2024 Corporate Asset Management Plan

Executive Summary

Asset Management Plan Overview

The Town of Fort Erie (the Town) is in beautiful Niagara Region and boasts over 45km of shoreline along Lake Erie. The Town has an array of historical sites, natural beauty and beaches, recreational trails, as well as opportunities for fishing and birding. The Town is strategically located with easy access to the border, along a busy economic trade corridor. The Town of Fort Erie infrastructure supports a variety of municipal services that residents and businesses rely on every day. The Town owns approximately $2.16 billion in infrastructure assets and requires a comprehensive plan for managing these assets to maximize service delivery while balancing costs to the community. An asset management plan (AMP) can help guide the Town in making the best decisions in the management of its infrastructure assets.

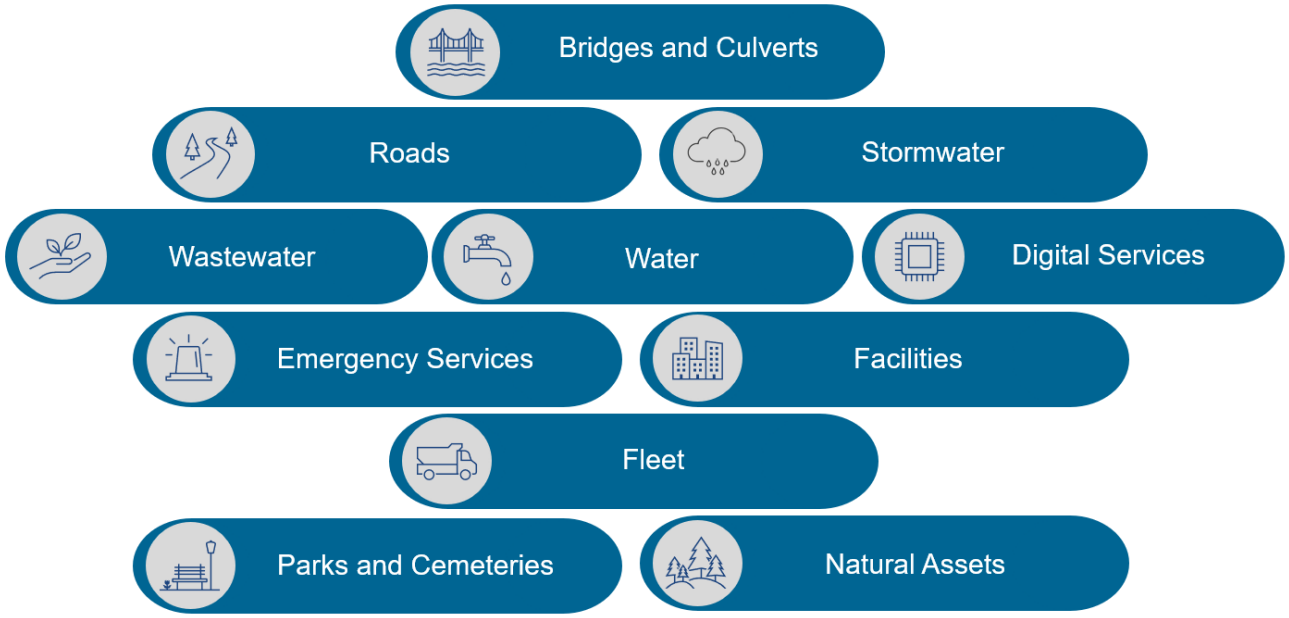
This Asset Management Plan (AMP) has been developed to serve as a guiding document for decision-making related to infrastructure assets. The objective and purpose of this AMP is to maximize benefits, manage risk, and provide satisfactory levels of service to the public in a sustainable manner. Asset Management involves understanding asset characteristics, assessing their condition, and defining current and proposed service levels and measuring performance.

This AMP is a comprehensive document that allows the Town to:

- Meet regulatory requirements.
- Outline the current state of the Town's assets.
- Establish long-term infrastructure goals through master plans and strategic plans.
- Develop sustainable financial plans and the annual budget.
- Describe the Town's current performance for levels of service, as well as set desired (target) levels of service.
- Consistently consider options related to assets, based on the AMP.
- Support funding applications to the federal and provincial levels of government.

Asset Management Plan Scope and Structure

This Asset Management Plan (AMP) is divided into chapters for each asset group owned by the Town:



The Town's natural assets are not included within the main body or analysis of this AMP as a separate AMP was completed to account for the unique nature of the asset class. Information on these assets can be found in Appendix A.

Within each of the included asset category chapters, the plan provides the following information:

State of the Infrastructure

The State of the Local Infrastructure section provides a quantitative assessment of the infrastructure owned by the Town. The primary objective is to provide a high-level inventory and insights on the overall age, condition, replacement value, and key metrics of the assets owned by the Town, as per O.Reg. 588/17. The information is developed based on provided datasets and documents that were assessed for data confidence and discussed with Subject Matter Experts (SMEs) at the Town. This section summarizes the inventory of assets and their replacement values and provides the age and condition for assets in each chapter.

Levels of Service

Levels of service (LOS) are measures for what the Town provides to its customers, residents and visitors. They support the organization's strategic goals and are derived from customer needs and expectations, Council objectives, Town policies, legislative and regulatory requirements, standards, along with the financial capacity of the municipality to deliver those LOS. The LOS sections provide key performance indicators that support the provision of the respective service for each Town asset group. O.Reg. 588/17 has prescribed LOS for core assets only. Remaining asset's LOS were developed by Town staff.

Options for LOS Proposed Performance

As per the 2025 requirements for O.Reg. 588/17, the Town has developed proposed LOS targets for the next 10 years. Various options and factors were considered when setting the proposed (target) performance for the LOS metrics to balance achievability, affordability, risk, and the strategic priorities of the Town. Options included the following:

- Decreasing the LOS
- Maintaining the current LOS (performance)
- Increasing LOS to meet infrastructure needs as per the lifecycle strategies

Lifecycle Management

The Lifecycle Management Strategy defines the set of planned actions that will enable the assets to provide their desired level of service in a sustainable way while mitigating risks and reducing costs throughout their life. The goal of this assessment is to capture the activities that are required to sustain the assets within each asset category. For the purposes of this plan, the lifecycle activity categories are as follows:

- Disposal Activities
- Growth Activities
- Non-Infrastructure Solution
- Operations & Maintenance Activities
- Renewal/Replacement Activities
- Service Improvement

Funding the Lifecycle Activities

Three forecasting scenarios were run to analyze the Town's assets, which provide insight on the Town's ability to continue to provide services into the future. This is achieved by forecasting the total required annual expenditures for the Town to maintain current performance, meet proposed performance, and meet infrastructure needs as per the lifecycle management strategies developed.

Data Confidence and Improvement Plan

Within the asset category chapters, the data confidence and improvement plans provide category specific opportunities for improvements.

The asset category specific chapters are followed by the following sections:

Financial Strategy

The Financial Strategy combines the scenarios for each asset to assess the Town's forecasted expenditures and understand the full cost of maintaining service levels and

meeting infrastructure needs over the 10-year forecast period. Forecasts for expenditures were compared to the capital and operating budget forecasts to determine if an infrastructure gap is present.

Improvement and Monitoring Plan

As the Town matures in their AM journey, the processes for Asset Management Planning will continue to evolve and improve. This final section speaks to the opportunities for increasing AM maturity on a Town-wide or program level.

Town of Fort Erie's Infrastructure Valuation and Condition Distribution

The Town owns approximately $2.16 billion worth of assets across 10 different asset categories. Each asset category has its own chapter detailing the asset valuation, asset condition, asset age, levels of service, lifecycle management strategy, and data confidence and improvement plan as stated above. Figure 0-1 shows the overall valuation breakdown of each asset category by replacement value.

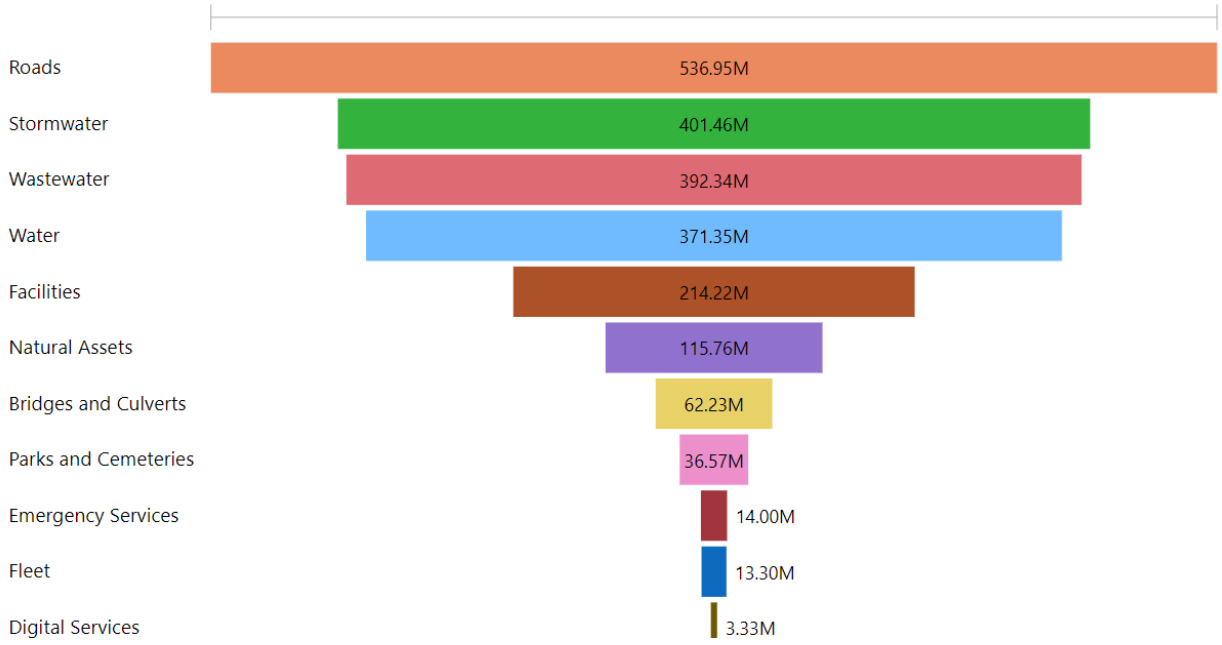


Figure 0-1. Overall Asset Valuation by Replacement Value

Due to the unique nature of Natural Assets, the valuation and analysis for this category was completed separately and not included here. While this AMP does not account for Natural Assets, the completed AMP for this specific asset category, including the valuation and analysis, is provided in Appendix A.

Asset condition is an important piece of asset management. The overall condition by replacement value for all Town owned assets is shown in Figure 0-2.

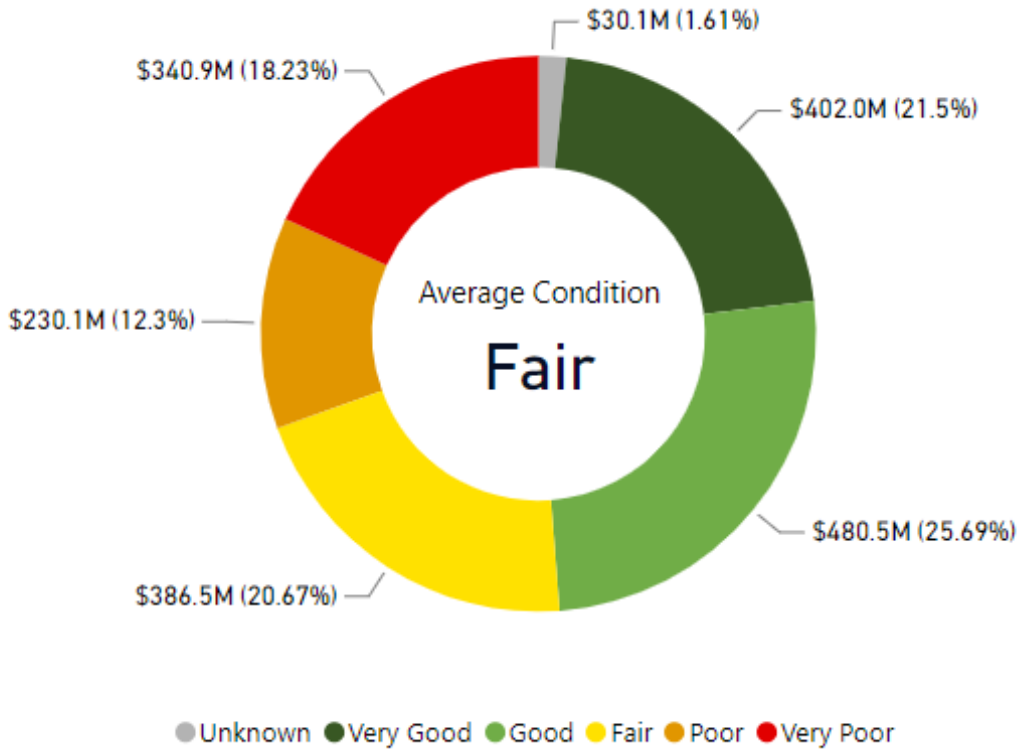


Figure 0-2. Overall Asset Condition by Replacement Value

The Town of Fort Erie's assets are on average in fair condition, with approximately 67% of assets in fair or better condition. Currently, just under 2% of asset have an unknown condition. Asset management is a process of continual improvement, and the need for accurate and complete condition data is highlighted as a recommendation for improvement for those areas that have incomplete condition data.

Figure 0-3 compares the condition profiles of the asset categories, which can be seen in more detail within the asset category chapters within this plan.

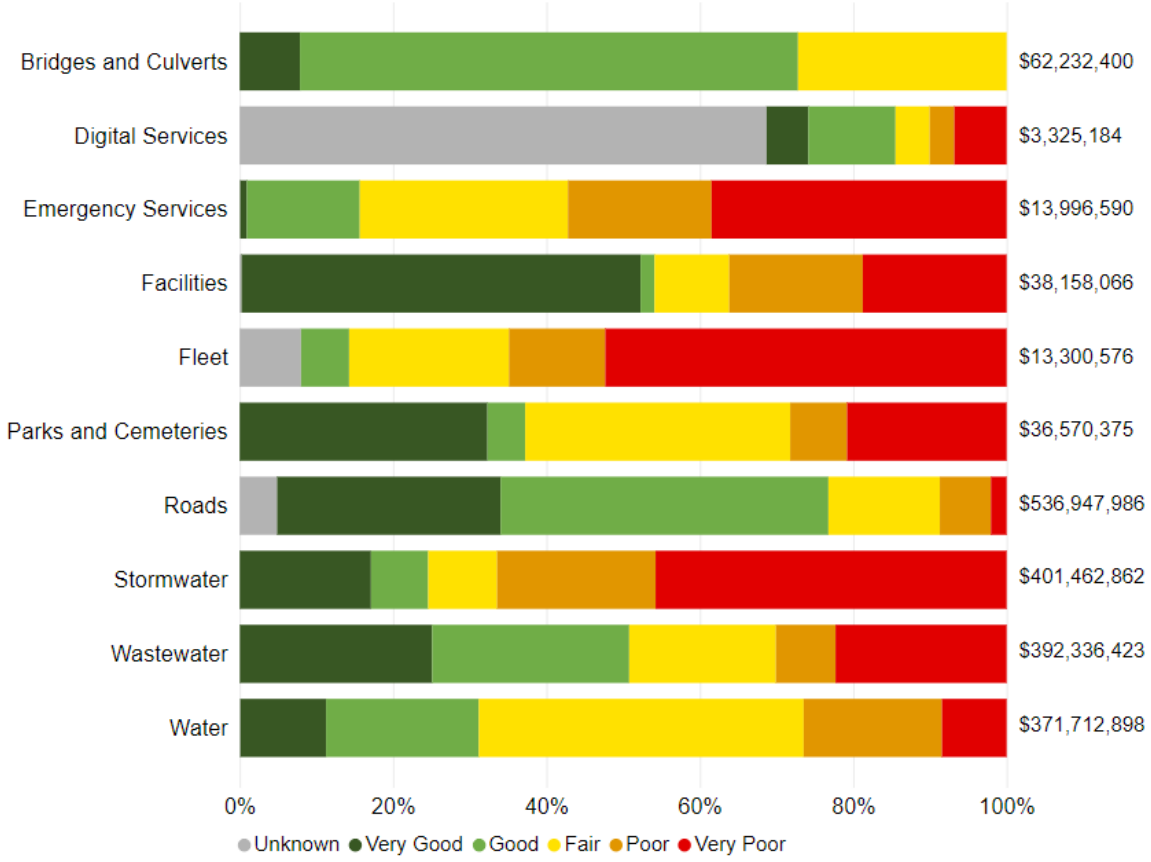


Figure 0-3. Asset Category Condition Overview by Replacement Value

An asset management plan for Natural Assets was completed under a separate engagement, and can be found in Appendix A.

Lifecycle Management Strategy

The results of the lifecycle management strategy have been compiled to provide an overall view of the Town's ability to meet current LOS as well as to meet the target LOS, or infrastructure needs, for the whole organization. Scenarios 1 and 3 determine the infrastructure needs based on the asset data provided by the Town, as well as the impact on the condition of the assets if these scenarios are followed. The information for the average budget (Scenario 2) is used to compare Scenario 1 and 3 to determine the infrastructure gap.

Scenario 1 – Cost to Maintain Current Performance (LOS): Calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for each asset category (as mandated by O. Reg. 588/17).

Scenario 2 – Current Funding: Determines the impact of the current 10-year capital budget on the condition (performance) of the assets. The average annual budget is used to compare to Scenario 1 and 3.

Scenario 3 – Proposed LOS Target/Infrastructure Needs Assets: Calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities.

These forecast scenarios can be found in the asset category chapters of this AMP but have been compiled below to show the overall impact of the scenarios on the condition of all Town assets analyzed within this plan.

Figure 0-4. Scenario 1: Maintain Current LOS - All Assets

Figure 0-5. Scenario 2: Current Funding – All Assets

Figure 0-6. Scenario 3: Proposed LOS Target - All Assets

The graphs above show the impact the scenarios developed for this AMP have on the condition of the Town's assets. Scenario 1 maintains the assets in approximately the same condition they are currently in. Scenario 2 sees a decrease in the overall performance (condition) of the assets by the end of the 10-year forecast period. This analysis is based on the planned spending as per the 10-year capital budget. If the Town follows Scenario 3, to meet proposed LOS targets as per identified lifecycle management strategies, there will be an improvement to the performance of the Town's assets.

The costs of these scenarios are provided below, with a comparison of their costs to determine the infrastructure gap.

Financial Strategy

This financial strategy provides an analysis of the average annual funding available, the expenditures required to maintain current LOS, as well as the ideal expenditures required to meet the Town's proposed LOS and infrastructure needs based on the lifecycle strategies identified throughout this plan.

The compiled investment needs under each of the analysis scenarios are presented in Figure 0-7. This figure illustrates the calculated infrastructure needs based on both the Average Annual Cost to Maintain Current LOS (Scenario 1), as well as the Average Annual Cost for the Proposed LOS as Per Infrastructure Needs (Scenario 3). The costs identified as the Infrastructure Needs (Renewal/Rehab/Replacements) identify the lifecycle activity expenditures required for the 10-year forecast to meet proposed LOS, as per O.Reg. 588/17 requirements. These costs represent the Town's best alternative to provide services at the lowest possible cost, to avoid risk and to meet levels of service.

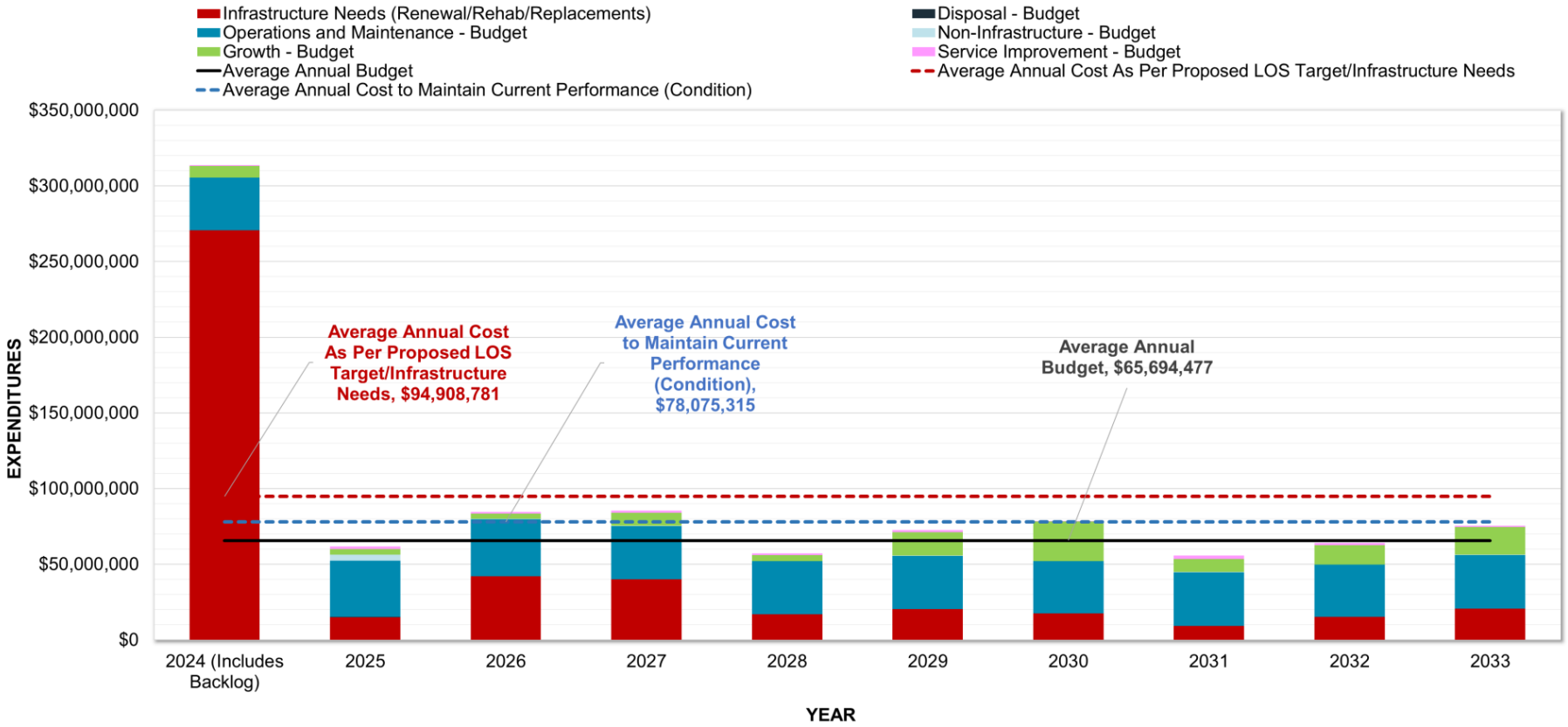


Figure 0-7. Town of Fort Erie Required Expenditures - Scenario Comparison

The infrastructure gap is calculated by comparing the forecasted renewal, rehabilitation, and replacement expenditures under each scenario against the Average Annual Budget attributed to these assets. The AMP has identified an annual funding gap of $12 million to maintain current LOS, and an annual gap of $29 M to meet the proposed LOS as per lifecycle strategies that have been documented throughout this plan. An overview of the gap can be found in Table 0-1.

Table 0-1. Average Annual Expenditures and Infrastructure Gap

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$15,000	$15,000	$15,000
Growth	$10,907,595	$10,907,595	$10,907,595
Non-Infrastructure	$521,100	$521,100	$521,100
Operations & Maintenance	$35,443,628	$35,443,628	$35,443,628
Renewal, Rehabilitation & Replacement	$17,577,181	$29,958,019	$46,791,485
Service Improvement	$1,229,973	$1,229,973	$1,229,973
Total	**$65,694,477**	**$78,075,315**	**$94,908,781**
Average Annual Spending Gap		**$12,380,838**	**$29,214,304**
Percentage Increase Required to Address Gap		**19%**	**44%**

The cumulative results of these scenarios demonstrate that significant investment, along with the adoption of strategic asset management practices and policies will be required to meet expected spending requirements to meet current LOS, and an additional gap to meet proposed LOS. Left unaddressed, the impact of not developing strategies to close the gap can be seen in Figure 0-8, which shows the infrastructure gap at the end of the 10-year period, including the impact of inflation (this assumes a 2.5% rate of inflation).

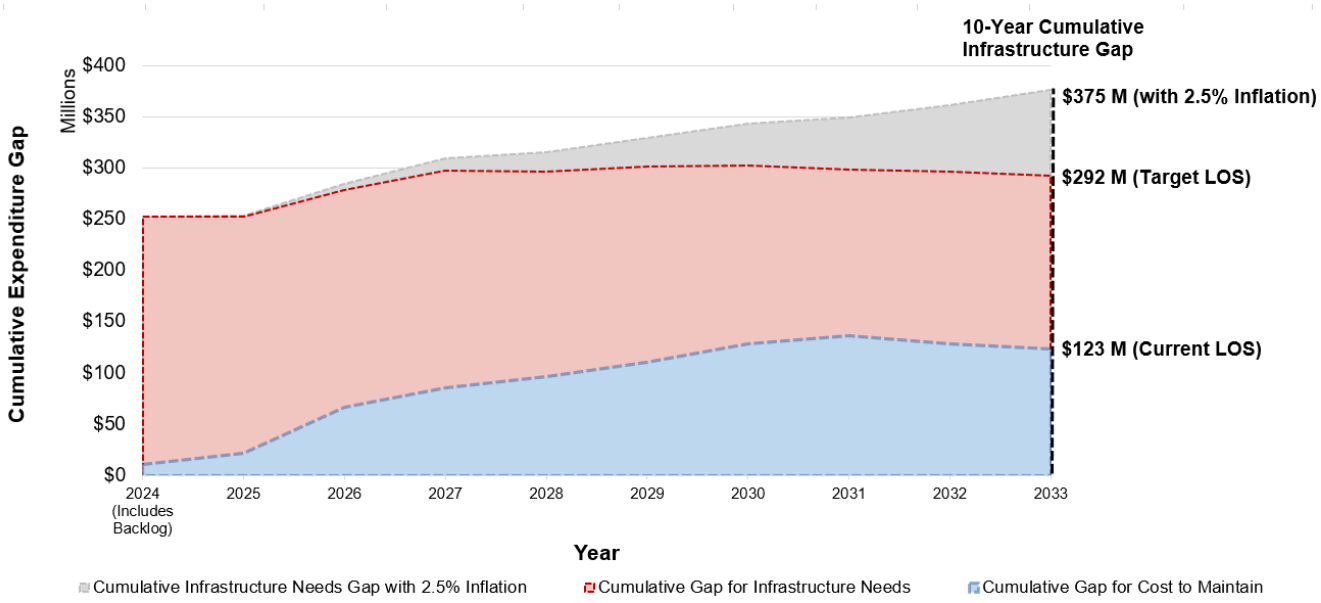


Figure 0-8. Cumulative 10-Year Infrastructure Gap and Impact of Inflation

Without strategies in place to close the infrastructure gap, the Town faces a total gap of $375 million at the end of the 10-year period, factoring in inflation. Further detail on the infrastructure gaps have been provided to review the gap based on the tax supported and rate supported assets.

Breakdown of Infrastructure Gap by Rate and Tax Supported Assets

The infrastructure needs and gap are further described below, broken down by rate supported and tax supported assets to reflect the main source of revenue for these asset categories to further understand how revenues need to be increased to meet the needs and close the overall infrastructure gap to meet the proposed LOS targets outlined within this AMP.

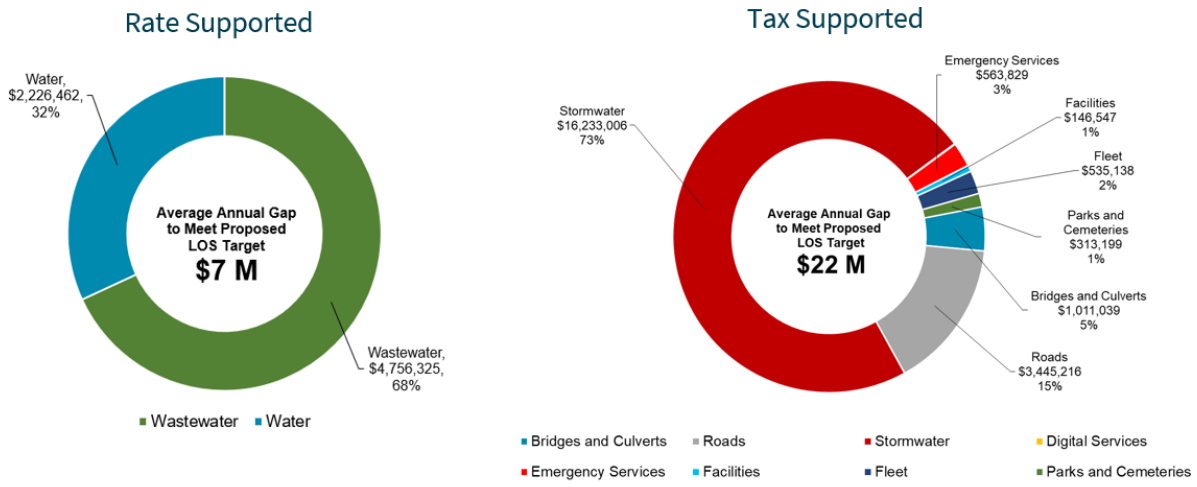


Figure 0-9. Breakdown of Infrastructure Gap to Meet Proposed LOS by Rate and tax Supported Assets

Closing the infrastructure gap is critical for ensuring the long-term sustainability and optimal performance of the Town's assets. To address this gap, the Town will need to explore options to increase funding, reduce the projected infrastructure costs or a combination of the two. Addressing the gap will require careful consideration and a combination of strategies, including non-financial and financial.

By adopting a combination of strategies, the Town can better address the infrastructure gap, improve service delivery, and enhance the quality of life for residents while ensuring fiscal sustainability and responsible stewardship of public resources.

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List of Acronyms

Acronym	Definition
AM	Asset Management
AMP	Asset Management Plan
BCA	Building Condition Assessment
BCI	Bridge Condition Assessment
CCTV	Closed Circuit Television Camera
ESL	Estimated Service Life
LOS	Level of Service
OSIM	Ontario Structure Inspection Manual
PACP	Pipeline Assessment and Certification Program
PCI	Pavement Condition Index
SAAS	Software-as-a-Service

1.0 Introduction

1 Introduction

The Town of Fort Erie (the Town)'s infrastructure supports a variety of municipal services that residents and businesses rely on everyday. The Town owns approximately $2.16 billion in core and non-core infrastructure assets and requires a comprehensive plan for managing these assets to maximize service delivery while balancing costs to the community. An asset management plan (AMP) can help guide the Town in making the best decisions in the management of its infrastructure assets. Upon endorsement of this plan by the Town's executive lead, and upon approval by resolution passed by Council, this plan will be made available to the public on the Town's website. Any background information and reports upon which the information in this plan have been used to inform the state of the infrastructure, which are not already accessible on the Town's website, may be requested through the Town's Municipal Freedom of Information and Protection Privacy Act (MFIPPA) request form on the website.

1.1 Purpose and Regulation

1.1.1 Asset Management Plan Purpose

The Town of Fort Erie recognizes the importance of managing its infrastructure effectively. To this end, this Asset Management Plan (AMP) has been developed to serve as a guiding document for decision-making related to infrastructure assets. The objective and purpose of this AMP is to maximize benefits, manage risk, and provide satisfactory levels of service to the public in a sustainable manner. Asset Management involves understanding asset characteristics, assessing their condition, and defining expected service levels and measuring performance.

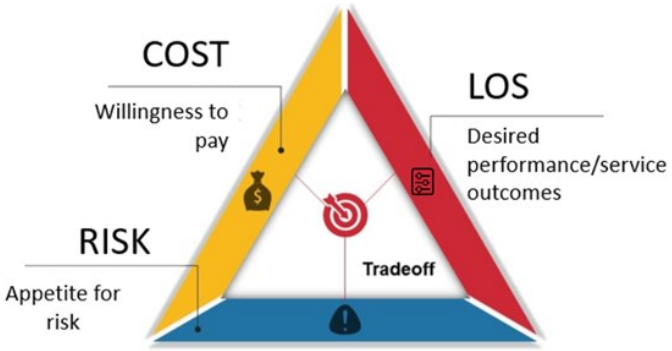


Figure 1-1. Asset Management Balance Between Cost, LOS and Risk

This AMP is a comprehensive document that allows the Town to:

- Meet regulatory requirements.

- Outline the current state of the Town's assets.
- Establish long-term infrastructure master plans and strategic plans.
- Develop sustainable financial plans and the annual budget.
- Describe the Town's current performance for levels of service, as well as set desired (target) levels of service.
- Consistently consider options related to assets, based on the AMP.
- Support funding applications to federal and provincial levels of government.

1.1.2 O.Reg. 588/17 Overview

Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure requires municipalities to develop a Strategic Asset Management Policy outlining how asset management practices will be incorporated into the municipal framework. The AMP Policy must also consider actions that may be required to address vulnerabilities caused by climate change. The regulation also requires municipalities to develop and implement an Asset Management Plan and provide supporting policies for municipal infrastructure. After 2025, annual review of AM processes and formal 5-year asset management plan updates will be required as part of compliance to the O.Reg. A summary of O.Reg. 588/17 timelines and requirements is shown in Figure 1-2 below.

The Town developed their Strategic Asset Management Policy as per O.Reg. 588/17 requirements in 2019. This Policy is due to be updated this year, which will be included in Section 13 Improvement and Monitoring Plan of this plan.

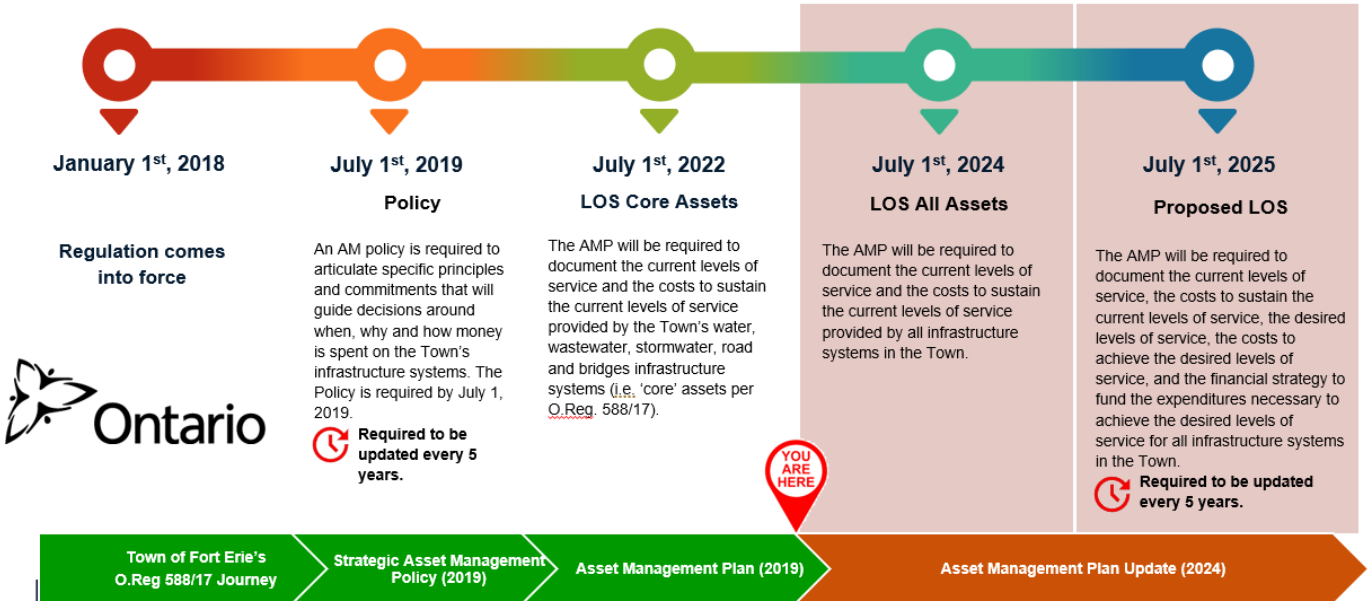


Figure 1-2. O.Reg. 588/17 Milestones

This AMP meets the regulatory requirements for 2024 and 2025, allowing the Town to meet the regulation well in advance of the 2025 deadline.

1.2 Asset Management Program in Fort Erie

1.2.1 Asset Management Governance

The Town of Fort Erie developed an Asset Management Policy in 2019, which outlined roles and responsibilities for asset management within the organization. The policy can be found in Appendix B. Since then, the Town has evolved to a governance structure as demonstrated below.

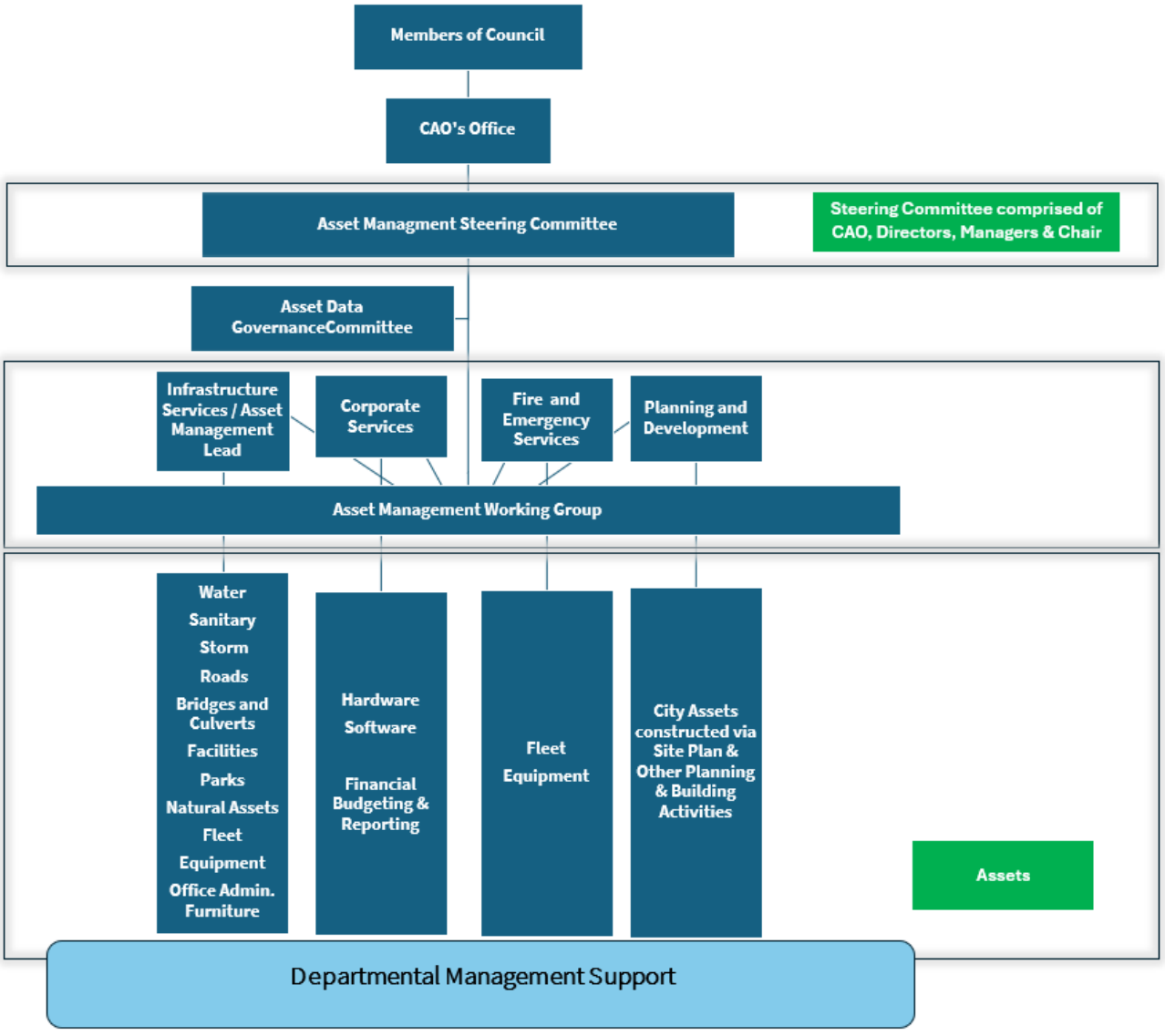


Figure 1-3. Overall Governance Structure for Asset Management at the Town of Fort Erie (Strategic Asset Management Policy, 2019)

1.2.2 Asset Management Stakeholders Roles & Responsibilities

Descriptions of the roles and responsibilities in Figure 1-3 are as follows:

Members of Council are responsible for ensuring resources are provided to staff to ensure the Asset Management Policy and Plan are established and maintained. Council has the authority to approve this policy and municipal budgets. Council also has the authority to make or override asset management decisions, in adherence with this policy.

CAO's Office has overall responsibility for implementing the Asset Management Policy and Plan. The CAO is responsible for endorsing the Asset Management Policy, assigning authorities and resources in administrative staff to ensure the Asset Management Plan is in place and the Asset Management Policy is executed. The CAO has the authority to execute the duties defined above and has the authority to make or override asset management decisions or recommendations from Senior Management or from the Asset Management Lead, in adherence with this policy.

Asset Management Steering Committee have the authority to recommend policy, budgets and the Asset Management Plan and Policy to Council. The Asset Management Steering Committee is comprised of the CAO, Directors and Managers. is required to drive asset management activities and to ensure that there is corporate responsibility. Asset Management is not a singular responsibility and requires acceptance and involvement of the whole organization to be accomplished. The AMSC is responsible for ensuring the Town's assets are managed in a systematic, efficient and coordinated manner now and into the future. The role of this group will be to implement, monitor, guide and report on the Town's approach to asset management. The AM steering committee must provide leadership and strategy and must focus on the "big picture. AMSC must avoid making managerial decisions and getting involved in the day-to-day implementation of the AM strategy.

The Data Governance Steering Committee (DGSC) has been established by the CAO to ensure that the Town's Data Governance practices support its strategic plan objectives and are consistent with best practices and are supporting asset management requirements.

Executive Lead at the Town of Fort Erie is the **Asset Management Lead**, a role filled by the **Director of Infrastructure Services**. The Asset Management Lead is responsible for ensuring Asset Management Policy and Plan is relevant, suitable, adequate, reviewed and updated as required. The Asset Management Lead also has the authority to make or override asset management decisions made by Managers within Infrastructure Services, in adherence with this policy.

Corporate Services, Fire and Emergency Services, and Planning and Development Services are responsible for working with the Asset Management Lead and AMP outcomes,

to ensure the financial budgets and long-term financial plan is aligned with the asset forecasts and Levels of Service. The Director's are also responsible for financial reporting on assets and maintaining the financing and revenue strategy in alignment with the Asset Management Plan, Budget and Reserve Policies. In collaboration, the Director's, CAO and Director of Infrastructure Services have the authority to make asset management decisions in adherence with this policy, particularly when meeting financial policy, in accordance with the capital process flow chart, is challenged.

Managers are responsible for making asset recommendations related to the assigned portfolio, in adherence with this policy, and executing plans once approved and reporting on results once executed.

Members of the Public can stay informed, access information, and provide feedback related to the AMP. The public may access information that provides a basis to decision making in the AMP under privacy and disclosure legislation.

Since the creation of the AM Policy, there is a new role of **Project Manager for Asset Management** to help drive asset management in the organization and oversee important projects, such as the development of this plan, and the implementation of the Town's maintenance management software and decision support tool which will support future asset management forecasting and reporting for the Town. In addition, this position is responsible for leading various asset management initiatives as required by the Town.

1.3 Alignment to the Town's Strategic Goals

The Town's 2023-2026 Corporate Strategic plan outlines the following Pillars and Strategic Objectives. This AMP supports the strategic objectives of the Town of Fort Erie by connecting levels of service developed in this AMP to the strategic objectives of the Town. This plan supports several of the objectives laid out in the Strategic Plan and provides a strategic plan to meet the goals and objectives of the Town through effective and efficient management of Town assets, which provide services to residents and businesses.

Table 1-1. The Town of Fort Erie's Strategic Objectives

Pillar/Focus Area	Strategic Objective
Sustainable, reliable access to local Health Care	A community where all residents have equitable access to comprehensive, community-based, innovative health care and social services
Quality of Life and Community Well-being	A community that is welcoming, engaged and inclusive and provides opportunities for everyone.
Sustainable and Managed Growth	A community that manages growth responsibly and recognizes existing neighborhoods by implementing effective planning and policies.
Economic Prosperity & Diversification	A community that creates opportunities for economic growth and job creation by maximizing our strategic location and tourism potential.
Environmental and Climate Change Resiliency	A community that addresses climate change and the impacts to the natural environment by proactive planning and action.
Comprehensive Housing Options	A community where all residents have access to safe, stable and appropriate housing that is affordable for all ages, abilities and income levels.

1.4 Development & Methodology of the Asset Management Plan

1.4.1 Asset Management Plan Scope

This Asset Management Plan (AMP) includes the following services:

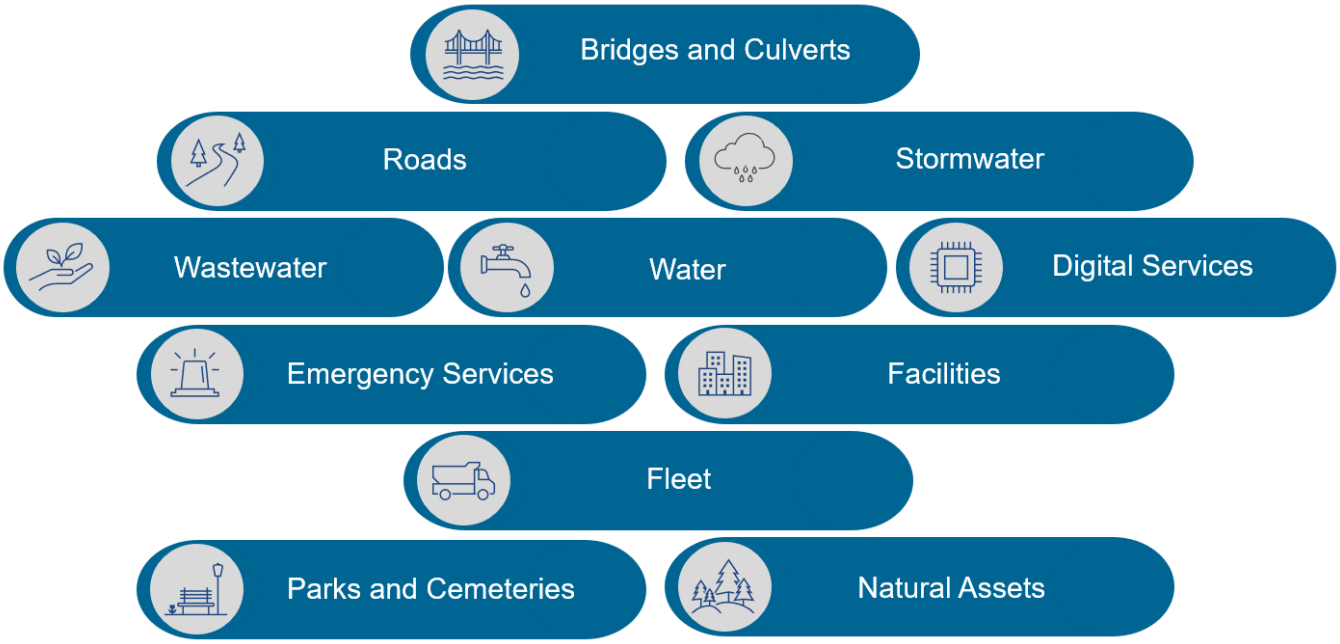


Figure 1-4. AMP Scope

The Town's natural assets are not included within the main body or analysis of this AMP as a separate AMP was completed to account for the unique nature of the asset class. Information on these assets can be found in Appendix A.

1.4.2 Asset Management Plan Structure & Methodology

The AMP is divided into chapters for each asset group listed above. Each chapter outlines the State of the Infrastructure, Levels of Service, Lifecycle Management, and Data Confidence and Improvement Plan. The chapters are followed by the Financial Strategy and Improvement and Monitoring Plan for the Town. The methodology for each section is described below.

1.4.2.1 State of the Infrastructure

The State of the Local Infrastructure section provides a quantitative assessment of the infrastructure owned by the Town. The primary objective is to provide a high-level inventory and insights on the overall age, condition, replacement value, and key metrics of the assets owned by the Town, as per O.Reg. 588/17. The information is developed based on provided datasets and documents that were assessed for data confidence and discussed with Subject

Matter Experts (SMEs). This section summarizes the inventory of assets and their replacement values and provides the age and condition for assets in each chapter.

Asset Register

The asset register was developed by Town staff, pulling information from multiple sources of information to compile the required information for asset management planning. Required information includes:

- Unique Asset Identifier
- Install Date
- Current Replacement Value
- Estimated Useful Life
- Condition
- Asset type specific information

The resulting register, or inventory, provides the basis for the analysis completed for the asset management plan, including State of the Infrastructure, Levels of Service, and Lifecycle Management Strategies.

Current Replacement Value

Current Replacement Value (CRV) of an asset refers to the cost that would be incurred to replace the asset with a similar one. It represents the current market value of the asset, considering factors such as inflation and changes in market conditions. Determining the current replacement value is important for asset management purposes, as it helps the Town assess the financial implications of asset replacement, and plan for future capital expenditures. It is best practice to include all costs required to replace and construct an asset with a comparable asset. Where required, these costs may include engineering and design, project management, materials, and labour.

Town staff have undergone a lengthy process to review, assess and update CRVs across all asset categories for the purposes of this AMP. To update these values, several strategies have been leveraged, including market assessment, analyzing recent contracts of similar assets (based on average of 3 years of contracts), staff expertise, engineering estimates and professional appraisals. This is an on-going effort, which will be continually improved upon for asset management purposes.

CRVs used in this AMP represent the best available information for the development of this document and will continue to be evaluated and updated as required prior to the 2025 AMP. Current market conditions have been reflected in this AMP, and in some cases are

dramatically different than those provided in the previous AMP. There is no growth, technology change, or enhancement assumptions included in those costs (unless identified).

Estimated Service Life

Estimated Service Life in asset management planning refers to the anticipated duration over which an asset is expected to remain operational and provide its intended function. This estimate may be based on various factors such as design specifications, historical performance data, maintenance practices, environmental condition, and technological advancements. The purpose of estimating service life for asset management planning is to enable organizations to allocate resources for maintenance, repairs, replacements, and new acquisitions over the asset's lifecycle. It allows for budgeting long-term capital expenditures through replacement planning, risk management, optimizing maintenance and performance evaluation.

For the purposes of this AMP, staff reviewed and assessed estimated service lives to ensure appropriate values were used to ensure accurate forecasting for infrastructure spending needs.

Asset Condition

Assigning condition ratings to assets a across each asset category using a consistent rating scale is a crucial step in asset management. By using industry standards, the Town of Fort Erie can facilitate benchmarking with other Canadian municipalities and gain insights into the overcall condition of its assets, regardless of asset category. Condition ratings scale consists of a numerical or categorical value that represents the condition of the assets.

Within this AMP, condition ratings were assigned based on numerous methods, and then standardized into condition rating scale of Very Poor to Very Good. Where condition assessment data was available, these condition values were used and input into the condition rating scale, which are described in the category chapters.

Where assessed condition was not available, condition of an asset was assessed based on its remaining life compared to its age and estimated service life. This assessment involves categorizing the percentage of remaining life into different condition categories, as outlined in Table 1-2.

Table 1-2. Condition Rating Scale

Condition	Age/ESL	Description
Very Good	>80% life remaining	The asset is fit for the future. It is well maintained, in good condition, new or recently rehabilitated.
Good	60-80% life remaining	The asset is adequate. It is acceptable and generally within the mid-stage of its expected service life.
Fair	40-60% life remaining	The asset requires attention. The asset shows signs of deterioration, and some elements exhibit deficiencies.
Poor	20-40% life remaining	There is an increasing potential for its condition to affect the service it provides. The asset is approaching the end of its service life, the condition is below the standard and a large portion of the system exhibits significant deterioration.
Very Poor	0-20% life remaining	The asset is unfit for sustained service. It is near or beyond its expected service life and shows widespread signs of advanced deterioration. Some assets may be unusable.
Unknown		Not enough data exists to determine condition.

1.4.2.2 Levels of Service

Levels of service (LOS) are measures for what the Town provides to its customers, residents and visitors. They support the organization's strategic goals and are derived from customer needs and expectations, Council objectives, Town polities, legislative and regulatory requirements, standards, along with the financial capacity of the municipality to deliver those LOS.

The Levels of Service (LOS) section provides key performance indicators that support the provision of the respective service for each Town asset group. O.Reg. 588/17 has prescribed LOS for core assets only. Remaining assets LOS were developed by Town staff. In general, LOS provide the following information:

- **Level of Service Statement:** A brief description presented in plain language for public understanding of the service provided by each asset category to residents based upon the Town's core values and mission.
- **Key Service Attribute:** Categorizes the LOS metrics to specific areas of customer interest which are recognizable to the customer/public. These attributes are tied to the strategic objectives of the Town. See Figure 1-5 for the Town's Key Service Attributes and the related Strategic Pillars.

Figure 1-5. Strategic Objectives in Relation to Levels of Service

- **Levels of Service Metric:** A statement that describes quantifiable metrics of the service delivery outcomes from the perspective of the customer and service provider, expressed in terms that can be easily understood by customer. O.Reg. 588/17 requires specific metrics for core assets, while non-core assets the municipality determines the metrics to be used. These metrics are then filled out to determine the current performance (based on data from the previous calendar year), and the Town's proposed performance (target) for the 10-year period of the plan.

Difference in Level of Service between Current and Proposed: Each level of service has an arrow describing whether the difference between the current and proposed level of service is increasing, decreasing or maintained. A description of these arrow is in Table 1-3.

Table 1-3. Arrow Description for Difference in Current and Proposed Level of Service

Arrow Type	Description
	Maintain level of service
	Increase in level of service (increase in metric)
	Increase in level of service (decrease in metric)
	Decrease in level of service (increase in metric)
	Decrease in level of service (decrease in metric)

This AMP assesses the current performance and proposed performance of the Town using these levels of service attributes. The AMP will evaluate the Town's ability to afford the proposed (target) performance of these same service attributes.

1.4.2.3 Options for LOS Proposed Performance as per O.Reg. 588/17

The process for establishing levels of service can be seen in Figure 1-6. The regulation requires that the Town report on the current performance to meet the 2024 AMP requirements, and the proposed, or target, performance for the 2025 AMP requirements. As this AMP will meet the 2025 regulation, the current performance and target performance of the levels of service have been developed for this plan.

The current performance of each asset is required based on data from at most two calendar years prior to the year in which the plan was developed. The Town then must provide the proposed, or target, performance for the levels of service metrics for the 10 years of the forecast period of this AMP.

Various options and factors were considered when setting the proposed (target) performance for the LOS Metrics to balance achievability, affordability, risk, and the strategic priorities of the Town. Options included the following:

Decrease LOS: Lowering the level of service, while can decrease costs, can have far-reaching consequences and risks that affect customer satisfaction with services, organization reputation, legal compliance and increased risk of health and safety consequences and increased long-term costs.

Maintain Current LOS (Performance): Continue to provide the current LOS and performance of services.

Increase LOS to Meet Infrastructure Needs as Per Defined Lifecycle Strategies: Increase LOS, or performance of assets, based on strategies for lifecycle management developed by subject matter experts and best practices.

The Town must consider a variety of factors when determining appropriate proposed LOS targets. Asset management attempts to find the right balance between cost, risk and service. The risks associated with lifecycle management and the choices of proposed levels of service can be found in Section 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service.

O.Reg. 588/17, following the 2025 AMP deadline, requires the Town to provide Council with an annual review of the progress of implementing the AMP. Through this review, the Town will provide updates on the progress of meeting the proposed LOS, which will allow for further analysis if the targets are achievable and allow for Council and public engagement. At this time, the proposed LOS can be updated as required.

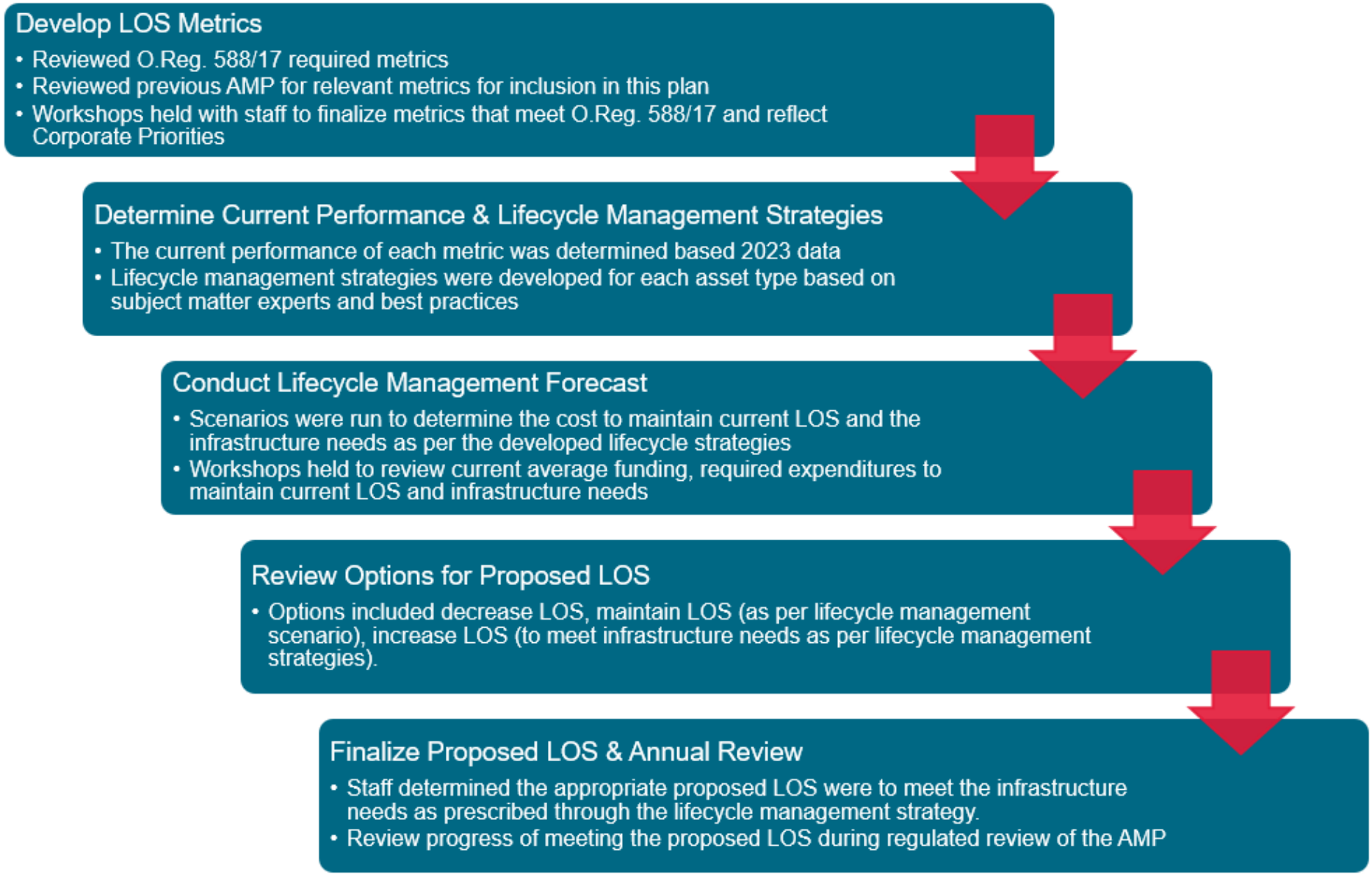


Figure 1-6. Level of Service Process

1.4.2.4 Lifecycle Management

The Lifecycle Management Strategy defines the set of planned actions that will enable the assets to provide their desired level of service in a sustainable way while mitigating risks and reducing costs throughout their life. The goal of this assessment is to capture the activities that are required to sustain the assets within each asset category. For the purposes of this plan, the lifecycle activity categories are as follows:

- **Disposal Activities:** Associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
- **Growth Activities:** Planned activities required to extend services to previously unserved areas or expand services to meet growth demands to maintain LOS.
- **Non-Infrastructure Solution:** Actions or policies that can lower costs and contribute to the management of assets.
- **Operations & Maintenance Activities:** Including regulatory scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- **Renewal/Replacement Activities:** Significant repairs designed to extend the life of the asset, and eventual replacement activities that are expected to occur once an asset has reached the end of its useful life and rehab is no longer an option. The focus of this AMP is to assess the needs for these activities.
- **Service Improvement:** Planned activities to improve LOS. Example, an asset's capacity, quality, or system reliability. Not driven by growth needs. Examples include AODA compliance, new technologies or new services not previously provided by the Town.

The lifecycle activities for each asset class are detailed in the individual asset category chapters. These activities are aligned with the asset hierarchies and includes the frequency at which they are performed in terms of the assets' Estimated Service Life. Each asset type is unique in the needs for the activities that are completed within the asset's lifecycle.

1.4.2.5 Funding Lifecycle Activities

The goal of asset management aims to analyze and prepare for the entire lifecycle cost of asset ownership. The scope and assumptions of the lifecycle forecasts included in this AMP are as follows:

- The AMP focuses to identify renewal, rehabilitation and replacement needs for infrastructure investments.
- Expenditures required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) are assumed to be adequate

to meet the needs of the Town, based on the Operating and Capital Budget. These activities have been captured to analyze the full lifecycle cost of asset ownership.

- The forecast does not assume any increases in current funding over the forecast period for these activities. This is outside the scope of this AMP.
- Costs for non-infrastructure, service improvements, operations and maintenance and growth, in particular the costs for operations and maintenance, may not be reflective of actual operational needs and should be further analyzed.

O.Reg. 588/17 requires a 10-year plan that selects the lowest cost life cycle activity that will maintain service levels over the plan period. For the purposes of this AMP, the analysis is completed using the assumption that maintaining the current performance (condition) of assets, will ensure that the Town continues to provide service levels moving forward. As part of the Lifecycle Management Strategy, an assessment is also completed to understand not only the costs associated with the lifecycle activities, but to also forecast the performance (condition) of the Town's assets over the next 10 years.

Three forecasting scenarios are run to analyze the Town's assets, which provide insight on the Town's ability to continue to provide services into the future. This is achieved by comparing the performance of assets based on needs and various budgetary or condition-based targets.

The following three scenarios are run:

Scenario 1: Maintain Current Performance (Level of Service) – This scenario determines the cost that would be required to maintain the Town's assets in approximately the same condition they are currently assessed in over a 10-year forecast period. Understanding the cost to maintain current performance levels is a requirement of O.Reg. 588/17. For the purposes of this AMP, the current performance (condition) of the assets is used to determine the current level of service.

Scenario 2: Current Funding Model – Evaluates asset performance under the current funding level that the Town anticipates allocating towards each asset category. The current budgets were obtained from the Town's 2024 10-year capital budget and the operating budget. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category as part of this forecast. The average annual expected spending of the 10-year period were used to compare the average annual needs. The operating budget the average of the first 3 years were used to determine the remaining years of the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. It is also used as a baseline scenario, which can be used to assess the other scenarios analyzed below.

Scenario 3: Proposed Level of Service Target/Infrastructure Needs as Per Lifecycle Strategies – This scenario is run to determine the required spending for the 10-year period to address infrastructure needs based on expected/planned rehabilitation, renewals, and replacements of assets as per their defined lifecycle strategy. This scenario also identifies rehabilitation and replacement requirements backlog, which is work that should have already been completed by the time of this assessment. Typically, these are assets that are beyond their identified service life. This scenario is not constrained by a budget, so any work that was planned based on the asset's lifecycle strategies are completed in the year it was triggered. Unlike the second scenario, the condition levels were not held to a specific target LOS, so the percent of asset value that fell into each condition grade varies based on where in their lifecycle the assets fall.

This scenario was determined to be the Town's target performance (or level of service), which was a requirement of O.Reg.588/17. This scenario completes the asset's lifecycle activities to achieve the Town's desired performance, which has been identified by infrastructure needs as per lifecycle strategies.

Using the results of these scenarios, the Financial Strategy was developed.

1.4.2.6 Financial Strategy

The financial plan provides a way for municipalities to integrate asset management planning with financial budgeting. It provides an overview of the required expenditures needed to address the infrastructure gap.

The Financial Strategy forecasts the total required annual expenditures for the Town to perform the lifecycle activities in alignment with the scenarios to maintain current performance and meeting infrastructure needs as per the lifecycle management strategies developed and compares the expected budget as identified in the Town's capital and operating budget.

The scenarios for each asset category will be combined to assess the Town's forecasted expenditures to understand the full cost of maintaining service levels and meeting infrastructure needs over the 10-year forecast period. Forecasts for expenditures will be compared to the capital budget (average annual budget) forecasts to determine if an infrastructure gap is present. Strategies to address this gap will also be discussed.

Note that forecasts for major capital works including renewal/rehabilitation and replacement activities are derived from analysis of the data provided by the Town, the level of service metrics developed with Town staff, and the lifecycle strategies developed with subject matter experts based on best practices. For other costs, such as maintenance, and non-infrastructure and service improvements, the assumption was made the funding levels for

these activities is enough to meet customer's expectations, unless there are documents or strategies that suggest otherwise. It is recommended that as the Town matures in their new maintenance management system that analysis of the operations be further analyzed.

1.4.2.7 Improvement and Monitoring Plan

As the Town matures in their Asset Management journey, the processes for Asset Management Planning will continue to evolve and improve. Within the Category chapters, the data confidence and improvement plan provide category specific opportunities for improvements. Each data source is given a data quality grade based on the criteria shown below in Table 1-4. The Improvement and Monitoring Plan will speak to the opportunities for maturity on a Town-wide or program level.

Table 1-4. Data Confidence Rating Scale

Grade		Criteria
A	Very Good	No assumptions, with available condition data from a reliable data source, and age and current replacement value are known.
B	Good	Minor assumptions are made for condition, age, or replacement values (e.g. most of condition, age, and replacement values are known). Data sources are reliable.
C	Fair	Assumptions are made for condition, age, or replacement values from moderately reliable sources.
D	Poor	Data comes from significantly out of date documents, data sources are moderately reliable, or values are unknown or unreliable.

1.5 Asset Management Plan Assumptions and Limitations

This Asset Management Plan was developed based on the best available information and by employing professional judgement and assumptions to address gaps where necessary. Asset specific assumptions are recorded in the category chapters.

Where gaps or opportunities were identified, they have been included in the improvement plan.

Assumptions:

- The scope of this AMP covers the assets directly owned by the Town of Fort Erie.
- All costs (including in the financial forecast) are presented in 2024 dollars, unless specified otherwise.

- Service improvement to an asset is generally not included in replacement costs. Some exceptions include if it is standard practice to upgrade infrastructure such as replacing a cast iron pipe with PVC.
- The cost of climate change has not been included in replacement costs identified in this AMP. Unexpected events such as severe storms attributed to climate change can cause immediate infrastructure replacement/renewal needs not identified in this AMP. Also not included are the likely effects climate change will have on the estimated useful life of the assets.
- The Town has not implemented an asset risk management strategy that goes beyond legislative requirements for all assets. This will continue to be reviewed and enhanced for future iterations of the plan.
- It is assumed that the projected capital budgets and expected available reserve funds will occur as planned over the period of analysis.
- This AMP assumes that the current budgets are sufficient to meet current needs for non-infrastructure, operations and maintenance, and service improvement activities to maintain current levels of service.
- Required growth activities for the asset categories have been established based on projects funded by development charges. It is assumed that all required growth activities have been appropriately budgeted for and are accounted for within this plan.

1.6 Asset Management Pressures

The management of public assets faces various pressures that can impact its operations, strategies, and overall success. Some of these pressures include:

Aging Infrastructure: The challenge of maintaining and upgrading aging infrastructure to address assets that are no longer meeting levels of service expected and required of them.

Budget Constraints & Funding Options: Balancing priorities within tight budgets and exploring financing options. Some external funding sources are unreliable and not guaranteed.

Climate Change & Natural Disasters: Investing in resilience measures to protect against climate-related risks. Climate change and natural disasters also may require assets need costly repairs, rehabilitation or replacement earlier than anticipated as a result of extreme weather events.

Data Management & Technology Adoption: Leveraging new technology is required for effective asset management, but these are often difficult to implement within organizations as there are competing priorities as a result of similar needs for all departments. Data

management and technology is an increasingly fast-paced environment with new and updated technologies available, as well as increased need for cyber security.

Environmental Regulations: Meeting environmental standards through upgrades and compliance efforts.

Limited Funding: Municipalities face pressures from the public to keep taxes/rates low, while also meeting levels of service.

Limited Human Resources: Recruiting and retaining qualified staff.

Market Volatility: Navigating changing market conditions, including increased costs, inflation, supply chain, vendor/labour availability. These pressures have increasingly been felt since the COVID-19 pandemic.

Political & Public Pressure: Balancing stakeholder needs and preferences.

Population Growth & Urbanization: Managing infrastructure demands by population growth in a sustainable way.

Regulatory Changes: Adapting to evolving regulations.

Resilience & Sustainability Goals: Prioritizing green infrastructure and renewable energy.

Overall, municipal asset management requires navigating a complex landscape of financial, regulatory, environmental, and social pressures to effectively manage infrastructure and deliver services to residents.

1.7 Growth and Climate Change

1.7.1 Growth

The Canada Census information published in 2021 indicated that Fort Erie's population increased from 30,710 in 2016 to 32,901.The Town of Fort Erie, is identified in the Greater Golden Horseshoe Growth plan area, but the population and employment forecasts are not indicated for the municipality in Schedule 3 or 7. As per O.Reg. 588/17 requirements for lower tier municipalities in the Greater Golden Horseshoe growth plan area, these forecasts are required to come from the official plan of the upper tier municipality, which is the Niagara Region, and have been outlined in Table 1-5. According to the Niagara Region Official Plan, the Town's population will rise to 48,050 by 2051 affecting the basic services provided by the Town. The Plan has also set a minimum residential intensification target of 50% for the Town which is equivalent to 3,680 units by 2051 to accommodate the growing population.

Table 1-5. Growth Projections

Growth Type	2021[1]	2026[2]	2051[3]
Population	32,901	34,720	48,050
Employment	10,089	NA	18,430
Dwelling Units	14,080		

Growth within urban areas may require current infrastructure to be renewed and new assets required to meet the demand may be acquired, donated, or constructed by the Town. Acquiring new assets will commit the Town to ongoing operations, maintenance, and renewal costs in the future. These future costs will be considered in the 2025 AMP as per O.Reg. 588/17 requirements.

It should be noted that the More Homes Built Faster Act (2022) may impact our growth funding, potentially resulting in additional costs.

1.7.1.1 Growth and Asset Management

Population growth within Fort Erie places increased demand on infrastructure and services. Asset Management allows the Town to plan for growth strategically by identifying where new infrastructure is needed and how existing assets can be optimized to accommodate a growing population. Hence, the asset management plan will provide the linkage between the demand for services and the assets required. Significant capital expenditures expected from growth have been included in the asset chapters within this plan, based on the capital budgets provided by the Town which have been identified by activities funded by development charges. Expected operating expenditures have been assumed to be accounted for within the operating budgets provided by the Town.

1.7.2 Climate Change

1.7.2.1 Introduction

One of the most noticeable manifestations of climate change in Southern Ontario is the alteration of weather patterns. Winters are becoming milder, with decreased snowfall and shorter ice cover on lakes and rivers. Conversely, summers are growing hotter and more humid, leading to increased heatwaves that strain energy systems and pose health risks to vulnerable populations. Addressing climate change requires both global and local efforts,

[1] Town of Fort Erie 2021 Census, statcan.gc.ca
[2] Niagara 2041 Fostering an Environment for Economic Prosperity, Niagara 2041 (niagararegion.ca)
[3] Niagara Region Official Plan 2022, Niagara Official Plan: Making our Mark (niagararegion.ca)

including reducing greenhouse gas emissions, transitioning to renewable energy sources, implementing adaptation measures, and raising awareness about the impacts of climate change on communities like Fort Erie.

A 2023 report published by the Financial Accountability Office (FAO) reveals that the Province is expected to see more frequent and intense extreme rainfall and extreme heat, and fewer freeze-thaw cycles on average compared to the 1976-2005 base period. Figure 1-7 below shows the projected changes in Ontario's annual number of hot days with daily maximum temperature above 30°C for all three emissions scenarios.

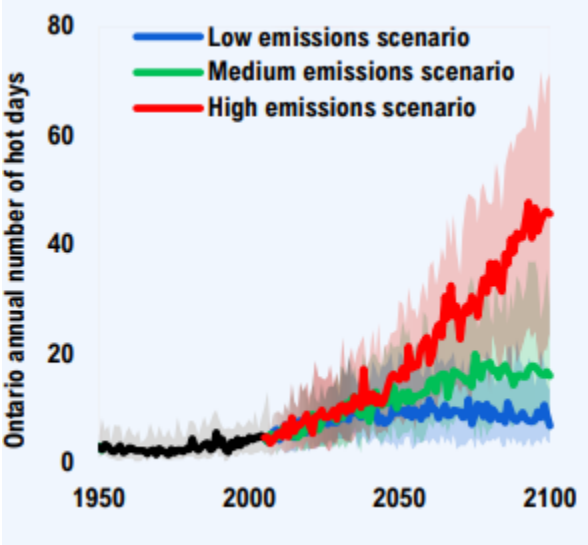


Figure 1-7. Trend for Extreme Heat in Ontario (Source: Canadian Centre for Climate Services)

These changes in the weather patterns can pose a significant risk to our infrastructure including but not limited to:

- Affect the asset lifecycle;
- Affect the levels of service that can be provided and the cost to maintain;
- Increase or change the demand on some of our systems; and,
- Increase or change the risks involved in delivering service.

According to the "Costing Climate Change Impacts to Public Infrastructure" (Financial Accountability Office of Ontario) Summary Report (2023) projections, the Province of Ontario's $708 billion portfolio of public infrastructure assets will cost an additional $4.1 billion annually on average to maintain the existing infrastructure assets in the absence of adaptation to these changing climate conditions (Figure 1-8). This represents a 16% increase in infrastructure costs relative to a stable climate base scenario.

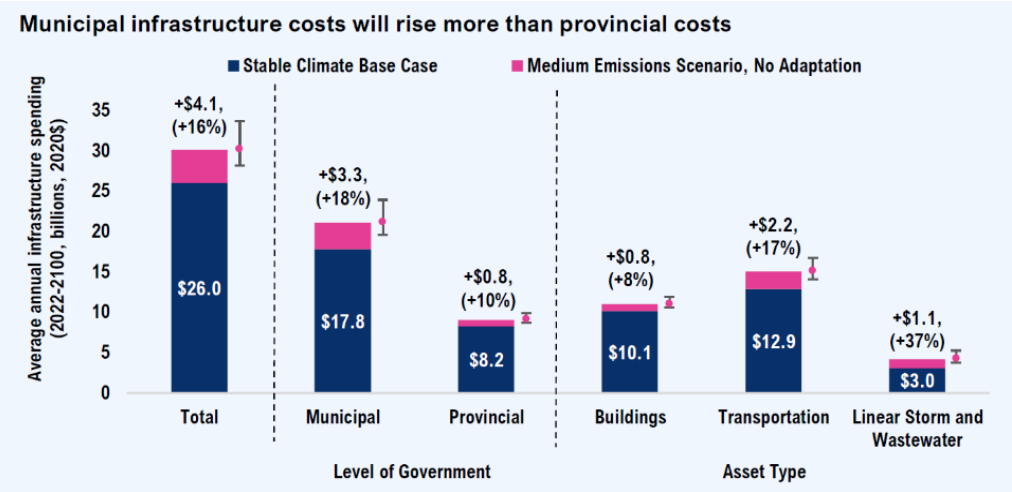


Figure 1-8. Infrastructure cost increase analysis per level of government and asset type (Financial Accountability Office of Ontario)

As further described in the report, municipalities will bear most of the climate-related infrastructure costs, in part because they manage 70% of the portfolio in scope, and because their portfolio is more susceptible to these climate hazards, such as increased temperatures and precipitation. The increase in costs shown are based on a medium emissions scenario, which the report identifies as the moderate scenario for planning. However, due to current emissions trajectory, a high-emission scenario is more likely until 2050. By late century, climate-related infrastructure costs under the high-emissions scenario are more than double those of the medium emission scenario. These costs do not include the societal costs of infrastructure service disruptions.

Depending on whether asset management strategies (Proactive/ Reactive) are implemented or not – municipal climate - related infrastructure costs in Ontario are expected to vary from $2.4 billion to $3.3 billion annually on average over the span of a century. Proactive adaptation occurs when asset managers adapt infrastructure to climate change either during an asset's next major rehabilitation or upcoming renewal, whichever comes first. Reactive adaptation occurs when the infrastructure is adapted only when they are replaced at the end of their useful lives. The adoption of a proactive adaptation strategy would result in a considerable short-term increase in costs due to the substantial capital investments needed to adapt nearly half of the infrastructure portfolio. However, the rate of adaptation slows down in the middle of the century, and by the end of the century, all assets have been adapted and they are less infrastructure renewals which lowers the overall cost.

Figure 1-9 compares the climate-related infrastructure costs of all three asset management strategies and shows that Adaptation strategies result in lower average annual infrastructure costs. The proactive adaptation strategy results in the smallest increase in average annual infrastructure costs over the century at $3.0 billion per year. These climate-related costs

represent an 11% increase in infrastructure costs above the stable climate base case and are $1.1 billion lower per year on average than the no adaptation strategy. Across all climate scenarios, adaptation strategies are consistently less expensive over the century when compared with the no adaptation strategy, with the proactive strategy consistently the least expensive.

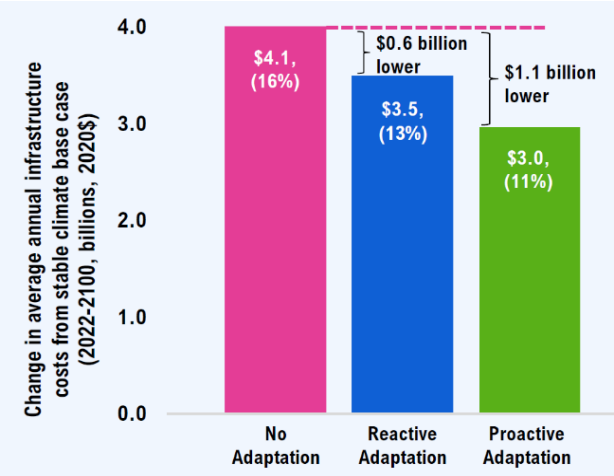


Figure 1-9. Adaptation can Lower Infrastructure Costs (Source: FAO report Costing Climate Change Impacts to Public Infrastructure)

1.7.2.2 Climate Change Resiliency

It is anticipated that climate change would have a detrimental effect on Fort Erie's ability to meet levels of service targets because of several factors which include more rapid asset deterioration, asset performance/failure and reliability concerns associated with these climatic changes. These impacts will likely cause increased pressure on operations and maintenance as well as increasing financial costs and liabilities. The following are some of the strategies/measures that the Town is considering:

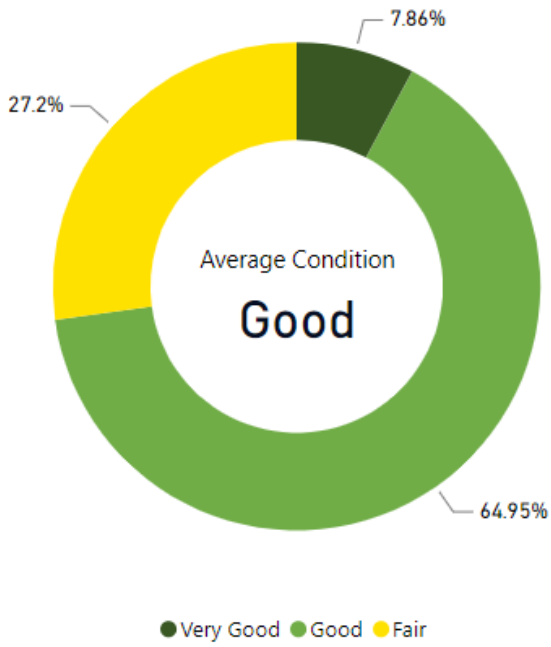
- Create, adopt, and implement Climate Change Plan and Policy Framework that incorporates adaptation, resiliency, and mitigation strategies.
- Improve resilience of and response to shoreline protection, stormwater management, drainage and flood control through infrastructure investments and maintenance.
- Assess the vulnerability of infrastructure to the climate change hazards and implement measures to enhance resiliency, such as retrofitting infrastructure to withstand extreme weather, improving drainage systems, and relocating assets away from high-risk areas.
- Incorporating climate-related risks into the risk assessment framework considering the physical risk (damage from extreme climate events), transition risks (policy changes and market shifts in response to climate change), liability risks (legal liabilities coming from climate-related impacts)

2.0 Bridges and Culverts

Replacement Value

$62,232,400

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)

$1.1 M

Average Annual Gap to Meet Proposed LOS (Performance)

$1.0 M

Asset Inventory

- 97 Primary Structures and 26 Secondary Structures/Culverts
- Retaining Walls and Span Structures

2 Bridges and Culverts

Bridges and Culverts support the movement of people and goods throughout the Town, enabling efficient transportation networks. These structures serve as vital components of urban infrastructure connecting different parts of the town. Bridges and Culverts (called Primary Structures in this plan) are inspected every two years in conformance with the Ontario Structure Inspection Manual (OSIM) which provides a standardized, systematic assessment in accordance with O.Reg. 104/97. These inspections ensure the structural integrity, safety, and condition of these structures through renewal and rehabilitation recommendations.

2.1 State of the Infrastructure

2.1.1 Asset Valuation

Bridge and Culvert assets are made up of primary structures, retaining walls, secondary structures/culverts, and span structures. They have a current estimated replacement value of $62 million. Table 2-1 shows the asset inventory and the current replacement value.

Table 2-1. Inventory and Current Replacement Value – Bridges and Culverts

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Primary Structures	97	Units	$17,756,200
Retaining Walls	10	Units	$3,447,100
Secondary Structures/Culverts	26	Units	$2,078,300
Span Structures	52	Units	$38,950,800
Total			**$62,232,400**

2.1.2 Asset Condition

Condition was assigned to bridges and culverts based on OSIM inspections using bridge condition index scores and remaining assets using age. Table 2-2 below shows the conditions rating scale for age/estimated service life and bridge condition index (BCI).

Table 2-2. Condition Rating Scale – Bridges and Culverts

Condition	Age/ESL	BCI
Very Good	>80% life remaining	> 86
Good	60-80% life remaining	70 – 86
Fair	40-60% life remaining	61 – 70
Poor	20-40% life remaining	41 – 61
Very Poor	0-20% life remaining	< 41
Unknown		

Figure 2-1 below illustrates the condition distribution of the Town's Bridges and Culverts assets.

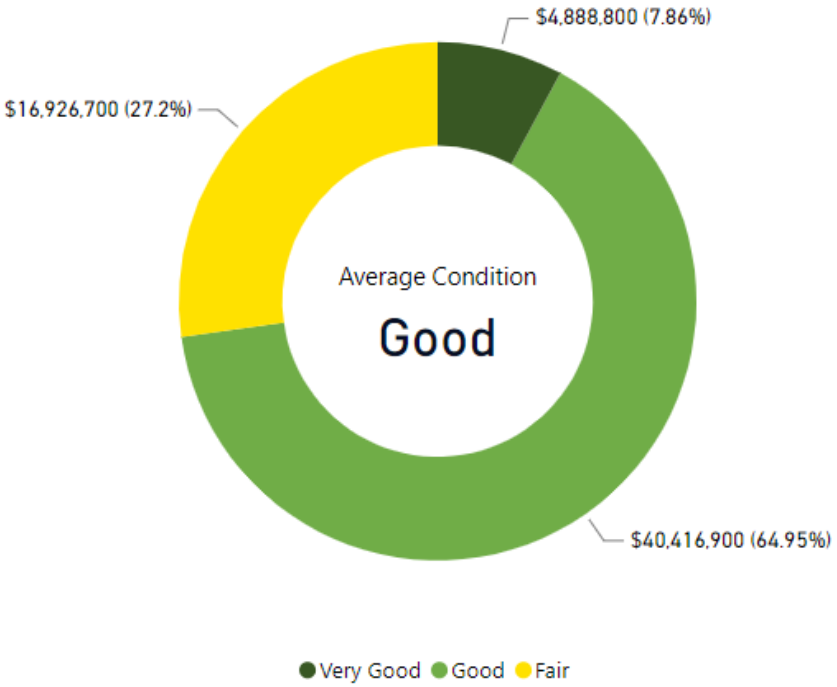


Figure 2-1. Overall Asset Condition (by Replacement Value) – Bridges and Culverts

Bridges and Culverts are on average in good condition. Over 72% of these assets are in good or better condition, with no assets falling below fair condition. Figure 2-2 shows the condition distribution breakdown for asset types in the Bridge and Culvert asset category.

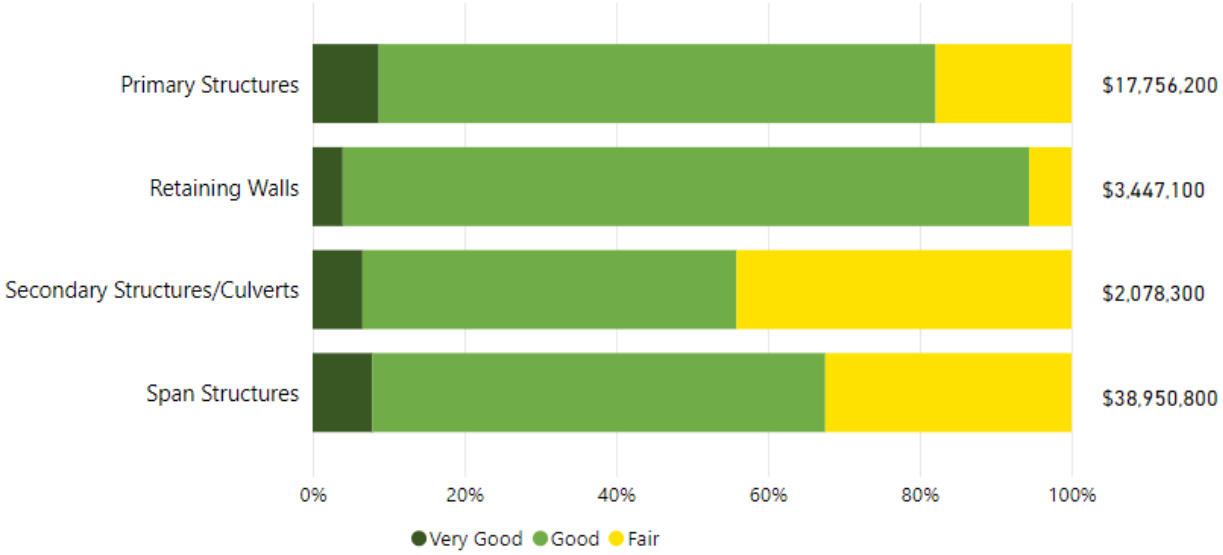


Figure 2-2. Asset Type Condition (by Replacement Value) – Bridges and Culverts

All assets are in fair or better condition. Bridge and Culvert assets are inspected regularly, with primary structures falling under regulations in O.Reg. 104/97 to have inspections completed every two years.

2.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. Average age and average estimated service life for Bridges and Culverts is shown below in Figure 2-3.

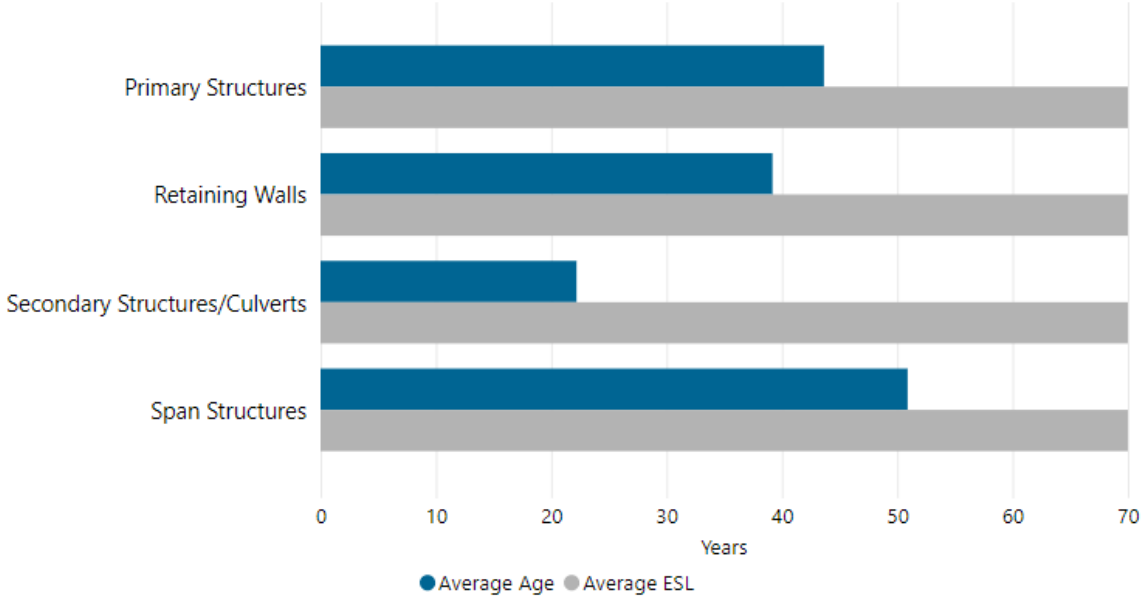


Figure 2-3. Average Age and Average Estimated Service Life – Bridges and Culverts

All assets have an average age below the average estimated service life. Bridges and Culverts are typically long-lasting assets, as they have frequent inspections and robust preventative maintenance programs in place to ensure they can provide safe and reliable service to the community.

2.2 Levels of Service

Service Statement: Efficiently providing operational and accessible bridges at the appropriate quality that supports drivers, cyclists, and pedestrians.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O.Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 2-3 and Table 2-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 2.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 2-3. Customer / Council Focused Level of Service Requirements – Bridges and Culverts

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Cost to provide service (2024 Operating & Capital Budget/household)	$101/household	$101/household	
Quality	Description or images of the condition of bridges and how this would affect use of the bridges.*	On average, majority of bridges in good condition, thus providing reliable bridge availability	On average, majority of bridges in good condition, thus providing reliable bridge availability	
Quality	Description or images of the condition of culverts and how this would affect use of the culverts.*	On average, majority of culverts in good condition, thus providing reliable culvert availability	On average, majority of culverts in good condition, thus providing reliable culvert availability	
Scope	Description of the traffic that is supported by Fort Erie bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)*	All ranges of traffic types are supported by almost all bridges, unless otherwise posted.	All ranges of traffic types are supported by all bridges wherever practicable.	

*Mandatory under O.Reg. 588/17

Table 2-4. Technical Focused Level of Service Requirements – Bridges and Culverts

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Quality	For bridges in the municipality, average bridge condition index value. *	69	70	
Quality	For structural culverts in the municipality, average bridge condition index value. *	68	70	
Scope	Percent of bridges in the municipality with loading or dimensional restrictions. *	2.0%	2.0%	
Quality	Percentage and value of bridge assets in very poor condition	0%	0%	
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	198%[4]	100%	

*Mandatory under O.Reg. 588/17

[4] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

2.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

2.3.1 Lifecycle Activities

Lifecycle activities for Bridges and Culverts involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Bridges and Culverts to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Bridges and Culverts in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well maintained Bridge and Culvert infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4, specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in in Table 2-5.

Table 2-5. Asset Management Practices and Associated Risks – Asset Category

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• OSIM inspections	• Biennial, as defined by provincial regulations
Operations & Maintenance Activities	
• Structural reinforcement inspection	• Biennial
• Minor maintenance	• As required
• Scour protection	• As required
Renewal/Replacement Activities	
• Renewal (Rehabilitation)	• Based on inspections
• Deck renewal	• As required
• Replacement	• As needed based on useful life
Disposal Activities	
• Dispose of assets in line with replacements	• As required
Service Improvement & Growth Activities	
• New assets for developments to service growth	• As needed
• New assets as part of service improvement	• As identified in studies

2.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 2.3 to plan work and determine future expenditure needs for Bridge and Culvert assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 2.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

2.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Bridges and Culverts (as mandated by O.Reg. 588/17).

The performance forecast for scenario one is shown below in Figure 2-4. It was determined that an annual budget of $2.1 million for renewal, rehabilitation & replacement activities is needed to maintain performance for Bridges and Culverts. There is a funding gap of approximately $1 million compared the anticipated funding levels. Using this budget assets will increase in condition towards the end of the forecast period, ending with approximately 95% of assets in good or very good condition.

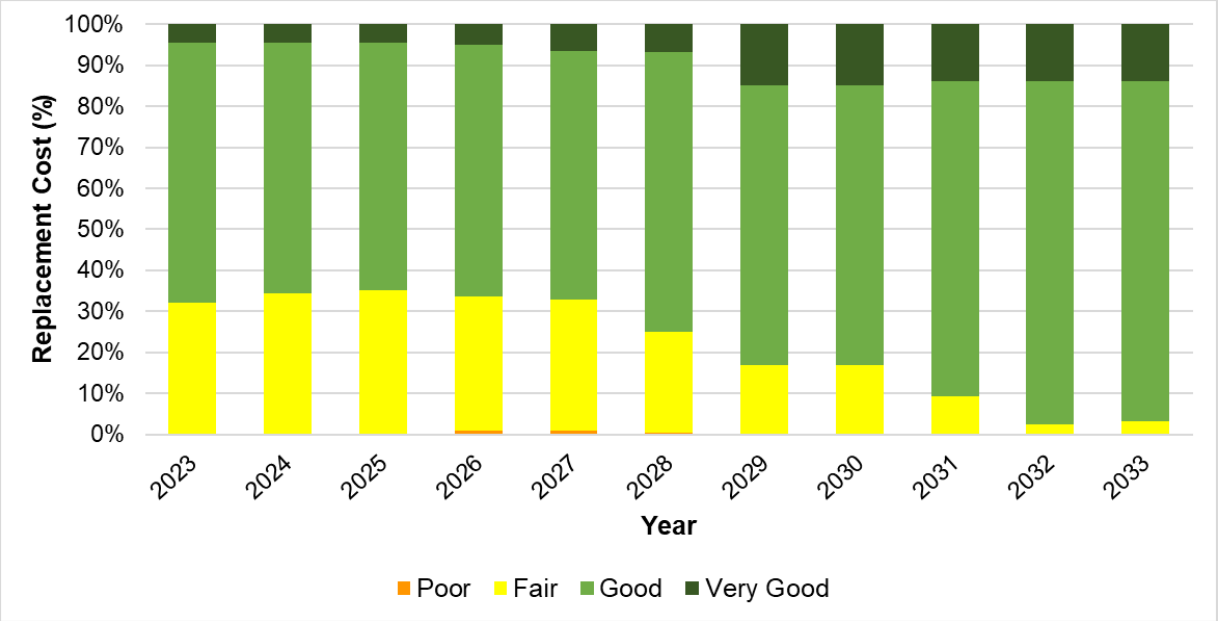


Figure 2-4. Bridges and Culverts Performance Forecast to Maintain Levels of Service

2.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Bridges and Culverts is $1.1 million. The condition distribution for the anticipated funding scenario is shown below in Figure 2-5. In this scenario the performance (condition) of assets decreases slightly by 3%, ending at 65% of assets in good or very good condition.

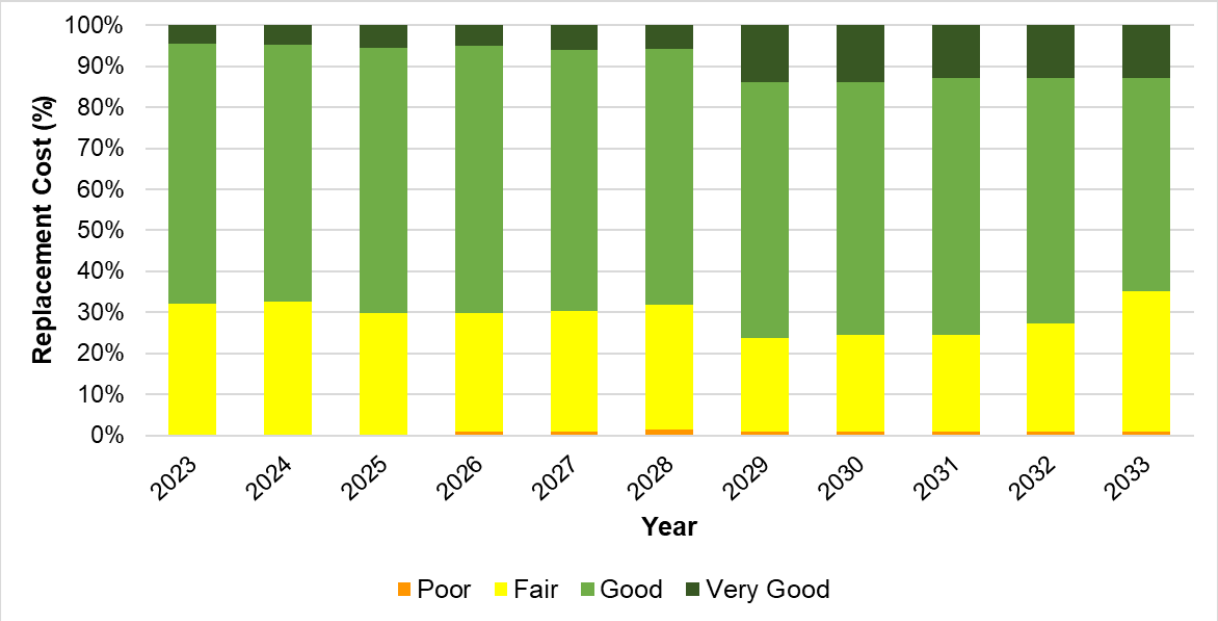


Figure 2-5. Bridges and Culverts Performance Forecast with Current Funding

2.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal, rehabilitation, and replacement activities listed above in Table 2-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O.Reg. 588/17.

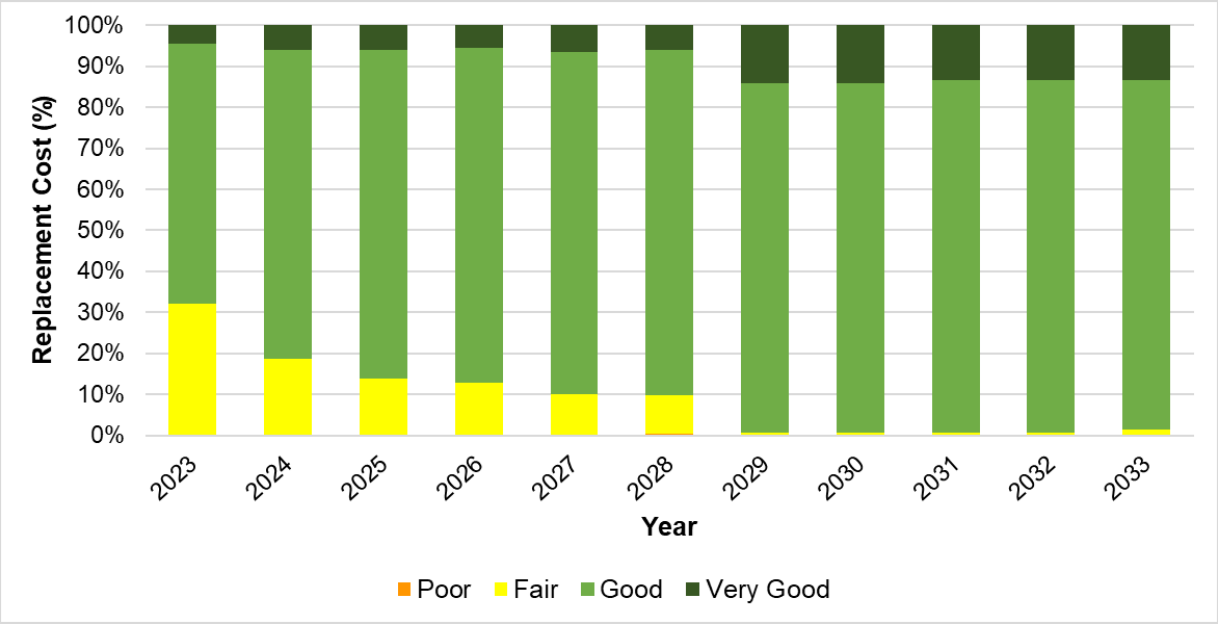


Figure 2-6. Bridges and Culverts Performance Forecast with Proposed Levels of Service Targets/Infrastructure Needs as per Lifecycle Strategies

It was determined that a budget of $2.1 million for renewal, rehabilitation & replacement activities is needed to achieve the proposed levels of service. There is a funding gap of approximately $1 million compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 2-6. The performance of Bridges and Culverts increases during the 10-year forecast period. Assets in good to very good condition start at 68% and increase to 98% at the end of the forecast.

2.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in

Figure 2-7 and Table 2-6. Figure 2-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 2-7 are colour coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights a gap of approximately $1 million compared to anticipated annual funding to maintain current performance (condition) of assets and to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies.

The backlog is also highlighted in Figure 2-7 in the year 2024. The backlog represents renewal, rehabilitation, and replacement activities that have been identified as necessary but have not yet been completed. Continuing to defer renewals creates a risk of higher financial costs, potential decreased availability, and potential decreased satisfaction with asset performance.

Continuing to delay renewals can put the Town at risk for not achieving intergenerational equality. Future generations may be unable to maintain the levels of service customers currently enjoy. Continued deferrals can also lead to higher operational and maintenance costs, potentially limiting future service availability. Timely and adequately funded renewals will ensure that assets remain functional and reliable into the future.

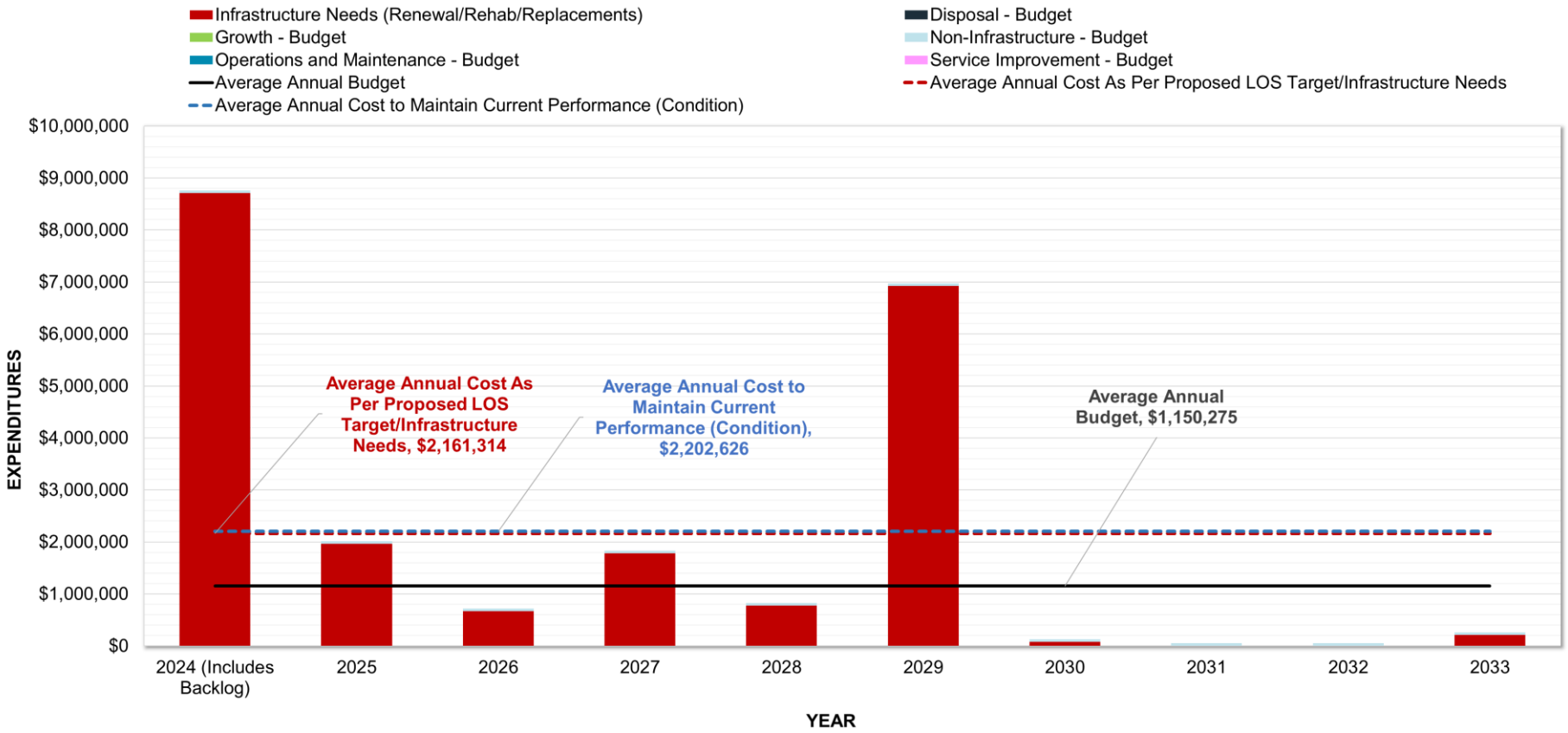


Figure 2-7. Bridges and Culverts Scenario Comparison

2.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 2-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 2-6. Current and Optimal Capital Funding and Funding Gap – Bridges and Culverts

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$0	$0	$0
Non-Infrastructure	$50,000	$50,000	$50,000
Operations & Maintenance	$0	$0	$0
Renewal, Rehabilitation & Replacement	$1,100,275	$2,152,626	$2,111,314
Service Improvement	$0	$0	$0
Total	**$1,150,275**	**$2,202,626**	**$2,161,314**
Average Annual Spending Gap		**$1,052,351**	**$1,011,039**
Percentage Increase Required to Address Gap		**96%**	**92%**

Other lifecycle activities for Bridges and Culverts like growth, non-infrastructure, operations and maintenance are handled through the budgets for the roads department and could not be broken out further for this exercise. Through the implementation of the Town's maintenance management software, it is expected that full lifecycle costing and activities are more easily tracked. It is recommended that the Town's budget process be updated to include the asset service function, as well as capture lifecycle management activities to more accurately assess the full lifecycle cost of their assets.

2.6 Data Confidence and Improvement Plan

Table 2-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 2-7. Bridges and Culverts – Data Confidence

Asset Type	Data Source	Data Confidence
Bridges & Culverts	OSIM Inspections (2021)	B

2.6.1 Recommendations for Improvements

Opportunities for improvement for Bridges & Culverts include:

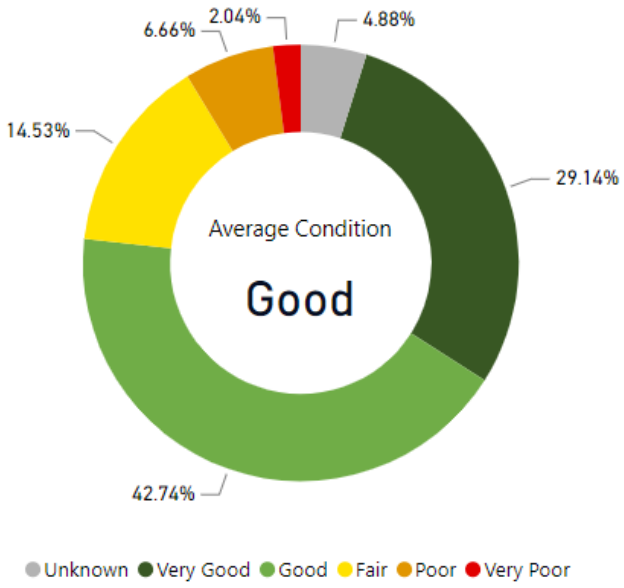
Data Management: Keep and maintain asset register with Bridges & Culverts connected to condition data and work management tasks to track outcomes of OSIM inspections through the Town's implementation of maintenance management.

3.0 Roads

Replacement Value

$306,848,075

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)

$3.2 M

Average Annual Gap to Meet Proposed LOS (Performance)

$3.4 M

Asset Inventory

- 422 km of road centreline maintained throughout the town (830 lane km) which include curbs and roadbase
- Supporting assets including sidewalks, guide rails, signage and streetlights

3 Roads

Roads help connect different parts of the Town, ensuring residents and visitors can travel safely throughout the town and through the Region. Roads help facilitate the movement of people and goods throughout the town, travelling to work, school, or places of leisure and recreation. Well maintained roads, sidewalks and active transportation networks contribute to community satisfaction and well-being.

3.1 State of the Infrastructure

3.1.1 Asset Valuation

Road assets in the Town consists of guiderails, roads, including curbs and road base, sidewalks, signage, and streetlights with a total current replacement value of $536 million. Table 3-1 shows the asset inventory and the current estimated replacement value.

Table 3-1. Inventory and Current Replacement Value – Roads

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Guide Rails	27	Units	$1,350,000
Roads	422	km	$509,010,804
Sidewalks	142	km	$24,110,422
Signage	925	Units	$185,000
Streetlights	3183	Units	$2,291,760
Total			**$536,947,985**

3.1.2 Asset Condition

Condition is an important part of asset management planning. Roads have condition assigned through inspections resulting in a pavement condition index (PCI) for each road segment. The remaining assets have condition assigned using age. The condition rating scale can be seen below in Table 3-2.

Table 3-2. Condition Rating Scale - Roads

Condition	Age/ESL	PCI
Very Good	>80% life remaining	> 80
Good	60-80% life remaining	67 – 80
Fair	40-60% life remaining	55 – 67
Poor	20-40% life remaining	35 – 55
Very Poor	0-20% life remaining	< 35
Unknown		

Figure 3-1 and Figure 3-2 illustrates the overall condition distribution of the Town's Roads assets. The roads were recently evaluated in 2023 and are highly reliable. The Town also employs the DOT system to manage, update and forecast the needs of the roads.

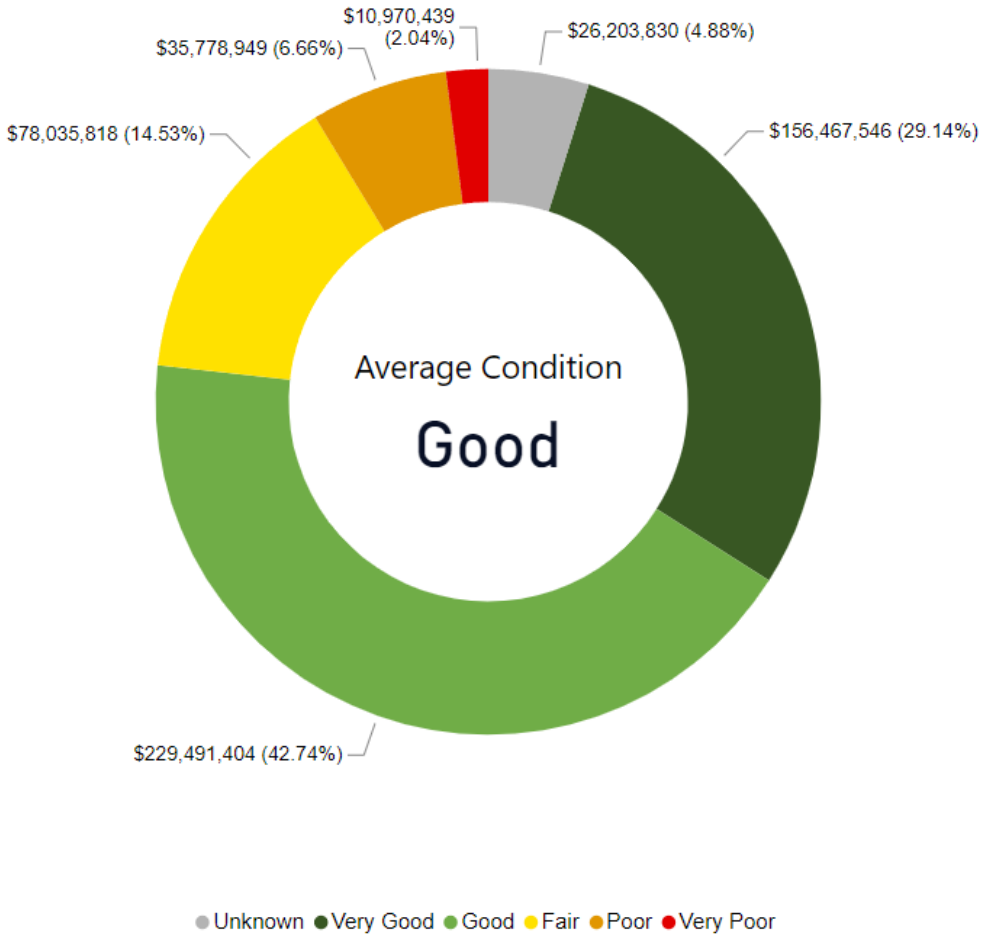


Figure 3-1. Overall Asset Condition (by Replacement Value) - Roads

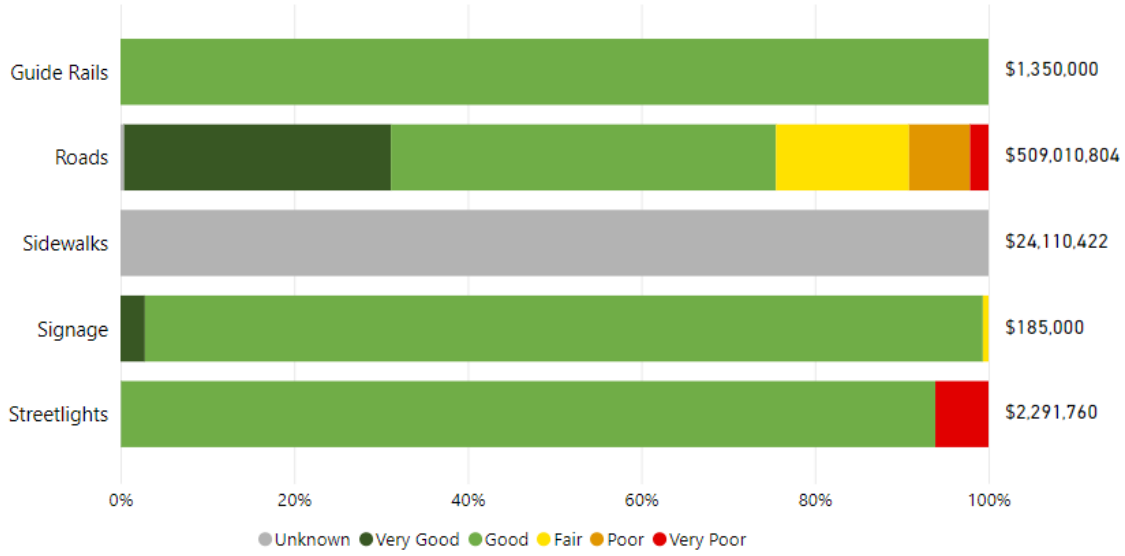


Figure 3-2. Asset Type Condition (by Replacement Value) - Roads

The average condition for roads assets is good with over 71% of assets in good to very good condition. Sidewalks currently do not have a condition metric that could be used in this AMP. The Town does collect defect data, and bases decisions on the sidewalks on this information and maintain them accordingly, it is currently not linked to a sidewalk segment/register information. Upon the implementation of the work management system, the defect information collected will be applied to the asset register, which will improve the reporting for asset management purposes.

3.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age of roads and streetlights is below the average estimated service life. Sidewalks and signage assets do not currently have install date information and do not have an age. Sidewalk needs are not assessed based on age, and the Town continues to make information based on current condition of the assets, so the gathering of this information is a low priority. Age information on signage is also difficult to gather, and maintain, and a low priority for the Town. Replacements of signs is on an as-needed basis, determined by road patrols, and considered an operations and maintenance task.

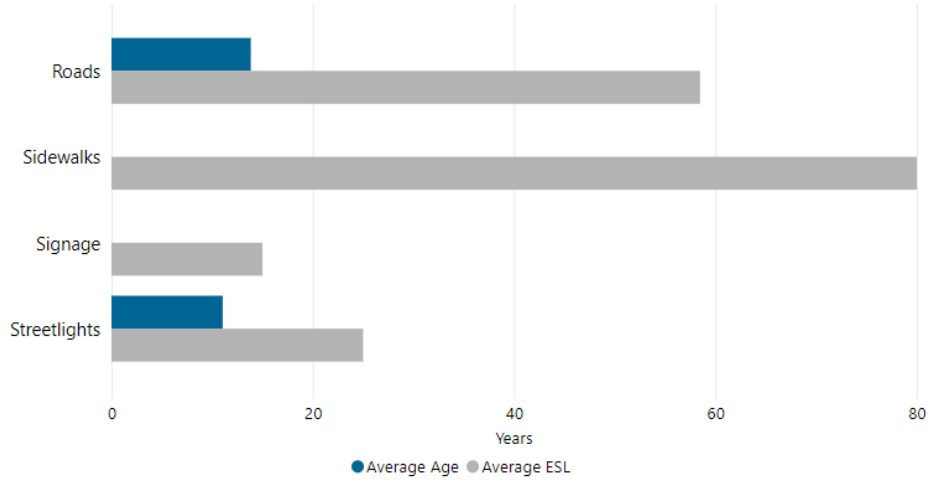


Figure 3-3. Average Age and Average Estimated Service Life – Roads

3.2 Levels of Service

Service Statement: Efficiently providing operational and accessible roads that support drivers, cyclists, and pedestrians.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O. Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 3-3 and Table 3-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 3.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk

Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 3-3. Customer / Council Focused Level of Service Requirements – Roads and Right of Way

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Cost to provide service (2024 Operating & Capital Budget/household)	$555/household	$555/household	→
Quality	Description or images that illustrate the different levels of road class pavement condition*	The Town assesses condition of roads based on Pavement Condition Index, which are determined based on inspections of the roads. Very Good: > 80 Good: 67 – 80 Fair: 55 – 67 Poor: 35 – 55 Very Poor: < 35	As stated in Current Performance.	→
Accessible	Description, which may include maps, of the road network in the municipality and its level of connectivity*	Good connectivity of a range of minor arterial, collector and local roads throughout the Town.	Good connectivity of a range of minor arterial, collector and local roads throughout the Town.	→

*Mandatory under O.Reg. 588/17

Table 3-4. Technical Focused Level of Service Requirements – Roads and Right of Way

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Quality	For paved roads in the municipality, the average pavement condition index value. *	72	75	
Quality	For unpaved roads in the municipality, the average surface condition. *	78	78	
Quality	Percentage replacement value of paved roads in very poor condition	6.49%	0%	
Quality	Percentage replacement value of other road and right-of-way assets in very poor condition	5.67%	0%	
Accessible	Number of lane-kilometres of each of arterial, collector, local roads as a proportion of square kilometres of land area of the municipality.*	Arterial = 0.348 Collector = 4.607 Local = 4.014	Arterial = 0.348 Collector = 4.607 Local = 4.014	
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	67%[5]	100%	

*Mandatory under O.Reg. 588/17

[5] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

3.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

3.3.1 Lifecycle Activities

Lifecycle activities for Roads involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Roads to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Roads in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well maintained roads and transportation infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in Table 3-5.

Table 3-5. Asset Management Practices and Associated Risks – Roads and Right of Way

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Roads Needs Study	• 2 years
• Overweight/load permit process for demand management	• Annually
• Half load on rural roads to manage roadway deterioration	• As required
• Public awareness (encouragement to use public transportation, active transportation, and other modes of transportation)	• Annually
• Ditch inspection (for Rural Ditch Strategy)	• Every 5 years
• Sidewalk engineering design criteria (development engineering guidelines) and municipal standards	• As required
• Visual inspections of sidewalks (condition ratings for physical defects such as cracking, weathering, uneven panels, presence of previous maintenance (grinding/patching))	• Annually as defined in Minimum Maintenance Standards (MMS), as needed to address inquiries
• Streetlight inspection program (inspections for deficiencies)	• Annually
• Active Transportation Master Plan	• As required
Operations & Maintenance Activities	
• Roads scheduled inspections and patrols	• As defined in Minimum Maintenance Standards (MMS)
• Pothole repair	• As required
• Street sweeping	• As required
• Salting and snow removal	• Seasonally
• Roads pavement marking	• As required

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
• Planned routine maintenance (crack seal, slurry seal, micro-surface activities)	• As required
• Sidewalk grinding and minor cold patch repairs	• As required
• Replace sidewalk panel	• As required
Renewal/Replacement Activities	
• Surface grinding and full depth asphalt removal/repaving	• As required
• Replacement/reconstruction of road	• As required
• Replacement of full section of sidewalk	• As required
Disposal Activities	
• Dispose of assets in line with replacements	• As required
Service Improvement & Growth Activities	
• New assets for developments to service growth	• As needed
• New assets as part of service improvement	• As identified in studies

3.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 3.3 to plan work and determine future expenditure needs for Roads assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 3.4.4, which are based on the operating and capital budgets for the Town. For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

3.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Roads (as mandated by O. Reg. 588/17).

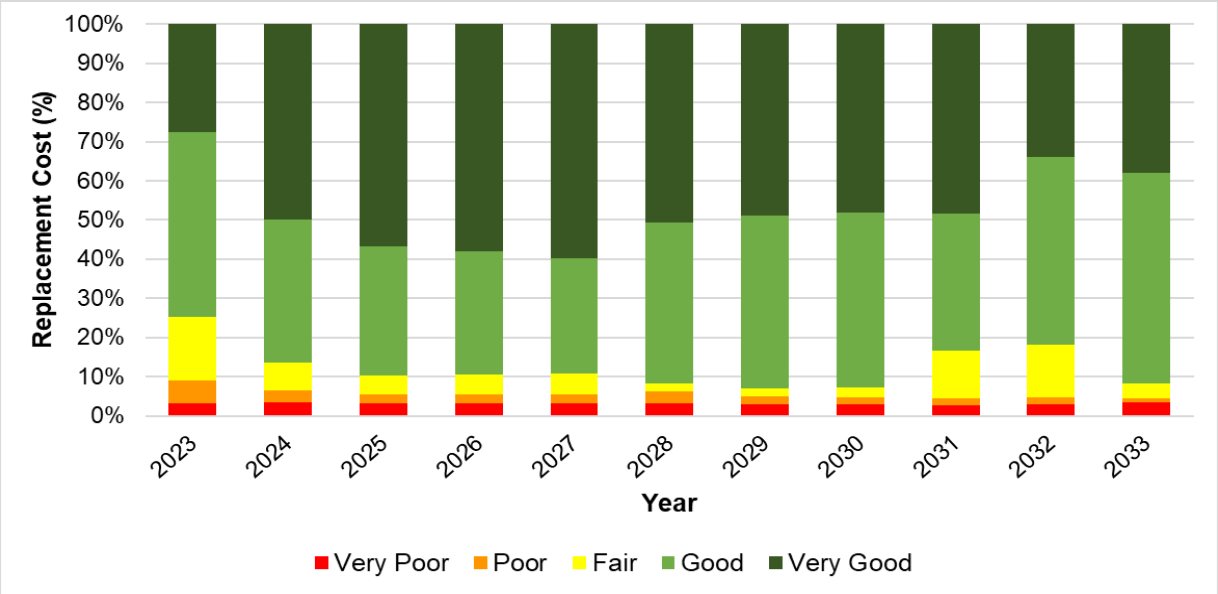


Figure 3-4. Roads Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $7.1 million for renewal, rehabilitation and replacement activities is needed to maintain performance for Roads. There is a funding gap of approximately $3.2 million compared to the anticipated funding levels. This highlights the challenges the Town may face in keeping assets in the same condition over the forecast period with the current budget allocation.

The performance forecast for scenario one is shown in Figure 3-4. The overall condition increases, with assets in good to very good condition increasing by 17% over the 10-year forecast, ending at 92%.

3.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Roads is $3.8 million. The condition distribution for the anticipated funding scenario is shown below in Figure 3-5. The performance (condition) of assets decreases in this scenario. Assets in very poor condition increase by 13%, ending at 16% of the overall condition.

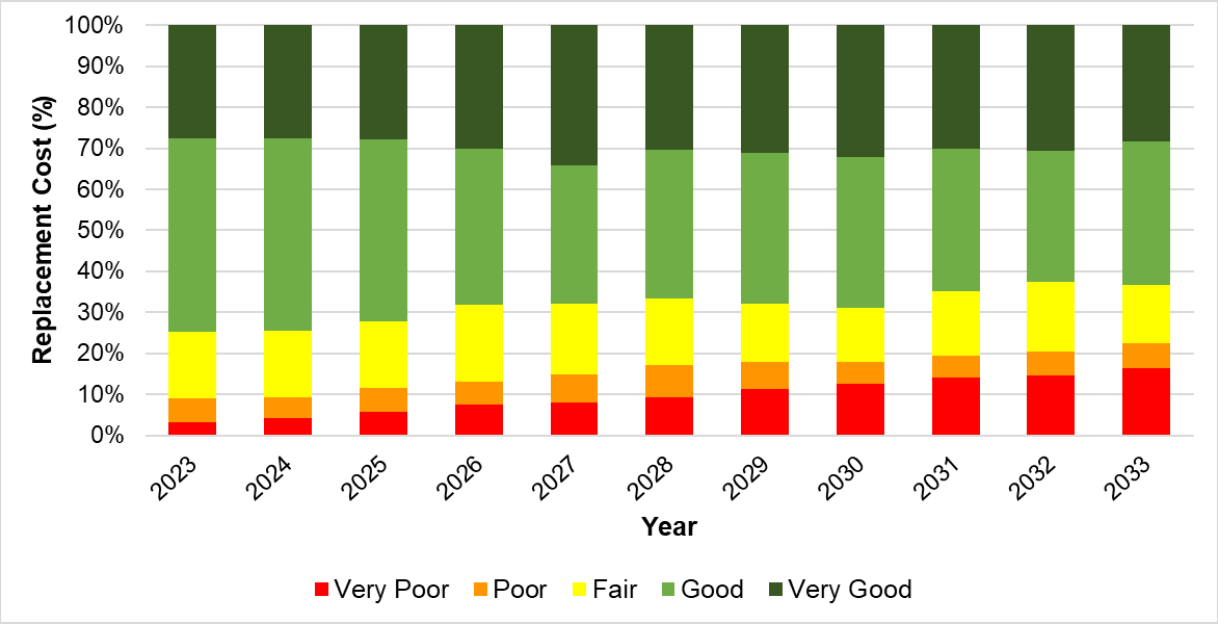


Figure 3-5. Roads Performance Forecast with Current Funding

3.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario 3 calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal,

rehabilitation, and replacement activities listed above in Table 3-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O. Reg. 588/17.

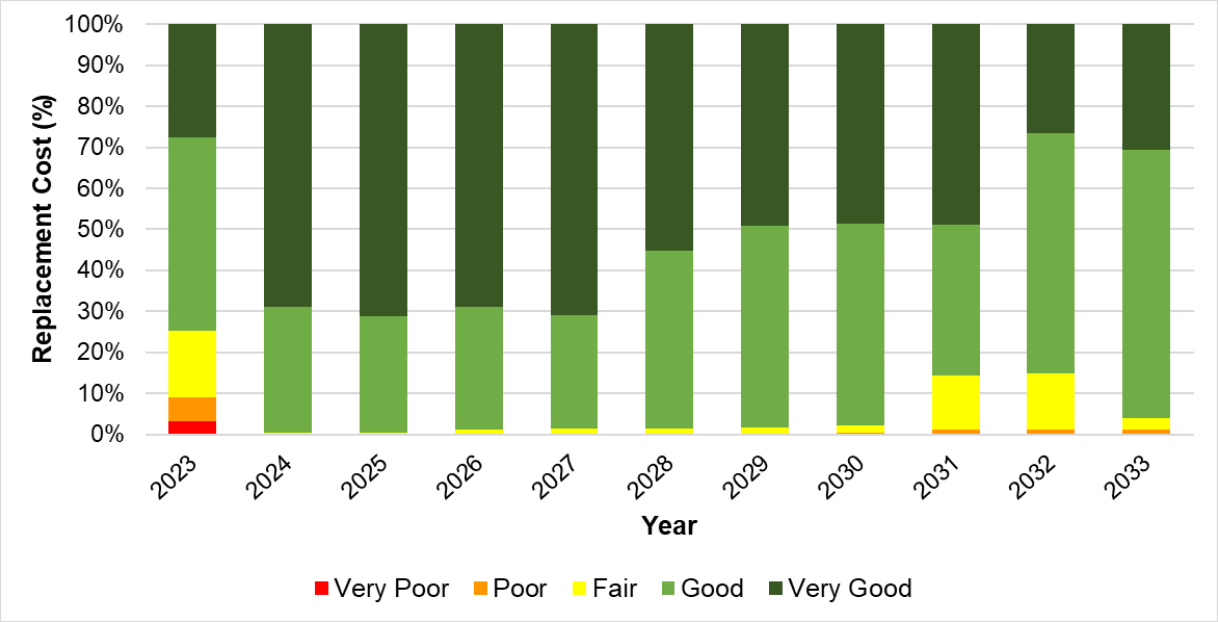


Figure 3-6. Roads Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs as per Lifecycle Strategies

It was determined that a budget of $7.3 million for renewal, rehabilitation and replacement activities is needed to achieve the proposed levels of service. There is a funding gap of approximately $3.4 million compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 3-6. The performance of Roads increases during the 10-year forecast period. Assets in good to very good condition start at 75% and increase to 96% at the end of the forecast.

3.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 3-7 and Table 3-6.

Figure 3-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 3-7 are colour coded by lifecycle activities. The solid

and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights a gap of approximately $3.2 million to maintain current performance (condition) of assets and a gap of $3.4 million to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

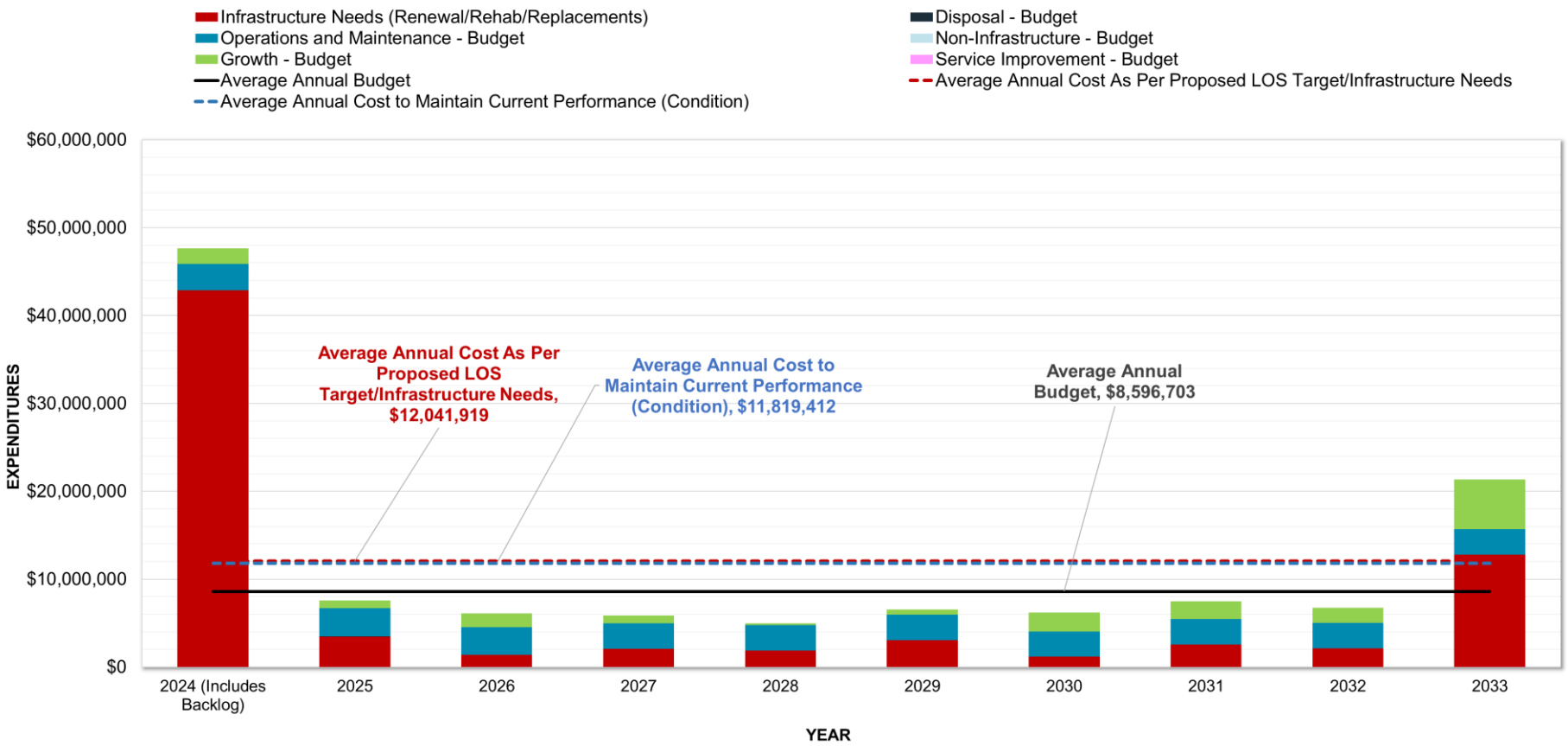


Figure 3-7. Roads Scenario Comparison

The backlog is also highlighted in Figure 3-7 in the year 2024. The backlog represents renewal, rehabilitation, and replacement activities that have been identified as necessary but have not yet been completed. Continuing to defer renewals creates a risk of higher financial costs, potential decreased availability, and potential decreased satisfaction with asset performance.

Continuing to delay renewals may put the Town at risk for intergenerational inequality. Future generations may not be able to maintain the levels of service customers currently enjoy. Continued project deferrals can also lead to higher operational and maintenance costs, potentially limiting the availability of services in the future. Timely and adequately funded renewals and replacements will ensure that assets continue to remain functional and reliable into the future, at the lowest possible cost.

3.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 3-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 3-6. Current and Optimal Capital Funding and Funding Gap – Roads

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$7,500	$7,500	$7,500
Growth	$1,733,500	$1,733,500	$1,733,500
Non-Infrastructure	$0	$0	$0
Operations & Maintenance	$2,960,174	$2,960,174	$2,960,174
Renewal, Rehabilitation & Replacement	$3,895,529	$7,118,238	$7,340,745
Service Improvement	$0	$0	$0
Total	$8,596,703	$11,819,412	$12,041,919
Average Annual Spending Gap		**$3,222,709**	**$3,445,216**
Percentage Increase Required to Address Gap		**37%**	**40%**

3.5 Data Confidence and Improvement Plan

Table 3-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 3-7. Roads – Data Confidence

Asset Type	Data Source	Data Confidence
Guiderails	2022 Assessment of Guiderails (spreadsheet)	C
Roads	Road Inventory excel sheet, shapefiles (GIS), 2023 PCI	B
Sidewalks	Shapefile (GIS) for inventory and Sidewalk Defects	C
Signage	2022 Assessment (spreadsheet)	C
Streetlights	Shapefile (GIS)	A

3.5.1 Recommendations for Improvements

It is recommended that the Town further review and establish registers for any further outstanding assets to be included in the Roads category. Traffic signals have been identified that have not been included in this plan. These assets, while managed by the Niagara Region, are Town assets and should be included in the valuation of assets.

Opportunities for Improvements for the Roads assets includes:

Guiderails: Condition information of the guiderails is reliable as they were assessed, but information on the location, type, estimated service life and installation dates of these assets were unknown. This information should be captured within an asset register and these gaps filled to better plan for this asset type.

Roads: Condition data was recently acquired to provide an accurate assessment of the condition of these assets. The Town also uses DOT pavement management system to analyze their road system and make forecasts.

Multiple asset registers were used to provide the best information available. There are multiple GIS (shapefiles) files and other asset registers that should be compiled and consolidated and verified in a single source of truth for this asset class. The Town is currently working to complete this with the implementation of the work management system.

Sidewalks: The sidewalk defects and condition information currently does not connect to the GIS data to be able to assess the full picture of these assets. It is recommended to connect

the defect/condition information to the sidewalk register to better understand the condition of these assets. The install date of the sidewalks was also unknown.

Signage: Condition information of the road signage is reliable as they were assessed, but information on the location, type, estimated service life and installation dates of these assets were unknown. This information should be captured within an asset register in the GIS and these gaps filled.

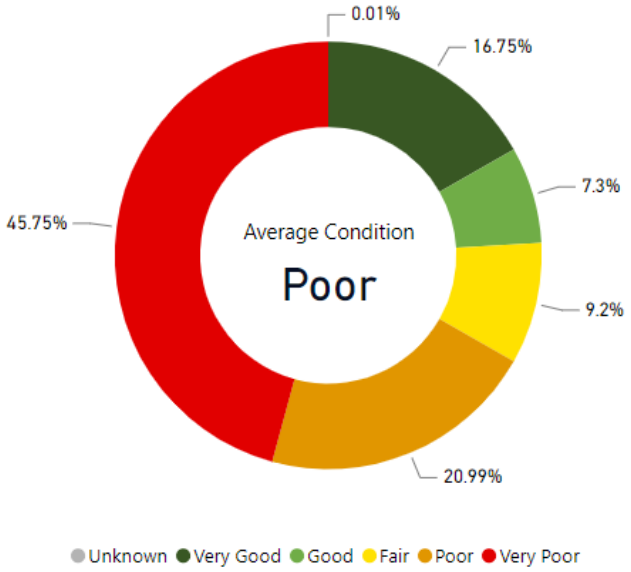
Streetlights: Inventory seems to be mostly complete for this asset type and up to date. The implementation of the Town's work management system will assist in tracking work completed on these assets and track outages and further needs.

4.0 Stormwater

Replacement Value

$401,462,862

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)

$6.3 M

Average Annual Gap to Meet Proposed LOS (Performance)

$16.2 M

Asset Inventory

- 135 km of storm sewers throughout the urban area
- Supporting assets including ditches, driveway culverts and 9 stormwater facilities

4 Stormwater

The Town of Fort Erie maintains stormwater infrastructure throughout the municipality. Stormwater infrastructure helps manage rainfall and runoff through flood control, erosion control, and water quality management. With more frequent extreme weather events, proper management of these assets is vital to ensure residents can continue to receive quality services.

4.1 State of the Infrastructure

4.1.1 Asset Valuation

Stormwater assets include ditches, driveway culverts, storm sewers and stormwater facilities including tanks and stormwater management ponds. These assets have a current total replacement value of $401 million. Table 4-1 details the asset inventory and current estimated replacement value.

Table 4-1. Inventory and Current Replacement Value – Stormwater

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Ditches	243	Units	Unknown Replacement Value
Driveway Culverts	1617	Units	$1,462,819
Storm Sewers	135	km	$399,121,134
Stormwater Facilities (Tanks / Ponds)	9	Units	$878,909
Total			**$401,462,862**

4.1.2 Asset Condition

Asset condition is an important piece of asset management planning. Condition of stormwater assets was assigned using Pipeline Assessment Certification Program (PACP) peak structural scores for storm sewers that have Closed-Circuit Television (CCTV) inspections, and age for remaining assets. 62.2% (based on count of records) of the system had condition scores available to assign condition, the remaining records used age/ESL to determine condition. The Town on average has assessed 22km of pipe a year since 2019 in their efforts to gain reliable condition information on the storm system. The condition ratings scales can be found below in Table 4-2.

Table 4-2. Condition Rating Scale - Stormwater

Condition	Age/ESL	PACP Condition Rating
Very Good	>80% life remaining	0 or 1
Good	60-80% life remaining	2
Fair	40-60% life remaining	3
Poor	20-40% life remaining	4
Very Poor	0-20% life remaining	5
Unknown		

Figure 4-1 and Figure 4-2 illustrates the condition distribution of the Town's Stormwater infrastructure assets.

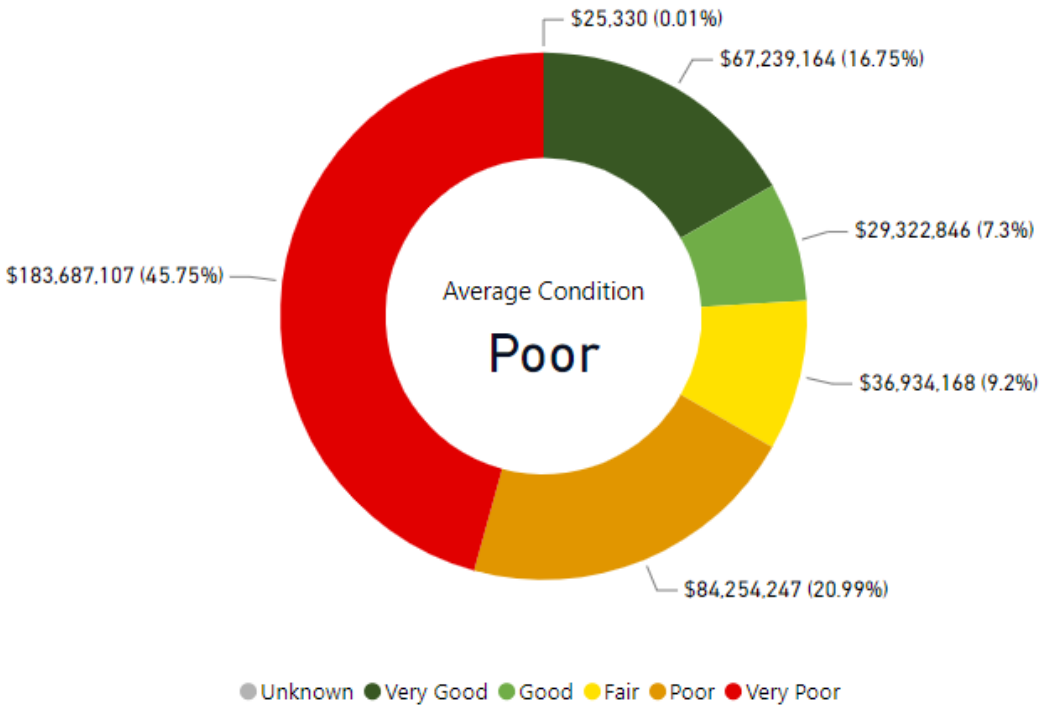


Figure 4-1. Overall Asset Condition (by Replacement Value) – Stormwater

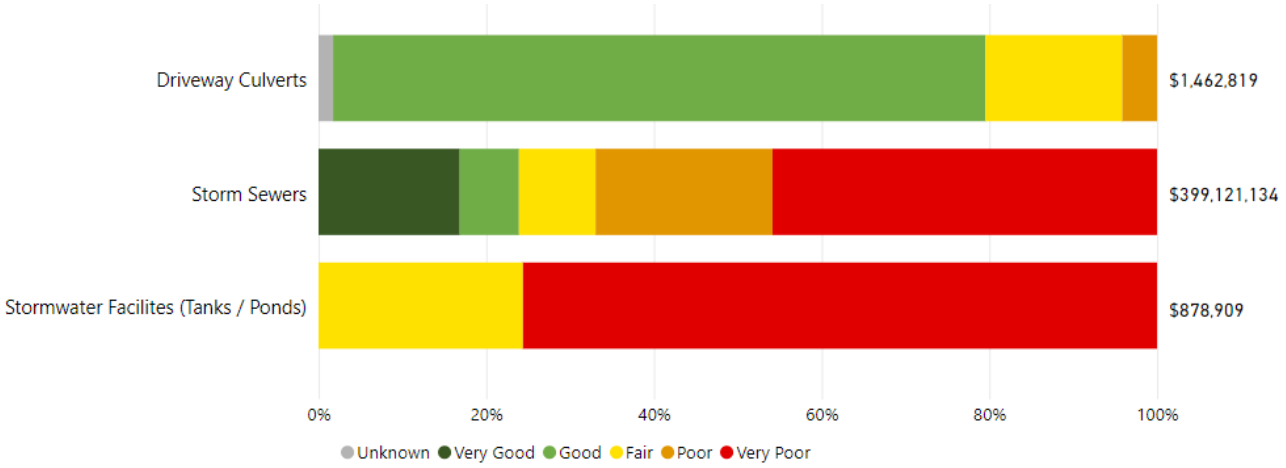


Figure 4-2. Condition by Asset Type (by Replacement Value) – Stormwater

Most of the Stormwater Facilities are in very poor condition. Seven out of nine facilities are in very poor condition. Condition assessments for stormwater facilities measuring sediment depth will give a better idea of the condition of these assets. Stormwater management ponds are not typically replaced, instead sediment removal is completed to ensure the storage of the storm ponds is appropriate to function as intended.

On average, stormwater assets are in poor condition. Much of the value for the Stormwater network is comprised of storm sewers, where over 66% of assets are in poor or very poor condition. As condition information continues to be collected for storm sewers the condition profile may change for this asset class, currently 62.2% (based on count of records) of the sewers condition scores provided from CCTV inspections. Figure 4-3 shows the breakdown of condition for storm sewers based on age versus those that were CCTV inspected.

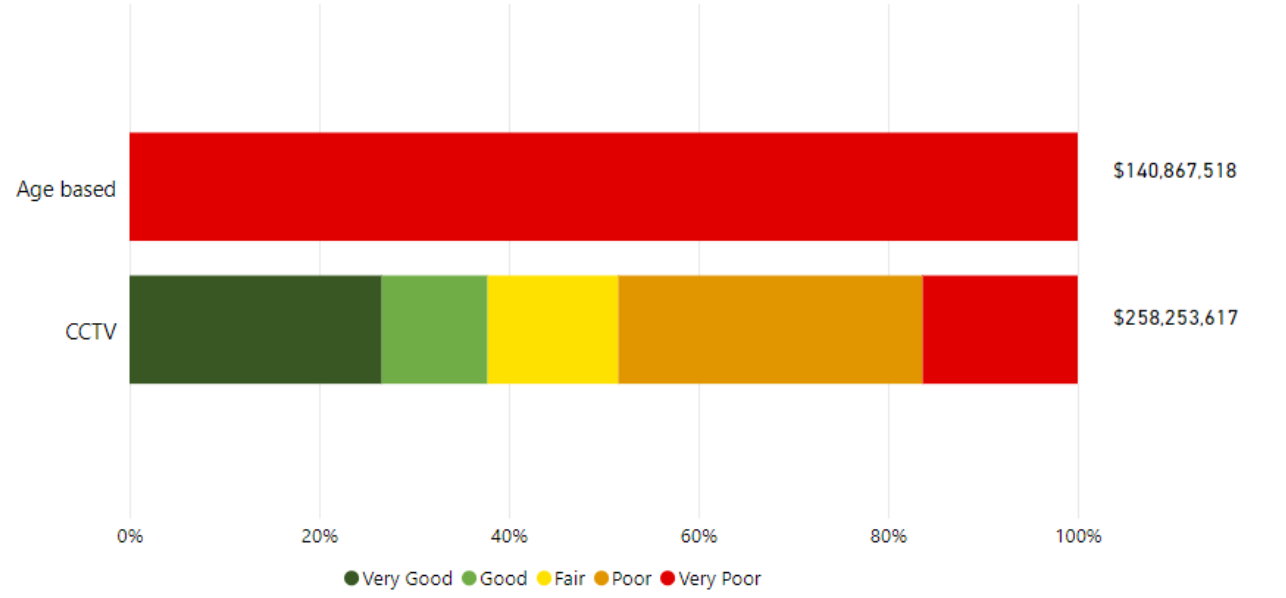


Figure 4-3. Storm Sewer Condition (by Replacement Value) by Condition Method

The figure highlights the importance of condition assessment-based information on assets, as all the sewers, where condition is assigned based on age and estimated service life, are all in very poor condition. In comparison, the sewers that have an assessed condition, has provided a more accurate breakdown of the condition of the storm sewer assets. If age alone is relied on, there is potential to overstate the infrastructure needs of the assets. It should also be noted though, that some of the assets were unable to assessed by CCTV inspections because of various factors, such as water levels, or inaccessible pipes. The Town will continue its efforts to collect condition information on the storm network.

4.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age and average estimated service life for storm sewers and stormwater facilities is shown in Figure 4-4.

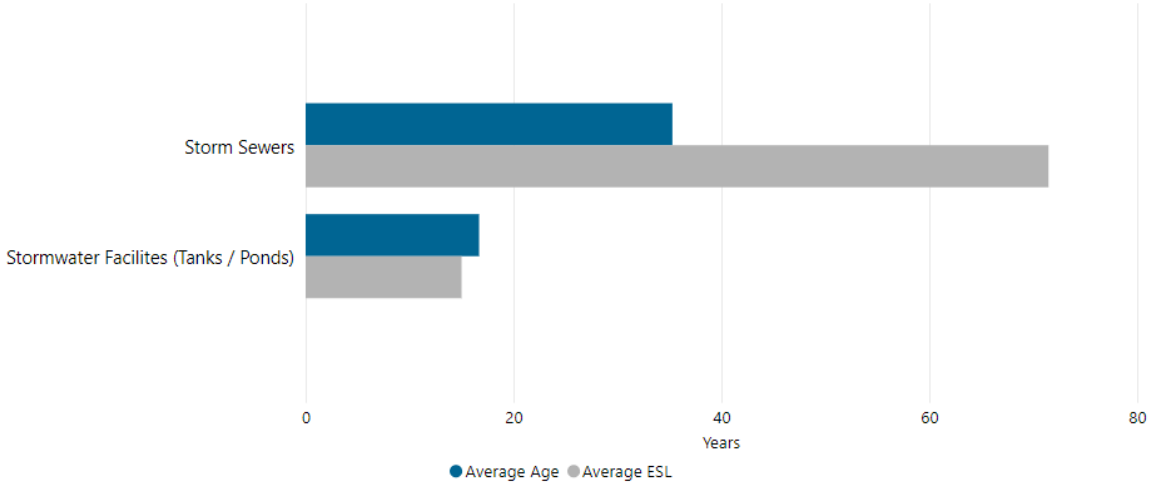


Figure 4-4. Average Age and Average Estimated Service Life – Stormwater

4.2 Levels of Service

Service Statement: Efficiently providing reliable stormwater services that protect the community and natural environment.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O.Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 4-3 and Table 4-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 4.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 4-3. Customer / Council Focused Level of Service Requirements – Stormwater

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Cost to provide service (2024 Operating & Capital Budget/household)	$514 per household	$514 per household	
Scope	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.*	Some urban areas protected from ROW/infrastructure flooding through urban ditch system or underground storm collection, some with defined outlets. Most rural areas protected from flooding through provision of municipal drains or rural ditch systems, some with defined outlets	Some urban areas protected from ROW flooding through urban ditch system or underground storm collection, some with defined outlets. Most rural areas protected from flooding through provision of municipal drains or rural ditch systems, some with defined outlets	

*Mandatory under O.Reg. 588/17

Table 4-4. Technical Focused Level of Service Requirements – Stormwater

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Scope	Percent of properties in municipality resilient to a 100-year storm.*	To be reviewed as part of the 2024 Storm Master Plan	To Be Determined	
Scope	Percent of the municipal stormwater management system resilient to a 5-year storm.*	To be reviewed as part of the 2024 Storm Master Plan	To Be Determined	
Quality	Percentage of replacement value & replacement value of stormwater main assets in very poor condition	45.87%	21%	
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	78%[6]	100%	

*Mandatory under O.Reg. 588/17

[6] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

4.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

4.3.1 Lifecycle Activities

Lifecycle activities for Stormwater involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Stormwater to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Stormwater in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well maintained Stormwater infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in Table 4-5.

Table 4-5. Asset Management Practices and Associated Risks – Stormwater

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Policies for sustainability prioritization of natural watersheds for storm water management functions and climate change considerations	• As required
• Stormwater Drainage Master Plan	• 5 years
• Inspections of storm sewers using CCTV	• Annual
• Storm pond sediment surveys and inspections	• As required as per ECA
• Ditch and culvert data collection (culverts <3m)	• As required
• OGS inspections	• As required as per ECA
• Storm Sub watershed Studies	• As required
Operations & Maintenance Activities	
• OGS and catch basin flushing/cleaning	• As required
• Storm system flushing	• As CCTV
• Ditch cleaning	• As per study
• Storm pond dredging/cleaning	• As identified through inspections
• Maintenance to address erosion	• As identified
• Maintenance hole adjustments	• As required
• Maintain road drainage	• As required
Renewal/Replacement Activities	
• Lining and trenchless technologies	• As identified in CCTV inspection
• Sewer replacement	• As required

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Disposal Activities	
• Dispose of assets in line with replacements	• As required
Service Improvement & Growth Activities	
• New assets for developments to service growth	• As needed
• New assets as part of service improvement	• As identified in studies

4.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 4.3 to plan work and determine future expenditure needs for Stormwater assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 4.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

4.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Stormwater (as mandated by O.Reg. 588/17).

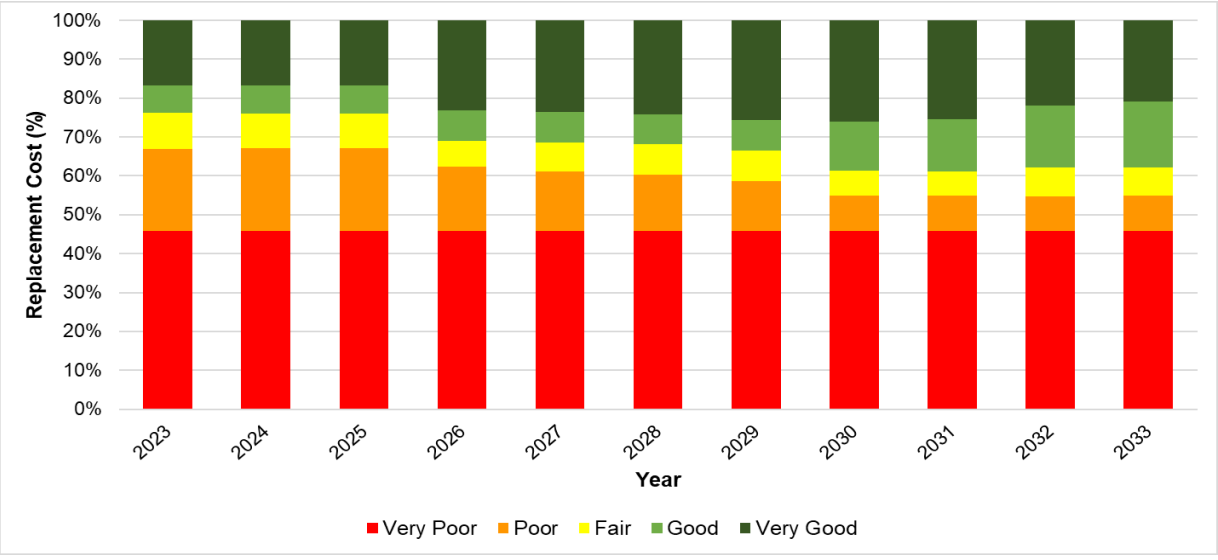


Figure 4-5. Stormwater Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $8.5 million is needed for renewal, rehabilitation and replacement activities to maintain performance for Stormwater. There is a funding gap of approximately $6.2 million compared the anticipated funding levels. This highlights the challenges the Town may face in keeping assets in the same condition over the forecast period with the current budget allocation.

The performance forecast for scenario one is shown in Figure 4-5. The overall condition of Stormwater assets increases in this scenario. The percentage of assets in good to very good condition increases by 14% over the 10-year forecast period, ending at 38%.

4.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Stormwater is $2.1 million. The condition distribution for the anticipated funding scenario is shown below in Figure 4-6. The overall condition of assets decrease in this scenario. Although assets in good to very good condition only decrease by 2%, ending at 22%, assets in very poor condition increases by 16% ending the forecast period at 62% of overall asset condition.

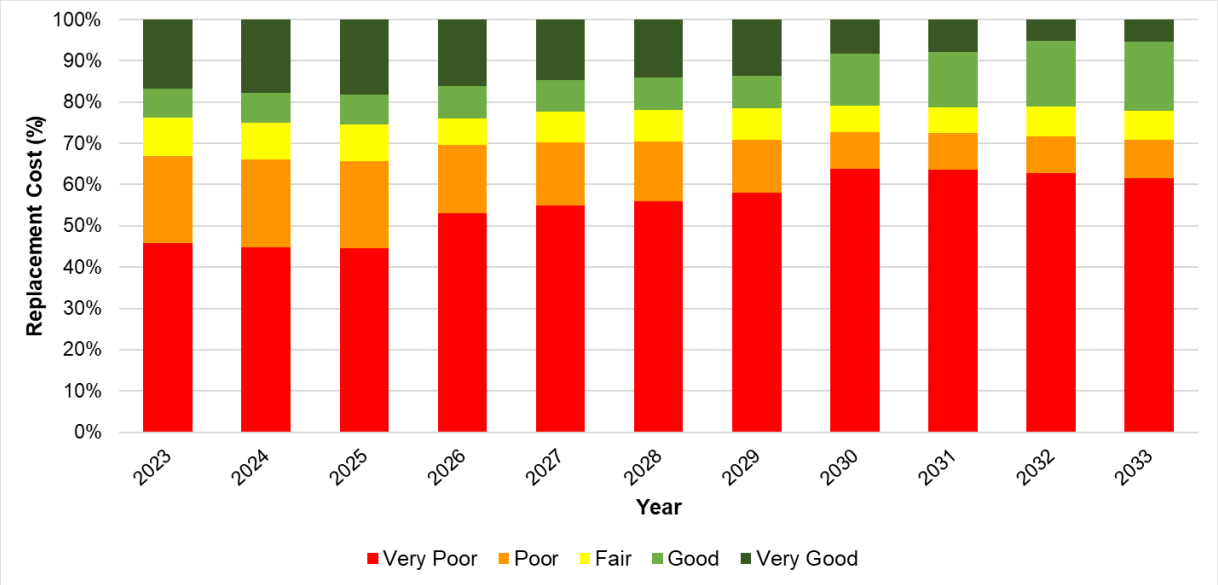


Figure 4-6. Stormwater Performance Forecast with Current Funding

4.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal,

rehabilitation, and replacement activities listed above in Table 4-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O.Reg. 588/17.

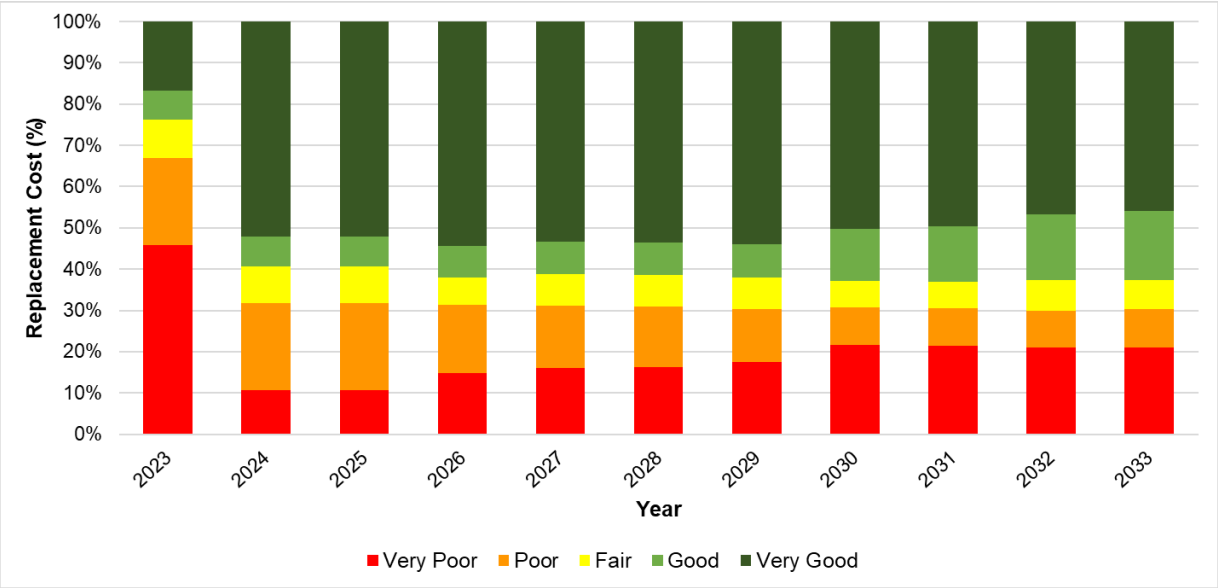


Figure 4-7. Stormwater Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs as per Lifecycle Strategies

It was determined that a budget of $18.3 million for renewal, rehabilitation and replacement activities is needed to achieve the proposed levels of service. There is a funding gap of approximately $16.2 million compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 4-7. The performance of Stormwater increases during the 10-year forecast period. Assets in good to very good condition start at 24% and increase to 63% at the end of the forecast.

4.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 4-8 and Table 4-6. Figure 4-8 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/ infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 4-8 are colour coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights a gap of approximately $6.2 million to maintain current performance (condition) of assets and a gap of $16.2 million to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

The forecast for storm assets assumes that the assets will be replaced, which is a contributing factor to the high backlog and needs assessed in this AMP. It is recommended that the Town further review possible rehabilitation options to improve the condition of the stormwater assets, at a lower cost. Options would include spot repairs, and relining of the pipes where appropriate, rather than full replacement. The Town is planning on a storm water master plan, which will also provide additional information for infrastructure needs for this asset category. These options will improve the condition of the pipes at a lower cost than full replacement.

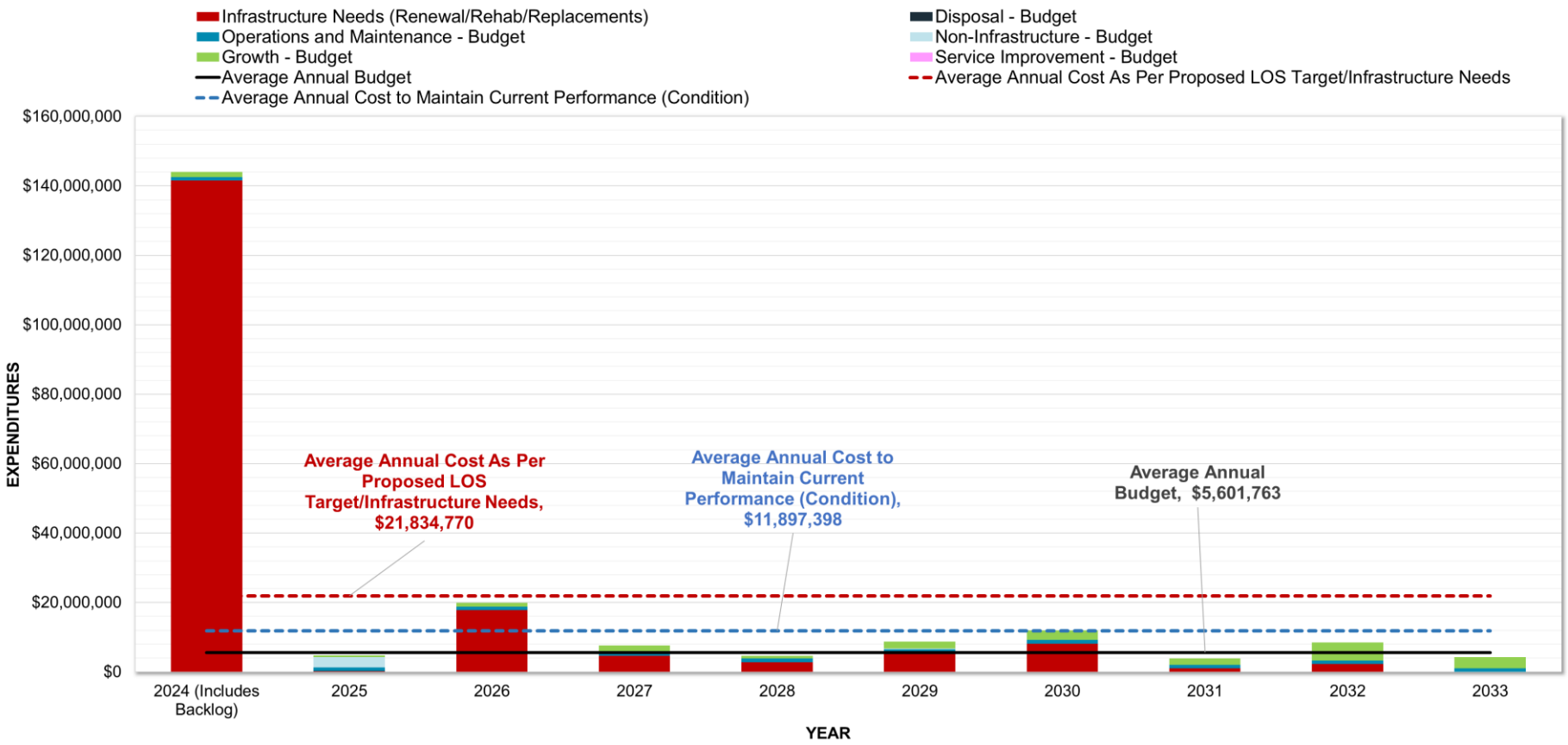


Figure 4-8. Stormwater Scenario Comparison

The backlog is also highlighted in Figure 4-8 in the year 2024. The backlog represents the replacement activities that have been identified as necessary, but have not yet been completed. Continuing to defer renewals creates a risk of higher financial costs, potential decreased availability, and potential decreased satisfaction with asset performance.

Continuing to delay renewals may put the Town at risk for intergenerational inequality. Future generations may not be able to maintain the levels of service customers currently enjoy. Continued project deferrals can also lead to higher operational and maintenance costs, potentially limiting the availability of services in the future. Timely and adequately funded renewals and replacements will ensure that assets continue to remain functional and reliable into the future, at the lowest possible cost.

4.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 4-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 4-6. Current and Optimal Capital Funding and Funding Gap - Stormwater

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$7,500	$7,500	$7,500
Growth	$2,088,121	$2,088,121	$2,088,121
Non-Infrastructure	$333,600	$333,600	$333,600
Operations & Maintenance	$1,015,406	$1,015,406	$1,015,406
Renewal, Rehabilitation & Replacement	$2,157,136	$8,452,771	$18,390,143
Service Improvement	$0	$0	$0
Total	**$5,601,763**	**$11,897,398**	**$21,834,770**
Average Annual Spending Gap		**$6,295,635**	**$16,233,006**
Percentage Increase Required to Address Gap		**112%**	**290%**

4.5 Data Confidence and Improvement Plan

Table 4-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 4-7. Stormwater – Data Confidence

Asset Segment	Data Source	Data Confidence
Ditches	2022 Assessment (Spreadsheet)	B
Driveway Culverts	Shapefile (GIS)	B
Storm Sewers	Shapefile (GIS)	B
Stormwater Facilities (Tanks/Ponds)	Shapefile (GIS)	B

4.5.1 Recommendations for Improvements

Opportunities for improvements include the following:

Ditches: Although condition information was tracked for these assets, no further information was available for these assets (location, etc.). This inventory should be further assessed for accuracy. The Town is currently working on completing an inventory with location-based information on the ditches.

Driveway Culverts: Although condition, material and diameter were known for these asset types, length and install dates were unknown. Length of culverts would assist in planning for replacements of these assets.

Storm Sewers: Minimal gaps were found for the storm sewers, but condition was based on age and estimated service life, where CCTV data was not available. Currently over 62% of the system has an assessed condition, some of the system was unable to be inspected due to increased lake levels and surcharge in the system.

It is recommended to develop a prioritized CCTV inspection program that defines frequency of inspections based on specific criteria (age of pipe, condition, risk, etc.)

It is also recommended that the Town review rehabilitation options for storm pipes that will decrease the infrastructure gap while also improving performance.

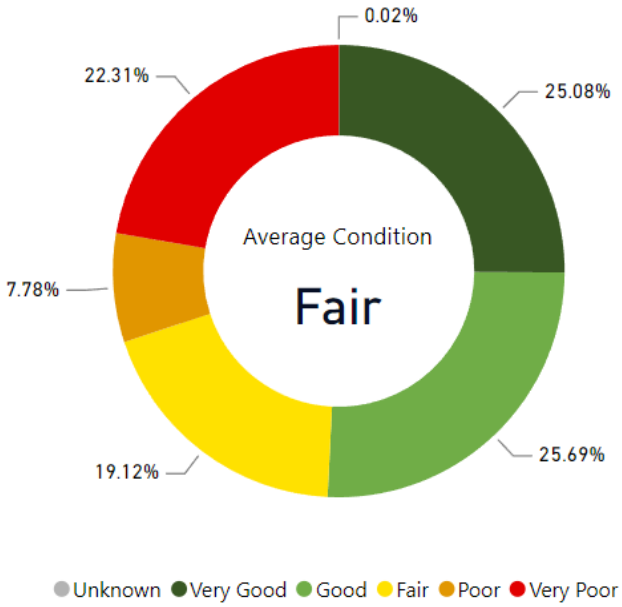
Stormwater Facilities (Tanks/Ponds): Information on these assets were updated to include all required information for asset management reporting. It is recommended that the Town have the ponds assessed for further needs for dredging/cleaning.

5.0 Wastewater

Replacement Value

$392,336,423

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)

No Gap

Average Annual Gap to Meet Proposed LOS (Performance)

$4.8 M

Asset Inventory

- 201 km of sanitary sewer pipes
- Supporting assets including manholes, laterals, cleanouts

5 Wastewater

Wastewater infrastructure is an important part of the Town's underground infrastructure network helping to protect the environment and provide reliable service to residents, visitors, and businesses. Wastewater infrastructure collects wastewater from homes and businesses throughout the Town's serviced area.

Wastewater is a two-tier system in the Town of Fort Erie. The Town owns 201 km of gravity sewers where wastewater flows along the slope of the pipe to one of the12 pump stations owned by the Niagara Region. Wastewater is pumped through forcemains and flows through Niagara Region owned large diameter trunk sewers, eventually reaching one of the two wastewater treatment plants or the Stevensville / Douglastown sewage treatment lagoon in the Town of Fort Erie.

5.1 State of the Infrastructure

5.1.1 Asset Valuation

The Wastewater network includes sanitary sewer pipes with supporting assets with a current replacement value of over $392 million, shown in Table 5-1.

Table 5-1. Inventory and Current Replacement Value – Wastewater

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Sanitary Sewer Pipe	201	km	$392,336,423
Total			**$392,336,423**

5.1.2 Asset Condition

Asset condition is an important piece of asset management planning. Condition of wastewater assets was assigned using PACP peak structural scores for sanitary sewers that have CCTV inspections, and age for remaining assets. The condition rating scales are shown in Table 5-2.

Table 5-2. Condition Rating Scale – Wastewater

Condition	Age/ESL	PACP Condition Rating
Very Good	>80% life remaining	0 or 1
Good	60-80% life remaining	2
Fair	40-60% life remaining	3
Poor	20-40% life remaining	4
Very Poor	0-20% life remaining	5
Unknown		

Figure 5-1 and Figure 5-2 shows the condition distribution of the Town's Wastewater assets.

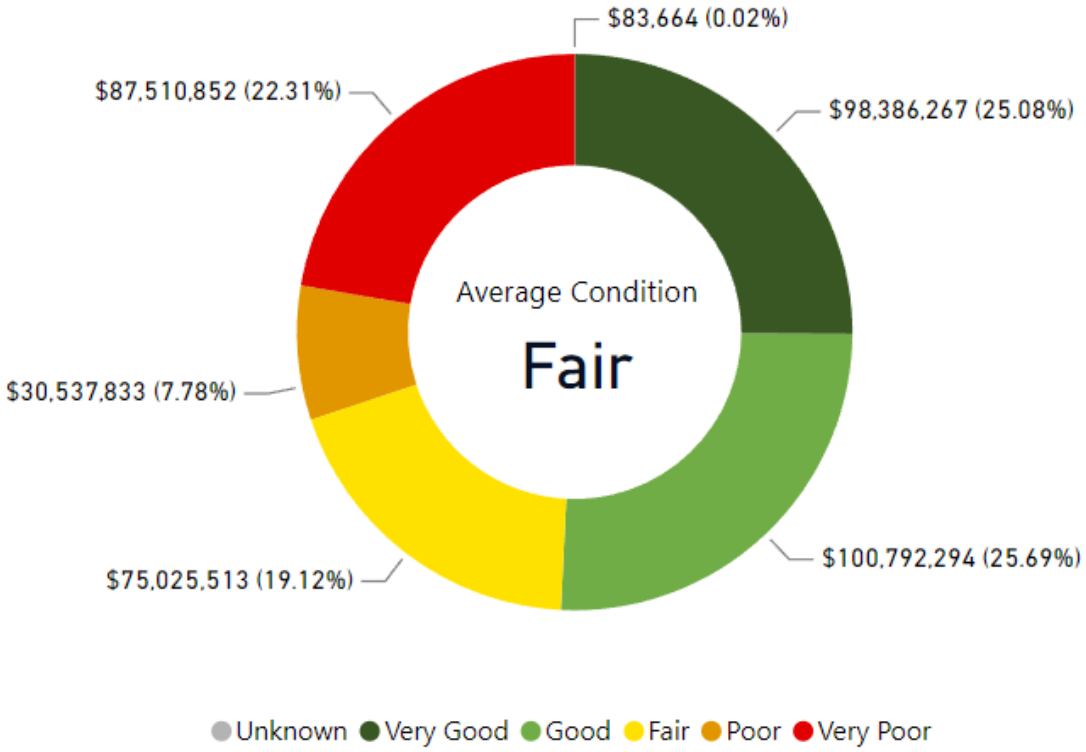


Figure 5-1. Overall Asset Condition (by Replacement Value) - Wastewater

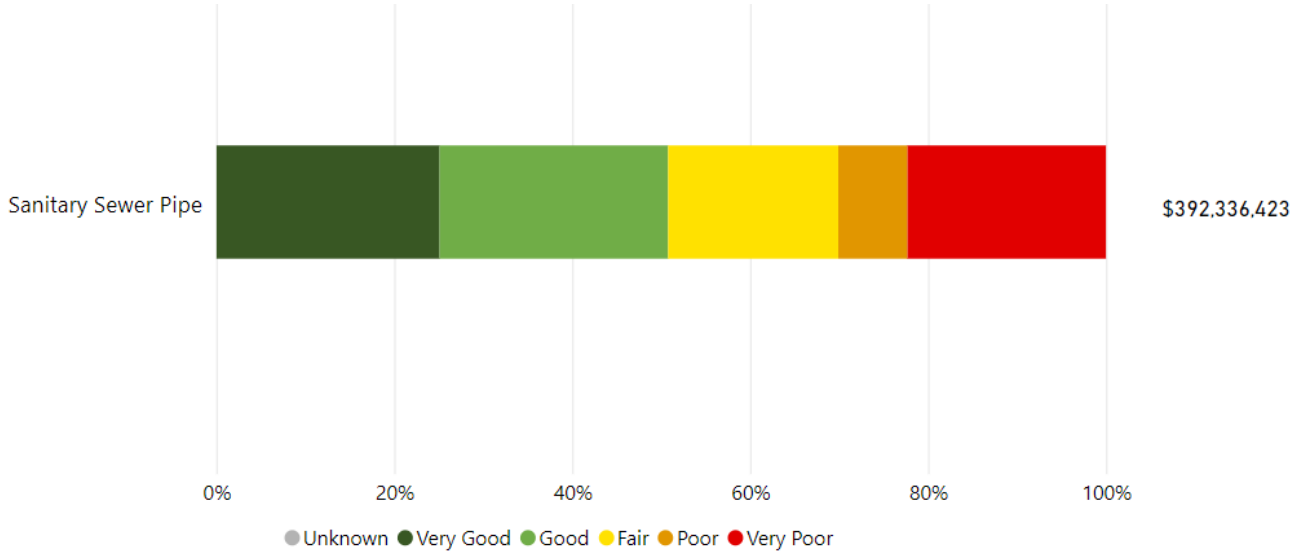


Figure 5-2. Asset Type Condition (by Replacement Value) – Wastewater

The Town's Wastewater sanitary sewer pipes are on average in fair condition with over 69% of assets in fair or better condition. As the Town continues to collect more accurate CCTV inspection data for the entire wastewater network, conditions in future AMPs may look drastically different.

5.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age and estimated service life for sanitary sewer pipes is shown in Figure 5-3.

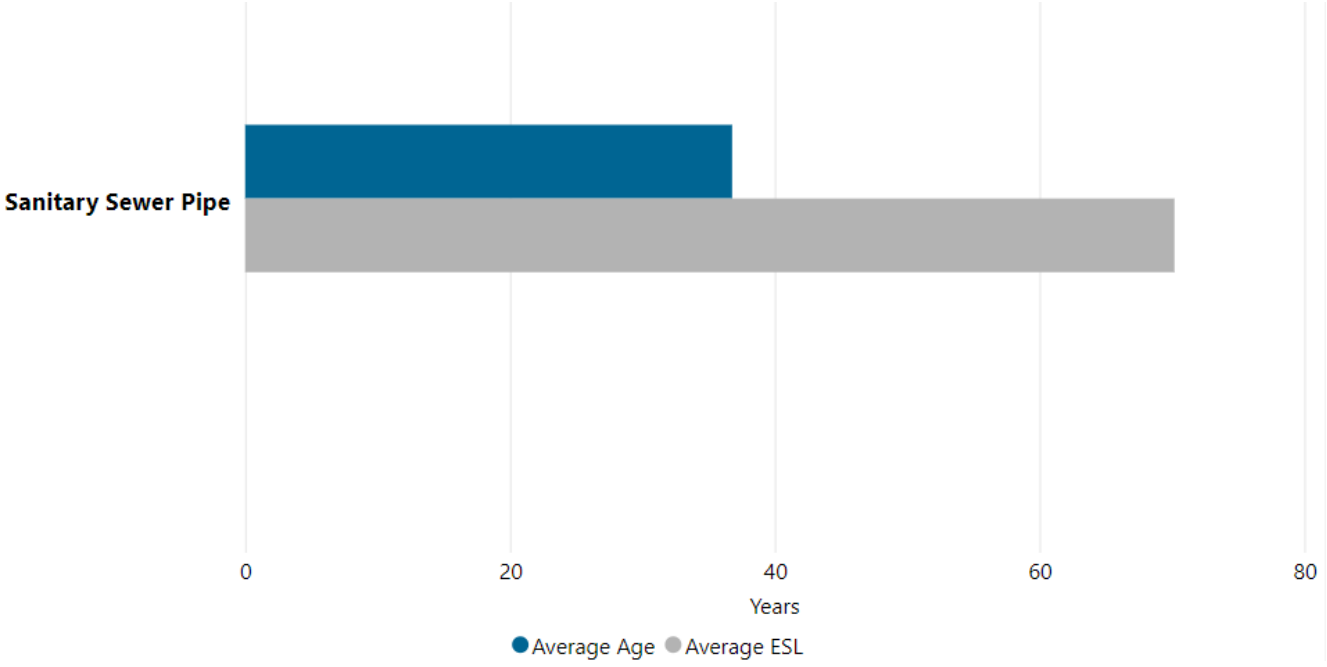


Figure 5-3. Average Age and Average Estimated Service Life – Wastewater

Sanitary sewer pipes have varying estimated service lives based on their material type. On average, sanitary sewer pipes are just under 40 years old, with an average estimated service life of approximately 70 years. Based on this information and with the condition information, sanitary sewers still have many years of providing reliable service to the community.

5.2 Levels of Service

Service Statement: Efficiently providing reliable wastewater services that are conscious of impacts to private property and the environment.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O.Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 5-3 and Table 5-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 5.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 5-3. Customer / Council Focused Level of Service Requirements – Wastewater

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Cost to provide service (2024 Operating & Capital/connection)	$1,128/connection	$1,128/connection	
Safe	Description of how combined sewers in the Fort Erie wastewater system are designed with overflow structures in place (to prevent backups into homes by allowing overflow during storm events)*	N/A	N/A	
Safe	Description of the frequency and volume of overflows in combined sewers in the Fort Erie wastewater system that occur in habitable areas or beaches*	N/A	N/A	
Safe	Description of how stormwater can get into sanitary sewers in the Fort Erie wastewater system, causing sewage to overflow into streets or backup into homes*	Some Inflow and Infiltration into sanitary system exists, through private connections, cross connections and system infrastructure deficiencies, such as cracks & leaks.	Some Inflow and Infiltration into sanitary system exists, through private connections, cross connections and system infrastructure deficiencies, such as cracks & leaks.	

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Safe	Description of how sanitary sewers in the Fort Erie wastewater system are designed to be resilient to avoid storm events*	Design and construction criteria for sanitary sewers in place, to ensure consistent and industry-accepted performance requirements, materials, and installation methods are used.	Design and construction criteria for sanitary sewers in place, to ensure consistent and industry-accepted performance requirements, materials, and installation methods are used.	
Safe	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater*	N/A (Regional Jurisdiction)	N/A (Regional Jurisdiction)	
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.*	See Appendix B	See Appendix B	

*Mandatory under O.Reg. 588/17

Table 5-4. Technical Focused Level of Service Requirements – Wastewater

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Scope	Percentage of properties connected to the municipal wastewater system*	12,775 (Residential & ICI)	12,775	
Safe	Number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.*	N/A	N/A	
Safe	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.*	.055	0	
Safe	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.*	N/A	N/A	
Quality	Percentage of replacement value of sewers in very poor condition	22.31%	8%	
Reliable	Number of customers that experience basement flooding caused by system surcharge	7	0	
Environmental Stewardship	Number of relief pumping events	1	0	

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Environmental Stewardship	Total volume of untreated wastewater discharged into the natural environment via relief pumping events (m3)	213	0	
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	103%[7]	100%	

*Mandatory under O.Reg. 588/17

[7] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

5.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

5.3.1 Lifecycle Activities

Lifecycle activities for Wastewater involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Wastewater to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Wastewater in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well maintained Wastewater infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in in Table 5-5.

Table 5-5. Asset Management Practices and Associated Risks – Wastewater

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Disconnecting downspouts	• As identified
• Weeping tile disconnection to manage sewer demand	• As identified
• Smoke testing	• As identified
• CCTV program	• Annual; 25km per year
• Flow and level monitoring	• As identified
• GIS for record management	• On-going
• Inflow and infiltration monitoring	• Continuous
• Wastewater Master Servicing Plan and Pollution Prevention and Control Plan	• 5 years
Operations & Maintenance Activities	
• Maintenance and inspection programs (cleaning and flushing, minor repairs and maintenance hole repairs)	• Regularly (unscheduled or unplanned emergency activities)
• Maintenance hole adjustments and minor sewer repairs	• As identified. Regularly (unscheduled or unplanned emergency activities)
• Replacement of clay pipe	• As identified in 10-year plan
Renewal/Replacement Activities	
• Replacement of clay pipe	• As required
• Relining	• As required
• Replacement of sewers	• Annual
Disposal Activities	
• Dispose of assets in line with replacements	• As required
Service Improvement & Growth Activities	
• New assets for developments to service growth	• As needed
• New assets as part of service improvement	• As identified in studies

5.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 5.3 to plan work and determine future expenditure needs for Wastewater assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 5.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

5.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Wastewater (as mandated by O.Reg. 588/17).

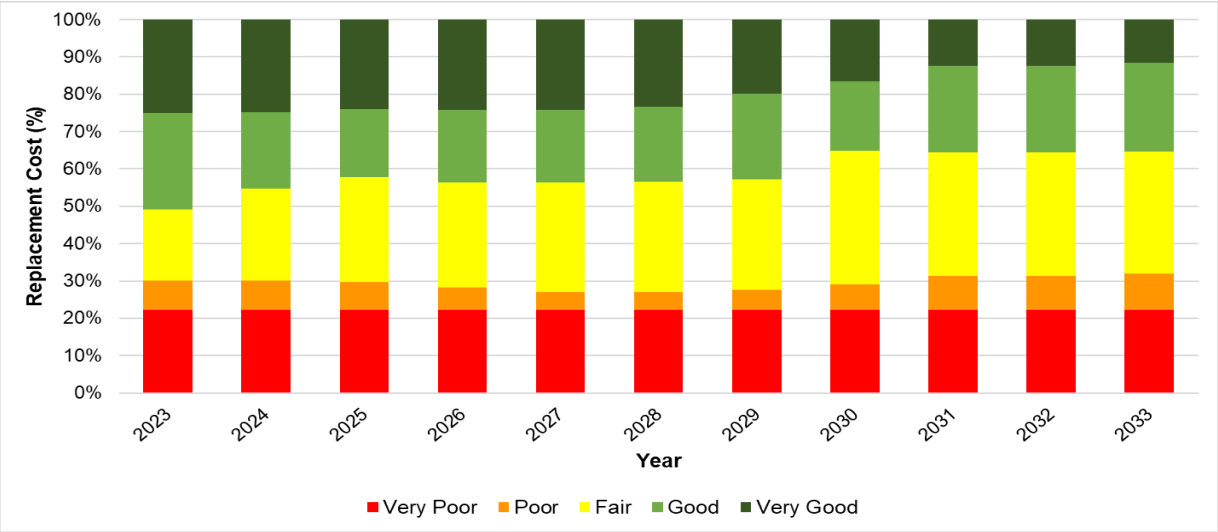


Figure 5-4. Wastewater Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $3.1 million for renewal, rehabilitation and replacement activities is needed to maintain performance for Wastewater. There is no funding gap compared to the anticipated funding levels. The performance forecast for scenario one is shown in Figure 5-4. Assets in good to very good condition decreases by 16% over the 10-year forecast, ending at 35%.

5.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Wastewater is $3.9 million. The condition distribution for the anticipated funding scenario is shown below in Figure 5-5. Overall condition decreases in this scenario. While assets in poor to very poor stays steady at 30%, assets in fair condition increases by 14% to end the 10-year forecast at 33% of overall condition.

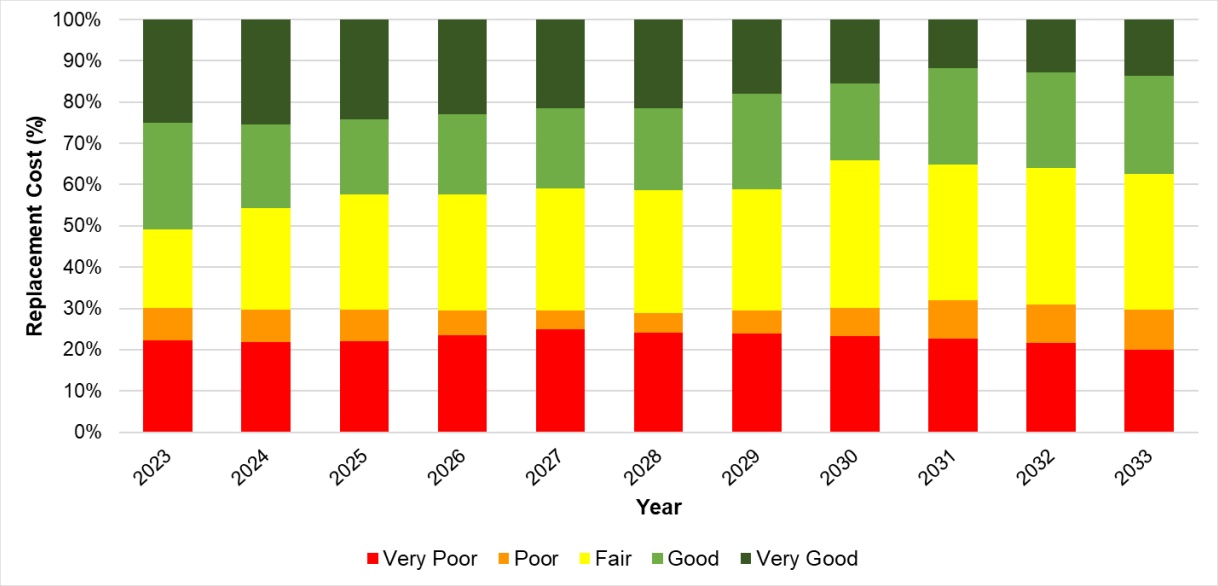


Figure 5-5. Wastewater Performance Forecast with Current Funding

5.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal, rehabilitation, and replacement activities listed above in Table 5-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and

maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O.Reg. 588/17.

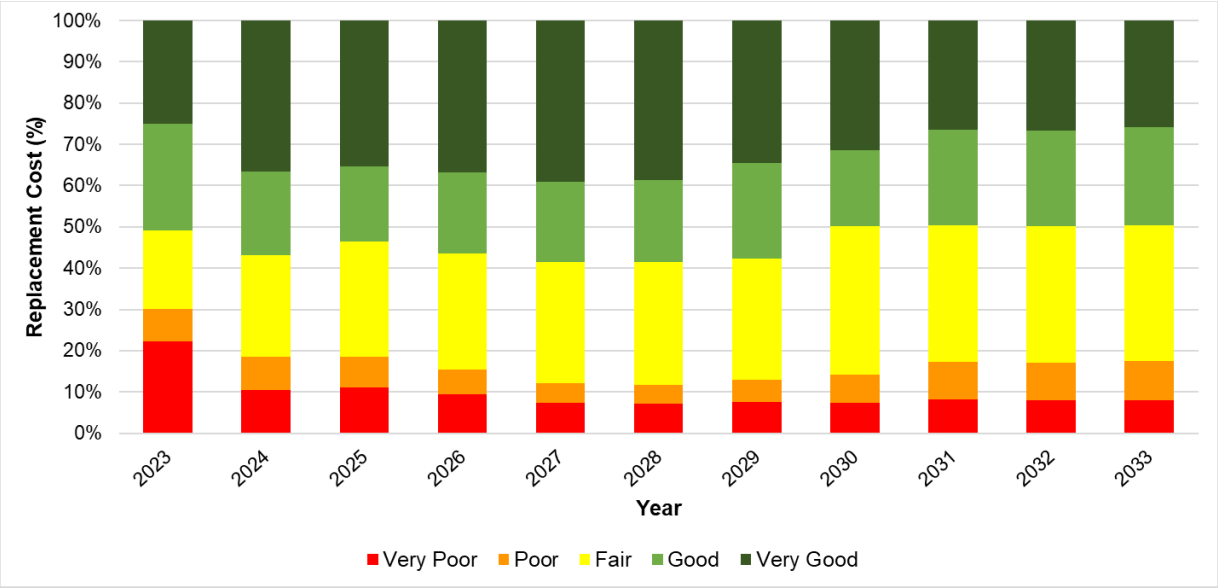


Figure 5-6. Wastewater Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs as per Lifecycle Strategies

It was determined that a budget of $8.7 million for renewal, rehabilitation and replacement activities is needed to achieve the proposed levels of service. There is a funding gap of approximately $4.7 million compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 5-6. The performance of Wastewater increases during the 10-year forecast period. Assets in good to very good condition stay steady at 50% and assets in poor to very poor condition decrease from 30% to 18%.

5.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 5-7 and Table 4-6. Figure 5-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 5-7 are colour coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights no gap to maintain current performance (condition) of assets and a gap of $4.7 million to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

The forecast for sanitary assets assumes that the assets will be replaced, which is a contributing factor to the high backlog and needs assessed in this AMP. It is recommended that the Town further review possible rehabilitation options to improve the condition of the sanitary assets, at a lower cost. Options would include spot repairs, and relining of the pipes where appropriate, rather than full replacement. These options will improve the condition of the pipes at a lower cost than full replacement.

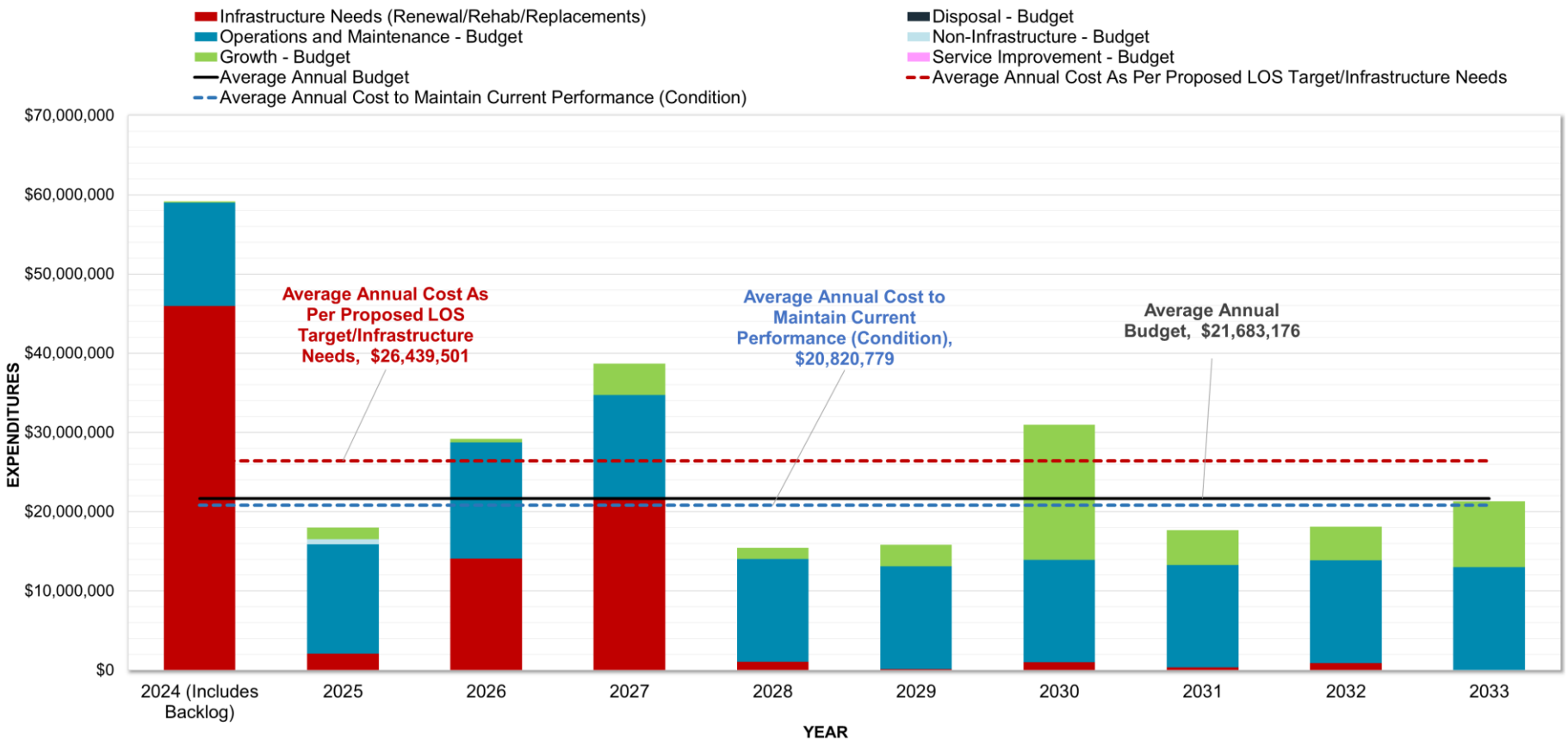


Figure 5-7. Wastewater Scenario Comparison

The backlog is also highlighted in Figure 5-7 in the year 2024. The backlog represents renewal, rehabilitation, and replacement activities that have been identified as necessary but have not yet been completed. Continuing to defer renewals creates a risk of higher financial costs, potential decreased availability, and potential decreased satisfaction with asset performance.

Continuing to delay renewals may put the Town at risk for intergenerational inequality. Future generations may not be able to maintain the levels of service customers currently enjoy. Continued project deferrals can also lead to higher operational and maintenance costs, potentially limiting the availability of services in the future. Timely and adequately funded renewals and replacements will ensure that assets continue to remain functional and reliable into the future, at the lowest possible cost.

5.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 5-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 5-6. Current and Optimal Capital Funding and Funding Gap - Wastewater

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$4,420,116	$4,420,116	$4,420,116
Non-Infrastructure	$62,500	$62,500	$62,500
Operations & Maintenance	$13,228,774	$13,228,774	$13,228,774
Renewal, Rehabilitation & Replacement	$3,971,787	$3,109,389	$8,728,111
Service Improvement	$0	$0	$0
Total	**$21,683,176**	**$20,820,779**	**$26,439,501**
Average Annual Spending Gap		**No Gap**	**$4,756,325**
Percentage Increase Required to Address Gap			**22%**

5.5 Data Confidence and Improvement Plan

Table 5-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 5-7. Wastewater – Data Confidence

Asset Segment	Data Source	Data Confidence
Sanitary Sewer Pipe	Shapefile (GIS) & CCTV Inspection Records	A

5.5.1 Recommendations for Improvements

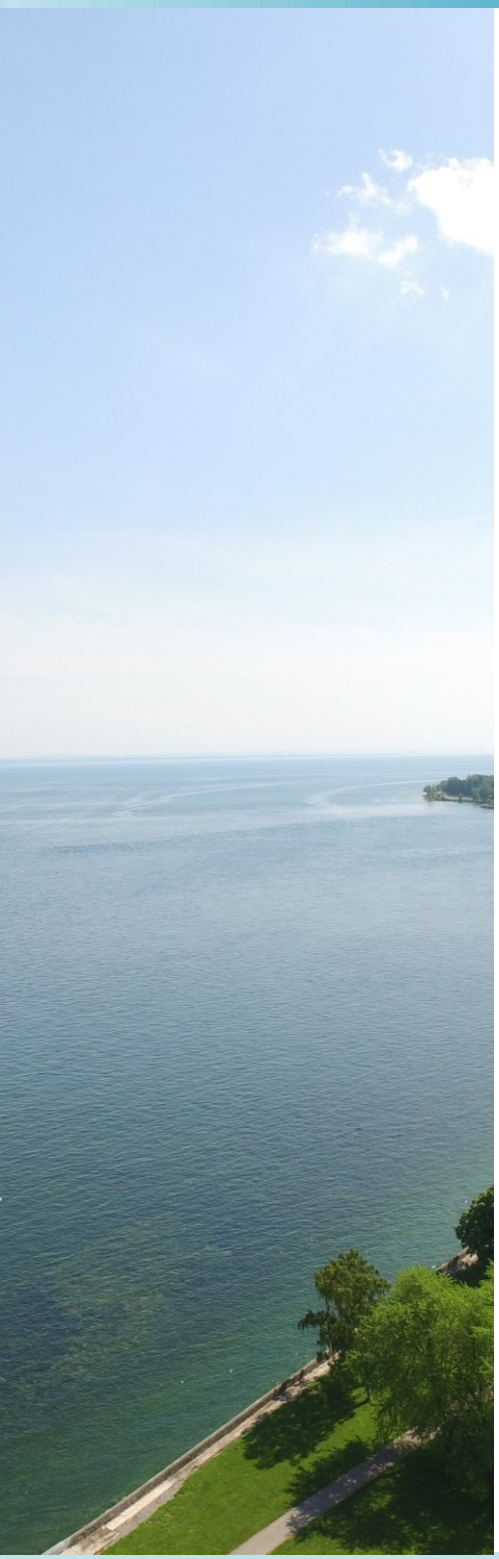
Opportunities for improvement include:

Sanitary Sewer Pipe: Continue to keep up to date records and condition data for sewer pipes. Continue to expand on lifecycle strategies for pipes and how condition data is used to inform decisions on rehabilitation and replacements.

It is recommended to develop a prioritized CCTV inspection program that defines frequency of inspections based on specific criteria (age of pipe, condition, risk, etc.)

It is also recommended that the Town review rehabilitation options for storm pipes that will decrease the infrastructure gap while also improving performance.

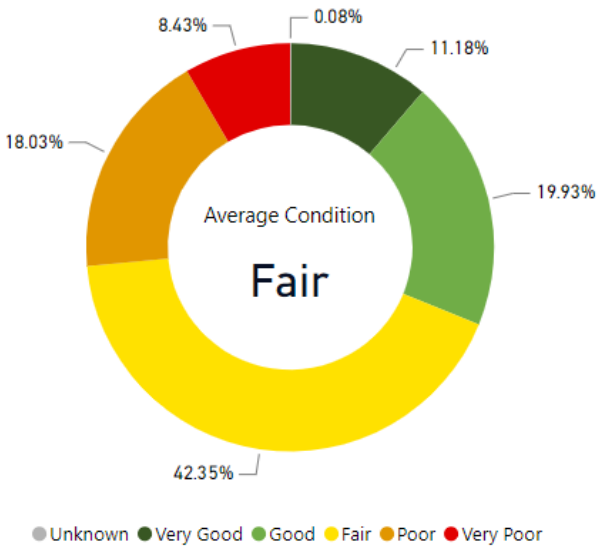
6.0 Water



Replacement Value

$371,352,898

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)

$2.2 M

Average Annual Gap to Meet Proposed LOS (Performance)

$2.2 M

Asset Inventory

- Maintains 282 km of distribution watermains & appurtenances
- 2 Bulk Water Stations and 60 Water Sample Stations

6 Water

Water infrastructure is a crucial part of the Town's underground infrastructure network, providing clean and safe drinking water to residents and businesses. Water infrastructure in the Town of For Erie is a two-tier system. The Niagara Region owns and operates a water treatment plant and supporting facilities, and transmission watermains that deliver water to distribution watermains throughout the municipality. The Town owns and operates 282km of distribution watermains along with many supporting assets. Municipal water systems are regulated by the Ministry of Environment, Conservation and Parks under the Safe Drinking Water Act (2002). The Town follows these regulations and undergoes testing and inspections to ensure compliance. The safe operations of the water system is crucial to community health and well-being.

6.1 State of the Infrastructure

6.1.1 Asset Valuation

The Water asset category includes bulk water stations, water meters, water sample stations and watermains and appurtenances (including hydrants, valves, laterals, and curb stops) with a total estimated replacement value of $371 million. The individual asset inventory and current replacement value is shown in Table 6-1.

Table 6-1. Inventory and Current Replacement Value – Water

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Bulk Water Station	2	Units	$300,000
Water Meters	14,041	Units	$12,687,385
Water Sample Station	60	Units	$60,000
Watermains & Appurtenances	282	km	$358,665,513
Total			**$371,712,898**

6.1.2 Asset Condition

Asset condition is an important piece in asset management planning. Condition was assigned to assets in Water based on age/estimated service life. For watermains, where no breaks have occurred, age/estimated service life were used to determine condition. Where break

information was available this was a factor in the condition rating of the watermain. The condition rating scale is shown below in Table 6-2.

Table 6-2. Condition Rating Scale - Water

Condition	Age/ESL	Breaks
Very Good	>80% life remaining	0
Good	60-80% life remaining	0
Fair	40-60% life remaining	0
Poor	20-40% life remaining	1-2
Very Poor	0-20% life remaining	3-5
Unknown		

Figure 6-1 and Figure 6-2 illustrates the condition distribution of the Town's Water assets.

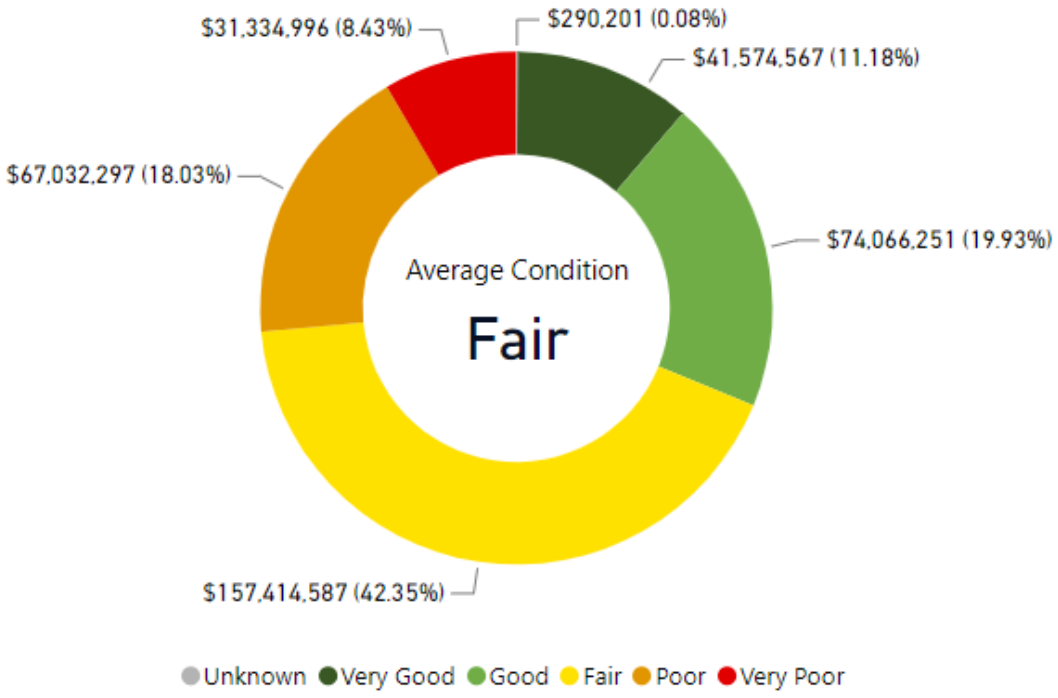


Figure 6-1. Overall Asset Condition (by Replacement Value) - Water

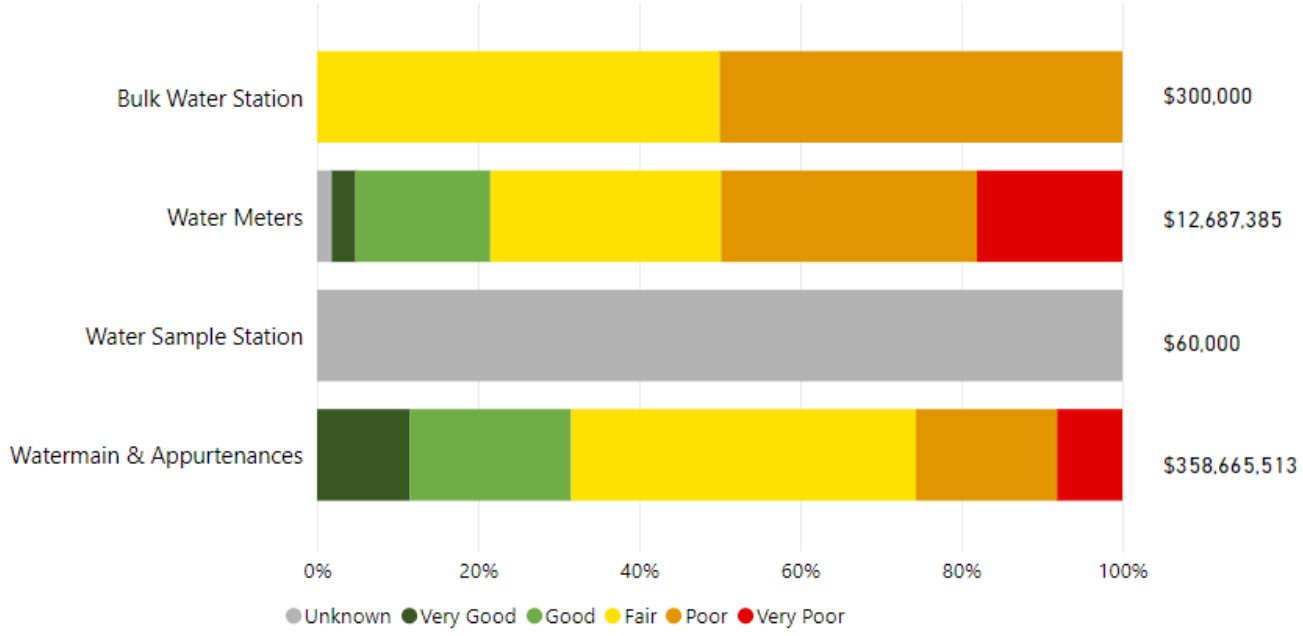


Figure 6-2. Asset Type Condition (by Replacement Value) - Water

The average condition of Water assets is fair, with approximately 73% of assets in fair or better condition. About half of water meters are in poor or very poor condition, as seen in Figure 6-2. These assets are at or near replacement, with 40% or less of their estimated service lives left. The Town can plan for their upcoming replacement in the Capital plan. Water Sample Stations currently have unknown condition, it is recommended that this information is tracked, and gaps are filled for this asset class.

6.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age and average estimated service life for bulk water stations, water meters and watermains and appurtenances is shown in Figure 6-3.

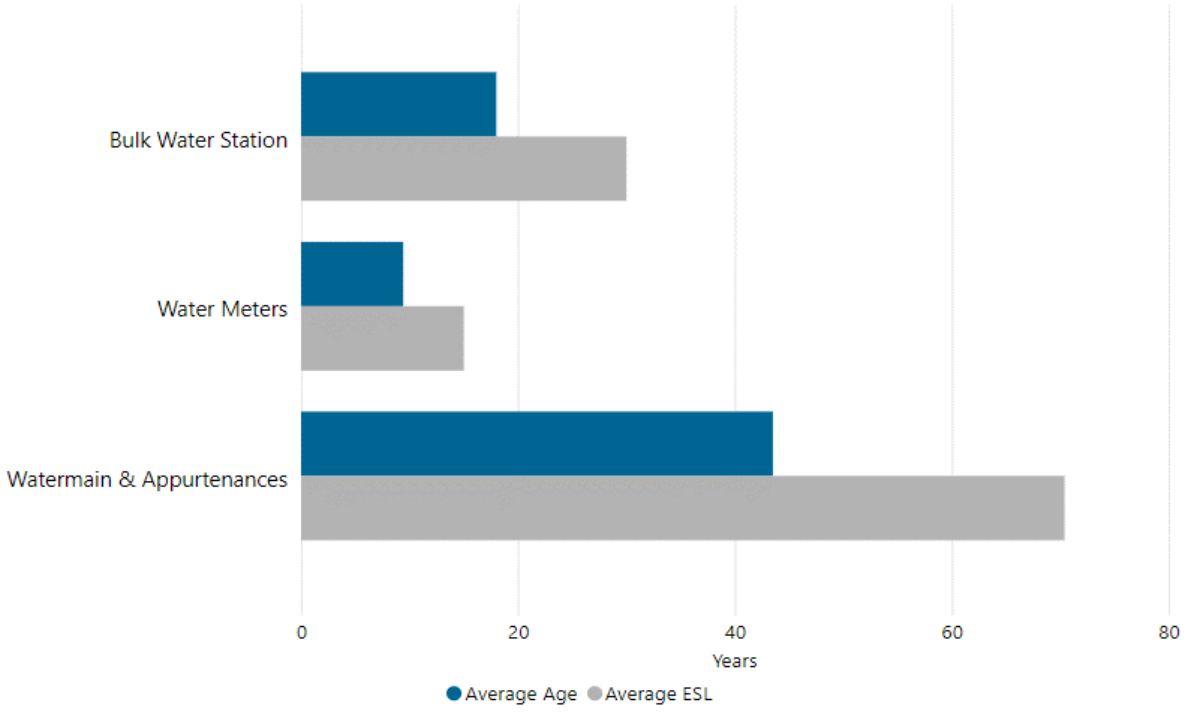


Figure 6-3. Average Age and Average Estimated Service Life - Water

6.2 Levels of Service

Service Statement: The Town of Fort Erie will strive to provide safe, clean drinking water of adequate pressure and flow with minimum service interruptions.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O.Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 6-3 and Table 6-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 6.3 Lifecycle Management Strategy, as well as the

analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 6-3. Customer / Council Focused Level of Service Requirements – Water

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Safe and Reliable	Descriptions of boil water advisories and service interruptions*	0	0	
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system.*	Most properties within urban area are connected to the municipal water system.	Most properties within urban area connected to the municipal water system.	
Scope	Description, which may include maps, of the user groups or areas of the municipality that have fire flow.*	Most properties within urban area connected to the municipal water system for fire flow.	Most properties within urban area connected to the municipal water system for fire flow.	
Cost Efficient	Cost to provide service (2024 Operating & Capital/connection) *Cost to provide services is not disproportionate to CPI	$604/household	$604/household	
Safe	Percent of community with sufficient fire flow protection	97.6%	100%	
Quality	Number of complaints due to rusty/discoloured water	19	0	
Quality	Number of complaints due to low pressure	12	0	

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Reliable	Watermain break(s)	24	Decrease/Maintain	

*Mandatory under O.Reg. 588/17

Table 6-4. Technical Focused Level of Service Requirements – Water

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Safe and Reliable	Number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.*	4.5 days shut down compared to 14,410 properties connected to the water system	0	
Safe and Reliable	Number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.*	1	0	
Scope	Percent of properties connected to the municipal water system*	88%	88%	
Scope	Percent of properties where fire flow is available*	88%	88%	
Safe	Number of confirmed adverse water quality tests	11	0	

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Quality	Percent length of system that is CI/DI/AC	21.93%	16.27%	
Reliable	Percentage of replacement value of watermains in very poor condition	14%	14%	
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	110%[8]	100%	
Environmental Stewardship	Infrastructure Leakage Index (ILI)	4.1 (2023)	3.84	

*Mandatory under O.Reg. 588/17

[8] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

6.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

6.3.1 Lifecycle Activities

Lifecycle activities for Water involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Water to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Water in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well maintained Water infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in Table 6-5.

Table 6-5. Asset Management Practices and Associated Risks – Water

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Leak detection program	• Annually; continuously
• Water Master Servicing Plan	• 5 years
• DWQMS Risk Assessment	• 3 years
Operations & Maintenance Activities	
• Monitoring with hydrant flow tests for fire flow/hydrants	• As needed
• Procedures. Monitor other watermain-related items	• On-going
• Preventative maintenance	• On-going
• Valve exercising program	• On-going
• Hydrant flow and code program	• Continuous
• Dead end flushing program	• Continuous monthly dead-end flushing, all dead ends flushed semi-annually
Renewal/Replacement Activities	
• Watermain replacement	• As identified in the 10-year plan
Disposal Activities	
• Dispose of assets in line with replacements	• As required
Service Improvement & Growth Activities	
• New assets for developments to service growth	• As needed
• New assets as part of service improvement	• As identified in studies

6.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 6.3 to plan work and determine future expenditure needs for Water assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 6.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

6.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Water (as mandated by O.Reg. 588/17).

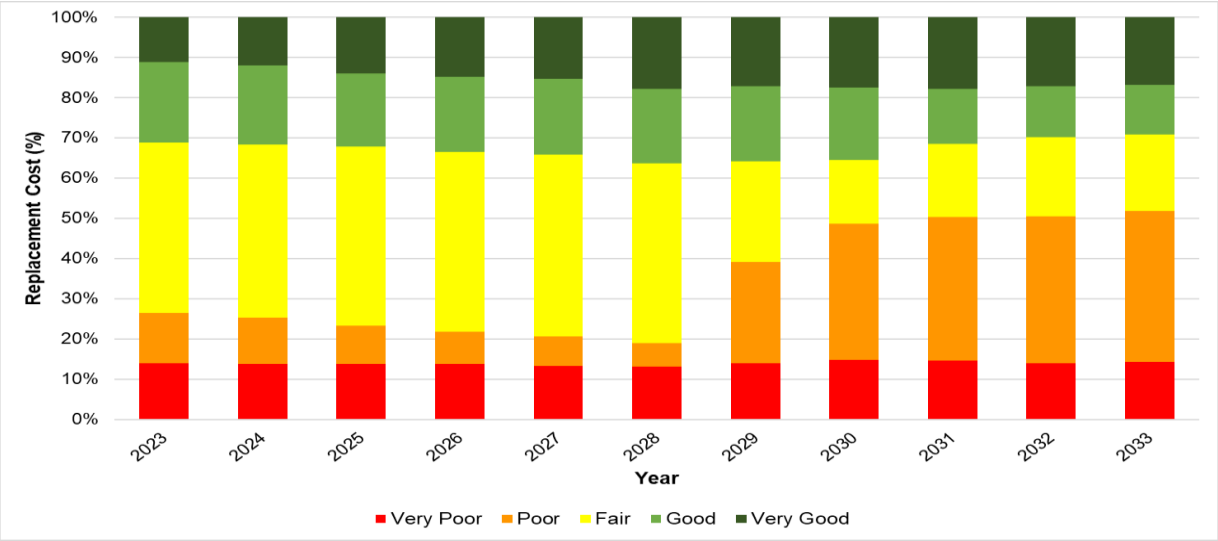


Figure 6-4. Water Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $5 million in rehabilitation and replacement activities is needed to maintain performance for Water, which means there is currently a gap of $2.2M. The performance forecast for scenario one is shown in Figure 6-4. The overall performance (condition) of assets decreases slightly in this scenario. Asset in poor to very poor condition increases by 25%, ending at 52%, while assets in good to very good condition decrease by 2%. In the year 2029, there are a significant amount of watermains, that based on the service life and deterioration of assets, move from Fair to Poor contributing to the significant increase assets in Poor condition in this year.

6.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Water is $2.7 million. The condition distribution for the anticipated funding scenario is shown below in Figure 6-5. The overall condition of assets decreases over this scenario forecast period. Assets in poor to very poor condition end this scenario forecast at 58%. This highlights the challenges the Town may face in keeping up with infrastructure needs with the current budget allocation. Similar to the previous scenario, a large portion of watermains moves into the Poor category in the year 2029.

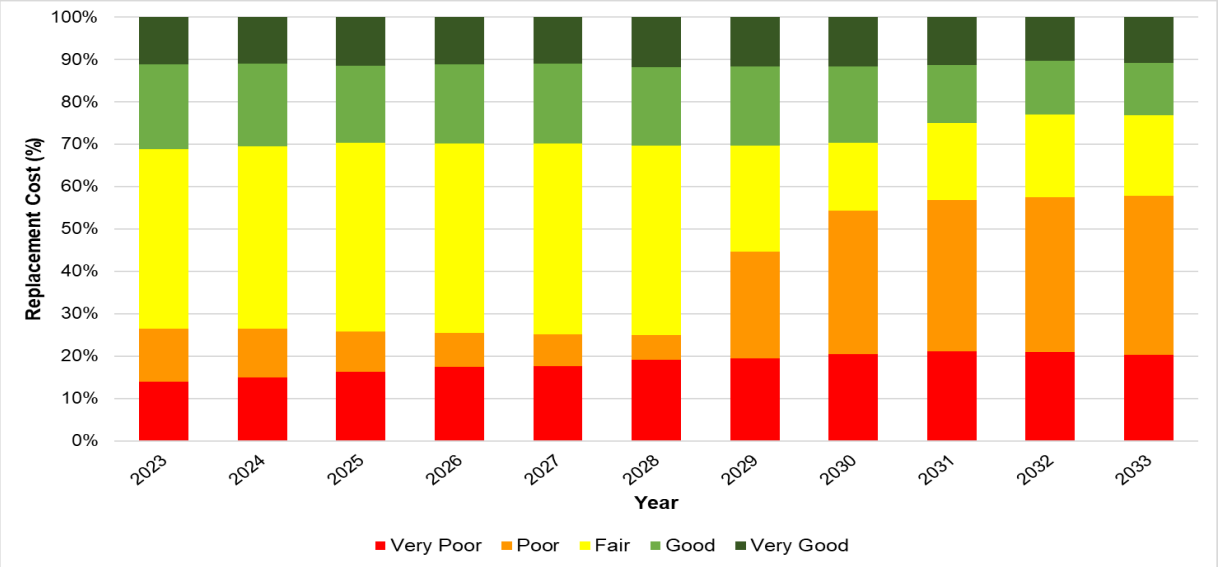


Figure 6-5. Water Performance Forecast with Current Funding

6.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal,

rehabilitation, and replacement activities listed above in Table 6-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O.Reg. 588/17.

It was determined that a budget of $5 million is needed for renewal, rehabilitation and replacement activities to achieve the proposed levels of service. There is a funding gap of approximately $2.2 million compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 6-6. The performance of Water decreases during the 10-year forecast period. Assets in good to very good condition start at 32% and decrease to 28% at the end of the forecast. Similar to the previous scenario, a large portion of watermains moves into the Poor category in the year 2029.

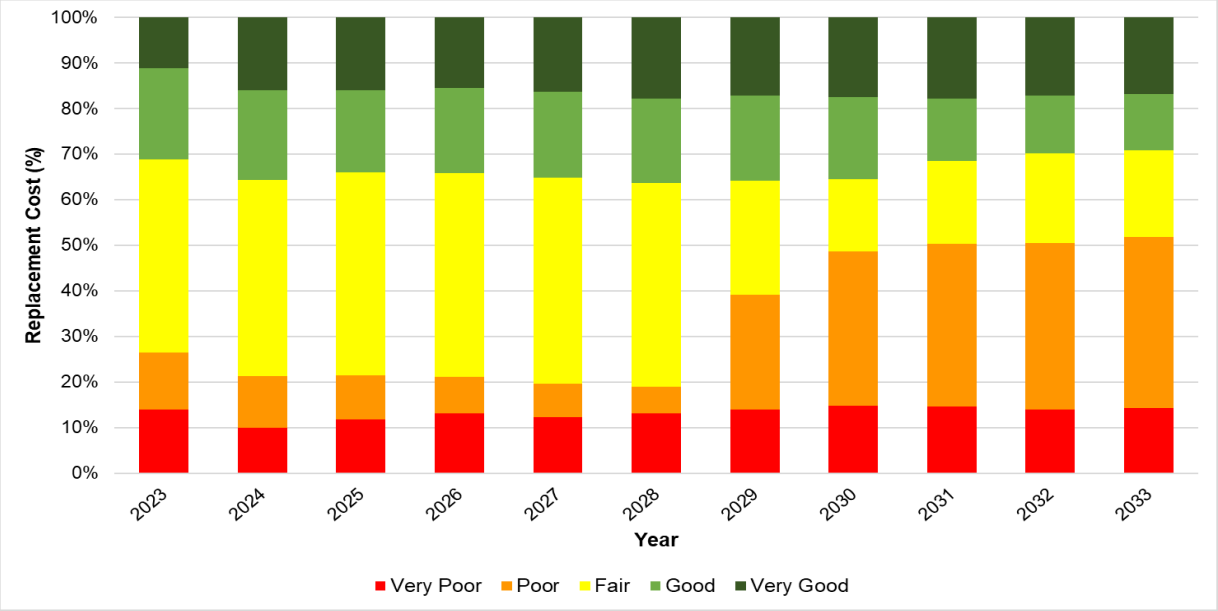


Figure 6-6. Water Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs as per Lifecycle Strategies

6.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 6-7 and Table 6-6. Figure 6-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/ infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 6-7 are colour

coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights a gap of approximately $2.2 million to maintain current performance (condition) of assets and a gap of $2.2 million to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

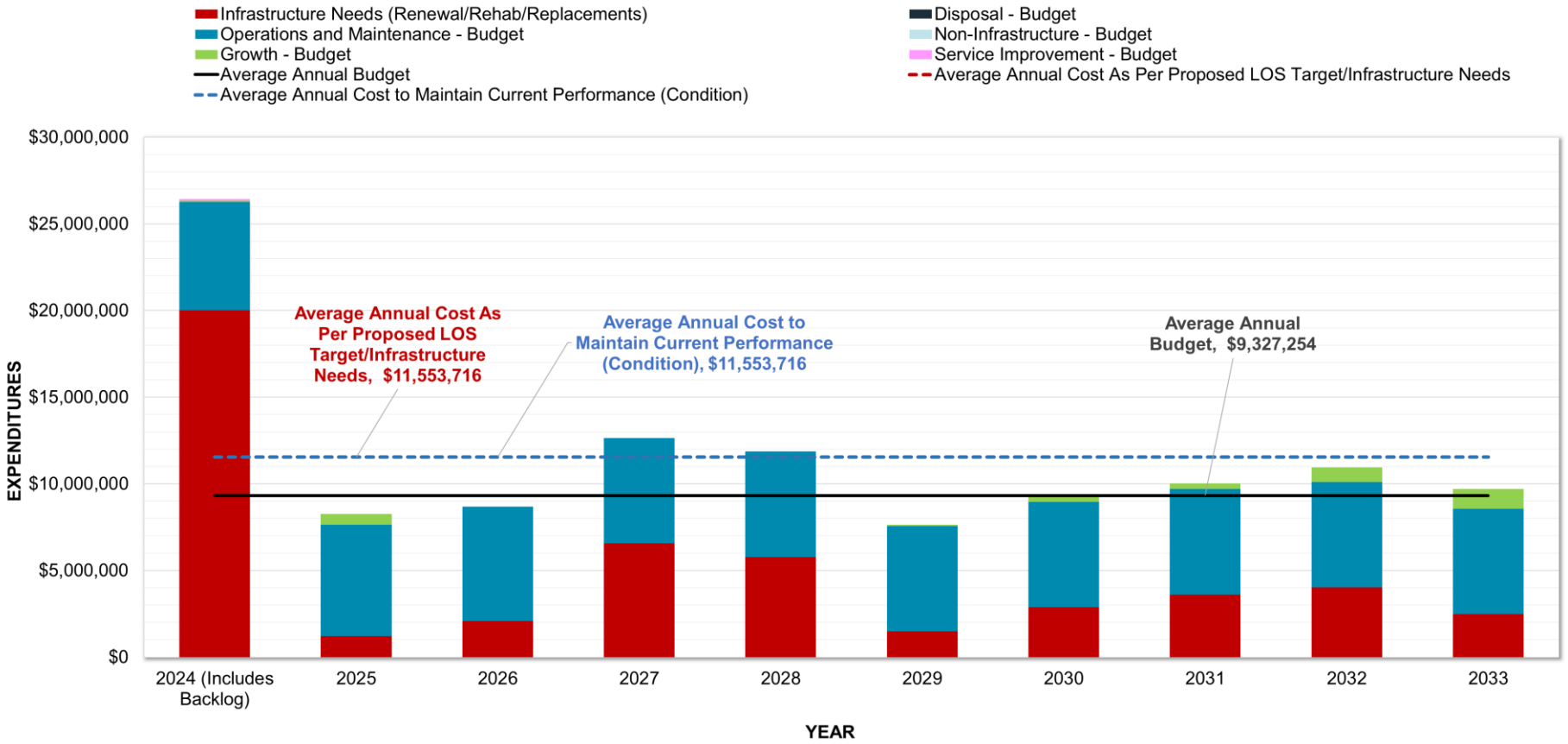


Figure 6-7. Water Scenario Comparison

The backlog is also highlighted in Figure 6-7 in the year 2024. The backlog represents renewal, rehabilitation, and replacement activities that have been identified as necessary but have not yet been completed. Continuing to defer renewals creates a risk of higher financial costs, potential decreased availability, and potential decreased satisfaction with asset performance.

Continuing to delay renewals may put the Town at risk for intergenerational inequality. Future generations may not be able to maintain the levels of service customers currently enjoy. Continued project deferrals can also lead to higher operational and maintenance costs, potentially limiting the availability of services in the future. Timely and adequately funded renewals and replacements will ensure that assets continue to remain functional and reliable into the future, at the lowest possible cost.

6.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 6-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 6-6. Current and Optimal Capital Funding and Funding Gap - Water

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$348,151	$348,151	$348,151
Non-Infrastructure	$0	$0	$0
Operations & Maintenance	$6,183,729	$6,183,729	$6,183,729
Renewal, Rehabilitation & Replacement	$2,784,375	$5,010,837	$5,010,837
Service Improvement	$11,000	$11,000	$11,000
Total	**$9,327,254**	**$11,553,716**	**$11,553,716**
Average Annual Spending Gap		**$2,226,462**	**$2,226,462**
Percentage Increase Required to Address Gap		**24%**	**24%**

6.5 Data Confidence and Improvement Plan

Table 6-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 6-7. Water – Data Confidence

Asset Segment	Data Source	Data Confidence
Bulk Water Station		D
Water Meters	Vailtech water meter system	B
Water Sample Station	Shapefile (GIS)	D
Watermain & Appurtenances	Shapefile (GIS)	A

6.5.1 Recommendations for Improvements

Opportunities for improvement include:

Bulk Water Station: Assess the replacement value of these stations and ensure the service life and recommendations for this station are adequate.

Water Meters: Ensure data management processes are in place to continually update this data set with updated replacement values for appropriate planning, ensure the data from the Vailtech water meter system is integrated with the asset register.

Water Sample Stations: Limited information was available on these assets. A review of the asset information available for these assets should be completed to ensure the information is accurate and fill in gaps for install dates, service life, and condition.

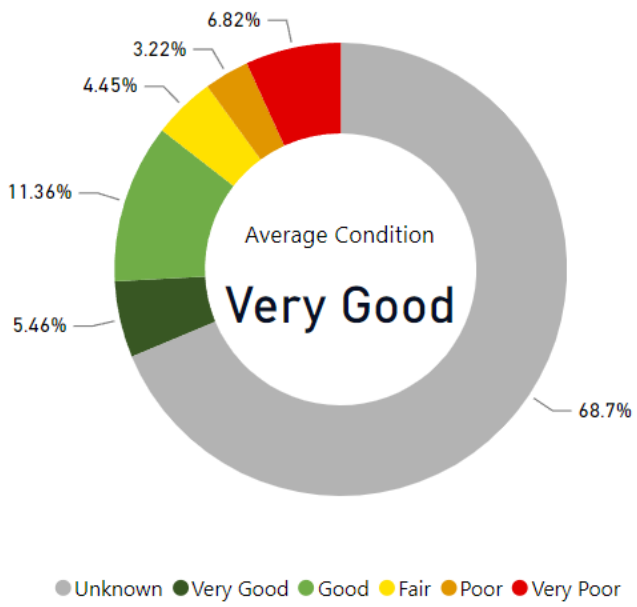
Watermain & Appurtenances: Water information is well maintained. Continue to update this information. Through the implementation of the work management system, water breaks and other information should be connected to watermain assets to better identify assets that are failing and require replacement.

7.0 Digital Services

Replacement Value

$3,325,184

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)	Average Annual Gap to Meet Proposed LOS (Performance)
No Gap	No Gap

Asset Inventory

- 11 different types of Hardware assets including computers, printers, servers & surveillance equipment
- Software assets including in-house, on premises, and SAAS applications

7 Digital Services

Digital Services in the Town of Fort Erie supports service delivery throughout the entire municipality by supporting and enhancing overall efficiency. Hardware and software assets support staff in completing their day-to-day jobs. Digital Services plays a crucial role in continually modernizing and optimizing the operations of the Town.

7.1 State of the Infrastructure

7.1.1 Asset Valuation

Digital Services includes several different types of hardware and software assets with a total replacement value of approximately 3.3M. The individual asset inventory and current estimated replacement value is shown in Table 7-1.

Table 7-1. Inventory and Current Replacement Value – Digital Services

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Hardware Assets			
Accessories	91	Units	$36,300
Cellular	128	Units	$47,293
Computer	251	Units	$508,875
Monitor	305	Units	$151,000
Network	211	Units	$191,290
Phone	240	Units	$108,000
Power	22	Units	$40,029
Printer	47	Units	$162,290
Server	42	Units	$320,500
Surveillance	94	Units	$28,200
Software Assets			
Main “in-house” applications	71	Units	$1,420,000
Main “on premise” applications	19	Units	$225,057
Main “software as a service” applications	10	Units	$14,350

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Standard “base” staff installation	4	Units	$72,000
Total			**$3,325,184**

7.1.2 Asset Condition

Asset condition is an important piece in asset management planning. Condition was assigned to assets in Digital Services based on age/estimated service life. The condition rating scale is shown below in Table 7-2.

Table 7-2. Condition Rating Scale – Digital Services

Condition	Age/ESL
Very Good	>80% life remaining
Good	60-80% life remaining
Fair	40-60% life remaining
Poor	20-40% life remaining
Very Poor	0-20% life remaining
Unknown	

Figure 7-1 and Figure 7-2 illustrates the Condition distribution of the Town’s Digital Services assets.

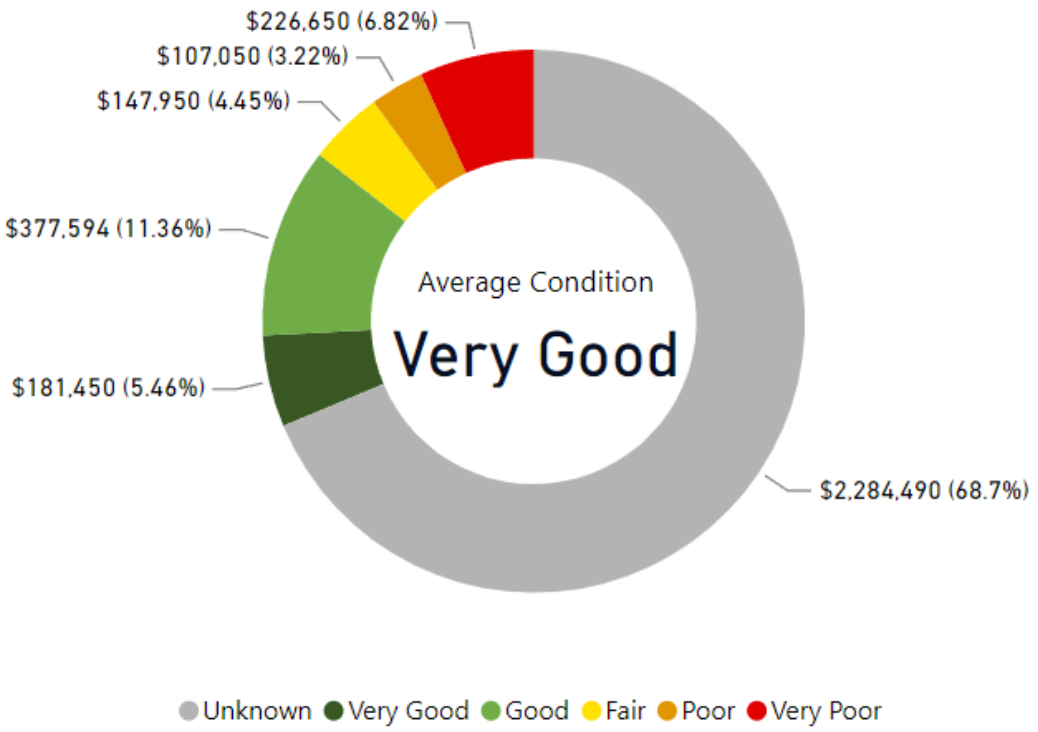


Figure 7-1. Overall Asset Condition (by Replacement Value) – Digital Services

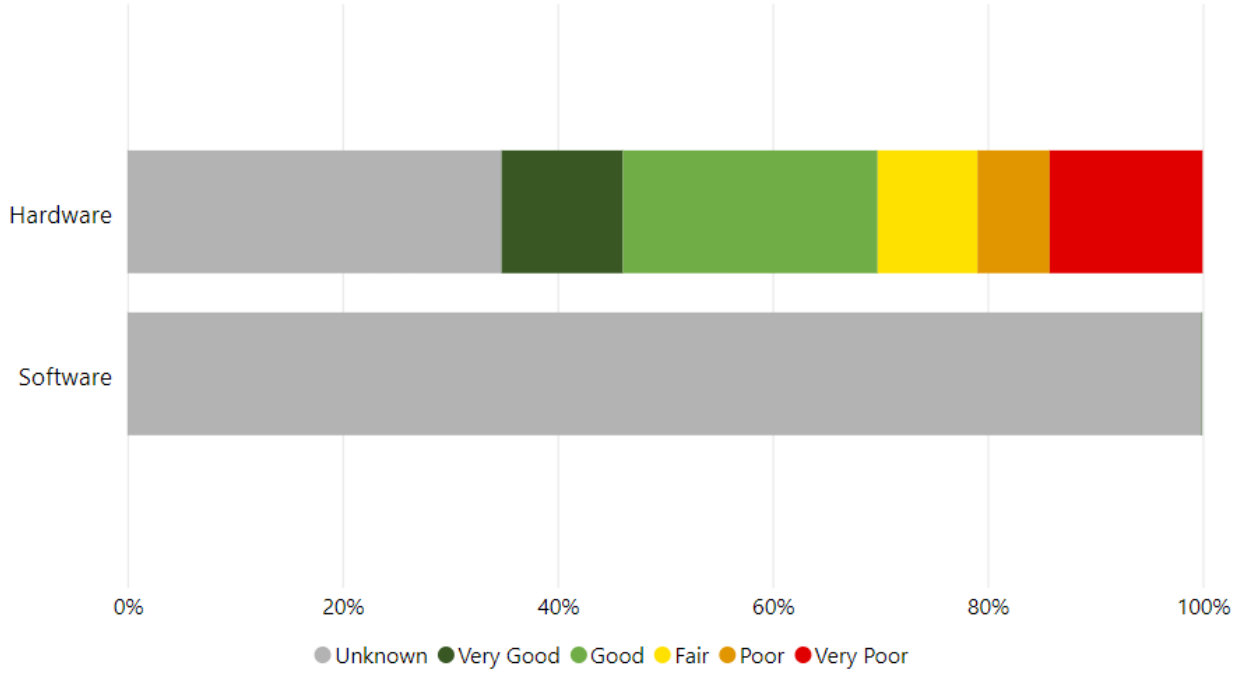


Figure 7-2. Asset Type Condition (by Replacement Value) – Digital Services

The average condition of Digital Services assets is good. A large portion of assets currently have an unknown condition (68%). Figure 7-2 shows that the condition of software assets is entirely unknown and approximately 34% of hardware assets have an unknown condition.

The Town worked to provide an assessment of both equipment and software assets for inclusion in the AMP, but further efforts are required to expand on this asset type. Software is a difficult asset to assess for condition, without an overall review of the adequacy of the systems used within the Town. It is recommended the Town further analyze how software condition can be accurately assessed.

7.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age and average estimated service life for hardware and software assets is shown in Figure 7-3.

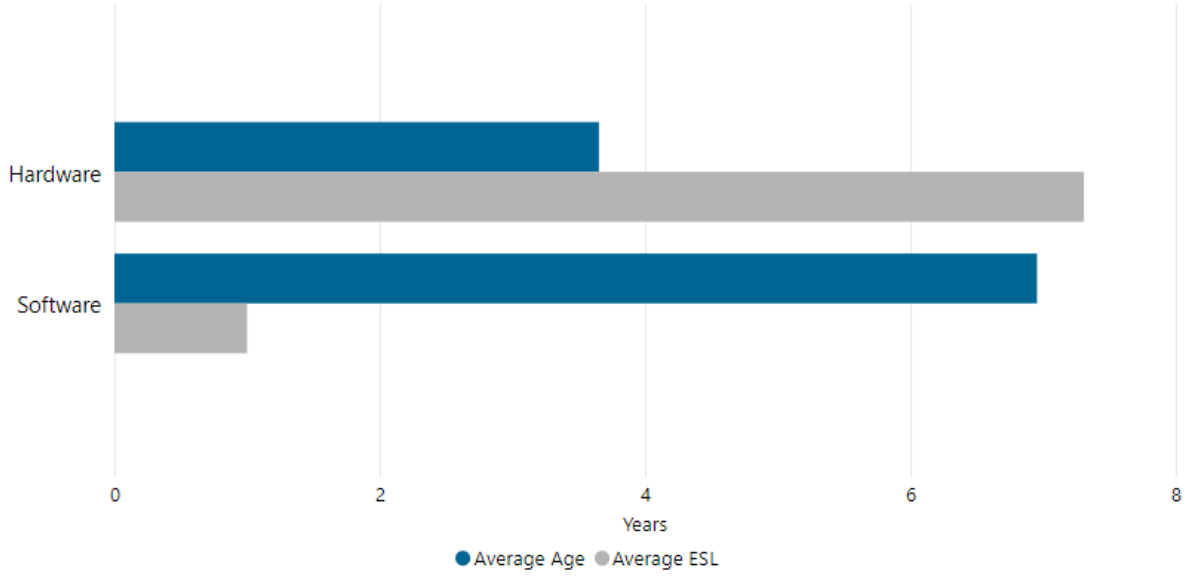


Figure 7-3. Average Age and Average Estimated Service Life – Digital Services

7.2 Levels of Service

Service Statement: At the Digital Services Department of the Town of Fort Erie, we are committed to providing cutting-edge and reliable technology solution to empower our community and enhance the efficiency of municipal operations. Our mission is to leverage innovative IT strategies to support the municipality's goals, promote transparency, and ensure the delivery of exceptional public services.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O. Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 7-3 and Table 7-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 7.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 7-3. Customer / Council Focused Level of Service Requirements – Digital Services

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Cost to provide service (2024 Operating & Capital Budget/household)	$116	$116	

Table 7-4. Technical Focused Level of Service Requirements – Digital Services

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Percentage of total replacement cost for IT assets past their estimated useful life	7.53%	0%	
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	162%[9]	100%	
Quality	Percentage of digital services assets in very poor condition	21.78%	18%	
Reliable	Average Initial Response time to tickets	Corporate standard response (Regular initial response: 1 business day; After hours/on call to system down events: 1 hour)	Corporate standard response	

[9] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

7.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

7.3.1 Lifecycle Activities

Lifecycle activities for Digital Services involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Digital Services to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Digital Services in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well maintained Digital Services infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in Table 7-5.

Table 7-5. Asset Management Practices and Associated Risks – Digital Services

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Disaster Recovery Plan, Business Continuity, Response Planning	• As required
• Network and Security Audit	• Every 2 years
• Strategic Plan	• As required
• Contingency and Redundancy Planning	• As required
Operations & Maintenance Activities	
• Planned maintenance (PM) – updates on firmware and software	• As required
• Service requested maintenance	• As required
• Alerts for software updates and defective equipment	• Monthly
• Purchase of small equipment and materials	• As required
• Software licensing	• Annually
Renewal/Replacement Activities	
• Asset replacement	• As required – when assets reach end of service life or are no longer fit for purpose; no longer supported (increased risk)
Disposal Activities	
• Disposals	• Coordinated with asset replacement
Service Improvement & Growth Activities	
• New assets	• Driven by growth in the Town
• New assets	• To improve LOS and not supported by growth identified through planning and studies
• New technology	• As identified by IS or other departments
• Business process improvements	• As required

7.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 7.3 to plan work and determine future expenditure needs for Digital Services assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 7.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

7.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Digital Services (as mandated by O.Reg. 588/17).

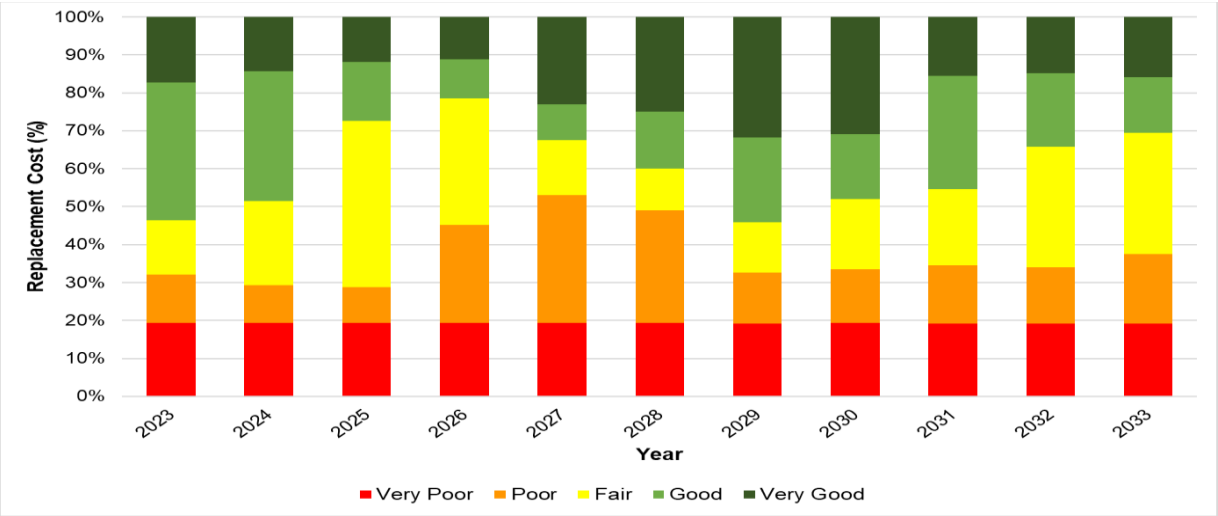


Figure 7-4. Digital Services Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $143,000 for renewal, rehabilitation and replacement activities is needed to maintain performance for Digital Services. There is no funding gap compared the anticipated funding levels. The performance forecast for scenario one is shown n Figure 7-4. Assets in good to very good condition starts at 54% and decreases to 31% at the end of the 10-year period, while assets in very poor condition stays steady at 19%.

7.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Digital Services is $170,000. The condition distribution for the anticipated funding scenario is shown below in Figure 7-5. Overall condition decreases slightly in this scenario, with assets in good to very good condition decreasing by 3%, ending at 51%.

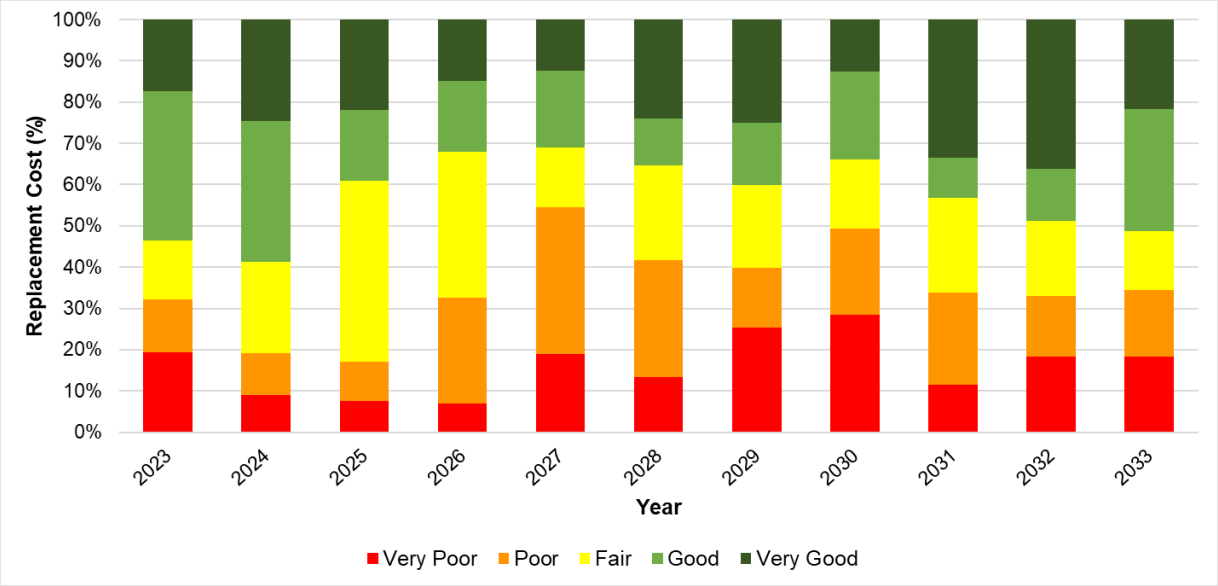


Figure 7-5. Digital Services Performance Forecast with Current Funding

7.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal, rehabilitation, and replacement activities listed above in Table 7-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and

maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O. Reg. 588/17.

Figure 7-6. Digital Services Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs as per Lifecycle Strategies

It was determined that a budget of $153,000 for renewal, rehabilitation and replacement activities is needed to achieve the proposed levels of service. There no funding gap compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 7-6. The performance of Digital Services decreases slightly during the 10-year forecast period. Overall condition decreases slightly in this scenario, with assets in good to very good condition decreasing by 3%, ending at 51%.

7.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 7-7 and Table 7-6. Figure 7-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 7-7 are colour coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights no gap to maintain current performance (condition) of assets or achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

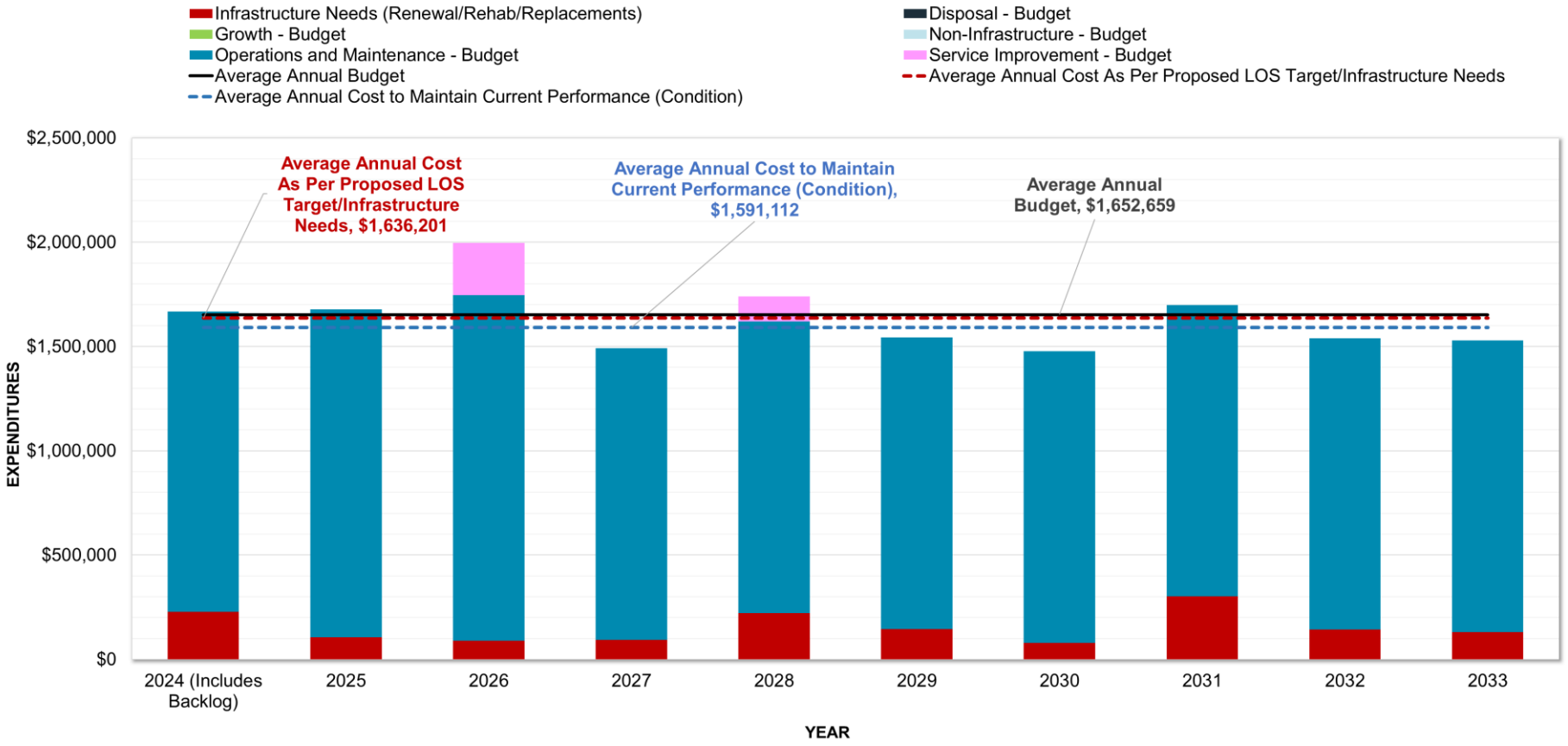


Figure 7-7. Digital Services Scenario Comparison

7.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 7-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years. The information and infrastructure needs within this AMP are based on best available information at the development of this plan. It is expected that this asset category will significantly change in the future as more information is made available on hardware and software assets.

Table 7-6. Current and Optimal Capital Funding and Funding Gap – Digital Services

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$0	$0	$0
Non-Infrastructure	$0	$0	$0
Operations & Maintenance	$1,445,307	$1,445,307	$1,445,307
Renewal, Rehabilitation & Replacement	$170,353	$143,445	$153,895
Service Improvement	$37,000	$37,000	$37,000
Total	**$1,652,659**	**$1,625,751**	**$1,636,201**
Average Annual Spending Gap		**No Gap**	**No Gap**
Percentage Increase Required to Address Gap		**0%**	**0%**

Although currently there is no gap for Digital Services, this is expected to change as the Town expands on its knowledge of this asset type to include all assets, and a more thorough analysis of the needs for infrastructure.

Digital Services is an integral part of the Town's operations for all departments, and there are increasing pressures on these assets to provide efficient service delivery for new technologies, as well as the security of all Town information.

7.5 Data Confidence and Improvement Plan

Table 7-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 7-7. Digital Services– Data Confidence

Asset Segment	Data Source	Data Confidence
Hardware	Spreadsheet	C
Software	Spreadsheet	D

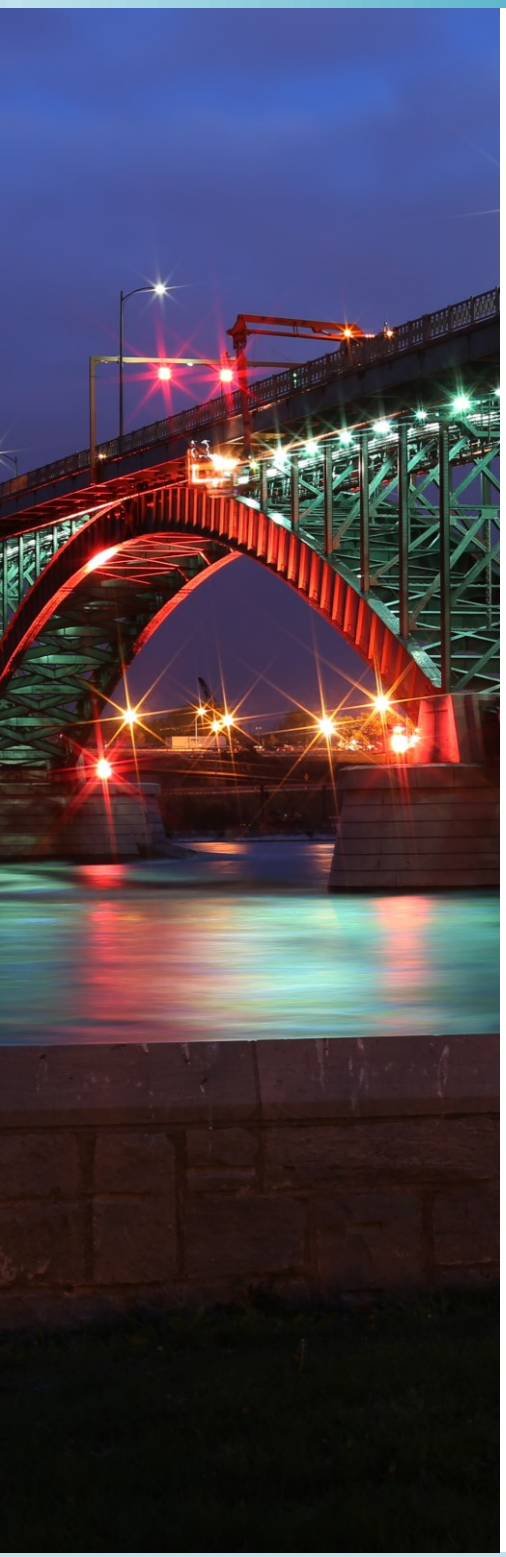
7.5.1 Recommendations for Improvements

Opportunities for improvement include:

Hardware: Efforts were made to compile a register for hardware assets where information was available, this information needs to be updated to include information on install dates and continue to review replacement values as well as include in any assets that have not been included in the asset register at this time. Document processes and responsibilities for staff to maintain this information on an ongoing basis.

Software: Although software is a complicated asset to plan for, the information included in this register should be filled out for replacement/operating costs where applicable, and an assessment of software assets should be reviewed for asset management planning purposes. Continue to evolve how information on software is maintained and addressed within the Town and develop metrics and ways of determining software viability for the Town to ensure applications currently in use are meeting the needs of end users.

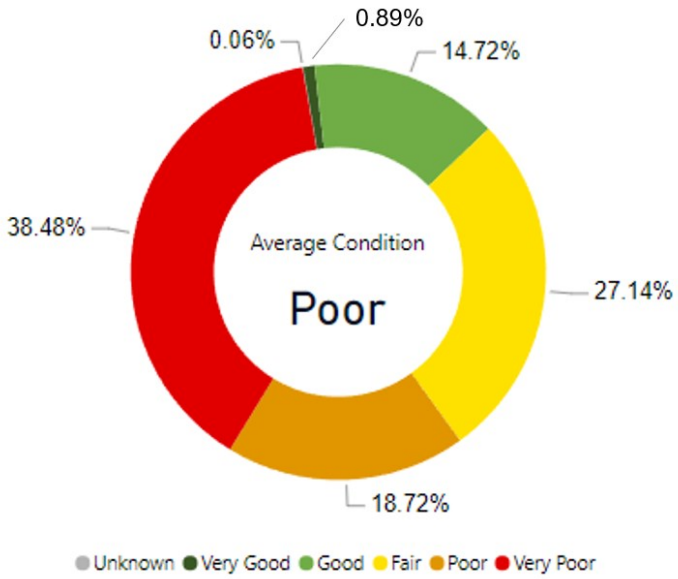
8.0 Emergency Services



Replacement Value

$13,996,590

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)

$0.6 M

Average Annual Gap to Meet Proposed LOS (Performance)

$0.6 M

Asset Inventory

- 14 Fire Fleet units
- 1418 pieces of Fire Equipment

8 Emergency Services

Emergency Services is an essential part of community infrastructure, providing critical services that contribute to public safety, well-being, and resilience. They play important role in keeping the community safe through education, community engagement, and front-line service delivery. The Town of Fort Erie has five fire stations throughout the municipality, with Fire Fleet and Equipment that is used to support services.

8.1 State of the Infrastructure

8.1.1 Asset Valuation

Emergency Services has Fleet and Equipment assets with a total estimated replacement value of $14M. The asset inventory and current estimated replacement value is shown in Table 8-1.

Table 8-1. Inventory and Current Replacement Value – Emergency Services

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Fire Equipment	1418	Units	$1,796,590
Fire Fleet	14	Units	$12,200,000
Total			**$13,996,590**

8.1.2 Asset Condition

Asset condition is an important piece in asset management planning. Condition was assigned to assets in Emergency Services based on age/estimated service life. The condition rating scale is shown below in Table 6-2.

Table 8-2. Condition Rating Scale – Emergency Services

Condition	Age/ESL
Very Good	>80% life remaining
Good	60-80% life remaining
Fair	40-60% life remaining
Poor	20-40% life remaining
Very Poor	0-20% life remaining
Unknown	

Figure 8-1 and Figure 8-2 illustrate the condition distribution of the Town's Emergency Services assets.

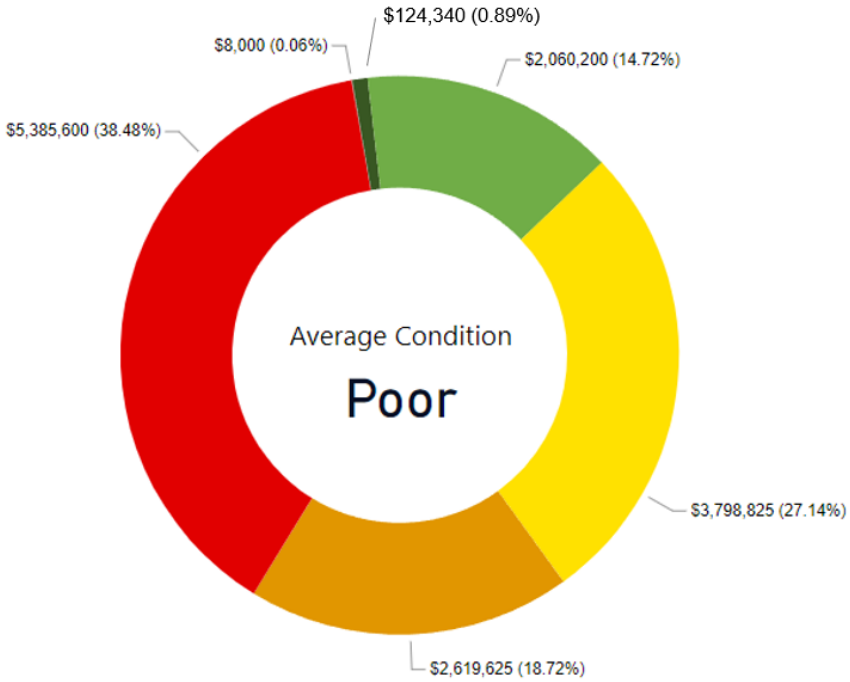


Figure 8-1. Overall Asset Condition (by Replacement Value) – Emergency Services

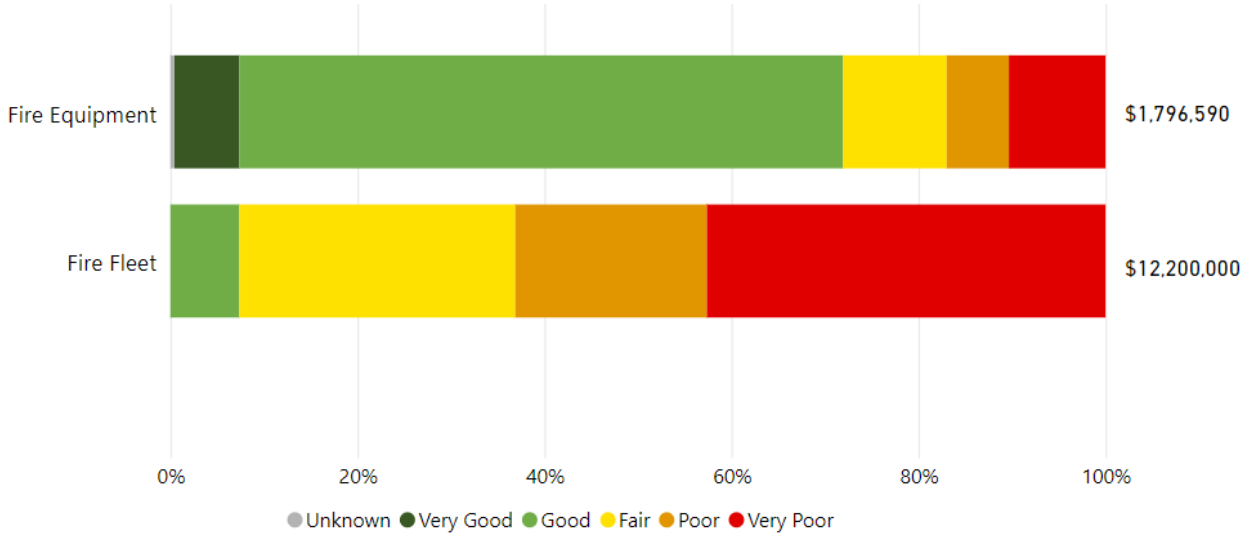


Figure 8-2. Asset Type Condition (by Replacement Value) – Emergency Services

The overall condition of Emergency Services assets is poor, with approximately 57% of assets in poor or worse condition. This average condition can be mostly accounted for from Fire Fleet assets, as seen in Figure 8-2 where approximately 63% of assets are in poor or worse condition. These assets have 40% or less remaining life and will be planned for replacement in upcoming capital plans.

8.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age and average estimated service life for Fire Equipment and Fleet is shown in Figure 8-3.

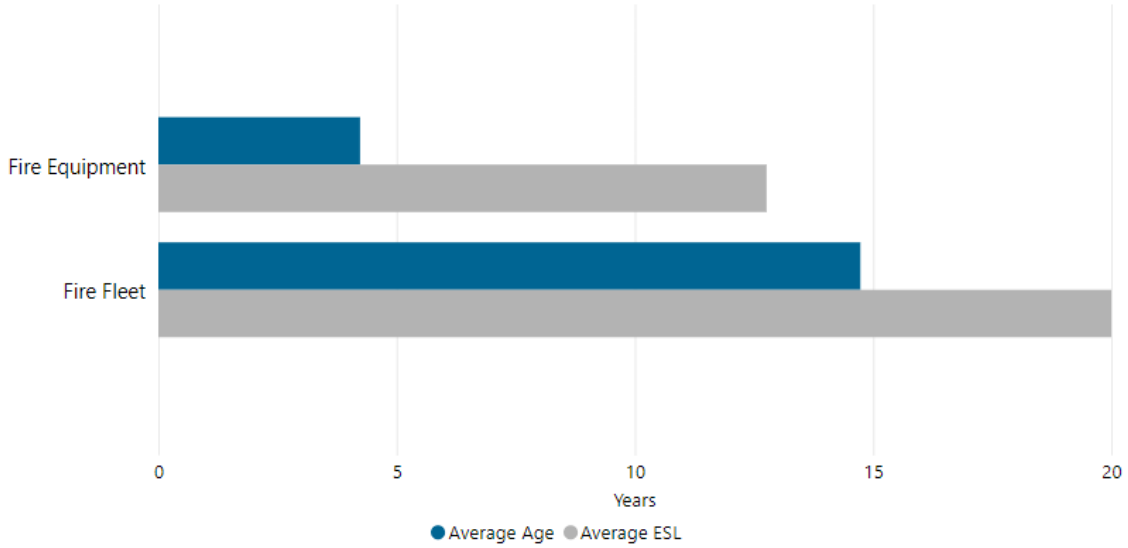


Figure 8-3. Average Age and Average Estimated Service Life – Emergency Services

8.2 Levels of Service

Service Statement: The Fort Erie Fire Departments mission is to safely; protect life, property, and the environment through the skilled and continued delivery of public education, fire prevention, and emergency response.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O.Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 8-3 and Table 8-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 8.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 8-3. Customer / Council Focused Level of Service Requirements – Emergency Services

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Cost to provide service (2024 Operating & Capital Budget/household)	$183	$183	

Table 8-4. Technical Focused Level of Service Requirements – Emergency Services

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Quality	Percentage of total replacement cost of assets in very poor condition	38.5%	21%	
Quality	Percentage of total replacement cost of assets past their estimated useful life	12.8%	0%	
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	101%[10]	100%	

[10] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

8.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

8.3.1 Lifecycle Activities

Lifecycle activities for Emergency Services involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Emergency Services to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Emergency Services in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well-maintained Emergency Services infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in Table 8-5.

Table 8-5. Asset Management Practices and Associated Risks – Emergency Services

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Fire Master Plan	• 10 years
• Contingency Planning	• As required
• Other technical studies and assessments	• As required
Operations & Maintenance Activities	
• Planned maintenance (PM)	• As required
• Reactive maintenance	• As required
• Equipment inspections	• Daily; as regulated
• Purchase of personal protective and rescue equipment, small equipment, and materials	• As legislated or as required (10 years or less)
Renewal/Replacement Activities	
• Replacement	• End of service life as per strategy
• Spare fire fleet replacement	• Fleet is front run for first 15 years of service, then rotated to a spare for 5 years and decommissioned at 20 years
Disposal Activities	
• Sell off vehicles, fleet & equipment	• Opportunistically
Service Improvement & Growth Activities	
• New assets	• As per regulations
• Expansion or major renovation of existing facilities	• To improve LOS and not supported by growth. As identified through planning and studies
• Interior facility renovations; accessibility needs	• As required

8.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 8.3 to plan work and determine future expenditure needs for Emergency Services assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 8.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

8.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Emergency Services (as mandated by O.Reg. 588/17).

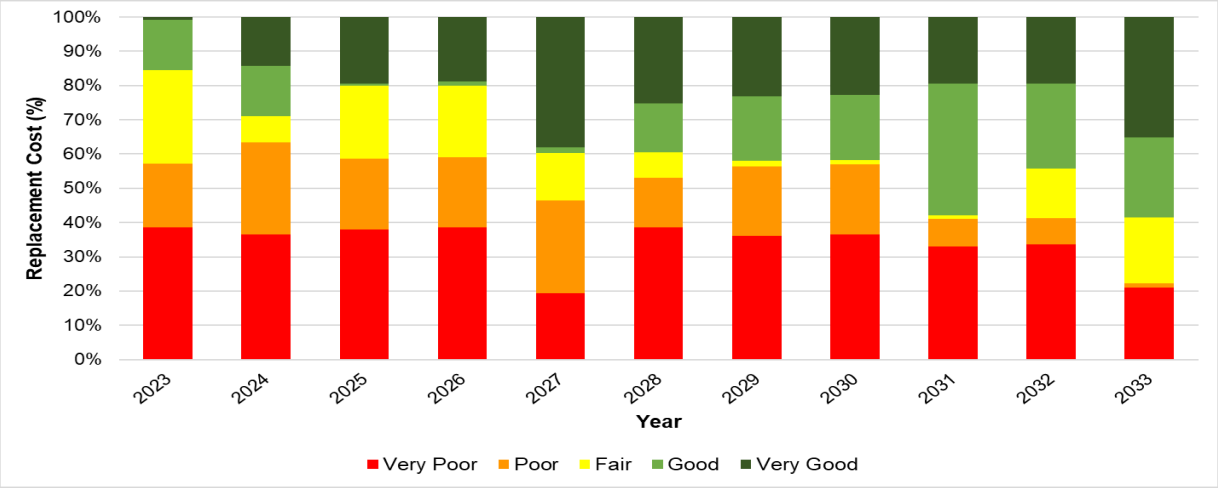


Figure 8-4. Emergency Services Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $1.1 million for renewal, rehabilitation and replacement activities is needed to maintain performance for Emergency Services. There is a funding gap of approximately 560,000 compared the anticipated funding levels. The performance forecast for scenario one is shown in Figure 8-4. Overall performance increases in this scenario with assets in good to very good condition increasing by 43%, ending at 59%.

8.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Emergency Services is $555,000. The condition distribution for the anticipated funding scenario is shown below in Figure 8-5. Overall condition decreases in this scenario with assets in very poor condition increasing by 27% ending the forecast period at 66%.

Figure 8-5. Emergency Services Performance Forecast with Current Funding

8.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal, rehabilitation, and replacement activities listed above in Table 8-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and

maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O.Reg. 588/17.

Figure 8-6. Emergency Services Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs as per Lifecycle Strategies

It was determined that a budget of $1.1 million for renewal, rehabilitation and replacement activities is needed to achieve the proposed levels of service. There is a funding gap of approximately $563,000 compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 8-6. The performance of Emergency Services increases during the 10-year forecast period. Assets in good to very good condition start at 16% and increase to 59% at the end of the forecast.

8.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 8-7 and Table 8-6. Figure 8-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 8-7 are colour coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights a gap of approximately $563,000 to maintain current performance (condition) of assets and a gap of $563,000 to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

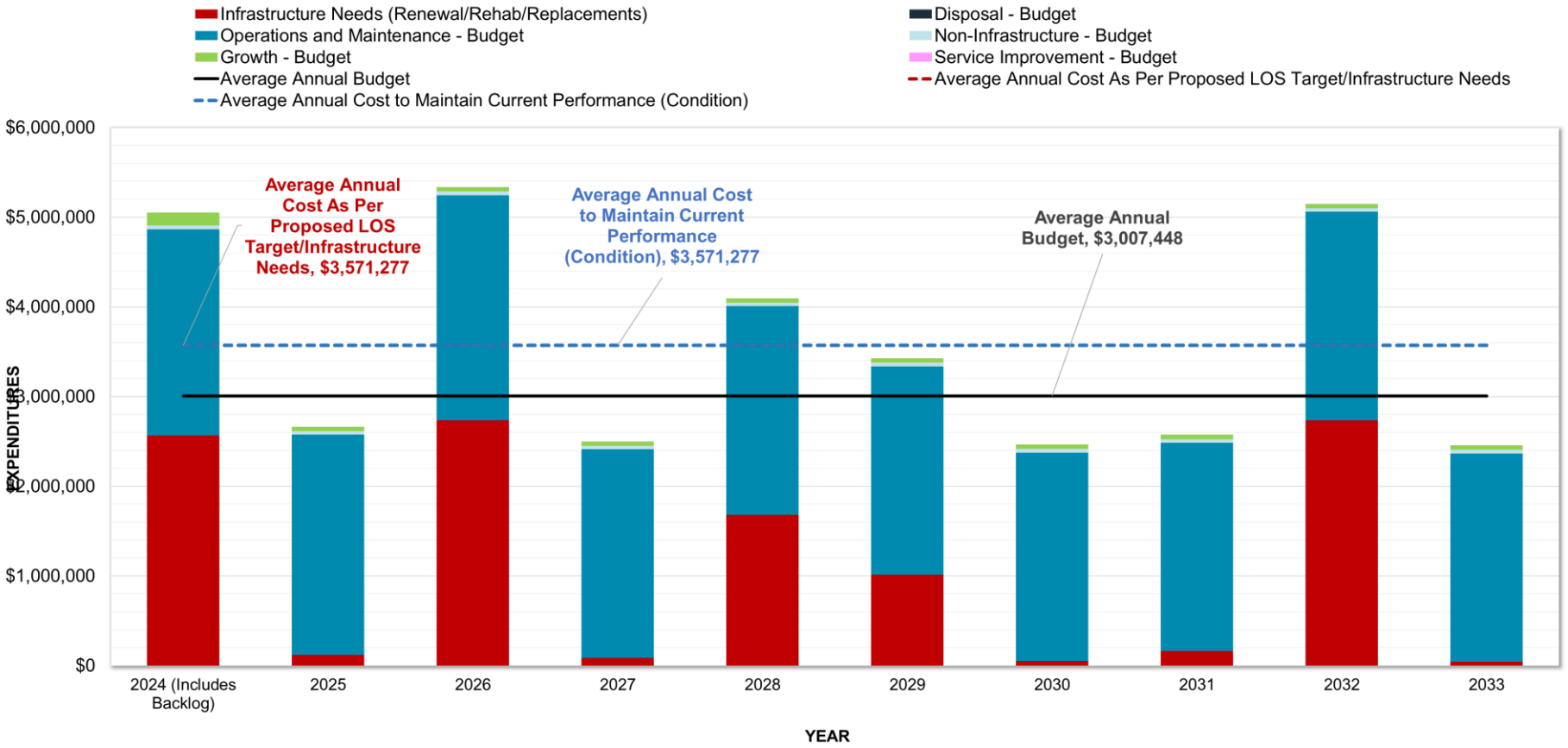


Figure 8-7. Emergency Services Scenario Comparison

The backlog is also highlighted in Figure 8-7 in the year 2024. The backlog represents renewal, rehabilitation, and replacement activities that have been identified as necessary but have not yet been completed. Continuing to defer renewals creates a risk of higher financial costs, potential decreased availability, and potential decreased satisfaction with asset performance.

Continuing to delay renewals may put the Town at risk for intergenerational inequality. Future generations may not be able to maintain the levels of service customers currently enjoy. Continued project deferrals can also lead to higher operational and maintenance costs, potentially limiting the availability of services in the future. Timely and adequately funded renewals and replacements will ensure that assets continue to remain functional and reliable into the future, at the lowest possible cost.

8.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 8-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 8-6. Current and Optimal Capital Funding and Funding Gap – Emergency Services

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$58,455	$58,455	$58,455
Non-Infrastructure	$40,000	$40,000	$40,000
Operations & Maintenance	$2,353,793	$2,353,793	$2,353,793
Renewal, Rehabilitation & Replacement	$555,200	$1,119,029	$1,119,029
Service Improvement	$0	$0	$0
Total	**$3,007,448**	**$3,571,277**	**$3,571,277**
Average Annual Spending Gap		**$563,829**	**$563,829**
Percentage Increase Required to Address Gap		**19%**	**19%**

8.5 Data Confidence and Improvement Plan

Table 8-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 8-7. Data Confidence – Emergency Services

Asset Segment	Data Source	Data Confidence
Fire Equipment	Emergency Reporting (Emergency Services Software)	B
Fire Fleet	Emergency Reporting (Emergency Services Software)	A

8.5.1 Recommendations for Improvements

Opportunities for Improvement Include:

Fire Equipment: Information on fire equipment was updated for the purposes of this AMP to include updated replacement values and fill in gaps where applicable. It is recommended that Emergency Services continue their efforts to keep this information updated on an ongoing basis to ensure that relevant replacement values are used to inform asset planning decisions.

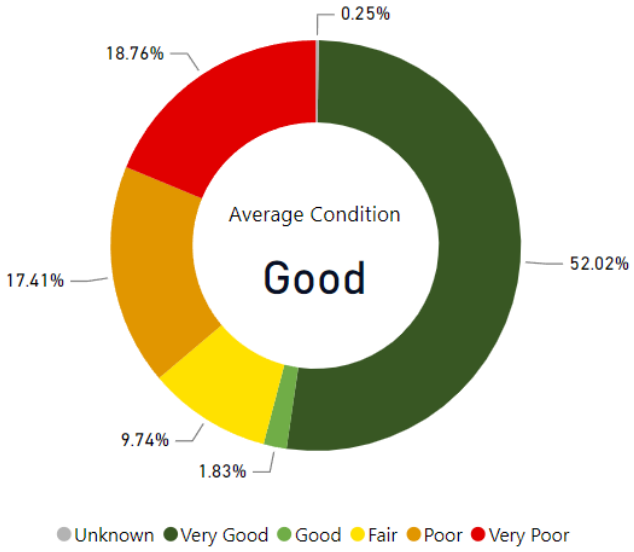
Fire Fleet: Through the implementation of the maintenance management software, it is recommended to determine how maintenance records can be used to further inform condition of fleet assets. It is also recommended to continue to update this inventory and ensure adequate replacement values are used for asset planning decisions.

9.0 Facilities

Replacement Value

$214,221,386

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)

No Gap

Average Annual Gap to Meet Proposed LOS (Performance)

$0.1 M

Asset Inventory

- 45 buildings supporting various services across the Town

9 Facilities

Facilities in the Town of Fort Erie provides services across the community through Culture and Recreation which provides spaces for community gathering, Fire Stations which support safety, and administration and operations which serve as municipal work sites and areas for residents to access Town services. The proper management of Facilities through their entire lifespan ensures they can continue to offer benefits to Town residents and visitors.

9.1 State of the Infrastructure

9.1.1 Asset Valuation

Facilities has 45 buildings across five different service delivery groups with a total estimated replacement value of $214M. The asset inventory and current estimated replacement value is shown in Table 9-1.

Table 9-1. Inventory and Current Replacement Value – Facilities

Facility Name	Total Square Feet	2024 Estimated Replacement Value
Centennial Library	16,000	$9,371,420
Central Fire Station	13,340	$8,712,311
CN B-1 Station	814	$542,872
Crystal Ridge Arena	28,000	$12,384,649
Crystal Ridge Community Centre	17,000	$11,337,621
Crystal Ridge Library	6,000	$3,514,282
Fire Station 3	12,000	$7,719,453
Fire Station 4	4,500	$2,894,795
Fire Station 5	7,500	$4,824,658
Fire Station 6	5,500	$3,538,083
Fire Station 4 (new)[11]	11,388	$7,325,761

[11] This building was not included in the Building Condition Assessments completed in 2018, and further information other than size and replacement value was not available at the time of the development of this AMP, and therefore not included in the analysis in the remainder of this chapter. It is recommended when the Town updates the BCA to include all buildings listed in this plan.

Facility Name	Total Square Feet	2024 Estimated Replacement Value
GTR Station Museum	1,028	$685,593
JL Gibson Operations Centre	22,855	$12,438,772
Gibson Storage Building	7,300	$2,182,000
Leisureplex	128,000	$56,615,540
Ridge Road Historical Museum	4,746	$3,165,197
Stevensville Hall (Includes Library Within)	9,500	$6,335,730
Town Hall	38,000	$25,736,849
EJ Freeland Community Centre	41,700	$29,190,000
Bay Beach Admission Booth[12]	350	$70,000
Bay Beach Pavilion[12]	1,056	$105,600
Bay Beach Washroom[12]	1,798	$899,000
Bertie Centennial Clubhouse[12]	1,920	$768,000
Bertie Centennial Pavilion[12]	760	$76,000
Bill Connolly Clubhouse[12]	2,600	$1,040,000
Crystal Ridge Park Pavilion[12]	1,152	$115,200
Lions Field Pavilion[12]	192	$19,200
Municipal Park Pavilion[12]	254	$25,400
Oakes Park Office Building[12]	900	$360,000
Oakes Park Storage Shed[12]	400	$100,000
Oakes Park Washroom[12]	435	$217,500
Optimist Park Pavilion[12]	816	$81,600
Ott Rd. Park Clubhouse[12]	1,060	$424,000
Queen Circle Pavilion[12]	314	$31,400

[12] These buildings were not assessed in the previous BCA, so have not been included in the analysis of this AMP. It is recommended the next iteration of the BCA include these facilities.

Facility Name	Total Square Feet	2024 Estimated Replacement Value
Ridgeway Battlefield Pavilion[12]	1,560	$156,000
Stevensville Memorial Pavilion[12]	415	$41,500
Stevensville Memory Pavilion[12]	254	$25,400
Stevensville Mini Park Pavilion[12]	720	$72,000
Tennis Club Pavilion[12]	400	$40,000
Tennis Clubhouse[12]	1,100	$440,000
Trans Canada Pavilion[12]	144	$14,400
Village Square Pavilion[12]	1,386	$138,600
Waterfront Park Pavilion[12]	690	$69,000
Waterfront Park Washroom[12]	470	$188,000
Waverly Beach Washroom[12]	470	$188,000
Total		**$214,221,386**

The summary in Table 9-1 presents the replacement values of the Town's facilities based on updated square footage replacement costs. It's important to note that these values are not a direct aggregation of the replacement costs for the individual components of the facilities. The overall cost to replace an entire facility is higher than the sum of replacing each component separately. This higher cost considers factors such as demolition, land acquisition, and other complexities that may arise when replacing an entire facility rather than its parts. It is recommended that the Town continue to evaluate these costs in the future.

Subsequent sections of the analysis focus on component-level data. This data is derived from Building Condition Assessments (BCAs), which provide detailed evaluations of the condition and replacement needs of individual facility components. By analyzing at the component level, a more granular and accurate understanding of rehabilitation and replacement priorities can be achieved, informing more effective facility management and budget allocation strategies. As noted above, many of the smaller buildings and structures (i.e. Washrooms, pavilions) were not included in the 2018 BCA, and therefore not included in the analysis below. It is recommended that the Town include these in the planned update to the BCA.

Facilities have been grouped into Administration, Culture, Emergency Services, Operations and Recreation.

9.1.2 Asset Condition

Asset condition is an important piece in asset management planning. Condition was assigned to Facilities based on age/estimated remaining life. The condition rating scale is shown below in Table 9-2. Although the BCA was completed in 2018, the data derived from this assessment was updated to reflect the current age and remaining life of the components within the facilities.

Table 9-2. Condition Rating Scale – Facilities

Condition	Age/ESL
Very Good	>80% life remaining
Good	60-80% life remaining
Fair	40-60% life remaining
Poor	20-40% life remaining
Very Poor	0-20% life remaining
Unknown	

Figure 9-1 and Figure 9-2 show the condition profile for Facilities assets.

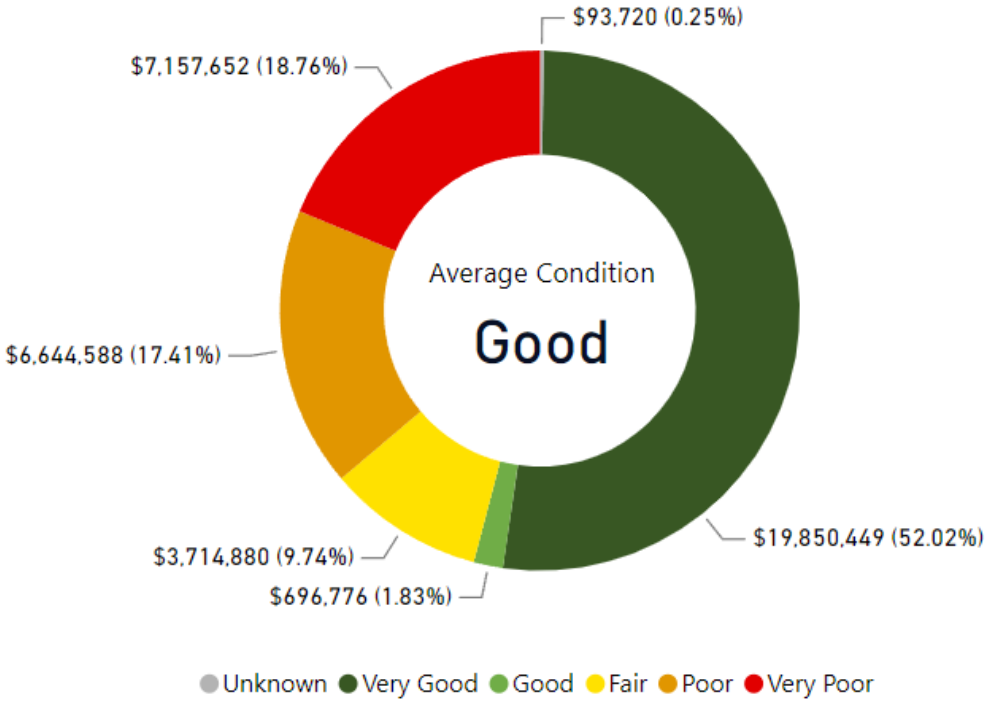


Figure 9-1. Overall Asset Condition (by Replacement Value) - Facilities

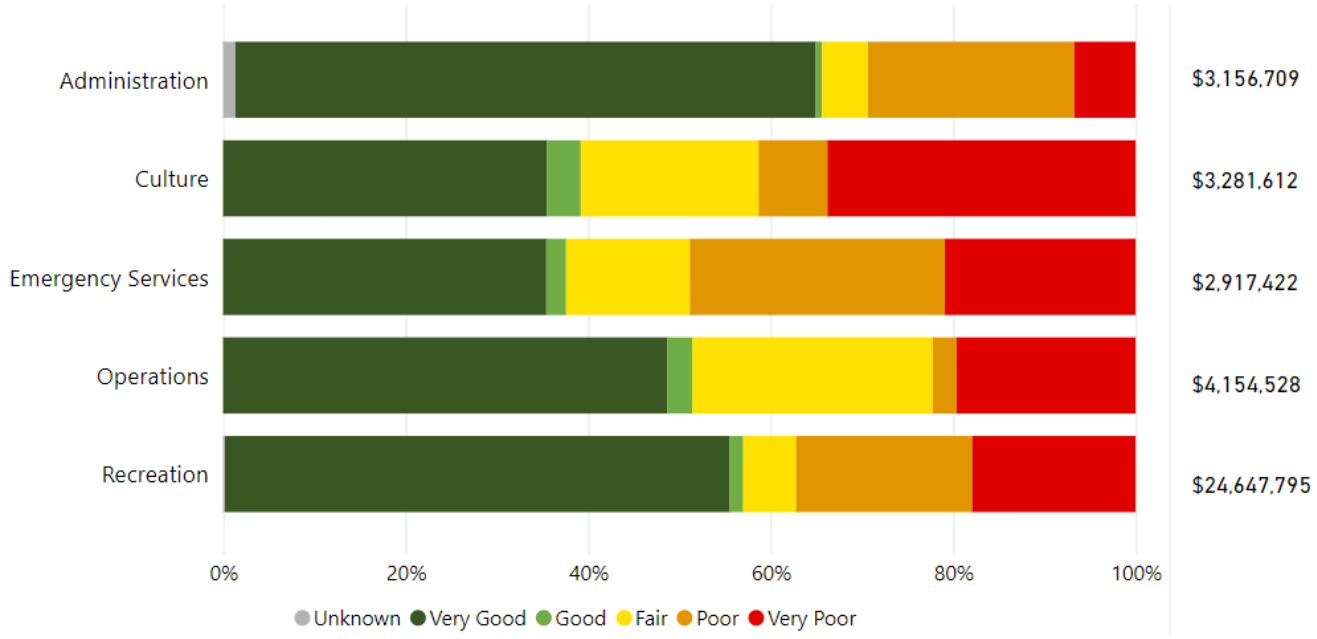


Figure 9-2. Asset Type Condition (by Replacement Value) – Facilities

The average condition of Facilities is fair, with approximately 63% of assets in fair or better condition. A small portion (just over 1%) of Administration facility components have an unknown condition.

9.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age and average estimated service life for Facilities assets is shown in Figure 9-3.

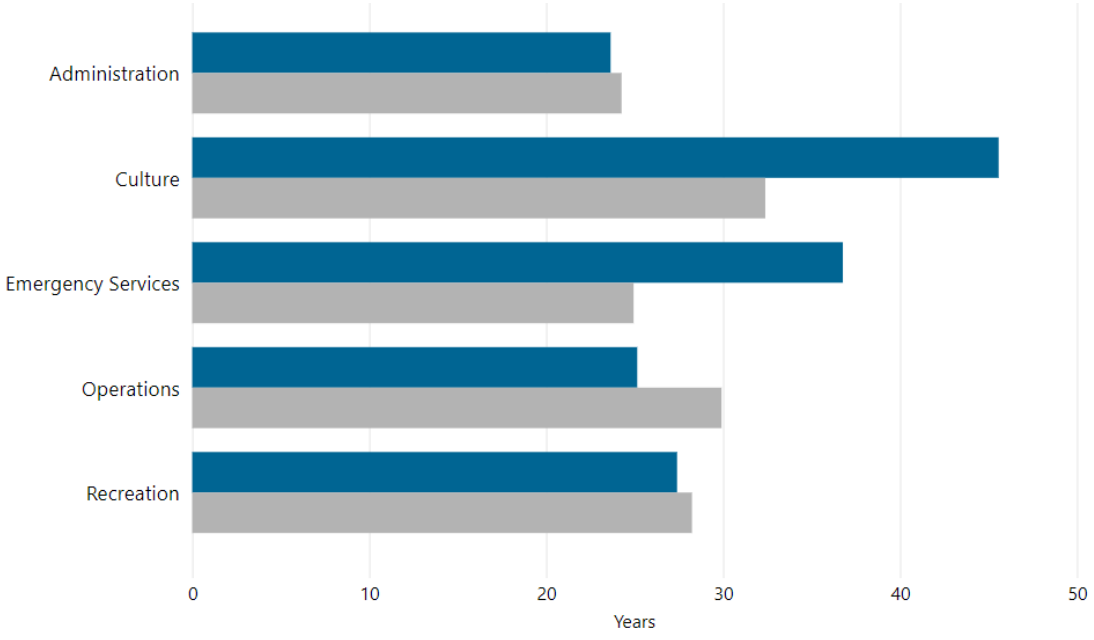


Figure 9-3. Average Age and Average Estimated Service Life - Facilities

9.2 Levels of Service

Service Statement: Efficiently providing high quality, safe, accessible, and energy efficient facilities for the community.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O. Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 9-3 and Table 9-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 9.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 9-3. Customer / Council Focused Level of Service Requirements – Facilities

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Cost to provide service (2024 Operating & Capital Budget/sqft)	$30/sq ft	$30/sq ft	

Table 9-4. Technical Focused Level of Service Requirements – Facilities

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	58%[13]	100%	
Quality	Percentage of replacement cost of assets in poor to very poor condition	40.62%	40%	

[13] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

9.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

9.3.1 Lifecycle Activities

Lifecycle activities for Facilities involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Facilities to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Facilities in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well-maintained Facilities infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in Table 9-5.

Table 9-5. Asset Management Practices and Associated Risks – Facilities

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Condition assessment	• 10 years
• Asset management plan	• Every 5 years
• Energy audit	• As required
• Asbestos survey	• As required
• AODA assessment	• As required
• Other technical studies (structural assessment, roof assessment, etc.)	• As required
Operations & Maintenance Activities	
• Inspections	• As required (H&S, maintenance, internal, etc.)
• Planned maintenance (HVAC, etc.)	• As required
• Reactive maintenance	• Daily
• Service request response	• Daily
• Cleaning	• Daily
• Ice maintenance	• As required
• Equipment maintenance	• As required
• Security	• As required
• Public event/private function	• As required
• Snow removal	• Seasonally
• Horticulture	• Seasonally
• Facility site maintenance	• As required

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
• Waste removal	• As required
• Seasonal ice setup and removal	• Seasonally
• Holiday setup	• Seasonally
• Minor renovations	• As required
Renewal/Replacement Activities	
• Replacement of major components	• As identified in studies
Disposal Activities	
• Dispose of assets in line with replacements	• As required
Service Improvement & Growth Activities	
• New assets for developments to service growth	• As needed
• New assets as part of service improvement	• As identified in studies

9.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 9.3 to plan work and determine future expenditure needs for Facilities assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 9.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

9.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Facilities (as mandated by O.Reg. 588/17).

Figure 9-4. Facilities Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $1.8 million for renewal, rehabilitation and replacement activities is needed to maintain performance for Facilities. There is a funding gap of approximately $780,000 compared the anticipated funding levels. The performance forecast for scenario one is shown in Figure 9-4. The performance of Facilities assets decreases in this scenario. Assets in good to very good condition decreases by 24%, ending at 29% at the end of the forecast period.

9.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Facilities is $1 million. The condition distribution for the anticipated funding scenario is shown below in Figure 9-5. The overall condition decreases in this scenario with assets in good to very good condition decreasing by 25%, ending at 28%.

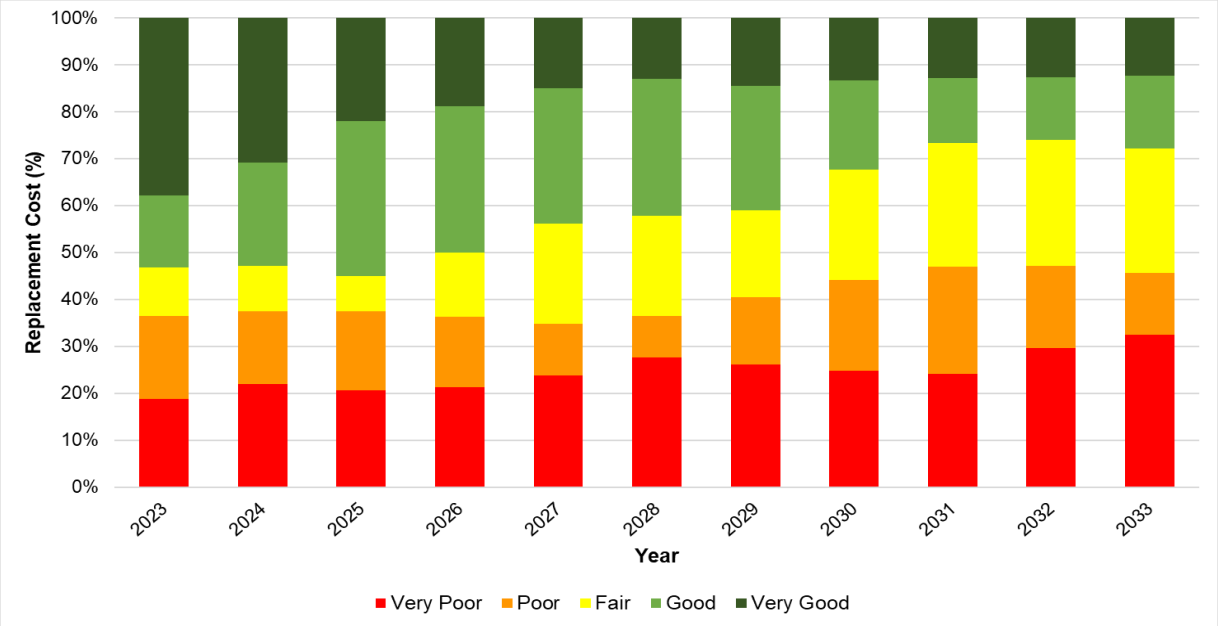


Figure 9-5. Facilities Performance Forecast with Current Funding

9.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal, rehabilitation, and replacement activities listed above in Table 9-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and

maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O.Reg. 588/17.

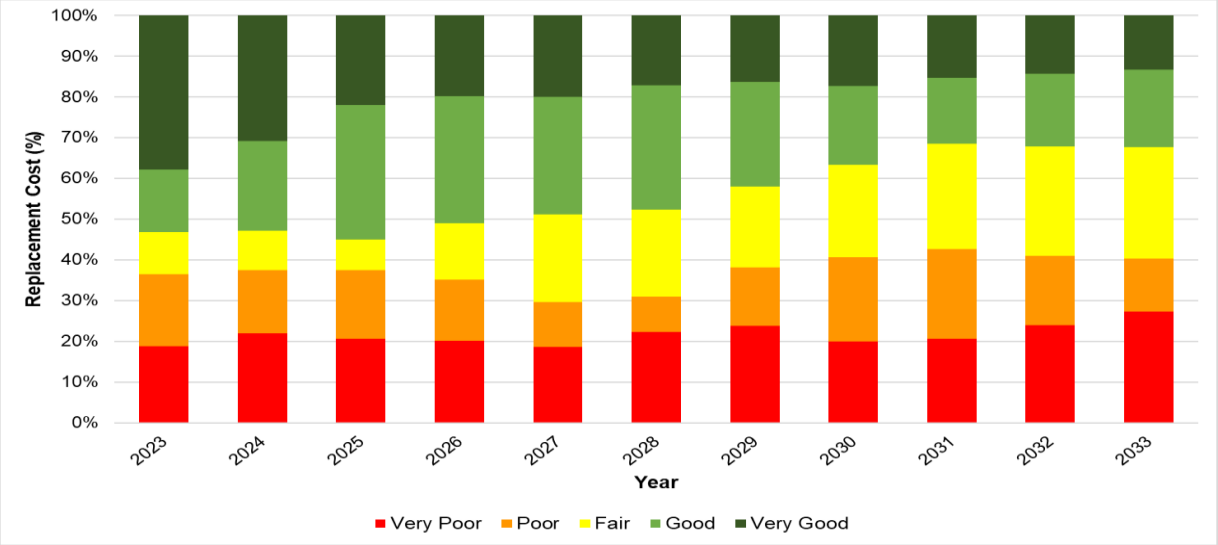


Figure 9-6. Facilities Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs as per Lifecycle Strategies

It was determined that a budget of $1.2 million for renewal, rehabilitation and replacement activities is needed to achieve the proposed levels of service. There is a funding gap of approximately $146,000 compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 9-6. The performance of Facilities decreases slightly during the 10-year forecast period. Assets in good to very good condition start at 53% and decrease to 32% at the end of the forecast.

9.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 9-7 and Table 9-6. Figure 9-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/ infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 9-7 are colour coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights a gap of approximately $778,000 to maintain current performance (condition) of assets and a gap of $2.2 million to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

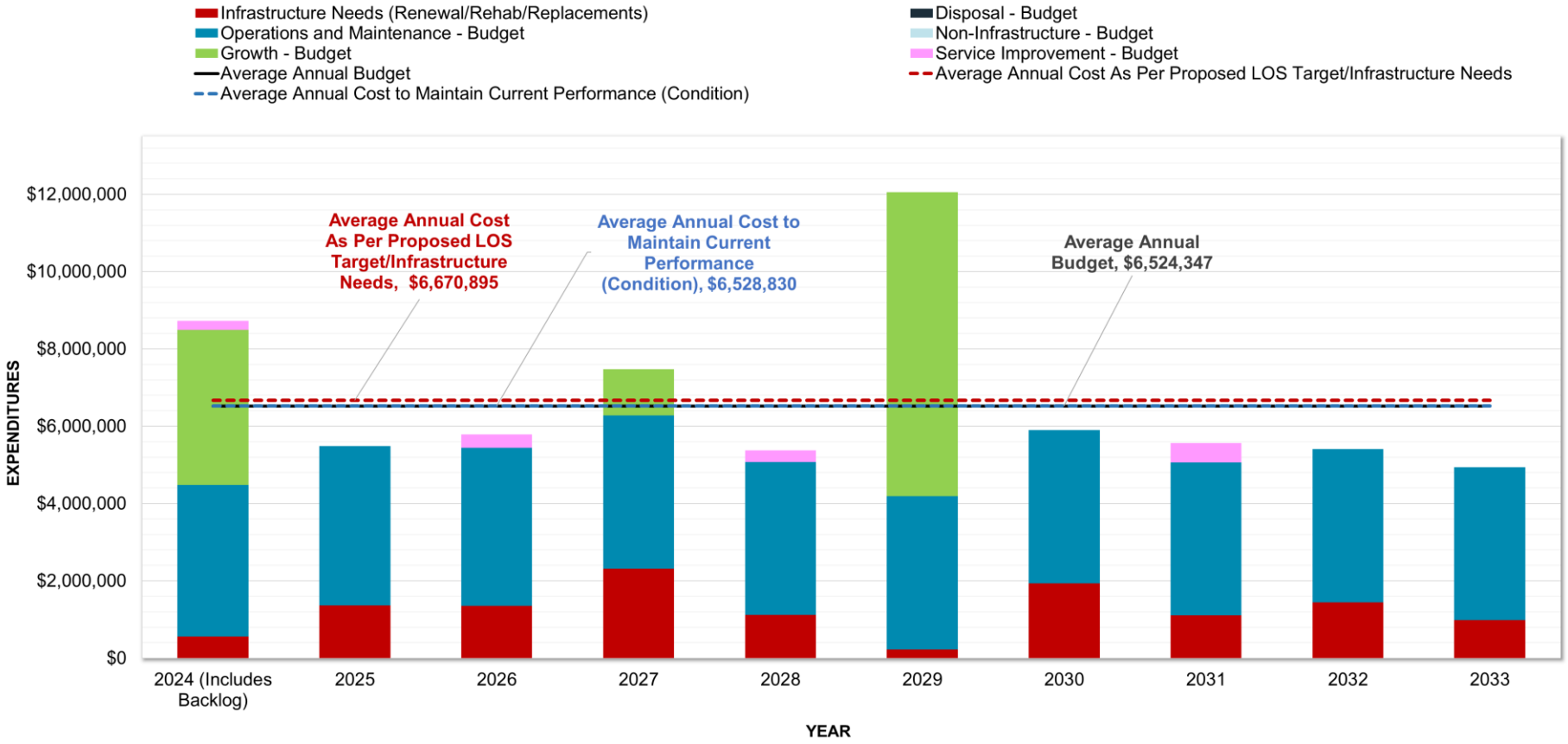


Figure 9-7. Facilities Scenario Comparison

9.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 9-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 9-6. Current and Optimal Capital Funding and Funding Gap - Facilities

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$1,307,300	$1,307,300	$1,307,300
Non-Infrastructure	$0	$0	$0
Operations & Maintenance	$3,984,847	$3,984,847	$3,984,847
Renewal, Rehabilitation & Replacement	$1,093,500	$1,097,983	$1,240,047
Service Improvement	$138,700	$138,700	$138,700
Total	**$6,524,347**	**$6,528,830**	**$6,670,895**
Average Annual Spending Gap		**$4,483**	**$146,547**
Percentage Increase Required to Address Gap		**0%**	**2%**

9.5 Data Confidence and Improvement Plan

Table 9-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 9-7. Facilities– Data Confidence

Asset Segment	Data Source	Data Confidence
Facilities - All	Building Condition Assessments (2018) spreadsheets	C

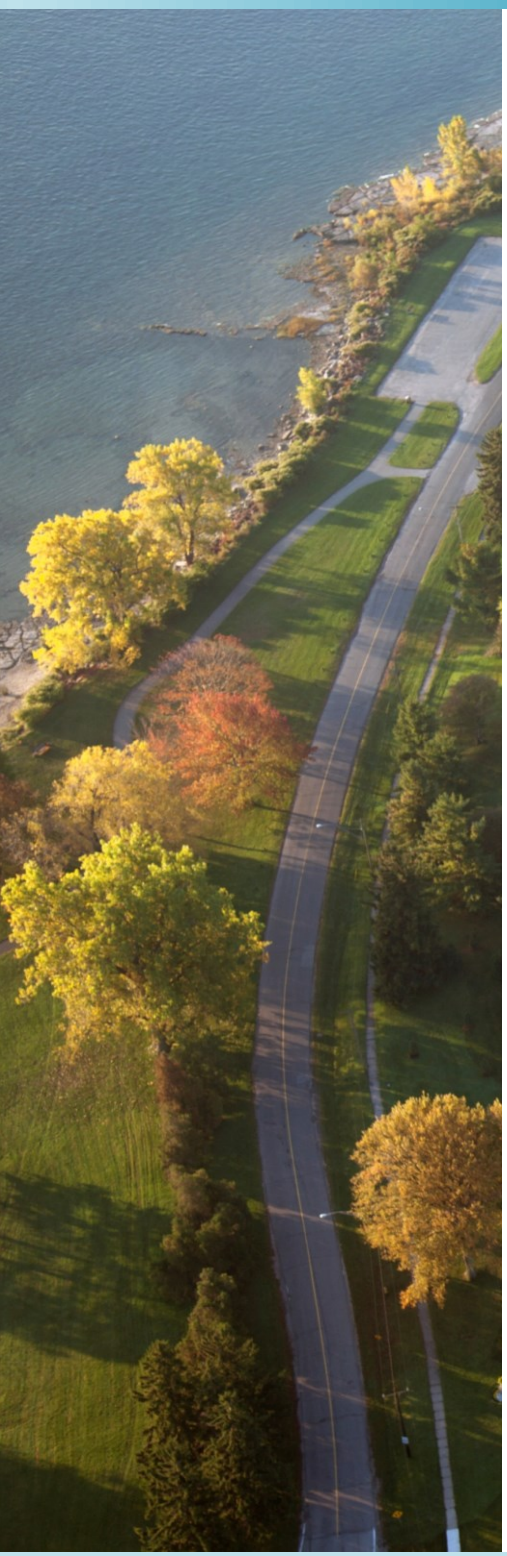
9.5.1 Recommendations for Improvements

Opportunities for improvement include:

Facilities: Although the information within the building condition assessments is thorough and complete, the information is 6 years old and requires to be updated (the Town has already planned to update this information). It is recommended that all Town facilities be assessed (included Pavilions and Washrooms). The Town has made efforts to use this information for decision-making since the completion of the assessment. It is recommended in advance of the building condition assessment update that the Town review data best practices and asset planning needs to ensure that the resulting data is provided to the Town that can be easily transferable for asset planning purposes.

The information should be continually updated in the work management system for work completed, to keep track of the backlog of work recommended from the resulting BCAs. This will also allow the Town to assess the actual costs of recommended work to establish if the costs recommended in the BCAs are accurate.

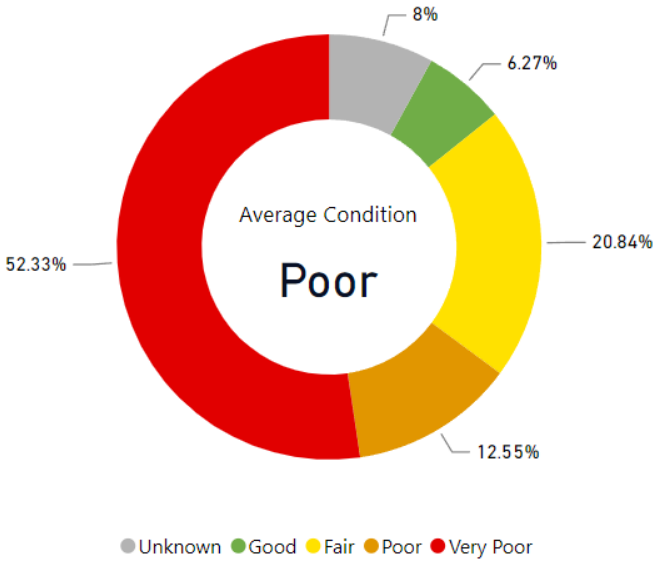
10.0 Fleet



Replacement Value

$13,300,576

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)	Average Annual Gap to Meet Proposed LOS (Performance)
No Gap	**$0.5 M**

Asset Inventory

- Equipment, trailers, small and large vehicles

10 Fleet

Fleet services is an important service support group in the Town of Fort Erie. Fleet ensures that each municipal department in the Town has the appropriate vehicles and equipment needed in good working order to complete their jobs, providing high quality services to residents. Fleet supports several municipal departments including planning and building, engineering, parks and cemeteries, facilities, roads and drainage, and water and wastewater. The proper management of Fleet assets is crucial to ensure operations run smoothly, and high-quality services are delivered to residents.

10.1 State of the Infrastructure

10.1.1 Asset Valuation

Fleet has equipment, small and large vehicles, and trailers with a total estimated replacement value of $13M. The asset inventory and current estimated replacement value is shown in Table 10-1.

Table 10-1. Inventory and Current Replacement Value – Fleet

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
Equipment	43	Units	$2,227,576
Large Vehicles	21	Units	$8,540,000
Small Vehicles	41	Units	$2,533,000
Trailers	14	Units	Replacement Cost Unknown
Total			**$13,300,576**

10.1.2 Asset Condition

Asset condition is an important piece in asset management planning. Condition scores were assigned to assets in Fleet based on age/estimated service life. The condition rating scale is shown below in Table 10-2.

Table 10-2. Condition Rating Scale – Fleet

Condition	Age/ESL
Very Good	>80% life remaining
Good	60-80% life remaining
Fair	40-60% life remaining
Poor	20-40% life remaining
Very Poor	0-20% life remaining
Unknown	

Figure 10-1 and Figure 10-2 illustrate the condition distribution for Fleet assets.

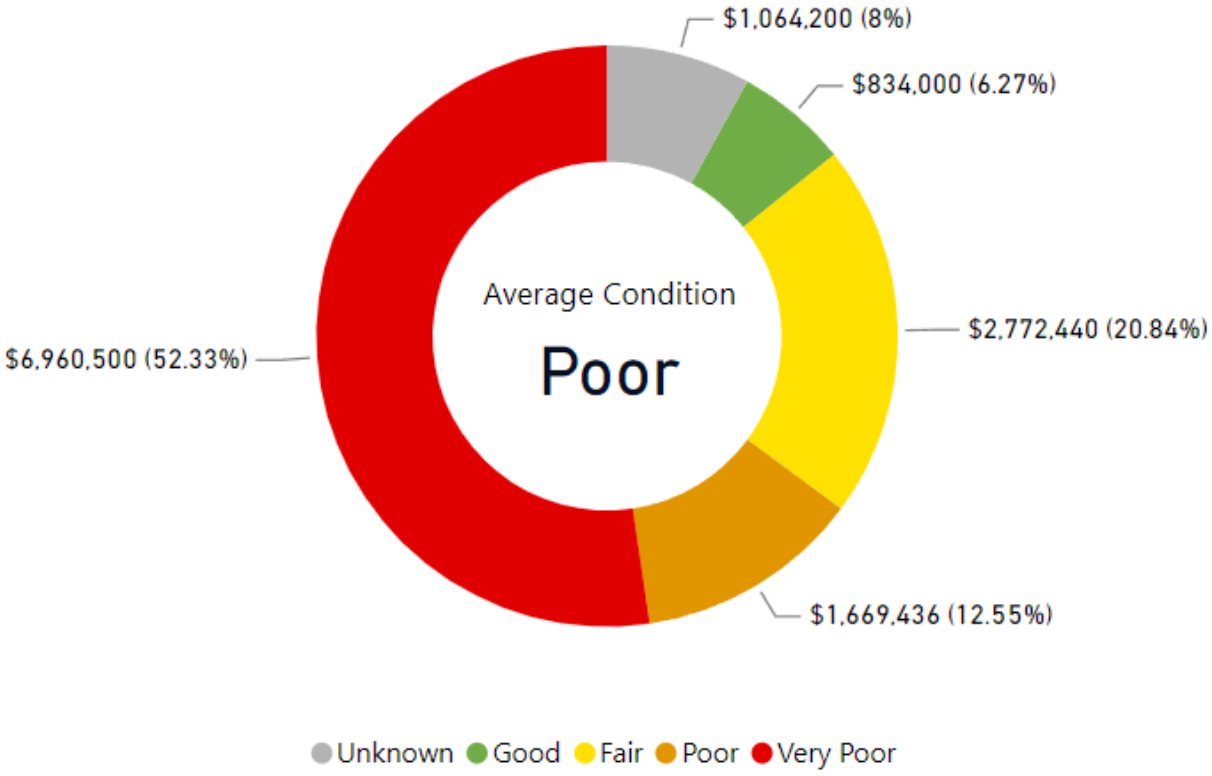


Figure 10-1. Overall Asset Condition (by Replacement Value) - Fleet

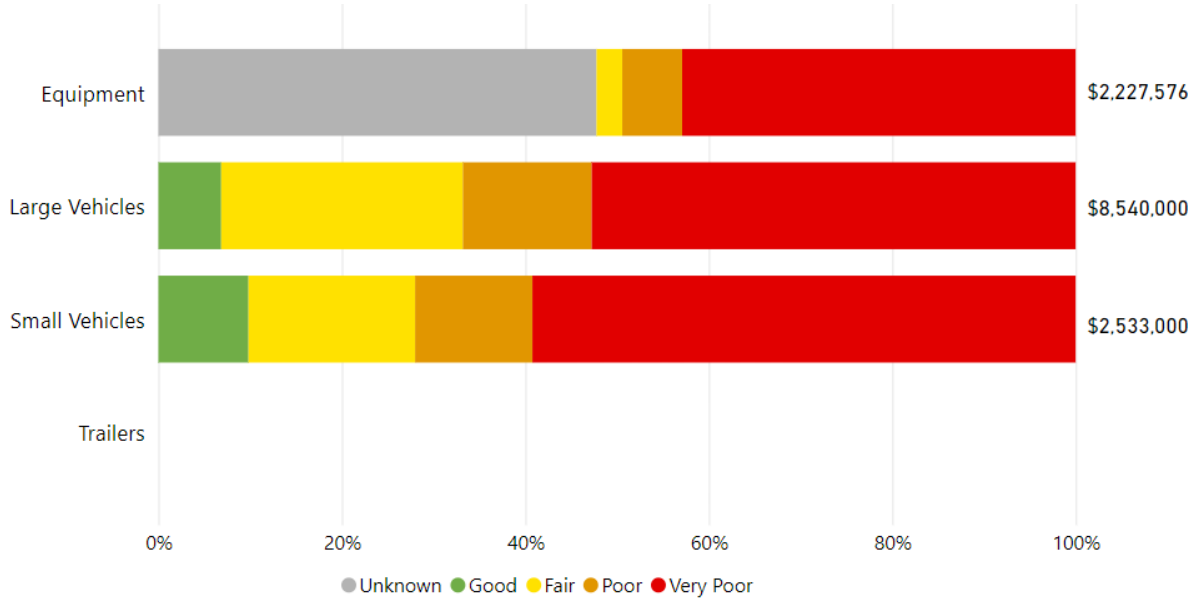


Figure 10-2. Asset Type Condition (by Replacement Value) – Fleet

Fleet assets are on average in poor condition, with approximately 64% of assets being in poor or very poor condition. 8% of the total replacement value of assets currently has an unknown condition, which account for almost 50% of Equipment assets having an unknown condition.

10.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age and average estimated service life for Fleet assets is shown in Figure 10-3.

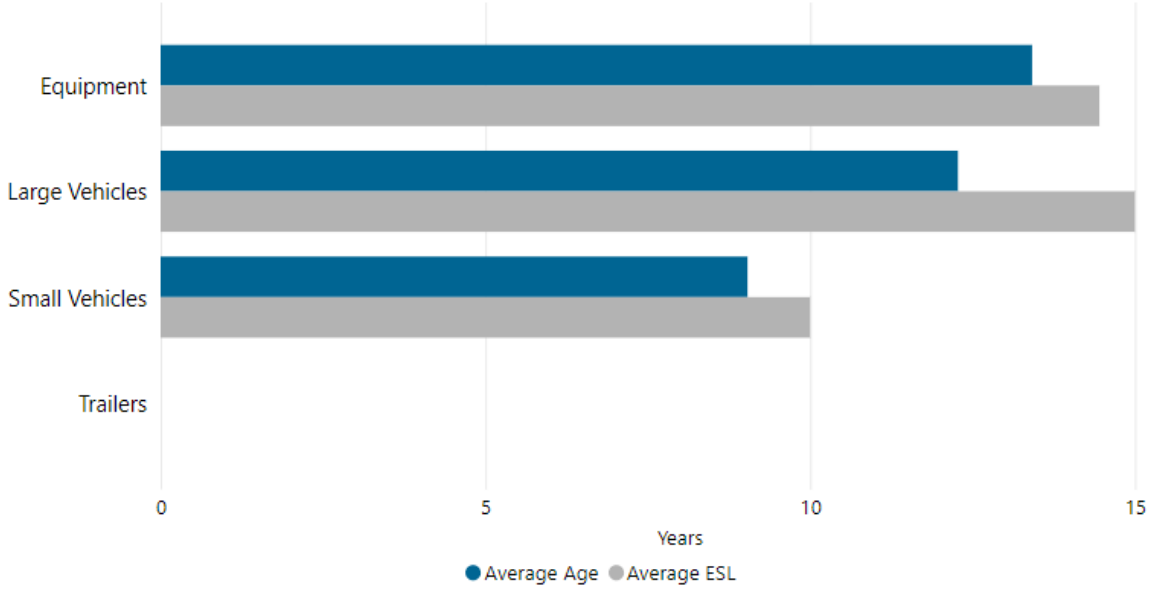


Figure 10-3. Average Age and Average Estimated Service Life – Fleet

Based on their average age, assets in Fleet are all nearing the end of their estimated service life. Trailers do not currently have known age information. D

10.2 Levels of Service

Service Statement: Keeping the Town's vehicles operational, safe, cost-efficient to support all municipal services and functions.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O.Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 10-3 and Table 10-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 10.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 10-3. Customer / Council Focused Level of Service Requirements – Fleet

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Cost to provide service (2024 Capital Operating Budget/household)	$163	$163	

Table 10-4. Technical Focused Level of Service Requirements – Fleet

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Quality	Percentage of total replacement cost of assets in good to very good condition	5.93%	28%	
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	119%[14]	100%	
Quality	Percent of fleet vehicles in conformance with lifecycle strategy	58.06%	100%	

[14] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

10.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

10.3.1 Lifecycle Activities

Lifecycle activities for Fleet involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Fleet to continue to provide services efficiently, effectively, and sustainably through their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Fleet in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well-maintained Fleet. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in Table 10-5.

Table 10-5. Asset Management Practices and Associated Risks – Fleet

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Condition assessments, Feasibility studies, management plans	• As required
• Planning, collision review committee, etc.	• As required
Operations & Maintenance Activities	
• MTO inspections	• As required
• Seasonal inspections on seasonal equipment	• Seasonally
• Third party inspections (crane/hoist, compressor)	• As required
• In-house inspections	• As required
• Reactive maintenance and repairs	• As required
• Daily inspections	• Daily
• Health and safety inspections	• Daily
• Preventative maintenance schedule by class of vehicle	• As required
• Reactive maintenance (damage, accidents, breakdowns, etc.)	• As required
• Spraying of vehicles	• As required
Renewal/Replacement Activities	
• Vehicle refurbishments	• As required
• Replacement	• As required
Disposal Activities	
• Sell-auction	• As required
• Keep for spare parts	• As required
• Sell to department	• As required
• Junk	• As required
Service Improvement & Growth Activities	
• Fleet additions requiring new equipment	• As required
• New assets	• As required
• Vehicle upgrade	• As required

10.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 10.3 to plan work and determine future expenditure needs for Fleet assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 10.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

10.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Fleet (as mandated by O.Reg. 588/17).

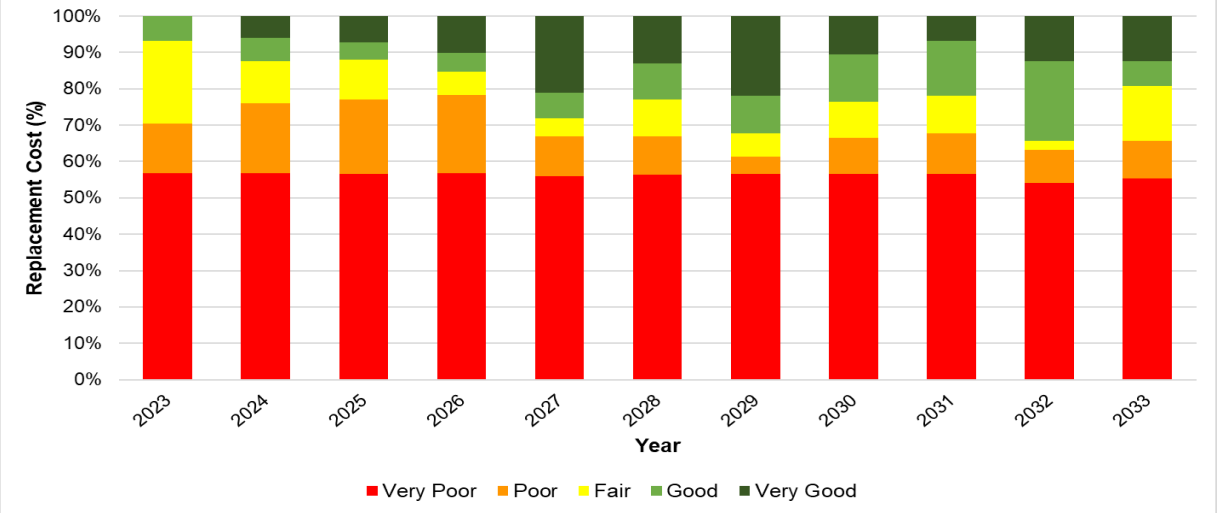


Figure 10-4. Fleet Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $625,000 for renewal, rehabilitation and replacement activities is needed to maintain performance for Fleet. There is no funding gap compared to anticipated funding levels. The performance forecast for scenario one is shown below in Figure 10-4. The condition increases slightly during this scenario. Assets in good to very good condition increases by 12%, ending at 19%, while assets in poor to very poor condition decreases by 6%, ending at 65%.

10.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Fleet is $630,000. The condition distribution for the anticipated funding scenario is shown below in Figure 10-5. Overall condition increases in this scenario. Assets in good to very good condition increases by 17%, ending at 24% at the end of the forecast period.

Figure 10-5. Fleet Performance Forecast with Current Funding

10.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal, rehabilitation, and replacement activities listed above in Table 10-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure

needs and maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O.Reg. 588/17.

Figure 10-6. Fleet Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs as per Lifecycle Strategies

It was determined that a budget of $1.1 million for renewal, rehabilitation and replacement activities is needed to achieve the proposed levels of service. There is a funding gap of approximately $535,000 compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 10-6. The performance of Fleet increases during the 10-year forecast period. Assets in good to very good condition start at 7% and increase to 28% at the end of the forecast.

10.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 10-7 and Table 10-6. Figure 10-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 10-7 are colour coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights no gap to maintain current performance (condition) of assets and a gap of $535,000 to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

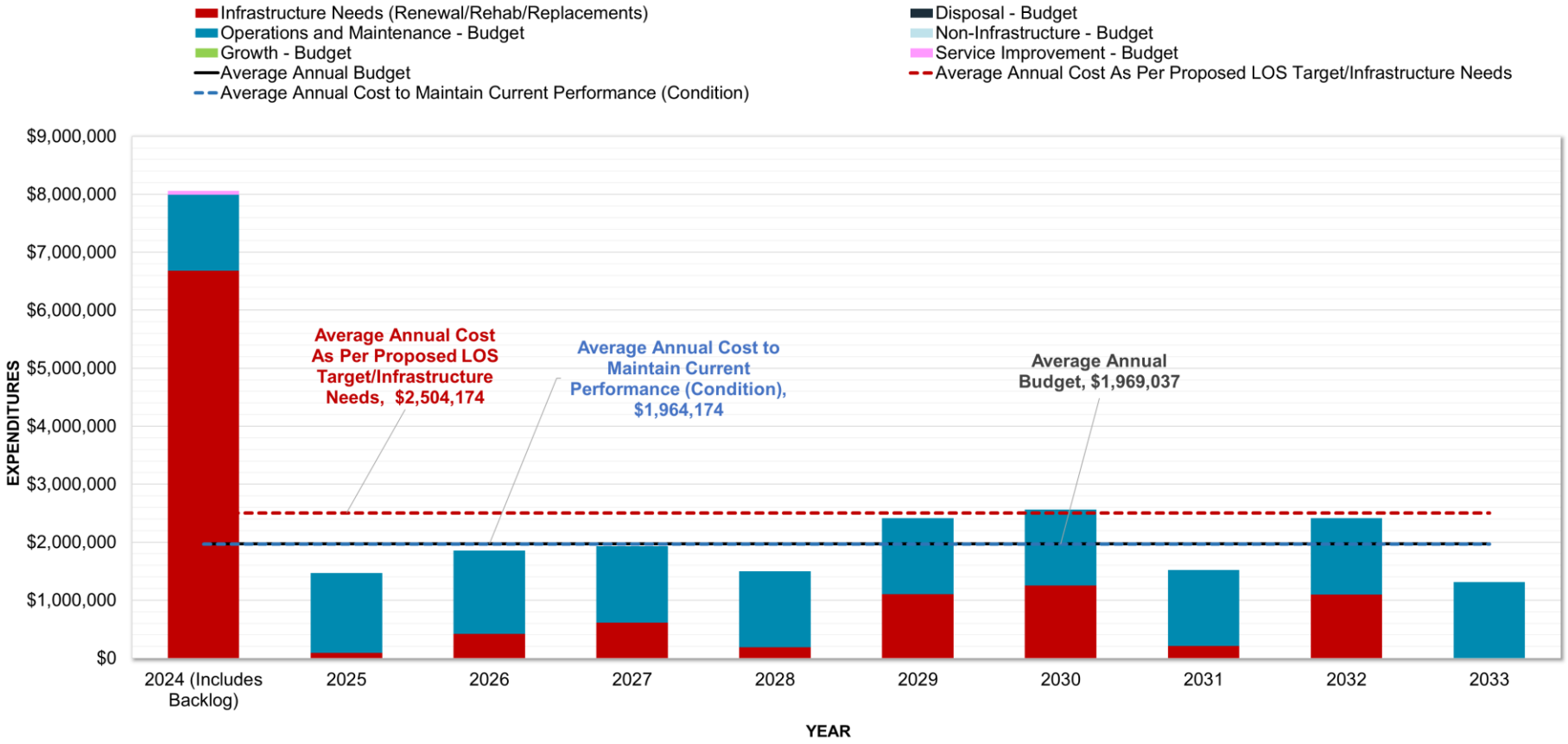


Figure 10-7. Fleet Scenario Comparison

The backlog is also highlighted in Figure 10-7 in the year 2024. The backlog represents renewal, rehabilitation, and replacement activities that have been identified as necessary but have not yet been completed. Continuing to defer renewals creates a risk of higher financial costs, potential decreased availability, and potential decreased satisfaction with asset performance.

Continuing to delay renewals may put the Town at risk for intergenerational inequality. Future generations may not be able to maintain the levels of service customers currently enjoy. Continued project deferrals can also lead to higher operational and maintenance costs, potentially limiting the availability of services in the future. Timely and adequately funded renewals and replacements will ensure that assets continue to remain functional and reliable into the future, at the lowest possible cost.

10.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 10-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 10-6. Current and Optimal Capital Funding and Funding Gap - Fleet

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$0	$0	$0
Non-Infrastructure	$0	$0	$0
Operations & Maintenance	$1,332,237	$1,332,237	$1,332,237
Renewal, Rehabilitation & Replacement	$630,000	$625,138	$1,165,138
Service Improvement	$6,800	$6,800	$6,800
Total	**$1,969,037**	**$1,964,174**	**$2,504,174**
Average Annual Spending Gap		**No Gap**	**$535,138**
Percentage Increase Required to Address Gap		**No Gap**	**27%**

10.5 Data Confidence and Improvement Plan

Table 10-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 10-7. Fleet – Data Confidence

Asset Segment	Data Source	Data Confidence
Equipment	Spreadsheets, multiple	C
Large Vehicles	Spreadsheets, multiple	C
Small Vehicles	Spreadsheets, multiple	C
Trailers	Spreadsheets, multiple	C

10.5.1 Recommendations for Improvements

Opportunities for improvement:

Fleet and Equipment: Efforts were made for the purposes of this AMP to pull together the multiple sources of information on fleet and equipment, with many gaps required to be filled. It is recommended that the inventory be assessed and verified, including the values determined for current replacement costs.

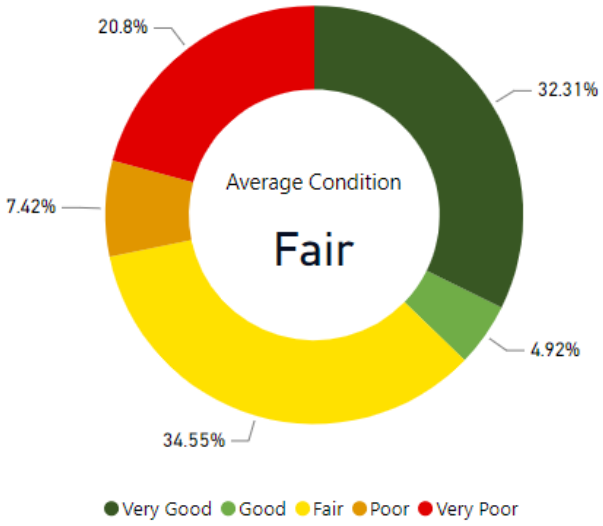
Through the implementation of the maintenance management software, it is recommended to maintain this register and develop processes to track all maintenance activities on fleet and equipment. Asset management planning for fleet and equipment can be further enhanced by determining how maintenance records can be used to further inform condition of fleet assets.

12.0 Parks and Cemeteries

Replacement Value

$36,570,375

Overall Average Asset Condition



Average Annual Gap to Meet Current LOS (Performance)	Average Annual Gap to Meet Proposed LOS (Performance)
No Gap	**$0.3 M**

Asset Inventory

- Outdoor Play Areas including 23 playgrounds and 6 spray pads
- Sports Facilities such as multi-use fields and courts, soccer fields, baseball diamonds and a skate park

11 Parks and Cemeteries

Parks and Cemeteries supports health and wellness in the community by providing recreation spaces for residents to gather in. Social interactions and community engagements happen in these outdoor spaces throughout the Town. Parks, outdoor spaces and play areas allow residents to take a break from their busy lives, providing a peaceful environment for relaxation.

Park assets include a variety of assets including amenities, equipment, sports fields and courts, and structures and parking lots to serve the community.

11.1 State of the Infrastructure

11.1.1 Asset Valuation

Parks and Cemeteries has outdoor open spaces and play areas, sports facilities, transportation surfaces like parking lots and trails, site services and utilities, park buildings and structures and site furnishing with a total estimated replacement value of $36M. The asset inventory and current estimated replacement value is shown in Table 11-1.

Table 11-1. Inventory and Current Replacement Value – Parks and Cemeteries

Asset Type	Count	Quantity Unit	2024 Estimated Replacement Value
P – Outdoor Open Spaces	74	Units	$946,040
R – Outdoor Play Areas	29	Units	$4,939,470
S – Sports Facilities	49	Units	$4,735,650
T – Transportation Surfaces	184	Units	$12,791,246
U – Site Services & Utilities	92	Units	$7,161,613
V – Park Building & Structures	130	Units	$4,285,432
W – Site Furnishings	326	Units	$1,710,923
Total			**$36,570,375**

11.1.2 Asset Condition

Asset condition is an important piece in asset management planning. Condition was assigned to assets in Parks and Cemeteries based on staff assigned condition scores where available

or age/estimated service life for remaining assets. The condition rating scale is shown below in Table 11-2.

Table 11-2. Condition Rating Scale – Parks and Cemeteries

Condition	Age/ESL	Assigned Condition
Very Good	>80% life remaining	1
Good	60-80% life remaining	2
Fair	40-60% life remaining	3
Poor	20-40% life remaining	4
Very Poor	0-20% life remaining	5
Unknown		

Figure 11-1 and Figure 11-2 illustrates the condition distribution of the Town's Parks and Cemeteries assets.

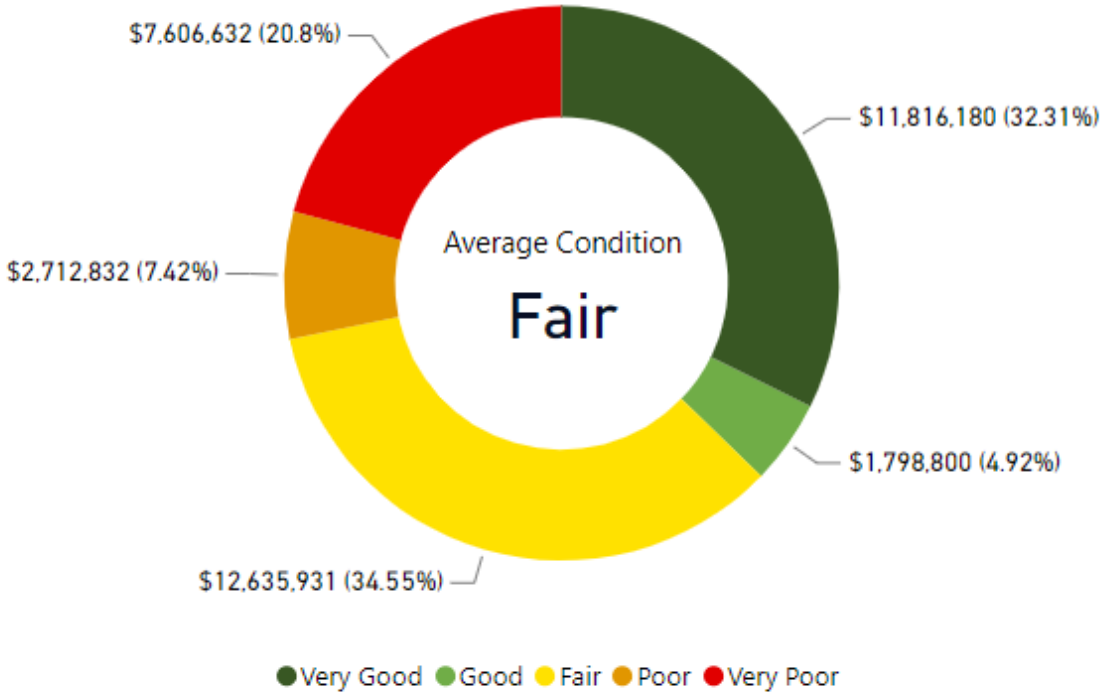


Figure 11-1. Overall Asset Condition (by Replacement Value) – Parks and Cemeteries

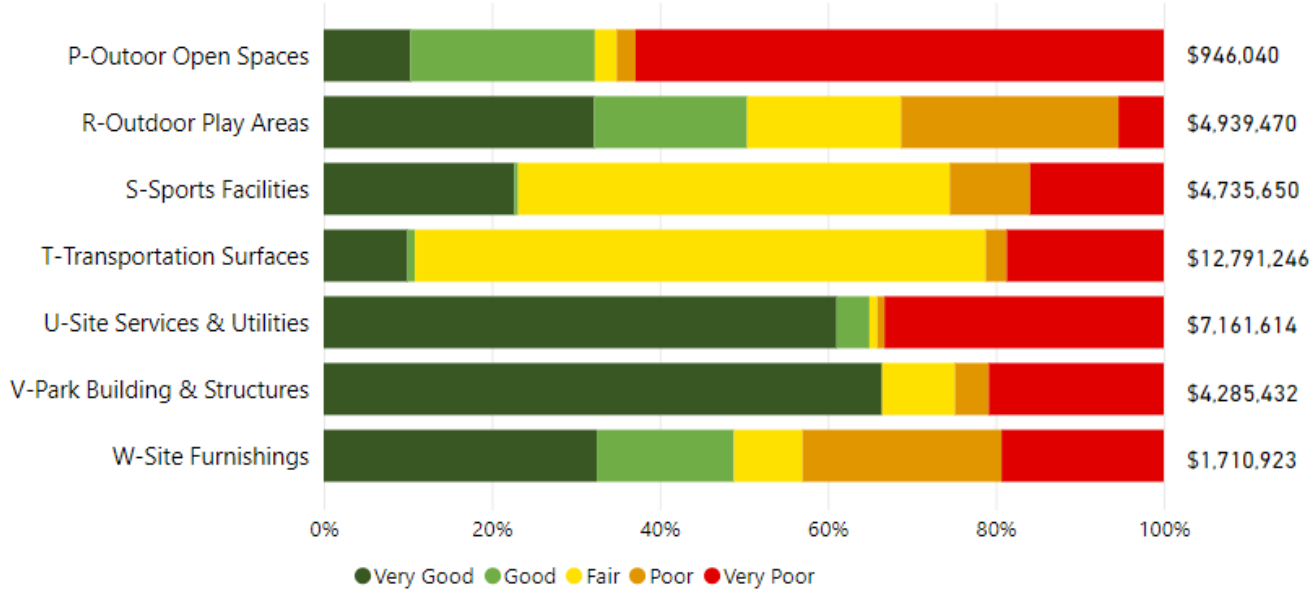


Figure 11-2. Asset Type Condition (by Replacement Value) – Parks and Cemeteries

The average condition of Parks and Cemeteries assets is fair. Approximately 71% of assets are in fair or better condition. Outdoor Open Spaces is over 60% in very poor condition, where all other asset types have less than 40% in very poor condition. The Town is continuing to collect condition data for all Parks asset types.

11.1.3 Average Age

Comparing average asset age to average estimated service life is a tool to further analyze the health of the asset system. The average age and average estimated service life for Parks and Cemeteries assets is shown in Figure 11-3.

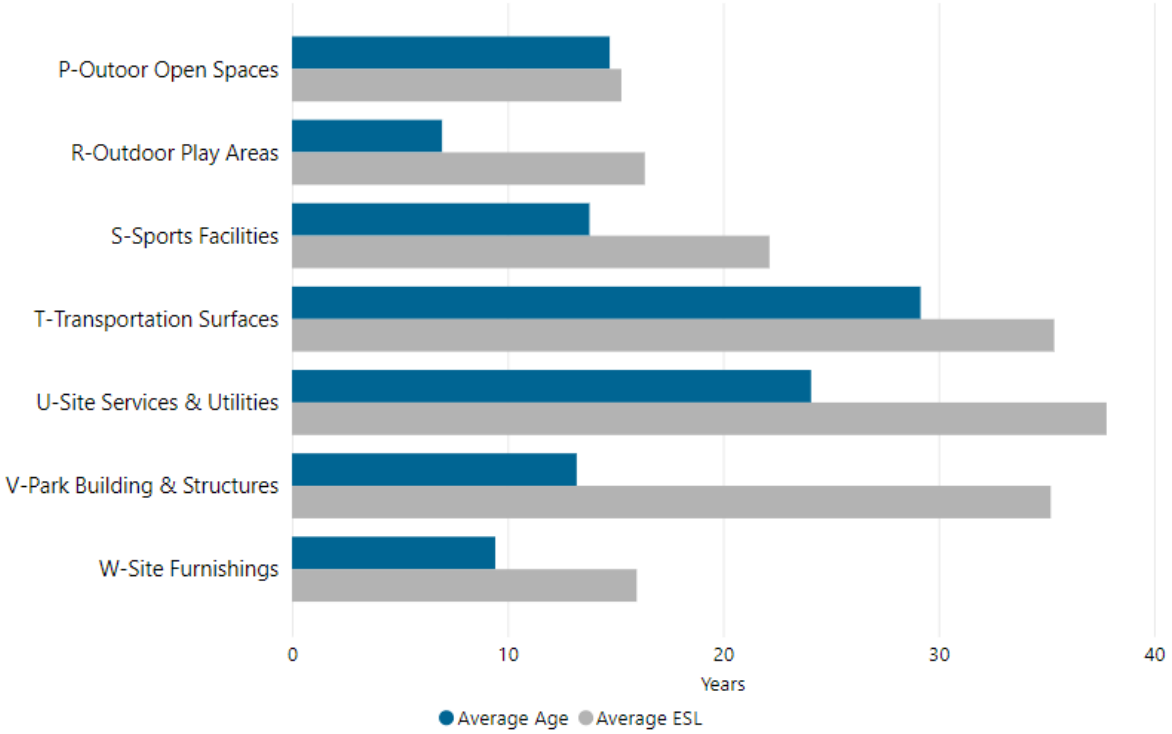


Figure 11-3. Average Age and Average Estimated Service Life – Parks and Cemeteries

All Parks and Cemeteries assets have an average age below the average estimated service life.

11.2 Levels of Service

Service Statement: Efficiently providing high quality, safe, accessible parks that promotes the quality of life and wellbeing of Town residents.

Levels of service metrics are a foundational part of the Town's Asset Management Strategy. It allows the Town to assess performance, identify areas for improvement and make informed decisions to better meet the needs of the community while optimizing resource allocation. Level of service metrics help municipalities promote accountability and transparency in municipal government. The Town has developed level of service metrics to align with community values and corporate priorities. There are metrics required by O.Reg. 588/17, and Town defined metrics. Customer and technical level of services metrics can be found below in Table 11-3 and Table 11-4.

The proposed LOS targets have been set by staff based on subject matter experts and through the development of the lifecycle management strategies discussed in the following section. Several factors and options were considered in the development of these targets, including costs, risks, and achievability. The differences between the current performance and proposed can be seen in the tables below.

The targets established for LOS represent the comprehensive approach required to minimize risks and lifecycle costs for the Town. The activities and strategies required to meet the proposed performance can be found in 11.3 Lifecycle Management Strategy, as well as the analysis of the impact to condition and costs used to determine the appropriate proposed (target) LOS. The proposed LOS are appropriate as they provide the best chance to avoid the risks associated with asset ownership. The risks associated with not meeting the proposed LOS can be significant and wide-ranging, which are further explained in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Addressing these risks requires a proactive approach to infrastructure planning, investment, and management, as outlined in the lifecycle strategies.

The proposed LOS will only be achievable if the Town adopts financial strategies to close the infrastructure gap identified in this plan.

Table 11-3. Customer Focused Level of Service Requirements – Parks and Cemeteries

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Cost Efficient	Total cost to provide service (2024 Operating & Capital Budget/household)	$550	$550	→

Table 11-4. Technical Focused Level of Service Requirements – Parks and Cemeteries

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Accessible	Percent of Playgrounds that are AODA compliant	95%	100%	↗
Accessible	Percent of the public parking Parks that are AODA compliant	75%	100%	↗
Accessible	Percent of paths and trails are AODA compliant	75%	100%	↗
Cost Efficient	Percent of annual reserve contribution meeting required reserve contribution based on the Reserve Policy	131%[15]	100%	→

[15] This metric was calculated based on optimal reserve contribution based on a previously established asset replacement value, as per the Town's Capital Reserve Fund Policy. It is recommended that the replacement values used to calculate this metric be updated to reflect 2024 replacement values.

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Difference Between Current & Proposed
Quality	Percentage of replacement cost of assets in very poor condition	20.8%	11%	

11.3 Lifecycle Management Strategy

The goal of our Asset Management Strategy is to establish and implement a series of planned activities, based on industry best practices. This will enable our assets to consistently provide a sustainable level of service to the residents of Fort Erie, while managing risk at the lowest lifecycle cost. The Town works to coordinate rehabilitation and replacement projects across asset groups where opportunities exist. This may result in asset strategies being delayed or advanced to accommodate the overall benefit of coordinated work across asset groups.

The Town continues to improve its approach to the management of its assets and will continue to put in place processes, procedures, and tools to enable a more consistent approach across the Town's Service Areas. Detailed below is an overview of some of the current asset management practices in place across the Town.

11.3.1 Lifecycle Activities

Lifecycle activities for Parks and Cemeteries involve processes and tasks aimed at managing the entire lifespan of an asset. Following these activities allows Parks and Cemeteries to continue to provide services efficiently, effectively, and sustainably throughout their lifecycle, maximizing the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

By maintaining Parks and Cemeteries in optimal condition, the Town can provide services at the lowest possible cost by extending their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services offered by well-maintained Parks and Cemeteries infrastructure. Following the lifecycle activities and strategies also ensures the Town avoid the risks associated with asset ownership, which can be significant. These risks are further outlined in 12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service. Completing lifecycle activities and following the strategies outlined in this plan can enhance the resilience and sustainability of infrastructure while minimizing potential risks.

The lifecycle activity categories include non-infrastructure, operations and maintenance, renewal/rehabilitation, disposal, and service improvement and growth. A description of each activity category can be found in Section 1.4.2.4. Specific asset management practices or planned actions as well as specific frequencies associated with these actions are outlined in Table 11-5.

Table 11-5. Asset Management Practices and Associated Risks – Parks and Cemeteries

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Asset Management Planning	• Every 5 years
• Parks and Open Space Masterplan	• Every 10 years
• Cemetery Master Plan	• Every 10 years
Operations & Maintenance Activities	
• Grass cutting	• Weekly
• Irrigation maintenance	• As required
• Horticulture	• As required
• Sport Field management (lines, dragging, etc.)	• Weekly
• Garbage collection	• As required
• Beach bathroom cleaning and maintenance	• As required
• Replace lighting	• As required
• Parking lot maintenance	• As required
• Snow removal	• Seasonally
• Tree maintenance (tree removals, tree trimming, etc.)	• As required
• Park amenity maintenance (reactive and planned)	• As required
• Service request response	• As identified
• Trail maintenance (brushing, asphalt, crack sealing, line painting)	• As required
• Sign maintenance	• As required
• Beach maintenance (grooming and grading)	• Seasonally
• Public event support	• As required
• Public event management	• As required
• Cemetery - internments/disinterment's	• On-going

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
• Cemetery – grass cutting	• On-going
• Cemetery – monument foundations installation	• Twice a year
• Cemetery – grounds/turn maintenance	• On-going
• Cemetery – marker installation	• On-going
• Snow removal	• Seasonal
• Pest management	• On-going
• Turf management	• On-going
• Memorial flower removal	• Seasonal
• Seasonal displays	• Seasonal
Renewal/Replacement Activities	
• Replacement	• As needed based on useful life
Disposal Activities	
• Dispose of assets in line with replacements	• As required
Service Improvement & Growth Activities	
• New assets for developments to service growth	• As needed
• New assets as part of service improvement	• As identified in studies

11.4 Funding the Lifecycle Activities

The Town uses the lifecycle management strategies described above in Section 11.3 to plan work and determine future expenditure needs for Parks and Cemeteries assets. The activities, along with the scenarios below provide a framework of expenditures required for managing assets and ensuring the Town can meet the demands of current services and existing infrastructure.

All three scenarios consider only renewal, rehabilitation and replacement lifecycle activity costs and needs. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been accounted for in the Scenario Comparison, found below in Section 11.4.4, which are based on the operating and capital budgets for the Town.

For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

11.4.1 Scenario 1: Cost to Maintain Current Performance (Level of Service)

Scenario one calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for Parks and Cemeteries (as mandated by O.Reg. 588/17).

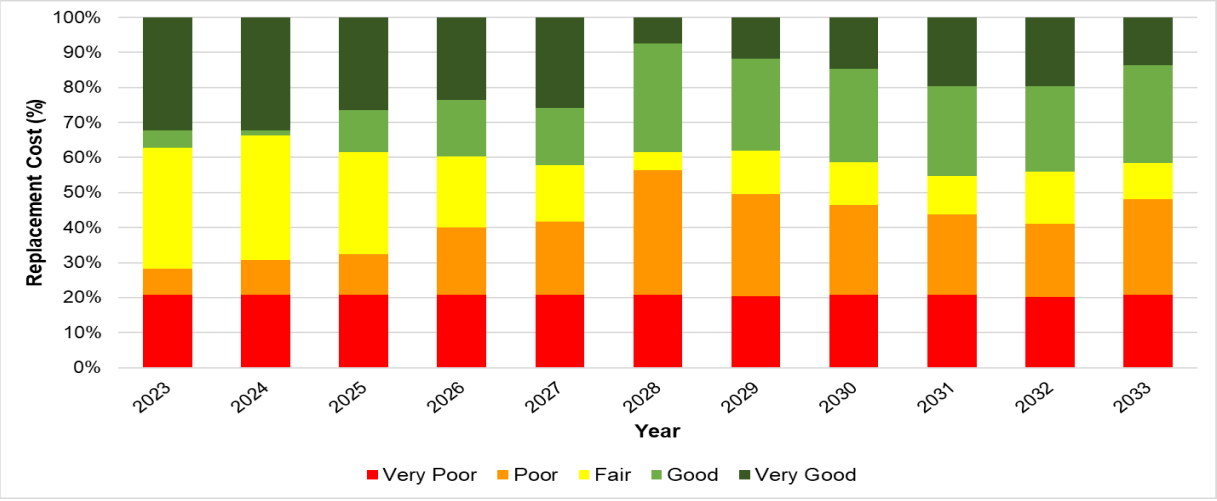


Figure 11-4. Parks and Cemeteries Performance Forecast to Maintain Levels of Service

It was determined that an annual budget of $1.1 million for renewal, rehabilitation and replacement activities is needed to maintain performance for Parks and Cemeteries. There is no funding gap compared to the anticipated funding levels. The performance forecast for scenario one is shown in Figure 11-4. Assets in good to very good condition stays similar throughout the forecast, while assets in poor condition increases by 20%, ending at 27%.

11.4.2 Scenario 2: Current Funding

Scenario two looks at the impact of current anticipated funding on the asset performance (condition) over the 10-year forecast period. The anticipated annual funding for renewal, rehabilitation and replacement activities for Parks and Cemeteries is $1.2 million. The condition distribution for the anticipated funding scenario is shown below in Figure 11-5. Similarly to scenario one, the overall condition of assets decreases slightly as assets in poor to very poor condition increases by 22%, ending at 50% at the end of the 10-year forecast.

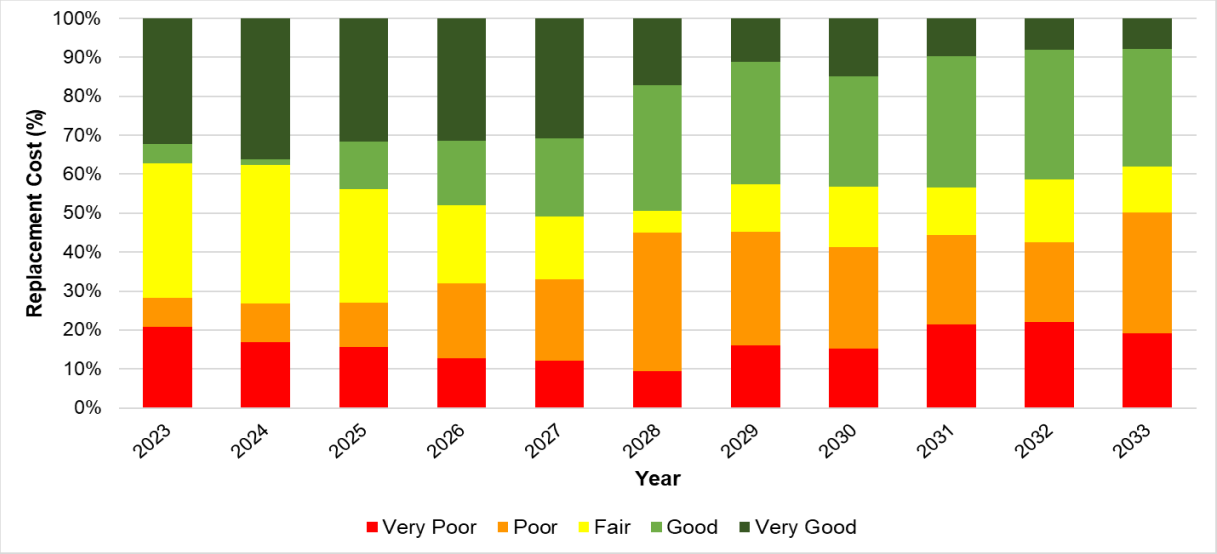


Figure 11-5. Parks and Cemeteries Performance Forecast with Current Funding

11.4.3 Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment

Scenario three calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities. The renewal, rehabilitation, and replacement activities listed above in Table 2-5 have been used to develop the strategies for the infrastructure needs and include the lifecycle activities that need to be undertaken to achieve the proposed levels of service. Following the infrastructure needs and maintaining assets as prescribed in this AMP will provide the lowest lifecycle cost. This scenario is mandated by O.Reg. 588/17.

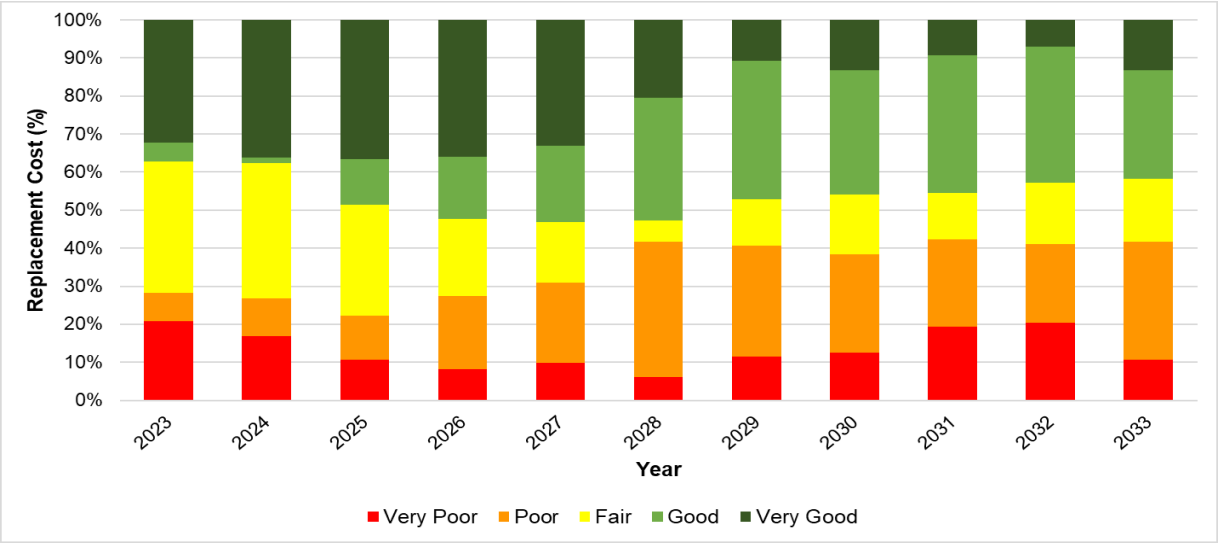


Figure 11-6. Parks and Cemeteries Performance Forecast with Proposed Level of Service Targets/Infrastructure Needs Assessment as per Lifecycle Strategies

It was determined that a budget of $1.5 million for renewal, rehabilitation and replacement activities is needed to achieve the proposed levels of service. There is a funding gap of approximately $313,000 compared to current anticipated funding levels. The performance forecast for this scenario is shown below in Figure 11-6. The performance of Parks and Cemeteries increases slightly during the 10-year forecast period. Assets in good to very good condition start at 37% and increase to 42% at the end of the forecast.

11.4.4 Scenario Comparison & Infrastructure Gap

With the above information, Town staff can determine if there are gaps in funding to address infrastructure needs. This information will support future decision making on how to address any gaps. The investment needs under each of the three scenarios are shown below in Figure 11-7 and Table 11-6. Figure 11-7 shows a bar graph of the forecasted renewal, rehabilitation, and replacement expenditures for the proposed level of service targets/infrastructure needs according to scenario three, as well as any remaining lifecycle expenditures informed by the Town's anticipated budget. The bars in Figure 11-7 are colour coded by lifecycle activities. The solid and dashed lines represent the average annual investment needs of the three scenarios described above.

The scenario comparison highlights no gap to maintain current performance (condition) of assets and a gap of $313,000 to achieve proposed level of service targets and optimize the performance of assets based on lifecycle strategies compared to anticipated annual funding.

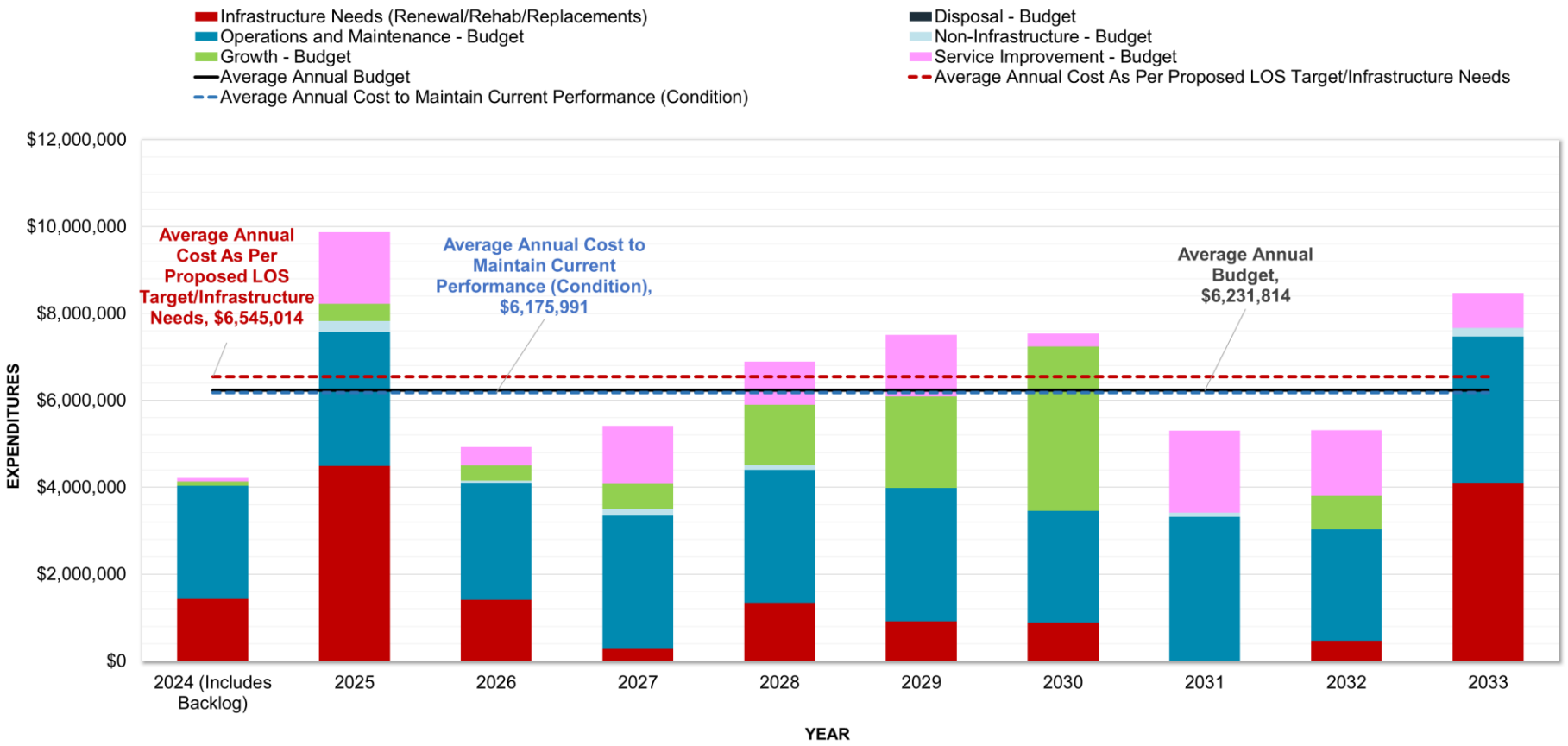


Figure 11-7. Parks and Cemeteries Scenario Comparison

The backlog is also highlighted in Figure 11-7 in the year 2024. The backlog represents renewal, rehabilitation, and replacement activities that have been identified as necessary but have not yet been completed. Continuing to defer renewals creates a risk of higher financial costs, potential decreased availability, and potential decreased satisfaction with asset performance.

Continuing to delay renewals may put the Town at risk for intergenerational inequality. Future generations may not be able to maintain the levels of service customers currently enjoy. Continued project deferrals can also lead to higher operational and maintenance costs, potentially limiting the availability of services in the future. Timely and adequately funded renewals and replacements will ensure that assets continue to remain functional and reliable into the future, at the lowest possible cost.

11.4.4.1 Forecasted Infrastructure Gap

The infrastructure gap is summarized below in Table 11-6. Current funding for capital budgets presented are the annual average of approved budgets (as of 2023) for the 2023-2033 fiscal years.

Table 11-6. Current and Optimal Capital Funding and Funding Gap – Parks & Cemeteries

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$951,952	$951,952	$951,952
Non-Infrastructure	$85,000	$85,000	$85,000
Operations & Maintenance	$2,939,362	$2,939,362	$2,939,362
Renewal, Rehabilitation & Replacement	$1,219,027	$1,163,204	$1,532,227
Service Improvement	$1,036,473	$1,036,473	$1,036,473
Total	**$6,231,814**	**$6,175,991**	**$6,545,014**
Average Annual Spending Gap		**No Gap**	**$313,199**
Percentage Increase Required to Address Gap		**No Gap**	**5%**

11.5 Data Confidence and Improvement Plan

Table 11-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

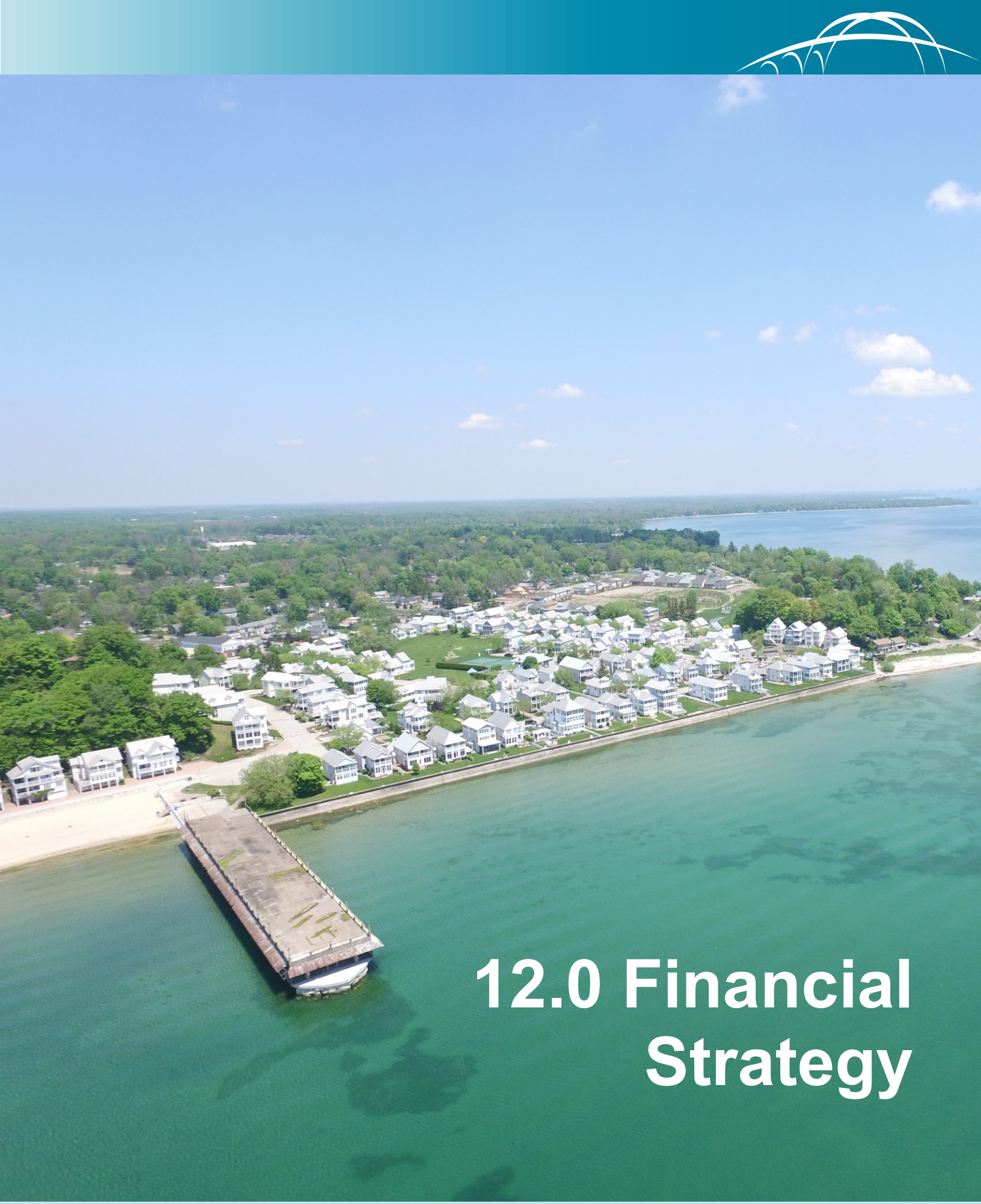
Table 11-7. Parks and Cemeteries – Data Confidence

Asset Segment	Data Source	Data Confidence
All assets	Parks condition assessment (2023), spreadsheet	A

11.5.1 Recommendations for Improvements

Opportunities for improvement include:

All Parks Data: The Town recently completed a comprehensive review of all of their parks and developed an inventory of assets and assessed them for condition. It is recommended that this information be implemented into the work management system to ensure that the information is kept up to date on an ongoing basis and that work completed on these assets gets tracked appropriately.



12.0 Financial Strategy

12 Financial Strategy

This financial strategy provides an analysis of the average annual funding available, the expenditures required to maintain current LOS, as well as the ideal expenditures required to meet the Town's proposed LOS and infrastructure needs based on the lifecycle strategies identified throughout this plan. The financial strategy in this AMP is based on the Town of Fort Erie's 2024 10-year capital budget and operating budget to determine the funding available to support infrastructure. All forecasted dollars are presented in 2024 dollars, and no inflationary measure has been included in the needs.

The financial strategy includes the following:

Budget Overview: The Town's budgets are developed to allocate funds to cover the costs of providing services, maintain existing assets, and the construction of new assets. The budgets are categorized into:

Operating Budget: The operating budget provides the necessary resources to fund programs and services to meet the community's needs and accommodates inflationary pressures. The operating budget is primarily funded with tax dollars and income from fees and service charges. The operating budget is used to plan for the municipality's day-to-day expenditures, such as:

- wages
- materials & supplies
- utilities
- maintenance of buildings
- repayment of debt for major projects to deliver those necessary programs and services.

Capital Budget: The capital budget and forecast is a 10-year financial plan. This plan identifies the capital requirements of growth and maintaining existing infrastructure. The capital budget is funded through the following:

- property taxes
- town reserves
- development charges
- debt

- Federal Gas Tax and grants

The capital budget is used to build or rehabilitate assets that will last more than one year.

The Town has a 10-year capital budget and forecast was leveraged for the analysis included in this AMP.

Revenue & Capital Funding Sources: The Town obtains revenues from various sources to fund the expenditures outlined in the Operating and Capital budgets. Revenue sources include property taxes, federal and provincial funding, grants and subsidies, and user rates. These revenues are then used to fund all aspects of the municipal services.

Reserves and Reserve Funds: Reserves and reserve funds provide the financing source for the capital budget. In addition, the reserves and reserve funds receive annual contributions from the operating budget. The contributions help create a solid financial position that supports the town's future cash requirements. Therefore, maintaining enough reserves and reserve funds balances is key to the municipality's long-term financial plan.

- It strengthens its long-term financial sustainability
- It helps to cut fluctuations in the tax rate
- Provides funding to sustain infrastructure.

Infrastructure Expenditure Needs & Infrastructure Gap Overview: The AMP aims to determine the funding levels needed to support the capital expenditures, LOS, and infrastructure needs across all asset categories.

The total infrastructure spending needs required to meet current LOS, and to meet the proposed LOS for infrastructure needs as per the lifecycle management strategy. The gap is calculated based on the forecast scenarios and average budget.

Risks Associated with Lifecycle Strategies & Risk Management Strategies: There are inherent risks with not following lifecycle strategies which have been defined and the strategies in place to manage these risks.

Financial Strategies to Address the Gap: The Town will need to review and implement various strategies that will address the infrastructure gap. Options of strategies are outlined within this plan.

12.1 Budget Overview

12.1.1 Planned Expenditures

The planned expenditures represent the anticipated average annual budget based on the 10-year capital budget, and the operations budget over the 10-year analysis period.

Table 12-1. Anticipated Average Annual Budget (Based on 10-year Capital Budget)

AMP Asset Class	Anticipated Average Annual Budget[16]
Bridges and Culverts	$ 1,100,275
Roads	$8,596,703
Stormwater	$5,601,763
Wastewater	$21,683,176
Water	$9,327,254
Digital Services	$1,652,659
Emergency Services	$3,007,448
Facilities	$6,524,347
Fleet	$1,969,037
Park and Cemeteries	$6,231,814
Total	**$65,694.476**

12.1.2 Revenues

The Town's revenues, by source, are outlined in Table 12-2. Revenues include those generated from property taxes, contributions from senior levels of government, and user fees, and other miscellaneous sources.

Table 12-2. Town Funding Sources (2021-2023)

Funding Source	2023	2022	2021
Taxation	$32,249,348	$31,462,422	$29,848,202
Interest and Penalties	$2,021,200	$1,457,800	$1,236,945
Grants	$1,849,815	$2,086,488	$2,115,609
Water Wastewater Billings	$21,571,607	$20,352,134	$19,496,501
User Fees	$4,065,184	$3,696,861	$2,576,205
Gaming	$257,000	$12,000	$101,500
Other	$382,830	$301,493	$237,979
Total	$62,396,984	$59,369,198	$55,612,941

[16] The amounts referenced in this table include a summary of the annual average budget amounts from the Town's 10-year Capital Budget and Forecast, and Operating Budget. Only expenditures forecasted that were tied to a specific asset category/service and lifecycle activity have been included. These totals do not represent the total Town Budget.

As shown, the majority of the Town's revenues are from taxation and water and wastewater user fees.

12.2 Infrastructure Expenditure Needs

The results of the lifecycle management strategy have been compiled within this section to provide an overall view of the Town's ability to meet current LOS as well as to meet the target LOS, or infrastructure needs, for the whole organization. The AMP uses Scenario 1 and 3 to determine the infrastructure needs of the Town's assets. Scenario 2 provides the budget analysis within the chapters to review the impact of Town's anticipated budget on the asset's performance.

Scenario 1: Cost to Maintain Current Performance (LOS) calculates the approximate annual cost of the renewal, rehabilitation and replacement activities required to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for each asset category (as mandated by O.Reg. 588/17).

Scenario 2 – Current Funding: Determines the impact of the current 10-year capital budget on the condition (performance) of the assets. The average annual budget is used to compare to Scenario 1 and 3.

Scenario 3: Proposed LOS Target/Infrastructure Needs Assessment calculates the average budget needed to achieve the proposed levels of service, which has been determined using infrastructure needs as per lifecycle strategies. The lifecycle strategies were developed in consultation with Town staff, and using industry best practices for the renewal, rehabilitation, and replacement activities.

For the purposes of this AMP only renewal, rehabilitation and replacement lifecycle activity costs and needs are analyzed. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Further details of the expenditures and funding required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) have been reported on to consider the whole lifecycle cost of the Town's assets and services, which are based on the operating and capital budgets for the Town. For the purposes of this AMP, these activities, and their costs, are assumed to be enough to meet the community's expectations. This AMP does not provide an analysis on optimizing these activities and costs. Growth needs are captured based on the planned projects that are funded through development charges or are activities to address the growing Town population.

These scenarios have been compiled for all assets below to show the overall impact on performance (condition) to Town assts.

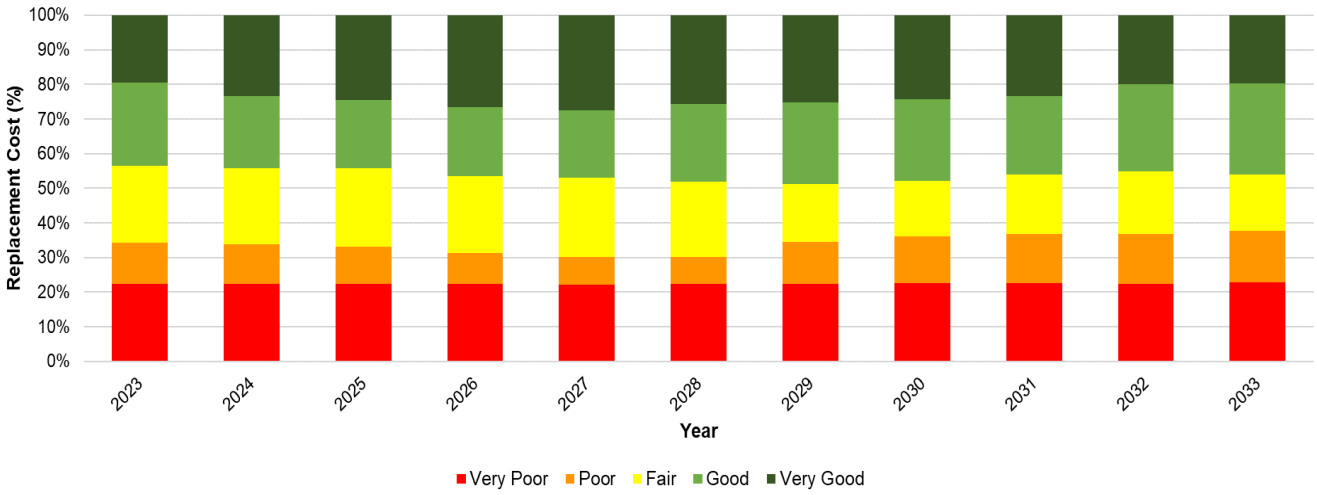


Figure 12-1. Scenario 1: Maintain Current LOS - All Assets

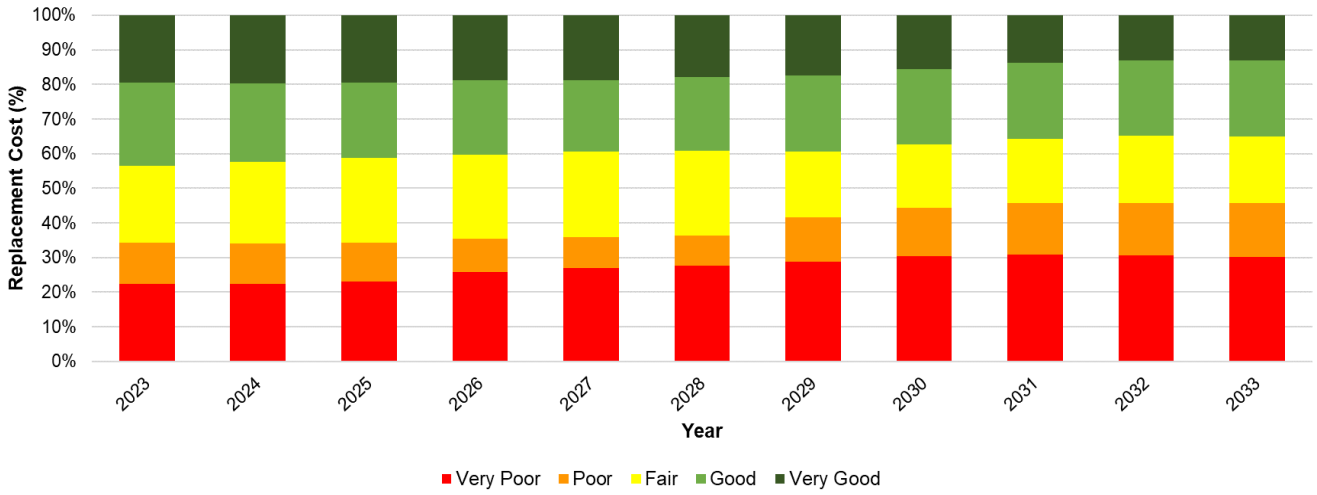


Figure 12-2. Scenario 2: Current Funding - All Assets

Figure 12-3. Scenario 3: Proposed LOS Target - All Assets

The graphs above show the impact the scenarios developed for this AMP have on the condition of the Town's assets. Scenario 1 maintains the assets in approximately the same condition they are currently in. Scenario 2 sees a decrease in the overall performance (condition) of the assets by the end of the 10-year forecast period. This analysis is based on the planned spending as per the 10-year capital budget. If the Town follows Scenario 3, to meet proposed LOS targets as per identified lifecycle management strategies, there will be an improvement to the performance of the Town's assets.

The compiled investment needs (expenditures) under each of the analysis scenarios are presented in Figure 12-4. This figure illustrates the calculated infrastructure needs based on both the Average Annual Cost to Maintain Current LOS (Scenario 1), as well as the Average Annual Cost for the Proposed LOS as Per Infrastructure Needs (Scenario 3) and compares these to the average annual funding available for assets (based on the Town's budget) (Scenario 2). The costs identified as the Infrastructure Needs Renewal/Rehab/Replacements) identify the lifecycle activity expenditures required for the 10-year forecast to meet proposed LOS, as per O.Reg. 588/17 requirements. These costs represent the Town's best alternative to provide services at the lowest possible cost, to avoid risk and to meet levels of service.

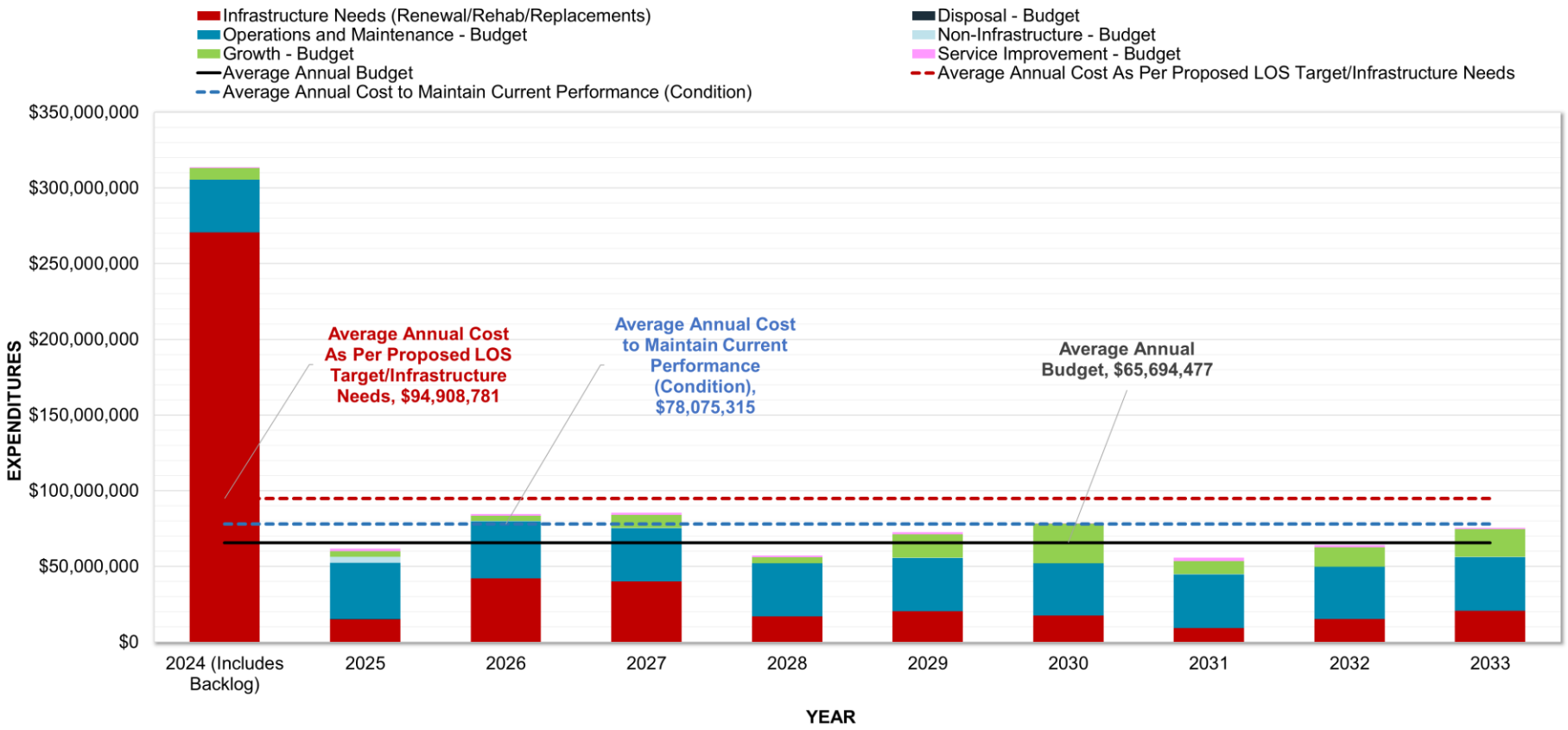


Figure 12-4. Town of Fort Erie Overall Required Expenditures - Scenario Comparison

12.2.1 Overall Infrastructure Gap

The overall infrastructure gap can be reviewed below for the Town. This information is then further broken down to tax supported and rate supported assets to reflect the different revenue sources of the assets.

12.2.1.1 Contributing Factors

There are many factors that have contributed to the infrastructure gap the Town if facing, particularly since the recommendations provided in the previous AMP. These factors include the following:

High Inflation Rates and Impact of COVID: Recent years, primarily since the COVID-19, have seen significant increases in inflation rates, as well as costs of all assets and their replacement costs (including construction, etc.). These increased costs have impacted municipality's ability to meet infrastructure needs, even when previous financial strategies were considered strong in years prior to COVID.

Updated Current Replacement Values: The Town has put significant efforts to ensure the replacement values represented in this plan are in line with present market conditions and reflect the increased costs across all asset categories. Construction costs of core infrastructure, replacement values for facilities and fleet have been particularly affected by these increases. The replacement values for the 2024 AMP have been compared to the 2019 AMP in Table 12-3. Since the previous AMP, the replacement values of Town assets have grown from $1B to over $2B. The previous AMP did not report on Digital Services, Emergency Services or Parks and Cemeteries.

Updated Condition Assessments: Since the previous AMP, the Town has updated many condition assessments to provide more accurate forecasts for the purposes of asset management. This has increased awareness and knowledge of the assets to provide a more accurate assessment than previously available.

Proposed LOS Targets: Setting proposed LOS targets, and a scenario to review the cost to achieve this target is something that was previously not provided in the last AMP. This requirement of the O.Reg. 588/17 is not required until July 2025. This new information has been assessed and provided as a part of this plan.

Improved Asset Information: The Town has improved information to be included within this plan, and have included assets not previously reported on, or have improved the information available on these assets. The previous plan did not have strong information to develop recommendations from and relied on a high-level assessment of the needs required for

assets. This plan has improved upon the information for assets and leveraged this information to provide enhance analysis of infrastructure needs.

Updated Lifecycle Strategies: The Town has leveraged technologies where available and have updated and developed lifecycle strategies where previously not available in the previous AMP. These strategies for the basis of the forecasts for the infrastructure needs, rather than a proposed reinvestment rate, as was leveraged in the previous AMP.

Table 12-3. 2019 and 2024 AMP Replacement Value Comparison

Asset Category	2019 AMP Replacement Value	2024 AMP Replacement Value	Percent Increase
Bridges and Culverts	$37,350,500	$62,232,400	67%
Digital Services	Not Reported	$3,325,184	
Emergency Services	Not Reported	$13,996,590	
Facilities	$98,423,527	$214,221,386[17]	118%
Fleet	Not Reported	$13,300,576	
Natural Assets	Not Reported	$115,760,000	
Parks and Cemeteries	Not Reported	$36,570,375	
Roads	$412,136,282	$536,947,986	30%
Stormwater	$156,184,476	$401,462,862	157%
Wastewater	$136,003,666	$392,336,423	188%
Water	$171,796,084	$371,712,898	116%
Total	**$1,011,894,535**	**$2,161,866,680**	

12.2.1.2 Overall Infrastructure Gap

The infrastructure gap is calculated by comparing the forecasted renewal, rehabilitation, and replacement expenditures under each scenario against the Average Annual Budget attributed

[17] Replacement value is based on the overall replacement value of the facility (similar to the 2019 AMP). The remainder of the analysis completed for the facilities within this AMP is based on the components of the facility derived from the building condition assessments.

to these assets. The AMP has identified an annual funding gap of $12 million to maintain current LOS, and an annual gap of $29 M to meet the proposed LOS as per lifecycle strategies that have been documented throughout this plan. An overview of the gap for all asset categories combined can be found in Table 12-4.

Table 12-4. Overall Average Annual Expenditures and Infrastructure Gap

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$15,000	$15,000	$15,000
Growth	$10,907,595	$10,907,595	$10,907,595
Non-Infrastructure	$521,100	$521,100	$521,100
Operations & Maintenance	$35,443,628	$35,443,628	$35,443,628
Renewal, Rehabilitation & Replacement	$17,577,181	$29,958,019	$46,791,485
Service Improvement	$1,229,973	$1,229,973	$1,229,973
Total	**$65,694,477**	**$78,075,315**	**$94,908,781**
Average Annual Spending Gap		**$12,380,838**	**$29,214,304**
Percentage Increase Required to Address Gap		**19%**	**44%**

The gap has been determined based on the difference between the average annual budget for renewal, rehabilitation and replacement activities and the required annual average expenditures required for these activities to maintain current LOS and proposed LOS (as per infrastructure needs). The gap being faced by the Town is a result of a combination of aging infrastructure, increased replacement costs (as a result of the current market and inflation), as well as improved asset information that has been provided by the Town based on updated condition assessments completed since the previous 2019 AMP.

The cumulative results of these scenarios demonstrate that significant investment, along with the adoption of strategic asset management practices and policies will be required to meet expected spending requirements to meet current LOS, and an additional gap to meet proposed LOS. Left unaddressed, the impact of not developing strategies to close the gap can be seen in Figure 12-5. This shows the 10-year infrastructure gap at the end of the 10-year period, including the impact of inflation (this assumes a 2.5% rate of inflation).

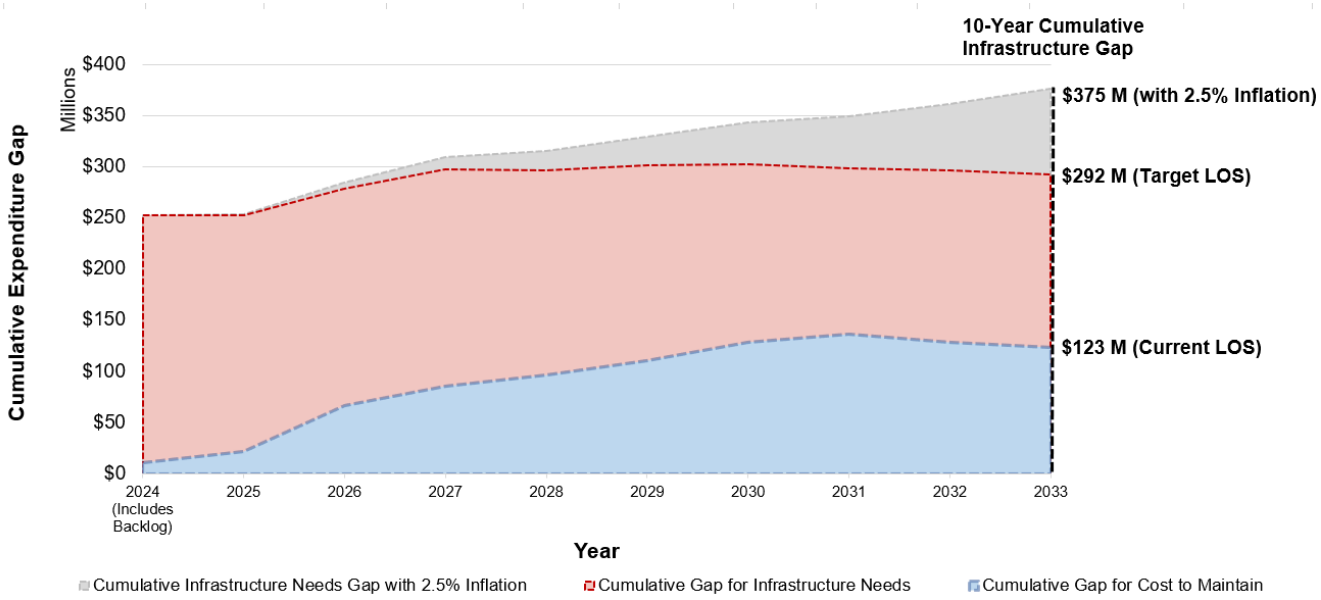


Figure 12-5. Cumulative 10-Year Infrastructure Gap and Impact of Inflation

Without strategies in place to close the infrastructure gap, the Town faces a total gap of $375 million at the end of the 10-year period, factoring in inflation.

Closing the infrastructure gap is critical for ensuring the long-term sustainability and optimal performance of the Town's assets. It may require multiple strategies to achieve this, which are explained further in 12.2.7 Financial Strategies to Address the Gap.

The infrastructure needs and gap are further described below, broken down by rate supported and tax supported assets to reflect the main source of revenue for these asset categories to further understand how revenues need to be increased to meet the needs and close the overall infrastructure gap.

12.2.2 Rate Supported Infrastructure Needs and Gap

The Town water and wastewater asset categories are supported by user rates, and an overview of their current average annual budget, expenditures required to meet current LOS, and the proposed LOS as per infrastructure needs and the infrastructure gap is described in Figure 12-6 and Table 12-5.

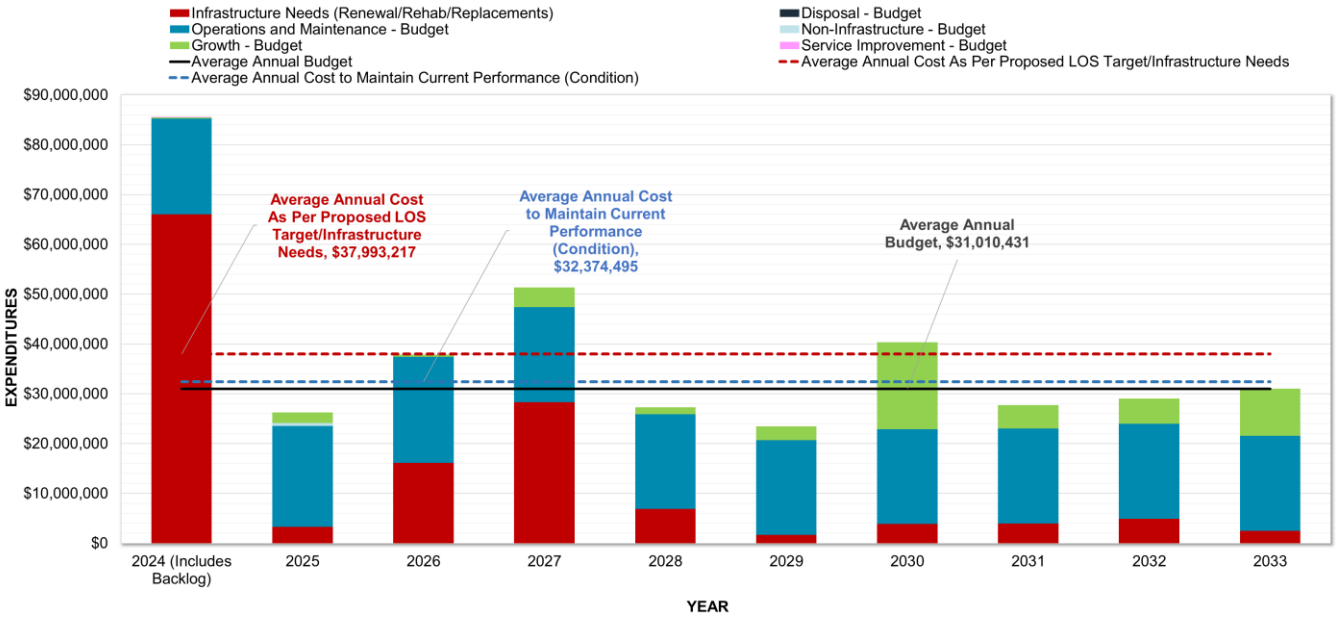


Figure 12-6. Rate Supported Assets (Water & Wastewater) Required Expenditures - Scenario Comparison

Table 12-5. Rate Supported Average Annual Expenditures and Infrastructure Gap

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost As Per Proposed LOS Target/ Infrastructure Needs
Disposal	$0	$0	$0
Growth	$4,768,267	$4,768,267	$4,768,267
Non-Infrastructure	$62,500	$62,500	$62,500
Operations & Maintenance	$19,412,503	$19,412,503	$19,412,503
Renewal, Rehabilitation & Replacement	$6,756,161	$8,120,226	$13,738,948
Service Improvement	$11,000	$11,000	$11,000
Total	$31,010,431	$32,374,495	$37,993,217
Average Annual Spending Gap		$1,364,064	$6,982,787
Percentage Increase Required to Address Gap		4%	23%

The Average Annual Spending Gap for rate supported assets to meet the proposed LOS target as per infrastructure needs is broken down by asset category in Figure 12-7.

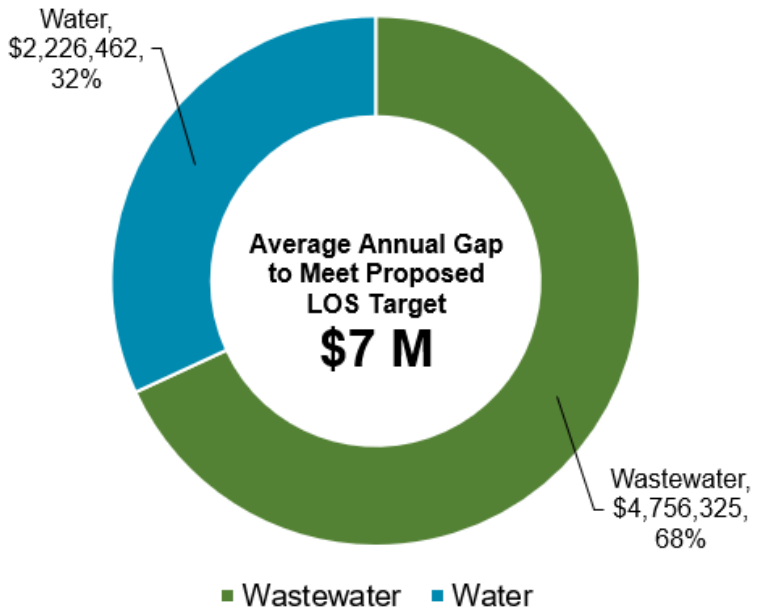


Figure 12-7. Annual Infrastructure Gap to Meet Proposed LOS for Rate Supported Assets by Asset Category

To further review the infrastructure gap of rate funded assets, Table 12-6 provides an overview of the 2024 AMP replacement value, the average gap to meet the proposed LOS, the gap as a percentage of replacement values, and the gap as a percentage of the 2024 water and wastewater (W/WW) budget.

The Town currently has a capital reserve policy, which has been leveraged to close the gap that was defined by the previous AMP. This policy states the optimal target annual contribution to be 2% of estimated replacement cost of the assets for water and sanitary sewer refurbishing, and 10% for dedicated water meter replacement. Based on this methodology, the previous optimal target can be found in Table 12-7, along with the updated 2024 optimal reserve contribution based on 2024 current replacement values, which have significantly increased since the previous AMP, beyond anticipated inflation rates.

Table 12-6. Rate Supported Asset Overview of Gaps and Considerations to Close the Gap

Asset Category	Total Replacement Value	Average Annual Budget for Rehab/Replacement Activities	Average Annual Need for Proposed LOS (Rehab/Replacement Activities)	Average Annual Gap for Proposed LOS	Gap As Percentage of Replacement Value	Gap as Percentage of Total 2024 W/WW Budget
Wastewater	$392,336,423	$3,971,787	$8,728,111	$4,756,325	1%	20%
Water	$371,712,898	$2,784,375	$5,010,837	$2,226,462	1%	10%
Total	**$764,049,321**	**$6,756,162**	**$13,738,948**	**$6,982,787**	**1%**	**30%**

Table 12-7. Rate Supported Reserve Overview

Asset Category	2024 Reserve Balance (less 2024 Capital Program)	2024 Reserve Contribution	Annual Optimal Reserve Contribution (as per Capital Reserve Policy)	Updated Annual Optimal Reserve Contribution (2024 AMP Replacement Values)	Optimal Reserve Contribution Shortage
Wastewater	$2,758,660	$2,097,348	$2,040,000	$7,846,728	($5,806,728)
Water	$4,039,897	$2,623,981	$2,420,000	$8,449,249	($6,029,249)
Total	**$6,798,557**	**$4,721,329**	**$4,460,000**	**$16,295,977**	**($11,835,977)**

It is recommended that the Town update the replacement values used to determine the optimal annual reserve contribution to be reflective of current replacement values established within this plan. The Town has increased reserve contributions based on inflation, to go above established target optimal contributions, but still experiencing a shortfall based on the large increase to the cost to replace water and wastewater assets since the previous AMP. Based on the Town's current policy, and the optimal annual reserve contribution, the Town should be contributing approximately $12M more annually to reserves, if using the updated replacement values provided in this AMP. This increase to reserves would assist the Town in closing the gap currently being faced by the Town for water and wastewater assets to meet proposed LOS, and meet future needs not identified in this plan.

Further to the recommendations to increase reserve contributions, it is recommended that the Town continue to explore and consider the additional financial strategies outlined in 12.2.7 Financial Strategies to Address the Gap, which outlines both financial and non-financial strategies that can be leveraged to close the gap for rate supported assets. The Town's current project to implement a maintenance management system will further enhance the Town's knowledge of its assets and will provide improved forecasts once fully mature.

Particularly for the wastewater assets, there is potential for less costly interventions, that would decrease the infrastructure gap for these assets, including spot repairs and relining, where appropriate. These are required to be reviewed on a per asset basis to determine the options available for wastewater assets, and at this time are not able to be forecast for the purposes of this AMP.

12.2.3 Tax Supported Infrastructure Needs and Gap

Tax supported assets in the Town include Bridges and Culverts, Roads, Stormwater, Digital Services, Emergency Services, Facilities, Fleet and Parks and Cemeteries. An overview of their current average annual budget, expenditures required to meet current LOS, and the proposed LOS as per infrastructure needs and the infrastructure gap is described in Figure 12-8 and Table 12-8.

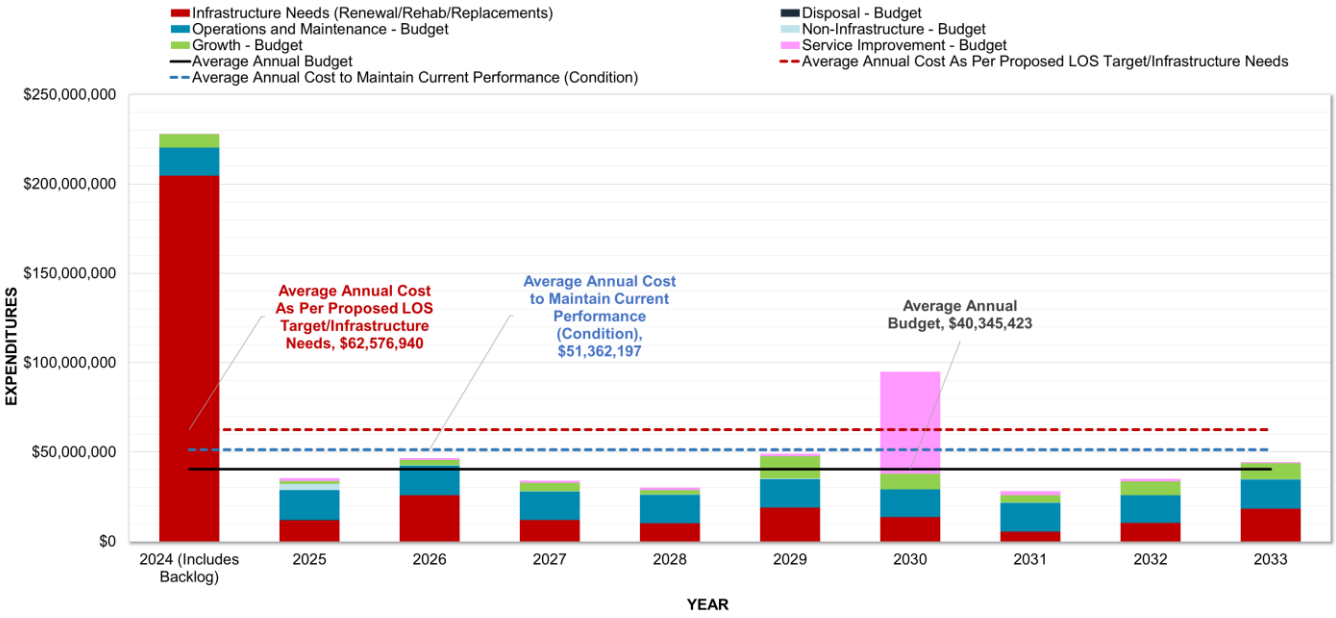


Figure 12-8. Tax Supported Required Expenditures - Scenario Comparison

Table 12-8. Tax Supported Average Annual Expenditures and Infrastructure Gap

Lifecycle Activity	Average Annual Budget	Average Annual Cost to Maintain Current LOS	Average Annual Cost as Per Proposed LOS Target/ Infrastructure Needs
Disposal	$15,000	$15,000	$15,000
Growth	$6,139,328	$6,139,328	$6,139,328
Non-Infrastructure	$458,600	$458,600	$458,600
Operations & Maintenance	$16,031,126	$16,031,126	$16,031,126
Renewal, Rehabilitation & Replacement	$10,821,020	$21,837,794	$33,052,537
Service Improvement	$6,880,350	$6,880,350	$6,880,350
Total	**$40,345,423**	**$51,362,197**	**$62,576,940**
Average Annual Spending Gap		**$11,016,774**	**$22,231,517**
Percentage Increase Required to Address Gap		**27%**	**55%**

The Average Annual Spending Gap for tax supported assets to meet the proposed LOS target as per infrastructure needs is broken down by asset category in Figure 12-9.

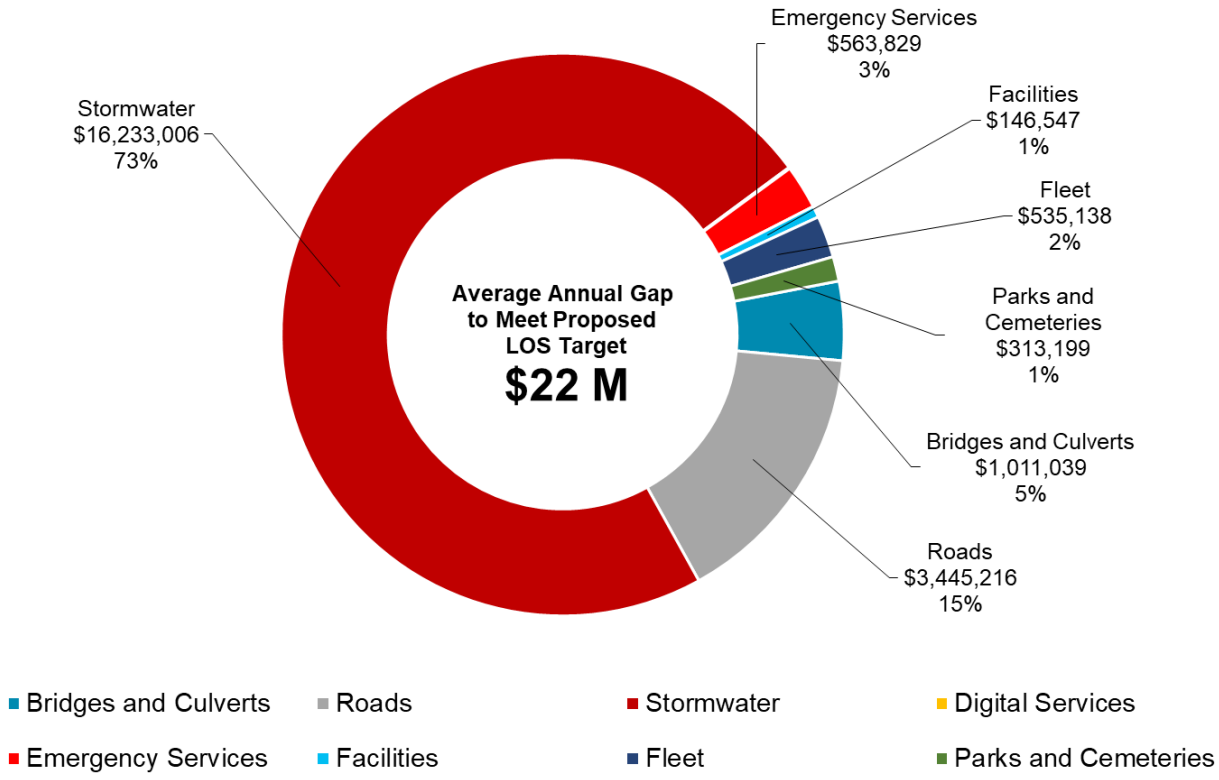


Figure 12-9. Annual Infrastructure Gap to Meet Proposed LOS for Tax Supported Assets by Asset Category

To further review the infrastructure gap of rate funded assets, Table 12-9 provides an overview of the 2024 AMP replacement value, the average gap to meet the proposed LOS, and the gap as a percentage of the replacement value, and the 2024 Budget.

The Town currently has a capital reserve policy, which has been leveraged to close the gap that was defined by the previous AMP. This policy states the optimal target annual contribution to be 2% of estimated replacement cost of the assets for water and sanitary sewer refurbishing, and 10% for dedicated water meter replacement. Based on this methodology, the previous optimal target can be found in Table 12-10, along with the updated 2024 optimal reserve contribution based on 2024 current replacement values, which have significantly increased since the previous AMP, beyond anticipated inflation rates.

Stormwater represents the largest gap for tax supported assets. There is potential for less costly interventions for this asset category, that would decrease the infrastructure gap which include spot repairs and relining, where appropriate. These are required to be reviewed on a per asset basis to determine the options available for wastewater assets, and at this time are not able to be forecast for the purposes of this AMP.

Table 12-9. Tax Supported Asset Overview of Gaps and Considerations to Close the Gap

Asset Category	Total Replacement Value	Average Annual Budget for Rehab/ Replacement Activities	Average Annual Need for Proposed LOS (Rehab/ Replacement Activities)	Average Annual Gap for Proposed LOS	Gap As Percentage of Replacement Value	Gap as Percentage of Total 2024 Levy Budget
Bridges and Culverts	$62,232,400	$1,100,275	$2,111,314	$1,011,039	2%	2%
Roads	$536,947,986	$3,895,529	$7,340,745	$3,445,216	1%	8%
Stormwater	$401,462,862	$2,157,136	$18,390,143	$16,233,006	4%	36%
Digital Services*	$1,593,777	$170,353	$153,895	No Gap	No Gap	0%
Emergency Services	$13,996,590	$555,200	$1,119,029	$563,829	4%	1%
Facilities	$214,221,386	$1,093,500	$1,240,047	$146,547	0%	0%
Fleet	$13,300,576	$630,000	$1,165,138	$535,138	4%	1%
Parks and Cemeteries	$36,570,375	$1,219,027	$1,532,227	$313,199	1%	1%
Total	**$1,280,325,952**	**$10,821,020**	**$33,052,538**	**$22,231,516**	**14%**	**49%**

Table 12-10. Tax Supported Assets Reserve Overview

Asset Category	2024 Reserve Balance (less 2024 Capital Program)	2024 Reserve Contribution	Optimal Reserve Contribution (as per Capital Reserve Policy)	Updated Annual Optimal Reserve Contribution (2024 AMP Replacement Values)	Optimal Reserve Contribution Shortage
Bridges and Culverts	($30,232)	$575,260	$290,000	$1,244,648	($954,648)
Roads	($2,646,906)	$4,062,961	$6,000,000	$10,738,960	($4,738,960)
Stormwater	($1,804,806)	$2,092,572	$2,020,000	$8,029,257	($6,009,257)
Digital Services*	$489,243	$320,217	$200,000	$318,755	($118,755)
Emergency Services	$1,234,077	$587,513	$580,000	$1,399,659	($819,659)
Facilities	$536,037	$1,244,090	$1,798,800	$6,748,523	($4,949,723)
Fleet	$919,937	$546,672	$427,000	$1,330,058	($903,058)
Parks and Cemeteries	$1,658,369	$900,255	$685,000	$1,828,519	(1,143,519)
Total	**$355,719**	**$10,329,540**	**$12,000,800**	**$31,638,379**	**($19,637,579)**

Currently the Town has a target optimal annual reserve contribution of 2%-10% of the estimated replacement cost for the various tax supported assets. It is recommended that the Town update the replacement values used to determine the optimal annual reserve contribution to be reflective of current replacement values established within this plan. Based on the Town's current policy, and the optimal annual reserve contribution, the Town should be contributing approximately $19M more annually to reserves, if using the updated replacement values provided in this AMP. With this approach, the gap would be lowered from $22M to less than $3M. This remaining gap could then be addressed by leveraging multiple strategies recommended, including non-financial, and financial strategies, which are outlined below in Section 12.2.7. It is also recommended that dedicated reserves for parks and natural assets be established. The Town currently has a reserve for Parklands which is funded by cash payments in lieu of the conveyance of land under a plan of subdivision.

The gap was determined based on the best information available at the time of the development of the AMP. It is recommended that the Town further review the non-financial strategies, including to review estimated service lives, LOS targets, and lifecycle strategies prior to implementing any financial strategies to close the gap.

12.2.4 Proposed Levels of Service Achievability

The Town has set proposed levels of service to meet the infrastructure needs of the assets based on lifecycle management strategies developed by subject matter experts and based on best practices. To accomplish these targets, the Town will need to establish multiple strategies to address the gaps identified above. The targets are achievable if immediate actions are taken to address the shortfall in funding, as well as to analyze other options to close the infrastructure gap through lifecycle management strategies and levels of service.

To achieve the targets set out in this plan, the Town will have to complete further renewal, rehabilitation, and replacement activities, as identified within the chapters of this plan. These activities represent the Town's best alternative to meet proposed LOS, and avoid the risks associated with asset ownership.

12.2.5 Risk Associated with Lifecycle Strategies and Levels of Service

Following the lifecycle strategies and activities outlined in this AMP are the Town's best way to avoid risk. Ignoring the infrastructure gap, and not completing lifecycle activities and strategies to meet proposed LOS as outlined in this AMP can lead to a range of negative consequences, both immediate and long-term. These risks and their consequences at a high level include:

Deterioration of Infrastructure and Asset Failure: Without proper investments for renewal, rehabilitation and replacement activities, infrastructure assets will deteriorate over time, leading to increased breakdowns, service disruptions, and potentially safety hazards.

Decreased Operational Efficiency: Without proper lifecycle management strategies, infrastructure may become inefficient, leading to increased downtime, delays, and reduced productivity.

Increased Costs: Delaying infrastructure investments leads to higher costs in the long run. Deferred maintenance and rehabilitations can result in more extensive reactive maintenance, or the need for premature asset replacements, which are significantly more expensive than timely maintenance and upgrades. Ultimately by not adequately keeping assets in a good state of repair leads to higher lifecycle cost.

Improper Forecasts: Many non-infrastructure activities such as master plans, and asset management planning, provide valuable insights into the infrastructure needs. If these activities are not completed, it can lead to inaccurate estimations for funding requirements and capacity requirements.

Service Disruptions: The deterioration of assets often leads to unplanned and unexpected disruptions to the services the community currently enjoys and relies on through asset failures.

Negative Impact to Quality of Life: Poor infrastructure affects the quality of life for residents, including issues like traffic congestion, inadequate public transportation, sewer backups, basement flooding, or lack of access to services. Assets in poor working order also increase the risk of potential health and safety impacts.

Environmental Impacts: Inefficient infrastructure can have adverse environmental impacts such as increased emissions from old facility or fleet assets, or sewage reaching the environment through leaks in pipes. This also increases the potential risk of not meeting regulatory requirements.

Regulatory Non-Compliance: Many of the assets, in particular Water and Transportation, are highly regulated assets that require assets to be properly maintained and reported on their compliance. Failure to meet regulatory requirements for infrastructure maintenance and safety can result in fines, penalties, legal actions, and possible loss of licenses or permits.

Loss of Public Trust and Confidence: Persistent neglect of infrastructure needs can erode public trust and undermine confidence in the ability of leaders to address pressing challenges.

Negative Economic Impact: Inadequate infrastructure can hinder economic growth because of inefficient and unreliable services to residents and businesses.

Safety Risks: Aging or poorly maintained infrastructure can pose safety hazards to users, workers, and the surrounding community, potentially leading to accidents, injuries, or even fatalities.

Addressing infrastructure needs requires proactive planning, investment, and ongoing maintenance to ensure the resilience and vitality of the community while mitigating the various risks outlined above.

12.2.6 Risk Management Strategies Associated with Infrastructure Gap

O.Reg. 588/17 requires that the Town identify how the risks of not undertaking lifecycle strategies, and meeting proposed LOS, will be managed. As discussed, there are risks associated with not completing lifecycle activities according to the strategies discussed throughout this plan. The Town can effectively manage the risks of not meeting infrastructure needs by implementing several strategies focused on improving maintenance, prioritizing high-risk assets, and enhancing overall asset management practices.

The Town currently handles the risks associated with not receiving the funding required to complete all infrastructure needs, and will continue to do so, in the following ways:

Maintenance Activities: The Town continually maintains assets to the best of their ability based on the funding available to attempt to prolong asset life where needed. Many assets are kept beyond suggested service lives, and where possible, maintained to keep them in working order until such time that funding is available for renewals and replacements.

Prioritizing Assets Based on Risk: Resources available are strategically assigned to higher risk and priority assets, based on staff expertise, ensuring limited budgets are used effectively to mitigate the most risk.

Technology and Data: Through the implementation of the work management system, Geographic Information Systems, and decision support tools available, the Town has leveraged technology to assist in making informed decisions and prioritizing asset renewals, rehabilitations, and replacements.

Asset Management Practices: The Town has continued to develop their asset management program and practices to enhance decision-making and provide valuable input into where funding dollars should be spent.

Regulatory and Compliance with Standards: The Town ensures compliance with all regulatory and safety standards to avoid risk.

By focusing on these strategies, the Town continues to mitigate risks associated with not completing lifecycle management strategies. While the Town continues to develop strategies to meet the funding gap, these strategies will continue to be implemented and enhanced to mitigate the risks associated with not meeting the proposed LOS.

12.2.7 Financial Strategies to Address the Gap

As the previous section demonstrates, there is a significant gap between the currently projected infrastructure needs and the current funding levels. To address this gap, the Town will need to explore options to increase funding, reduce the projected infrastructure costs or a combination of the two. Addressing the gap will require careful consideration and a combination of strategies, including non-financial and financial, some of which are outlined below. Many of the non-financial strategies are best practices in Asset Management, and these strategies are recommended to be explored prior to implementing any financial strategies.

Non-Financial Strategies

Advocacy: Advocating for increased funding support from senior levels of government and seeking partnerships with neighbouring municipalities to share resources and costs.

Community Engagement: Engaging with the community to communicate the importance of infrastructure investment and potentially garner support for additional funding measures. This will also be beneficial when evaluating target performance for LOS.

Asset Management Practices and Lifecycle Management Strategies: It is recommended that the Town review other options for lifecycle management strategies which will improve the condition of assets through less costly interventions where applicable. Particularly for the storm and wastewater assets, there are spot repair and relining options that will allow for the Town to close the gap at a lower cost. These options need to be further evaluated by the Town on a per asset basis.

Asset Prioritization: Identifying critical assets and focusing resources on maintaining those that are most essential for public safety and service delivery.

Efficiency Measures: Implementing measures to optimize asset management processes and reduce operational costs where possible.

Levels of Service Targets: The Town has set the levels of service targets to meet infrastructure needs. The Town will have the opportunity to evaluate these needs and targets to determine their achievability on an annual basis.

Long-Term Planning: Continue to develop long-term financial plans that allocate resources strategically over multiple budget cycles to address both immediate needs and reduce the

backlog over time. The Town has begun these efforts and is working on the implementation of maintenance management software as well as decision support tools to support these efforts.

Financial Strategies

Reserves & Reserve Funds: The Town currently has a capital reserve fund policy that has helped to ensure that the Town is leveraging the use of reserves to save up and create a buffer for years with high capital expenditures. These reserves are funded by sources such as taxes, user fees, grants, etc. The reserve policy outlines target optimal annual contributions based on a percentage of replacement values of specific asset categories ranging from 2-10%. It is recommended that the Town update the replacement values used to determine the optimal rates to be reflective of the updated replacement values outlined within this plan. The updated optimal reserve contributions can be found in 12.2.2 and 12.2.3.

Debt Financing: Consideration of debt financing for construction or acquisition of assets. This will increase the overall cost, as annual repayment includes interest. The municipality has constraints with the amount that it can borrow, but currently the Town has very limited debt.

Grant Funding: Continue to apply and search for opportunities for further grant funding. The Town currently receives Gas Tax and Ontario Community Infrastructure Fund (OCIF) funding, as well as other grants and funds as they are available.

Revenue Increase & Infrastructure Levy: Consider revenue increases to fund the infrastructure gap through incremental tax increases, as well as a dedicated Infrastructure Levy. Tax revenue increases required to meet the funding gap can be found in 12.2.3, although it is recommended that the Town review the information provided in this AMP to assess what other strategies can be utilized to close the infrastructure gap before committing to any financial strategies.

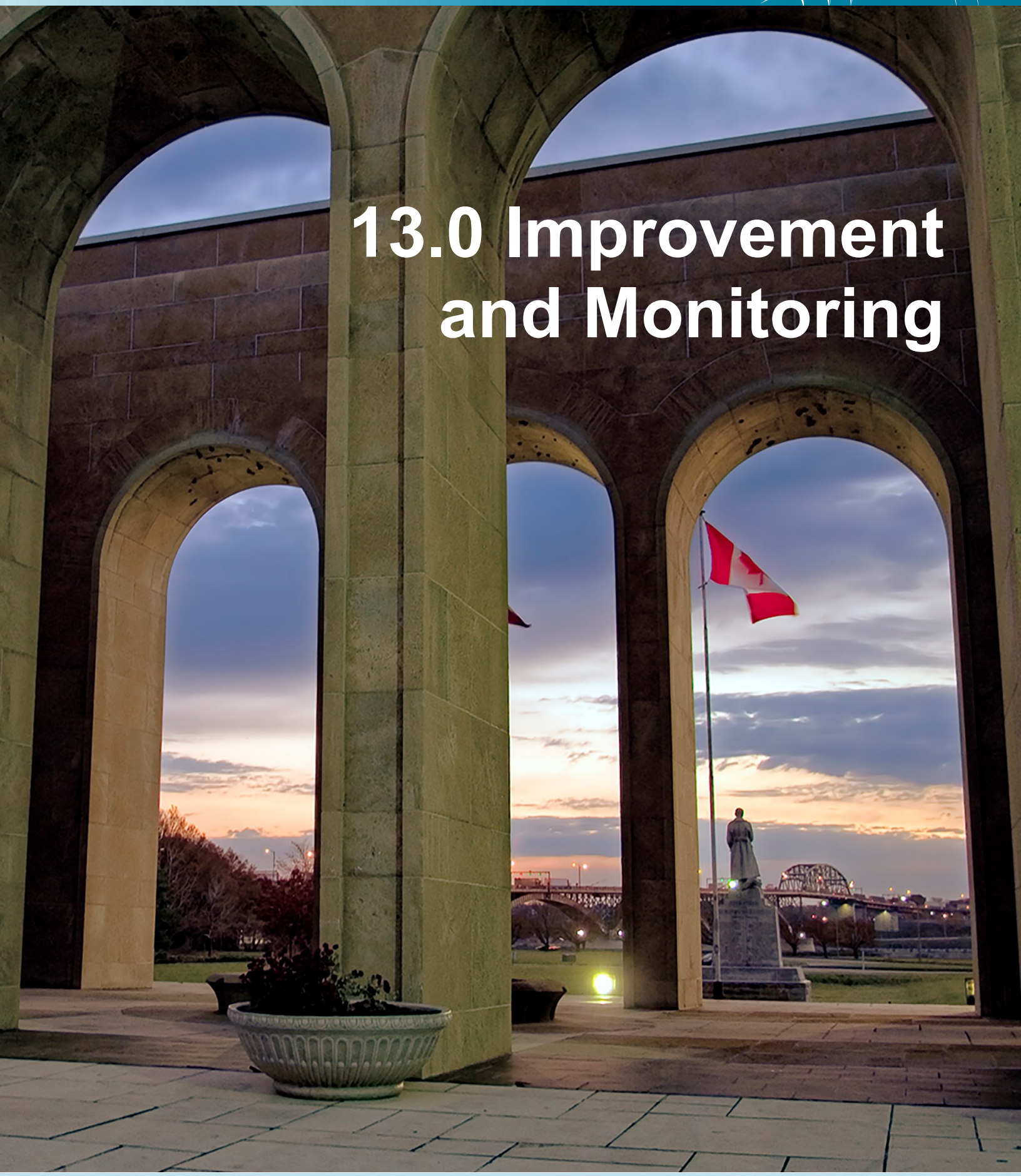
User Fees and Charges: Implementing or adjusting fees and charges for municipal services to address the gap in renewals and replacements for the systems. Rate increases required to meet the funding gap can be found 12.2.2, although it is recommended that the Town review the information provided in this AMP to assess what other strategies can be utilized to close the infrastructure gap before committing to any financial strategies.

Growth: Increasing density and new developments can provide additional revenue produced from taxes and rates, particularly if new growth is focused in areas where the costs to service the development are less than the additional revenues. The Town's Development Charge Study was recently updated (end of 2023), and it is assumed the updated rates and the forecasted DC reserve balances as a result of this study, will be incorporated appropriately into the Town's 10-year capital budget and forecast.

Divestitures: The Town may need to sell assets, providing revenue from the proceeds, as well as reducing operating and maintenance costs. This option is not possible with many asset types (such as linear infrastructure like watermains).

By adopting a combination of strategies, the Town can better address the infrastructure gap, improve service delivery, and enhance the quality of life for residents while ensuring fiscal sustainability and responsible stewardship of public resources.

The Town plans to take the information provided within this plan to further develop a financial plan to address the infrastructure gap.



13.0 Improvement and Monitoring

13 Improvement and Monitoring Plan

Asset management is inherently about continual improvement. This philosophy ensures that infrastructure and other assets are maintained and upgraded efficiently to meet current and proposed levels of service. The Town has taken a proactive approach to asset management, recognizing the importance of continually improving its forecasting and planning processes and leveraging new technologies to make better decisions about asset investments.

This improvement plan provides an overview of O.Reg. 588/17 compliance, improvements made since the previous 2019 plan, and opportunities for further improvements.

13.1 O.Reg. 588/17 Compliance

The requirements and compliance of O.Reg. 588/17 of this plan can be found below in Table 13-1. Upon endorsement of this plan by the Town's executive lead, and upon approval by resolution of Town council, the Town will be fully compliant with the regulation requirements for 2024 and 2025 Asset Management Plans.

Following the 2025 requirement deadline, the Town will be required to provide an update to Town Council on the progress in implementing this asset management plan on an annual basis.

The Town's Strategic Asset Management Policy, developed in 2019, is due to be reviewed and updated, if necessary, by 2024 to be in line with the regulation.

Table 13-1. O.Reg. 588/17 Compliance Overview

Section	Regulation Requirement	Compliant Check
4.	**Every municipality shall prepare its first strategic asset management policy by July 1, 2019, and shall review and, if necessary, update it at least every five years.**	Review and update due by 2024
5.(1)	**Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets by July 1, 2022, and in respect of all of its other municipal infrastructure assets by July 1, 2024.**	Yes
5. (2)	**A municipality's asset management plan must include the following:**	

Section	Regulation Requirement	Compliant Check
5. (2) 1.	For each asset category, the current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan	Yes
5. (2) 1. i.	With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.	Yes
5. (2) 1. ii.	With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.	Yes
5. (2) 2.	The current performance of each asset category, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency, and based on data from at most two calendar years prior to the year in which all information required under this section is included in the asset management plan	Yes
5.(2) 3.	For each asset category,	Yes
5.(2) 3. i.	A summary of the assets in the category,	Yes
5.(2) 3. ii.	The replacement cost of the assets in the category,	Yes
5.(2) 3. iii.	The average age of the assets in the category, determined by assessing the average age of the components of the assets,	Yes
5.(2) 3. iv.	The information available on the condition of the assets in the category, and	Yes

Section	Regulation Requirement	Compliant Check
5.(2) 3. v.	A description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate.	Yes
5.(2) 4.	For each asset category, the lifecycle activities that would need to be undertaken to maintain the current levels of service as described in paragraph 1 for each of the 10 years following the year for which the current levels of service under paragraph 1 are determined and the costs of providing those activities based on an assessment of the following:	Yes
5.(2) 4. i.	The full lifecycle of the assets	Yes
5.(2) 4. ii.	The options for which lifecycle activities could potentially be undertaken to maintain the current levels of service.	Yes
5.(2) 4. iii.	The risks associated with the options referred to in subparagraph ii.	Yes
5.(2) 4. iv.	The lifecycle activities referred to in subparagraph ii that can be undertaken for the lowest cost to maintain the current levels of service.	Yes
5.(2) 5.	For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, the following:	N/A
5.(2) 5. i.	A description of assumptions regarding future changes in population or economic activity.	N/A
5.(2) 5. ii.	How the assumptions referred to in subparagraph i relate to the information required by paragraph 4.	N/A

Section	Regulation Requirement	Compliant Check
5.(2) 6.	For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census, the following:	Yes
5.(2) 6. i.	With respect to municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are set out in Schedule 3 or 7 to the 2017 Growth Plan, those forecasts.	N/A
5.(2) 6. ii.	With respect to lower-tier municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are not set out in Schedule 7 to the 2017 Growth Plan, the portion of the forecasts allocated to the lower-tier municipality in the official plan of the upper-tier municipality of which it is a part.	Yes
5.(2) 6. iii.	With respect to upper-tier municipalities or single-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the municipality that are set out in its official plan.	N/A
5.(2) 6. iv.	With respect to lower-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the lower-tier municipality that are set out in the official plan of the upper-tier municipality of which it is a part.	N/A
5.(2) 6. v.	If, with respect to any municipality referred to in subparagraph iii or iv, the population and employment forecasts for the municipality cannot be determined as set out in those subparagraphs, a description of assumptions regarding future changes in population or economic activity.	N/A

Section	Regulation Requirement	Compliant Check
5.(2) 6. vi.	For each of the 10 years following the year for which the current levels of service under paragraph 1 are determined, the estimated capital expenditures and significant operating costs related to the lifecycle activities required to maintain the current levels of service in order to accommodate projected increases in demand caused by growth, including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets.	Yes
5. (3)	Every asset management plan must indicate how all background information and reports upon which the information required by paragraph 3 of subsection (2) is based will be made available to the public.	Yes
5. (4)	In this section, “2017 Growth Plan” means the Growth Plan for the Greater Golden Horseshoe, 2017 that was approved under subsection 7 (6) of the Places to Grow Act, 2005 on May 16, 2017 and came into effect on July 1, 2017; (“Plan de croissance de 2017”) “Greater Golden Horseshoe growth plan area” means the area designated by section 2 of Ontario Regulation 416/05 (Growth Plan Areas) made under the Places to Grow Act, 2005	
6. (1)	**Asset management plans, proposed levels of service Subject to subsection (2), by July 1, 2024 (2025), every asset management plan prepared under section 5 must include the following additional information:**	Yes

Section	Regulation Requirement	Compliant Check
6. (1) 1.	For each asset category, the levels of service that the municipality proposes to provide for each of the 10 years following the year in which all information required under section 5 and this section is included in the asset management plan, determined in accordance with the following qualitative descriptions and technical metrics:	Yes
6. (1) 1. i.	With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.	Yes
6. (1) 1. ii.	With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.	Yes
6. (1) 2.	An explanation of why the proposed levels of service under paragraph 1 are appropriate for the municipality, based on an assessment of the following:	Yes
6. (1) 2. i.	The options for the proposed levels of service and the risks associated with those options to the long-term sustainability of the municipality.	Yes
6. (1) 2. ii.	How the proposed levels of service differ from the current levels of service set out under paragraph 1 of subsection 5 (2).	Yes
6. (1) 2. iii.	Whether the proposed levels of service are achievable.	Yes
6. (1) 2. iv.	The municipality's ability to afford the proposed levels of service.	Yes

Section	Regulation Requirement	Compliant Check
6. (1) 3.	The proposed performance of each asset category for each year of the 10-year period referred to in paragraph 1, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency.	Yes
6. (1) 4.	A lifecycle management and financial strategy that sets out the following information with respect to the assets in each asset category for the 10-year period referred to in paragraph 1:	Yes
6. (1) 4. i.	An identification of the lifecycle activities that would need to be undertaken to provide the proposed levels of service described in paragraph 1, based on an assessment of the following:	Yes
6. (1) 4. i. A.	The full lifecycle of the assets.	Yes
6. (1) 4. i. B.	The options for which lifecycle activities could potentially be undertaken to achieve the proposed levels of service.	Yes
6. (1) 4. i. C.	The risks associated with the options referred to in sub-subparagraph B.	Yes
6. (1) 4. i. D.	The lifecycle activities referred to in sub-subparagraph B that can be undertaken for the lowest cost to achieve the proposed levels of service.	Yes
6. (1) 4. ii.	An estimate of the annual costs for each of the 10 years of undertaking the lifecycle activities identified in subparagraph i, separated into capital expenditures and significant operating costs.	Yes
6. (1) 4. iii.	An identification of the annual funding projected to be available to undertake lifecycle activities and an explanation of the options examined by the municipality to maximize the funding projected to be available.	Yes

Section	Regulation Requirement	Compliant Check
6. (1) 4. iv.	If, based on the funding projected to be available, the municipality identifies a funding shortfall for the lifecycle activities identified in subparagraph i,	Yes
6. (1) 4. iv. A.	An identification of the lifecycle activities, whether set out in subparagraph i or otherwise, that the municipality will undertake, and	Yes
6. (1) 4. iv. B.	If applicable, an explanation of how the municipality will manage the risks associated with not undertaking any of the lifecycle activities identified in subparagraph i.	Yes
6. (1) 5.	For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, a discussion of how the assumptions regarding future changes in population and economic activity, set out in subparagraph 5 i of subsection 5 (2), informed the preparation of the lifecycle management and financial strategy referred to in paragraph 4 of this subsection.	N/A
6. (1) 6.	For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census,	Yes
6. (1) 6. i.	The estimated capital expenditures and significant operating costs to achieve the proposed levels of service as described in paragraph 1 in order to accommodate projected increases in demand caused by population and employment growth, as set out in the forecasts or assumptions referred to in paragraph 6 of subsection 5 (2), including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets,	Yes
6. (1) 6. ii.	The funding projected to be available, by source, as a result of increased population and economic activity, and	Yes

Section	Regulation Requirement	Compliant Check
6. (1) 6. iii.	An overview of the risks associated with implementation of the asset management plan and any actions that would be proposed in response to those risks.	Yes
6. (1) 7.	An explanation of any other key assumptions underlying the plan that have not previously been explained.	Yes
6. (2)	With respect to an asset management plan prepared under section 5 on or before July 1, 2021, if the additional information required under this section is not included before July 1, 2023, the municipality shall, before including the additional information, update the current levels of service set out under paragraph 1 of subsection 5 (2) and the current performance measures set out under paragraph 2 of subsection 5 (2) based on data from the two most recent calendar years.	Yes
7. (1)	Every municipality shall review and update its asset management plan at least five years after the year in which the plan is completed under section 6 and at least every five years thereafter.	N/A until after 2025 AMP deadline
7. (2)	The updated asset management plan must comply with the requirements set out under paragraphs 1, 2 and 3 and subparagraphs 5 i and 6 i, ii, iii, iv and v of subsection 5 (2), subsection 5 (3) and paragraphs 1 to 7 of subsection 6 (1).	N/A until after 2025 AMP deadline
8	Every asset management plan prepared under section 5 or 6, or updated under section 7, must be,	Yes
8.(a)	Endorsed by the executive lead of the municipality; and	Yes, upon endorsement of executive lead

Section	Regulation Requirement	Compliant Check
8.(b)	Approved by a resolution passed by the municipal council.	Yes, upon approved resolution passed by municipal council
9. (1)	Every municipal council shall conduct an annual review of its asset management progress on or before July 1 in each year, starting the year after the municipality's asset management plan is completed under section 6.	N/A until after 2025
9. (2)	The annual review must address,	N/A until after 2025
9. (2) (a)	The municipality's progress in implementing its asset management plan;	N/A until after 2025
9. (2) (b)	Any factors impeding the municipality's ability to implement its asset management plan; and	N/A until after 2025
9. (2) (c)	A strategy to address the factors described in clause (b).	N/A until after 2025
10.	Every municipality shall post its current strategic asset management policy and asset management plan on a website that is available to the public and shall provide a copy of the policy and plan to any person who requests it.	Yes

13.2 Improvements Since 2019 AMP

The Town has continued to mature their asset management program by addressing many of the recommendations that were provided in the 2019 Asset Management Plan. The status of these improvements can be found in Table 13-2.

Table 13-2. 2019 AMP Recommendation Update

2019 AMP Recommendation	Status
AMP Data Management Plan	
Business Process/Workflow Development	Complete/Ongoing
Outline Roles & Responsibilities	Complete/Ongoing
Data Management and Business Process Improvement Plan	
Document Existing Data Sources, Authors, Contributors, and Consumers	Complete
Document Existing and Future Functional Needs	Complete
Defining Gaps, Consolidation, and Rightsizing Opportunities	Complete/Ongoing
Definition Data Intake Standards	
Development/Population of Centralized Asset Data Register	In Progress
Define Amalgamate Requirements, and Develop Software Functional Specifications	Complete
Software Recommendations	
Corporate Maintenance Management Work Order System	In Progress
Corporate Decision Support System (DSS)	In Progress
Non-Proprietary Tangible Capital Asset Reporting System and Templates	In Progress
Core Requirements for Additional Systems	In Progress
AMP Recommendations	
Data Collection to Support Future AMPs	Ongoing
Collecting Data to Operationalize LOS Frameworks: • Annual Update to Financial Analysis • Ongoing Asset Management Analysis • Customer Relationship Management System (CRM) • Work Management System • Customer Satisfaction Survey • Field Survey • Internal Service Level Agreement • Stormwater Master Plan • Stormwater Hydraulic Model Update	Ongoing
Staffing Requirements	
1 FTE Asset Management Professional	Complete
Asset Management Analyst	Complete

The Town is currently working on implementing the Asset and Work Order Management System (AWOMS), which includes a decision support tool, and an assets module (to house tangible capital assets). As this system is implemented, the Town will be updating and adjusting current business processes in terms of asset management as well as data management.

13.3 Opportunities for Improvement

At the time of development of this plan, the Town was still in the process of implementing many of the tools that will inherently address many of the recommendations for improvement provided in the individual asset chapters, as well as below. The opportunities for improvement for the Town include the following:

On-Going Tasks

Asset Registers & Data Gaps: Throughout the development of this AMP, many data gaps were filled to provide more accurate forecasting for Town assets. It is recommended to review the registers developed for this plan and ensure Town asset registers are updated with the appropriate information. The Town is currently working on the implementation of a consolidated asset register for work management and asset management reporting, which will be able to leverage this information.

Update Condition Assessments and Integration to AWOMS: The Town is continually working on updating condition information available for assets, including roads, sanitary and storm systems, and have planned for the update of facility building condition assessments. It is recommended to continue these efforts, and ensure the information is linked to the appropriate expert systems and asset registers to allow for easy data collection and asset management reporting. The updated BCAs should be continually maintained to track work completed that have been recommended in the reports.

Implementation of New Technology: The Town is in the process of implementing new systems to enhance the asset management program within the Town. The corporate work management system and the decision support tools available will vastly improve data management processes, as well as the information available to the organization on the lifecycle management activities for all assets. As the Town goes through this major shift, processes and procedures will be required to be updated to reflect the new state of data and asset management. The Town can begin to plan for how the information in these systems will be leveraged to improve asset management investment decisions.

Update Tangible Capital Asset Register: The Town is currently working on updating the asset register being developed for AWOMS and the Tangible Capital Asset Reporting register to reconcile the two registers and ensure they are in line.

Enhance Lifecycle Management Strategies: As new information becomes available and the systems are implemented, it is recommended that the Town review, update and enhance the lifecycle management strategies developed for the purposes of this plan. These should be updated in the AWOMS and decision support tools being implemented by the Town to ensure repeatable and consistent asset management reporting.

Continue to Review Current Replacement Values and Service Lives: Although many efforts were made to refine the current replacement values and service lives for the purposes of this AMP, it is recommended that these continue to be reviewed and evaluated based on current contracts and any other sources of information. This information is integral to accurate forecasting in the future and should be reviewed and updated on an annual basis to reflect changes in market conditions.

Future Tasks

Asset Failure Definition: To further refine asset management planning, reporting and analysis, it is recommended that the Town make efforts to review the data compiled for this plan, and to further analyze and define what is considered asset failure. This will allow for more enhanced and accurate asset planning and forecasting, which will allow staff to further prioritize replacement and rehabilitations.

An example of this is, if a fleet vehicle is not yet beyond its estimated service life but is increasingly expensive to maintain as a result of unplanned maintenance requirements, the Town may wish to plan for this asset's replacement earlier than anticipated (it could also happen that the Town wishes to keep an asset that is still in very good condition beyond its service life). Defining what these definitions are based on the data that is currently available, and will be available, in the maintenance management system will further narrow down asset expenditure requirements and provide more accurate forecasts.

Development of Defined Condition Assessment Programs: It is recommended that the Town document defined condition assessment programs for the assets, to determine appropriate frequencies of updated data collection. This will optimize the level of effort for data collection, as well as provide consistent, and continually updated data for asset management planning purposes. Specifically for the specific asset categories within this AMP, the following are recommended:

Sanitary/Storm CCTV: Develop a program for condition assessments that takes various factors into account to prioritize and determine the frequency of inspections required for pipes. This will allow newer/good condition pipes to be inspected on a less frequent basis, while older pipes, with known issues will be targeted for more frequent inspections to provide updated information to the Town. This will allow for efficient and optimal spending on non-

infrastructure activities (the condition assessments), as well as to ensure accurate information is available to determine where to focus rehabilitation and replacement efforts.

Roads: Establish a set frequency to collect pavement condition index data. This is typically done every 3-5 years. As the Town will be leveraging their maintenance management system, and also have a decisions support tool for their roads, which allows for updated information based on rehabilitation efforts, it is recommended that the Town will only need to collect PCI data every 5 years.

Facilities: Building condition assessment information should be updated at least every 5 years, ideally being completed prior to the AMP update.

Update Tangible Capital Asset Policy: It is recommended that the Town review their Tangible Capital Asset Policy and make required adjustments to be in line with asset management planning and industry standards. It is recommended the Town review the Policy to take into consideration the maturity and expansion of the asset management program and asset information.

Annual Update on AMP Progress & Levels of Service: It is recommended that through the Annual Update on AMP Progress required by O.Reg. 588/17, that the Town use this opportunity to do an annual update to the LOS metrics developed for this plan. This will allow for an annual review in implementing the LOS and progress on reaching the proposed LOS, as well as allow for public and Council engagement and to clearly document the LOS as well as the performance. As the Town matures their AM program, and the technologies in place, these LOS metrics can be expanded upon and used as a communication tool for future budget and capital planning.

Integration of AM and Budget Process: To further mature the AM program within the Town, as well as to improve ease of AM reporting in the future, it is recommended that the Town establish processes to integrate AM into the budget process. This can be accomplished by assigning asset categories and the lifecycle management activity categories to capital and operating budgets. This will provide more clarity and tie expenditures to asset lifecycle costs to provide more accurate forecasts and plans in the future.

It is also recommended to tie budgets to LOS to continue the communication with Council and the public about the necessity of appropriate funding to meet current and proposed LOS. Without adequate funding, the LOS being provided will need to be decreased, potentially increasing the risks, as outlined in section to the Town. Achieving the proposed LOS is the Town's best chance to provide services at the lowest possible cost, and with the least amount of risk.

Asset Risk Management Strategy: It is recommended that the Town develop a formalized asset risk management strategy. Risk is inherently considered when planning for asset rehabilitations and replacements for each asset category, but currently not formalized across the organization. A formalized asset risk management strategy will assist the Town in making decisions across the organization to further prioritize asset needs.

Include Natural Assets into the Town's Asset Register: An AMP was completed for the Town's natural asset (Appendix A), it is recommended to include the information developed for this plan in the Town's asset register.

Develop AM Goals and Projects based on Asset Management Maturity Assessment/Readiness Scale: The Town should assess the status of the AM program through a maturity assessment or readiness scale and develop a road map to document and prioritize projects to enhance AM within the organization.

Appendix A: Natural Assets Asset Management Plan

Appendix B: Strategic Asset Management Policy

Appendix C: Levels of Service Maps