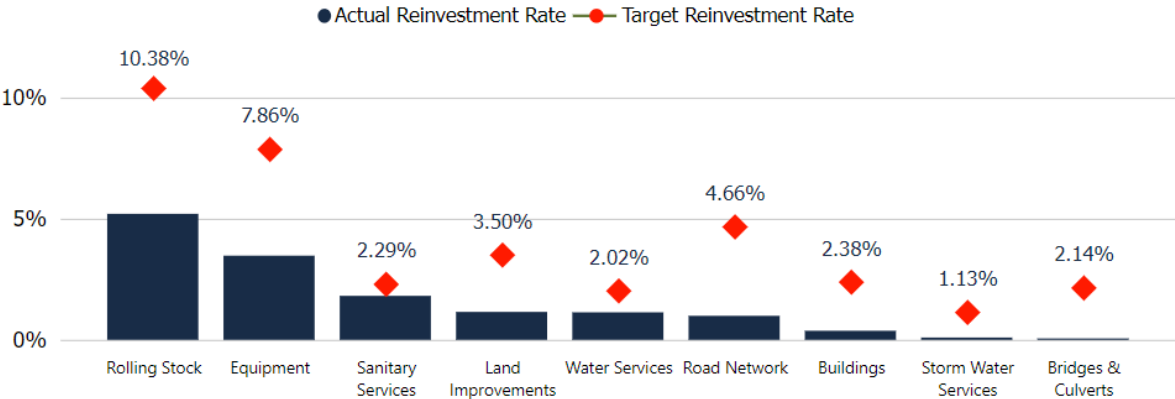
3.2 Total Replacement Cost of Asset Portfolio

The asset categories analyzed in this AMP have a total replacement cost of \$435 million based on inventory data from 2020. This total was determined based on a combination of user-defined costs and historical cost inflation. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today.



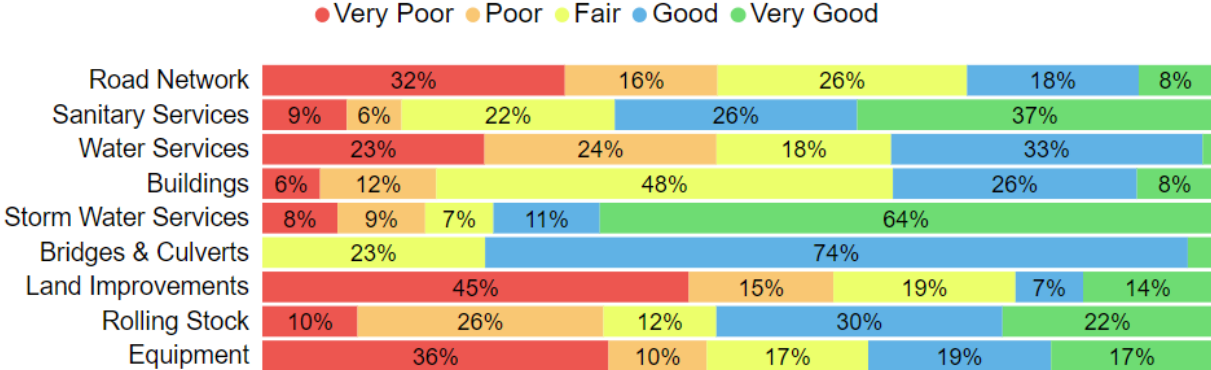
3.3 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. To meet the long-term replacement needs, the Town should be allocating approximately \$14.7 million annually, for a target reinvestment rate of 3.4%. Actual annual spending on infrastructure totals approximately \$4.9 million, for an actual reinvestment rate of 1.1%.



3.4 Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 65% of assets in Parry Sound are in fair or better condition. This estimate relies on both age-based and field condition data.



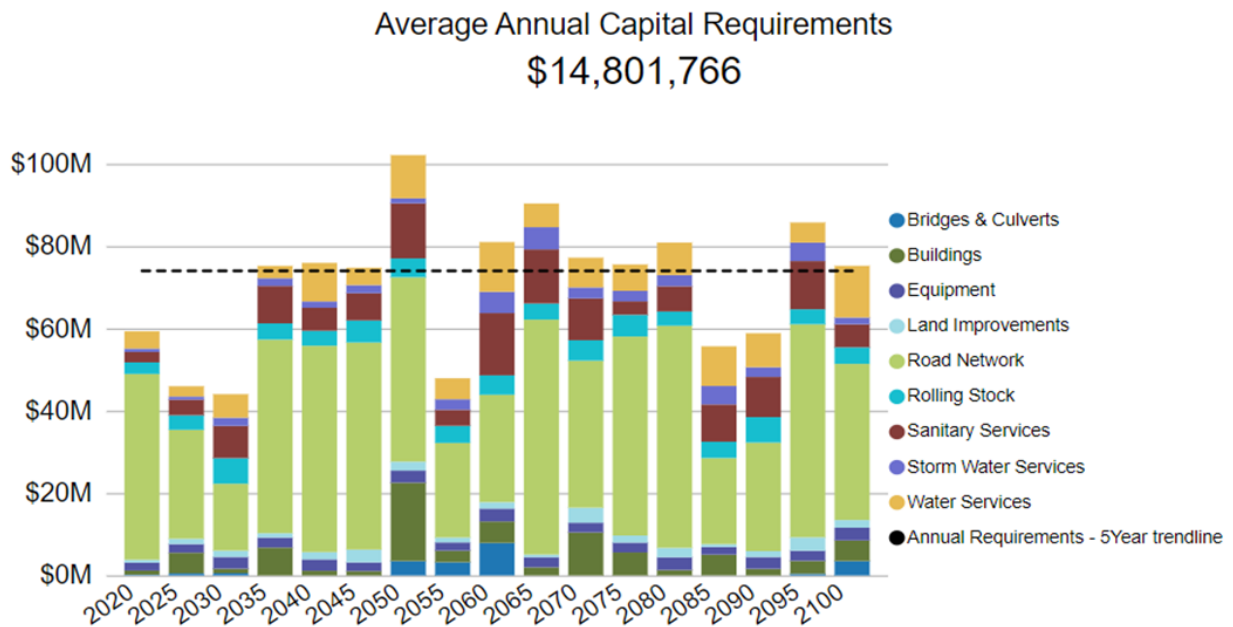
This AMP relies on assessed condition data for 48% of assets; for the remaining portfolio, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. The table below identifies the source of condition data used throughout this AMP.

Asset Category	% of Assets with Assessed Condition	Source of Condition Data
Bridges & Culverts	97%	2020 OSIM Inspection Staff
Buildings	95%	Assessments/Building Condition Assessments
Equipment	Age-Based	N/A
Land Improvements	3%	Staff Assessment
Road Network	56%	StreetScan Study
Rolling Stock	23%	Staff Assessment
Sanitary Services	49%	Staff Assessment
Storm Water Services	Age-Based	N/A
Water Services	28%	Staff Assessment

3.5 Forecasted Capital Requirements

The development of a long-term capital forecast should include both asset rehabilitation and replacement requirements. With the development of asset-specific lifecycle strategies that include the timing and cost of future capital events, the Town can produce an accurate long-term capital forecast.

The annual capital requirement represents the average amount per year that the Town should allocate towards funding rehabilitation and replacement needs to meet future capital needs. The following graph identifies capital requirements over the next 80 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments.



4

State of Local Infrastructure Core Assets

Key Insights

- Core infrastructure categories represented in this AMP include the road network, bridges and culverts, storm water services, sanitary services and water services
- Core infrastructure assets are valued at \$369 million
- 64% of core infrastructure assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for core infrastructure assets is approximately \$11.9 million

Standard Tables and Graphs Defined

- The **Average Condition** (%) is a weighted value based on replacement cost. The Estimated Useful Life has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.
- The **annual capital requirement** represents the average amount per year that the Town should allocate towards funding rehabilitation and replacement needs to meet future capital needs.
- **Risk matrices** provide a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within each asset category based on 2020 inventory data.

4.1 Road Network

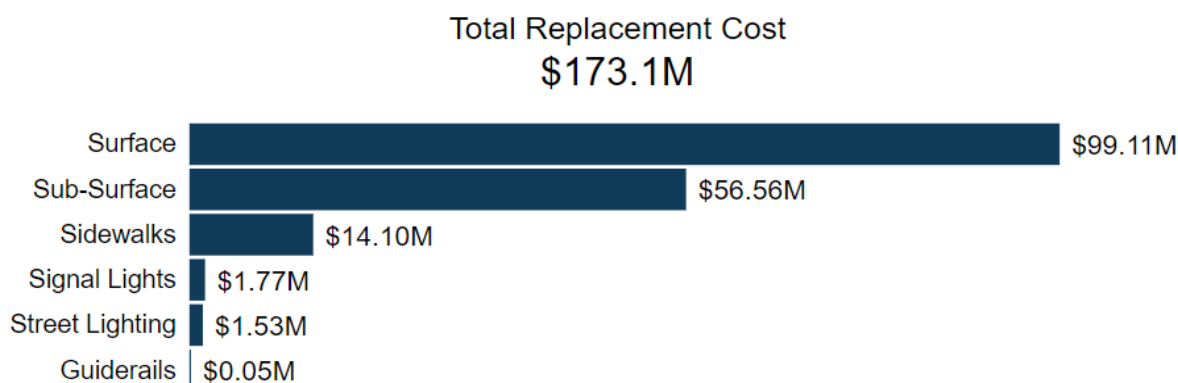
The Road Network is a critical component of the provision of safe and efficient transportation services and represents the highest value asset category in the Town’s asset portfolio. It includes all Town owned and maintained roadways in addition to supporting roadside infrastructure including guiderails, sidewalks, signal lights and street lights.

4.1.1 Asset Inventory & Replacement Cost

Table 1 below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Town’s Road Network inventory.

Table 1: Road Network Replacement Cost Summary

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Guiderails	5	CPI Tables	\$52,610
Sidewalks	3,702 m	CPI Tables	\$14,095,256
Signal Lights	22	CPI Tables	\$1,773,658
Street Lighting	1270	CPI Tables	\$1,526,285
Sub-Surface	54,930 m	96% Cost/Unit 4% CPI Tables	\$56,563,552
Surface	53,623 m	Cost/Unit	\$99,112,200
			\$173,123,561

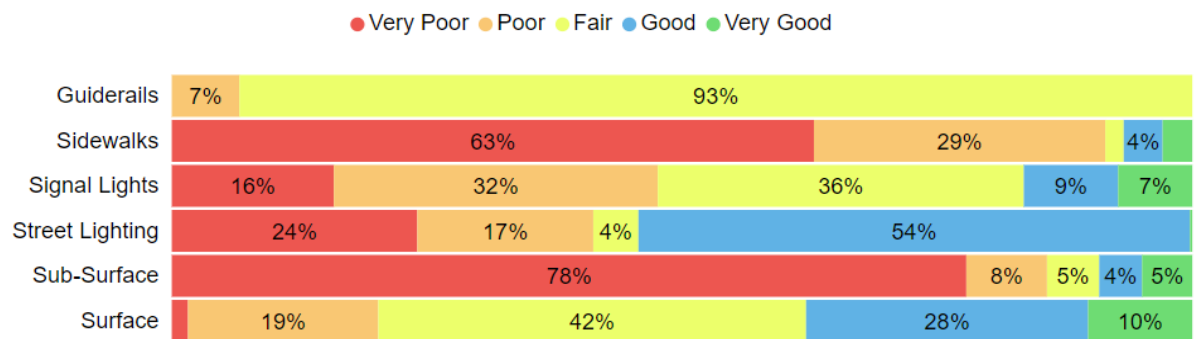


4.1.2 Asset Condition, Age & Useful Life

Table 2 below identifies the current average condition, average age, and estimated useful life for each asset segment.

Table 2: Road Network Asset Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Guiderails	53%	20	10.0
Sidewalks	21%	20	19.1
Signal Lights	43%	10-30	13.9
Street Lighting	45%	15-30	15.4
Sub-Surface	16%	20-40	27.9
Surface	65%	20	27.1
	45%		25.4



Current Approach to Condition Assessment

The following describes the Town's current approach:

- Road patrols are conducted regularly and based on the minimum maintenance standards (MMS) and specific design classes. The frequency of patrols varies by season. During the winter season, class 3 roads are inspected daily, and class 4-6 roads are inspected at least once a week.

In this AMP, the following rating criteria in **Table 3** is used to determine the current condition of road segments and forecast future capital requirements:

Table 3: Road Network Condition Assessment Criteria

Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

For all other non-linear road assets, the following rating criteria in **Table 4** is used to determine the current condition of road segments and forecast future capital requirements:

Table 4: Road Network Appurtenances Condition Rating Criteria

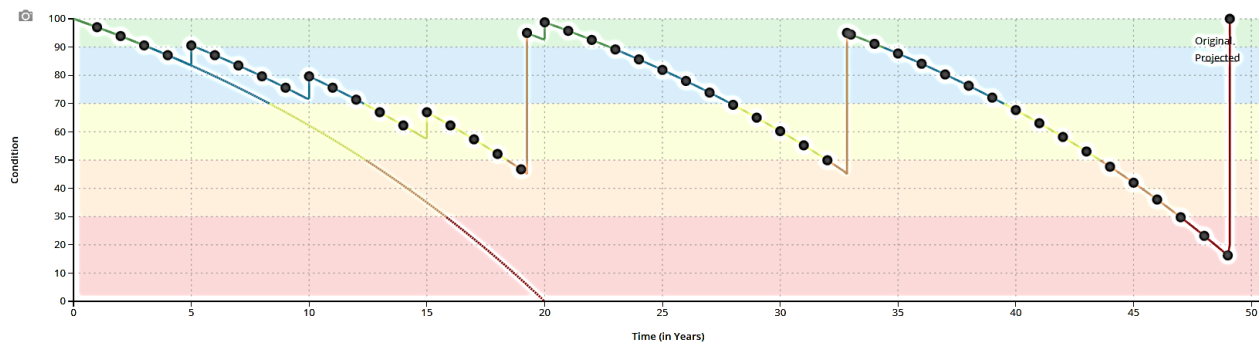
Condition	Rating
Very Good	80-100
Good	60-80
Fair	40-60
Poor	20-40
Very Poor	0-20

4.1.3 Lifecycle Management Strategy

The following lifecycle strategy in **Table 5** has been documented to illustrate the maintenance and rehabilitation required to keep paved roads in a good state of repair.

Table 5: Paved Roads Lifecycle Strategy

Paved Roads		
Event Name	Event Class	Event Trigger
Asphalt Patching & Pothole Repairs	General Maintenance	As needed
Crack Sealing	Preventative Maintenance	Every 5 years ¹
Pulverize & Pave (1 st Treatment)	Rehabilitation	Condition: 45 - 55
Pulverize & Pave (2 nd Treatment)	Rehabilitation	Condition: 45 - 55
Full Reconstruction	Replacement	Condition: 20



The following lifecycle strategy in **Table 56** has been documented to illustrate the maintenance and rehabilitation required to keep tar and chip roads in a good state of repair.

Table 6: Tar & Chip Roads Lifecycle Strategy

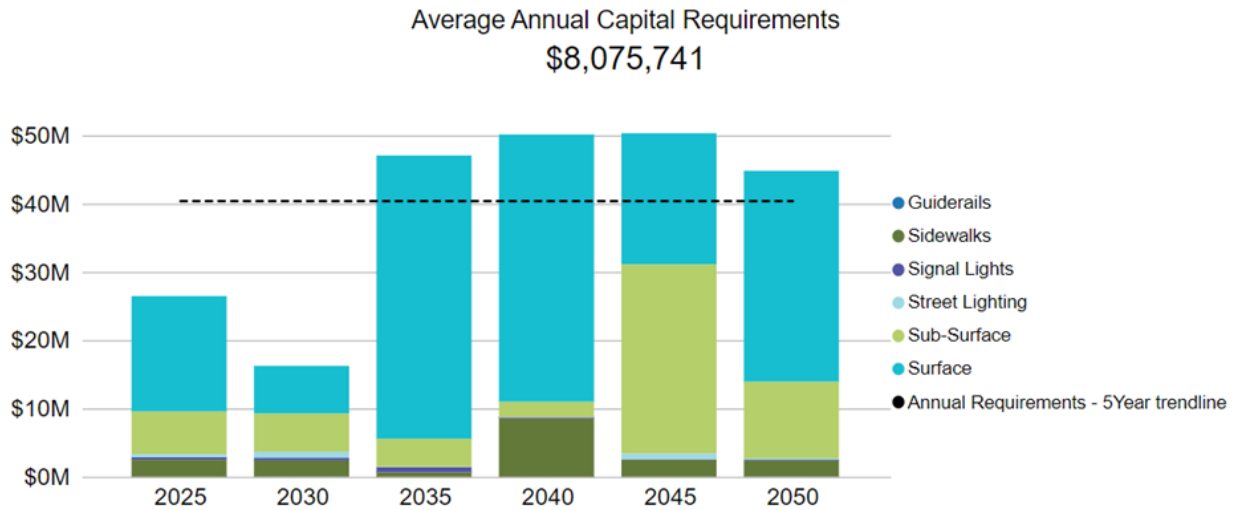
Tar & Chip Roads		
Event Name	Event Class	Event Trigger
Cold Patch & Slurry Seal	Preventative Maintenance	Year 2 and every 7 years after
Single Lift Surface Treatment	Rehabilitation	Age: every 7 years
Full Reconstruction	Replacement	Condition: 20

¹ Crack sealing is not effective once the surface exceeds 20 years of useful life.

4.1.4 Forecasted Capital Requirements

Based on the lifecycle strategies identified previously for the Town’s road network, **Figure 1** illustrates capital requirements over the next 30 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments.

Figure 1: Road Network Average Annual Capital Requirements



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.1.5 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in **Table 7** to determine the risk rating of each road network asset.

Consequence	5	1 Asset 586.00 m \$1,113,172.00	3 Assets 1,055.00 unit(s) \$911,833.00	4 Assets 4.00 unit(s) \$619,547.00	3 Assets 40.00 unit(s) \$454,300.00	7 Assets 4,809.00 unit(s), m \$5,290,710.00
	4	2 Assets 1,227.00 m \$1,597,758.00	6 Assets 2,533.00 unit(s), m \$6,120,417.00	4 Assets 1,812.00 m \$4,348,800.00	11 Assets 1,999.00 unit(s), m \$5,578,854.00	14 Assets 6,843.00 unit(s), m \$8,271,639.00
	3	17 Assets 2,613.70 m \$3,434,440.00	38 Assets 4,535.00 unit(s), m \$6,187,292.00	46 Assets 4,761.00 unit(s), m \$10,426,295.00	42 Assets 1,234.00 m, unit(s) \$5,572,672.00	113 Assets 10,828.00 m, unit(s) \$18,762,257.00
	2	37 Assets 5,524.30 m \$9,041,543.00	106 Assets 12,520.00 m, unit(s) \$19,682,608.00	110 Assets 16,512.00 m, unit(s) \$26,090,836.00	74 Assets 11,221.00 unit(s), m \$16,138,094.00	176 Assets 21,097.00 m, unit(s) \$21,803,890.00
	1	13 Assets 228.20 m, unit(s) \$358,403.00	12 Assets 578.00 unit(s), m \$161,914.00	12 Assets 263.00 m, unit(s) \$385,109.00	3 Assets 58.00 m, unit(s) \$74,114.00	21 Assets 669.00 unit(s), m \$697,064.00
		1	2	3	4	5
		Probability				

Table 7: Road Network Quantitative Risk Rating Criteria

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
Service Life Remaining (Years)	Road Class (Strategic)

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Town is currently facing:



Climate Change & Aging Infrastructure

An increase in freeze/thaw cycles causes road pavement to heave and settle. This can cause the accelerated deterioration of road surface pavement which leads to an increased need for maintenance and rehabilitation. A significant number of roads are reaching the end of their useful lives much sooner due to the accelerated deterioration.

Growth & Community Expectations



All surrounding municipalities are experiencing significant growth, which has resulted in an increasing demand on the road network. As Parry Sound is the urban center, the growth in surrounding communities has resulted in much higher traffic volumes on the municipalities road network. The changing demographic also have different expectations for the road network, including an increase desire for active transportation accommodation, such as bike lanes.

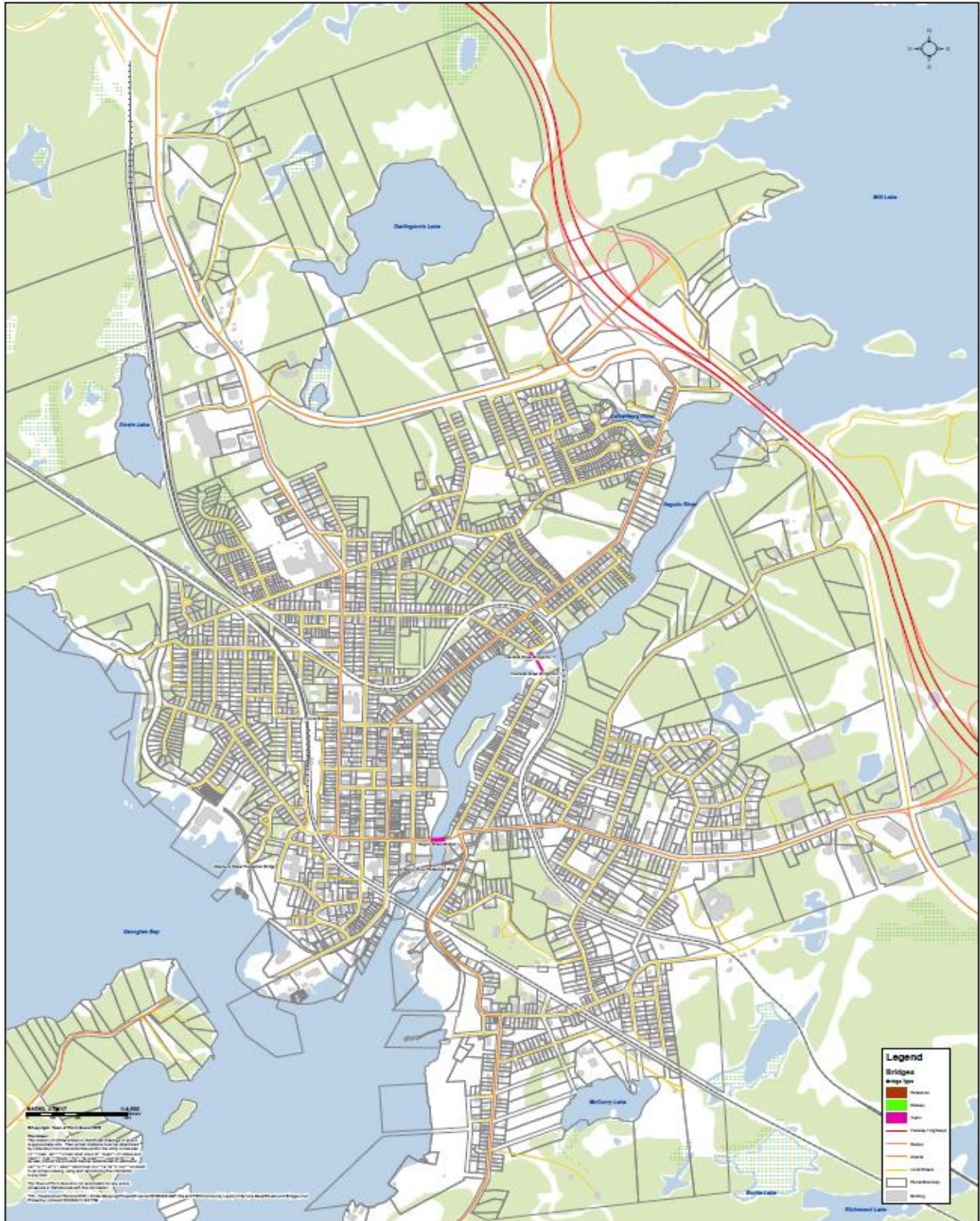
Capital Funding Strategies



Major capital rehabilitation projects for the road network are entirely dependant on the availability of grant funding opportunities. When grants are not available, road network rehabilitation projects may be deferred. An annual capital funding strategy reduce dependency on grant funding and help prevent deferral or capital works.

4.1.6 Levels of Service

The following tables and



identify the Town's current level of service for the Road Network. These metrics include the community and technical level of service metrics that are required as

part of O. Reg. 588/17 as well as any additional performance measures that the Town has selected for this AMP.

Community Levels of Service

Table 8 outlines the qualitative descriptions that determine the community levels of service provided by the Road Network.

Table 8: Road Network Qualitative Levels of Service

Service Attribute	Qualitative Description	Current LOS (2021)
Availability	Description, which may include maps, of the road network in the Town and its level of connectivity	The Town is responsible for approximately 106 kilometres of road network comprised of paved roads, gravel lanes, and pedestrian passages. The majority of roads in the Town are designated as Class 5 roads, as per O. Reg. 239/02, and are composed of asphalt. See Figure 2
	Description of minimum maintenance standards for road network (road surfaces and sidewalks) and Winter Maintenance Level of Service Policy	The Town follows provincial minimum maintenance standards for municipal roads and sidewalks. "ONTARIO REGULATION 366/18 MINIMUM MAINTENANCE STANDARDS FOR MUNICIPAL HIGHWAYS" This Regulation sets out the minimum standards of repair for highways and sidewalks under municipal jurisdictions.
Performance	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on the road network	The current lifecycle strategy deployed by the Town is mainly reactive, although staff are committed to developing a more proactive strategy for paved roads. Currently, lifecycle activities consist of general maintenance activities (such as asphalt patching, pothole repairs, and other activities to satisfy the MMS requirements), rehabilitation activities (such as pulverize and pave) and road reconstruction.

Service Attribute	Qualitative Description	Current LOS (2021)
	Description, images, or map that illustrate the different levels of road class pavement and sidewalk condition	The current condition of the Town's road network relies on assessed condition from a comprehensive road assessment performed in August, 2019. 44% of the road network is in fair condition, 25% good or very good condition, 26% in poor condition, and only 6% in very poor condition. The majority of the town's sidewalk inventory (71%) is estimated to be in very poor condition, 22% in poor condition, and only 5% in good or better condition. This is mainly contributed to the lack of assessment data in the Town's asset management system.

Technical Levels of Service

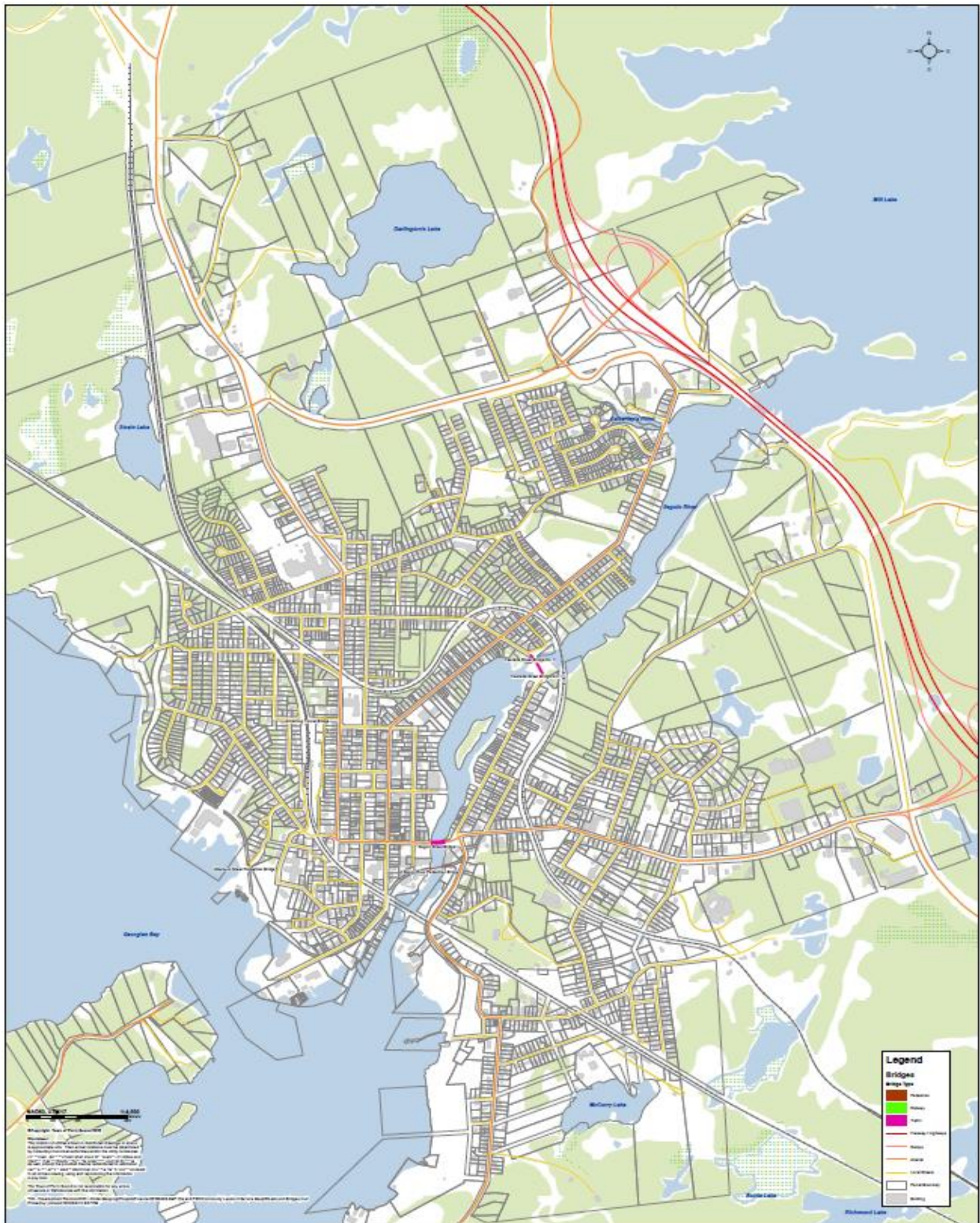
Table 9 outlines the quantitative metrics that determine the technical level of service provided by the Road Network.

Table 9: Road Network Quantitative Levels of Service

Service Attribute	Technical Metric	Current LOS (2020)
Availability	Lane-km of MMS classes 1 and 2 per land area (km/km ²)	N/A
	Lane-km of MMS classes 3 and 4 per land area (km/km ²)	1.80
	Lane-km of MMS classes 5 and 6 per land area (km/km ²)	2.01
Reliability	Average pavement condition index for paved roads in the Town	66
	Average surface condition for unpaved roads in the Town (e.g. excellent, good, fair, poor)	N/A

	Average Condition for sidewalks in the municipality	27
Sustainability	Capital reinvestment rate	0.99%

Figure 2: Road Network Connectivity



4.2 Bridges & Culverts

Bridges & Culverts (over 3m) represent a critical portion of the transportation services provided to the community. The Transportation and Environmental Services Department is responsible for the maintenance of all bridges and culverts located across Town roads, with the goal of keeping structures in an adequate state of repair and minimizing service disruptions.

4.2.1 Asset Inventory & Replacement Cost

Table 10 below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Town’s Bridges & Culverts inventory.

Table 10: Bridges & Culverts Replacement Cost Summary

Asset Segment	Quantity	Total Replacement Cost
Bridges	6	\$14,575,817
Culverts	8	\$405,333
		\$14,981,250

Total Replacement Cost
\$15.0M

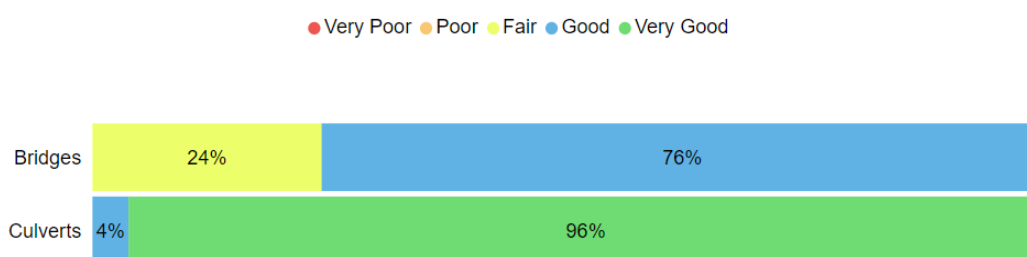


4.2.2 Asset Condition, Age & Useful Life

Table 11 below identifies the current average condition, average age, and estimated useful life for each asset segment.

Table 11: Bridges & Culverts Asset Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Bridges	78%	50	45.7
Culverts	96%	80	5.4
	79%		22.7



Current Approach to Condition Assessment

The following describes the Town's current approach:

- Condition assessments of all bridges and culverts with a span greater than or equal to 3 meters are completed every 2 years in accordance with the Ontario Structure Inspection Manual (OSIM)
- An informal internal inspection occurs seasonally and involves a visual inspection of the structures.

In this AMP, the following rating criteria in **Table 12** is used to determine the current condition of bridges & culverts and forecast future capital requirements:

Table 12: Bridges & Culverts Condition Assessment Criteria

Condition	Rating
Very Good	90 - 100
Good	70 - 90
Fair	55 - 70
Poor	40 - 55
Very Poor	0 - 40

4.2.3 Lifecycle Management Strategy

Table 13 outlines the Town’s current lifecycle management strategy for bridges and culverts.

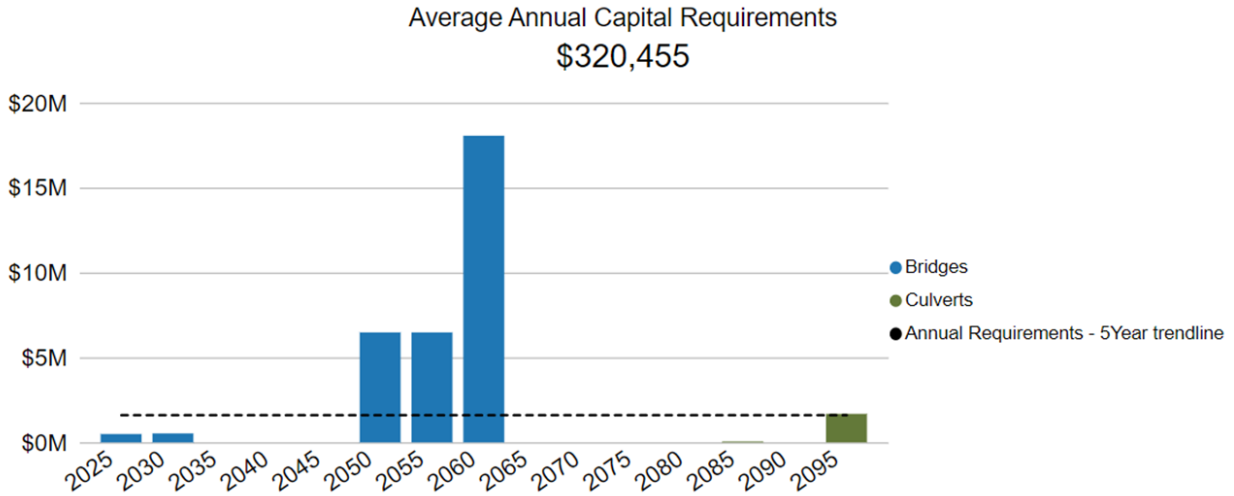
Table 13: Bridges & Culverts Lifecycle Strategy

Activity Type	Description of Current Strategy
Inspection	The most recent OSIM report was completed in 2020 by C.C. Tatham and Associates Ltd. The assessed condition data as well as the recommended lifecycle activities from the report are used to inform decision making and are a part of budget deliberations.
	An informal internal inspection occurs seasonally and involves a visual inspection of the structures.
Preventative Maintenance/ Maintenance	No formal preventative maintenance program in place but there is one scheduled to commence in 2022.
	Typical maintenance include: <ul style="list-style-type: none"> • Annual washing/cleaning/ spraying of various structural elements (expansion joints, deck, deck drains, curbs, bearings) • Surface patching, sidewalk maintenance and minor repairs • Removal of corrosion from exposed steel surfaces and priming/painting/coating of steel • Removal of debris and obstructions
	The inspection report includes a list of recommended maintenance activities that the Town considers and completes according to cost and urgency.
Rehabilitation/ Replacement	Rehabilitation and replacement activities are based on the engineer recommended activities within the OSIM report and completed according to budget constraints and urgency.

4.2.4 Forecasted Capital Requirements

Figure 3 illustrates capital requirements over the next 75 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments.

Figure 3: Bridges & Culverts Average Annual Capital Requirements



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.2.5 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in **Table 14** to determine the risk rating of each Bridge & Culvert.



Table 14: Bridges & Culverts Risk Rating Criteria

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Service Life Remaining (Years)	AADT (Social)

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Town is currently facing:



Extreme Weather Events & Aging Infrastructure

As municipal bridges continue to age, there are a handful of structures that are approaching their original useful life. The extreme weather events experienced by the municipality are also impacting the condition of the bridges, bringing them to the end of their useful lives much sooner.



Capital Funding Strategies

Major capital rehabilitation projects for bridges and culverts are entirely dependant on the availability of grant funding opportunities. When grants are not available, bridge rehabilitation projects may be deferred. An annual capital funding strategy reduce dependency on grant funding and help prevent deferral or capital works.

4.2.6 Levels of Service

The following tables and figures identify the Town’s current level of service for Bridges & Culverts. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Town has selected for this AMP.

Community Levels of Service

Table 15 outlines the qualitative descriptions that determine the community levels of service provided by Bridges & Culverts.

Table 15: Bridges & Culverts Qualitative Levels of Service

Service Attribute	Qualitative Description	Current LOS (2020)
Availability	Description of the traffic that is supported by Town bridges (e.g. heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	The Town is responsible for 6 structural assets that have spans of 3 meters or greater that support multi-modal transportation.
	Description of the OSIM inspection process	O. Reg. 104/97 requires any bridge or culvert with a span of 3m or greater to be inspected at least once in every second calendar year based on the Ontario Structure Inspection Manual (OSIM) by a certified engineer.
Performance	Description of the lifecycle activities (maintenance, rehabilitation, and replacement) performed on bridges & culverts	For repair, rehabilitation, and reconstruction activities for bridges and culverts over 3m in span, the Town relies on OSIM (Ontario Structural Inspection Manual) structural inspections completed every 2 years. The Town follows the provincial minimum maintenance standards for municipal bridges. "ONTARIO REGULATION 366/18 MINIMUM MAINTENANCE STANDARDS FOR MUNICIPAL HIGHWAYS"

Service Attribute	Qualitative Description	Current LOS (2020)
	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	<p>The Town's transportation and pedestrian network connectivity is highly dependant on critical water and railway crossings. Without the proper maintenance and repair of the Town's bridge and culvert structures the levels of service provided by the transportation network would be severely affected. The Town's bi-annual OSIM reports contain information and images the describe the current condition of bridge and culvert assets.</p> <p>70% of all bridges and culverts over 3m in diameter are in good or very good condition. The remaining 30% are estimated to be in fair condition.</p> <p>Currently, there are no bridge or culvert assets in the poor or very poor condition.</p>

Technical Levels of Service

Table 16 outlines the quantitative metrics that determine the technical level of service provided by Bridges & Culverts.

Table 16: Bridges & Culverts Quantitative Levels of Service

Service Attribute	Technical Metric	Current LOS (2020)
Availability	% of bridges in the Town with loading or dimensional restrictions	0%
	# of unplanned bridge closures	0
	# of planned bridge closures	0
Reliability	Average bridge condition index value for bridges in the Town	73
	Average bridge condition index value for structural culverts in the Town	93
Sustainability	Capital re-investment rate	0.04%

4.3 Storm Water Services

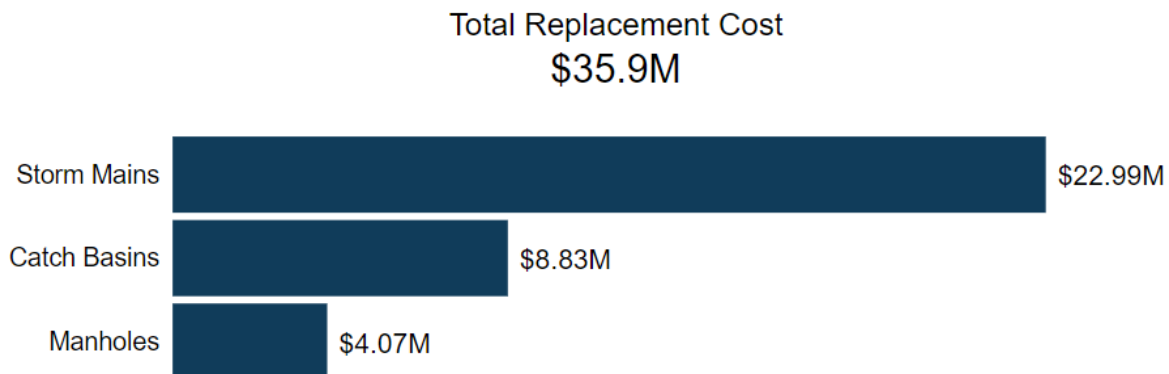
The Town is responsible for owning and maintaining a stormwater network of 38 kms of storm mains, catch basins and manholes.

4.3.1 Asset Inventory & Replacement Cost

Table 17 includes the quantity, replacement cost method and total replacement cost of each asset segment in the Town's Storm Water Services inventory.

Table 17: Storm Water Services Replacement Cost Summary

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Catch Basins	1,177	Cost/Unit	\$8,827,000
Manholes	354	Cost/Unit	\$4,071,000
Storm Mains	38,427 m	Cost/Unit	\$22,992,746
			\$35,891,246

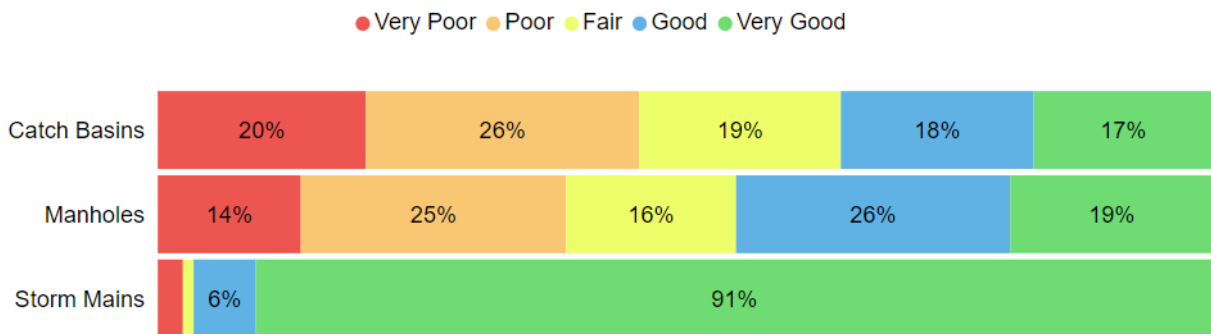


4.3.2 Asset Condition, Age & Useful Life

Table 18 identifies the current average condition, average age, and estimated useful life for each asset segment.

Table 18: Storm Water Services Asset Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Catch Basins	47%	50	27.5
Manholes	53%	50	24.1
Storm Mains	90%	80	26.7
	75%		26.7



Current Approach to Condition Assessment

The following describes the Town's current approach:

- The inspection of storm sewer assets is largely reactive; assets are assessed when possible and where issues are identified. Some CCTV has occurred in the past to determine the asset condition for specific areas.
- Manholes are inspected annually during the spring season and also undergo cleaning and Hydrovac Technology. Hydrovac activities is conducted internally and requires significant operating costs.
- Catch basins are inspected and cleaned annually. For 2022, staff will implement a formal process to document and account for catch basin cleaning and identifying defects.
- Curb and gutter assets are inspected and cleaning annually.

In this AMP, the following rating criteria illustrated in **Table 19** is used to determine the current condition of storm water infrastructure and forecast future capital requirements:

Table 19: Storm Water Services Condition Rating Criteria

Condition	Rating
Very Good	80 – 100
Good	60 – 80
Fair	40 – 60
Poor	20 – 40
Very Poor	0 – 20

4.3.3 Lifecycle Management Strategy

Table 20 outlines the Town’s current lifecycle management strategy.

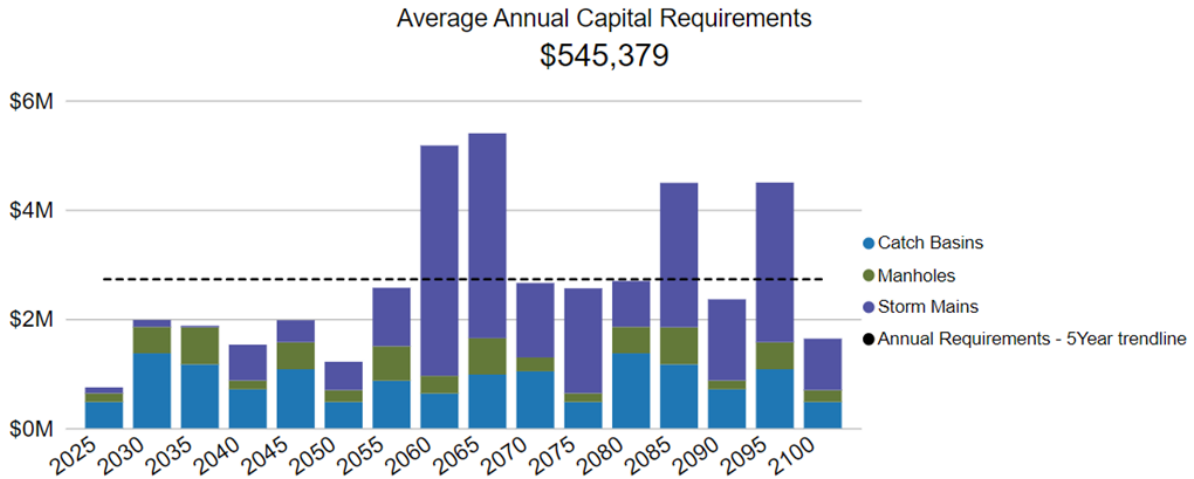
Table 20: Stormwater Infrastructure Lifecycle Strategy

Activity Type	Description of Current Strategy
Inspection/ Maintenance	The inspection of storm sewer assets is largely reactive; assets are assessed when possible and where issues are identified. Some CCTV has occurred in the past to determine the asset condition for specific areas.
	Manholes are inspected annually during the spring season and also undergo cleaning and Hydrovac Technology. Hydrovac activities is conducted internally and requires significant operating costs.
	Catch basins are inspected and cleaned annually. For 2022, staff will implement a formal process to document and account for catch basin cleaning and identifying defects.
	Curb and gutter assets are inspected and cleaning annually.
	Specific activities that occur after a flooding event include flushing, cleaning, and debris removal.
	Specific storm mains are flushed based on the results of manholes and catch basin inspections and as needed.
Rehabilitation/ Replacement	Generally, most storm sewer assets undergo end of life replacement without any interventions.
	Assets requiring rehabilitation or replacement are prioritized through the following criteria: <ul style="list-style-type: none"> • operational efficiencies and capacity • coordination with other infrastructure assets • asset condition/age/material • as needed or compliant driven

4.3.4 Forecasted Capital Requirements

Figure 4 illustrates capital requirements over the next 80 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments.

Figure 4: Stormwater Services Average Annual Capital Requirements



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.3.5 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in **Table 21** to determine the risk rating of each sewer pipe segment and **Table 22** to determine the risk rating of each point feature.



Table 21: Stormwater Linear Infrastructure Risk Rating Criteria

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Pipe Material	Pipe Diameter (Operational)

Table 22: Stormwater Point Infrastructure Risk Rating Criteria

Probability of Failure (POF)	Consequence of Failure (COF)
Age-Based Condition	Replacement Cost (Financial)

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Town is currently facing:



Asset Data & Information

There is a lack of confidence in the available inventory data for storm sewers. The inspection of storm sewer assets is largely reactive; assets are assessed when possible and where issues are identified. Staff plan to prioritize data refinement efforts to increase confidence in the accuracy and reliability of asset data and information. Once completed there will be greater confidence in the development of data-driven strategies to address infrastructure needs.



Aging Infrastructure

A significant portion of the storm network, roughly 70%, is reaching the end of its useful life. The development of a proactive maintenance and capital rehabilitation strategy can help to extend the service life of storm water infrastructure at a lower cost.

4.3.6 Levels of Service

The following tables identify the Town’s current level of service for Storm Water Services. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Town has selected for this AMP.

Community Levels of Service

Table 23 outlines the qualitative descriptions that determine the community levels of service provided by Storm Water Services.

Table 23: Stormwater Services Qualitative Levels of Service

Service Attribute	Qualitative Description	Current LOS (2020)
Availability	Description, which may include map, of the user groups or areas of the municipality that are protected from flooding, including the extent of protection provided by the municipal stormwater management system	The Town is responsible for maintaining 34.7 kilometres of storm sewer mains, 1,207 inlets, 354 manholes, 3.9 kilometres of storm culverts, and a few stormwater management ponds. See Figure 5 .
Performance	Description of the lifecycle activities (maintenance, rehabilitation, and replacement) performed on the stormwater network	Assessments are generally performed on catch basins, manholes, and curb and gutters annually and storm sewer assets is largely reactive; assets are assessed when possible and where issues are identified. Maintenance activities are also performed annually on manholes, catch basins, and curb and gutters. Storm sewers are cleaned and flushed only when a need is identified. Generally, most storm sewer assets undergo end of life replacement without any rehabilitation.

Service Attribute	Qualitative Description	Current LOS (2020)
	Description of the current condition of the stormwater network and the plans that are in place to maintain or improve the provided level of service	The current condition of the Town's linear stormwater network relies solely on age-based condition calculations. 46% of the system is in good or very good condition, 13% in poor condition, and only 10% in very poor condition. A formal inspection strategy is being implemented to better determine the true state of the stormwater system.

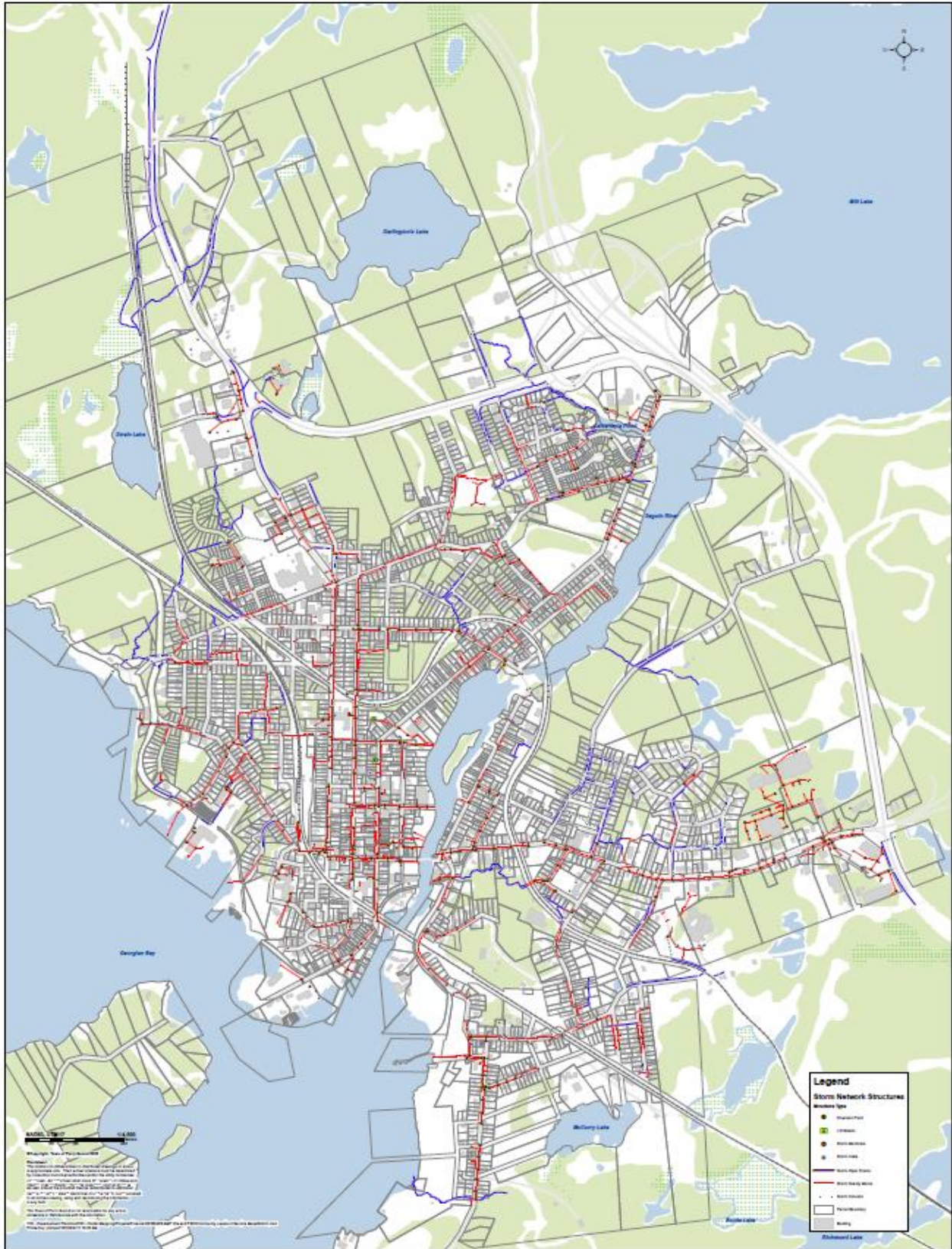
Technical Levels of Service

Table 24 outlines the quantitative metrics that determine the technical level of service provided by the Stormwater Infrastructure.

Table 24: Stormwater Services Quantitative Levels of Service

Service Attribute	Technical Metric	Current LOS (2020)
Reliability	# of service requests related to surface flooding	55
	% of properties in Town resilient to a 100-year storm	50%
	% of the Town's stormwater management system resilient to a 5-year storm	60%
	% of the stormwater network that is in good or very good condition	47%
	% of the stormwater network that is in poor or very poor condition	22%
Sustainability	Capital reinvestment rate	0.09%

Figure 5: Stormwater Network



4.4 Sanitary Services

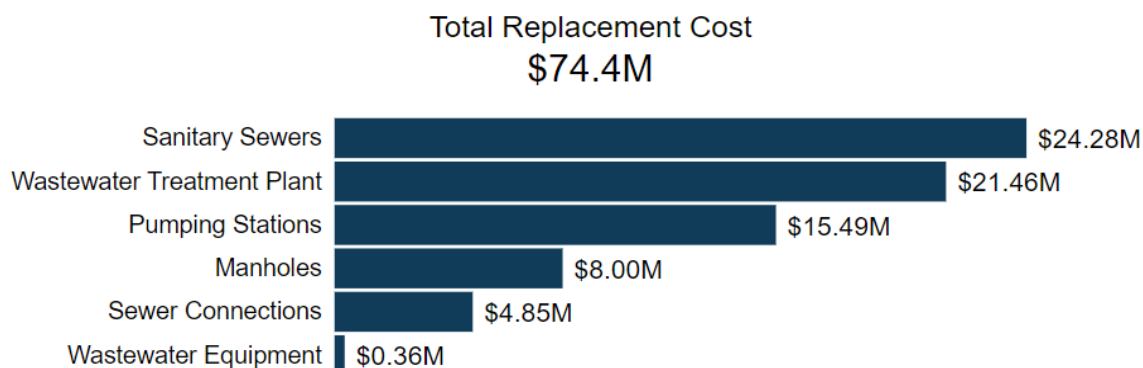
The Town is responsible for owning and maintaining a sanitary network of 51 kms of sanitary sewers, manholes, pump stations, sewer connections, wastewater equipment and a wastewater treatment plant.

4.4.1 Asset Inventory & Replacement Cost

Table 25 includes the quantity, replacement cost method and total replacement cost of each asset segment in the Town's Sanitary Services inventory.

Table 25: Sanitary Services Replacement Cost Summary

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Manholes	696	Cost/Unit	\$8,004,000
Pumping Stations	152	CPI Tables	\$15,488,916
Sanitary Sewers	51,164 m	Cost/Unit	\$24,279,410
Sanitary Connections	16,526 m	User-Defined Cost	\$4,849,200
Wastewater Equipment	26	CPI Tables	\$355,196
Wastewater Treatment Plant	1 (43)	CPI Tables	\$21,457,775
			\$74,434,497

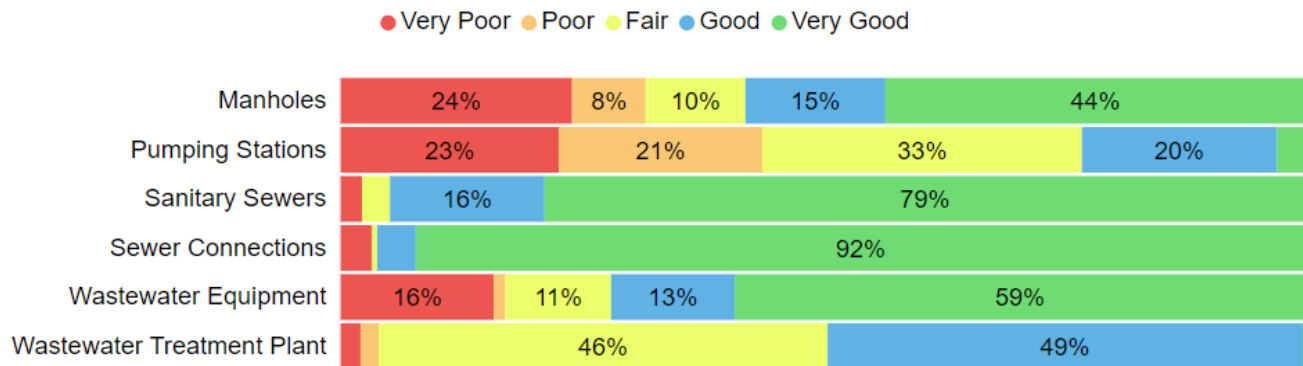


4.4.2 Asset Condition, Age & Useful Life

Table 26 identifies the current average condition, average age, and estimated useful life for each asset segment.

Table 26: Sanitary Services Asset Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Manholes	59%	50	34.6
Pumping Stations	41%	10-60	24.2
Sanitary Sewers	87%	80	33.0
Sanitary Connections	91%	80	25.5
Wastewater Equipment	69%	3-20	4.1
Wastewater Treatment Plant	59%	5-60	10.3
	66%		28.6



Current Approach to Condition Assessment

The following describes the Town's current approach:

- Sanitary mains undergo camera inspections every 4 years and 25% of the network is inspected annually and is contracted out. A PACP rating is provided to the Town after the inspections.
- Manholes are inspected as needed.

In this AMP, the following rating criteria illustrated in **Table 27** is used to determine the current condition of sanitary services and forecast future capital requirements:

Table 27: Sanitary Services Condition Rating Criteria

Condition	Rating
Very Good	80 – 100
Good	60 – 80
Fair	40 – 60
Poor	20 – 40
Very Poor	0 – 20

4.4.3 Lifecycle Management Strategy

Table 28 outlines the Town’s current lifecycle management strategy.

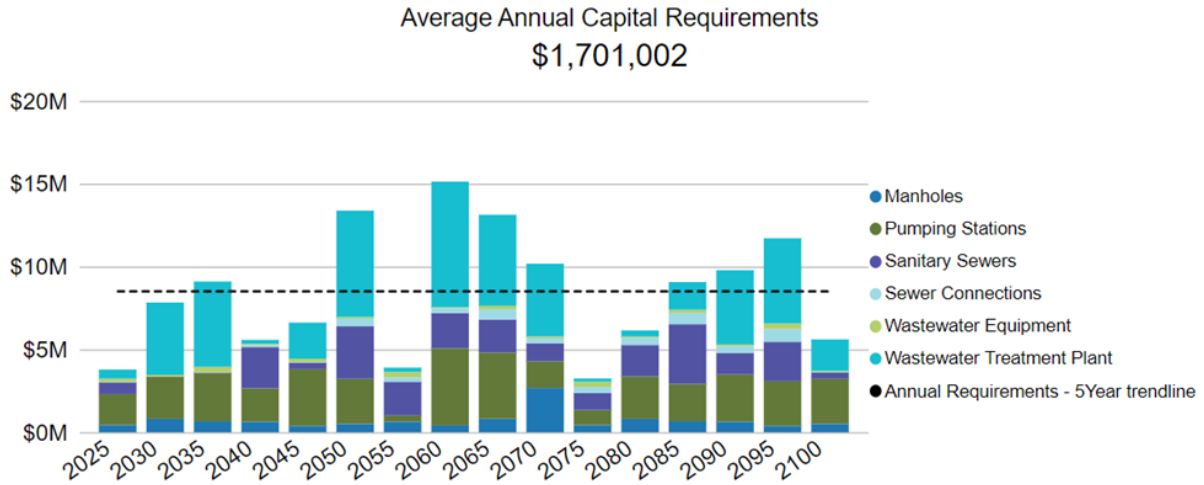
Table 28: Sanitary Network Lifecycle Strategy

Activity Type	Description of Current Strategy
Inspection/ Maintenance	Sanitary mains undergo camera inspections every 4 years and 25% of the network is inspected annually and is contracted out. A PACP rating is provided to the Town after the inspections.
	Manholes are inspected as needed.
	In conjunction with the camera inspections, sanitary mains are also flushed and cleaned annually. Between the 35% to 50% of the network is flushed and cleaned each year.
Rehabilitation/ Replacement	All assets are typically replaced at the end-of-life, there are minimal rehabilitative activities that are conducted. Although mains that comprise of clay, asbestos and concrete are prioritized.
	Assets that require replacement are determined through the following criteria: coordination with other infrastructure, asset condition, asset material, capacity and flow rate.

4.4.4 Forecasted Capital Requirements

Figure 6 illustrates capital requirements over the next 80 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments.

Figure 6: Sanitary Services Average Annual Capital Requirements



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.4.5 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in **Table 30** to determine the risk rating of each sewer pipe segment and **Table 29** to determine the risk rating of each point feature.

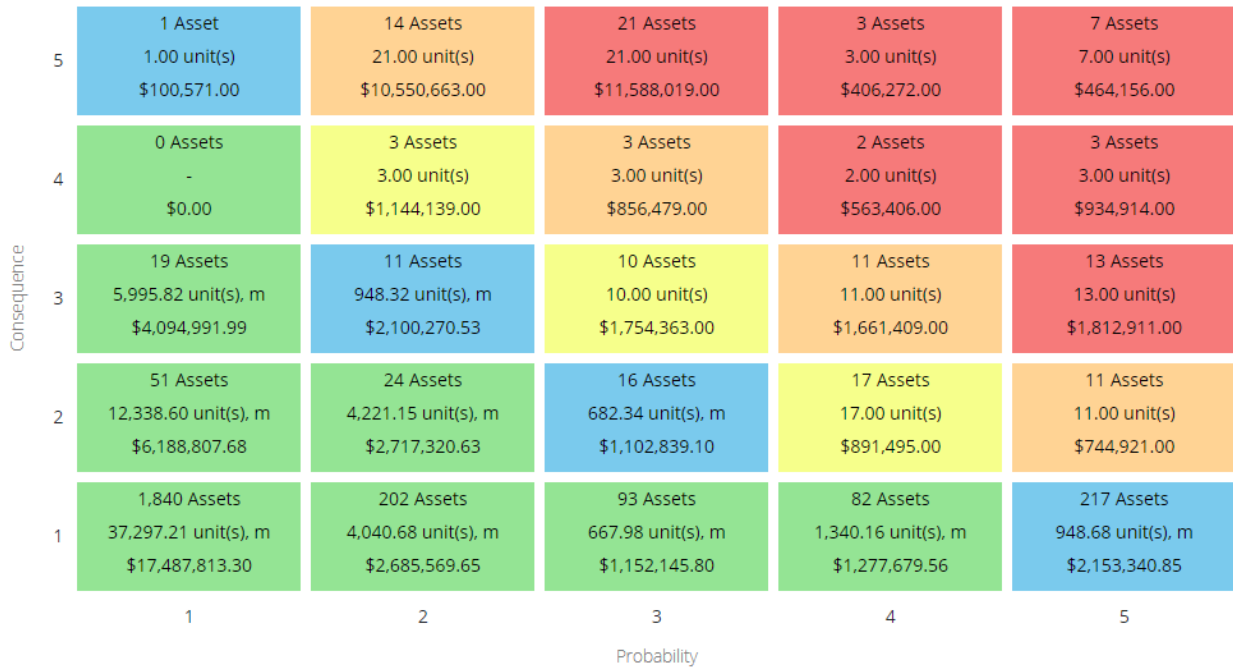


Table 29: Sanitary Linear Infrastructure Risk Rating Criteria

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Pipe Material	Pipe Diameter (Operational)

Table 30: Stormwater Point Infrastructure Risk Rating Criteria

Probability of Failure (POF)	Consequence of Failure (COF)
Age-Based Condition	Replacement Cost (Financial)

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Town is currently facing:



Growth

The Town is expected to experience significant growth. Population and employment growth will increase the demand on municipal services and potentially decrease the lifecycle of certain assets. As the population continues to grow, the Town must prioritize expanding its capacity to serve a larger population. Staff are working towards developing a comprehensive long-term capital plan with considerations for growth.



Climate Change & Extreme Weather Events

Sanitary Network asset deterioration is accelerated due to extreme weather, which in some cases can cause unexpected failures. Freeze-thaw cycles, ice jams, and surface flooding from extreme rainfall have been experienced by the Town in recent years. These events make long-term planning difficult and can result in a lower level of service.

4.4.6 Levels of Service

The following tables identify the Town’s current level of service for Sanitary Services. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Town has selected for this AMP.

Community Levels of Service

Table 31 outlines the qualitative descriptions that determine the community levels of service provided by Sanitary Services.

Table 31: Sanitary Services Qualitative Levels of Service

Service Attribute	Qualitative Description	Current LOS (2020)
	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater systems	The Town is responsible for maintaining 39 kilometres of gravity mains, 8 kilometres of pressurized mains, 16 kilometres of sanitary laterals, 696 manholes, 873 cleanouts, 15 pumping stations, a sanitary treatment facility and sanitary equipment that support the collection and treatment of wastewater.. See Figure 7 .
Availability	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	The majority of the Town's sanitary lift stations are equipped with sewer overflow protection. Currently residents have not experienced any backups resulting from overflows in the sanitary system.
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	Currently the Town has not experienced any sewage backups or overflows in habitable areas or beaches.
	Description of how stormwater can get into sanitary sewers in the	Inflow and Infiltration, such as sump pumps, roof drains,

Service Attribute	Qualitative Description	Current LOS (2020)
	municipal wastewater system, causing sewage to overflow into streets or backup into homes	floor drains, combined sewers, manhole lids
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid stormwater infiltration	The Town's wastewater system is over designed in capacity, or peak capacities and therefore resilient to stormwater infiltration.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	The Town's sewage treatment plants meet or exceed regulatory compliance objectives
Performance	Description of the lifecycle activities (maintenance, rehabilitation, and replacement) performed on the stormwater network	All assets are typically replaced at the end-of-life, there are minimal rehabilitative activities that are conducted. Although pipe material that comprise of clay, asbestos and concrete are prioritized.
	Description of the current condition of the stormwater network and the plans that are in place to maintain or improve the provided level of service	The current condition of the Town's linear wastewater network relies on a combination of assessed condition and age-based condition calculations. 47% of the linear sanitary system is in good or very good condition, 16% in poor condition, and only 13% in very poor condition. A formal inspection strategy is being implemented to better determine the true state of the linear sanitary system.

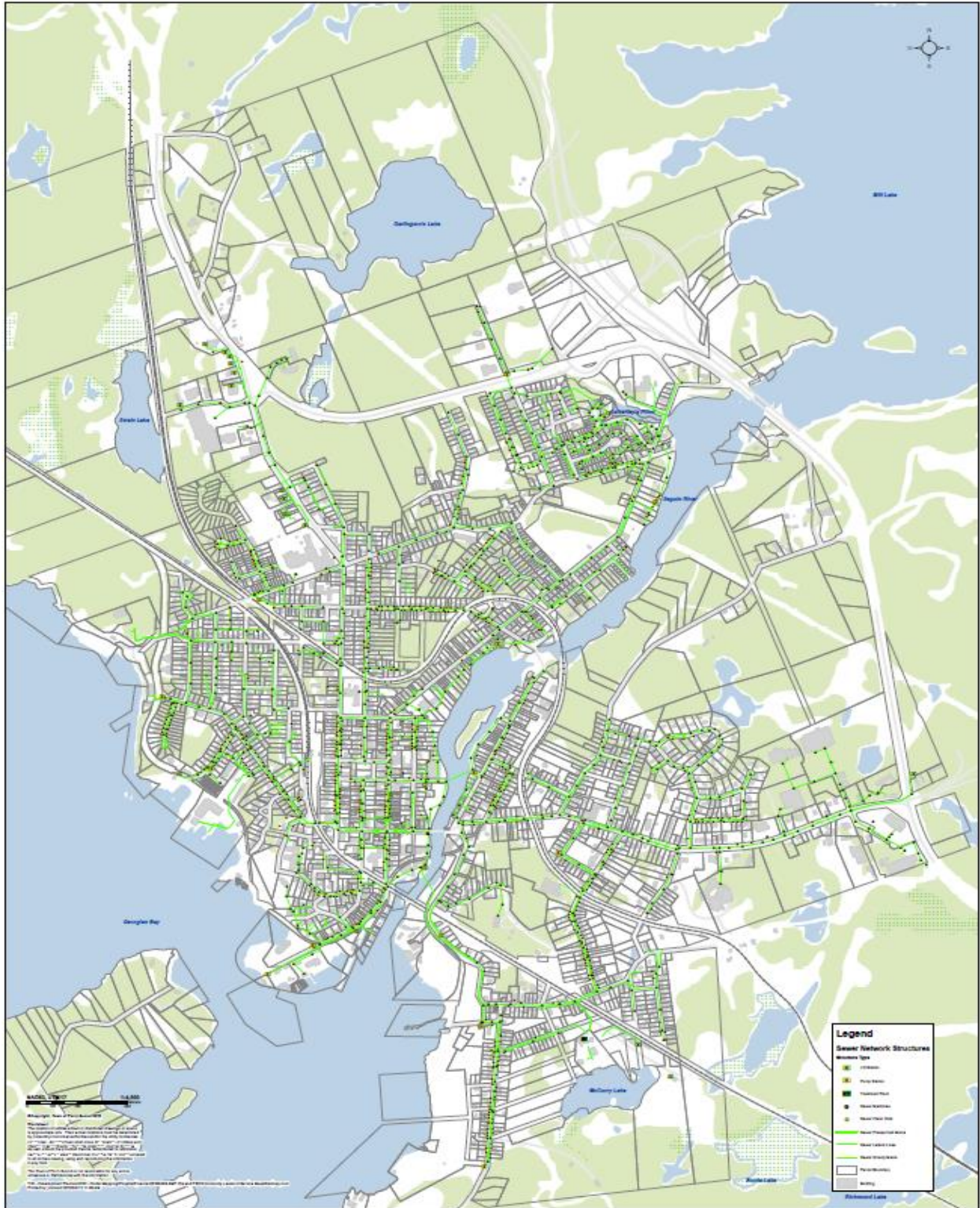
Technical Levels of Service

Table 32 outlines the quantitative metrics that determine the technical level of service provided by the Sanitary Services.

Table 32: Sanitary Services Quantitative Levels of Service

Service Attribute	Technical Metric	Current LOS (2020)
	# of properties cnneted to the municipal wastewater systems	98%
	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	1
Reliability	# of lost connection-days per year due to sanitary main backups compared to the total number of properties connected to the municipal wastewater system	0
	# of lost connection-days per year due to sanitary service backups compared to the total number of properties connected to the municipal wastewater system	0
	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0
	% of the wastewater system that is in good or very good condition	48%
	% of the wastewater system that is in poor or very poor condition	27%
Sustainability	Capital reinvestment rate	1.82%

Figure 7: Sanitary Sewer Network



4.5 Water Services

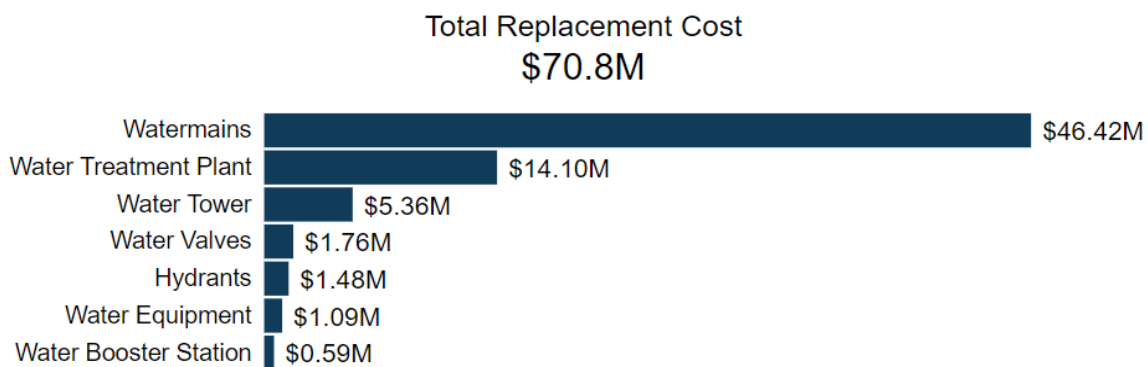
The Town is responsible for owning and maintaining a water network of 78 kms of water mains, hydrants, booser stations, equipment, water towers, a water treatment plan and water valves.

4.5.1 Asset Inventory & Replacement Cost

Table 33 includes the quantity, replacement cost method and total replacement cost of each asset segment in the Town's Water Services inventory.

Table 33: Water Services Replacement Cost Summary

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Hydrants	329	Cost/Unit	\$1,480,500
Water Booster Station	6	CPI Tables	\$591,113
Water Equipment	432	CPI Tables	\$1,090,691
Water Tower	6	CPI Tables	\$5,355,029
Water Treatment Plant	1 (29)	CPI Tables	\$14,097,742
Water Valves	678	Cost/Unit	\$1,762,800
Watermains	78,050 m	Cost/Unit	\$46,420,257
			\$70,801,132

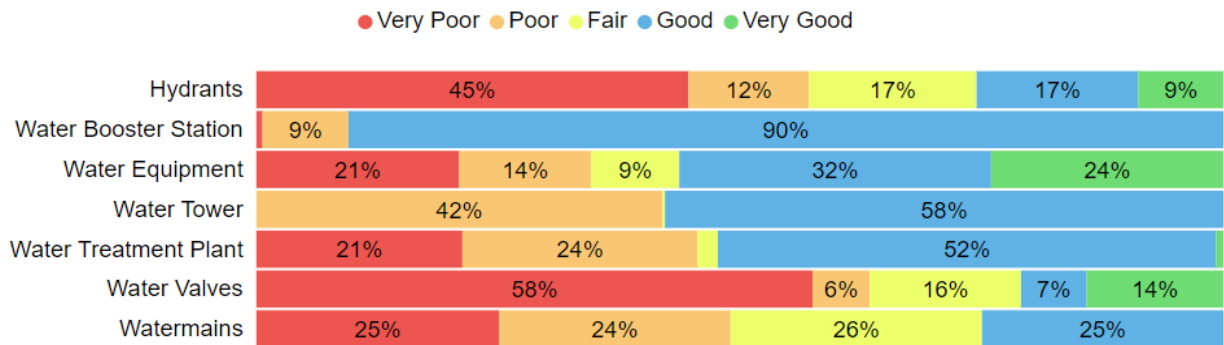


4.5.2 Asset Condition, Age & Useful Life

Table 34 identifies the current average condition, average age, and estimated useful life for each asset segment.

Table 34: Water Services Asset Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Hydrants	32%	40	34.2
Water Booster Station	62%	10-60	13.1
Water Equipment	53%	3-20	4.9
Water Tower	54%	15-75	13.0
Water Treatment Plant	44%	5-60	12.9
Water Valves	29%	30	29.3
Watermains	56%	80	38.6
	52%		36.1



Current Approach to Condition Assessment

The following describes the Town's current approach:

- Water mains are inspected as mandated under O. Reg. 170/3 and flushed annually
- Hydrant flushing occurs annually and flow testing in specific does occur. The hydrant flushing program also requires significant operating costs.
- While all inspections/assessments are conducted inhouse, inspections on the 2 water towers are contracted out and are conducted on a 3-year cycle.

In this AMP, the following rating criteria illustrated in **Table 35** is used to determine the current condition of water infrastructure and forecast future capital requirements:

Table 35: Water Services Condition Rating Criteria

Condition	Rating
Very Good	80 – 100
Good	60 – 80
Fair	40 – 60
Poor	20 – 40
Very Poor	0 – 20

4.5.3 Lifecycle Management Strategy

Table 36 outlines the Town’s current lifecycle management strategy.

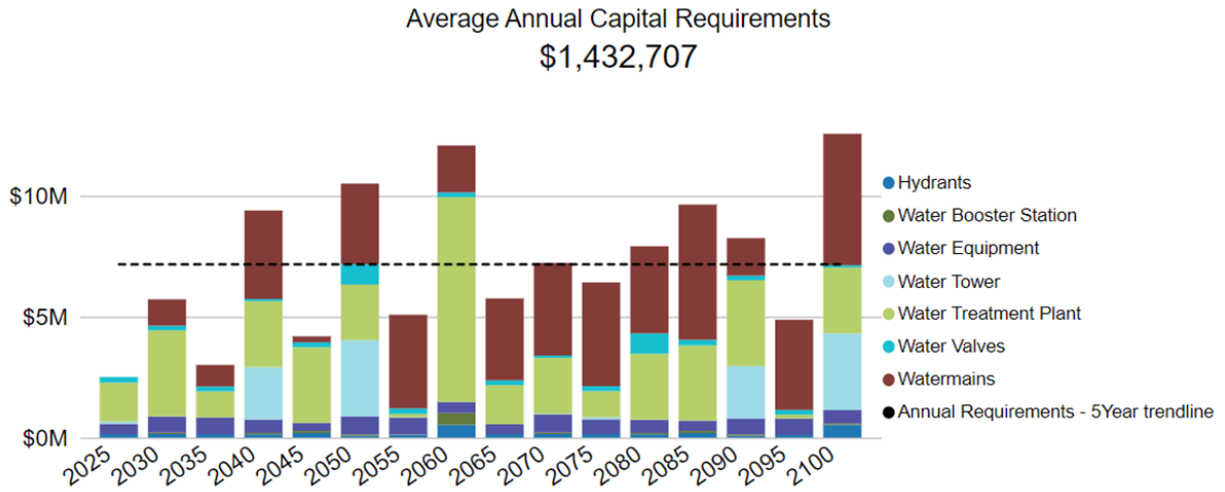
Table 36: Water Services Lifecycle Strategy

Activity Type	Description of Current Strategy
Operations & Maintenance	Water mains are inspected as mandated under O. Reg. 170/3 and flushed annually.
	Hydrant flushing occurs annually and flow testing in specific does occur. The hydrant flushing program also requires significant operating costs.
	There is an annual valve turning program for the majority of the valves.
	For the water treatment facility, there is a work order management system currently in place and chemicals within the facility require significant operating costs.
	While all inspections/assessments are conducted inhouse, inspections on the 2 water towers are contracted out and are conducted on a 3-year cycle.
	Condition data determined from the various inspections does inform decision-making and the budgeting process.
Rehabilitation/ Replacement	In the absence of mid-lifecycle rehabilitative activities, water mains are maintained with the goal of full replacement once it reaches of end-of-life.
	Hydrants have a replacement program for the next 20 years.
	Water valves are generally replaced as needed and no formal program is in place.
	The current water meter replacement program is reactive, and generally water meters are on a 10-year cycle.
	Assets that require replacement are prioritized on the following criteria: coordinated projects, asset data (age, condition, material), number of water main breaks, and soil type
	While Staff have acknowledged that the replacement of assets is reactive, critical assets have been identified and aging infrastructure is scheduled to be replaced.

4.5.4 Forecasted Capital Requirements

Figure 8 illustrates capital requirements over the next 85 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments.

Figure 8: Water Services Average Annual Capital Requirements



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.5.5 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in **Table 37** to determine the risk rating of each sewer pipe segment and **Table 38** to determine the risk rating of each point feature.



Table 37: Stormwater Linear Infrastructure Risk Rating Criteria

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Pipe Material	Pipe Diameter (Operational)

Table 38: Stormwater Point Infrastructure Risk Rating Criteria

Probability of Failure (POF)	Consequence of Failure (COF)
Age-Based Condition	Replacement Cost (Financial)

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Town is currently facing:



Regulatory Requirements & Staff Capacity

The water industry has become very heavily regulated and the municipality is constantly adapting to new regulations (valve turning, risk assessments, etc.). This is causing a strain on resource capacity to comply with all the added requirements.



Lifecycle Management Strategies

The current lifecycle management strategy for the water network is considered more reactive than proactive. It is a challenge to find the right balance between maintenance, capital rehabilitation, and the replacement of assets. Staff hope to develop better defined strategies that will extend asset lifecycles and result in a lower total cost to the Town. These strategies will require sustainable annual funding to minimize the deferral of capital works.

4.5.6 Levels of Service

The following tables identify the Town’s current level of service for Water Services. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Town has selected for this AMP.

Community Levels of Service

Table 39 outlines the qualitative descriptions that determine the community levels of service provided by Water Services.

Table 39: Water Services Qualitative Levels of Service

Service Attribute	Qualitative Description	Current LOS (2020)
Availability	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system	The Town is responsible for maintaining 48 kilometres of water mains, 30 km of water laterals, 329 hydrants, 678 various valves, 2,704 curb stops, 2 water storage towers, a treatment facility and water equipment that support the distribution and treatment of water for the Town. See Figure 9 .
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow	See Figure 9
Performance	Description of boil water advisories and service interruptions	The Town has not issued any boil water advisories to date. In the event of a boil water advisory, staff would post a notification to the Municipal website to inform the public.
	Description of the lifecycle activities (maintenance, rehabilitation and replacement) performed on the water network	"In the absence of mid-lifecycle rehabilitative activities, water mains are maintained with the goal of full replacement once it reaches of end-of-life. Cast Iron pipes constitute a small percentage of the

Service Attribute	Qualitative Description	Current LOS (2020)
		network and are prioritized during replacements."
	Description of the current condition of the water network and the plans that are in place to maintain or improve the provided level of service	The Town's linear municipal water distribution system relies solely on age based condition calculations. Taking this into consideration and the age of the majority of the system, 50% of the system is estimated to be in poor or very poor condition and the remainder of the system in fair or better condition. There are long term plans being developed to mitigate inherent risks of an aging water distribution system.

Technical Levels of Service

Table 40 outlines the quantitative metrics that determine the technical level of service provided by the Water Services

Table 40: Water Services Quantitative Levels of Service

Service Attribute	Technical Metric	Current LOS (2020)
	% of properties connected to the municipal water system	99%
	% of properties where fire flow is available	99%
Reliability	# of lost connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system	0
	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0
Sustainability	Capital reinvestment rate	1.14%

Figure 9: Municipal Water Distribution



4.6 Core Assets Recommendations

O.Reg 588/17 Proposed Levels of Service

- By July 1, 2025, Parry Sound's asset management plan must include levels of service that the Town's proposes to provide for each of the 10 years following the year in which all information is required.
- An explanation of why Parry Sound's proposed levels of service are appropriate for the Town.
- The proposed performance of each asset category for each year of the 10-year period, determined in accordance with the performance measures established by the Town.
- A lifecycle management and financial strategy with respect to the assets in each asset category for the 10-year period

Data Review/Validation

Road Network

- Continue to review and refine the road network's asset inventory to ensure new assets and betterments are reflected and attributes are detailed.
- Review road culverts inventory to determine whether all Town assets within this asset category have been accounted for.

Stormwater Infrastructure

- The Town's stormwater infrastructure inventory is a newly refined inventory relying on a combination of historical construction drawings, GIS data, internal professional knowledge, and field data capture. It is highly recommended staff continue to review and validate stormwater infrastructure inventory data.

Bridges & Culverts

- Continue to review and validate assessed condition data and replacement costs for all bridges and structural culverts upon the completion of OSIM inspections every 2 years.

Condition Assessment Strategies

Road Network

- The last comprehensive assessment of the road network was completed in 2019. Consider completing an updated assessment of all roads within the next 2-3 years.
- Develop and conduct condition assessment programs for all other road network assets such traffic signals, signs, and non-structural culverts.

Stormwater and Sanitary Infrastructure

- The confirmation of a comprehensive asset inventory should be followed by a system-wide assessment of the condition of all stormwater and sanitary infrastructure assets through CCTV or zoom camera inspections.

Lifecycle Management Strategies

Road Network

- Develop cursory life cycle management strategies for all other road network assets.

Bridges and Culverts

- This AMP only includes capital costs associated with the reconstruction of bridges and culverts. The Town should work towards identifying projected capital rehabilitation and renewal costs for bridges and culverts and integrating these costs into long-term planning.

All Core Assets

- Document and review lifecycle management strategies for core infrastructure assets on a regular basis to achieve the lowest total cost of ownership while maintaining adequate service levels.

Risk Management Strategies

All Core Assets

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

All Core Assets

- Continue to measure current levels of service in accordance with the metrics that the Town has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.

5

State of Local Infrastructure Non-core Assets

Key Insights

- Non-core asset categories represented in this AMP include buildings, land improvements, equipment and rolling stock
- Non-core infrastructure assets are valued at \$65.8 million
- 70% of non-core assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for non-core infrastructure assets is approximately \$2.7 million

Standard Tables and Graphs Defined

- The **Average Condition** (%) is a weighted value based on replacement cost. The Estimated Useful Life has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.
- The **annual capital requirement** represents the average amount per year that the Town should allocate towards funding rehabilitation and replacement needs to meet future capital needs.
- **Risk matrices** provide a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within each asset category based on 2020 inventory data.

5.1 Buildings

Parry Sound owns and maintains several buildings that provide key services to the community. These service area facilities include:

- Muncial offices
- Community buildings
- Ambulance base
- Fire hall
- Operational buildings

5.1.1 Asset Inventory & Replacement Cost

Table 41 includes the quantity, replacement cost method and total replacement cost of each asset segment in the Town’s Buildings inventory.

Table 41: Building Inventory Replacement Cost Summary by Service Area

Asset Segment	Quantity (components)	Replacement Cost Method	Total Replacement Cost
Community Buildings	12 (81)	User-Defined Cost	\$28,969,325
Emergency Buildings	4 (14)	CPI Tables	\$2,086,356
Municipal Buildings	1 (12)	CPI Tables	\$5,474,123
Operational Buildings	11 (60)	CPI Tables	\$1,850,627
Other Town Property	9 (25)	CPI Tables	\$1,431,071
			\$39,811,502

Total Replacement Cost
\$39.8M

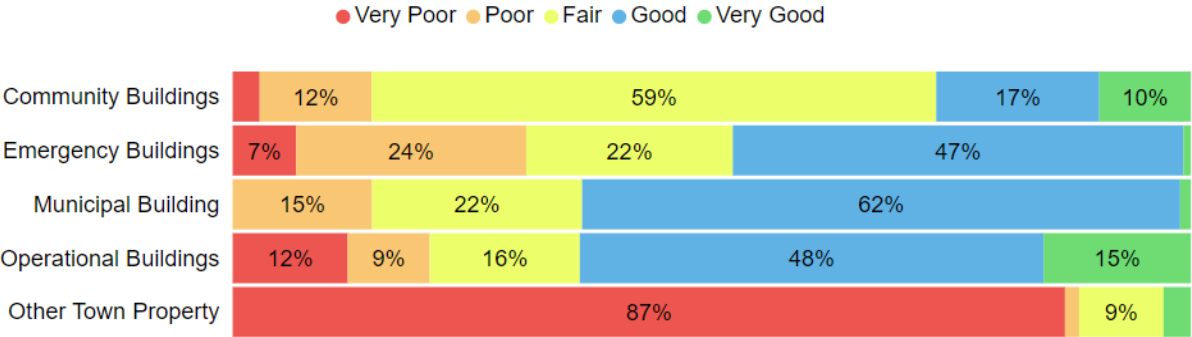


5.1.2 Asset Condition, Age & Useful Life

Table 42 identifies the current average condition, average age, and estimated useful life for each asset segment.

Table 42: Building Assets Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Community Buildings	52%	5-75	21.1
Emergency Buildings	49%	15-75	15.7
Municipal Buildings	60%	15-75	16.9
Operational Buildings	59%	15-75	23.5
Other Town Property	19%	15-99	14.4
	52%		19.9



Current Approach to Condition Assessment

The following describes the Town’s current approach:

- Municipal buildings are subject to internal inspections on as-needed basis.
- Regular health and safety inspections are conducted on all facilities.
- Specific refrigeration components within the arena are inspected regularly and contracted out. Staff also conduct regular inspections of the arenas.
- In 2015-2017, there were assessments conducted for several facilities, although staff have acknowledged that the assessments were more aesthetic based.

- Inspections of HVAC and other elements for facilities are currently ad-hoc. Staff have acknowledged that due to the number of contractors in the past, there has been a lack of standardization in the maintenance activities which has adversely affected the facilities. Since then, there is a plan in place to eventually work with a single contractor.

In this AMP, the following rating criteria in **Table 43** is used to determine the current condition of buildings and associated components, and forecast future capital requirements:

Table 43: Buildings Condition Rating Criteria

Condition	Rating
Very Good	5
Good	4
Fair	3
Poor	2
Very Poor	1

5.1.3 Asset Management Strategies

The documentation of lifecycle management strategies, current levels of service, and risk are critical to the development of a comprehensive asset management program. These components of the asset management plan support effective short- and long-term capital planning and contribute to more proactive asset management practices, thus extending the estimated useful life of many assets and providing a higher level of service.

In accordance with O. Reg. 588/17, the Municipality will continue to gather data and information in order to detail and review the lifecycle management strategies, levels of service, and risk of all non-core asset categories by July 1, 2024.

5.2 Land Improvements

The Town of Parry Sound owns a number of assets that are considered Land Improvements. This category includes:

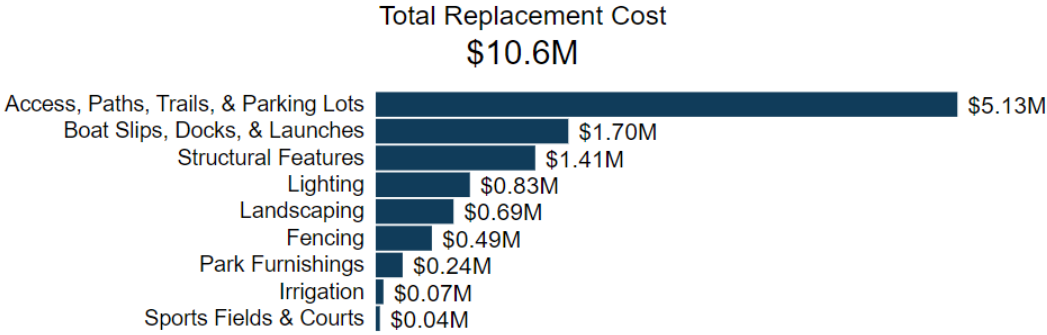
- Parking lots for Town owned facilities
- Water Access
- Park & Recreational areas
- Fencing and signage
- Miscellaneous landscaping and other assets

5.2.1 Asset Inventory & Replacement Cost

Table 44 includes the quantity, replacement cost method and total replacement cost of each asset segment in the Town’s Land Improvements inventory.

Table 44: Land Improvements Replacement Cost Summary

Asset Segment	Count	Replacement Cost Method	Total Replacement Cost
Acess, Paths, Trails & Parking Lots	48	CPI Tables	\$5,127,087
Boat Slips, Docks & Launches	74	CPI Tables	\$1,697,667
Fencing	11	CPI Tables	\$494,602
Irrigation	3	CPI Tables	\$67,798
Landscaping	6	CPI Tables	\$685,528
Lighting	40	CPI Tables	\$829,977
Park Furnishings	9	CPI Tables	\$237,036
Sports Fields & Courts	2	CPI Tables	\$36,191
Structural Features	21	CPI Tables	\$1,405,788
			\$10,581,674

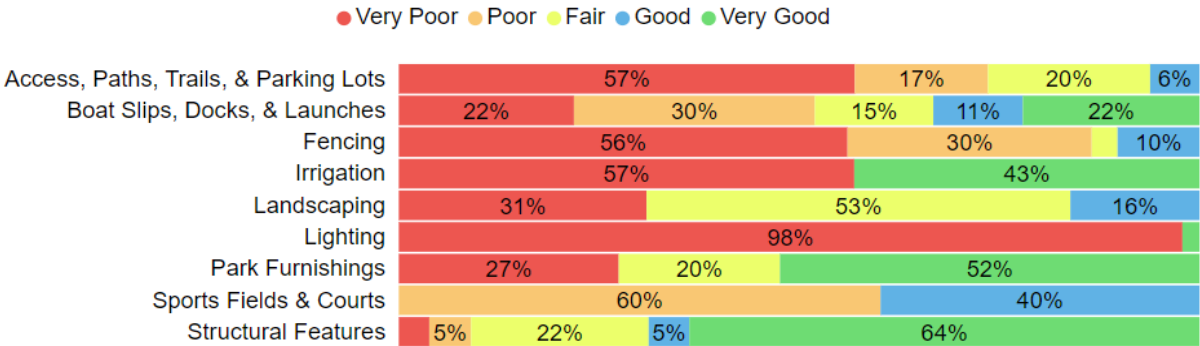


5.2.2 Asset Condition, Age & Useful Life

Table 45 identifies the current average condition, average age, and estimated useful life for each asset segment.

Table 45: Land Improvements Asset Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Access, Paths, Trails & Parking Lots	21%	9-40	22.3
Boat Slips, Docks & Launches	47%	20-40	15.7
Fencing	21%	25-30	28.3
Irrigation	36%	25	13.4
Landscaping	45%	40	18.4
Lighting	8%	20-30	19.2
Park Furnishings	66%	20-50	11.9
Sports Fields & Courts	48%	25	12.5
Structural Features	75%	40-50	12.8
	34%		18.9



Current Approach to Condition Assessment

The following describes the Town’s current approach:

- There is a formalized list of daily, weekly, and monthly maintenance tasks that include inspections on specific parks and recreation assets.
- Sport fields are inspected monthly, or in response to user-group planning.
- Play structures are inspected for CSA compliance monthly, there are also weekly checks to ensure no hazards or issues are present.

In this AMP, the following rating criteria in **Table 46** is used to determine the current condition of land improvement segments and forecast future capital requirements:

Table 46: Land Improvements Condition Rating Criteria

Condition	Rating
Very Good	80 – 100
Good	60 – 80
Fair	40 – 60
Poor	20 – 40
Very Poor	0 – 20

5.2.3 Asset Management Strategies

The documentation of lifecycle management strategies, current levels of service, and risk are critical to the development of a comprehensive asset management program. These components of the asset management plan support effective short- and long-term capital planning and contribute to more proactive asset management practices, thus extending the estimated useful life of many assets and providing a higher level of service.

In accordance with O. Reg. 588/17, the Municipality will continue to gather data and information in order to detail and review the lifecycle management strategies, levels of service, and risk of all non-core asset categories by July 1, 2024.

5.3 Equipment

In order to maintain the high quality of public infrastructure and support the delivery of core services, Town staff own and deploy various types of machinery & and equipment. This includes:

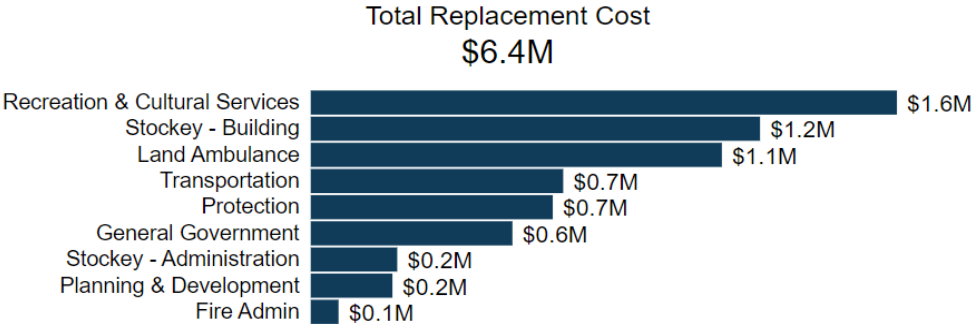
- Furniture and IT equipment in Town owned buildings
- Land Ambulance equipment
- Recreational equipment
- Equipment in Stockey Center
- Equipment that support transportation and operational needs

5.3.1 Asset Inventory & Replacement Cost

Table 47 includes the quantity, replacement cost method and total replacement cost of each asset segment by service area in the Town’s Equipment inventory.

Table 47: Equipment Replacement Cost Summary by Service Area

Asset Segment	Count	Replacement Cost Method	Total Replacement Cost
Fire Admin	10	CPI Tables	\$76,643
General Government	78	CPI Tables	\$555,858
Land Ambulance	245	CPI Tables	\$1,133,054
Planning Development	7	CPI Tables	\$225,125
Protection	289	CPI Tables	\$667,089
Recreation & Cultural	54	CPI Tables	\$1,615,613
Stockey – Administration	7	CPI Tables	\$238,428
Stockey – Building	46	CPI Tables	\$1,238,305
Transportation	45	CPI Tables	\$695,785
			\$6,445,903

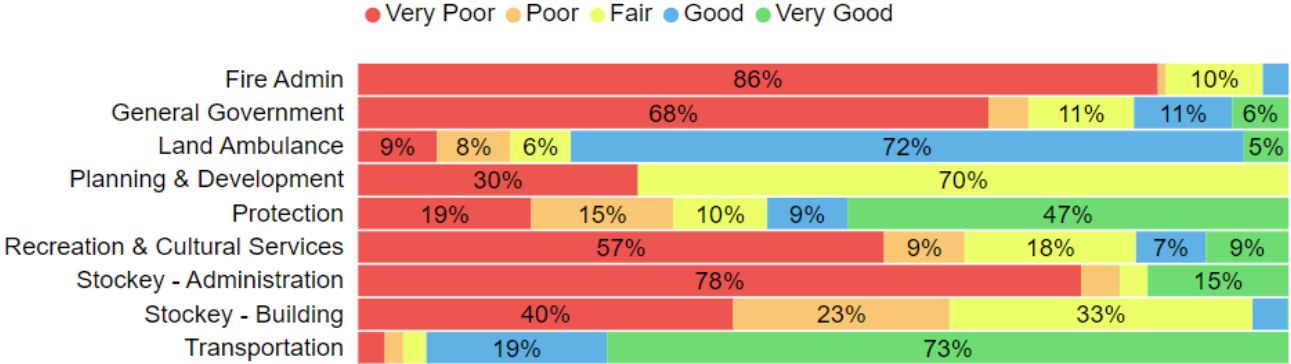


5.3.2 Asset Condition, Age & Useful Life

Table 48 identifies the current average condition, average age, and estimated useful life for each asset segment by service area.

Table 48: Machinery & Equipment Asset Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Fire Admin	18%	4-20	8.4
General Government	22%	3-20	5.9
Land Ambulance	58%	5-15	5.6
Planning Development	37%	10-20	11.1
Protection	57%	5-15	4.3
Recreation & Cultural	28%	4-30	11.1
Stockey – Administration	25%	5-20	10.8
Stockey – Building	55%	4-30	7.6
Transportation	85%	5-80	4.3
	41%		7.6



Current Approach to Condition Assessment

The following describes the Town’s current approach:

- Personal protective equipment (PPE) is sent to the manufacturer annually for testing. Repairs are made as needed based on the results.
- Other fire equipment, such as the radios, Jaws of Life, firehose, and portable pumps, are subject to annual testing. Health and Safety standards govern the functionality of this equipment, and repairs are made to reduce risk of failure.
- Public Works equipment is generally inspected and maintained on a seasonal or as-needed basis.

In this AMP, the following rating criteria in **Table 49** is used to determine the current condition of machinery & equipment and forecast future capital requirements:

Table 49: Machinery & Equipment Condition Rating Criteria

Condition	Rating
Very Good	80 – 100
Good	60 – 80
Fair	40 – 60
Poor	20 – 40
Very Poor	0 – 20

5.3.3 Asset Management Strategies

The documentation of lifecycle management strategies, current levels of service, and risk are critical to the development of a comprehensive asset management program. These components of the asset management plan support effective short- and long-term capital planning and contribute to more proactive asset management practices, thus extending the estimated useful life of many assets and providing a higher level of service.

In accordance with O. Reg. 588/17, the Municipality will continue to gather data and information in order to detail and review the lifecycle management strategies, levels of service, and risk of all non-core asset categories by July 1, 2024.

5.4 Rolling Stock

Town staff own and employ several types of rolling stock assets to provide and support various Town services. This includes:

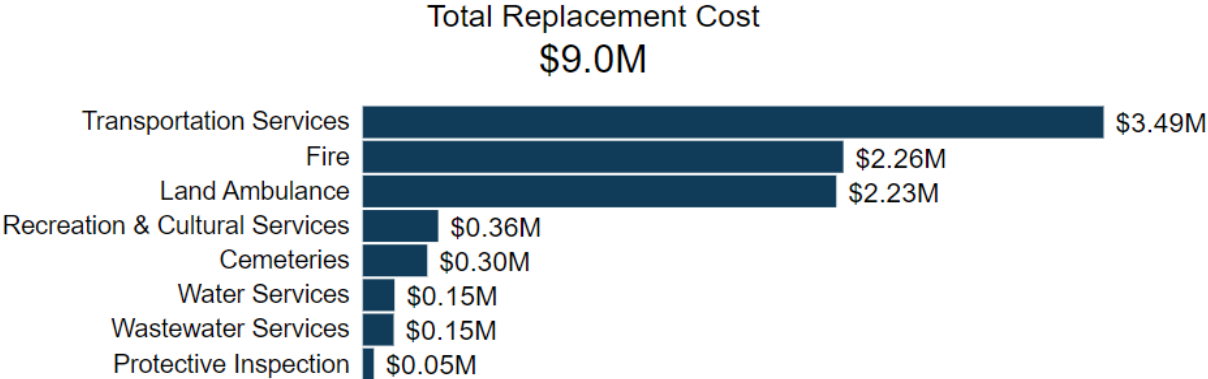
- Land Ambulances
- Vehicles to support transportation, recreation, wastewater, water and protective services

5.4.1 Asset Inventory & Replacement Cost

Table 50 includes the quantity, replacement cost method and total replacement cost of each asset segment in the Town’s Rolling Stock assets.

Table 50: Rolling Stock Replacement Cost Summary

Asset Segment	Count	Replacement Cost Method	Total Replacement Cost
Cemeteries	9	CPI Tables	\$304,051
Fire	4	CPI Tables	\$2,264,902
Land Ambulance	19	CPI Tables	\$2,231,679
Protective Inspection	2	CPI Tables	\$52,285
Recreation & Cultural Services	10	CPI Tables	\$355,711
Transportation Services	35	CPI Tables	\$3,491,594
Wastewater Services	4	CPI Tables	\$145,893
Water Services	4	CPI Tables	\$149,788
			\$8,995,903



5.4.2 Asset Condition, Age & Useful Life

Table 51 identifies the current average condition, average age, and estimated useful life for each asset segment.

Table 51: Rolling Stock Asset Condition Summary

Asset Segment	Average Condition (%)	Estimated Useful Life (Years)	Average Age (Years)
Cemeteries	48%	7-15	5.9
Fire	67%	7-20	6.4
Land Ambulance	49%	6-8	3.1
Protective Inspection	65%	7-10	2.8
Recreation & Cultural Services	32%	5-15	6.2
Transportation Services	57%	5-20	6.0
Wastewater Services	23%	5-7	5.1
Water Services	41%	5-7	4.1
	55%		5.2

Current Approach to Condition Assessment

The following describes the Town's current approach:

- Fire apparatus on trucks have annual pump testing from emergency vehicle technicians. Pump functionality is tested on weekly basis in house.
- There is a formal booklet that is followed by staff which guides routine maintenance and inspections.
- Seasonal inspection is conducted on specialized fleet assets such as plow trucks, etc.

In this AMP, the following rating criteria in **Table 52** is used to determine the current condition of rolling stock assets and forecast future capital requirements:

Table 52: Rolling Stock Condition Rating Criteria

Condition	Rating
Very Good	80 – 100
Good	60 – 80
Fair	40 – 60
Poor	20 – 40
Very Poor	0 – 20

5.4.3 Asset Management Strategies

The documentation of lifecycle management strategies, current levels of service, and risk are critical to the development of a comprehensive asset management program. These components of the asset management plan support effective short- and long-term capital planning and contribute to more proactive asset management practices, thus extending the estimated useful life of many assets and providing a higher level of service.

In accordance with O. Reg. 588/17, the Municipality will continue to gather data and information in order to detail and review the lifecycle management strategies, levels of service, and risk of all non-core asset categories by July 1, 2024.

5.5 Non-core Assets Recommendations

O.Reg 588/17 Current / Proposed Levels of Service

- Although the Town has already met some of the requirements for non-core assets in accordance with O. Reg. 588/17 for Asset Management Plans, the Town will continue to gather data and information in order to detail and review the lifecycle management strategies, levels of service, and risk of all non-core asset categories by July 1, 2024.
- By July 1, 2025, Parry Sound’s asset management plan must include levels of service that the Town proposes to provide for each of the following 10 years.
- An explanation of why Parry Sound’s proposed levels of service are appropriate for the Town.
- The proposed performance of each asset category for each year of the 10-year period, determined in accordance with the performance measures established by the Town.
- A lifecycle management and financial strategy with respect to the assets in each asset category for the 10-year period.

Asset Inventories and Data

Buildings

- Although the Parry Sound has a fairly well defined building inventory in the Asset Management System, The Town is encouraged to further compenetize inventories for each building to get a better understanding of the performance of each building and the costs associated with repairs, renewals, and replacements of all facility components.

Equipment

- The Town assesses critical equipment where regulated or required, however the data is not necessarily captured within the Town’s centralized asset registry. Alignment of equipment assessment data to the Town’s centralized asset management system is critical to gain maximum system functionality and value from data.

All Other Non-core Assets

- All non-core asset inventory data should be analyzed regularly to ensure end users have confidence in the accuracy, consistency, integrity, and outputs of data.

Replacement Costs

All Non-core Assets

- Where asset replacement costs were not available, historical costs have been inflated using Provincial CPI tables. These costs should be evaluated to determine their accuracy and reliability.
- Replacement costs should be updated every 3–5 years according to the best available information on the cost to replace the asset in today's value.

Condition Assessment Strategies

Buildings

- The Town should implement regular internal condition assessments for all buildings and associated components to better inform short- and mid-term capital requirements.
- The Town should consider comprehensive building assessments for all buildings in preparation to meet 2024 and 2025 O.Reg 588/17 requirements for Asset Management Plans and better inform mid- and long-term capital forecasts

Fleet

- Fleet assets are inspected regularly and the associated data should be appended to fleet assets within the Town's centralized asset management system.

All Other Non-core Assets

- Identify condition assessment strategies for all non-core high value and high risk assets.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Life Cycle Management Strategies

The documentation of lifecycle management strategies, current levels of service, and risk are critical to the development of a comprehensive asset management program. These components of the Asset Management Plan support effective short-term and long-term capital planning and contribute to more proactive asset management practices, thus extending the estimated useful life of many assets and providing a higher level of service.

Risk Management Strategies

All Non-core Assets

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

All Non-core Assets

- Begin measuring current levels of service in accordance with the metrics that the Town has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

6

Impacts of Growth

Key Insights

- Understanding the key drivers of growth and demand will allow the Town to plan for new infrastructure more effectively, and the upgrade or disposal of existing infrastructure
- Moderate population and employment growth is expected
- The costs of growth should be considered in long-term funding strategies that are designed to maintain the current level of service

6.1 Description of Growth Assumptions

The demand for infrastructure and services will change over time based on a combination of internal and external factors. Understanding the key drivers of growth and demand will allow the Town to plan for new infrastructure more effectively, and the upgrade or disposal of existing infrastructure. Increases or decreases in demand can affect what assets are needed and what level of service meets the needs of the community.

6.1.1 Official Plan of the Town of Parry Sound (April 2014)

The Town of Parry Sound adopted an Official Plan to provide a framework for planning and managing land use changes, and to guide the development of the Town. The policies included in the Official Plan are consistent with the Provincial Policy Statement (2005). Such policies include adopting growth management policies and guiding development over the next twenty years, while ensuring the protection of the Town's natural features, and minimizing public health and safety issues.

The Official Plan was modified and approved as of April 29th, 2014 and replaces the Official Plan adopted December 13th, 1994.

The Town of Parry Sound provides an urban center for surrounding rural and semi-rural townships. The Town functions as a regional trade and service center, providing employment, services, and products to the surrounding municipalities. The Town is heavily dependent on summer tourism, due to largely to its location along the eastern coast of Georgian Bay.

There has been little growth in Parry Sound in the past several decades, however based on census data from 2021, the town has seen moderate growth from a population of 6,124 in 2001, to 6,879 in 2021. This equates to an increase of 12% over the 20-year time span.

The Town is anticipating residential development changes over the next 5-10 years. Significant development in the area will impact the demand for services, increasing the need and communities' expectations for the level of services provided. With the anticipated population increase, there will also be a need to expand the rate-funded (water and wastewater) infrastructure to accommodate expected community growth.

The focus for development within the Town is the Urban Area, defined as the existing built-up community and those areas adjacent to it where services can be extended. The Central Business District is the prime location for economic and commercial development. Economic development is encouraged to provide employment opportunities, and a high level of service to existing and new residents of the Town. The Official Plan also identifies the need for a diversified housing base, which reflects the varied needs of the residents. More affordable housing opportunities are included in the Town’s development strategy.

Based on census data from 2021, and growth forecasts provided by the Town of Parry Sound, the population of the town is expected to grow to 9,100 people by the year 2050, a growth of 2,221 people from the 2021 population. The following table displays historical and forecasting growth for population and employment in Parry Sound based on the provided growth forecast.

	2006	2011	2016	2020	2030	2040	2050
Historical & Forecast Employment	5,818	6,191	6,408	6,695	7,282	8,111	8,885
Historical & Forecast Population	5,959	6,341	6,563	6,857	7,458	8,307	9,100

This trend is consistent with municipalities surrounding Parry Sound, who are also experiencing growth. As Parry Sound acts as an urban center to surrounding municipalities, the growth in surrounding communities has resulted in an increased demand on the Town’s Road Network, due to higher traffic volumes from the increased non-resident population. The higher traffic volumes experienced on the Town’s roads may result in an increase in the frequency of required maintenance and rehabilitation activities to ensure the road network can provide the desired level of service.

6.1.2 Growth Plan for Northern Ontario (March 2011)

The Growth Plan for Northern Ontario was released on March 3, 2011 and is a 25-year plan that provides guidance for municipalities in Northern Ontario to align provincial decision-making and investment for economic and population growth.

The growth management goals for the Growth Plan for Northern Ontario are as follows:

- Diversifying of traditional resource-based industries
- Workforce education and training
- Integration of infrastructure investments and planning
- Tools for Indigenous peoples' participation in the economy

The Official Plan of the Town of Parry Sound incorporates the above growth management goals of the Growth Plan for Northern Ontario, focusing particularly on sustainability (economic, social and environmental), accommodating the diverse needs of all residents, optimizing existing infrastructure, quality of place, and a welcoming and inclusive community that emphasizes unique local features.

6.2 Impact of Growth on Lifecycle Activities

By July 1, 2025, the Town's asset management plan must include a discussion of how the assumptions regarding future changes in population and economic activity informed the preparation of the lifecycle management and financial strategy.

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

7

Financial Strategy

7.1 Financial Strategy Overview

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the Town of Parry Sound to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

This report develops such a financial plan by presenting several scenarios for consideration and culminating with final recommendations. As outlined below, the scenarios presented model different combinations of the following components:

1. The financial requirements for:
 - a. Existing assets
 - b. Existing service levels
 - c. Requirements of contemplated changes in service levels (none identified for this plan)
 - d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
 - a. Tax levies
 - b. Reserves
 - c. Debt
3. Use of non-traditional sources of municipal funds:
 - a. Reallocated budgets
 - b. Partnerships
 - c. Procurement methods
4. Use of Senior Government Funds:
 - a. Canada Community Building Fund
 - b. Annual grants

Note: Periodic grants are normally not included due to Provincial requirements for firm commitments. However, if moving a specific project forward is wholly

dependent on receiving a one-time grant, the replacement cost included in the financial strategy is the net of such grant being received.

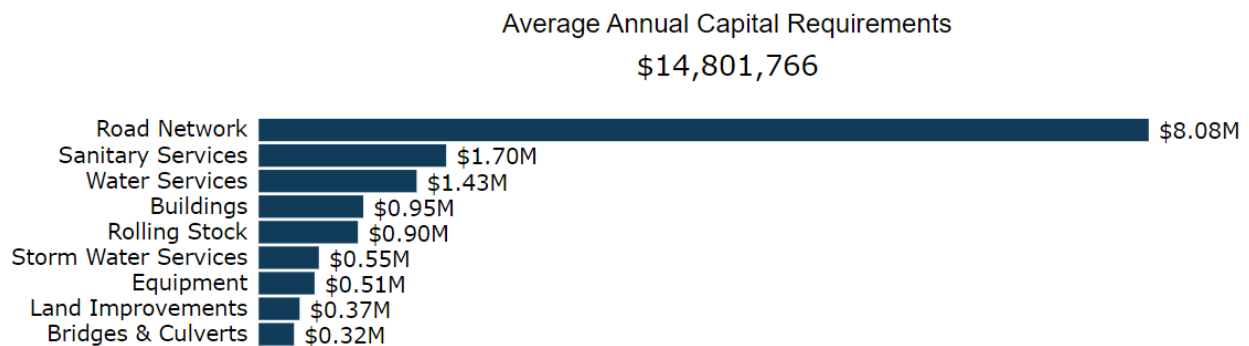
If the financial plan component results in a funding shortfall, the Province requires the inclusion of a specific plan as to how the impact of the shortfall will be managed. In determining the legitimacy of a funding shortfall, the Province may evaluate a Town’s approach to the following:

1. In order to reduce financial requirements, consideration has been given to revising service levels downward.
2. All asset management and financial strategies have been considered. For example:
 - a. If a zero-debt policy is in place, is it warranted? If not the use of debt should be considered.
 - b. Do user fees reflect the cost of the applicable service? If not, increased user fees should be considered.

7.1.1 Annual Requirements & Capital Funding

Annual Requirements

The annual requirements represent the amount the Town should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs and achieve long-term sustainability. In total, the Town must allocate approximately \$14.8 million annually to address capital requirements for the assets included in this AMP.



For most asset categories the annual requirement has been calculated based on a “replacement only” scenario, in which capital costs are only incurred at the construction and replacement of each asset.

However, for the Road Network lifecycle management strategies have been developed and applied to the Town’s Asset Management System to identify capital costs that are realized through strategic rehabilitation and renewal of the Town’s

roads. The development of these strategies allows for a cost comparison that identify potential cost avoidance if the strategies were to be implemented. The following table compares two scenarios for the road network:

1. **Replacement Only Scenario:** Based on the assumption that assets deteriorate and – without regularly scheduled maintenance and rehabilitation – are replaced at the end of their service life.
2. **Lifecycle Strategy Scenario:** Based on the assumption that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required.

Table 53: Replacement Only vs. Lifecycle Strategy Annual Requirements

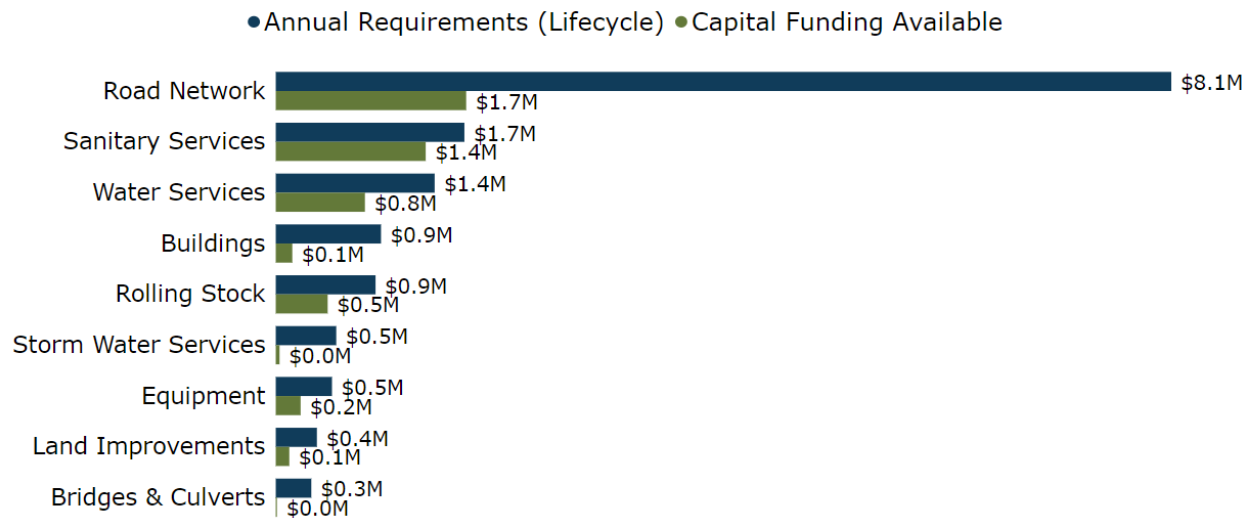
Asset Category	Annual Requirements (Replacement Only)	Annual Requirements (Lifecycle Strategy)	Difference
Road Network	\$8,635,636	\$8,075,741	\$559,895

The implementation of a proactive lifecycle strategy for the road network leads to a potential annual cost avoidance of \$559,985 thousand. This represents an overall reduction of the annual requirements by 4.7%. As the lifecycle strategy scenario represents the lowest cost option available to the Town, we have used these annual requirements in the development of the financial strategy.

Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Town is committing approximately \$4.9 million towards capital projects per year. Given the annual capital requirement of \$14.8 million, there is currently a funding gap of \$9.9 million annually.

Figure 10: Annual Requirements vs Capital Funding Available



7.2 Funding Objective

We have developed a scenario that would enable Parry Sound to achieve full funding within 1 to 20 years for the following assets:

1. **Tax Funded Assets:** Road Network, Stormwater Network, Bridges & Culverts, Buildings, Equipment, Land Improvements, Rolling Stock.
2. **Rate-Funded Assets:** Water Network, Sanitary Sewer Network

Note: For the purposes of this AMP, we have excluded gravel roads since they are a perpetual maintenance asset and end of life replacement calculations do not normally apply. If gravel roads are maintained properly, they can theoretically have a limitless service life.

For each scenario developed we have included strategies, where applicable, regarding the use of cost containment and funding opportunities.

7.3 Financial Profile: Tax Funded Assets

7.3.1 Current Funding Position

Table 54 itemizes by asset category, Parry Sound’s average annual asset capital expenditure (CapEx) requirements, current funding positions, and funding increases required to achieve full funding on assets funded by taxes.

Table 54: Current Funding Position Tax Funded Assets

Asset Category	Avg. Annual Requirement	Annual Funding Available				Annual Deficit	
		Taxes	Gas Tax	OCIF	Taxes to Reserves		
Bridges & Culverts	\$320,000				\$6,000	\$6,000	\$314,000
Buildings	\$949,000	\$28,000			\$121,000	\$149,000	\$800,000
Equipment	\$507,000	\$58,000			\$166,000	\$224,000	\$283,000
Land Improvements	\$371,000	\$122,000				\$122,000	\$249,000
Road Network	\$8,076,000	\$30,000	\$797,000	\$746,000	\$144,000	\$1,717,000	\$6,359,000
Rolling Stock	\$900,000				\$468,000	\$468,000	\$432,000
Storm Water Services	\$545,000	\$27,000			\$7,000	\$34,000	\$511,000
	\$11,528,000	\$265,000	\$797,000	\$746,000	\$912,000	\$2,720,000	\$8,948,000

The average annual CapEx requirement for the above categories is \$11.5 million. Annual revenue currently allocated to these assets for capital purposes is \$2.7 million leaving an annual deficit of \$8.8 million. Put differently, these infrastructure categories are currently funded at 23.6% of their long-term requirements.

7.3.2 Full Funding Requirements

In 2021, the Town of Parry Sound had annual budgeted tax revenues of \$11.7 million. As illustrated in **Table 55**, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Table 55: Full Funding Requirements

Asset Category	Tax Change Required for Full Funding
Bridges & Culverts	2.7%
Buildings	6.8%
Equipment	2.4%
Land Improvements	2.1%
Road Network	54.3%
Rolling Stock	3.7%
Storm Water Services	3.2%
	75.2%

The following changes in costs and/or revenues over the next number of years should also be considered in the financial strategy:

- a) Parry Sound’s formula based OCIF grant is scheduled to grow from \$746 thousand in 2020 & 2021 to \$1.4 million in 2022.²
- b) Parry Sound’s debt payments for these asset categories will be decreasing by \$24 thousand over the next 5 years, \$119 thousand over the next 10 years, \$289 thousand and \$387 thousand over the next 15 and 20 years respectively.
- c) Parry Sound’s council has adopted a key policy where they are applying a 1.8% increase to the tax levy each year to fund infrastructure.

² While OCIF will increase in 2022 the program is currently undergoing review by the provincial government. Due to the uncertainty around the review the increase is not captured in the annual funding analysis.

Our recommendations include capturing the above changes and allocating them to the infrastructure deficit outlined above. The table below outlines this concept and presents several options:

Table 56: Full Funding Scenarios

	Without Capturing Changes				With Capturing Changes			
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	8,948,000	8,948,000	8,948,000	8,948,000	8,948,000	8,948,000	8,948,000	8,948,000
Change in Debt Costs	n/a	n/a	n/a	n/a	(24,000)	(119,000)	(289,000)	(387,000)
Resulting Infrastructure Deficit:	5	10	15	20	5	10	15	20
	8,948,000	8,948,000	8,948,000	8,948,000	8,924,000	8,829,000	8,659,000	8,561,000
Tax Increase Required	75.2%	75.2%	75.2%	75.2%	74.7%	73.9%	72.4%	71.6%
Annually:	11.9%	5.8%	3.9%	2.9%	11.9%	5.8%	3.8%	2.8%

7.3.3 Financial Strategy Recommendations – Tax Funded Assets

Considering all the above information, we recommend the 15-year option. This involves full CapEx funding being achieved over 15 years by:

- a) when realized, reallocating the debt cost reductions of \$289 thousand to the infrastructure deficit as outlined above.
- b) increasing tax revenues by 3.8% each year for the next 15 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
- c) allocating the current gas tax and OCIF revenue as outlined previously.
- d) allocating the scheduled OCIF grant increases to the infrastructure deficit as they occur.
- e) reallocating appropriate revenue from categories in a surplus position to those in a deficit position.
- f) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment³.
2. We realize that raising tax revenues by the amounts recommended above for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.

Although this option achieves full CapEx funding on an annual basis in 15 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of \$33.2 million for the Road Network, \$973 thousand for the Stormwater Network, \$3.4 million for Land Improvements, \$1.2 million for Equipment, \$316 thousand for Rolling Stock and \$295 thousand for Buildings.

Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

³ The Town should take advantage of all available grant funding programs and transfers from other levels of government. While OCIF has historically been considered a sustainable source of funding, the program is currently undergoing review by the provincial government. Depending on the outcome of this review, there may be changes that impact its availability.

7.4 Financial Profile: Rate Funded Assets

7.4.1 Current Funding Position

The following tables show, by asset category, Parry Sound’s average annual asset CapEx requirements, current funding positions, and funding increases required to achieve full funding on assets funded by rates.

Table 57: Current Funding Position Rate Funded Assets

Asset Category	Avg. Annual Requirement	Annual Funding Available			Annual Deficit
		Rates	To Operations	Total Available	
Water Network	1,433,000	2,610,000	-1,806,000	804,000	629,000
Sanitary Sewer Network	1,701,000	3,825,000	-2,473,000	1,352,000	349,000
	3,134,000	6,435,000	-4,279,000	2,156,000	978,000

The average annual CapEx requirement for the above categories is \$3.134 million. Annual revenue currently allocated to these assets for capital purposes is \$2.156 million leaving an annual deficit of \$978 thousand. Put differently, these infrastructure categories are currently funded at 69% of their long-term requirements.

7.4.2 Full Funding Requirements

In 2021, Parry Sound had annual budgeted water revenues of \$2.6 million and annual sanitary revenues of \$3.8 million. As illustrated in the table below, without consideration of any other sources of revenue, full funding would require the following changes over time:

Table 58: Full Funding Requirements

Asset Category	Tax Change Required for Full Funding
Water Network	24.1%
Sanitary Sewer Network	9.1%

In the following tables, we have expanded the above scenario to present multiple options. Due to the significant increases required, we have provided phase-in options of up to 20 years:

Table 59: Full Funding Scenarios

Water Network								
	No reallocation of decrease in debt payment				Reallocation of decrease in debt payments			
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	629,000	629,000	629,000	629,000	629,000	629,000	629,000	629,000
Decrease in debt payments	N/A	N/A	N/A	N/A	(29,000)	(173,000)	(216,000)	(216,000)
Resulting Infrastructure Deficit:	5	10	15	20	5	10	15	20
	629,000	629,000	629,000	629,000	600,000	456,000	413,000	413,000
Tax Increase Required	24.1%	24.1%	24.1%	24.1%	23.0%	17.5%	15.8%	15.8%
Annually:	4.5%	2.2%	1.5%	1.1%	4.3%	1.7%	1.0%	0.8%

Table 60: Full Funding Scenarios

Sanitary Sewer Network								
	No reallocation of decrease in debt payment				Reallocation of decrease in debt payments			
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	349,000	349,000	349,000	349,000	349,000	349,000	349,000	349,000
Decrease in debt payments	N/A	N/A	N/A	N/A	(39,000)	(115,000)	(193,000)	(229,000)
Resulting Infrastructure Deficit:	5	10	15	20	5	10	15	20
	349,000	349,000	349,000	349,000	310,000	234,000	156,000	120,000
Tax Increase Required	9.1%	9.1%	9.1%	9.1%	8.1%	6.1%	4.1%	3.1%
Annually:	1.8%	0.9%	0.6%	0.5%	1.6%	0.6%	0.3%	0.2%

7.4.3 Financial Strategy Recommendations

Rate Funded Assets

Considering all the above information, we recommend the 10-year option for the Water Network and the 5-year option for the Sanitary Sewer Network that includes debt cost reallocations. This involves full CapEx funding being achieved by:

- a) Increasing rate revenues by 1.7% for water services the next 10 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
- b) Increasing rate revenues by 1.6% for sanitary services each year for the next 5 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
- c) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

- 1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. This periodic funding should not be incorporated into an AMP unless there are firm commitments in place.
- 2. We realize that raising rate revenues for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.
- 3. Any increase in rates required for operations would be in addition to the above recommendations.

Although this option achieves full CapEx funding on an annual basis in 10 years for the Water Network and 5 years for the Sanitary Sewer Network, and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of \$5.4 million for the Water Network and \$4.3 million for the Sanitary Sewer Network.

Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

7.5 Use of Debt

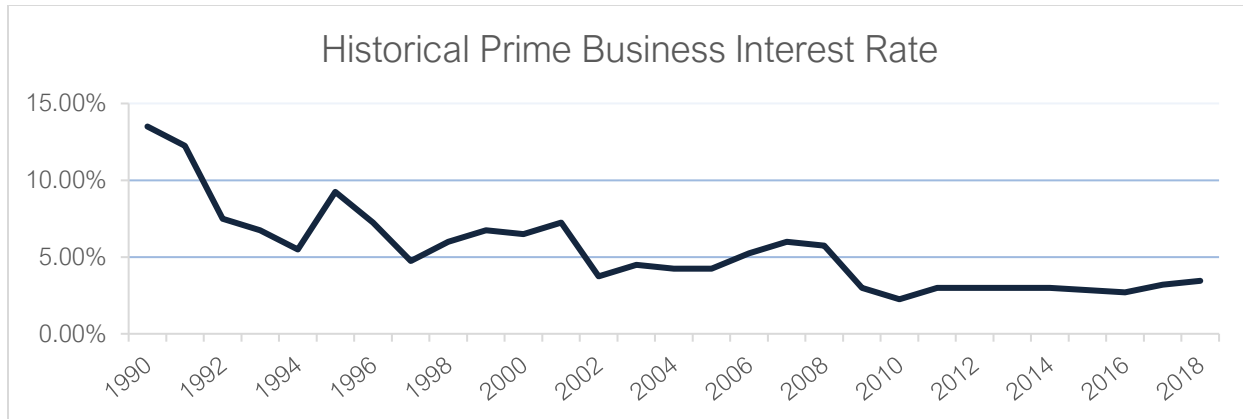
For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a \$1 million project financed at 3.0%⁴ over 15 years would result in a 26% premium or \$260 thousand of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

Table 61: Premiums Paid

Interest Rate	Number of Years Financed					
	5	10	15	20	25	30
7.0%	22%	42%	65%	89%	115%	142%
6.5%	20%	39%	60%	82%	105%	130%
6.0%	19%	36%	54%	74%	96%	118%
5.5%	17%	33%	49%	67%	86%	106%
5.0%	15%	30%	45%	60%	77%	95%
4.5%	14%	26%	40%	54%	69%	84%
4.0%	12%	23%	35%	47%	60%	73%
3.5%	11%	20%	30%	41%	52%	63%
3.0%	9%	17%	26%	34%	44%	53%
2.5%	8%	14%	21%	28%	36%	43%
2.0%	6%	11%	17%	22%	28%	34%
1.5%	5%	8%	12%	16%	21%	25%
1.0%	3%	6%	8%	11%	14%	16%
0.5%	2%	3%	4%	5%	7%	8%
0.0%	0%	0%	0%	0%	0%	0%

It should be noted that current interest rates are near all-time lows. Sustainable funding models that include debt need to incorporate the risk of rising interest rates. The following graph shows where historical lending rates have been:

⁴ Current municipal Infrastructure Ontario rates for 15-year money is 3.2%.



A change in 15-year rates from 3% to 6% would change the premium from 26% to 54%. Such a change would have a significant impact on a financial plan.

The following tables outline how Parry Sound has historically used debt for investing in the asset categories as listed. There is currently \$16.8 million of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of \$1.5 million, well within its provincially prescribed maximum of \$3.35 million.

Table 62: Historical Use of Debt

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2016	2017	2018	2019	2020
Bridges & Culverts						
Buildings	5,679,000			456,000		1,588,000
Equipment						
Land Improvements	99,000			116,000		
Road Network	4,905,000	175,000			4,585,000	
Rolling Stock						
Storm Water Services	123,000	175,000				
Total Tax Funded:	10,806,000	350,000	0	572,000	4,585,000	1,588,000
Water Network						
Water Network	1,224,000	625,000				
Sanitary Sewer Network	4,716,000	625,000				
Total Rate Funded:	5,940,000	1,250,000	0	0	0	0

Table 63: Principal & Interest Payments in the Next Ten Years

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2020	2021	2022	2023	2024	2025	2030
Bridges & Culverts							
Road Network	500,000	490,000	481,000	471,000	462,000	453,000	406,000
Stormwater Network							
Buildings & Facilities	9,000	9,000	9,000	8,000	8,000	8,000	7,000
Machinery & Equipment	324,000	346,000	368,000	366,000	363,000	361,000	316,000
Land Improvements							
Vehicles	15,000	15,000	15,000	14,000	14,000	14,000	12,000
Total Tax Funded:	848,000	860,000	873,000	859,000	847,000	836,000	741,000
Water Network							
Water Network	223,000	216,000	209,000	202,000	195,000	187,000	43,000
Sanitary Sewer Network	450,000	439,000	429,000	420,000	410,000	400,000	324,000
Total Rate Funded:	673,000	655,000	638,000	622,000	605,000	587,000	367,000

The revenue options outlined in this plan allow Parry Sound to fully fund its long-term infrastructure requirements without further use of debt.

7.6 Use of Reserves

7.6.1 Available Reserves

Reserves play a critical role in long-term financial planning. The benefits of having reserves available for infrastructure planning include:

- a) the ability to stabilize tax rates when dealing with variable and sometimes uncontrollable factors
- b) financing one-time or short-term investments
- c) accumulating the funding for significant future infrastructure investments
- d) managing the use of debt
- e) normalizing infrastructure funding requirement

By asset category, the table below outlines the details of the reserves currently available to Parry Sound.

Table 64: Current Reserves Available

Asset Category	Balance at December 31, 2020
Bridges & Culverts	148,000
Buildings	1,906,000
Equipment	910,000
Land Improvements	550,000
Road Network	3,734,000
Rolling Stock	908,000
Storm Water Services	187,000
Total Tax Funded:	8,343,000
Water Network	5,995,000
Sanitary Sewer Network	4,353,000
Total Rate Funded:	10,348,000

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Town should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should consider when determining their capital reserve requirements include:

- a) breadth of services provided
- b) age and condition of infrastructure
- c) use and level of debt
- d) economic conditions and outlook
- e) internal reserve and debt policies.

These reserves are available for use by applicable asset categories during the phase-in period to full funding. This coupled with Parry Sound's judicious use of debt in the past, allows the scenarios to assume that, if required, available reserves and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term.

7.6.2 Recommendation

In 2025, Ontario Regulation 588/17 will require Parry Sound to integrate proposed levels of service for all asset categories in its asset management plan update. We recommend that future planning should reflect adjustments to service levels and their impacts on reserve balances.

8

Appendices

Key Insights

- Appendix A identifies projected 10-year capital requirements for each asset category
- Appendix B provides additional guidance on the development of a condition assessment program

Appendix A: 10-Year Capital Requirements

The following tables identify the capital cost requirements for each of the next 10 years in order to meet projected capital requirements and maintain the current level of service.

Road Network											
Asset Segment	Backlog	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Guiderrails	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,485	\$11,321	\$0
Sidewalks	\$7,051,181	\$330,617	\$0	\$416,855	\$501,262	\$306,775	\$262,313	\$1,166,062	\$709,233	\$47,762	\$2,100,837
Signal Lights	\$121,885	\$0	\$0	\$0	\$0	\$176,309	\$0	\$0	\$0	\$215,694	\$335,555
Street Lighting	\$102,827	\$0	\$0	\$0	\$90,221	\$174,201	\$50,664	\$88,475	\$0	\$118,745	\$815,277
Sub-Surface	\$23,441,850	\$464,769	\$9,180,459	\$896,994	\$351,882	\$342,729	\$4,084,272	\$1,031,238	\$0	\$798,345	\$0
Surface	\$0	\$4,272,310	\$7,159,560	\$10,473,720	\$10,279,950	\$4,281,910	\$3,594,720	\$3,685,680	\$2,093,600	\$4,624,340	\$1,130,320
	\$30,717,743	\$5,067,696	\$16,340,019	\$11,787,569	\$11,223,315	\$5,281,924	\$7,991,969	\$5,971,455	\$2,806,318	\$5,816,207	\$4,381,989

Bridges & Culverts											
Asset Segment	Backlog	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Bridges	\$0	\$169,500	\$0	\$0	\$0	\$495,000	\$0	\$0	\$0	\$0	\$529,000
Culverts	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$0	\$169,500	\$0	\$0	\$0	\$495,000	\$0	\$0	\$0	\$0	\$529,000

Storm Water Services											
Asset Segment	Backlog	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Catch Basins	\$607,500	\$0	\$97,500	\$97,500	\$37,500	\$127,500	\$0	\$22,500	\$330,000	\$0	\$352,500
Manholes	\$138,000	\$0	\$23,000	\$34,500	\$34,500	\$34,500	\$0	\$23,000	\$103,500	\$0	\$92,000
Stormwater Sewers	\$208,925	\$0	\$340,201	\$0	\$0	\$0	\$0	\$0	\$106,921	\$0	\$0
	\$954,425	\$0	\$460,701	\$132,000	\$72,000	\$162,000	\$0	\$45,500	\$540,421	\$0	\$444,500

Sanitary Services

Asset Segment	Backlog	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Manholes	\$1,679,000	\$0	\$345,000	\$207,000	\$287,500	\$34,500	\$80,500	\$57,500	\$253,000	\$11,500	\$23,000
Pumping Stations	\$2,417,075	\$307,123	\$0	\$296,602	\$0	\$8,704	\$1,504,392	\$17,032	\$336,249	\$0	\$0
Sanitary Sewers	\$85,900	\$453,447	\$0	\$0	\$0	\$0	\$450,328	\$254,878	\$0	\$0	\$0
Sewer Connections	\$7,200	\$151,200	\$0	\$0	\$0	\$0	\$14,400	\$10,800	\$0	\$0	\$0
Wastewater Equipment	\$36,120	\$20,230	\$4,331	\$0	\$13,488	\$0	\$62,604	\$19,504	\$2,978	\$107,862	\$13,488
Wastewater Treatment Plant	\$0	\$43,529	\$16,148	\$297,449	\$0	\$17,746	\$403,923	\$103,309	\$16,965	\$7,192	\$32,444
	\$4,225,295	\$975,529	\$365,479	\$801,051	\$300,988	\$60,950	\$2,516,147	\$463,023	\$609,192	\$126,554	\$68,932

Water Services

Asset Segment	Backlog	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Hydrants	\$481,500	\$0	\$22,500	\$13,500	\$0	\$0	\$76,500	\$4,500	\$54,000	\$13,500	\$13,500
Water Booster Station	\$0	\$3,828	\$0	\$52,735	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Equipment	\$205,253	\$9,840	\$51,946	\$81,803	\$141,102	\$0	\$79,918	\$205,939	\$0	\$22,644	\$118,013
Water Tower	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,965	\$86,343	\$0	\$0
Water Treatment Plant	\$479,988	\$1,132,020	\$134,996	\$975,926	\$1,476	\$0	\$1,513,163	\$10,761	\$42,226	\$50,596	\$0
Water Valves	\$639,600	\$101,400	\$2,600	\$49,400	\$2,600	\$7,800	\$72,800	\$137,800	\$13,000	\$0	\$49,400
Watermains	\$3,480,541	\$0	\$1,227,730	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$5,286,882	\$1,247,088	\$1,439,772	\$1,173,364	\$145,178	\$7,800	\$1,742,381	\$364,965	\$195,569	\$86,740	\$180,913

Buildings

Asset Segment	Backlog	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Community Buildings	\$94	\$439	\$0	\$539,756	\$0	\$0	\$94	\$75,638	\$3,160,797	\$0	\$0
Emergency Buildings	\$124,666	\$0	\$13,681	\$0	\$0	\$0	\$0	\$408,000	\$0	\$0	\$0
Municipal Buildings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$279,306	\$796,772	\$0	\$0
Operational Buildings	\$22,109	\$0	\$33,498	\$20,164	\$0	\$0	\$0	\$114,846	\$158,556	\$0	\$18,511
Other Town Property	\$142,746	\$0	\$244,847	\$24,967	\$0	\$0	\$0	\$0	\$21,131	\$0	\$0
	\$289,615	\$439	\$292,026	\$584,887	\$0	\$0	\$94	\$877,790	\$4,137,256	\$0	\$18,511

Land Improvements

Asset Segment	Backlog	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Acess, Paths, Trails & Parking Lots	\$2,561,697	\$0	\$0	\$0	\$17,492	\$340,500	\$314,832	\$31,836	\$80,880	\$106,158	\$32,700
Boat Slips, Docks & Launches	\$19,192	\$0	\$0	\$227,154	\$0	\$0	\$0	\$0	\$124,990	\$0	\$0
Fencing	\$257,066	\$20,101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Irrigation	\$38,564	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Landscaping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$212,116	\$0	\$0
Lighting	\$482,674	\$0	\$0	\$329,530	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Park Furnishings	\$0	\$0	\$0	\$10,172	\$0	\$0	\$20,289	\$0	\$34,651	\$0	\$0
Sports Fields & Courts	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,774
Structural Features	\$0	\$0	\$0	\$53,509	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$3,359,193	\$20,101	\$0	\$620,365	\$17,492	\$340,500	\$335,121	\$31,836	\$452,637	\$106,158	\$54,474

Equipment

Asset Segment	Backlog	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Fire Admin	\$17,163	\$0	\$671	\$7,968	\$50,841	\$0	\$17,834	\$0	\$7,968	\$2,124	\$671
General Government	\$181,124	\$160,645	\$42,836	\$15,452	\$31,691	\$30,728	\$216,818	\$32,870	\$39,884	\$23,019	\$32,808
Land Ambulance	\$4,619	\$43,875	\$52,757	\$15,251	\$163,898	\$17,554	\$61,365	\$708,484	\$27,575	\$146,185	\$0
Planning Development	\$7,930	\$0	\$28,438	\$31,335	\$0	\$0	\$0	\$0	\$0	\$0	\$157,425
Protection	\$41,811	\$46,721	\$19,632	\$67,597	\$50,885	\$23,058	\$44,306	\$31,124	\$25,735	\$54,466	\$53,474
Recreation & Cultural	\$431,709	\$74,169	\$17,152	\$374,863	\$5,907	\$98,239	\$30,918	\$45,534	\$17,106	\$19,449	\$241,657
Stockey – Administration	\$40,346	\$0	\$0	\$144,874	\$0	\$7,111	\$29,113	\$9,967	\$0	\$0	\$36,130
Stockey – Building	\$468,563	\$0	\$3,846	\$47,959	\$106,769	\$0	\$7,168	\$4,864	\$222,410	\$34,221	\$21,234
Transportation	\$0	\$0	\$6,067	\$13,939	\$0	\$13,723	\$0	\$22,516	\$6,690	\$9,713	\$0
	\$1,193,265	\$325,410	\$171,399	\$719,238	\$409,991	\$190,413	\$407,522	\$855,359	\$347,368	\$289,177	\$543,399

Rolling Stock

Asset Segment	Backlog	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Cemeteries	\$13,006	\$29,469	\$0	\$0	\$72,551	\$13,937	\$0	\$82,975	\$4,706	\$0	\$0
Fire	\$51,480	\$0	\$0	\$0	\$0	\$0	\$417,536	\$0	\$51,480	\$58,760	\$0
Land Ambulance	\$0	\$352,729	\$252,875	\$449,171	\$383,504	\$389,183	\$329,347	\$367,138	\$252,875	\$445,358	\$447,778
Protective Inspection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,918	\$0	\$29,367	\$0
Recreation & Cultural Services	\$75,437	\$0	\$0	\$0	\$161,416	\$0	\$56,293	\$0	\$20,766	\$37,769	\$9,005
Transportation Services	\$170,531	\$0	\$114,492	\$140,726	\$519,751	\$157,939	\$116,097	\$66,489	\$440,664	\$35,770	\$446,862
Wastewater Services	\$0	\$0	\$0	\$0	\$113,572	\$0	\$32,321	\$0	\$0	\$19,983	\$0
Water Services	\$0	\$0	\$38,330	\$111,458	\$0	\$0	\$0	\$0	\$56,295	\$38,330	\$55,163
	\$310,454	\$382,198	\$405,697	\$701,355	\$1,250,794	\$561,059	\$951,594	\$539,520	\$826,786	\$665,337	\$958,808

Appendix B: Condition Assessment Guidelines

The foundation of good asset management practice is accurate and reliable data on the current condition of infrastructure. Assessing the condition of an asset at a single point in time allows staff to have a better understanding of the probability of asset failure due to deteriorating condition.

Condition data is vital to the development of data-driven asset management strategies. Without accurate and reliable asset data, there may be little confidence in asset management decision-making which can lead to premature asset failure, service disruption and suboptimal investment strategies. To prevent these outcomes, the Town's condition assessment strategy should outline several key considerations, including:

- The role of asset condition data in decision-making
- Guidelines for the collection of asset condition data
- A schedule for how regularly asset condition data should be collected

Role of Asset Condition Data

The goal of collecting asset condition data is to ensure that data is available to inform maintenance and renewal programs required to meet the desired level of service. Accurate and reliable condition data allows Town staff to determine the remaining service life of assets, and identify the most cost-effective approach to deterioration, whether it involves extending the life of the asset through remedial efforts or determining that replacement is required to avoid asset failure.

In addition to the optimization of lifecycle management strategies, asset condition data also impacts the Town's risk management and financial strategies. Assessed condition is a key variable in the determination of an asset's probability of failure. With a strong understanding of the probability of failure across the entire asset portfolio, the Town can develop strategies to mitigate both the probability and consequences of asset failure and service disruption. Furthermore, with condition-based determinations of future capital expenditures, the Town can develop long-term financial strategies with higher accuracy and reliability.

Guidelines for Condition Assessment

Whether completed by external consultants or internal staff, condition assessments should be completed in a structured and repeatable fashion, according to consistent and objective assessment criteria. Without proper guidelines for the completion of condition assessments there can be little confidence in the validity of condition data and asset management strategies based on this data.

Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating criteria, in a format that can be used for asset management decision-making. As a result, it is important that staff adequately define the condition rating criteria that should be used and the assets that require a discrete condition rating. When engaging with external consultants to complete condition assessments, it is critical that these details are communicated as part of the contractual terms of the project. There are many options available to the Town to complete condition assessments. In some cases, external consultants may need to be engaged to complete detailed technical assessments of infrastructure. In other cases, internal staff may have sufficient expertise or training to complete condition assessments.

Developing a Condition Assessment Schedule

Condition assessments and general data collection can be both time-consuming and resource-intensive. It is not necessarily an effective strategy to collect assessed condition data across the entire asset inventory. Instead, the Town should prioritize the collection of assessed condition data based on the anticipated value of this data in decision-making. The International Infrastructure Management Manual (IIMM) identifies four key criteria to consider when making this determination:

1. **Relevance:** every data item must have a direct influence on the output that is required
2. **Appropriateness:** the volume of data and the frequency of updating should align with the stage in the assets life and the service being provided
3. **Reliability:** the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current
4. **Affordability:** the data should be affordable to collect and maintain