2025

ASSET MANAGEMENT PLAN

TOWN OF GRIMSBY

1 EXECUTIVE SUMMARY

1.1 Introduction

The Town of Grimsby (Town) is a growing community in the Niagara Region between Lake Ontario and the Niagara Escarpment with a population of approximately 28,883, driven by a mix of residential, light industrial, commercial, and agricultural activities. It relies on a range of assets to deliver a variety of services to the community. As these assets age, and demands on the infrastructure increase, the Town manages the challenge of ensuring the needs of the community are effectively met with the limited resources available.

The 2025 Asset Management (AM) Plan describes the actions required for the Town to manage its assets in ways that support proposed service levels while managing risks and costs. It adheres to the following principle guiding the Town's strategic priorities by establishing transparency and sustainable financial management of the Town's limited resources to deliver services.

Strategic Priority: Collective Prosperity

Focus on affordability and financial sustainability for the municipality.

The AM Plan fulfils the requirements of Ontario Regulation (O.Reg.) 588/17 Asset Management Planning for Municipal Infrastructure. Specifically, this AM Plan establishes proposed Levels of Service (LOS) and recommends actions and financial strategies to meet proposed service levels within an acceptable level of risk over the next 10 years. Development of AM Plans is an iterative process that requires improving processes, data, systems, and staff skills over time to continuously increase confidence in the outputs and forecasts of the AM Plan. This AM Plan builds on the Town's previously completed Asset Management Plans: the 2024 Non-Core Asset Management Plan and the 2022 Core Asset Management Plan, and provides recommendations for continuous improvement of the Town's AM practices.

1.2 State of Infrastructure

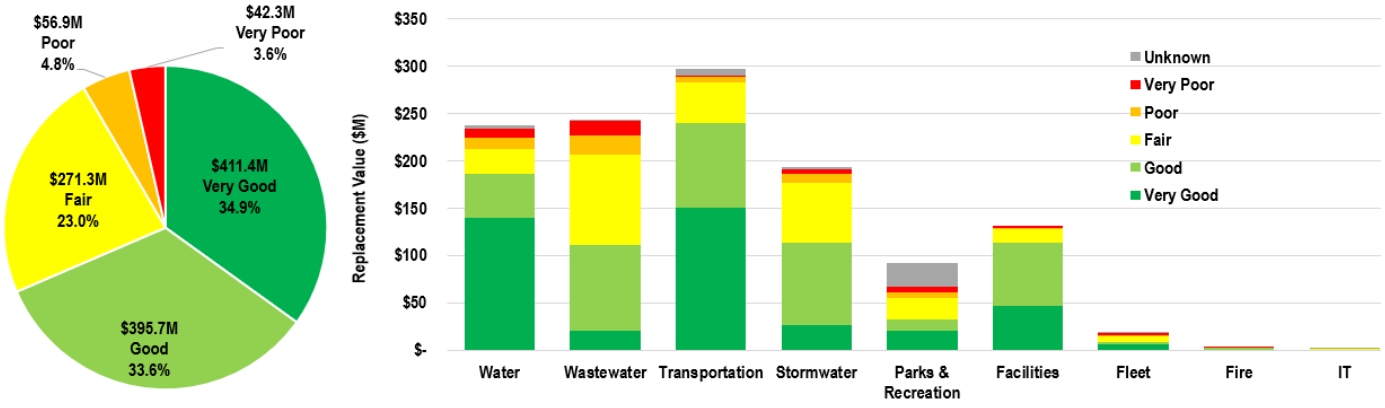
The Town's first step in developing the AM Plan is understanding the assets that it owns. As shown in Table 1-1, the estimated replacement value of the Town's assets is $1.2 billion, with transportation assets accounting for 24.5% of the asset portfolio. Values in the AM Plan are reported in 2025 dollars.

Table 1-1 Replacement Value of Town Assets ($M)

Asset Area	Replacement Value	Replacement Value (%)
Transportation	$297.5	24.5%
Stormwater	$193.2	15.9%
Water	$238.0	19.6%
Wastewater	$241.9	19.9%
Parks, Outdoor Recreation & Natural Infrastructure	$91.3	7.5%
Facilities	$130.7	10.8%
Fleet	$17.9	1.5%
Fire	$3.1	0.3%
Information Technology	$1.4	0.1%
Total	**$1,215**	**100.0%**

The Town's assets are generally in good condition, as shown in the condition distribution in Figure 1-1. Overall, 91.6% of the Town's assets are estimated to be in Fair condition or better. The condition of the Town's assets informs the timing of required lifecycle activities to meet proposed service levels. Assets in Poor and Very Poor condition represent 8.4% ($99.2 million) of the asset portfolio. The condition estimates are supported through detailed inspection programs such as the Road Needs Study, Ontario Structure Inspection Manual (OSIM) inspections on structures, CCTV inspections for sewers, break history tracking for watermains, building condition assessments for facilities, and data on each asset's age and estimated service life. Though assets may be in fair or better condition, considerable renewal over the next 10 years is required to keep assets from deteriorating to poor condition.

Figure 1-1 Asset Condition Profile ($M)*



*Pie chart excludes assets with unknown condition

1.3 Levels of Service

Levels of Service (LOS) builds on the State of Infrastructure by defining the performance that the Town's assets are proposed to deliver over their service lives. The AM Plan establishes technical performance measures to assess the capacity, functionality, and reliability of the Town's assets in delivering services to the community. This AM Plan focuses on the Town's proposed Levels of Service, while previous AM Plans were based on maintaining the current service levels.

Through discussions with Town staff, proposed service level performance over the next 10 years was determined based on a balanced consideration of available funding, service level expectations, and associated risks.

1.4 Risk Management Strategy

A key asset management principle is to manage risk while meeting service levels and minimizing lifecycle costs. Understanding the risk exposure from each asset informs the Town on which projects to prioritize across asset classes and service areas. The risk assessment is based on the criticality of each asset as well as the likelihood of failure based on the asset's condition.

Risk exposure is the multiplication of two factors:

Risk Exposure = Consequence of Failure x Likelihood of Failure

The criticality or consequence of failure (CoF) is the direct and indirect impact on the Town if an asset failure were to occur, and the likelihood of failure (LoF) is the likelihood that an asset failure may occur.

It is estimated that 0.7% ($7.8 million) of Town assets are currently in very high risk, including a small percentage of unlined cast iron watermains installed prior to 1973 and sewers installed prior to 1979, as well as some parks and recreation assets that have reached their estimated service lives.

For the assets above that are currently assessed as very high risk, the Town will be performing additional investigation to confirm condition and performance of the assets. Some assets have already been identified and are addressed in the 10-year Capital Plan.

1.5 Lifecycle Management Strategy

Asset lifecycle management strategies are the planned activities that reduce risks and enable continued service delivery. Lifecycle strategies include new infrastructure assets to meet capacity needs, upgrades to meet functional asset needs, and repairing and renewing existing assets to maintain asset reliability. The Town reviews the costs of potential lifecycle activities to determine the lowest lifecycle cost strategy while still meeting service levels.

1.5.1 Growth Needs

The Town monitors trends in its population to ensure that its impacts on service levels are well understood and that strategies are developed to address additional demands due to growth and changes in demographics. **The growth needs currently identified over the next ten years, across all asset categories, to meet proposed service levels total $48.7 million.** Main growth projects are for transportation assets such as downtown street improvements and

facilities such as the new fire station and expansion of the library. The Town is in the process of updating several plans and studies, which, once finalized, may lead to revised service levels and additional recommended projects.

1.5.2 Upgrade Needs

In addition to adding new assets to the portfolio, the Town also upgrades existing assets as required to ensure the safety, efficiency, and sustainability of the community. Examples of upgrade projects include:

- Trail network improvements and revitalization of the pier and surrounding park at the Elizabeth St. Pumphouse
- Streetscape improvements at Casablanca Boulevard and GO Station Area.
- Wayfinding signs, universal washrooms, and accessibility improvements for facilities
- Improvements in facility energy efficiency to reduce operations costs
- Security improvements for the IT network

The upgrade needs currently identified over the next ten years, across all asset categories, total $13.2 million. In some cases, upgrade needs such as urbanization of road cross-sections or accessibility improvements are already covered under growth or renewal projects.

1.5.3 Renewal Needs

The Town carries out rehabilitation and replacement activities to maintain assets in a state of good repair. The renewal forecast considers the asset's current condition or age, as well as the recommended strategies from specific studies such as building condition assessments (BCAs) for facilities and OSIM (Ontario Structure Inspection Manual) inspections for bridges. To meet proposed service levels, **the estimated renewal needs over the next ten years, across asset categories, total $136.6 million, or an average of $13.7 million per year.**

Table 1-2 shows the condition-based levels of service for each asset area and includes:

- Current performance: the current state of the assets (2024 data)
- Proposed performance: the performance level proposed over the next 10 years (improve, decline, or maintain) based on what is appropriate for the Town in consideration of the available funding, service level expectations, and risks.

For most asset areas, the proposed service level at least maintains the current condition. For some asset areas, an improved condition is proposed where the service level is based on recommendations from formal engineering reports or inspections. For other areas, such as roads and facilities, a reduced performance is proposed that still maintains the overall condition of the portfolio in a state of good repair while considering the affordability issues of higher service levels.

For most condition-related measures, a higher value in the condition index or percentage of assets in fair or better condition indicates improved condition. The Facility Condition Index, however, is calculated differently based on the needs identified in building condition assessments, and an increasing value indicates a deterioration in condition.

Table 1-2 Levels of Service – Asset Condition

 Improving performance (increasing value)	 Improving performance (decreasing value)	 Decline in performance (increasing value)	 Decline in performance (decreasing value)	 Maintain current performance

Asset Area	Asset Category	Technical LOS	Performance	
			Current (2024)	Proposed (2034)
Transportation	Roads	Pavement Condition Index	77.4	
	Bridges	Bridge Condition Index	66.1	
	Culverts	Bridge Condition Index	67.5	
	Retaining Walls	Bridge Condition Index	70.1	
	Streetlights	% fair or better condition	88%	
	Sidewalks	% fair or better condition	99%	
	Traffic Signals	% fair or better condition	100%	
Stormwater		% fair or better condition	94%	
Water		% fair or better condition	94%	
Wastewater		% fair or better condition	94%	
Parks, Outdoor Recreation & Natural Infrastructure		% fair or better condition	82%*	
Facilities		Facility Condition Index	5.5%	
Fleet		% Corporate fleet fair or better condition	61%	
		% Fire fleet fair or better condition	97%	
Fire		% fair or better condition	84%	
Information Technology		% fair or better condition	52%	

*Excludes natural areas, which are generally maintained through operating budget and not tracked for condition

1.5.4 Operations and Maintenance

The Operations and Maintenance forecast identifies the ongoing activities needed to sustain the performance and reliability of infrastructure assets. These efforts are critical to meeting proposed service levels and reducing the risk of asset failure. Operations include routine tasks such as inspections, cleaning, and testing, while maintenance focuses on preserving asset condition through minor repairs and component replacements. The operating budget for asset-related operations and maintenance across all assets covered in this AM plan is $6.6 million in 2025. To account for operations and maintenance of new and expanded assets, operating budgets will need to increase by an average of 3.3% each year across the various service areas

over the next 10 years. Salaries that are tied to asset maintenance are included where the Town's operating budget tracks this data. Programming costs that are not asset-related and other salaries that are not tracked to asset maintenance activities are generally not included in this AM Plan.

1.5.5 Climate Change Risks

Climate change will likely increase the Town's asset risk exposure, requiring the Town to implement more frequent or additional strategies to mitigate risk. Currently, the Town is planning to implement mitigation strategies such as energy consumption reduction as outlined in the Energy Conservation and Demand Management Plan (2024-2029) and GHG emission reduction as part of the Town's commitment to the Partners for Climate Protection program.

To protect against erosion along Lake Ontario in the Grimsby Beach area, the Town has completed shoreline protection works and will be considering additional works in the next few years, including improvements as part of the Whittaker park renewal and Elizabeth St. pumphouse project. Another Town initiative is to implement inflow and infiltration (I&I) reduction strategies that will increase resiliency and reduce vulnerability to climate change related failures such as flooding. These I&I projects are included as part of the renewal forecast for wastewater sewers.

1.6 Financing Strategy

The financial analysis establishes the affordability of the proposed service levels based on the forecasted needs compared to available funding for assets needs related to growth, upgrade, and renewal. The main funding gap is related to the renewal of existing assets, estimated to be an average of $4.3 million per year. A significant gap is estimated for Transportation, Stormwater, Parks & Recreation, and Facilities. There is also a funding gap related to growth needs, estimated to be an average of $1.2 million per year. The gap for growth is mainly due to lower contributions expected to the development charge funding sources as a result of the slower rate of development, and a relatively high rate of inflation since the last Development Charge (DC) Study. An update to the DC Study is expected to be completed in 2025. The DC Service Level Cap limits recoverable amounts from development charges for certain service areas, which may also contribute to the funding gap. Gaps related to upgrades that are not already covered growth and renewal forecast are estimated at $0.3 million per year, but costs for strategies required to meet the Town's proposed service levels related to GHG emissions reductions have not been quantified and are to be incorporated in future AM Plan updates.

Table 1-3 Summary of Estimated Capital Funding Gaps* (Average $M/yr)

Service	Growth	Upgrade	Renewal
Transportation	$0.5M/yr	$0.1M/yr	$1.3M/yr
Stormwater	-	--	$0.5M/yr
Water	$0.3M/yr	--	--
Wastewater	$0.2M/yr	--	--
Parks, Outdoor Recreation & Natural Infrastructure	-	$0.2M/yr	$1.2M/yr

Service	Growth	Upgrade	Renewal
Facilities	-	--	$0.9M/yr
Fleet	$0.2M/yr	--	$0.3M/yr
Fire	-	--	--
Information Technology	$0.002M/yr	$0.03M/yr	$0.1M/yr
Total	**$1.2M/yr**	**$0.3M/yr**	**$4.3M/yr**

*Totals may not add due to rounding

In addition to the funding gaps related to capital work, the Town is experiencing some pressures on the operating budget, including:

- For Transportation and Facilities, there are insufficient staff resources to complete all required O&M activities for transportation and facility assets. Adding increased servicing, such as the expansion of the PKC, is expected to add additional O & M pressures.
- For Stormwater, additional funding may be required for catchbasin and oil grit separator cleaning.
- For Natural Infrastructure, additional activities may be required for assets such as woodlands, meadows, and wetlands as the Town matures in its management of these assets.

1.7 Managing Risks Associated with the Funding Gaps

To manage the risks of the renewal investment gap, the Town will continue to prioritize available funding based on the criticality of projects to prevent disruptions to service delivery. The Town prioritizes projects based on a risk-based framework that considers criticality factors such as land use to ensure that critical infrastructure is prioritized in the Town's Capital Plan. The Town also seeks ways to optimize asset life and lowering lifecycle costs by implementing preventative treatments and considering alternative renewal strategies such as relining of sewers. Unlined cast iron watermains are also being upgraded to PVC to extend asset life and reduce the potential of unexpected breaks.

As part of the 2025 Operating Budget, 1% of the net levy increase was allocated for increased contributions to Asset Management reserves ($178,290). Continued increases in dedicated annual funding for asset management reserves will be needed to shrink the funding gaps and maintain assets at the proposed levels of service.

The Town will also continue to identify funding opportunities through federal, provincial and Regional programs and explore potential partnerships and corporate sponsorships to raise external funds. The Town focuses on strategies that minimize the financial impacts on residents such as maximizing grants and other external revenue sources. The Town may need to offset reduced revenues by deferring projects and adjusting service levels, or increasing funding through other sources such as property tax increases or use of debt.

The detailed approach on how the Town proposes to address the funding gap will be through a future Financial Plan.

1.8 Monitoring and Improvement

Over the years, the Town has made substantial progress in advancing its asset management practices and enhancing long-term sustainability of the services it provides. The Town has previously developed asset management plans to meet the year 2022 and 2024 O.Reg.588/17 requirements. This AM Plan consolidates all asset areas into one corporate AM Plan and meets the regulation requirements for year 2025.

Recommendations for continuous improvement and future updates of this AM Plan include:

- Implement a Computerized Maintenance Management and Enterprise Asset Management System to improve management and tracking of all Town-owned assets and enhance overall asset management capabilities
- Continue to improve knowledge of asset replacement costs and current condition of the assets. Target condition assessment efforts on critical assets with unknown or out-of-date condition.
- Incorporate or adjust service levels from Master Plan updates currently in development such as the Parks, Recreation and Culture Master Plan update.
- Update current Master Plans, such as the Baker Rd. PPCP and Roads Needs study and complete Master Plans for other assets such as water and stormwater.
- Continue to work on understanding the increasing impacts of climate change and flood resiliency.
- Continue to optimize lifecycle activities by searching out and testing various operations, maintenance and renewal activities and timing options including testing and incorporation of new technologies.

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2 INTRODUCTION

2.1 Background

The Town of Grimsby (Town) is located at the northwesterly limit of the Niagara Region with the Town having a population of approximately 28,883. Its economy is driven by a mix of residential, light industrial, commercial, and agricultural activities. The Town is responsible for providing a range of services to its community to support the local lifestyle and economy. The ability to deliver these services at the required levels depends on the performance and condition of the respective assets.

The AM Plan directly supports one of the Town's main guiding principles:

- We build trust with our community through meaningful communication, transparency, leading financial management and responsive service.

As infrastructure ages and demands on the infrastructure increase, the Town manages the challenge of ensuring the needs of the community are effectively met with the limited resources available. This Asset Management Plan (AM Plan) seeks to address this challenge by providing a framework for prioritizing Asset Management (AM) efforts and providing direction for effective management of the Town's assets to best achieve expected goals and objectives. As an integrated AM Plan, it considers the lifecycles and needs of the infrastructure assets within the AM Plan's scope, providing a sustainable and holistic view of the Town's asset portfolios. The AM Plan helps the Town achieve its strategic priorities related to accountability and transparency.

2.2 Purpose of the AM Plan

The AM Plan describes the actions required to manage the Town's assets in a way that supports proposed service levels, while managing risks and costs. It establishes transparency and prudent financial management of limited resources. The AM Plan focuses on the 10-year period from 2025 to 2034 and provides a framework for continuously improving the Town's AM practices.

2.3 Alignment with Regulatory Requirements

This AM Plan fulfils the requirements of Ontario Regulation (O.Reg.) 588/17 Asset Management Planning for Municipal Infrastructure for AM. Specifically, this AM Plan establishes proposed Levels of Service (LOS) and recommends actions and financial strategies to meet proposed service levels within an acceptable level of risk over the next 10 years. Development of AM Plans is an iterative process that requires improving processes, data, systems, and staff skills over time to continuously increase confidence in the outputs and forecasts of the AM Plan.

2.4 The Town's Asset Management Program

In 2018, the Town developed its Strategic Asset Management Plan (SAMP) and AM Policy as stand-alone documents in line with leading practices. The SAMP helps guide the Town's Asset Management System and defines how the objectives of the AM Policy will be realized in the

tactical AM Plan. These documents form a “Line of Sight” or link in the AM System between the high-level corporate vision and strategy to the tactical level of the AM Plan and operational strategies, as shown in Figure 2-1.

Figure 2-1 Town’s Asset Management System

The AM Plan provides a framework to validate the Town’s budgeting processes and assists in prioritizing work activities, including capital projects, based on risk while supporting the Town’s strategic priorities. AM Planning is a key tactical (medium term) planning activity that relies on input from strategic planning activities and informs shorter-term decision making. The AM Plan is aligned with other Town planning documents, including but not limited to:

- Town Official Plan
- Council’s Strategic Priorities 2023-2026
- Strategic Asset Management Plan
- Asset Management Policy
- Operating and Capital Budgets
- 2019 Parks, Recreation, and Culture Master Plan
- 2024 Recreational Trails Master Plan

2.5 AM Plan Scope

This AM Plan includes assets owned by the Town and for which asset data was available, and provides recommendations for the period 2025-2034, inclusive. Where data gaps were encountered, recommendations for closing data gaps are provided. These recommendations will enable the Town to continually improve its AM planning capabilities. All values and forecasts are estimated in 2025 dollars.

2.6 Inventory Data Sources

The Town has continued to develop its asset inventories and collection of key data attributes to provide the analysis required in this AM Plan. Table 2-1 summarizes the main data sources used for the asset inventory and approach for determining replacement costs.

Table 2-1 Data Sources

Asset Area	Asset Category	Inventory Source	Replacement Cost
Transportation	**Roads**	GIS geodatabase	Unit Construction Costs
	Structures	MS Access Database	Unit Construction Costs
	Traffic Signals	MS Excel	Unit Construction Costs
	Sidewalks	GIS geodatabase	Unit Construction Costs
	Streetlights	GIS geodatabase	Unit Construction Costs
Stormwater	**Storm Sewers & Appurtenances**	GIS geodatabase	Unit Construction Costs
	Storm Ponds	GIS geodatabase	Included in other asset categories
Water	**Watermains & Appurtenances**	GIS geodatabase	Unit Construction Costs
	Water Meters	MS Excel	Unit Construction Costs
	Bulk Water Station	GIS geodatabase	Unit Construction Costs
Wastewater	**Sanitary Sewers & Appurtenances**	GIS geodatabase	Unit Construction Costs
Parks, Outdoor Recreation, and Natural Areas		GIS	Unit Construction Costs
Facilities*		MS Excel inventory	Building Condition Assessments / Unit costs
Fleet*		TATEMs software	Specific cost per individual asset
Fire*		MS Excel inventory (supported by FirePro software)	Mix of unit costs and costs provided for some individual assets
Information Technology		MS Excel inventory	Mix of unit costs and costs provided for some individual assets

*Fire stations and fire fleet are included under Facilities and Fleet, respectively.

2.7 Organization of the Document

The AM Plan is organized to meet the requirements of Ontario Regulation 588/17 (Proposed Levels of Service) and the Province's "Guide for Municipal Asset Management Plans". The contents of this AM Plan follow the recommended elements of a detailed AM Plan:

- **Chapter 1 Executive Summary:**
  Summarizes key findings and recommendations of the AM Plan.
- **Chapter 2 – Introduction:**
  Outlines scope, background information, relationship to other Municipal documents and plans, and applicable legislation
- **Chapter 3 – State of the Infrastructure:**
  Summarizes the inventory, condition, and remaining life of the assets in the inventory by asset category
- **Chapter 4 – Levels of Service:**
  Defines levels of service through performance indicators and targets, and outlines current and proposed performance
- **Chapter 5 – Risk Management Strategy:**
  Defines the framework for identifying critical assets and quantifying risk to enable prioritization of lifecycle activities
- **Chapter 6 – Lifecycle Management Strategy:**
  Summarizes the asset management strategies (i.e., planned actions) that will enable the assets to provide the proposed levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost
- **Chapter 7 – Financial Strategy:**
  Summarizes the financial planning and budgeting associated with asset management planning
- **Chapter 8 – Risks Associated with Implementing the AM Plan**
  Outlines external factors that may affect implementation of the AM Plan
- **Chapter 9 – AM Plan Monitoring and Improvement:**
  Summarizes the next steps including monitoring of AM Plan implementation progress, and improving future iterations of the AM Plan.
- **Chapters 10 to 18 – Individual Asset Areas**
  Summarizes AM Plan in more detail for each asset area

3 STATE OF INFRASTRUCTURE

3.1 Overview

The Town provides a range of services to its residents, businesses and visitors that rely on assets. Understanding the value, age, and condition of all assets is the starting point for a municipality to develop a plan for managing them. In this AM Plan, the Town's asset inventory has been organized around the major service groups and program areas shown in Table 3-1.

3.2 Asset Valuation

The replacement value of an asset represents the expected cost to replace an asset to the same functional standard with a 'like for like' new version based on current market conditions and construction standards. For most asset types, replacement value is based on unit construction costs. For some asset types where unit construction costs were not available, the replacement values were calculated using historical costs indexed to Q4 of 2024 using the Non-Residential Building Construction Price Indices (NRBCPI) or Consumer Price Index (CPI). The replacement cost valuation represents the estimated cost to replace assets today and is presented in 2025 dollars. Land is generally not included in the current replacement costs of the asset inventory.

The estimated current replacement value of Town assets is $1.2 billion, as outlined in Table 3-1. For a detailed summary of the assets covered in this AM Plan by Service Area, refer to Sections 10 to 18.

Table 3-1 Replacement Value of Town Assets

Asset Area	Replacement Value ($2025, millions)	Replacement Value (%)
Transportation	$297.5	24.5%
Stormwater	$193.2	15.9%
Water	$238.0	19.6%
Wastewater	$241.9	19.9%
Parks, Outdoor Recreation & Natural Infrastructure	$91.3	7.5%
Facilities*	$130.7	10.8%
Fleet*	$17.9	1.5%
Fire*	$3.1	0.3%
Information Technology	$1.4	0.1%
Total	**$1,215**	**100.0%**

*Fire fleet and fire facilities are covered under Fleet and Facilities, respectively. Fire covers only fire equipment.

3.3 Asset Condition

Understanding an asset's remaining life and current condition informs the timing of required lifecycle activities to maintain quality and reliability-related service levels. Observed conditions are used in this AM Plan where such data is available. When observed condition data is not available, the condition is estimated based on the remaining service life determined by comparing the age of the asset to its estimated service life (if construction or installation year data is available).

Formal condition assessment programs evaluate an asset's current physical condition, enable forecasts of future condition, and inform the most beneficial type and timing of treatment. Condition assessment methods and rating systems have become relatively standard for some assets but vary depending on the type of asset. The Town conducts inspections more frequently on more critical assets such as roads, bridges, structural culverts, facilities, sewers and other critical infrastructure. Main condition assessment methodologies include:

- Facility Condition Assessments: Formal evaluations of building structures to determine maintenance requirements, repair needs, and overall structural integrity.
- Road Condition Assessments: Systematic reviews of roadway infrastructure to prioritize maintenance, rehabilitation, and replacement activities that support safe and efficient travel.
- OSIM Bridge & Culvert Inspections: Inspections conducted under the Ontario Structure Inspection Manual to evaluate the structural condition and safety of bridges, culverts, and retaining walls.
- CCTV Sewer Inspections: Internal video inspections of sewer mains to detect blockages, structural damage, or deterioration, supporting targeted maintenance planning.
- Staff-Reported Asset Conditions: Informal assessments conducted by municipal staff to identify visible issues and maintenance needs across assets.

To enable comparison of condition and condition trends over time between different asset types, a generic condition grading scale is used to translate detailed engineering data about assets into information that can be compared across asset groups. For this purpose, the Town uses a five-point condition grading system, summarized in the table below. This system is consistent with the general condition grading system included in the International Infrastructure Management Manual (IIMM).

Table 3-2 Five-Point Condition Grading System

Condition	Condition Criteria
Very Good	Asset is physically sound and is performing its function as originally intended. Required maintenance costs are well within standards and norms. Typically, asset is new or recently rehabilitated.
Good	Asset is physically sound and is performing its function as originally intended. Required maintenance costs are within acceptable standards and norms but are increasing. Typically, asset has been used for some time but is within mid-stage of its expected life.
Fair	Asset is showing signs of deterioration and is performing at a lower level than originally intended. Some components of the asset are becoming physically deficient. Required maintenance costs exceed acceptable standards and norms and are increasing. Typically, asset has been used for a long time and is within the later stage of its expected life.

Condition	Condition Criteria
Poor	Based on construction of purchase year, asset is approaching the end of its expected life. If observed condition is available, asset is showing significant signs of deterioration and is performing to a much lower level than originally intended. A major portion of the asset is physically deficient. Required maintenance costs significantly exceed acceptable standards and norms.
Very Poor	Based on construction of purchase year, asset has reached or is past its expected life. If observed condition is available, the asset is found to be physically unsound and/or not performing as originally intended. Asset has higher likelihood of failure or failure is imminent. Maintenance costs are unacceptable, and rehabilitation is not cost effective. Replacement / major refurbishment is required.

The Town converts industry standard condition rating systems and age-based estimates to the above condition grading system as summarized in Table 3-3. This table summarizes the main condition rating systems used across the different assets. Additional condition rating systems used for specific assets are described in the respective asset area (Sections 10 to 18).

Table 3-3 Conversion of Industry Condition to Five-Point Condition Grade

Condition Grade	Pavement Condition Index (PCI)	Bridge Condition Index (BCI)	Facility Condition Index (FCI) – 3 Year	% Life Remaining for Age-Based Condition	CCTV* Rating (Sewers)
Very Good	76 - 100	80 - 100	0 – 5%	>75 to 100%	1
Good	61 – 75	70 – 79	>5% - 10%	>50 to 75%	2
Fair	51 – 60	60 – 69	>10% - 15%	>25 to 50%	3
Poor	31 – 50	40 – 59	>15% - 30%	>0 to 25%	4
Very Poor	0 - 30	0 – 39	>30%	<= 0%	5

*Closed-Circuit Television Video inspections

Figure 3-1 summarizes the value of assets that fall within each of the condition grades (very good, good, fair, poor, very poor). For clarity, assets in unknown condition have been excluded from this figure. The Town currently has approximately $37.6 million of assets in unknown condition.

91.6% of the Town's assets are in fair or better condition based on replacement value (excluding assets in unknown condition). 3.6% ($42.3 million) of assets are in very poor condition. Assets in poor or very poor condition require increased attention and renewal investment (funding and staff resources) to avoid increased maintenance costs or unexpected failures. The assets that are currently in poor or very poor condition are typically those that are included in 10-year capital renewal programs and budget forecasts, especially if deemed critical by the Town.

Figure 3-1 Condition Distribution by Replacement Value ($M)

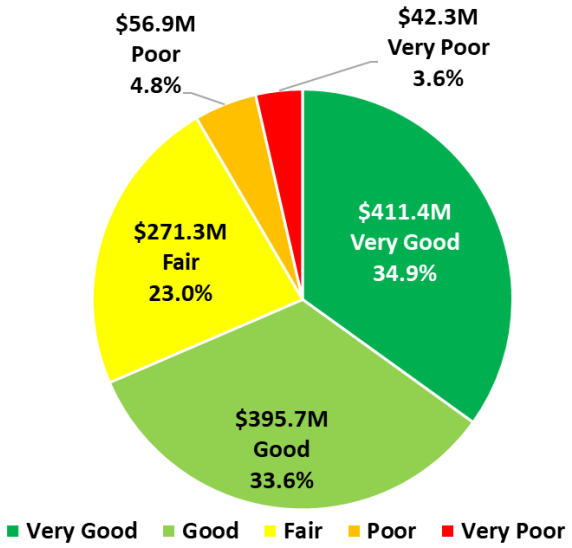
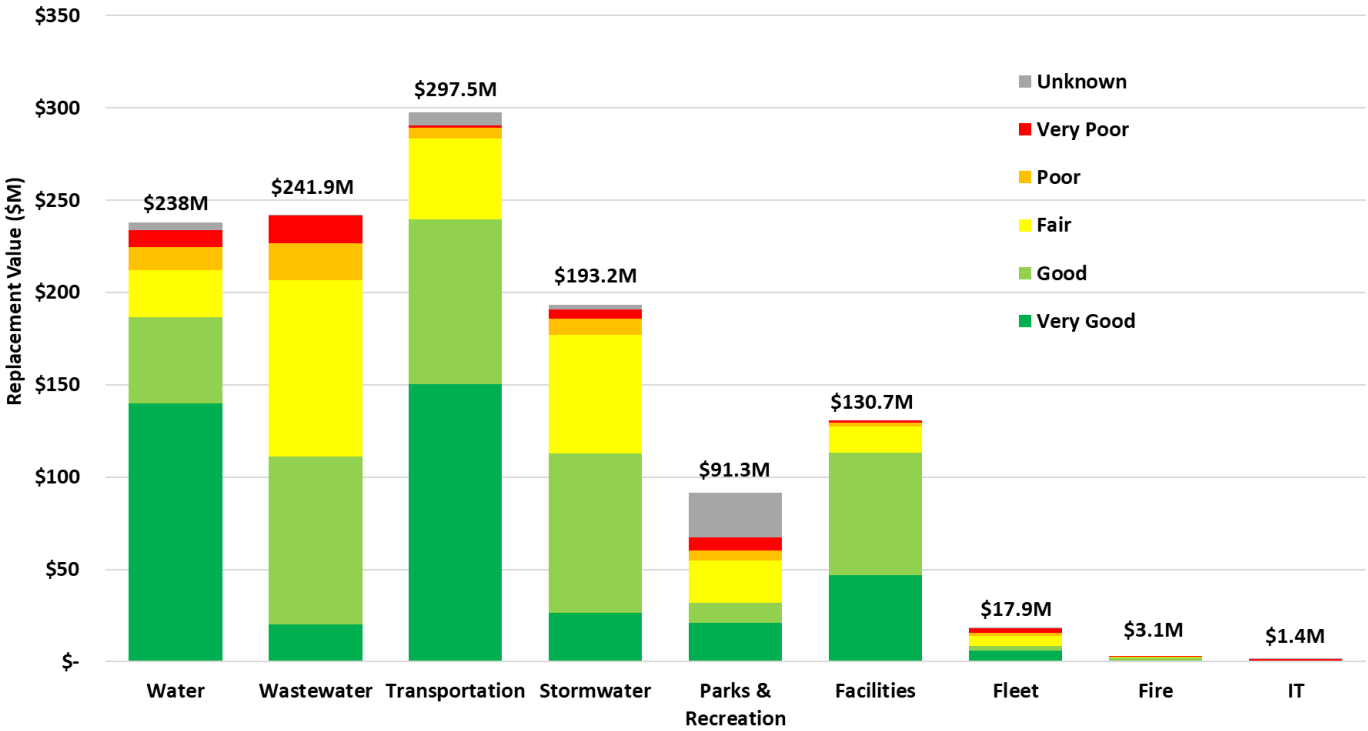


Figure 3-2 summarizes the condition profile by asset area. The total replacement value of assets within each asset category is shown above the condition grade bars.

Figure 3-2 Asset Condition Profile ($M), by Asset Category



4 LEVELS OF SERVICE

4.1 Overview

The State of Infrastructure section focused on the value, age, and condition of the Town's infrastructure assets. The Levels of Service (LOS) chapter builds on the State of Infrastructure by defining the performance the Town's assets are intended to deliver over the next 10 years.

Developing, monitoring, and reporting on LOS are all integral parts of an overall performance management program which is aimed at improving service delivery and demonstrating accountability to the Town's stakeholders.

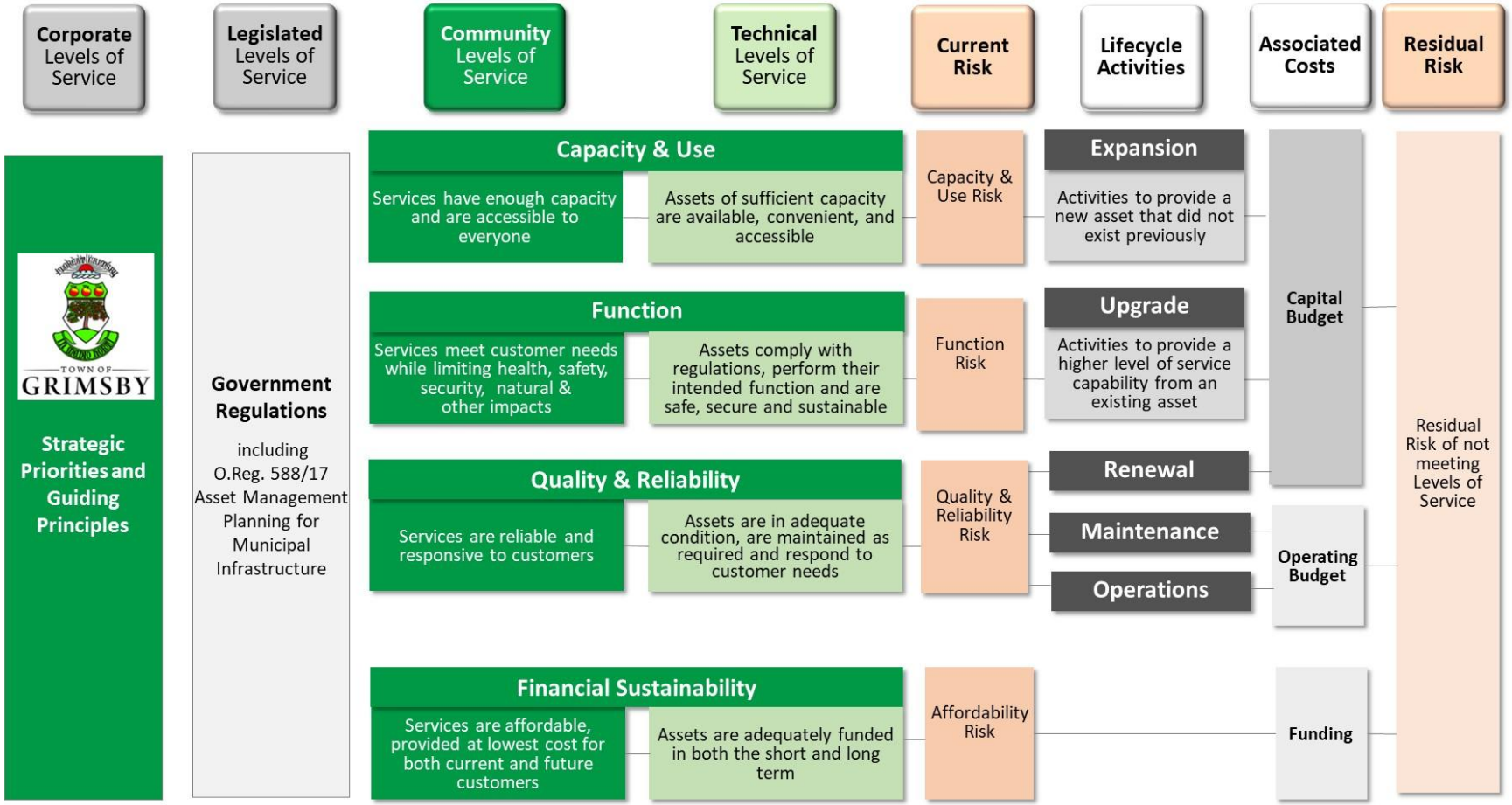
4.2 Line of Sight

Figure 4-1 shows the LOS framework and line of sight from high-level corporate initiatives to detailed asset-specific Technical LOS. Corporate commitments, along with legislated LOS drive the definition of more specific Community LOS that describe the services that the assets need to deliver to the Town's residents and businesses. Community LOS can be categorized as relating to one of the following service attributes:

- **Capacity & Use**: Services have enough capacity and are accessible to the customers. Capacity & Use LOS drive Growth needs.
- **Function**: Services meet customer needs while limiting health, safety, security, natural and heritage impacts. Function LOS drive upgrade needs
- **Quality & Reliability**: Services are reliable and responsive to customers. Quality LOS drive renewal, operations and maintenance needs.
- **Financial Sustainability**: Services are affordable and provided at the lowest cost for both current and future customers. Financial Sustainability LOS drive Funding needs to ensure that available funding sufficiently meets short and long-term needs.

Lifecycle management activities balance the cost of service with the risk to meeting service levels. This Line of Sight establishes the connection of how the day-to-day management of Town assets contributes to the success of achieving corporate strategic priorities.

Figure 4-1 Levels of Service Framework



4.3 Corporate Levels of Service

The Corporate, or Strategic LOS establish service levels that describe the main vision or objective of service delivery at the Town. The Town of Grimsby Council's 2023 to 2026 Strategic Priorities document includes 3 strategic priorities, 11 directions, and 34 actions.

This AM Plan supports various elements of the priorities including:

High Quality of Life	• Ensure Grimsby is a community that is welcoming and inclusive to all • Invest in infrastructure and services that improve the quality of life for residents
Responsible and progressive growth	• Protect our natural environment
Collective Prosperity	• Focus on affordability and financial sustainability for the municipality

The AM Plan demonstrates accountability and sustainability by identifying priority needs and providing Council and staff with a framework for informing decision-making and fostering fiscal responsibility.

4.4 Legislative Requirements

Legislated requirements define the standards according to which the Town is legally obligated to provide services to the community, and these standards typically relate to asset safety and reliability. For example, Regulation 565 Public Pools R.R.O. 1990 ensures that pools meet water quality parameters such as pH, chlorine, and alkalinity. Fire service is regulated by the Fire Protections & Prevention Act (FPPA) 1997. Legislated service levels that drive day-to-day operational activities are considered in this AM Plan but are generally not documented as measures as the Town has incorporated these activities as part of its normal operations.

In addition, O. Reg. 588/17 requires Ontario municipalities to document specific community and technical current and proposed levels of service. Technical levels of service are more quantitative in nature; however, community levels of services include qualitative descriptions and visuals such as maps, images etc. The required levels of services prescribed by O. Reg 588/17 can be found in the service level discussions for roads (Section 10.3), stormwater (Section 11.3), water (Section 12.3), and wastewater (Section 13.3).

4.5 Service Level Performance

At the Corporate level, the proposed performance of each asset area focuses on the state of good repair which is summarized in Table 4-1.

For state of good repair, three performance levels are provided:

- Current Performance: the current state of the assets (2024 data)

- Expected Performance: the performance (condition) forecast over the next 10 years based on the available funding (contributions to the funding sources in the Capital Plan)
- Proposed Performance: the performance level proposed based on what is appropriate for the Town in consideration of the Town's current needs for renewal as well as risks associated with deteriorating asset condition. Service levels that are proposed to reduce in performance are still managed to a level in which the assets are in a state of good repair and provide reliable service.

For most condition-related measures, a higher value in the condition index or percentage of assets in fair or better condition indicates improved condition. The Facility Condition Index, however, is calculated differently based on the needs identified in building condition assessments, and an increasing value indicates a deterioration in condition.

Additional details and discussion on other LOS measures are provided in each asset category section (Sections 10 to 18).

Table 4-1 Levels of Service – Asset Condition


Improving performance (increasing value)


Improving performance (decreasing value)


Decline in performance (increasing value)


Decline in performance (decreasing value)


Maintain current performance

Asset Area	Asset Category	Technical LOS	Performance		
			Current (2024)	Expected (2034)	Proposed (2034)
Community LOS: Assets are maintained in a state of good repair					
Transportation	Roads	Pavement Condition Index	77.4		
	Structures	Bridge Condition Index (Bridges)	66.1		
	Structures	Bridge Condition Index (Culverts)	67.5		
	Structures	Bridge Condition Index (Retaining Walls)	70.1		
	Streetlights	% fair or better condition	88%		
	Sidewalks	% fair or better condition	99%		
	Traffic Signals	% fair or better condition	100%		
Stormwater		% fair or better condition	94%		

Asset Area	Asset Category	Technical LOS	Performance		
			Current (2024)	Expected (2034)	Proposed (2034)
		% of SWM wet ponds that are within allowable sediment levels	50%	↑	↑
Water		% fair or better condition	94%	↑	↑
		% of watermains that are unlined cast iron	6.5% (8.8km)	↓	↓
Wastewater		% fair or better condition	94%	↑	↑
Parks, Outdoor Recreation & Natural Infrastructure		% fair or better condition	82%*	↓	↔
Facilities		Facility Condition Index	5.5%	↓	↓
Fleet		% Corporate fleet fair or better condition	61%	↓	↔
		% Fire fleet fair or better condition	97%	↔	↔
Fire		% fair or better condition	84%	↔	↔
Information Technology		% fair or better condition	52%	↑	↑

*Excludes natural assets, which are generally maintained through operating budget and not tracked for condition

5 RISK MANAGEMENT STRATEGY

5.1 Overview

A key asset management principle for the Town is to meet service levels and manage risk, while minimizing lifecycle costs. The relative importance of the assets to support service delivery, referred to as asset criticality, is a key driver in the selection of the most appropriate asset management strategy for each asset. Critical assets are those that are key contributors to performance and have the highest consequences of failure.

Risk events, such as an asset's failure in capacity, function, or reliability, are events that may compromise the delivery of the Town's strategic priorities. Lifecycle activities are used to manage the risk of failure by reducing the likelihood of asset failure to acceptable levels.

Asset risk may be associated to one or more aspects of failure across the levels of service attributes:

- **Capacity & Use**: Asset may have failed to provide sufficient capacity to meet population growth.
- **Function**: Asset may have failed to comply with regulations, perform its intended function, or is no longer considered sustainable due to factors such as obsolescence.
- **Quality & Reliability**: Asset may have failed due to deteriorated physical condition.

Quality and Reliability risks related to asset condition are estimated in this AM Plan.

5.2 Quality & Reliability Related Risk

The Town's preliminary risk strategy in the AM Plan estimates the quality and reliability (condition-based) risk exposure of its assets to inform the prioritization of projects across asset classes and service areas. Risk exposure is the multiplication of two factors:

Risk Exposure = Consequence of Failure x Likelihood of Failure

The criticality or consequence of failure (CoF) is the direct and indirect impact on the Town if an asset failure were to occur, and the likelihood of failure (LoF) is the likelihood that an asset failure may occur.

5.2.1 Consequence of Failure

The focus in this section is on asset criticality or consequence of failure which reflects the importance of an asset to the Town's delivery of services. The following impacts of a potential asset failure are considered:

- **Financial**: damages to Town infrastructure or private property, legal damages, loss of Town revenue, and fines.
- **Health and Safety**: the ability to meet health and safety related regulatory requirements, as well as the degree and extent of potential injury, ranging from negligible injuries to loss of life.

- **Service Delivery**: considers the extent of customers affected by service disruption, the type of service lost (essential versus non-essential), and length of service disruption.
- **Reputational**: consists of negative media, and or reduced trust / confidence in the Town.
- **Environmental**: acknowledges the length and extent of damages to the natural environment.

Table 5-1 summarizes the above listed impacts against an asset criticality rating scale from 1 to 5, with a higher score reflecting a higher consequence of failure. This rating scale will be refined as the Town's risk assessments mature. Improvements may include specifying values in terms of the number of people affected and amount of financial impact in dollars to improve the objectivity of the rating scale. Understanding criticality enables risk to be incorporated into the development of the lifecycle management strategies. More critical assets are prioritized for expansion, inspection, cleaning, maintenance, and renewal, depending on their current and forecasted performance.

As part of the Town's development of risk work, CoF ratings based on a 1 to 5 scale were assigned to each land use category. The Town's GIS spatial analysis identifies land uses adjacent to an asset and applies the associated CoF score. In general, land uses with lower criticality include rural and open spaces and higher criticality is assigned to downtown and more highly populated areas. The highest consequence rating of 5 is assigned for assets close to institutional properties such as schools and hospitals, as well as QEW and CN Rail crossings. Land use is factored into the overall CoF rating for each asset for roads, water, wastewater, and stormwater assets and is discussed in more detail in the more detailed Sections 10 to 13.

Table 5-1 Consequence of Failure (COF) Rating Scale

Consequence Categories	1	2	3	4	5
	Insignificant	Minor	Moderate	Major	Extreme
Financial	Insignificant damages, losses, or fines. Absorbed in normal business operation.	Low damages, losses, or fines. Absorbed in normal business operation.	Moderate damages, losses, or fines. Notable change to operating budget.	Significant damages, losses, or fines requiring additional funding.	Significant damages, losses, and fines requiring additional current and future expenditures.
Health & Safety	No obvious potential for injury or affects to health.	Potential for minor injury or health affects of an individual. Full recovery is expected.	Potential for moderate or serious injury or affects to health. May affect many individuals.	Potential for serious injury or affects to health such as long-term disability. Emergency hospitalization required for one or more individuals.	Potential for death or multiple deaths; or Emergency and long-term hospitalization required for several individuals.
Service Delivery	Negligible service impact. Small number of	Localized service disruption. Typically up to	Significant localized disruption. Typically up to	Many areas disrupted or localized disruption for a long time; or	Town-wide service disruption, or loss of services for a very long period of time;

Consequence Categories	1	2	3	4	5
	Insignificant	Minor	Moderate	Major	Extreme
	customers impacted.	one day loss of service.	one week loss of service.	loss of essential service for short period of time.	or loss of essential service for moderate or long periods of time.
Reputational	No media exposure	Minor media exposure	Moderate local media exposure lasting several days	Intense local media exposure lasting several days and/or Town-wide exposure	Provincial (or Federal) exposure lasting several days or weeks
Environment	Negligible impact to natural environment.	Minor recoverable impact to natural environment.	Some environmental damage, with short term impacts.	Medium to long-term environmental damage requiring immediate intervention.	Significant environmental damages with long-term effects.

5.2.2 Likelihood of Failure

Likelihood of Failure (LoF) is estimated based on the condition of the asset from Section 3, as summarized in Table 5-2. Assets in poorer condition have a higher LoF.

Table 5-2 Likelihood of Failure Rating Scale

LoF Rating	LoF Description	Asset Condition
1	Rare	Very Good
2	Unlikely	Good
3	Moderate	Fair
4	Probable	Poor
5	Very Likely	Very Poor

5.2.3 Reliability Risk Profile

After assessing the consequence and likelihood of failure for each asset, the results are shown in a risk map in Figure 5-1. The risk profile identifies the various levels of risk and helps to prioritize the Town's options to most effectively reduce overall risk when allocating its limited resources, time, and effort on the forecasted renewal needs discussed in Section 6.4. The risk map identifies the following risk categories:

- **Very High** risks in the light red zone are significant to the Town and therefore should be actively managed and monitored in a more comprehensive and/or immediate manner than other risks (i.e., prioritized).
- **High and Medium** risks in the orange (high) or green (medium) zones should also be actively managed or identified for potential mitigation soon.

- **Low and Very Low** risks that appear in the light blue (low) or grey (very low) zones are acceptable without significant mitigation strategies being implemented, although monitoring may still be beneficial.

Figure 5-1 Corporate Risk Exposure*

Risk exposure in year 2025 $, millions

LoF						
	5	$4.5	$15.6	$5.0	$3.6	$1.5
	4	$1.7	$31.7	$8.8	$4.7	$2.7
	3	$11.1	$152.2	$73.3	$36.1	$19.4
	2	$44.6	$172.2	$69.5	$25.4	$70.9
	1	$115.7	$190.7	$78.2	$38.8	$21.7
		1	2	3	4	5
		CoF				

Risk Exposure	$	%
Very High	$7.8	0.7%
High	$29.1	2.4%
Moderate	$131.4	11.0%
Low	$378.3	31.5%
Very Low	$653.0	54.4%
Total	$1,199.6	100%

* Assets with unknown condition are not included. Totals may not add due to rounding.

0.7% ($7.8 million) of Town assets by value are estimated to be Very high-risk, including:

- Water: eleven watermain segments worth $2.3 million, mostly unlined cast iron pipes, installed between 1955 and 1973.
- Wastewater: eleven sewer main segments worth $1.6 million, mostly vitrified clay and non-reinforced concrete pipe material, installed between 1929 and 1979.
- Stormwater: four non-reinforced concrete storm sewer segments worth $0.7 million, installed between 1957 and 1974.
- Parks & Recreation: $1.4 million of assets consisting of six play structures, one skateboard park, and 53 meters of shoreline protection assets that are past their service lives.

For the assets above that are currently assessed as very high, the Town will be performing additional investigation to confirm condition and performance of the assets. Some assets have already been identified in the 10-year Capital Plan. Verified higher risk assets will be assessed to determine appropriate lifecycle activities that will be developed into capital projects and prioritized for approval in the annual capital planning process. Maintenance activities for inclusion in the Operating budget may also be considered.

5.3 Capacity Related Risks

Over the past few years, the Town has experienced steady growth, and continues to plan for responsible growth and development through commencement of the official plan review and master plans such as the Transportation Master Plan update and Parks, Recreation, and Culture Master Plan update. The Town mitigates capacity-related risks by assessing the need for additional infrastructure and planning for additional infrastructure assumed by the Town through development. Projects to address known capacity issues are currently scheduled in the Town's 10-year Capital Budget, such as the reconstruction of North Service Road and Old Winston Road in conjunction with Fifth Wheel development and the construction of Fire Station 3. These and other lifecycle activities that address capacity service levels are summarized further in Section 6.2.

5.4 Function Related Risks

The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs. New services or service enhancements currently planned over the next 10 years include streetscape improvements at Casablanca Boulevard and the GO Station Area. A road urbanization project addresses multiple service levels as it upgrades the function of the road while also renewing the asset by addressing reliability service levels, discussed further in Section 6.4. Other service enhancements planned over the next 10 years include trail improvements from 40 Mile Creek to the downtown district, and facility accessibility upgrades.

5.5 Affordability Risks

The Town's forecasted needs to meet various service level scenarios is discussed in Section 6, and is compared to the Town's ability to fund them in Section 7. In some cases, service levels are not affordable, and the Town manages the risks of these unfunded activities through various approaches that aim to reduce the funding gap, such as seeking ways to operate more efficiently. Management of these risks are discussed in more detail in Sections 10 to 18 for each asset area.

5.6 Climate Change Risk Considerations

Climate change risks pose an additional challenge to managing Town assets and maintaining service levels. Climate change events can play a role in increasing the likelihood of an asset failure, as well as increasing the consequence of failure in terms of financial impacts, service delivery, and damages to the natural environment due to the potential magnitude of an extreme weather event. Therefore, impacts due to climate change increase the Town's risk exposure that will need to be addressed through various strategies. Current and future lifecycle strategy considerations due to climate change are discussed in Section 6.6.

6 LIFECYCLE MANAGEMENT STRATEGY

6.1 Overview

To achieve its objectives, the Town builds new infrastructure assets to meet capacity needs, upgrades assets to meet new functional needs and manages existing assets to meet reliability needs. Asset lifecycle management strategies are planned activities that enable assets to provide the defined levels of service in a sustainable way, while managing risk at the lowest lifecycle cost. Asset lifecycle management strategies are typically organized into the categories listed in Table 6-1 and are driven by the service levels defined for each asset area.

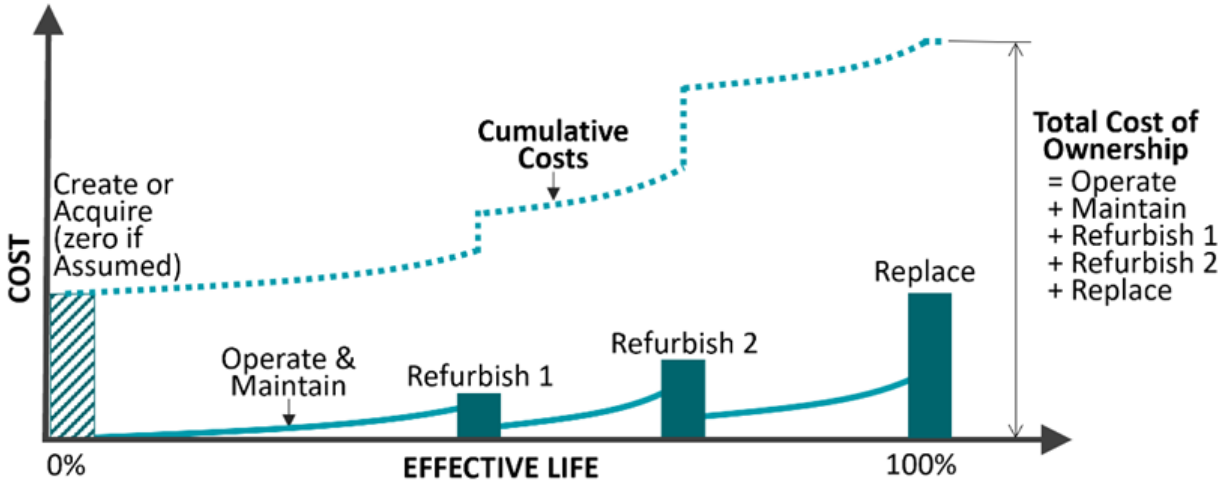
Table 6-1 Asset Lifecycle Management Categories

Lifecycle Management Category	Description	Examples of Associated Activities
Operate	Regular activities to provide services	inspections, cleaning, flushing
Maintain	Activities to retain asset condition to enable it to provide service for its planned life	repairs, component replacements
Renew	Activities that return the original service capability of an asset	minor or major rehabilitations such as road resurfacing, asset replacement
Upgrade	Activities to provide a higher level of service capability from an existing asset to achieve better fit for purpose or meet regulatory requirements	road urbanization, accessibility upgrades, improved pipe material
Expand/Grow	Activities to provide a new asset that did not exist previously or an expansion to an existing asset	new asset construction such as new facilities, new watermains for development, and expansion of existing assets such as road widenings

In addition to the above asset strategies, non-asset solutions are also considered which are actions or policies that can lower costs, lower demands, or also extend asset life. For example, integrated infrastructure planning between services enables cost savings by bundling road, water, and wastewater works together such as the Downtown Watermain and Street Improvements project.

The Town reviews the costs of potential lifecycle activities to determine the lowest lifecycle cost strategy while still meeting service levels. The total cost of ownership is the sum of lifecycle activity costs to sustain an asset over its lifecycle. (See Figure 6-1 for a conceptual lifecycle cost model). Sufficient investment of the right type of asset intervention at the right time minimizes the total cost of ownership for each asset and mitigates other potential risks such as interruption to service delivery or failure that causes damage to other nearby infrastructure. Operations, maintenance, and renewal activities are timed to reduce the risk of service failure from deterioration in asset condition and all contribute to the total cost of ownership.

Figure 6-1 Lifecycle Management Model



Various scenarios were considered in the development of the AM Plan to facilitate discussion on service levels that are achievable and appropriate for the Town:

- Expected Performance: The performance that is expected over the next 10 years based on the available funding through contributions to funding sources in the Capital Plan
- Target Performance: Where available, some service levels have an aspirational target that is a long-term or established Town goal. In this scenario, the costs required to achieve this aspirational target is considered
- Maintain Current Performance: The cost required to maintain current (year 2024) performance levels over the next 10 years

The proposed service level is selected based on a review of these scenarios and is considered an appropriate service level that balances affordability and manages risks to acceptable levels. Funding gaps related to meeting the proposed service levels are discussed in Section 7.

6.2 Growth Forecast

One main factor that municipalities must consider in asset management planning is the impact of future growth on meeting goals and objectives. The Town monitors trends in its population to ensure that increasing demands on service levels are understood and that strategies are developed to address growth and demographic changes.

The Town monitors trends in its population to ensure that its impacts on service levels are well understood and that strategies are developed to address additional demands due to growth and changes in demographics. Per the Town's Official Plan along with updates from recent data from the 2021 Census, the Town's population is expected to increase from 28,883 in 2021 to 32,800 in 2031, as shown in Table 6-2. The Region's 2022 Official Plan projects a Town population of 37,000 and employment of 14,960 in year 2051. The Town is completing an update to its population forecast, which is expected to indicate a higher population in future years than stated in Table 6-2.

Table 6-2 Town Population and Employment History and Forecast to 2051

Year	Population	Employment
2006	23,937*	7,510**
2011	25,325*	8,500**
2016	27,314*	9,240**
2021	28,883*	9,530**
2031	32,800**	10,180**
2051	37,000***	14,960***

*Population from Statistics Canada Census
**From the Town of Grimsby Official Plan
***From the 2022 Region of Niagara Official Plan

The Town is in the process of updating several plans and studies, which, once finalized, may lead to revised service level targets and new recommendations. Growth planning is undertaken considering population increases and evolving community needs. Population forecasts as noted in Table 6-2 above are believed to be on the low end. Over the next decade, key infrastructure projects are scheduled, with some to be delivered through the 10-year Capital Plan and others to be assumed from developers. The growth needs currently identified over the next ten years to meet proposed service levels are summarized for each asset area in Table 6-3. Some growth needs, such as park development, are covered under upgrades in the next section. Affordability of the proposed service levels are discussed in Section 7.

Table 6-3 Growth Needs Forecast ($M)

Asset Area	Total 10-Year Growth Needs ($M)
Transportation	$10.9
Stormwater	$4.3
Water	$3.0
Wastewater	$2.4
Parks, Outdoor Recreation & Natural Infrastructure	(included under Upgrades)
Facilities	$24.3
Fleet	$2.8
Fire	$1.0
Information Technology	$0.05
Total	**$48.7**

6.3 Upgrade Forecast

In addition to adding new assets to the portfolio, the Town also upgrades existing assets as required to ensure the safety, efficiency, and sustainability of the community. Examples of upgrade projects include:

- Trail network improvements and revitalization of the pier and surrounding park at the Elizabeth St. Pumphouse
- Streetscape improvements at Casablanca Boulevard and GO Station Area.
- Wayfinding signs, universal washrooms, and accessibility improvements for facilities
- Improvements in facility energy efficiency to reduce operations costs
- Security improvements for the IT network

Investing in infrastructure upgrades addresses changing needs and prepares the Town for future challenges and opportunities. The upgrade needs currently identified over the next ten years are summarized for each asset area in Table 6-4. In some cases, upgrade needs such as urbanization of road cross-sections are already covered under growth or renewal projects in Table 6-3 and Table 6-5, respectively. Costs for strategies required to meet the Town's proposed service level to reduce GHG emissions by 30% from the 2023 baseline level have not been quantified and are to be considered in future AM Plan updates.

Table 6-4 Upgrade Needs Forecast ($M)*

Asset Area	Total 10-Year Upgrade Needs ($M)
Transportation	$2.9**
Stormwater	--
Water	--
Wastewater	--
Parks, Outdoor Recreation & Natural Infrastructure	$8.8
Facilities	$0.8
Fleet	--
Fire	$0.2
Information Technology	$0.6
Total	**$13.2**

*Totals may not add due to rounding

**Upgrades related to urbanization of rural road cross-sections are covered under Growth in Section 6.2.

6.4 Renewal Forecast

The Town carries out rehabilitation and replacement activities to maintain assets in a state of good repair. Rehabilitation activities are used where possible to extend the life of an asset. For

other assets, rehabilitation is not possible or not cost effective, and the assets are replaced at their end-of-life.

The renewal forecast considers the asset's current condition or age, the potential rehabilitation and replacement activities, as well as the recommended strategies from specific studies such as building condition assessments (BCAs) for facilities and OSIM (Ontario Structure Inspection Manual) inspections for bridges. If condition or installation year data is missing, renewal needs are estimated as an average annual reinvestment rate based on the asset's value and estimated useful life. The renewal needs over the next ten years are summarized for each asset area in Table 6-5.

There are currently no formally recognized target reinvestment rates, but the 2016 Canadian Infrastructure Report Card (CIRC) provides target reinvestment rates for information purposes that are based on the experience of municipal asset management practitioners. Table 6-5 compares the reinvestment rates for asset renewal recommended in the AM Plan compared to the CIRC target reinvestment rates where available.

Table 6-5 Renewal Needs Forecast ($M)*

Asset Area	Total 10-Year Renewal Needs ($M)	AM Plan Recommended Reinvestment Rate	CIRC Target Reinvestment Rate
Transportation	$33.4	Roads: 1.2% Structures: 1.4%	Roads: 2% - 3% Structures: 1% - 1.5%
Stormwater	$7.1	0.4%	1% - 1.3%
Water	$24.2	1.0%	1% - 1.5%
Wastewater	$24.1	1.0%	1% - 1.3%
Parks, Outdoor Recreation & Natural Infrastructure	$21.0	2.3%	**
Facilities	$12.2	1.0%	1.7% - 2.5%
Fleet (Corporate)	$7.5	7.6%	**
Fleet (Fire)	$2.0	2.5%	**
Fire	$2.8	9.2%	**
Information Technology	$2.2	15.5%	**
Total	**$136.6**		

*Totals may not add due to rounding

** CIRC target reinvestment rates are not available for these asset types.

6.5 Operations and Maintenance Forecast

The Operations and Maintenance forecast identifies the ongoing activities needed to sustain the performance and reliability of infrastructure assets. These efforts are critical to maintaining defined service levels and reducing the risk of asset failure. Operations include routine tasks

such as inspections, cleaning, and testing, while maintenance focuses on preserving asset condition through minor repairs and component replacements. Salaries that are tied to asset maintenance are included where the Town's operating budget tracks this data. Programming costs that are not asset-related and other salaries that are not tracked to asset maintenance activities are generally not included in this AM Plan.

Table 6-6 shows the current 2025 operating budget and the required average annual percentage increase over the next 10 years for each asset area. The increases in operations and maintenance needs are estimated based on continuing the annual increases in the two-year operating budget outlook provided by the Town over the next 10 years, as well as growth in the asset portfolio from planned capital projects. Assets anticipated to be assumed from developers are not included. Additional operating budget pressures are discussed in Section 7.2.4.

Table 6-6 Operations and Maintenance Needs

Service Area	2025 Budget ($M)	Average Annual Increase (%)
Transportation	$0.7	3.1%
Stormwater	$0.05	2.2%
Water	$0.2	2.1%
Wastewater	$0.2	2.1%
Parks, Outdoor Recreation & Natural Infrastructure	$1.4	3.0%
Facilities	$1.7	4.8%
Fleet	$0.5	2.2%
Fire	$0.05	2.0%
Information Technology	$1.8	2.7%
Total	**$6.6**	**3.3%**

6.6 Climate Change Considerations

Climate change can have significant implications on Town infrastructure that increase the overall risk exposure to the Town, resulting in the need for renewal strategies to mitigate more frequent asset failure events. The Town is planning on mitigation strategies such as energy consumption reduction as outlined in the Energy Conservation and Demand Management Plan, 2024-2029. This work will be done as part of the Town's commitment to the Partners for Climate Protection program, which focuses on creating a baseline GHG emissions inventory and setting emission reduction targets.

To protect against erosion along Lake Ontario in the Grimsby Beach area, the Town has completed shoreline protection works at 10th Street and 12th Street, as well as 6th Street and 9th Street. The Town will be considering additional shoreline protection works in the next few years within Town owned lands and right-of-ways (ROW) in its continued commitment to adapt to climate change impacts. Shoreline protection is currently included as part of the Whittaker

Park renewal and Elizabeth St. Pumphouse shoreline improvements. Another main initiative for climate change adaptation is implementing inflow and infiltration (I&I) reduction strategy recommendations from the Baker Road Pollution Prevention Control Plan (PPCP) study. The Baker Road PPCP developed these recommendations in consideration of system resiliency and network vulnerability to climate change related failures such as flooding. The I&I sewer improvements are included under the renewal forecast in Section 7.2.3.

7 FINANCING STRATEGY

The financial strategy is informed by the preceding sections of the Asset Management Plan: the value and condition of the assets, the current levels of service, the risks to service delivery, and the lifecycle activities needed to reduce the risks to acceptable levels. The financial analysis considers the affordability of the proposed service levels based on the forecasted needs compared to available funding.

Service levels may be adjusted and informed by future development of Master Plans or studies which may result in additional funding gaps. Limitations of the forecast and infrastructure gap analysis are discussed in Section 7.4. The funding gap analysis supports informed decision-making and helps ensure compliance with O. Reg. 588/17, which requires municipalities to demonstrate financial sustainability through their Asset Management Plan.

7.1 Funding Sources

Through the Town's annual budget process, capital project and operating activity expenditure information is gathered from each service area, including investment needs, trends, and priorities, to enable preparation of the capital and annual operating budget plans. The investments are proposed with careful line-of-sight to financial sustainability and affordability for its residents and businesses. Once the expenditure plans are finalized, a financing plan is developed which includes several key sources of funding as outlined in the table below.

Table 7-1 Summary of Funding Sources

Funding Source	Description
Property Tax	Town property owners pay an annual tax to the Town
Debt	Long term borrowing, to be paid for by future taxpayers
Canada Community Building Fund (Formerly Federal Gas Tax)	A long-term grant agreement with the Association of Municipalities of Ontario (AMO), that provides a portion of the Federal gas tax revenues to municipalities for revitalization of infrastructure that achieves positive environmental results
OCIF	Ontario Community Infrastructure Fund for small, rural and northern communities to develop and renew their infrastructure
Grants	Project specific grants / subsidies
User Fees	Funds collected for the use of Town services or infrastructure (e.g., recreational programming)
Community Benefits Charges	Funding tool under the Planning Act which can be used for capital costs of any public service associated with new growth, if the costs are not already recovered from development charges or parkland provisions
Development Charges	Fees collected from developers to help pay for the cost of infrastructure required to provide municipal services to new development

Effective October 1st, 2024 the Town implemented an update to its Reserve and Reserve Fund Policy to provide guidelines with respect to the consistent and effective development, management, and use of Town reserves and reserve funds. These funds address long-term

Town objectives and balance current and future financial requirements. Annual reserve contributions are intended to sustain reserve balances at appropriate levels to address future infrastructure renewal costs and inherent uncertainties in capital investment needs. Current reserve contributions are insufficient to maintain reserve balances when compared to the commitments required to fund the projects currently in the 10-year Capital Plan, and this forms part of the funding gaps identified in the AM Plan. The contributions are evaluated annually to try to meet future capital requirements and to smooth out the impact on the annual operating budget. The Town establishes reserves for asset renewal as well as contingency and stabilization reserves for operating emergencies, unplanned cost increases, or revenue reductions over multiple budget cycles.

7.2 Financial Sustainability of Proposed Service Levels

The Financial Strategy section compares the forecasted renewal, upgrade, and growth needs against the available capital funding to determine if there is a funding gap to meet proposed service levels. The available funding is determined based on the expected contributions to the Capital Plan's funding sources over the next 10 years.

7.2.1 Growth

The growth need for Town assets is estimated at an average of $4.9 million per year over the next 10 years. The average available funding is $3.7 million per year resulting in a $1.2 million per year funding gap for growth in the Town asset portfolio. The gap is mainly due to lower contributions to the development charge funding sources as a result of the slower rate of development, and a relatively high rate of inflation since the last Development Charge (DC) Study. An update to the DC Study is expected to be completed in 2025. The DC Service Level Cap limits recoverable amounts from development charges for certain service areas, which may also contribute to the funding gap.

Table 7-2 Summary of Capital Growth Estimated Funding Gaps* ($M)

Service	Total 10-Year Growth Needs ($M)	Total 10-Year Growth Funding Available ($M)	Total 10-Year Growth Funding Gap ($M)	Average Annual Growth Funding Gap ($M/yr)
Transportation	$10.9	$5.9	$5.0	$0.5M/yr
Stormwater	$4.3	$4.2	No funding gap	-
Water	$3.0	$0.4	$2.5	$0.3M/yr
Wastewater	$2.4	$0.4	$2.0	$0.2M/yr
Parks, Outdoor Recreation & Natural Infrastructure	Included in upgrades	Included in upgrades	Refer to upgrades	Refer to upgrades
Facilities**	$24.3	$24.2	No funding gap	No funding gap
Fleet**	$2.8	$0.5	$2.3	$0.2M/yr
Fire**	$1.0	$1.0	No funding gap	No funding gap
Information Technology	$0.05	$0.03	$0.02	$0.002M/yr
Total	**$48.7**	**$36.7**	**$12.0**	**$1.2M/yr**

*Totals may not add due to rounding

**Fire fleet and fire facilities are covered under Fleet and Facilities, respectively. Fire covers only fire equipment.

7.2.2 Upgrade

The upgrade need for Town assets is estimated at an average of $1.3 million per year over the next 10 years. The average available funding is $1.0 million per year, resulting in an overall funding gap of $0.3 million per year.

The funding gap pertaining to upgrade is mainly for Parks and Outdoor Recreation assets, as there are inadequate contributions (78%) expected for Development Charges currently committed in the 10-Year Capital Plan for trails projects. The other two significant funding sources for park and outdoor recreation upgrade projects are the Canada Community Building Fund, which has contributions of ~72% of its Capital Plan commitments, and Parkland Acquisition, with contributions of ~62% of its Capital Plan commitments. The Town may need to offset lost revenue through property tax increases or deferral of upgrade projects such as the new trails.

Table 7-3 Summary of Capital Upgrade Estimated Funding Gaps* ($M)

Service	Total 10-Year Upgrade Needs ($M)	Total 10-Year Upgrade Funding Available ($M)	Total 10-Year Upgrade Funding Gap ($M)	Average Annual Upgrade Funding Gap ($M/yr)
Transportation	$2.9	$2.1	$0.8	$0.1
Stormwater	--	--	--	--
Water	--	--	--	--
Wastewater	--	--	--	--
Parks, Outdoor Recreation & Natural Infrastructure	$8.8	$6.6	$2.2	$0.2M/yr
Facilities**	$0.8	$0.8	No funding gap	No funding gap
Fleet**	--	--	--	--
Fire**	$0.2	$0.2	No funding gap	No funding gap
Information Technology	$0.6	$0.3	$0.3	$0.03M/yr
Total	**$13.2**	**$10.0**	**$3.2*****	**$0.3M/yr*****

*Totals may not add due to rounding.
**Fire fleet and fire facilities are covered under Fleet and Facilities, respectively. Fire covers only fire equipment.
***Funding gap to meet 30% GHG emissions reduction has not been quantified.

7.2.3 Renewal

The renewal need for Town assets is estimated at an average of $13.7 million per year over the next 10 years ($136.6 million over 10 years). This renewal need is forecasted to meet proposed service levels that are considered appropriate for the Town given the associated affordability and risk. For most asset areas, the proposed service level at least maintains the current condition. For some assets, an improved condition is proposed where the service level is based on recommendations from formal engineering reports or inspections such as OSIM inspections for bridges and bathymetric surveys for stormwater management facilities. For other areas, such as roads and facilities, a reduced performance is proposed that still maintains the overall

condition of the portfolio in a state of good repair while considering affordability issues of higher service levels.

The investment gaps represent needs that exceed the overall funding available for infrastructure renewal. A significant investment gap is estimated for Transportation, Stormwater, Parks & Recreation, and Facilities. Continued work to improve the asset inventory, condition, and forecasting needs to refine the forecasting is an on-going initiative.

Table 7-4 Summary of Capital Renewal Estimated Funding Gaps* ($M)

Service	Total 10-Year Renewal Needs ($M)	Total 10-Year Renewal Funding Available ($M)	Total 10-Year Renewal Funding Gap ($M)	Average Annual Renewal Funding Gap ($M/yr)
Transportation	$33.4	$20.6	$12.8	$1.3M/yr
Stormwater	$7.1	$2.4	$4.7	$0.5M/yr
Water	$24.2	$24.2	No funding gap	No funding gap
Wastewater	$24.1	$24.1	No funding gap	No funding gap
Parks, Outdoor Recreation & Natural Infrastructure	$21.0	$9.3	$11.7	$1.2M/yr
Facilities**	$12.2	$3.0	$9.2	$0.9M/yr
Fleet (Corporate)	$7.5	$4.2	$3.3	$0.3M/yr
Fleet (Fire)**	$2.0	$2.0	No funding gap	No funding gap
Fire**	$2.8	$2.8	No funding gap	No funding gap
Information Technology	$2.2	$1.2	$1.0	$0.1M/yr
Total	$136.6	$93.8	$42.8	$4.3M/yr

*Totals may not add due to rounding.

**Fire fleet and fire facilities are covered under Fleet and Facilities, respectively. Fire covers only fire equipment.

7.2.4 Operations & Maintenance

The Town's operations and maintenance activity expenditures are estimated in Section 6.5, including forecasts that account for the growth in asset portfolio planned over the next 10 years. These expenditures are the currently available forecasts regarding asset-related operating and maintenance activities that are expected to meet proposed service levels. The Town is experiencing some pressures on the operating budget:

- Insufficient staff resources to complete all required O&M activities for transportation and facility assets. These pressures have not yet been quantified.
- For stormwater assets, funding may need to be designated for catchbasin and oil grit separator cleaning to ensure sufficient budget is provided for these activities in upcoming years.
- A future budget pressure may be additional activities related to natural infrastructure such woodlands, meadows, and wetlands as the Town matures in its management of these assets.

7.3 Managing Risks Associated with the Funding Gaps

To manage the risks of the renewal investment gaps, the Town will continue to prioritize available funding based on the criticality of projects to prevent disruptions to service delivery. The Town also seeks ways to optimize asset life and lower lifecycle costs by considering alternative renewal strategies such as relining of sewers rather than most costly full replacement. Unlined cast iron watermains are also being upgraded to PVC to extend asset life, reduce overall lifecycle costs, and reduce the potential of unexpected breaks. For roads, the Town proactively implements lifecycle activities such as routine operations, maintenance and rehabilitation. Preventative treatments play a vital role in the Town's asset management strategy by extending the useful life of road and bridge assets and deferring costly additional rehabilitation or replacement and lowering overall lifecycle costs. The Town also prioritizes projects based on a risk-based framework that considers criticality factors such as land use to ensure that critical infrastructure is prioritized in the Town's Capital Plan.

As part of the 2025 Operating Budget, 1% of the net levy increase was allocated for increased contributions to Asset Management reserves ($178,290). Continued increases in dedicated annual funding for asset management reserves will be needed to shrink the funding gaps and maintain assets at recommended levels of service. Inflation also plays a factor – the higher the inflation, the higher the funding increases will need to be to close the gaps. The gaps in this report relate to the next 10 years. Given that most of our assets are relatively young, the funding gaps will likely be even greater beyond the next 10-year period as the Town's assets age, stressing the importance of continued increases in funding that will be needed for the asset management reserves to remain sustainable in the long-term.

The Town will also continue to identify funding opportunities through federal and provincial programs and explore potential partnerships and corporate sponsorships to raise external funds. The Town focuses on strategies that minimize the financial impacts on residents such as maximizing grants and other external revenue sources.

The funding gap pertaining to growth is due to the inadequate contributions expected for Development Charges currently committed in the 10-Year Capital Plan, mainly due to the slower than expected rate of development. The Town may need to offset lost revenue by deferring projects and adjusting service levels, or increasing funding through other sources such as property tax increases or use of debt. The Town will also continue to review recent legislation such as Bill 23 and Bill 17 and their impacts on development charges, and monitor policy framework changes initiated by the province to fully understand the associated impacts to the Town's financial budgets.

7.4 Limitations of Forecasts and Investment Gap Estimates

The forecasts and funding gap estimates in this AM Plan are based on currently available data. Operating budget forecasts are limited to incorporating the impacts of expected growth in the asset portfolio. Understanding the quantitative costs associated with service level gaps will require more detailed tracking of specific operations and maintenance activities in the operating budget.

The Town has made significant achievements in building its GIS inventory and carrying out regular condition assessments and digitizing the data for various assets. As the Town continues

to improve on data collection and implement additional condition assessment protocols, the confidence in forecasts and funding gap estimates will improve.

For growth and upgrade forecasts, additional needs may also be identified as studies and Master Plans are completed, such as the Parks, Recreation and Culture Master Plan update and Fire Master Plan. As indicated in Section 5.6, the Town is also committed to climate change initiatives as part of the Partners for Climate Protection program and will set emission reduction targets that will drive new energy efficiency projects.

8 RISKS ASSOCIATED WITH IMPLEMENTING THE AM PLAN

The Town's ability to implement the Asset Management (AM) Plan and achieve the proposed service levels may be influenced by various external trends and factors. Future updates to the AM Plan will monitor and integrate these influences as they emerge, ensuring service levels and associated costs remain appropriate.

- **Demographic Trends**: Shifts in population and employment can increase the demand on infrastructure, affecting both its usage and wear, and may necessitate new infrastructure investments or more frequent asset renewals.
- **Social and Economic Trends**: Growing environmental awareness among residents and businesses can lead to more sustainable infrastructure use, extending asset lifespans and improving efficiency. Conversely, rising material and energy costs may limit the Town's capacity to meet proposed service levels.
- **Technological Advancements**: Innovations in asset design, construction, operation, or maintenance can prompt the replacement of outdated systems, improving service quality and delivering lifecycle cost savings.
- **Regulatory Influences**: As a lower-tier municipality, the Town must comply with directives from federal, provincial, and regional governments. Changes in legislation—such as those related to the Accessibility for Ontarians with Disabilities Act (AODA)—can directly affect service level expectations and asset performance standards.
- **Environmental Factors**: In 2021, Council unanimously passed a resolution for the Town to join the Federation of Canadian Municipalities (FCM) and ICLEI Canada Partners for Climate Protection (PCP) program. Consequences attributed to the climate change crisis are already being seen in the Town such as record-setting high lake levels, shoreline erosion, and extreme weather events. Mitigation strategies such as GHG emission reduction, and adaptation strategies such as shoreline protection, will continue to be developed and implemented by the Town as climate change impacts are better understood.

9 IMPROVEMENT RECOMMENDATIONS

Over the years, the Town has made substantial progress in advancing its asset management practices, enhancing long-term service sustainability while maintaining compliance with provincial requirements. The Town has previously developed asset management plans to meet the year 2022 and 2024 O.Reg.588/17 requirements. This AM Plan consolidates all asset areas into one corporate AM Plan and meets the regulation requirements for year 2025.

Recommendations for continuous improvement and future updates of this AM Plan include:

- Continue to improve knowledge of asset replacement costs and current condition of the assets, and collect data on assets currently excluded from the inventory such as noise walls. Target condition assessment efforts on critical assets with unknown or out-of-date condition.
- Procurement and implementation of Computerized Maintenance Management and Enterprise Asset Management System to improve management and tracking of all Town-owned assets and enhance overall asset management capabilities.
- Consider additional LOS measures such as those related to operations and maintenance based on tracking of activities enabled by Computerized Maintenance Management and Enterprise Asset Management System.
- Incorporate or adjust service levels from Master Plan updates currently in development such as the Parks, Recreation and Culture Master Plan update.
- Develop and maintain Master Plans for service areas, such as a Water and Wastewater Master Plan which incorporates inflow and infiltration recommendations as well as condition data into one long-term plan.
- Continue to work on understanding the increasing impacts of climate change and flood resiliency.
- Refine the Consequence of Failure framework to help standardize scoring methodologies across different asset classes and service areas.
- Continue to optimize lifecycle activities by searching out and testing various operations, maintenance and renewal activities and timing options.
- Continue with a dedicated Asset Management Levy that steadily increases contributions to asset management reserves each year.

Specific improvement recommendations for each asset area are provided in Sections 10 to 18.

10 TRANSPORTATION

10.1 Overview

The Town's transportation assets are designed to deliver safe, efficient, and accessible transportation options for residents and visitors, enhancing mobility throughout the community. In addition, the Town provides services such as road upkeep, traffic regulation, and transportation planning to maintain the effective operation of its transportation systems and promote sustainable urban growth

Key Findings

- The current average PCI across all roads is 77.4 (good condition), but based on available funding, the PCI is expected to decline to 63.9 by 2034. **The funding gap for roads is estimated at $1.3 million per year to maintain the average PCI above 70.**
- In general, structures and other Transportation assets are in good condition. The AM Plan recommends fully funding these assets, which will maintain assets at or above current condition.

10.2 State of Infrastructure

Transportation assets include roads, structures (bridges, culverts and retaining walls), traffic signals, sidewalks, streetlights, and traffic signs.

Table 10-1 shows the asset replacement value of approximately $298M and includes a breakdown of the inventory by asset category and asset class. The largest portion of the asset portfolio is for roads, which account for approximately 75% of assets by replacement value. Vehicles and equipment used by Town staff to operate, maintain, and repair transportation infrastructure are covered in the fleet section of this AM Plan.

Table 10-1 Inventory Summary - Transportation Infrastructure

Asset Category	Quantity	Replacement Value (2025$M)
Roads	Arterial: 29.3 km Collector: 20.0 km Local: 125.7 km	$224.6
Traffic Signals	2 Traffic Signals	$0.3
Signs	4846 Signs	$2.2
Streetlights	4,748 Poles 2,785 Luminaires	$8.2
Structures*	14 bridges 9 structural culverts 7 retaining walls	$32.4
Sidewalks	95.2 km	$28.0
	Total	**$297.5**

*Structures are those that were evaluated as part of the 2023 OSIM inspections. Totals may not add up due to rounding.

A 2019 Road Needs Study was conducted to identify deficiencies in the network and identify renewal strategies to maintain service levels. An overall PCI was calculated for each road segment to represent the road condition based on a survey of the number and types of distresses on each pavement segment. Asphalt roads were inspected for distresses such as distortion, ravelling, and transverse cracking. Surface treated road distresses included distortion, rutting, and edge cracking. Descriptions for each of the PCI rating categories and the mapping of PCI to the five-point condition scale is provided in Table 10-3.

In accordance with O.Reg. 104/97: Standards for Bridges, the Town conducts detailed Ontario Structure Inspection Manual (OSIM) inspections of its municipal structures every two years. An overall Bridge Condition Index (BCI) is calculated from the inspection data and informs the rehabilitation and reconstruction program. Descriptions for each of the BCI rating categories is provided in Table 10-4 with example photos of each condition rating.

The asset condition for sidewalks, traffic signals, and streetlights is rated based on age and estimated service life.

The condition distribution for the Town's Transportation assets is shown in Figure 10-1. The condition ratings for roads (PCI) and bridges (BCI) have been converted to a 5-point condition scale as previously shown in Table 3-3. The Town currently has approximately $7.1 million of transportation assets in unknown condition. This consists mainly of signs, a small percentage of streetlight poles and luminaries, 3.5 km of roads (mostly cemetery and laneways) and a pedestrian bridge for which both observed condition and age data is not available.

Overall, Transportation assets are in average good condition, with 97.6% of Transportation assets in fair or better condition (excluding assets in unknown condition).

Figure 10-1 Condition Distribution by Replacement Value - Transportation

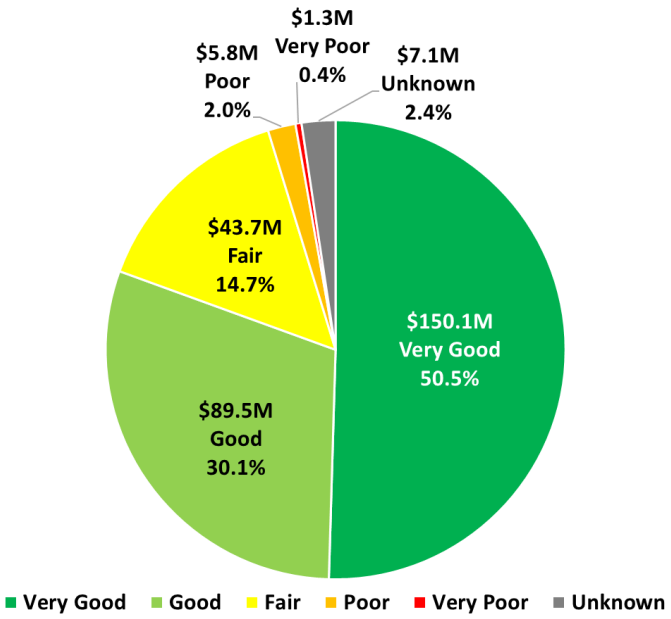
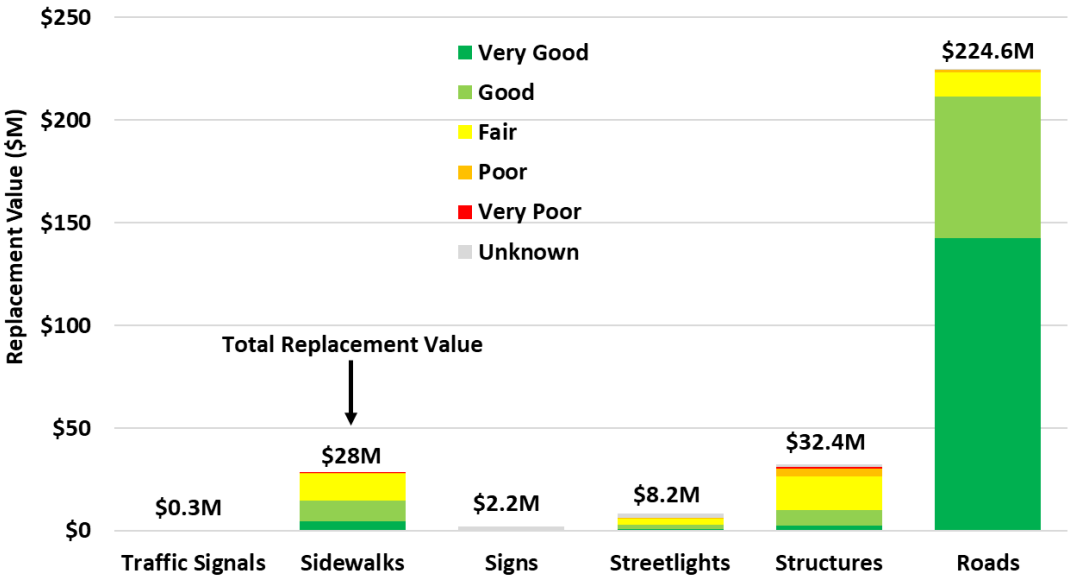


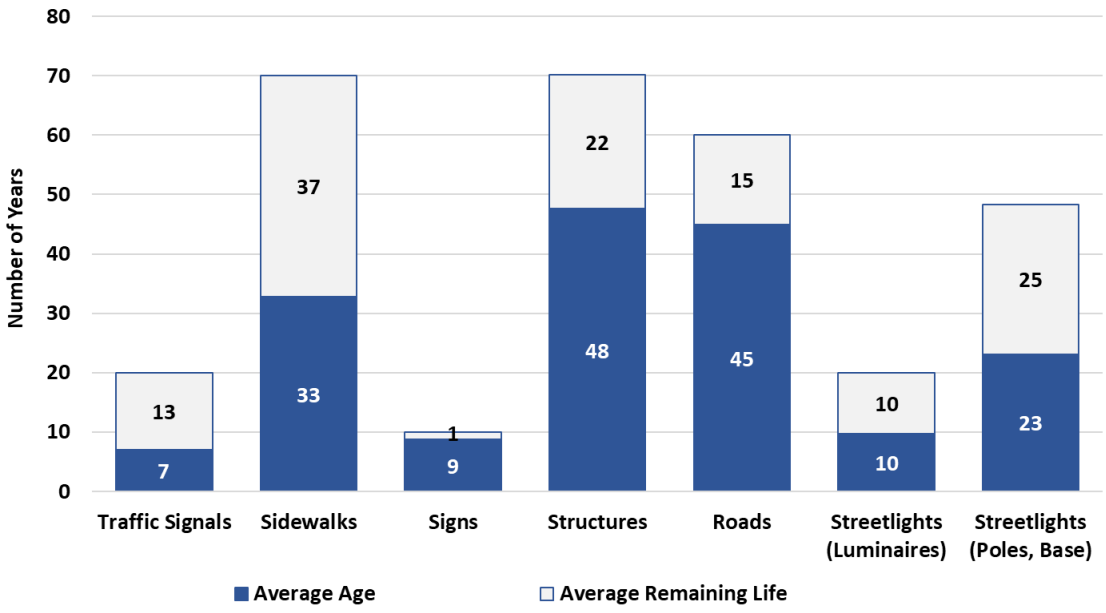
Figure 10-2 shows the condition distribution in more detail by asset class, with the total replacement value of each asset class shown at the top of each bar.

Figure 10-2 Condition Distribution by Replacement Value - Transportation by Asset Class



The age distribution for the Town's Transportation assets is shown in Figure 10-3. This figure shows the average age of assets relative to their average service lives weighted by replacement value. On average, the Town's sidewalk assets are approximately mid-life, and roads and structures are past mid-life. For streetlights, luminaires are separated from the pole and base to show their differing service lives. Historical sign installation dates are not tracked but are currently being documented going forward. Of signs for which installation year data is available, they are on average almost at the end of their service life, and are replaced through the Operating budget.

Figure 10-3 Average Asset Age - Transportation Assets



10.3 Levels of Service

The Town is responsible for managing transportation assets within the municipality (excluding assets under the jurisdiction of other levels of government). This includes planning, designing, constructing, operating, and maintaining transportation assets within Town lands.

The Public Works Department established the Roads Quality Management System (RQMS) to provide safe roads for the residents of Grimsby. The Town is committed to serving its residents and visitors by providing and maintaining safe transportation infrastructure, through a network of 181 km of roads. In the RQMS, the Town has established service levels based on the minimum maintenance standards specified in O.Reg. 239/02, as amended. The Town corrects deficiencies based on O.Reg. 239/02 requirements for repair and response times. The Town ensures Minimum Maintenance Standards (MMS) are met for roads as well as sidewalks, which are inspected annually to identify and address defects. Technical LOS are focused on condition-related Quality measures as shown in Table 10-2. Transportation assets are generally performing well, with most assets in fair or better condition.

Table 10-2 includes the current performance (as of the end of 2024), aspirational targets set out by the Town and the proposed performance over the next 10 years. Proposed performance is determined based on what is appropriate for the Town in consideration of the Town's current 10-year planned funding provision in the Capital Plan as well as risks associated with various performance levels, discussed further in Section 10.6.

Table 10-2 LOS Framework - Transportation

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Capacity & Use - Maintain adequate transportation infrastructure within the Town				
Description of the road network and its level of connectivity*: The Town owns and maintains all municipal roadways and sidewalks that serve a variety of purposes including local access and regional travel. The Town's system consists of a network of arterial, collector, and local roadways which range from Class 2 to 5 roads. Most of these roads are local and provide connections to and within neighbourhoods, commercial sites, and industrial lands. Refer to Figure 10-4 for a map of the road network.	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality. *	Arterial Roads: 0.85 lane-km Collector Roads: 0.80 lane-km Local Roads: 3.43 lane-km Town of Grimsby Land Area: 108.5 km^2	N/A	⟺ Arterial Roads: Maintain performance > 0.85 lane-km per sq.km. Collector Roads: Maintain performance > 0.80 lane-km per sq.km. Local Roads: Maintain performance > 3.43 lane-km per sq.km.
Description of the traffic that is supported by municipal bridges*: The Town's bridges and structural culverts have been designed in accordance with the Bridge Design Code current at the time of construction to carry motor vehicles, emergency vehicles, cyclists, and pedestrians.	Percentage of bridges in the municipality with loading or dimensional restrictions. *	None	None	⟺ Zero

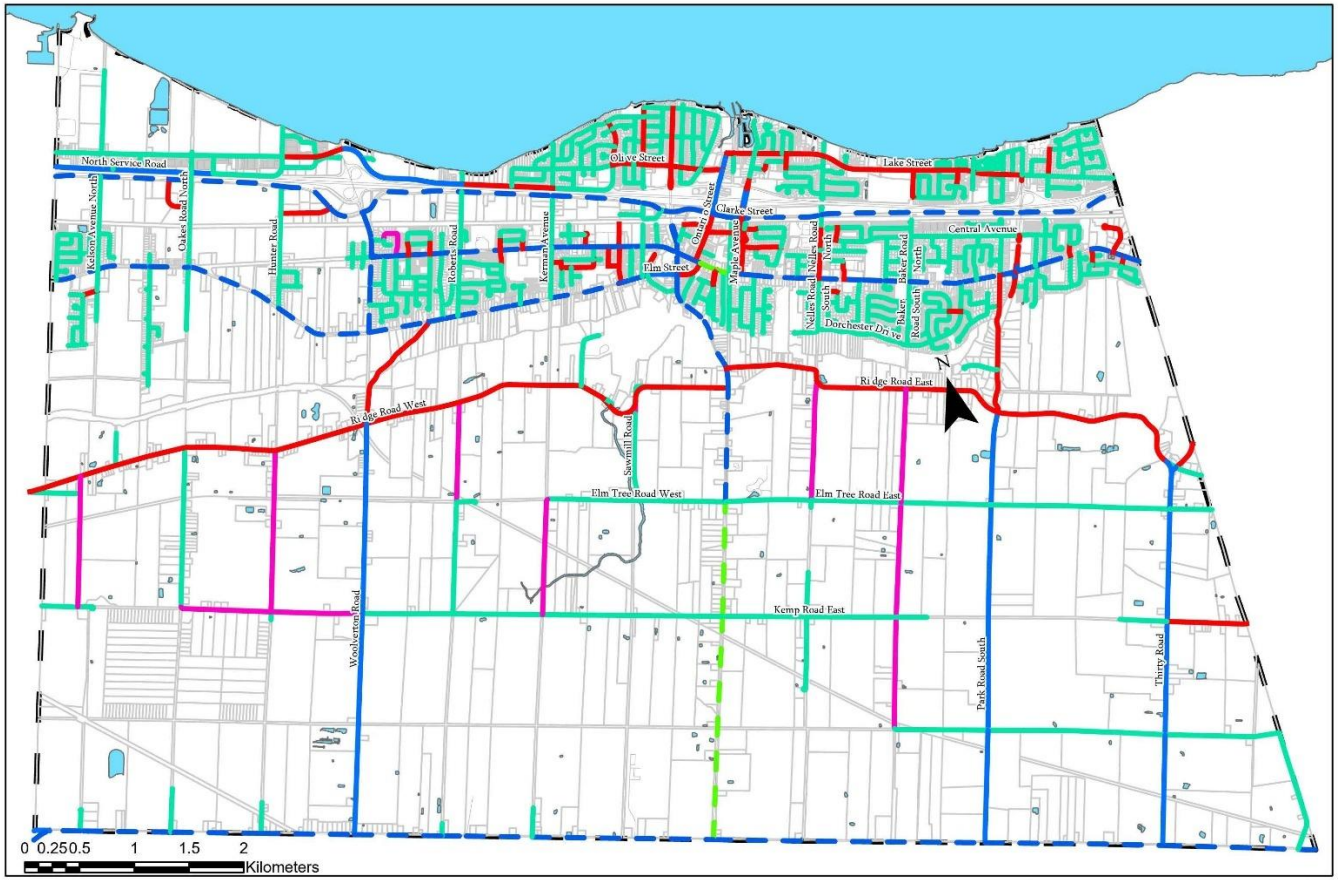
Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Quality & Reliability - Maintain transportation assets in a state of good repair				
Description/images that illustrate the different levels of road class pavement condition*: Refer to Table 10-3.	For paved roads in the municipality, the average pavement condition index value. *	77.4 (All Roads)	76.9 (Unconstrained)	 >70 (Good-Fair condition)
Description/images of the condition of bridges/culverts and how this would affect use of the bridges*: Refer to Table 10-4.	For bridges in the municipality, the average bridge condition index value. *	66.1 (Fair condition)	72.2 (Good condition)	 >70 (Good condition)
	For structural culverts in the municipality, the average bridge condition index value. *	67.5 (Good condition)	80.4 (Very Good condition)	 >80 (Very Good condition)
	For retaining walls in the municipality, the average condition index.	70.1 (Fair condition)	65.4 (Fair condition)	 >65 (Fair condition)
Transportation assets are maintained in a state of good repair	Percentage of Roads in fair or better condition	99%	N/A: Target and proposed performance is related to PCI.	N/A: Target and proposed performance is related to PCI.
	Percentage of Structures in fair or better condition	85%	N/A: Target and proposed performance is related to BCI.	N/A: Target and proposed performance is related to BCI.

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
	Percentage of Traffic Signal assets in fair or better condition	100%	Renew assets per estimated service life	 100%
	Percentage of Sidewalk assets in fair or better condition	99.2%	Renew assets per estimated service life	 >70%
	Percentage of Streetlight assets in fair or better condition	87.9%	Renew assets per estimated service life	 >80%

* O.Reg. 588/17 LOS reporting requirement.

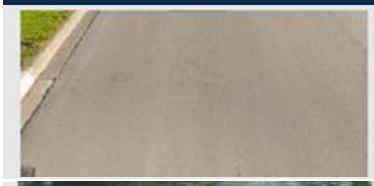
Figure 10-4 Town of Grimsby Road Network*

*Source: Official Plan Map



Descriptions for each of the PCI rating categories and the mapping of PCI to the five-point condition scale is provided in Table 10-3. Example photos are provided of roads in each condition category.

Table 10-3 PCI Rating Categories

Condition Grade	PCI	Road Condition Description	Road Example
Very Good	76 - 100	The road segment is relatively new, or recently reconstructed. There are no visible cracks and no structural issues. The ride is smooth.	
Good	61 – 75	The road segment is starting to exhibit few, if any, signs of surface deterioration, random cracks, and rutting. The ride is relatively smooth.	
Fair	51 – 60	The road segment is exhibiting signs of surface deterioration, random cracks, rutting, and some patching of surface defects. The ride is becoming rough.	
Poor	31 – 50	The road segment shows signs of deterioration, cracks, rutting, and patching of surface defects that occurs over 50 percent of the surface. Some structural issues are starting to show. The ride is uncomfortable.	
Very Poor	0 - 30	The road segment is reaching the end of its useful life. There are significant structural issues with large visible cracks, rutting and patching surface defects that occurs over 75 percent of the surface. The road is difficult to drive at the posted speed limit.	

Descriptions for each of the BCI rating categories and the mapping of BCI to the five-point condition scale is provided in Table 10-4. Example photos are provided of bridges in each condition category.

Table 10-4 BCI Rating Categories

Condition Grade	BCI	Bridge Condition Description	Bridge / Culvert Example
Very Good	80 - 100	Overall, the components of the structure are in very good condition. Generally, the structure has been constructed within the last 10 years and does not require any work within the next 10 years.	
Good	70 – 79	Overall, the components of the structure are in good condition. Generally, the structure is adequate or requires only minor maintenance within the next 10 years.	
Fair	60 – 69	Overall, the components of the structure are in fair condition. Generally, the structure requires major rehab or replacement within the next 10 years or requires a Condition Survey (C/S), Load Capacity Evaluation (LCE) or Rehabilitation/Replacement Analysis (RRA).	
Poor	40 – 59	Overall, the components of the structure are in poor condition. Generally, the structure requires replacement within the next 5 years.	
Very Poor	0 – 39	Overall, the components of the structure are in very poor condition. Generally the structure requires replacement within the next 5 years.	

10.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur.

The land use associated with the road, such as more populated downtown areas and proximity to an institution such as a hospital, is factored with road class to determine an overall CoF score for each road segment.

A summary of the CoF scoring approach is provided in Table 10-5. The weighting column specifies the contribution of each criteria to determine the overall CoF rating. The CoF for structures considers size (bridge deck area, retaining wall height) and is summarized separately in Table 10-6.

Table 10-5 CoF Scoring Approach – Roads & Other Transportation Assets

Asset Category	Criteria		
	Criteria Description	CoF Score	Weighting
Transportation			
Roads	Road Class 5	1	75% Road Class + 25% Land Use
	Road Class 4	2	
	Road Class 3	3	
	Road Class 2	4	
	Road Class 1	5	
Structures	Refer to Table below		
Traffic Signals	All signals	3	
Sidewalks	-	-	100% land use
Streetlights	All streetlights	2	-
Traffic Signs	All signs	1	-

Table 10-6 CoF Scoring Approach – Structures

CoF Rating	Road Class	Size	Weighting
Bridges & Culverts			
1	-	-	50% Road Class + 50% Deck Area
2	Road Class 5	<200m2 deck area	
3	Road Class 4	200m2 <= deck area < 500m2	
4	Road Class 3	>= 500m2 deck area	
5	Road Class 2	-	
Retaining Walls			
1	-	<1 m height	50% Road Class + 50% Retaining Wall Height
2	Road Class 5	1m <= height < 3m	
3	Road Class 4	>=3m height	
4	Road Class 3		
5	Road Class 2		

The Risk Exposure Framework shown in Figure 10-5 combines the Criticality (CoF) ratings with the LoF ratings for all infrastructure represented within Transportation. As shown in Figure 10-5, there are no Transportation assets which currently have a very high-risk exposure, while an estimated $0.7 million (0.2%) of Transportation assets currently have a high-risk exposure. The high-risk assets consist of sidewalks estimated to be at their end of life.

Figure 10-5 Risk Exposure for Transportation Assets* ($M)

Risk exposure in year 2025 $, millions

LoF	1	2	3	4	5
5	$0.2	$0.9	$0.0	$0.0	$0.0
4	$0.6	$4.6	$0.6	$0.0	$0.0
3	$7.9	$13.3	$18.2	$2.2	$0.6
2	$39.1	$37.3	$9.8	$2.8	$0.4
1	$91.6	$39.0	$16.0	$3.4	$0.1
CoF					

Risk Exposure	$	%
Very High	$0M	0.0%
High	$0.7M	0.2%
Moderate	$4.1M	1.4%
Low	$48.9M	16.9%
Very Low	$234.8M	81.4%
Total	$288.5M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

In addition to asset condition and reliability risks, the Town mitigates capacity-related risks by assessing the need for additional infrastructure for the increasing population and planning for the additional infrastructure that will be assumed by the Town through development. The Town assesses the risk of various options to meet capacity service levels through the development of Master Plans and other studies that consider the options of how to best achieve the stated service levels.

10.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that the Transportation system remains safe and reliable while also addressing increasing demands due to population growth. The costs for these activities to meet proposed service levels are discussed in the following subsections.

10.5.1 Renewal Forecast

The renewal needs forecast for Roads is determined using a comprehensive and data-driven approach by combining condition assessments, lifecycle cost analysis, and risk-based prioritization. Renewal intervals are developed to minimize lifecycle costs while considering service levels and the associated risk. The renewal forecast considers the recommended strategies from the following specific studies:

- 2019 Road Needs Study Report – This study provided recommended timing for road improvements, rehabilitation, reconstruction, and associated costs over the next 10 years. PCI scores and recommendations have been updated by Town staff to reflect work and updated information since the 2019 assessment.
- 2023 OSIM Inspection Reports – Inspections on Town structures are completed every two years. In 2023, inspections were performed on road bridges, pedestrian bridges, and culverts greater than or equal to 3 metres in span, as well as retaining walls. In addition to determining a BCI for each asset, the report provides timing for asset rehabilitations and replacements over the next 10 years.

Summary of Recommended 10-Year Renewal Strategy:

- Roads

The PCI is proposed to decrease to 70 (Good) condition) over the next 10 years. Renewal is based on various treatments applied at appropriate PCI thresholds with some deferrals for lower risk roads.

- Structures

The proposed performance is to complete all rehabilitation recommendations outlined from the OSIM inspections, resulting in structures being maintained in good to very good condition by 2034.

- Other Transportation Assets

Signals and lights are replaced at expected end-of-life based on age and the estimated service life. Sidewalk renewals are forecasted for replacement as part of associated road renewal projects.

Roads renewal needs consist of various treatments reflecting a lowest lifecycle approach to managing the road network, with intermediate rehabilitations that extend asset life and delay the need for reconstruction. The typical lifecycle strategy for high class bituminous (HCB) asphalt surface roads is provided in Table 10-7.

Table 10-7 Typical Lifecycle Strategy – High Class Bituminous Surface Roads

Age (Years)	Treatment
15	Thin (50mm) Overlay
30	Thin (50mm) Overlay
45	Thick (90mm) Overlay + 30% Curb and Gutter + Subdrain
60	Thin (50mm) Overlay
75	Replace HCB in Full

The thick overlay is a more extensive resurfacing treatment which includes some curb and gutter replacement and base repairs, and has a more significant impact on the extension of the road's service life. With the intermediate resurfacing treatments, HCB roads are expected to last

approximately 75 years. A full replacement of an HCB road includes granular base and full curb replacement. The specific rehabilitation requirements for each pavement section should be established as a part of the routine condition inspection program and project level evaluation at the time of planning the rehabilitation treatment. Other techniques such as partial depth pulverization may also be considered depending on the condition of the pavement. For low class bituminous (LCB) surface treatment roads, the typical lifecycle strategy is based on a chip seal surface treatment at 15 and 30 years, followed by replacement of the LCB surface at 40 years.

For bridges, the renewal needs forecast is based on the bridge, culvert and retaining wall structure OSIM inspections. These condition assessments provided renewal recommendations including minor and major rehabilitations, and full replacements depending on the condition of each structure.

Sidewalk renewals are forecasted in alignment with reconstruction projects of their associated road segment, as bundling sidewalk replacement with road work provides cost savings and minimizes service disruption. An independent forecast based on service life indicated that only a small percentage of the portfolio requires renewal based on age. This aligns with the age analysis in Section 10.5.1 which indicated that sidewalks are on average at mid-life. Some sidewalk segments are in high criticality due to their proximity to land uses such as institutional properties and downtown areas, and are therefore estimated as high risk.

The renewal forecast for all other assets considers the current condition or age and estimates the planned replacement year based on estimated service lives summarized in Table 10-8. The overall estimated service life of roads and structures are also included assuming that regular maintenance and intermediate rehabilitations are completed. Service lives are based on typical values used by municipalities across the province as well as Town staff experience.

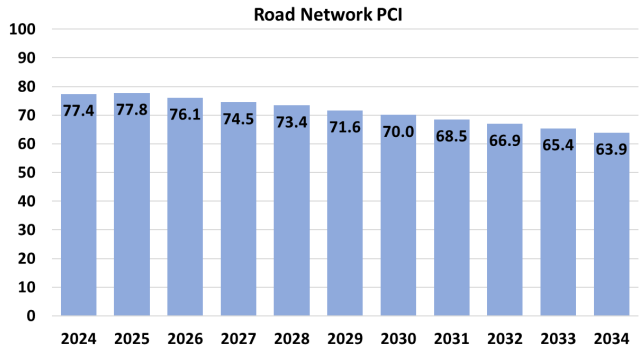
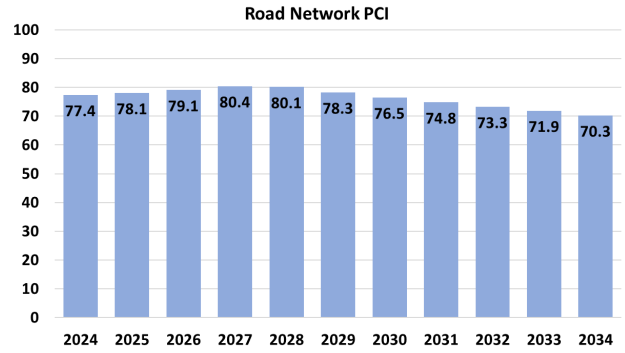
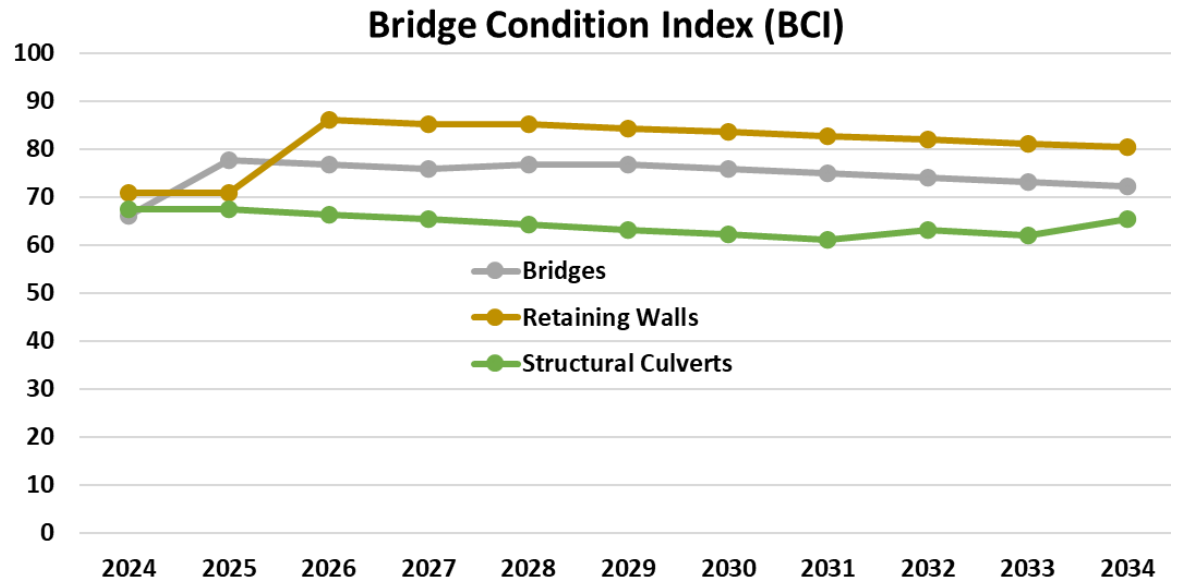
Table 10-8 Estimated Service Life – Other Transportation Assets

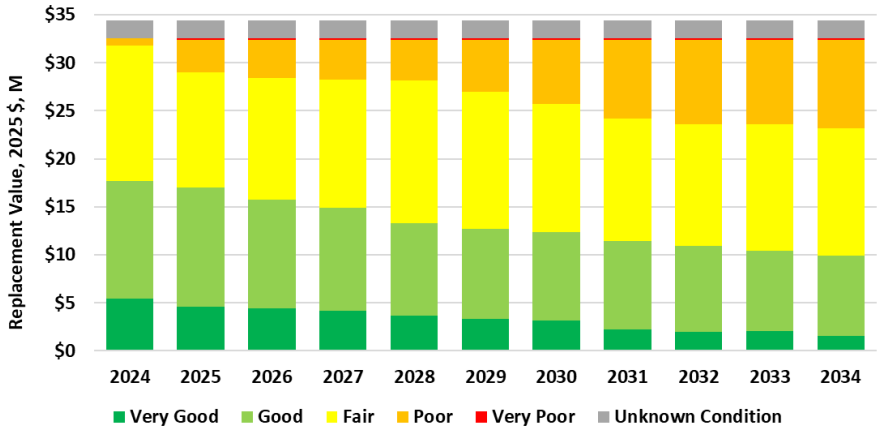
Asset	Estimated Service Life (Years)
High Class Bituminous (HCB) Roads	75
Low Class Bituminous (LCB) Roads	40
Road Bridges, Structural Culverts	75
Retaining Walls, Pedestrian Bridges	50
Traffic Signals	20
Streetlight Poles	40-50
Streetlight Luminaires	20*
Sidewalks	70
Signs	10*

*Luminaires and signs are replaced through the operating budget

For Transportation infrastructure, the proposed performance is selected as appropriate for each asset type. The overall average annual renewal need is estimated at $3.3 million per year, as shown in Figure 10-6. The expected performance based on the estimated available funding is lower than the proposed service level.

Figure 10-6 Renewal Needs Forecast – Transportation

Expected Performance ($2.1 million/yr)	Proposed Performance ($3.3 million/yr)
Roads	
The condition is expected to decrease based on the current available funding. **Average available funding is $1.5 million per year.**	The proposed performance is recommended to maintain a PCI of 70 by 2034. Investment gaps are identified and discussed further in Section 10.6. **Average renewal need is $2.8 million per year.**
	
Structures	
The proposed and expected performance is to complete all rehabilitation recommendations outlined in the OSIM report over the next 10 years. **Average renewal need is $0.45 million per year ($445,000 per year).** There is no investment gap for structures renewal needs.	
	

Expected Performance ($2.1 million/yr)	Proposed Performance ($3.3 million/yr)
Remaining Assets	
The proposed and expected performance is to complete all asset renewal needs as identified by the unconstrained budget forecast, to maintain asset condition over the next 10 years. **Average renewal need is $0.09 million per year ($94,000 per year).**	
	

10.5.2 Growth Forecast

The Town is currently developing a Transportation Master Plan (TMP) to strategically guide the planning, design and implementation of transportation and mobility infrastructure, maintenance, operations, policies, and programming over the next 20+ years. The TMP will build on existing strategic planning undertaken by the Town, such as the Downtown Reimagined Study and the Recreational Trails Master Plan, and will be coordinated with the ongoing Grimsby Official Plan Review. The TMP will put forward a long-term strategy that will:

- Promote a flourishing urban environment;
- Develop transportation policies to address common issues regarding road safety, parking, and network improvements;
- Enhance active transportation;
- Facilitate connections between growth areas, neighbouring municipalities, and key transportation corridors; and
- Create a capital plan to efficiently meet the Town's infrastructure needs.

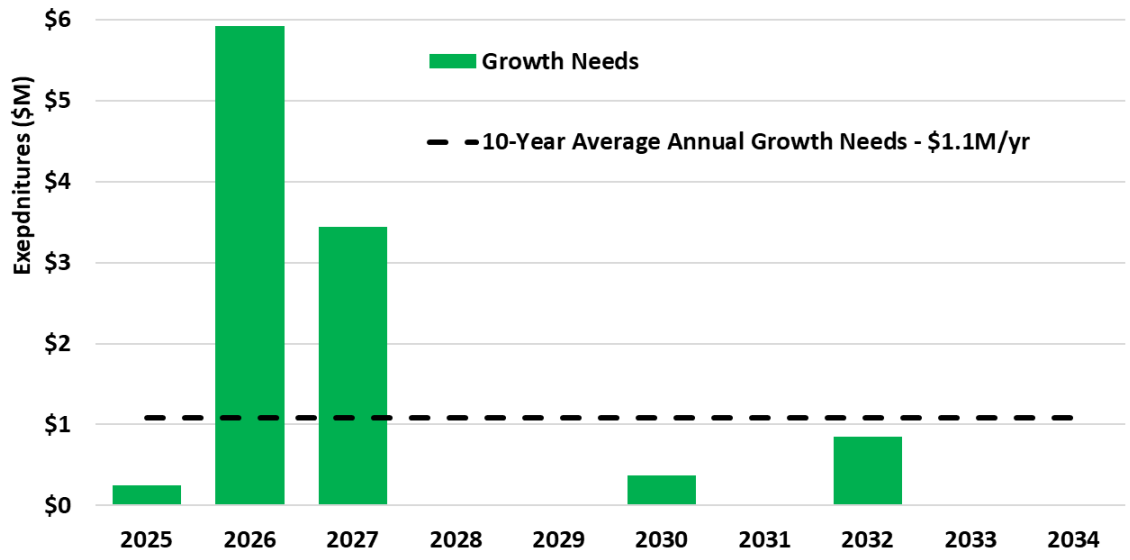
Figure 10-7 summarizes the currently identified growth needs over the next 10 years for Transportation. Growth projects currently include:

- Road reconstruction with new urban cross-sections (ditches replaced with curb/gutters and storm sewers), and rebuilding the road structure to include new stone, new hot mix asphalt base and top surface: These road reconstructions will occur on the following roads: Marlow Avenue, Central Avenue, Park Road North, North Service Road (Fifth Wheel), and Old Winston Road (Fifth Wheel).

- New sidewalks on North Service Road, Winston Road, Windward Drive, Casablanca Boulevard, Livingston Avenue, and South Service Road.
- Pathway extensions on Winston Road Pathway and Waterfront Pathway.
- A new municipal parking lot at Grimsby-on-the-Lake.
- The growth portion of Phases 1-3 of the streetscape improvements at Casablanca Boulevard and GO Station Area. This project meets the requirements of the Grimsby GO Area Secondary Plan and Regional Complete Streets Policy. The Town is responsible for upgrading to decorative style poles, and upgrading street furniture.

The average annual growth need for Transportation infrastructure is estimated at $1.1 million per year over the next 10 years.

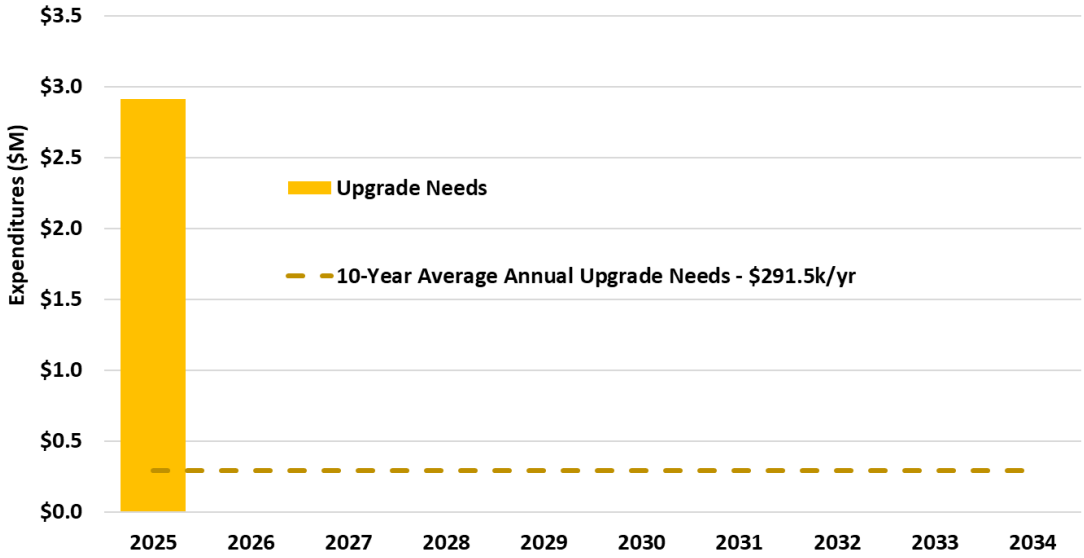
Figure 10-7 Growth Needs Forecast – Transportation



10.5.3 Upgrade Forecast

Figure 10-8 summarizes the currently identified upgrade needs over the next 10 years for Transportation. The main upgrade project is related to the streetscape improvements at Casablanca Boulevard and GO Station Area, as well as the road upgrade portion of the construction phase of downtown watermain and complete street improvements. These projects will likely be completed in 2026. The average annual upgrade needs for Transportation infrastructure are currently estimated at $292 thousand per year over the next 10 years. Some upgrade-related needs are captured with growth projects in the previous section, such as urbanization of rural cross sections. The TMP may identify additional upgrade and urbanization needs to be considered in the next AM Plan update.

Figure 10-8 Upgrade Needs Forecast – Transportation



10.5.4 Operations and Maintenance Forecast

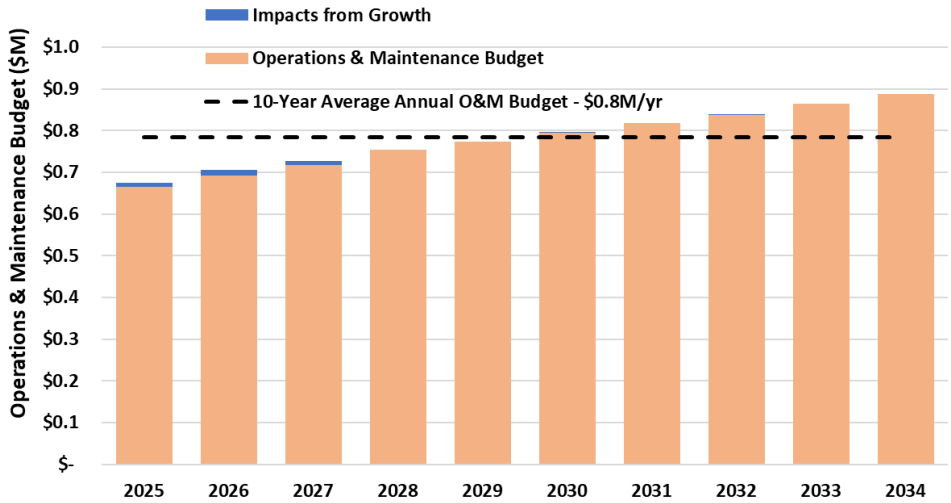
Operations and maintenance work is critical for ensuring the continued reliability of Transportation assets and meeting the proposed service levels. The Minimum Maintenance Standards (MMS), as outlined in Ontario Regulation 239/02, play a crucial role in guiding the Town's operations and maintenance (O&M) strategies for transportation infrastructure. MMS establish benchmarks for inspecting, maintaining, and repairing roadways and associated infrastructure, such as sidewalks, signage, lighting, and traffic signals. These standards define minimum frequencies and response times for various activities. The Town is currently completing an inventory of ditches and culverts, which will inform a future ditching and culvert replacement and maintenance program.

Figure 10-9 shows the Operations and Maintenance needs over the next 10 years for Transportation. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 3.1%. The forecast does not include impacts from assets constructed independently through development projects and later assumed by the Town.

Operations and maintenance activities include:

- Roadways
  - Winter Control and Road Patrol per MMS
  - Condition assessments
  - Repair potholes, washout, medians and shoulders
  - Pavement markings
  - Ditching and ditch maintenance
  - Road culvert replacement
- Structures
  - Cleaning and repairs based on OSIM inspections every two years
- Traffic Signals
  - Repairs or replacements of components as needed
- Sidewalks
  - Inspections
  - Winter control per MMS
  - Repair panels, grinding, patching, lifting/jacking
- Streetlights
  - Replacements of lights, fixtures, and photocells as needed
  - Pole repairs as needed
  - Utilities (electricity)
- Traffic Signs
  - Repairs and sign replacements as needed

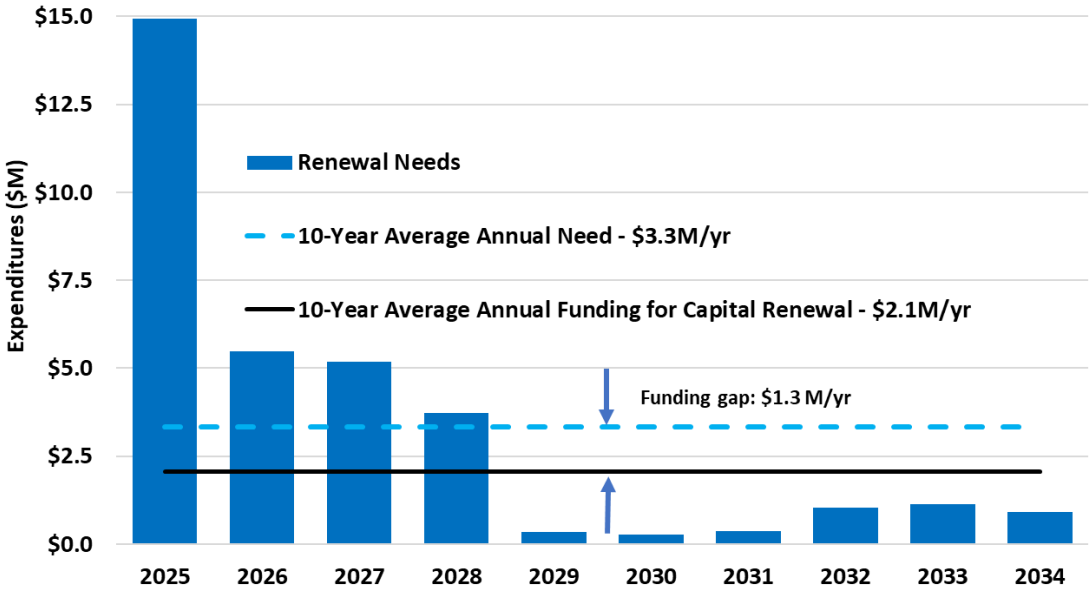
Figure 10-9 Operations and Maintenance Needs Forecast – Transportation



10.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs. The funding available for renewal of transportation infrastructure is estimated to be an average of $2.1 million per year over the next 10 years based on the Town's contributions to funding projects in the Capital Plan, as well as an infrastructure levy distributed proportionally across applicable service areas. As discussed in Section 10.5.1, the estimated average annual renewal need is $3.3 million per year to meet proposed service levels. This results in a funding gap of $1.3 million per year, assuming that the Town has the resources to carry out the projects as currently planned. As discussed in Section 10.5.1, Renewal needs for Structures and other Transportation assets are assumed to be fully funded.

Figure 10-10 Capital Renewal Needs versus Funding – Transportation*



* Totals may not add up due to rounding.

The funding gap pertaining to growth is due to the inadequate contributions (35%) expected for Development Charges currently committed in the 10-Year Capital Plan for Services Related to a Highway, mainly due to the slower than expected rate of development, and 72% expected contributions to current commitments to the Canada Community Building Fund. The Town may need to offset lost revenue through property tax increases or service level changes.

To manage the risk of the $1.3 million per year renewal funding gap for Transportation assets, continued increases in dedicated annual funding for asset management reserves will be needed to reduce the funding gaps and maintain assets at recommended levels of service. The Town can also continue to prioritize investments and lifecycle strategies based on the risk framework, and performing preventive maintenance to help defer more costly renewal treatments and replacements.

Table 10-9 summarizes the financial sustainability and affordability for growth, upgrade, renewal, and O&M activities. In terms of operations and maintenance, the Operating Budget is estimated to need to increase at an average annual rate of 2.4% to meet proposed service levels over the next 10 years.

Table 10-9 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Investment Gap	Potential Impacts
Capital Growth	$1.1 M/yr	$0.6 M/yr	$0.5 M/yr	Transportation Master Plan may recommend additional projects and updated service levels.
Capital Upgrade	$0.3 M/yr	$0.2M/yr	$0.1 M/yr	Transportation Master Plan may recommend additional projects and updated service levels.
Capital Renewal	$3.3 M/yr	$2.1 M/yr	$1.3M/yr	Deterioration in condition of infrastructure as shown in Figure 10-6
Operations and Maintenance	$0.7 M in 2025 to $0.9 M in 2034	-	3.1% average annual increase	Failure to increase resources to operate and maintain new assets will result in reduced service levels and increased risks of not meeting Minimum Maintenance Standards.

To manage the risk of the $1.3 million per year renewal investment gap and ensure the road network remains in a state of good repair, the Town proactively implements lifecycle activities such as routine operations, maintenance and rehabilitation. As discussed previously, preventative treatments play a vital role in the Town's asset management strategy by extending the useful life of road and bridge assets and deferring costly additional rehabilitation or replacement. These treatments are applied earlier in the asset's lifecycle maintain acceptable service levels and lower overall lifecycle costs.

By implementing these treatments proactively rather than reactively, the Town is able to reduce the frequency and cost of full-depth road reconstruction and minimize service disruptions and maintain safe and reliable infrastructure for residents. The Town also prioritizes projects based on a risk-based framework that considers criticality factors such as road class and adjacent land uses to ensure that critical roads are prioritized in the Town's Capital Plan.

10.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations are provided in Table 10-10.

Table 10-10 AM Plan Improvement Recommendations – Transportation

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Improve data on road base construction year. • Continue to validate asset replacement values with recent project costs.
Levels of Service	• Consider other measures such as those related to operations and maintenance based on tracking of activities enabled by Computerized Maintenance Management and Enterprise Asset Management System. • Incorporate service levels from TMP update as appropriate and adjust proposed service levels.
Risk Management	• Improve understanding of capacity and functional risks by completing update to TMP.
Lifecycle Management	• Develop a policy as required for road urbanization, including plan for where new sidewalks are to be constructed. Update forecast to include additional road urbanization needs based on policy. • Incorporate recommendations for growth and upgrade activities from TMP update as appropriate.
Financial Management	• Update Operating budget forecast as impact of on-going pressures, such as the increasing costs in the current economic and political environment are better understood. Also monitor the current stresses on the budget indicated in Section 6 and review need for additional funding as required.

11 STORMWATER

11.1 Overview

The Town's stormwater infrastructure plays a vital role in delivering effective and sustainable stormwater management. This involves maintaining, rehabilitating, and improving infrastructure which protects the community from flooding, safeguards water quality, and promotes environmental responsibility. Stormwater management assets are involved in the collection, conveyance, treatment, retention, infiltration, control, or disposal of stormwater.

Key Findings

- **There is limited funding allocated towards the renewal of storm sewers and their appurtenances.** The asset condition for sewers is expected to decrease over the next 10 years.
- **The funding available is expected to fund approximately 50% of the planned stormwater pond cleanout needs.**

11.2 State of Infrastructure

Assets that support the Stormwater system include storm sewers, laterals, catchbasins, maintenance holes, oil grit separators, stormwater management facilities and stormwater culverts. Table 11-1 shows the replacement value of approximately $193.2 million and includes a breakdown of the inventory by asset category and asset class. The largest portion of the asset portfolio are Storm Sewers, which account for approximately 69% of assets by replacement value.

Most storm sewers are concrete with a median size of 250mm. Stormwater culverts consist of both driveway and cross culverts and are mainly corrugated metal. The median size of stormwater culverts is 300mm, and for estimating replacement value, culverts with an unknown diameter are also assumed to be 300mm.

The physical infrastructure associated with stormwater ponds, separate from the initial excavation and site work, is covered by the other stormwater asset categories, such as sewers, catchbasins, and culverts. Therefore, as the remaining part of the pond is mainly the excavated area for the pond itself, similar to a natural area, it is assumed that the pond service life is infinite and will not require replacement. Therefore, a replacement value and condition estimate are not determined separately for stormwater management ponds. Dredging for cleanout of wet ponds and the associated costs are considered as part of the lifecycle strategies in Section 11.5.1.

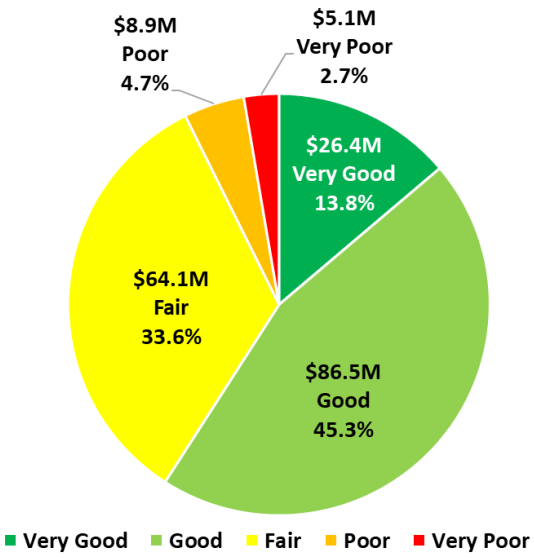
Table 11-1 Inventory Summary – Stormwater Infrastructure

Asset Category	Quantity	Replacement Value (2025$M)
Storm Sewers	106.5 km	$133.7
Laterals	41.9 km	$21.4
Catch Basins	2,255	$8.4
Maintenance Holes	1,278	$15.8
Oil Grit Separators	19	$1.6
Stormwater Management Ponds	11	--
Stormwater Culverts	26.0 km	$12.3
	Total	$193.2*

* Totals may not add up due to rounding.

The condition ratings for approximately 17% of storm sewers is based on CCTV (Closed Circuit Television Video) inspections, which capture defects and their location, severity and density, as well as inform overall structural and O&M (operations & maintenance) ratings for each pipe segment. This CCTV inspection data is converted into a 5-point scale condition rating. For sewers without CCTV data or those with a score of 0, storm sewer appurtenances, and culverts, condition is estimated based on material and age. The proportion of remaining life is converted to a Town-wide 5-point condition scale as previously shown in Table 3-3.

Figure 11-1 Condition Distribution by Replacement Value ($M) - Stormwater



The condition distribution for the Town's Stormwater assets is shown in Figure 11-1. Overall, Stormwater assets are in average good condition, with 92.9% of assets in fair or better condition. 2.2% of assets are in very poor condition.

Assets with unknown condition represent 0.9% of the overall inventory and are not included in Figure 11-1.

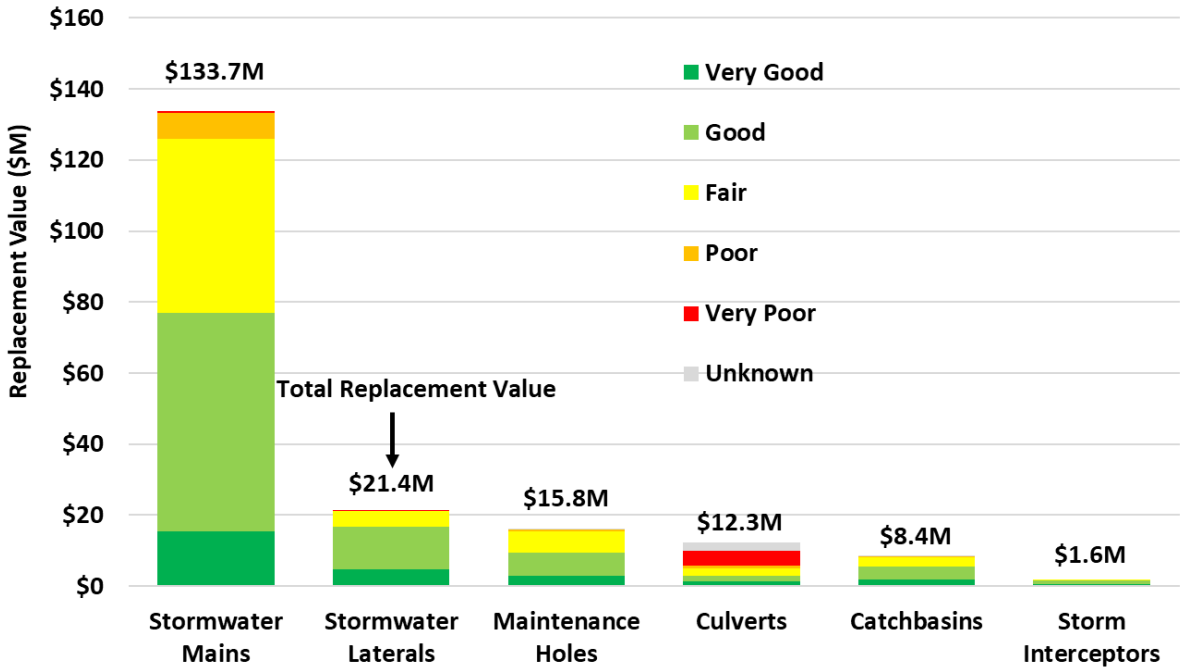
Figure 11-2 shows the condition distribution in more detail by asset class, with the total replacement value of each asset class shown at the top of each bar.

Storm sewers are generally in good condition, with 94.1% in fair or better condition by replacement value. Appurtenances such as maintenance holes, catch basins, and laterals are generally installed and replaced at the same time as the associated sewer, and these appurtenances have a similar condition profile to the storm sewers per Figure 11-2. Stormwater

culverts are in poor condition as approximately 75% of the corrugated steel pipe culverts have reached end-of-life based on an estimated service life of 30 years. These are considered low criticality assets as discussed in the Risk Management Strategy in Section 11.4.

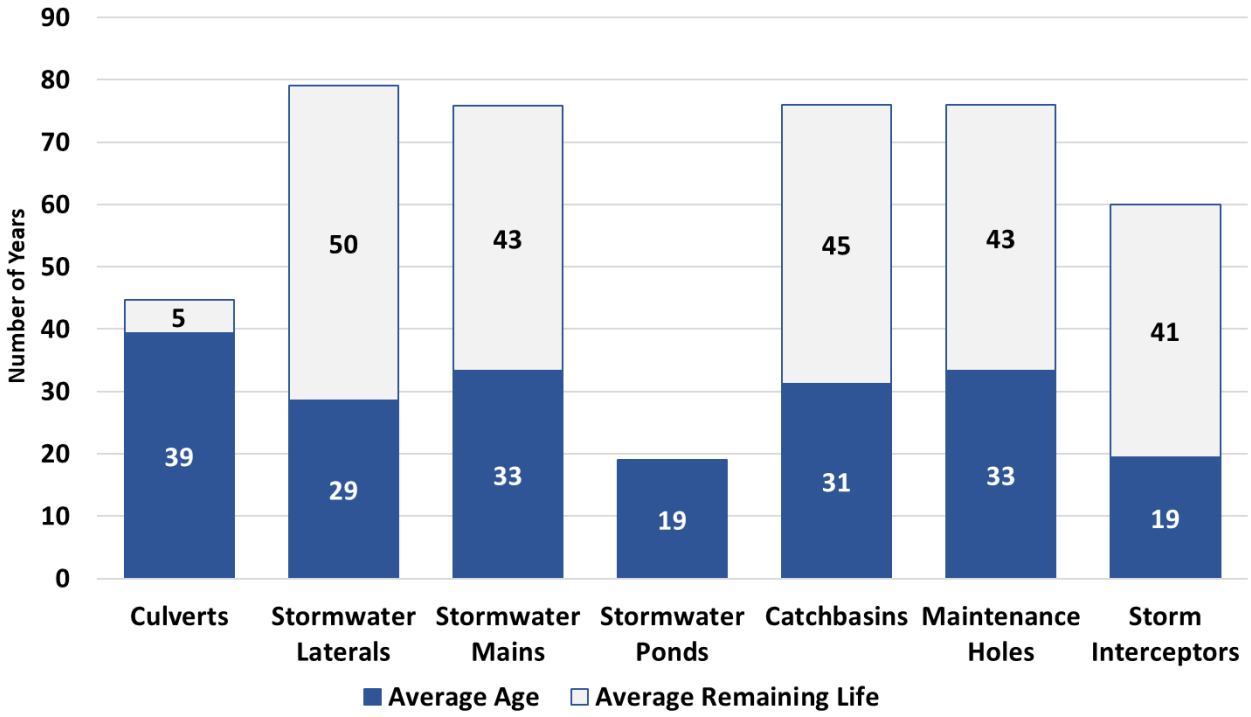
For stormwater management ponds, the inventory for the physical components are mainly covered by the other asset categories. The Town assesses the need for sediment removal of the ponds, and this lifecycle activity is discussed further in Section 11.5.1. Bathymetric surveys to determine sediment levels and determine dredging requirements assist the Town in meeting Environmental Compliance Approvals for the stormwater network.

Figure 11-2 Condition Distribution by Replacement Value – Stormwater by Asset Class



The average age of assets relative to their average service lives is summarized in Figure 11-3, weighted by replacement value. The estimated service life for storm sewers and laterals is averaged based on the various pipe materials. The similar service life values support the Town's strategy of replacing laterals at the same time as sewers. Catchbasins and maintenance holes are also expected to generally be replaced at the same time as the sewer, and their estimated service lives are assumed to be the same as that of the average sewer, rounded to the closest whole year (76 years). On average, the Town's storm sewers and appurtenances are at 36% to 44% of their estimated service life. Oil grit separators were installed starting in the 1990s and are generally newer assets. Stormwater culverts are on average near end-of-life, particularly the corrugated steel pipe culverts which have a shorter estimated service life (30 years) than other culverts.

Figure 11-3 Average Asset Age – Stormwater Assets



11.3 Levels of Service

The stormwater network of sewers and stormwater management ponds helps control stormwater runoff. O.Reg. 588/17 service measures are mainly focused on resiliency to flooding. In this AM Plan, the percentage of properties resilient to a 100-year storm is estimated based on the percentage of properties built in 1990 or later, as all development design objectives in the Town required a 100-year storm design since that time. Regarding the stormwater management system, the Town sewers were required to be designed to a 5-year storm starting from 1979, which represents 71% (75.6km) of the Town's storm sewer network by length.

The levels of service are summarized in Table 11-2. This table includes the current performance (as of the end of 2024), and any aspirational targets set out by the Town and proposed performance over the next 10 years. Proposed performance is determined based on what is appropriate for the Town in consideration of the Town's current 10-year planned funding provision in the Capital Plan as well as risks associated with various performance levels, discussed further in Section 11.6.

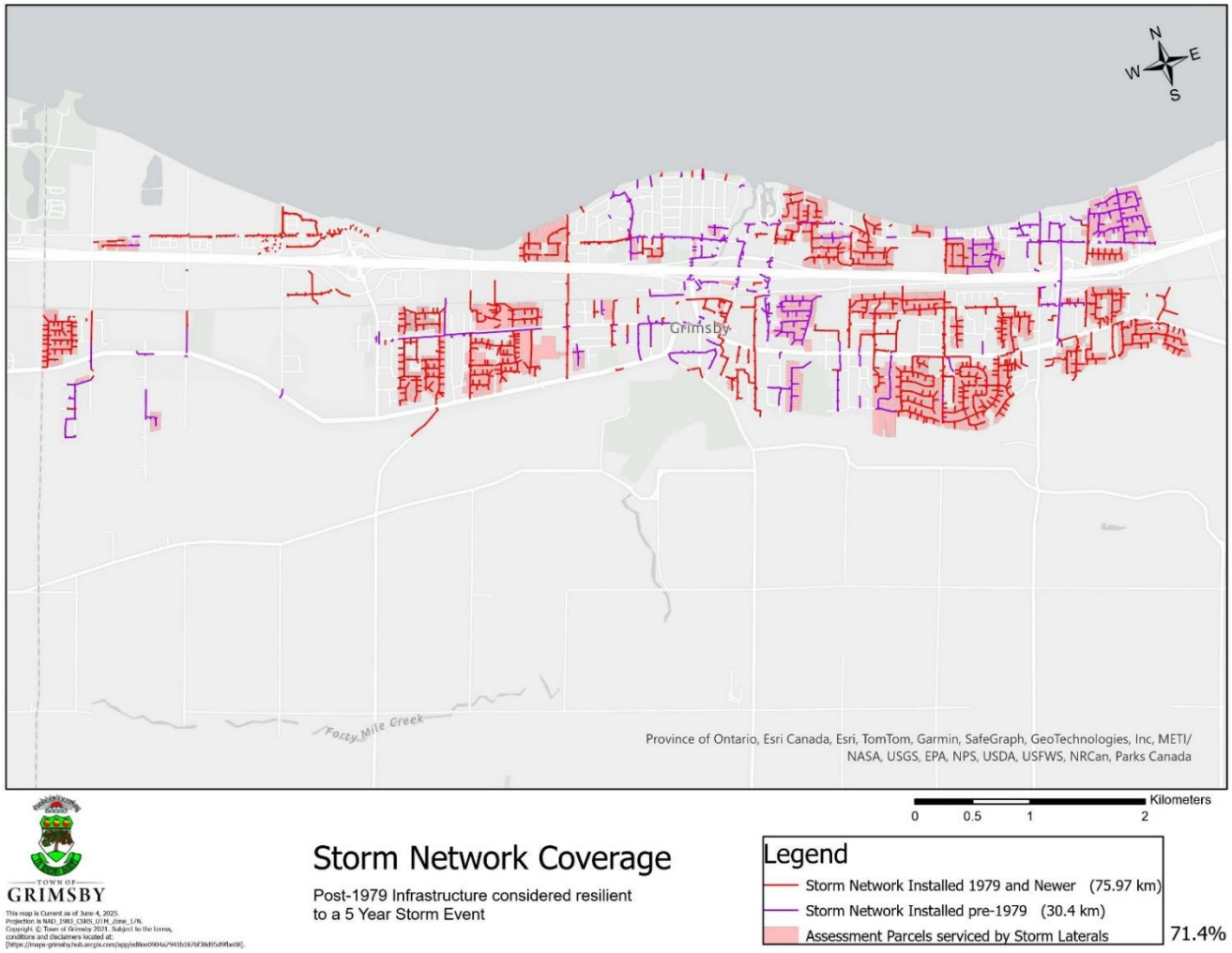
Table 11-2 LOS Framework – Stormwater

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Capacity & Use - Provide adequate flood protection for properties and stormwater system capacity				
Description of the user groups or areas of the municipality that are protected from flooding, including the extent of protection provided by the municipal stormwater management system*: The Town owns and manages stormwater ponds, storm sewers, oil grit separators, stormwater culverts, and catchbasins to store, direct, and control stormwater runoff that can otherwise pose dangers to the natural and built environment. The stormwater system improves water quality of runoff into the local waterways and helps prevent flooding and erosion. The Town continues to work on understanding the increasing impacts of climate change and building its flood resiliency through improvements to its built infrastructure. Refer to Figure 11-4 for a map of the stormwater network.	Percentage of properties in municipality resilient to a 100- year storm (O.Reg. 588/17)**	Estimated 42.8% (properties built in 1990 or later) Note: 974 properties not assessed due to unknown age.	All new developments will meet the resiliency standard	⟷ >42.8%
	Percentage of the municipal stormwater management system resilient to a 5-year storm (O.Reg. 588/17)	Estimated 71% (sewers built in 1979 or later)	All new developments will meet the resiliency standard	⟷ >71%

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Quality & Reliability – Maintain stormwater assets in a state of good repair				
Assets are maintained in a state of good repair and condition	Percentage of sewers in fair or better condition	94%	Renew assets per estimated service life	 >80%
	% of SWM wet ponds that are within allowable sediment levels	50%	100% as per SWMF report cleanout recommendations	 >75%
	% of SWM ponds inspected per target frequency per Environmental Compliance Approval	100%	100%	 100%
	% of OGS inspected annually per Environmental Compliance Approval	100%	100%	 100%
	% of OGS identified issues remediated annually	100%	100%	 100%

Figure 11-4 Town of Grimsby Stormwater Network*

*Source: Official Plan Map



11.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur.

The land use associated with the sewer, such as more populated downtown areas and proximity to an institution such as a hospital, is factored with other currently available data such as pipe diameter to determine an overall CoF score for each asset. A summary of the CoF scoring approach is provided in Table 11-3. The weighting column specifies the contribution of the land use score for storm sewers. Diameter plays a more significant role in storm sewer failure, as the magnitude of potential flooding is directly related to the volume of stormwater in the pipes. Appurtenances such as laterals, catchbasins, and maintenance holes were determined to have a similar or lower criticality as the associated storm main. Sewers which cross the Queen Elizabeth Way (QEW) highway and/or the Canadian National (CN) railway are assigned a CoF of 5. Cross culverts are assigned a higher CoF than driveway culverts, but some culverts may be adjusted even higher in the future to account for the impact on residents depending on the associated road class.

Table 11-3 CoF Scoring Approach – Stormwater

	Criteria Description	CoF Score	Weighting
Stormwater			
Storm Sewers (Including Appurtenances)	<450mm diameter	1.67	50% Diameter + 50% Land Use
	>450 to 825 mm	3.33	
	>825 mm	5	
Oil Grit Separators	All separators	3	-
Stormwater Management Ponds	Wet ponds	4	-
	Dry ponds	1	-
Stormwater Culverts	Driveway culverts	1	-
	Cross culverts	2	-

The Risk Exposure Framework shown in Figure 11-5 combines the Criticality (CoF) ratings with the LoF ratings for all stormwater infrastructure. As shown in Figure 11-5, an estimated $0.7 million of Stormwater assets currently have a very high-risk exposure (red). The very high-risk assets consist of four non-reinforced concrete storm sewer segments, installed between 1957 and 1974.

Figure 11-5 Risk Exposure for Stormwater Assets* ($M)

Risk exposure in year 2025 $, millions

LoF	CoF 1	CoF 2	CoF 3	CoF 4	CoF 5
5	$3.5	$1.0	$0.4	$0.0	$0.0
4	$0.6	$3.5	$4.6	$1.3	$0.7
3	$0.8	$30.9	$20.0	$11.3	$5.1
2	$0.5	$35.7	$32.3	$14.5	$2.1
1	$0.7	$12.1	$6.8	$2.5	$0.2

Risk Exposure	$	%
Very High	$0.7M	0.3%
High	$6.8M	3.5%
Moderate	$19M	9.9%
Low	$104.9M	54.9%
Very Low	$59.6M	31.2%
Total	$191M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

In addition to asset condition and reliability risks, the Town mitigates capacity and functional related risks related to flooding by assessing the need for, and planning for, additional infrastructure including storm sewers assumed by the Town through development. The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs.

11.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that the Stormwater system provides service in a sustainable and reliable manner while also addressing increasing demands due to population growth. The costs for these activities to meet proposed service levels are discussed in the following subsections.

11.5.1 Renewal Forecast

The storm sewer renewal forecast considers the current condition or age and estimates the planned replacement year based on the estimated service lives of each material described in Table 11-4. It is assumed that the majority of storm sewers that are less than 600mm can be lined, and all those over 600mm will require open cut full replacement. The relining strategy reduces the overall lifecycle cost as the lining is estimated to cost approximately 50% of a full replacement and is expected to extend the service life of the pipe an additional 50 years, if not longer. Appurtenances are forecasted to be replaced with storm mains at end of storm main life.

The renewal forecast for culverts is aligned with major rehabilitation or full reconstruction work on the associated road segment, for both driveway and cross culverts. An inventory of culverts will be

Summary of Recommended 10-Year Renewal Strategy:

- Storm sewer renewal needs are forecasted based on renewal projects in the Town's 10-Year Capital Plan, and informed by CCTV scoring and age compared to estimated service life of each segment's material.
- Replacement of appurtenances is forecasted in alignment with replacement of the associated storm sewer segment.
- Renewal needs for stormwater management ponds are based on Capital projects for pond cleanouts, which were established through the findings of a 2024 sediment survey.

completed in 2025, which will inform future replacement and rehabilitation needs.

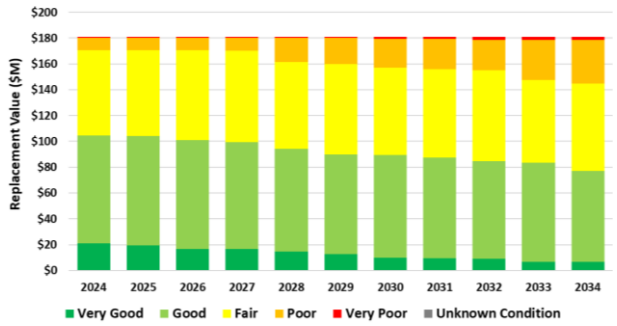
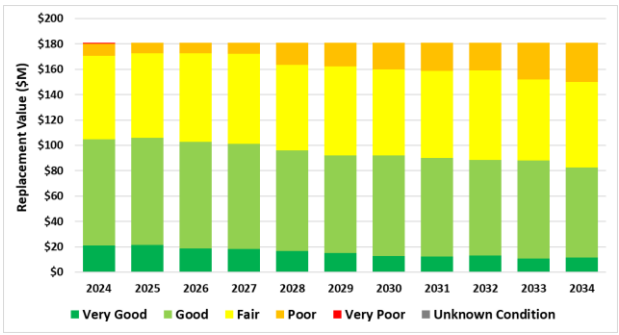
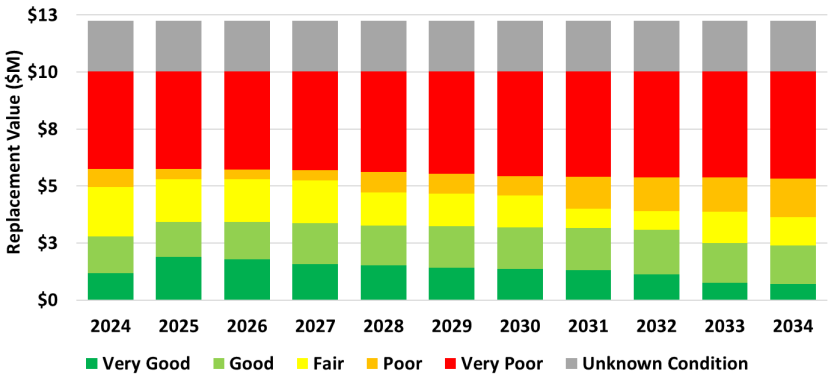
The Town has currently planned for sediment removal at Civic Neighbourhood, Kelson Pond, Lampman Pond, and Sumner Pond in the 10-year Capital Plan based on bathymetric survey recommendations. It is expected that ponds will typically need to be dredged every 15 years, though factors such as loading from the upstream environment and weather events will influence sediment accumulation. Dry ponds have associated operations costs such as grass cutting, which are covered in the Operating budget discussed in Section 11.5.4.

Table 11-4 Estimated Service Life – Stormwater Assets

Asset	Estimated Service Life (Years)
Storm Sewers & Laterals	80 (Plastic) 70 (Asbestos Cement, Reinforced and Non-Reinforced Concrete) 60 (Vitrified Clay or Other) 30 (Corrugated Steel)
Culverts	70 (Asbestos Cement, Reinforced and Non-Reinforced Concrete) 60 (Other) 50 (Plastic) 30 (Corrugated Steel)
Oil Grit Separators	60
Maintenance Holes	76
Catch Basins	76
Stormwater Management Ponds	15

Figure 11-6 summarizes the renewal needs to meet the proposed service levels related to asset condition. The average renewal need for stormwater mains and appurtenances is $3.9 million over 10 years, or $0.4 million per year. The expected performance is a decrease in storm sewer condition, as it is assumed that all renewal funding currently available through commitments to projects in the Capital Plan will be spent on stormwater pond cleanout needs as identified by the sediment surveys, leaving no funding available for storm sewer renewal. The renewal need for stormwater culverts is $1.0 million per year and is assumed to be funded through associated road projects. The available renewal budget for roads has been appropriately reduced in Section 10 (Transportation).

Figure 11-6 Renewal Needs Forecast – Stormwater

Expected Performance ($0 million/yr)	Proposed Performance ($0.4 million/yr)
Storm Sewers & Appurtenances	
With all available funding being allocated towards stormwater pond cleanouts and no funding allocated towards renewal of storm sewers and their appurtenances (maintenance holes, catch basins, and laterals), the condition of sewers is expected to decrease. There are no forecasted needs for oil grit separators in the next 10 years. **There is no available funding for storm sewer renewal.**	The proposed performance is to complete renewals identified through Capital Plan projects and the condition-based analysis. Although the percentage of assets in fair or better condition decreases to 83% due to natural age-based degradation, this scenario results in the elimination of backlog (assets in very poor condition which are past their service life). **Average renewal need is $0.4 million per year.**
	
Culverts	
The culverts renewal forecast is tied to reconstruction projects of the associated road segment. It is assumed that these needs are fully funded, from the pool of funding available for Transportation renewal. This results in a slight decrease in condition by 2034, as assets that are not part of road projects continue to age and degrade in condition. **Average renewal need is $0.1 million per year.**	
	

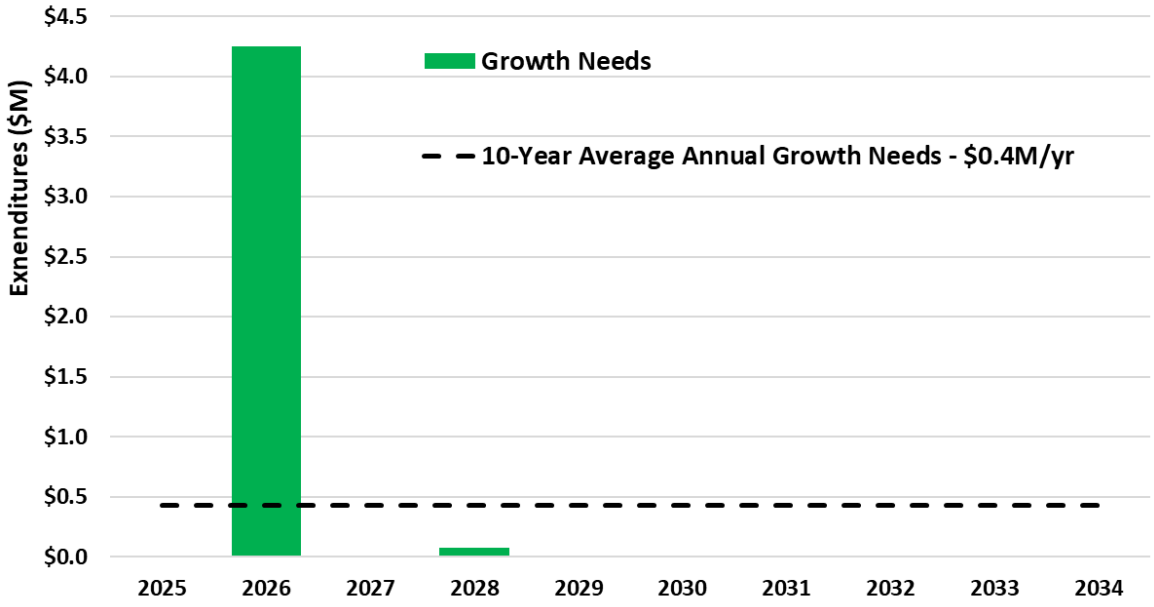
The condition of stormwater ponds is not modelled as the main renewal activity is for pond cleanouts and is related to sediment level and pond performance. It is expected that about half of the $2.24 million cleanout projects in the Capital Plan are funded, based on contributions to the funding sources of these projects. It is therefore expected that approximately half of the cleanout needs will be completed, resulting in some improved pond performance by 2034.

11.5.2 Growth Forecast

Figure 11-7 summarizes the currently identified growth needs over the next 10 years for Stormwater that support the Town's capacity and use measures in Section 11.3. The growth forecast currently includes Phase 2 of storm sewer improvements at Casablanca Boulevard.

The average annual growth need for stormwater infrastructure is estimated at $0.4 million per year over the next 10 years.

Figure 11-7 Growth Needs Forecast – Stormwater



11.5.3 Upgrade Forecast

The Town's updated engineering design standards specify a 10% upsizing requirement for both replacements and new construction of sewers to factor in effects of climate change on infrastructure. These upgrades related to upsizing of sewers are considered under the growth and renewal forecasts.

11.5.4 Operations and Maintenance Forecast

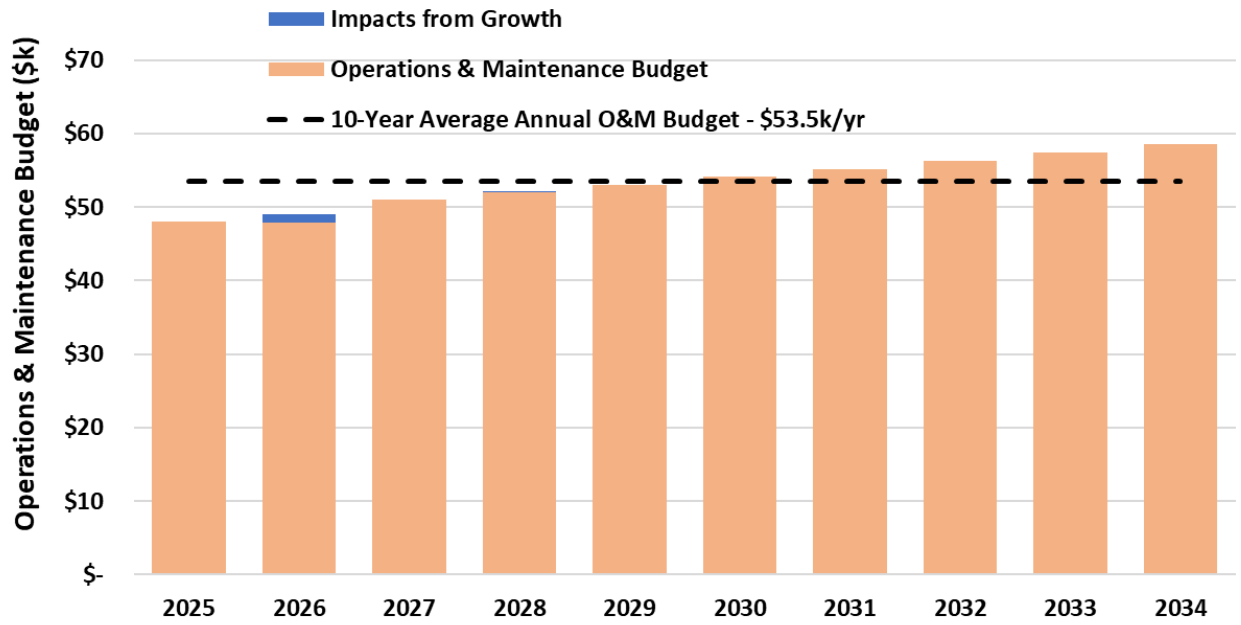
Operations and maintenance work is critical for ensuring the continued reliability of Stormwater assets and meeting the proposed service levels.

Figure 11-8 shows the Operations and Maintenance needs over the next 10 years for Stormwater. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio, although minor. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 2.2%. The forecast does not include impacts from assets constructed independently through development projects and later assumed by the Town.

Operations and maintenance activities include:

- Storm Sewers and appurtenances:
  - Sewer flushing
  - Inlet/outlet structure inspections
  - Street sweeping
  - CCTV inspections
  - Spot repairs and catchbasin repairs
- Stormwater culverts:
  - Repairs and replacements as needed
- Oil Grit Separators:
  - Cleaning and repairs
- Stormwater Ponds:
  - Inspections
  - Cleaning outfalls
  - Removing vegetation overgrowth and debris
  - Repairs to pond components

Figure 11-8 Operations and Maintenance Needs Forecast – Stormwater



11.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs.

The funding available for renewal of stormwater infrastructure is estimated to be an average of $0.2 million per year over the next 10 years based on the Town's contributions to funding projects in the Capital Plan, as well as an infrastructure levy distributed proportionally across applicable service areas. As discussed in Section 10.5.1, the estimated average annual renewal need is $0.2 million per year to complete all stormwater pond cleanouts and $1.4 million per year for storm sewer and culvert renewals to meet proposed service levels. This results in a funding gap of $0.5 million per year.

Figure 11-9 Capital Renewal Needs versus Funding – Stormwater

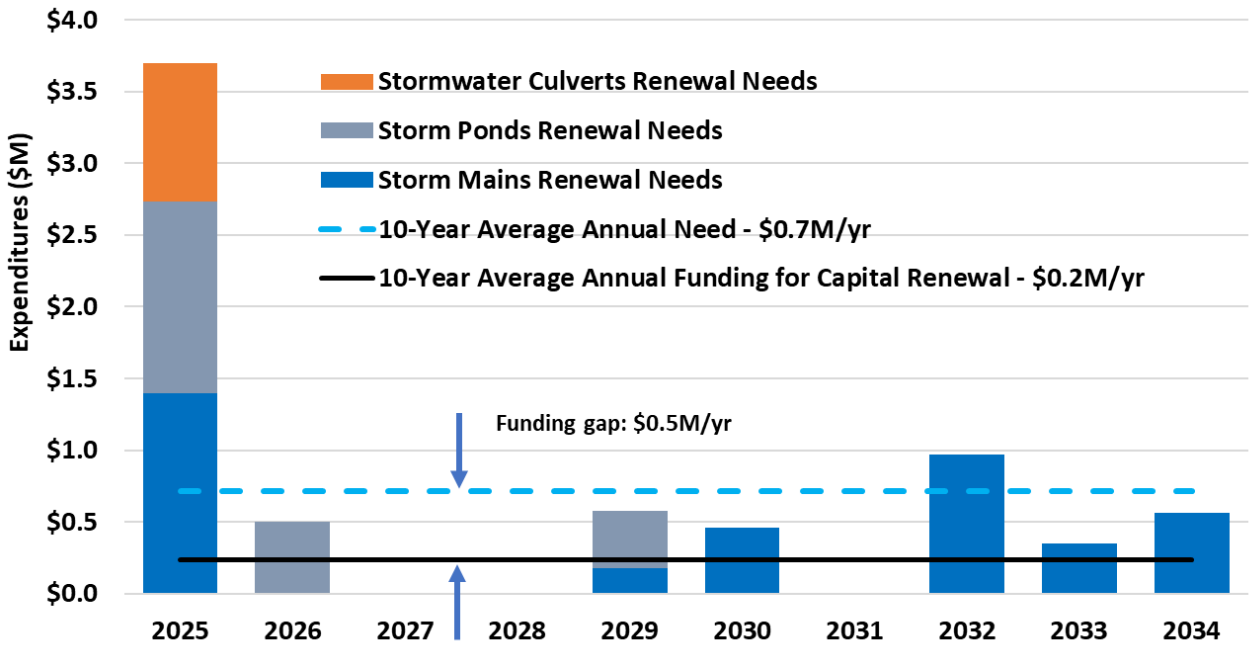


Table 11- summarizes the financial sustainability and affordability for growth, upgrade, renewal, and O&M activities. In terms of operations and maintenance, the Operating Budget gap is expressed as the average annual rate increase needed to meet proposed service levels over the next 10 years.

Table 11-5 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Funding Gap	Potential Impacts
Capital Growth	$0.4 M/yr	$0.4 M/yr	No gap	N/A
Capital Upgrade	-	-	-	N/A
Capital Renewal	$0.7 M/yr	$0.2 M/yr	$0.5M/yr	Deterioration in condition of infrastructure as shown in Figure 11-6, and incomplete stormwater pond cleanouts.
Operations and Maintenance	$48.0 k in 2025 to $58.5 k in 2034; 2.2% average annual increase	-	2.2% average annual increase	Failure to increase resources to operate and maintain new assets will result in reduced service levels and increased risks related to flooding.

To manage the risk of the funding gap, the Town may consider changing the funding source for stormwater from property taxes to a dedicated and stable stormwater user fee to recover the full cost of stormwater management. The Town also plans to conduct additional CCTV inspections to gain a more accurate forecast for renewal work required on the storm sewer network. CCTV inspections for the entire storm sewer network are expected to be completed by the end of 2026. When renewal work is required, the Town considers more cost effective treatments such as relining of pipes over open cut replacement. The Town also prioritizes projects based on a risk-based framework that considers criticality factors such as sewer size, road class and adjacent land uses to ensure that critical sewers are prioritized in the Town's Capital Plan.

11.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations are summarized in Table 11-.

Table 11-6 AM Plan Improvement Recommendations – Stormwater

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Confirm inventory for pond components are captured within existing datasets and document missing assets that will require eventual renewal, with replacement value and installation date information. • Continue to perform bathymetric surveys to inform sediment removal requirements for stormwater management ponds, and record sediment removal dates. • For stormwater outfall structures, add detail in inventory regarding structure type, such as rip rap or wingwall to GIS inventory. Capture size and material data that enables unit costing for determining replacement values. • Complete CCTV inspections of stormwater sewers.

AM Plan Section	Improvement Recommendation
	• Fill in remaining installation year data for stormwater culverts, with focus on the more critical cross culvert assets.
Levels of Service	• Continue to work on understanding the increasing impacts of climate change and flood resiliency to gain further understanding of resiliency of properties and stormwater system to 100-year and 5-year storms. • Develop a flood model to aid with planning flooding mitigation.
Risk Management	• Consider hydraulic modeling to improve the risk scoring methodology and CoF ratings for the stormwater network.
Lifecycle Management	• Refine lifecycle strategies for assets as data on condition and renewal treatment timing is collected, particularly on long-lived assets and newer assets with less historical data such as oil grit separators. • Determine typical stormwater pond cleanout timing requirements for each pond, as the interval likely differs between ponds depending on many factors such as upstream conditions and sediment loading rates.
Financial Management	• Continue with a dedicated Infrastructure Levy that steadily increases contributions to asset management reserves each year. Alternatively, consider a dedicated stormwater user fee as the main funding source for stormwater renewal projects.

12 WATER

12.1 Overview

The Town's water assets play a crucial role in delivering a safe, dependable, and high-quality water supply to residents and businesses. This includes maintaining, improving, and renewing essential water infrastructure such as pipelines, distribution networks, and a bulk water station. Responsibility for vertical infrastructure such as treatment plants lies with the Region of Niagara. This Asset Management Plan (AM Plan) emphasizes sustainability, cost-efficiency, and adherence to regulations to ensure the water system continues to meet the community's current and future demands.

Key Findings

- **Linear assets are generally in good condition with 90.7% in fair or better condition.** This supports reliable service with zero boil water advisories.
- With the available funding, service levels can be maintained and the Town will be able to replace unlined cast iron pipes with more reliable and longer lasting PVC pipes.

12.2 State of Infrastructure

The water network is supported by infrastructure to distribute water to residents and businesses through a 135.9 km network of pipes. Assets include watermains, laterals, hydrants, valve chambers, valves, pressure control valves, water meters, and a bulk water station. Table 12-1 shows the $191.3 million estimated replacement value of the Town's water infrastructure and includes a breakdown of the inventory by asset category. Watermains, excluding appurtenances, account for 66% ($156.5 million) of the Town's water asset portfolio. 77% of watermains are PVC material and almost all are between 150 and 300mm in diameter.

Table 12-1 Inventory Summary – Water Infrastructure

Asset Category	Quantity	Replacement Value (2025$M)
Watermains	135.9 km	$156.5
Laterals	83.0 km	$48.7
Hydrants	927	$9.0
Valve Chambers	931	$13.9
Valves	1,267	$3.9
Pressure Control Valves	2	$0.5
Water Meters	9,646	$5.9
Bulk Water Station	1	$0.1
	Total	**$238.0**

* Totals may not add up due to rounding.

The Town maintains a database of watermain breaks recorded against the associated segment which enables a break per meter length to be determined for each segment that has a break history. The condition for watermains in this AM Plan is based on both break history (weighted 60% of condition score) and age compared to the estimated service life (weighted 40%). Where no breaks have been recorded against a watermain, its condition is assumed to be very good. The five-point rating scale is summarized in Table 12-2.

Table 12-2 Conversion Table for Watermain Break History and Remaining Service Life

Condition Grade	Watermain Break History (60% weighting)	% Remaining Service Life (40% weighting)
Very Good	Less than one break per 1000m	>75 – 100%
Good	One break per 501 to 1000m	>50 – 75%
Fair	One break per 201 to 500m	>25 – 50%
Poor	One break per 101 to 200m	>0 – 25%
Very Poor	One break or more per 100m	<= 0%

The condition distribution for the Town's Water assets is shown in Figure 12-1.

Overall, Water assets are in average good condition, with 90.7% of assets in fair or better condition. 3.9% of assets are in very poor condition. Assets with unknown condition represent only 1.3% of the overall inventory and are not included in Figure 12-1.

Figure 12-2 shows the condition distribution in more detail by asset class, with the total replacement value of each asset class shown at the top of each bar. 83.2% of watermains are estimated to be in fair or better condition. Installation year is not documented for meters that were not part of the 2015 replacement program and therefore, a condition estimate is not provided for those meters.

Figure 12-1 Condition Distribution by Replacement Value - Water

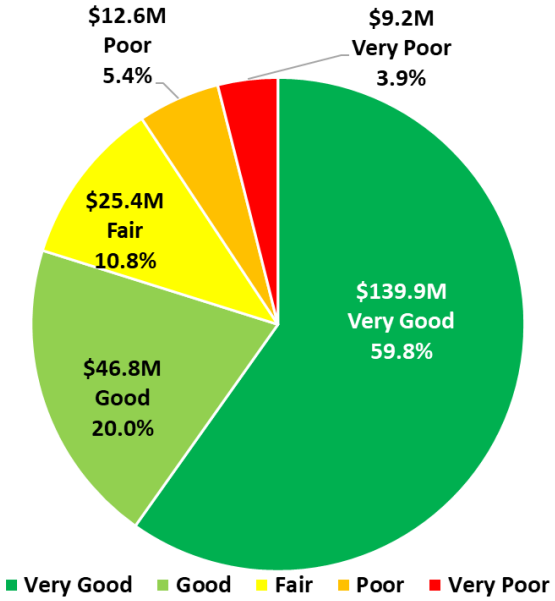
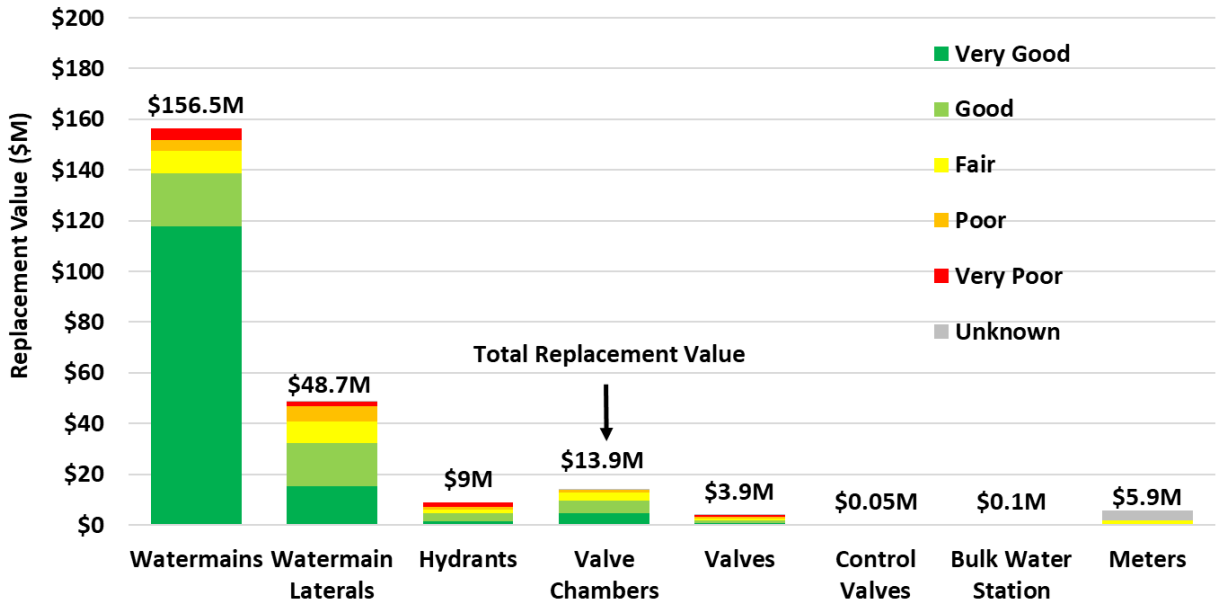


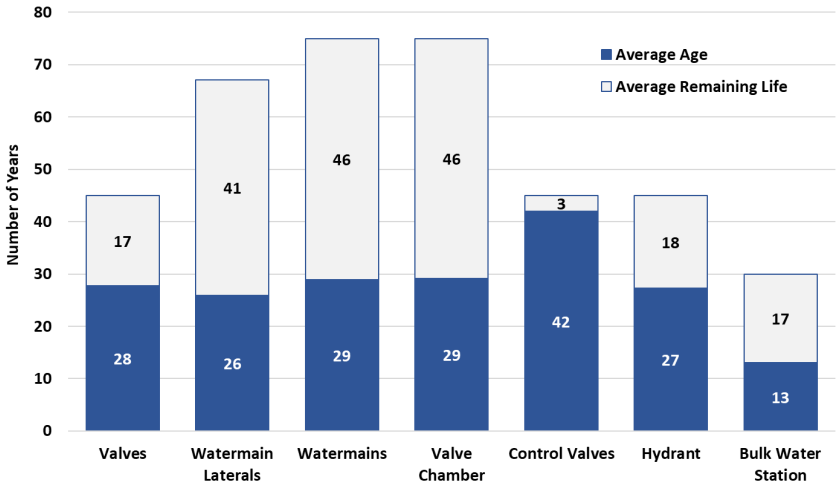
Figure 12-2 Condition Distribution by Replacement Value - Linear Water Infrastructure



The average age and estimated service life of the Town's water assets, weighted by replacement value, is summarized in Figure 12-3. On average, the age of the Town's watermains and appurtenances is approximately 29 years. Appurtenances such as valve chambers are expected to generally be replaced at the same time as the associated pipe, and their estimated service life is assumed to be the same that of the average watermain, rounded to the closest whole year (75 years). Hydrants and valves are typically also replaced during watermain construction, but have a shorter lifecycle of 45 years and will therefore require another replacement during the average lifecycle of a watermain. Lifecycle strategies are further discussed in Section 12.5.

39% (3725) of the Town's water meters were replaced in 2015 and are past mid-life of their 15-year estimated service life, requiring replacement in 2030. The installation year for the remaining water meter portfolio is not tracked, and therefore an average age is not included for water meters in Figure 12-3.

Figure 12-3 Average Asset Age – Water Infrastructure



12.3 Levels of Service

Given the critical role of safe drinking water in protecting public health, water services in Ontario are subject to strict provincial regulation. Two key pieces of legislation are the **Safe Drinking Water Act, 2002**, which establishes uniform standards and regulations across the province to ensure access to safe, high-quality, and reliable drinking water; and the **Clean Water Act, 2006**, which outlines a framework for safeguarding the sources of drinking water within designated source protection areas. These laws affirm the right of Ontario communities to expect safe drinking water from their local municipalities.

Per the Town's Drinking Water Quality Management System, the Town is committed to providing Town water customers with safe, clean drinking water and upholding all applicable legislative and regulatory requirements. Service disruptions due to watermain breaks are minimized by performing live repairs where possible. In 2024, there were four breaks due to watermain age and condition. To reduce the number of breaks, the Town is replacing unlined cast iron pipes with new PVC pipe.

Table 12-2 includes the current performance (as of the end of 2024), aspirational targets set out by the Town and the proposed performance over the next 10 years. Proposed performance is determined based on what is appropriate for the Town in consideration of the Town's current 10-year planned funding provision in the Capital Plan as well as risks associated with various performance levels, discussed further in Section 12.6.

There is no proposed performance for the number of connection-days lost per year due to watermain breaks, as it is difficult to predict where breaks happen and how many properties would be affected which depends on the location of the break. Of the 85.6 connection-days lost in 2024, 2 events (40.9 connection-days) were due to improper installation (not condition-related).

For the two Capacity & Use measures, the proposed service level is to maintain the current performance, as it is not feasible to connect properties on the Niagara Escarpment to the water network. The performance will slightly improve over time as new properties from development are built and connected.

Table 12-3 LOS Framework - Water

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Capacity & Use - Provide adequate availability of water service to properties				
Description of the user groups or areas of the municipality that are connected to the municipal water system*: The Grimsby Water Distribution System is a stand-alone drinking water distribution system which receives 100% of its drinking water from the Grimsby Water Treatment Plant and through connections with the Region of Niagara's Grimsby Water System. The Town's watermain network distributes drinking water to Town customers and one downstream water system located in Winona (City of Hamilton). Refer to Figure 12-4 for a map of the water network.	Percentage of properties connected to the municipal water system	91.7%**	Maintain the current percentage of connected properties	⇔ >91.7%
Description of the user groups or areas of the municipality that have fire flow*: Fire hydrants are located throughout the community and provide the Grimsby Fire Department with access to water during fire emergencies. The Town has over 900 hydrants servicing both residential and non-residential areas. The majority of properties are within 90m of a fire hydrant and therefore have fire flow available.	Percentage of properties where fire flow is available	90.6%**	Maintain the current percentage of properties where fire flow is available	⇔ >90.6%
Quality & Reliability – Maintain water assets in a state of good repair and reliable operations				
Description of boil water advisories and service interruptions*: The Town of Grimsby's Drinking Water Quality Management System formalizes an Operational Plan as part of its efforts to	The number of connection-days per year where a boil water advisory notice is in place	Zero	Zero	⇔ Zero

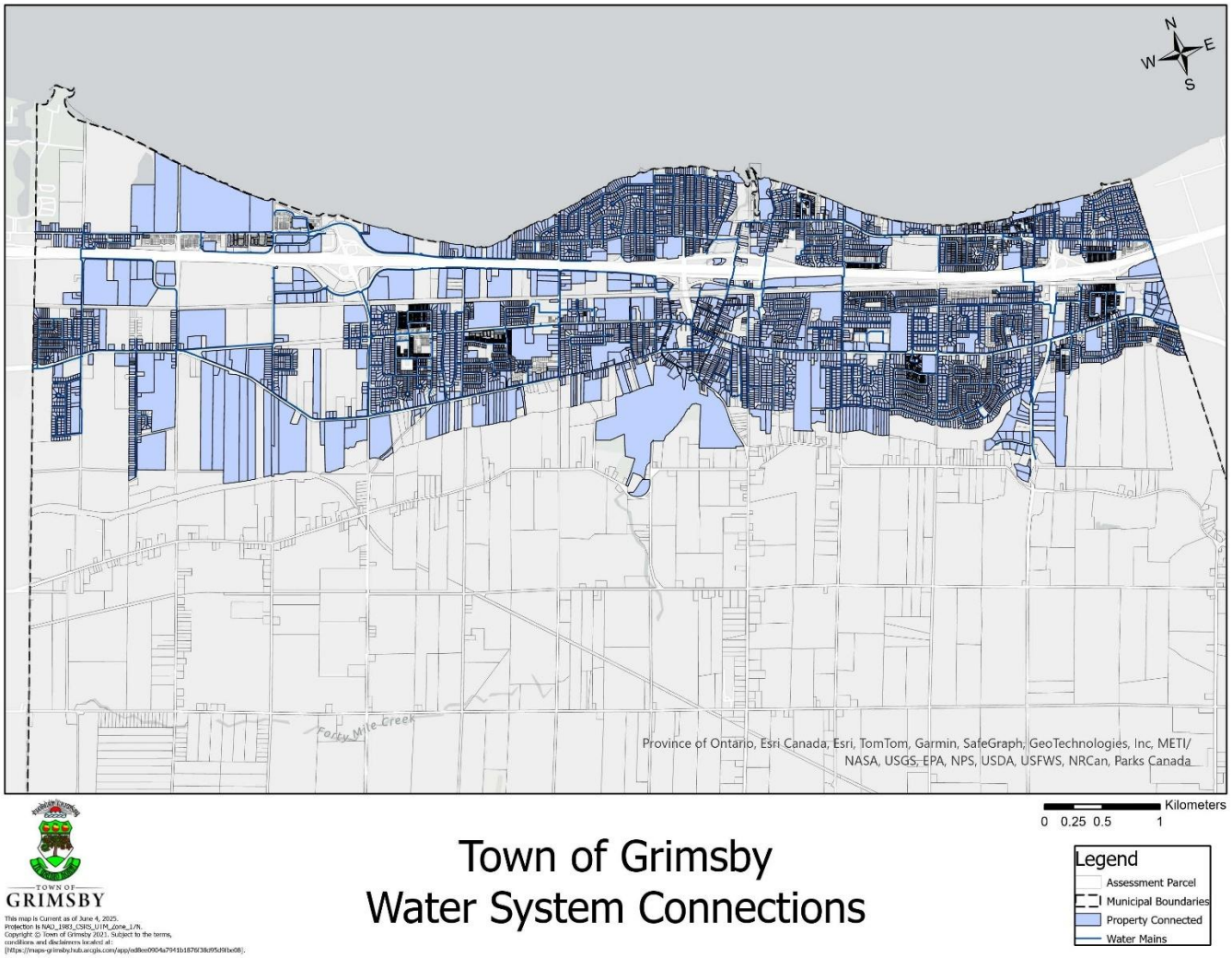
Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
ensure that clean, safe and reliable drinking water is supplied to all customers served by the Town. The Town is committed to establishing and maintaining open and effective communication with water customers regarding matters of drinking water quality. For emergencies related to water quality, per the Town's Water Operations Emergency Response Plan, the Town may issue a boil water advisory or other drinking water quality advisory it if believes that the water from the drinking water system is unsafe for human consumption. Other water service disruptions are typically caused by watermain breaks and are tracked by the Town and repaired while minimizing disruptions to the community.	compared to the total number of properties connected to the municipal water system			
	The number of connection-days lost per year due to water main breaks compared to the total number of properties connected to the municipal water system	85.6 connection-days compared to 10,515 connected properties	Qualitative target: as few connection-days due to breaks as possible	Qualitative target: as few connection-days due to breaks as possible
Assets are maintained in a state of good repair.	Number of age-related watermain breaks not related to current construction or impact	4 breaks	Less than 5 breaks per year	 Less than 5 breaks per year*
	Percentage of assets in fair or better condition	94%	Renew assets per estimated service life	 >95%
	Percentage of watermains that are unlined cast iron	6.5% (8.8km)	0%	 0%

* Maintaining less than 5 breaks per year is contingent on annual Operating budget increases.

** The number of connected properties and number of properties where fire flow is available are calculated using the number of billed accounts. As a future improvement, the Town may consider calculating these measures based on individually parcelled properties identified through GIS.

Figure 12-4 Town of Grimsby Water Network*

*Source: Official Plan Map



12.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur.

LoF is estimated based on the condition of the asset from Section 12.2. Older watermains that also have a higher number of breaks are in poorer condition and therefore have a higher LoF than newer pipes and pipes with no breaks.

The land use associated with the watermain, such as more populated downtown areas and proximity to an institution such as a hospital, is factored with pipe diameter to determine an overall CoF score for each pipe segment. Pipe size (diameter) is not weighted heavily for watermains as the water distribution system generally has redundancies within the network such that if a large watermain were to fail, its impact would not be significantly more than that of a smaller diameter main. Appurtenances such as laterals, valves, and hydrants were determined to have a similar or lower criticality as the associated watermain.

A summary of the CoF scoring approach is provided in Table 12-4. The weighting column specifies the contribution of each criteria to determine the overall CoF rating. Mains which cross the Queen Elizabeth Way (QEW) highway and/or the Canadian National (CN) railway are assigned a CoF of 5.

Table 12-4 CoF Scoring Approach – Water

Asset Category	Criteria		
	Criteria Description	CoF Score	Weighting
Water			
Watermains (including appurtenances)	<100mm diameter	1	75% diameter + 25% land use
	100 to <200 mm diameter	2	
	200 to <=300 mm diameter	3	
Pressure Control Valves	All pressure control valves	3	-
Water Meters	Less than 3"	1	-
	3" and larger	2	-
Bulk Water Station	Bulk Water Station	2	-

Figure 12-5 Risk Exposure for Water Assets ($M)

Risk exposure in year 2025 $, millions

LoF		CoF				
	5	$0.0	$4.2	$1.4	$0.9	$0.5
	4	$0.2	$4.6	$0.4	$0.2	$0.9
	3	$0.7	$6.1	$2.7	$1.3	$2.5
	2	$2.6	$21.5	$4.1	$0.0	$2.7
	1	$17.7	$119.4	$30.8	$1.9	$4.4
		1	2	3	4	5

Risk Exposure	$	%
Very High	$2.3M	1.0%
High	$4.1M	1.8%
Moderate	$8.6M	3.7%
Low	$22M	9.5%
Very Low	$194.8M	84.0%
Total	$231.8M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

The Risk Exposure Framework shown in Figure 12-5 combines the Criticality (CoF) ratings with the LoF ratings for water infrastructure. There are $2.3M of assets, representing 1% of the total portfolio, in very high-risk. These very high-risk assets consist of 11 watermain segments which are mostly unlined cast iron pipes, installed between 1955 and 1973.

In addition to asset condition and reliability risks, the Town mitigates capacity and functional related risks related to water quality by assessing the need for, and planning for, additional infrastructure including watermains assumed through development. The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs.

12.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that the Water system provides service in a sustainable and reliable manner while also addressing increasing demands due to population growth. The costs for these activities to meet proposed service levels are discussed in the following subsections.

12.5.1 Renewal Forecast

The renewal forecast for watermains considers the current condition of each segment to estimate the remaining service life of the pipe's material. The watermains forecast includes appurtenances that would be typically replaced at the same time as the pipe replacement. Hydrants and valves, however, have a lower service life and are assumed to require another replacement during the life of the pipe, which has been accounted for in the forecast. Pressure control valves and meters are replaced at end-of-life based on age. As discussed in Section 12.2, 39% of the Town's water meters were replaced in 2015, and therefore another significant expenditure is forecasted within the next 10 years at the end of their 15-year estimated service life.

Summary of Recommended 10-Year Renewal Strategy:

- Maintains current condition over next 10 years Maintains current condition over next 10 years
- Watermain replacement needs, including appurtenances, are forecasted based on current condition (age and break history) and estimated service life (by material)
- Unlined cast iron pipes are replaced within the 10-year forecast
- Pressure control valves are replaced at end-of-life based on age
- Water meters are replaced at end-of-life based on age

The estimated costs for replacing all unlined cast iron pipes is also accounted for in the proposed performance renewal forecast, and the asset condition profile in Figure 12-6.

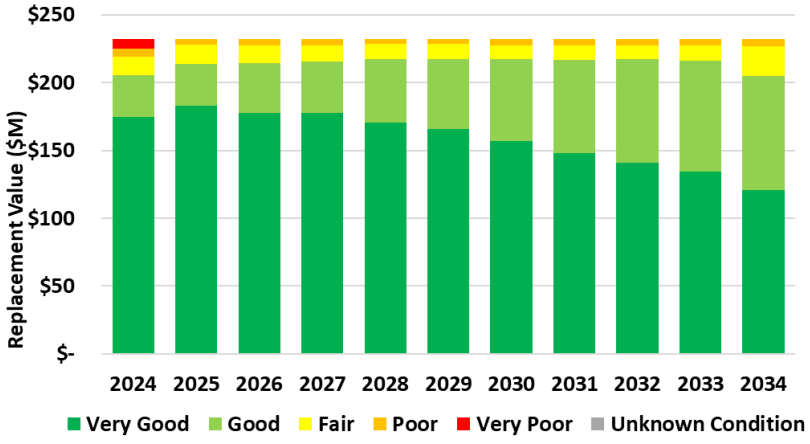
Table 12-5 Estimated Service Life – Watermains

Watermain Material	Estimated Service Life (Years)
Asbestos Cement	75
Lined Concrete	45
Unlined Cast Iron	45
Copper	60
Ductile Iron	60
High Density Polyethylene	80
Polyethylene	80
PVC	80
Crosslinked Polyethylene (PEXa)	80
Other	70

For water infrastructure, the proposed performance is to replace assets per the estimated service lives, which results in a minor improvement in the condition of assets over the next 10 years, as shown in Figure 12-6. The average annual renewal need is estimated at $2.4 million per year.

Figure 12-6 Renewal Needs Forecast – Water Infrastructure

Expected Performance ($2.4 million/yr)	Proposed Performance ($2.4 million/yr)
The proposed performance is the same as the expected performance based on available funding, which is to complete all renewals as forecasted per the estimated service lives, as well as all unlined cast iron replacements. This will improve asset condition over the next 10 years from 94% to 98% of assets in fair or better condition.	



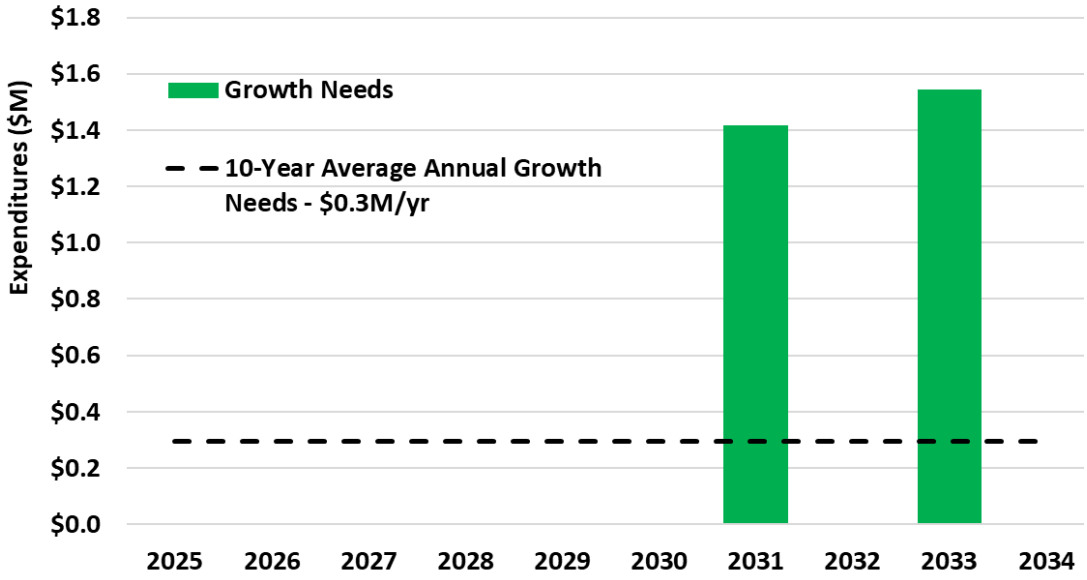
12.5.2 Growth Forecast

Figure 12-7 summarizes the currently identified growth needs over the next 10 years for Water that support the Town's capacity and use measures in Section 12.3. Growth projects currently include:

- The Development Charge-funded portion of the Watermain rehabilitation and improvement at South Service Road, east and west of Casablanca Boulevard.
- The Development Charge-funded portion of the Watermain rehabilitation and improvement at Kelson Avenue and the Queen Elizabeth Way (QEW) crossing.

The average annual growth need for water infrastructure is estimated at $0.3 million per year over the next 10 years.

Figure 12-7 Growth Needs Forecast – Water



12.5.3 Upgrade Forecast

Upgrades related to upsizing of watermains are addressed at the time of replacement due to renewal and are covered under the renewal forecast. Upgrades related to pipe material are currently focused on replacing cast iron pipe with PVC pipe, and these upgrades are also covered under the renewal forecast.

12.5.4 Operations and Maintenance Forecast

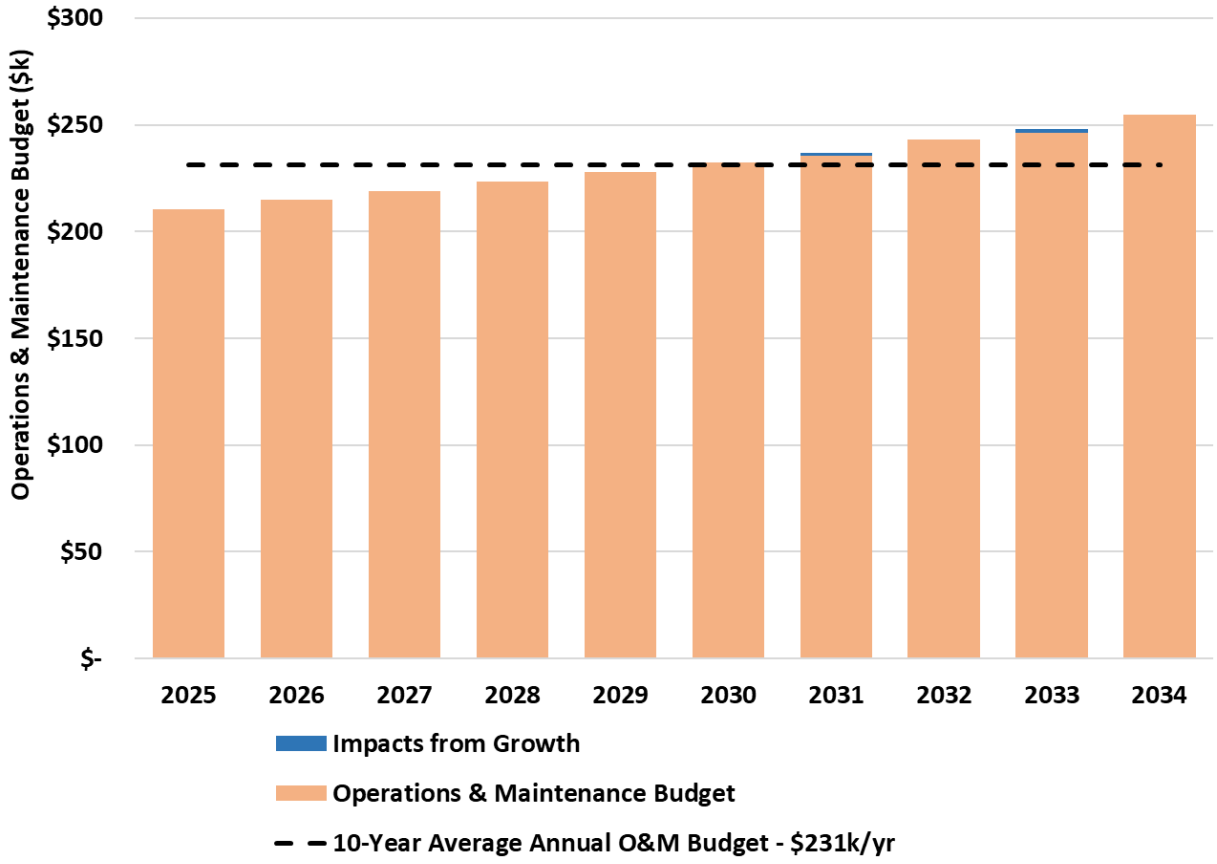
Operations and maintenance work is critical for ensuring the continued reliability of water assets and meeting the proposed service levels.

Figure 12-8 shows the Operations and Maintenance needs over the next 10 years for Water infrastructure. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 2.1%. The forecast does not include impacts from assets constructed independently through development projects and later assumed by the Town.

Operations and maintenance activities include:

- Watermains and appurtenances:
  - Directional Flushing
  - Hydrant flushing and maintenance
  - Isolation Valve Exercising
  - Water sampling
  - Pressure control valve inspection and maintenance as required
- Water meters:
  - Repairs and new installations as needed
  - Calibration and maintenance on larger meters

Figure 12-8 Operations and Maintenance Needs Forecast – Water*



*Additional impacts due to assets that will be assumed by the Town through development are not included.

12.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs.

The funding available for renewal of water infrastructure is estimated to be an average of $2.6 million per year over the next 10 years based on the Town's contributions to funding projects in the Capital Plan.

Figure 12-9 Capital Renewal Needs versus Funding – Water

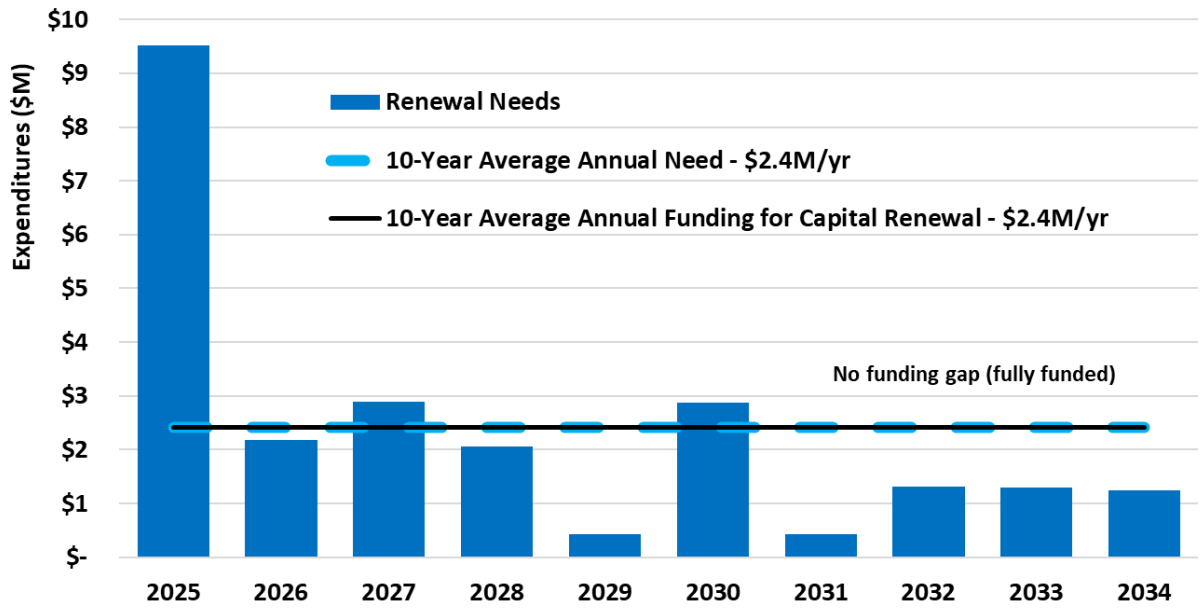


Table 12-6 summarizes the financial sustainability and affordability for growth, upgrade, renewal, and O&M activities. The funding gap pertaining to growth is due to the inadequate contributions (~14%) expected for Development Charges currently committed in the 10-Year Capital Plan for water growth projects. The Town will continue to review provincial legislation and monitor policy changes to fully assess their impact on the Town's financial budget. The Town may need to offset lost revenue through utility rate hikes or service level changes. In terms of operations and maintenance, the Operating Budget gap is expressed as the average annual rate increase needed to meet proposed service levels over the next 10 years.

Table 12-6 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Funding gap	Potential Impacts
Capital Growth	$0.3 M/yr	$0.04 M/yr	$0.25 M/yr	Reductions in available funding may delay or scale back critical infrastructure projects needed to support new growth.
Capital Upgrade	Included under growth and renewal	Included under growth and renewal	Included under growth and renewal	Included under growth and renewal.
Capital Renewal	$2.4 M/yr	$2.4 M/yr	No gap	Water renewal needs are expected to be fully funded.
Operations and Maintenance	$210 k in 2025 to $254 k in 2034; 2.1% average annual increase	-	2.1% average annual increase	Failure to increase resources to operate and maintain new assets will result in reduced service levels and increased risks such as watermain breaks and greater water loss throughout the system.

12.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations include:

Table 12-7 AM Plan Improvement Recommendations – Water

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Continue to update unit construction costs for current replacement costs.
Levels of Service	• Improve measurement methodologies for watermain break events by better defining the start and end of each event, and more precise tracking of number of connection-days lost due to a break event. • Amend the watermain break report to include information on the number of properties affected by each break event. • When calculating the number of properties connected to the water system and number of properties where fire flow is available, consider land parcels individually identified in GIS as a single property, rather than the number of water billing accounts.
Risk Management	• Proactively replace watermain pipes that are high-risk before they reach their estimated end of life, especially at critical intersections such as QEW and CN crossings. • Assign CoF scores to pipe segments based on its number of serviced customers.

AM Plan Section	Improvement Recommendation
Lifecycle Management	• Refine lifecycle strategies for assets as data on condition and renewal treatment timing is collected, particularly on long-lived assets such as watermains.
Financial Management	• Continue to review Bill 23 legislation to fully understand impacts on DC funding and the Town's financial budgets. • Update Operating budget forecast as impact of on-going pressures, such as the increasing costs in the current economic and political environment are better understood.

13 WASTEWATER

13.1 Overview

The Town's Wastewater assets are critical for ensuring the efficient and safe collection of wastewater. This includes the operations, maintenance, and management of infrastructure such as sewer mains and their appurtenances. Vertical infrastructure, such as pumping stations and treatment plants, is owned and managed by the Region of Niagara or other municipalities. This Asset Management Plan emphasizes sustainability, cost efficiency, and compliance with regulations to ensure the wastewater system continues to meet the community's present and future needs.

Key Findings

- **Wastewater assets are generally in good condition with 86% in fair or better condition.** This ensures consistent service provision while minimizing backups and reducing inflow and infiltration.
- **The Town has sufficient funding to maintain the current condition of sewers over the next 10 years.**
- **Within the available funding, the Town also plans to prioritize inflow and infiltration (I&I) reduction projects** to reduce the likelihood of backups.

13.2 State of Infrastructure

The wastewater network is supported by infrastructure to collect wastewater from residents and businesses. Assets include sanitary sewers, laterals, and maintenance holes. Table 13-1 shows the $241.9 million estimated replacement value of the Town's wastewater infrastructure and includes a breakdown of the inventory by asset category. 86% of sewers are 200 to 300mm in diameter and approximately half of the sewer main network is PVC material. There is also a significant percentage of sewers that are asbestos cement (24%), vitrified clay (13%), and non-reinforced concrete (13%).

Table 13-1 Inventory Summary – Wastewater Infrastructure*

Asset Category	Quantity	Replacement Value (2025$M)
Sanitary Sewers	113.3 km	$151.6
Laterals	81.2 km	$68.6
Maintenance Holes	1,754	$21.7
	Total:	**$241.9**

* Totals may not add up due to rounding.

The condition for sanitary sewers is based on CCTV inspections. These assessments use video to identify problems such as cracks, breaks, sags, and obstructions. The inspection provides an overall inspection rating for each sewer on a 1 to 5 scale, which corresponds to a five-point rating scale. Where CCTV rating is not available or zero, condition is estimated based on age compared to the estimated service life of the pipe's material. The Town expects to complete CCTV inspections for the complete sanitary sewer network in 2025, and will determine an appropriate program and frequency of inspection going forward.

The condition distribution for the Town's Wastewater assets is shown in Figure 13-1.

Overall, Wastewater assets are in average good condition, with approximately 86.3% of assets are in fair or better condition. 5.8% of assets are in very poor condition.

Assets with unknown condition represent only 0.03% of the overall inventory and are not included in Figure 13-1.

Figure 13-1 Condition Distribution by Replacement Value ($M) - Wastewater

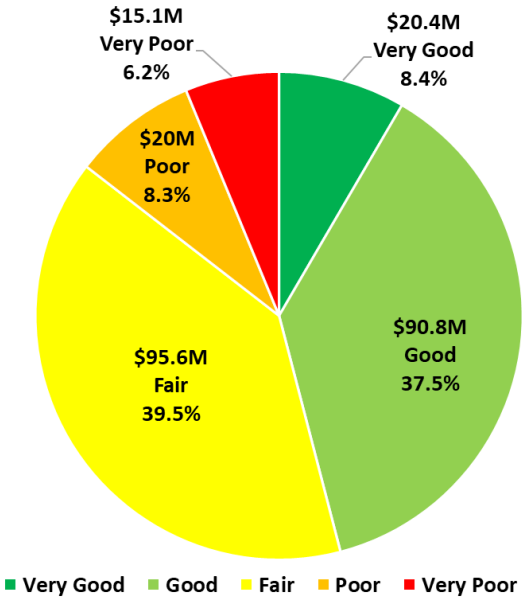
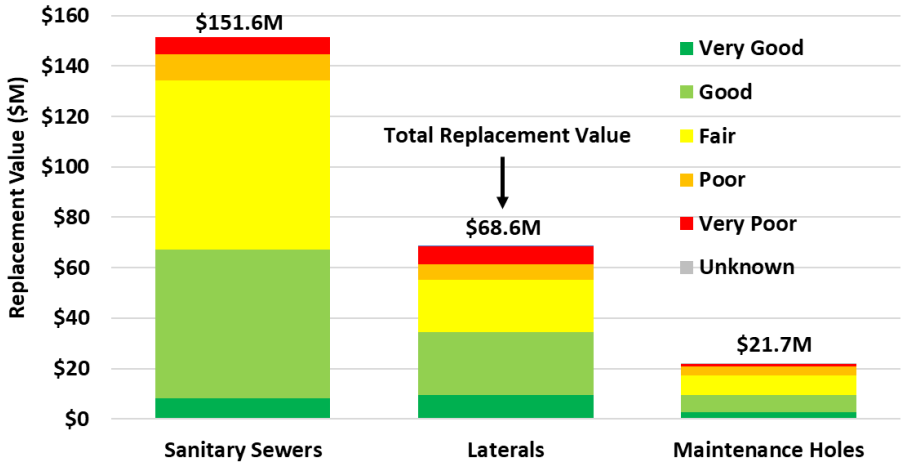


Figure 13-2 shows the condition distribution in more detail by asset category, with the total replacement value of each asset class shown at the top of each bar. Sewers are generally in good condition, with 89% in fair or better condition. Laterals and maintenance holes have a slightly lower percentage of assets in fair or better condition (80%).

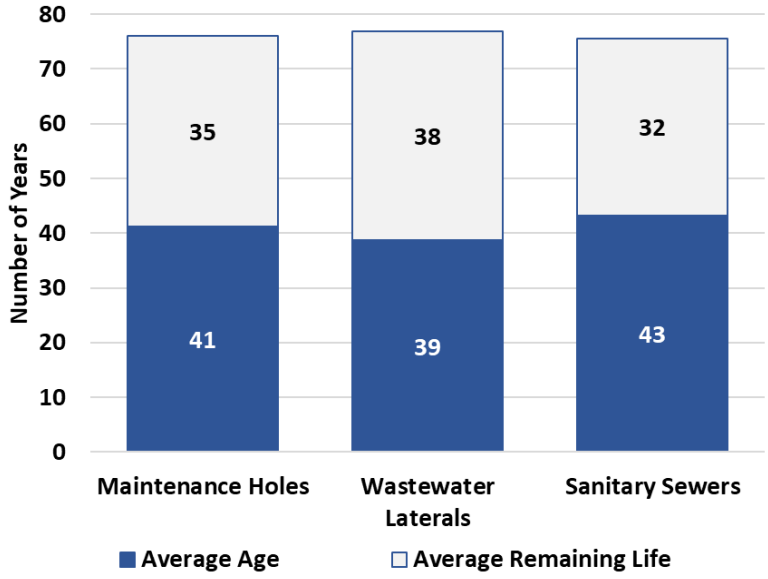
Figure 13-2 Condition Distribution by Replacement Value – Linear Wastewater



The age distribution for the Town's Wastewater assets is shown in Figure 13-3. This figure shows the average age of assets relative to their average service lives weighted by replacement value and are categorized by asset class (or asset type). Similar to the storm network, maintenance holes are generally expected to be replaced at the same time as the sewer, and their estimated service life is assumed to be the same as that of the average sewer, rounded to

the closest whole year (76 years). On average, the Town's sanitary sewers are at approximately just past mid-life.

Figure 13-3 Average Asset Age – Wastewater Infrastructure



13.3 Levels of Service

Table 13-2 provides the LOS Framework for the Town's Wastewater assets. Service levels are focused on minimizing backups and supporting a resilient network in the event of extreme weather events. For a map of the Town's sanitary sewers, refer to Figure 13-4. The Town does not have any combined sewers and therefore O.Reg. 588/17 measures related to combined sewers are not included in the AM Plan. Effluent violations are the responsibility of the Region and effluent-related measures are also not included in this AM Plan. The Town does report on untreated wastewater discharged into the natural environment via sewer network overflows.

Table 13-2 LOS Framework - Wastewater

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Capacity and Use: Provide adequate war supply				
Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes*: Surface water and groundwater can enter the sewage collection system and can cause surcharging, basement flooding, sewer bypasses, and reduced treatment efficiency at the plant. Inflow may occur through major defects in roof drains, foundation drains, manholes, and pipes. Infiltration occurs when the groundwater level rises above the elevation of the collection system, and can occur at damaged service connections, joints, and pipes. Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described above*: To reduce the potential for inflow and infiltration, the Town conducts CCTV inspections to identify defects and maintains its assets in a state of good repair through rehabilitation and repair work. To increase resiliency to sewage backups, the system is also designed with two overflow structures that allow sanitary overflow into an outlet pipe. Overflows are designed to reduce strain on the wastewater system during extreme weather conditions to prevent sewage from backing up into basements	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system	15 connection-days compared to 10,515 connected properties	As few as possible; improved performance over time	 As few as possible

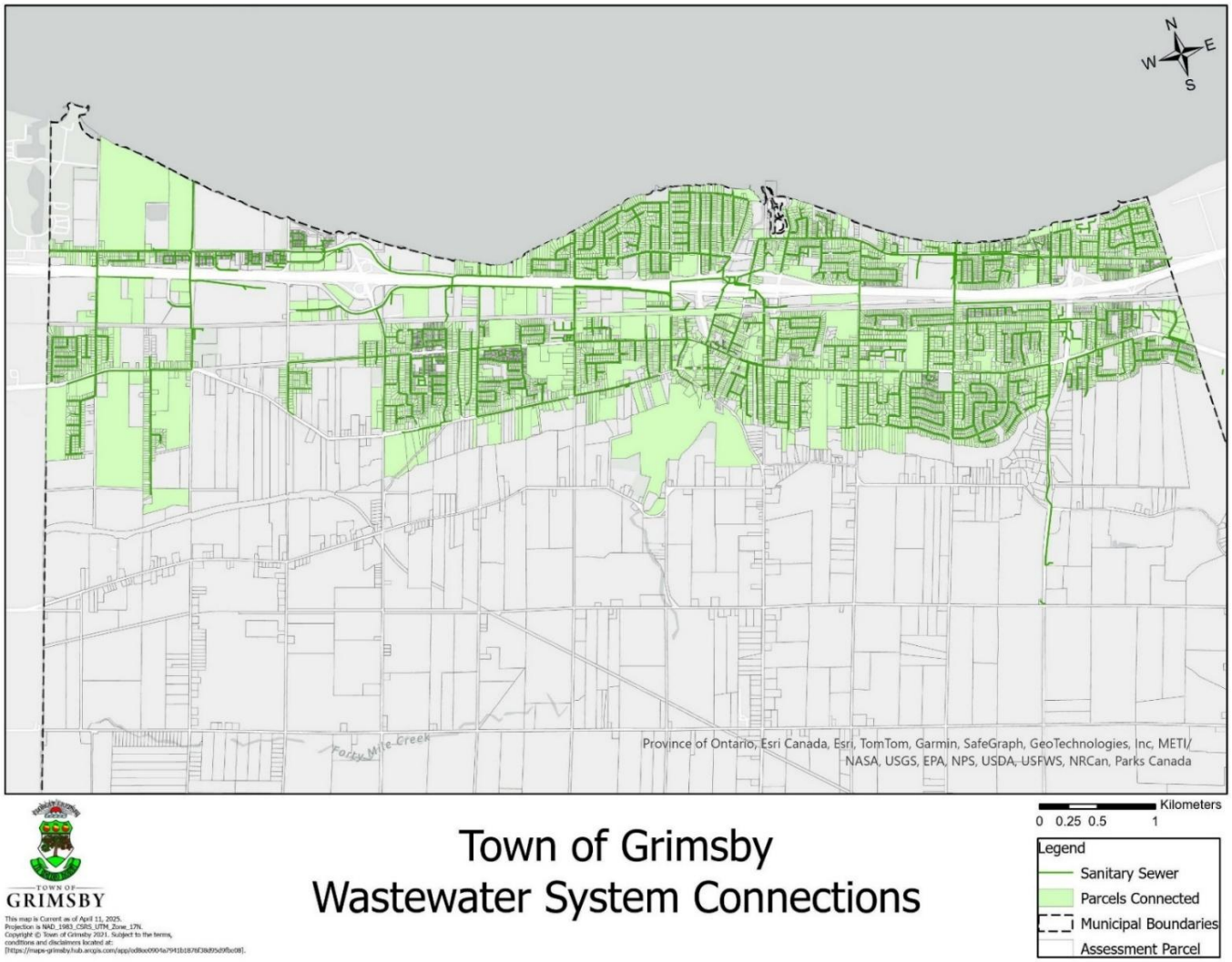
Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Description of the user groups or areas of the municipality that are connected to the municipal wastewater system*: Almost all properties have their wastewater collected through the Town's 113.3 km network of sanitary sewers. The Lincoln and West Lincoln wastewater systems discharge into the Grimsby system, which then conveys the flow to the Baker Road Wastewater Treatment Plant (WWTP). Refer to Figure 13-4 for a map of the Town's wastewater network and connected parcels.	Percentage of properties connected to the wastewater system	90.2%**	Maintain the current percentage of connected properties	 >90.2%
Quality and Reliability: Minimize wastewater overflows and backups				
Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system*: The Water Pollution Control Plant is a pre-denitrification activated sludge facility with a design capacity of 17,500 m3/day. It is operated according to its Environmental Compliance Approval which specifies effluent objectives for various parameters including Total Suspended Solids, Total Phosphorous, Total Ammonia Nitrogen, Total Nitrogen, E.Coli, and pH.	Total volume of untreated wastewater discharged into the natural environment via sewer network overflows	2056 cubic metres	Improve performance	 Improve performance
Quality and Reliability: Maintain wastewater assets in a state of good repair				
Assets are maintained in a state of good repair	Percentage of sewers in fair or better condition	89%	Renew assets per estimated service life	 >90%

* O.Reg. 588/17 LOS reporting requirement.

** This performance is calculated using the number of billed accounts. As a future improvement, the Town may consider calculating the number of connected properties based on individually parcelled properties identified through GIS.

Figure 13-4 Town of Grimsby Wastewater Network*

*Source: Official Plan Map



13.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur.

LoF is estimated based on the condition of the asset from Section 13.2. Sewers with a higher CCTV rating on the 1 to 5 scale are in worse condition and have a higher LoF than sewers with a low CCTV condition rating.

The land use associated with the wastewater system, such as more populated downtown areas and proximity to an institution such as a hospital, is factored with pipe diameter to determine an overall CoF score for each pipe segment.

A summary of the CoF scoring approach is provided in Table 13-3. Diameter plays a significant role in sewer failure, as the magnitude of potential backups and flooding is directly related to the volume of wastewater in the pipes. Appurtenances such as laterals and maintenance holes were determined to have a similar or lower criticality as the associated sewer main. Sewers that cross the Queen Elizabeth Way (QEW) highway and/or the Canadian National (CN) railway are assigned a CoF of 5.

Table 13-3 CoF Scoring Approach – Wastewater

Asset Category	Criteria		
	Criteria Description	CoF Score	Weighting
Stormwater			
Sanitary sewers (including appurtenances)	<450mm diameter	1.67	50% Diameter + 50% Land Use
	>450 to 825 mm	3.33	
	>825 mm	5	

The Risk Exposure Framework shown in Figure 13-5 combines the Criticality (CoF) ratings with the LoF ratings for Wastewater infrastructure. As shown in Figure 13-5, an estimated $1.6 million of Wastewater assets currently have a very high-risk exposure (red). The very high-risk assets consist of eleven sewer segments of mostly vitrified clay and non-reinforced concrete pipe material, installed between 1929 and 1979.

Figure 13-5 Risk Exposure for Wastewater Assets* ($M)

Risk exposure in year 2025 $, millions

LoF						
	5	$0.2	$8.0	$2.0	$0.3	$0.6
	4	$0.2	$13.9	$1.7	$0.0	$0.7
	3	$1.4	$89.6	$10.9	$1.2	$4.1
	2	$0.9	$71.8	$15.4	$3.9	$2.0
	1	$0.0	$10.6	$1.8	$0.7	$0.0
		1	2	3	4	5
		CoF				

Risk Exposure	$	%
Very High	$1.6M	0.7%
High	$9M	3.7%
Moderate	$143.9M	59.5%
Low	$75.9M	31.4%
Very Low	$11.5M	4.8%
Total	$241.9M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

In addition to asset condition and reliability risks, the Town mitigates capacity and functional related risks related to wastewater quality by assessing the need for, and planning for, additional infrastructure including sewers assumed by the Town through development. The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs.

13.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that the Wastewater system provides service in a sustainable and reliable manner while also addressing increasing demands due to population growth. The costs for these activities to meet proposed service levels are discussed in the following subsections.

13.5.1 Renewal Forecast

The renewal forecast for sewer mains considers the current condition or age of each asset and estimates the planned replacement year based on the estimated service lives of each material described in Table 13-5. Similar to storm mains, it is assumed that the majority of sewers that are less than 600mm can be lined, and all those over 600mm will require open cut full replacement. The relining strategy reduces the overall lifecycle cost as the lining is estimated to cost approximately 50% of a full replacement and is expected to extend the service life of the pipe an additional 50 years, if not longer. Appurtenances are forecasted to be replaced with sewers at end of the sewer's life.

Summary of Recommended 10-Year Renewal Strategy:

- Maintains percentage of assets in fair or better condition above 90% over 10-year forecast
- Sanitary sewer renewal needs, including appurtenances, are forecasted based on current condition (CCTV score) and estimated service life (by material)
- It is assumed that the majority of sewers below 600mm in diameter that require renewal may be relined, reducing overall lifecycle costs
- I&I needs are based on projects identified in the 10-year Capital Plan, totaling $16.7 million

Table 13-4 Estimated Service Life – Wastewater Assets

Asset	Material	Estimated Service Life (Years)
Sewer Mains and Laterals	Asbestos Cement	75
	Non-Reinforced Concrete	75
	Plastic	80
	Vitrified Clay	60
	VIT/Polyvinyl Chloride	60
	Other	60
	High Density Polyethylene	80
Maintenance Holes		76

For wastewater infrastructure, the proposed performance is to replace sewers per the estimated service lives, which slightly improves the percentage of assets in fair or better condition above 90%, as shown in Figure 13-6. This projection also includes the impact of the $7.2 million project to address some of the needs identified to address inflow and infiltration (I&I) issues related to the Baker Road wastewater system.

The Baker Road wastewater system services Grimsby, the communities of Beamsville, Campden, Jordan and Jordan Station, and Vineland in the Lincoln area, and the Smithville area in West Lincoln. The Town, other Local Area Municipalities (LAMs), and Niagara Region have joint responsibility for the management and operation of the Baker Road wastewater system. In 2021, the Baker Road WWTP Pollution Prevention and Control Plan and Master Servicing Plan Update (Baker Road PPCP) was completed to recommend system optimization, upgrades, or other infrastructure planning approaches to address growth and existing customer base capacity needs. For the Town, these recommendations included sewer upgrades to support the Grimsby GO Secondary Plan, and I&I reduction programs to manage peak flows in the following catchment areas:

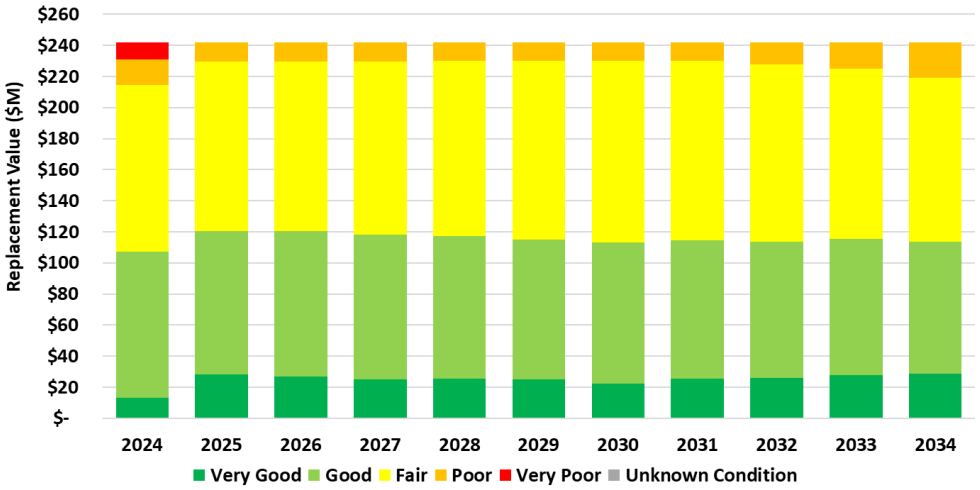
- Biggar Lagoon Pump Station catchment
- Woodsview Sewage Pumping Station catchment
- Old Orchard Sewage Pumping Station catchment
- Lake Street Sewage Pumping Station catchment

The Town's Capital Plan includes I&I needs totaling $16.7 million, or $1.7 million per year.

Figure 13-6 does not include the impact of additional I&I Capital projects funded in later years (2031-2034), as the specific segments being replaced through those later projects have not yet been identified.

Figure 13-6 Renewal Needs Forecast –Wastewater Infrastructure

Expected Performance ($2.4 million/yr)	Proposed Performance ($2.4 million/yr)
The proposed performance is the same as the expected performance, which is to complete all renewals as forecasted per the estimated service lives. This will improve asset condition to 90% of assets in fair or better condition by 2034.	

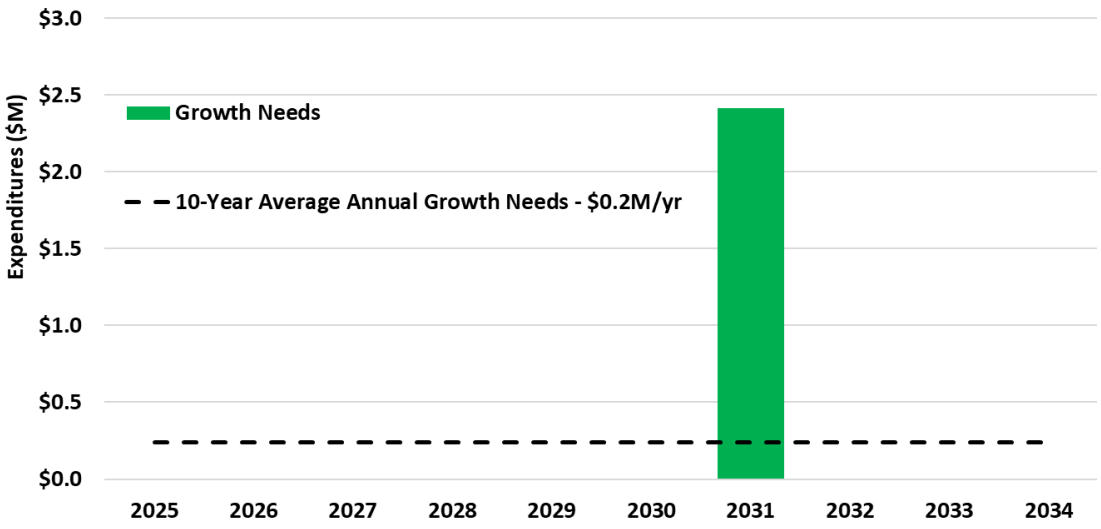


13.5.2 Growth Forecast

Figure 13-7 summarizes the currently identified growth needs over the next 10 years for Wastewater that support the Town's capacity and use measures in Section 13.3. The main growth project is the Development Charge-funded portion of the Wastewater improvement project at South Service Road, from Hunter Road to Roberts Road Sewage Pumping Station.

The average annual growth need for wastewater infrastructure is estimated at $0.2 million per year over the next 10 years.

Figure 13-7 Growth Needs Forecast – Wastewater



13.5.3 Upgrade Forecast

Upgrades related to upsizing of sewers are assessed through the Town's Wastewater model and are considered at the time of replacement due to renewal (Section 13.5.1).

13.5.4 Operations and Maintenance Forecast

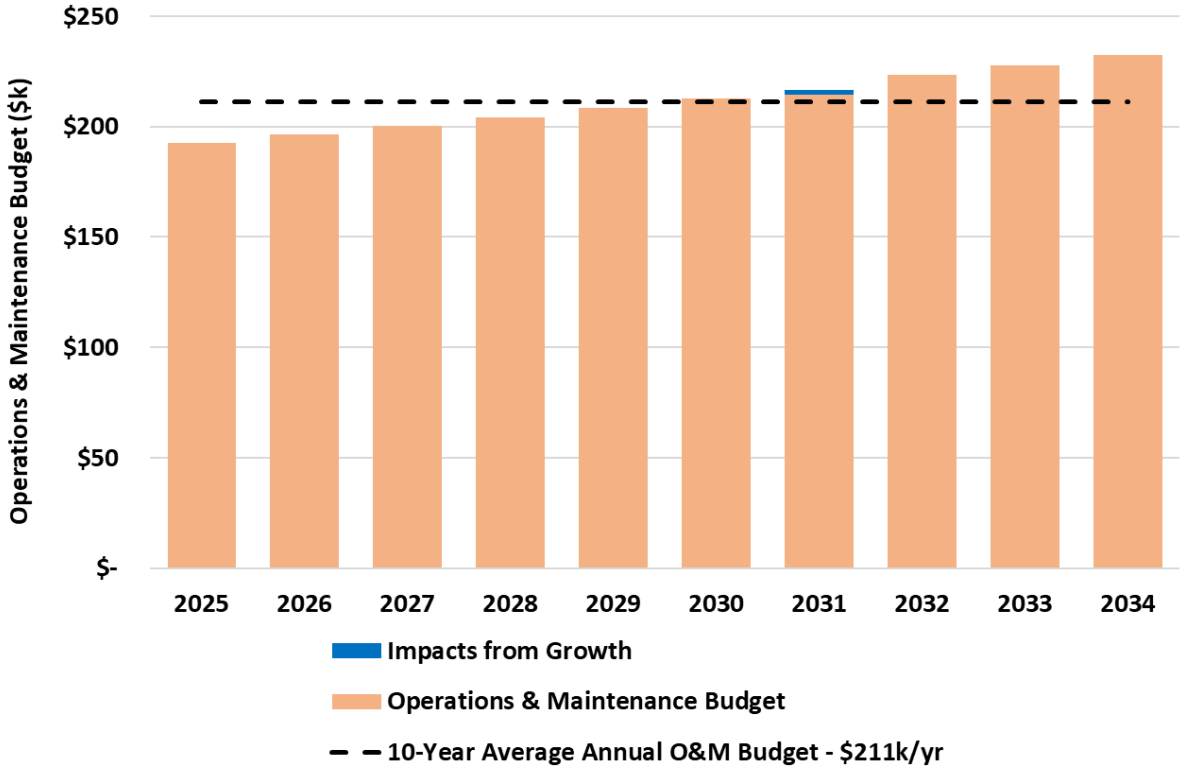
Operations and maintenance work is critical for ensuring the continued reliability of wastewater assets and meeting the proposed service levels.

Figure 13-8 shows the Operations and Maintenance needs over the next 10 years for Wastewater. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio, although minor. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 2.1%. The forecast does not include impacts from assets constructed independently through development projects and later assumed by the Town.

Operations and maintenance activities on sanitary mains and appurtenances include:

- Sewer flushing
- CCTV inspections
- Spot repairs
- Maintenance hole repairs
- Sewer lateral maintenance

Figure 13-8 Operations and Maintenance Needs Forecast – Wastewater*



*Additional impacts due to assets that will be assumed by the Town through development are not included.

13.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs.

The funding available for renewal of wastewater infrastructure is estimated to be an average of $2.4 million per year over the next 10 years based on the Town's contributions to funding projects in the Capital Plan.

Figure 13-9 Capital Renewal Needs versus Funding – Wastewater

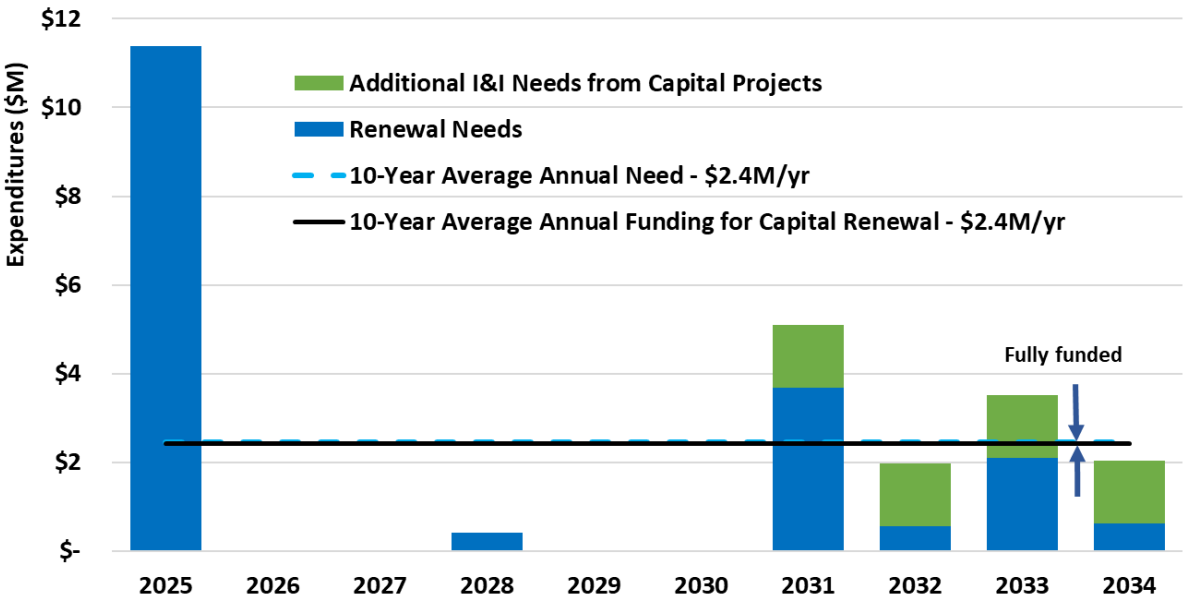


Table 13-5 summarizes the financial sustainability and affordability for growth, renewal and upgrade, and O&M activities. The funding gap pertaining to growth is due to the inadequate contributions (~18%) expected for Development Charges currently committed in the 10-Year Capital Plan for wastewater growth projects. The Town will continue to review provincial legislation and monitor policy changes to fully assess their impact on the Town's financial budget. The Town may need to offset lost revenue through utility rate hikes or service level changes. The Town has received grant funding from the Region through the CSO program for I&I reduction work, and expects to apply for and receive funding through this grant in future years. In terms of operations and maintenance, the Operating Budget gap is expressed as the average annual rate increase needed to meet proposed service levels over the next 10 years.

Table 13-5 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Funding Gap	Potential Impacts
Capital Growth	$0.24 M/yr	$0.04 M/yr	$0.2 M/yr	Reductions in available funding may delay or scale back critical infrastructure projects needed to support new growth.

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Funding Gap	Potential Impacts
Capital Upgrade	--	--	--	--
Capital Renewal	$2.4 M/yr	$2.4 M/yr	No funding gap	Wastewater renewal needs are expected to be fully funded.
Operations and Maintenance	$193 k in 2025 to $232 k in 2034; 2.1% average annual increase	-	2.1% average annual increase	Failure to fund operations and maintenance activities will result in reduced service levels and increased risks, such as sewer backups and greater inflow and infiltration.

13.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations include:

Table 13-6 AM Plan Improvement Recommendations – Wastewater

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Continue to conduct CCTV inspections of sewers to maintain accurate understanding of sewer condition.
Levels of Service	• Track the duration of each wastewater backup event to improve accuracy of reporting. • Maintain list of segments which require regular flushing and link this to the GIS database to enable tracking of the number of mainline and lateral locations which require regular flushing.
Risk Management	• Continue to improve risk scoring methodologies, such as land use CoF ratings, weighting of CoF factors, and incorporation of additional factors not currently considered due to limited data. Consider hydraulic modeling for improving CoF ratings for stormwater, wastewater, and water networks. • Continue to update and maintain the Wastewater model.
Lifecycle Management	• Formalize the process of considering proactive replacement of high-risk segments before end-of-life, particularly at critical crossings such as the QEW or CN network. • Continue to identify and plan projects to address I&I issues.
Financial Management	• Continue to review Bill 23 legislation to fully understand impacts on DC funding and the Town's financial budgets. • Consider longer-term financial planning for infrastructure needs beyond the 10-year forecasting period of this AM Plan. • Explore opportunities for external funding such as Federal, Provincial, and Regional grants.

14 PARKS, OUTDOOR RECREATION AND NATURAL INFRASTRUCTURE

14.1 Overview

Municipal Parks, Outdoor Recreation, and Natural Infrastructure provide valuable spaces for residents to enjoy leisure and physical activity. These green spaces and recreational facilities support outdoor play, sports, and relaxation for residents and visitors. By promoting active lifestyles and community engagement, they play a key role in enhancing the Town's livability and overall quality of life.

Key Findings

- **There is an estimated $1.2 million per year funding gap** to renew parks & outdoor recreation assets per their estimated service lives and maintain the asset portfolio in fair condition.
- **An updated Parks Recreation and Culture Master Plan will inform target provision levels for future growth.** The updated plan will also inform potential needs to add spaces for outdoor recreation amenities and parkland.

14.2 State of Infrastructure

Parks and Outdoor Recreation assets include built amenities such as tennis courts, ball diamonds, playgrounds, trails and general park infrastructure such as park parking lots and shoreline protection. Natural Infrastructure covers assets such as trees, meadows, and wetlands. The inventory was developed based on the work done by the Niagara Peninsula Conservation Authority to categorize natural areas by Ecological Land Classifications. Establishing a current replacement cost for natural assets is somewhat more challenging than for other assets since natural areas (e.g. forest and wetlands) are not typically built or constructed. Therefore, estimating a replacement cost is achieved by estimating the anticipated cost to restore a natural asset using average estimated restoration costs per hectare of natural areas. The total current replacement value of Parks, Outdoor Recreation, and Natural Infrastructure assets is estimated to be $91.3 million.

Table 14-1 provides a breakdown of the inventory and replacement value by asset type. Play structures and swings account for approximately half of the outdoor recreation asset replacement value, and shoreline protection accounts for a significant portion of general park infrastructure value.

Table 14-1 Inventory Summary - Parks, Outdoor Recreation & Natural Infrastructure

Asset Category	Asset Type	Quantity	Replacement Value (2025$M)
Outdoor Recreation	Ball Diamond	11	$1.7
	Basketball Court	8	$0.8

Asset Category	Asset Type	Quantity	Replacement Value (2025$M)
	Beach Volleyball	1	$0.01
	Dog Park	3	$0.2
	Lawn Bowling	1	$0.01
	Multi-use Court	1	$0.5
	Outdoor Fitness System	1	$0.1
	Outdoor Rink	1	$0.1
	Outdoor Track	1	$0.1
	Pickleball Courts	1	$0.2
	Rugby Field	1	$0.2
	Skateboard Park	1	$0.1
	Soccer Field	18	$3.7
	Splash Pad	2	$0.7
	Tennis Courts	1	$0.5
	Play Structure Community Park	13	$3.3
	Play Structure Neighbourhood Park	44	$4.5
	Swing	44	$0.9
	Climbing wall	2	$0.03
	Dog Park Pavilion	1	$0.1
	Light Posts Sports facility	47	$0.3
	Sports Field Fencing	1125 m	$0.3
		Subtotal:	**$18.2**
Park Vehicular and Pedestrian Network	Bridge	8	$1.0
	Retaining Wall	1	$0.7
	Pier	1	$1.1
	Park Parking Lots	21	$2.6
	Trails	27,807 m	$7.0
		Subtotal:	**$12.4**
General Park Infrastructure	Bench	120	$0.1
	Bench (Memorial)	43	$0.1
	Bike rack	27	$0.1
	Garbage can	150	$0.2
	Light Posts Parking Lot	18	$0.05
	Light Posts Pathway	12	$0.01
	Monument	3	$0.02
	Picnic table	47	$0.02
	Shoreline Protection	2,369 m	$31.6
	Fences and Walls	19,816 m	$2.4
	Park Signs	72	$0.02
		Subtotal:	**$34.6**

Asset Category	Asset Type	Quantity	Replacement Value (2025$M)
Natural Infrastructure	Garden*	301 sq.m.	$0.004
	Meadows and Thickets*	274,239 sq.m.	$0.5
	Shoreline (beach)*	8,082 sq.m.	$0.02
	Wetlands and Swamps*	244,256 sq.m.	$1.4
	Woodlands and Woodlots*	531,254 sq.m.	$2.7
	Street Trees	8,035	$18.5
	Park Trees	1,281	$3.0
		Subtotal:	**$26.1**
		Total	**$91.3**

*Replacement value estimated based on restoration costs per hectare

The condition for Parks, Outdoor Recreation and Natural Infrastructure assets is based on condition ratings where available, and remaining service life based on age where ratings are not documented.

Figure 14-1 Condition Distribution by Replacement Value ($M)

Figure 14-1 shows the condition distribution by replacement value for all Parks, Outdoor Recreation and Natural Infrastructure Assets. 82% of assets are in fair or better condition, excluding assets in unknown condition.

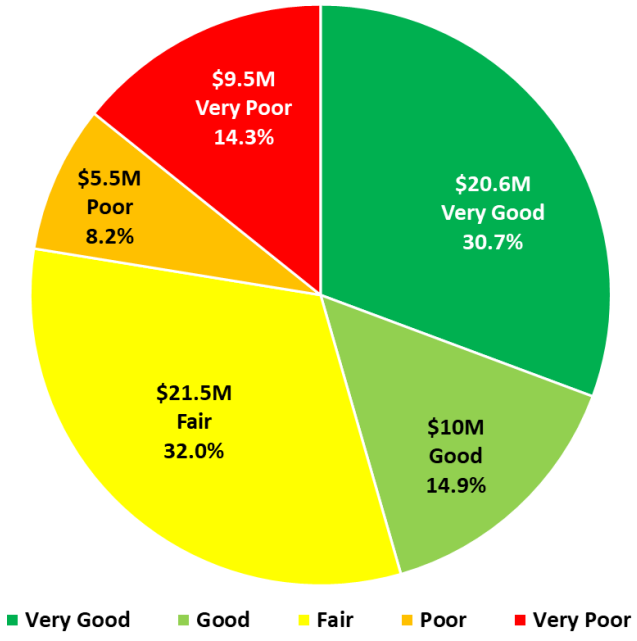
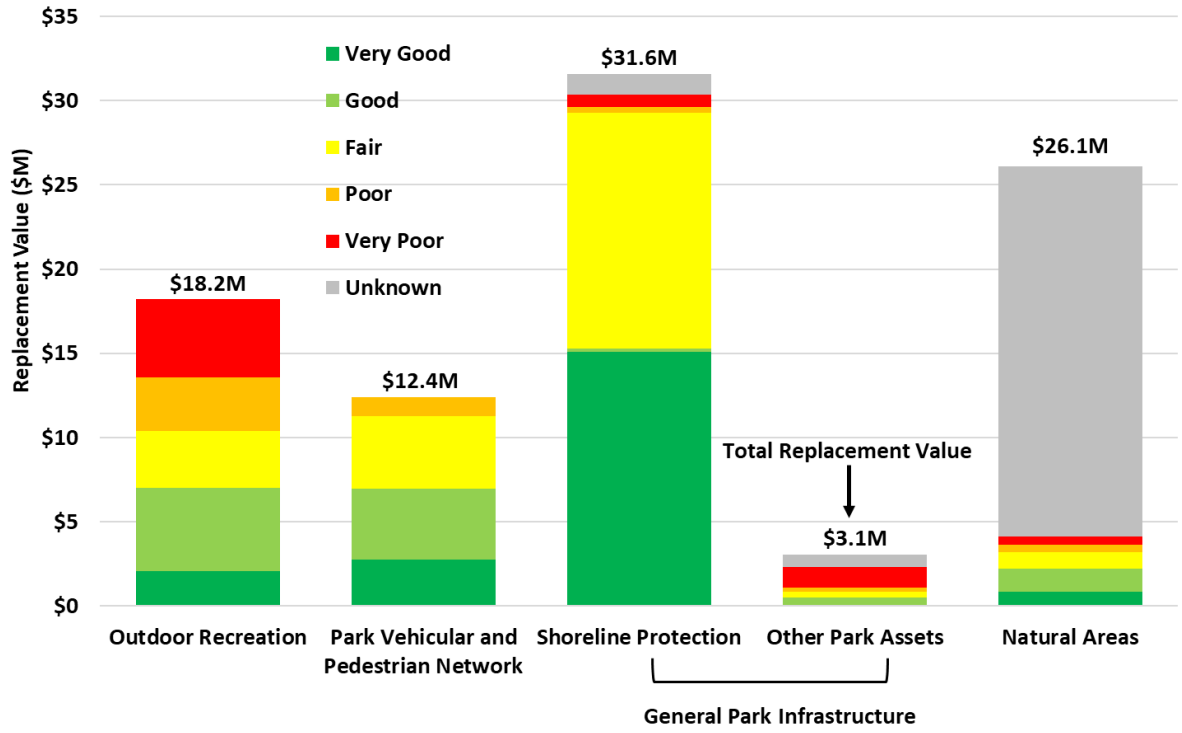


Figure 14-2 shows the condition distribution in more detail by asset class for Parks and Outdoor Recreation assets, with the total replacement value of each asset class shown at the top of each bar. A significant portion of playgrounds are estimated to be in poor condition based on observed condition if available, or age. A significant portion of tennis courts, basketball courts, rugby fields, and soccer fields are near or at end-of-life, but the Town manages them such that they are adequate for community use.

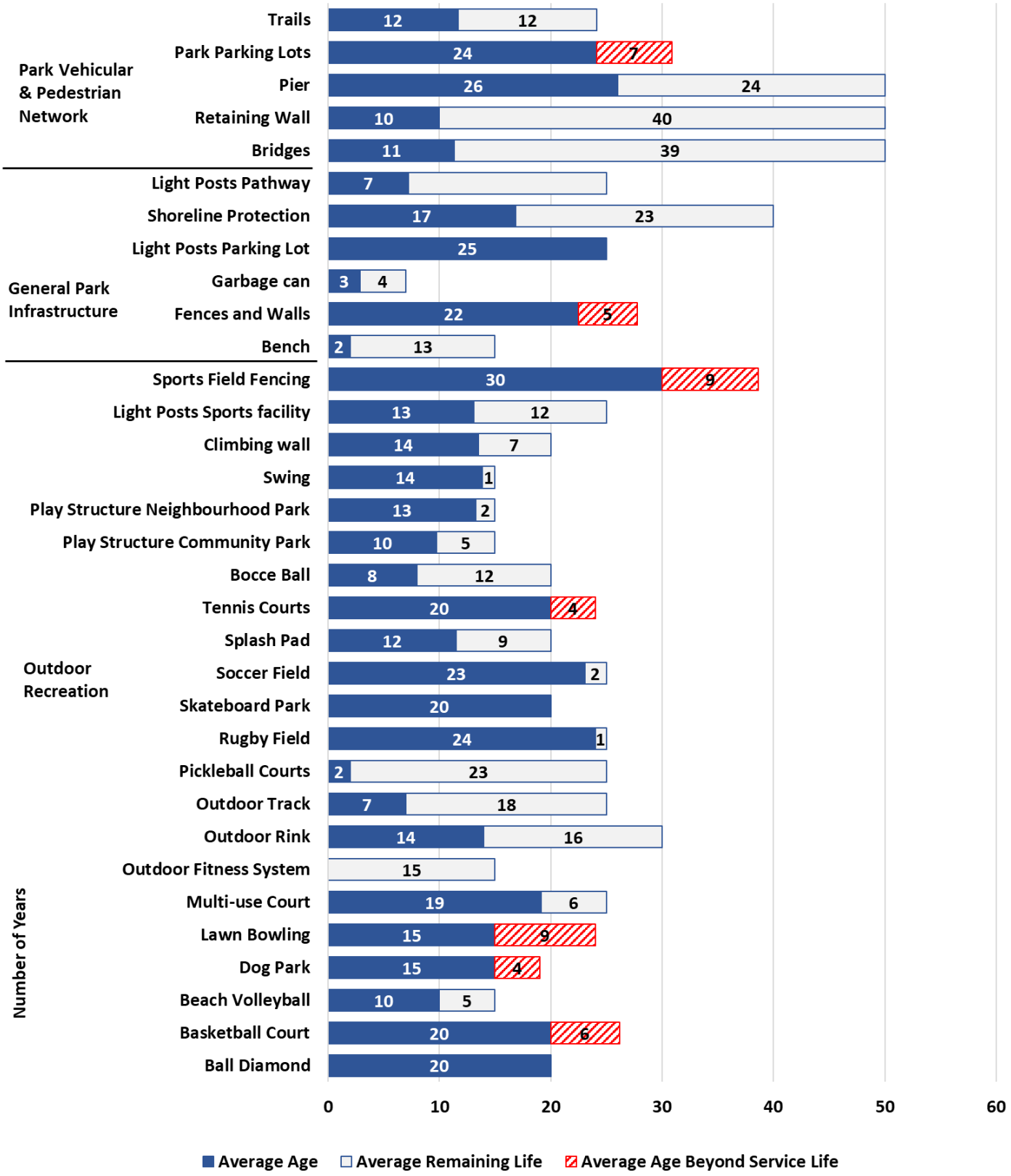
In Figure 14-2, only 42% of outdoor recreation assets are in fair or better condition. 92% of general park infrastructure is in fair or better condition, with fences and walls representing a significant portion of the very poor assets. Park vehicular and pedestrian network assets are generally estimated to be in good condition. For natural infrastructure, most assets, except for park trees, are not assessed for condition.

Figure 14-2 Condition Distribution by Replacement Value – Parks, Outdoor Recreation, and Natural Infrastructure



The average age and estimated service life of the Town's park and outdoor recreation assets, weighted by replacement value, is summarized in Figure 14-3 where data is available. Construction year is generally not applicable to natural infrastructure assets, and purchase year is typically also not tracked on an individual basis for park furniture and other general park infrastructure such as benches, monuments, and garbage cans. On average, the Town's basketball courts, tennis courts, lawn bowling green, dog parks, and park parking lots are past their service life, but are maintained in useable condition. Sports field fencing and general park fences and walls are also, on average, past their service life.

Figure 14-3 Average Asset Age – Parks & Outdoor Recreation



14.3 Levels of Service

Table 14-2 provides the LOS Framework for the Town's Parks, Outdoor Recreation and Natural Infrastructure assets. This table includes the current performance (as of the end of 2024), any aspirational targets set out by the Town and proposed performance over the next 10 years. Proposed performance is determined based on what is appropriate for the Town in consideration of the Town's current 10-year planned funding provision in the Capital Plan as well as risks associated with various performance levels, discussed further in Section 14.6.

To manage the impacts of the Town's growing population and evolving demographics, the Town maintains an appropriate number of outdoor recreation amenities compared to the population to align the Town's portfolio with current and future needs. The most recent provision levels for outdoor recreation facilities are reported for 2021, compared against the Town's 2021 population. The Parks Master Plan update currently in development will inform the future provision rates for these amenities.

The 2019 Parks, Recreation, and Culture Master Plan also identified the area of parkland per 1000 residents. To maintain the current parkland provision level of 2.77 hectares of parkland per 1000 residents, it is estimated that 20.17 hectares of additional parkland is needed by 2035 to accommodate the Town's anticipated population increase to 39,957. The Town may also consider a future measure related to canopy cover, aligned with the Town's strategic priority to protect the natural environment.

The Town's Recreational Trails Master Plan supports its initiative to provide a comprehensive and connected townwide system. A key capacity service level relates to the length of constructed urban destination trails, which are generally accessible multi-use trails maintained for year-round use. As of 2024, the Town has 8.5km of urban destination trails, with plans to increase the trail network. 5.53 km of new trails is budgeted for in the Town's Capital Plan over the next 10 years.

In terms of quality and reliability, the Town proposes to maintain the current condition of the asset portfolio over the next 10 years.

Table 14-2 LOS Framework, Parks, Outdoor Recreation & Natural Infrastructure

<table>
<tr><th rowspan="2">Community LOS</th><th colspan="4">Technical LOS</th></tr>
<tr><th>Metric(s)</th><th>Current LOS</th><th>Target LOS</th><th>Proposed LOS</th></tr>
<tr><td colspan="5">Capacity & Use – Provide adequate provision of parks and outdoor recreation facilities</td></tr>
<tr><td rowspan="3">An adequate provision of parks & recreation facilities is available to the community. Trails provide year-round recreational opportunities for residents and visitors to access and enjoy public greenspace through a comprehensive and connected citywide system.</td><td>Number of residents per amenity type</td><td><table><tr><th>Asset Type</th><th>Per Capita (2021)</th></tr><tr><td>Tennis Courts</td><td>1:7,221</td></tr><tr><td>Pickleball Courts</td><td>1:7,221</td></tr><tr><td>Soccer/Multi-Use Fields</td><td>1:1,805</td></tr><tr><td>Ball Diamonds</td><td>1:2,626</td></tr></table>For provision levels for other asset types, refer to 2019 Parks Recreation and Culture Master Plan.</td><td>TBD based on Parks Master Plan update</td><td>TBD based on Parks Master Plan update</td></tr>
<tr><td>Parkland area per 1000 residents (neighbourhood + community parks)</td><td>2.77 ha/1,000 residents</td><td>TBD based on Parks Master Plan update</td><td> 
2.77 ha/1,000 residents
TBD based on Master Plan update</td></tr>
<tr><td># of km of urban destination trails (multi-use trails with year-round use)</td><td>Urban destination trails: 8.5 km</td><td>Urban destination trails: 14.03 km</td><td> 
Same as target</td></tr>
</table>

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Quality & Reliability – Maintain parks and outdoor recreation assets in a state of good repair and maintain healthy natural areas				
Assets are maintained in a state of good repair to provide reliable services to the community.	Percentage of park and outdoor recreation assets in fair or better condition	82%	Renew assets per estimated service life	 Maintain >67%*
	Percentage of park trees in fair or better condition	91%	Renew assets per estimated service life	 Maintain current performance

*Though the % fair/better decreases, it is maintained above 67% and the % of very poor assets is reduced. Poor assets increase but do not represent assets at end-of-life.

14.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur. Critical assets with a high CoF include playgrounds, skateboard parks, splash pads, the outdoor fitness system, and shoreline protection.

The risk results are plotted on a risk map (Figure 14-4) to show a visual representation of risk exposure across the Town's assets.

An estimated $1.4 million of assets, worth 2.2% of the portfolio, currently have a very high-risk exposure, including:

- 6 play structures, installed between 1995 and 2004
- 1 skateboard park, installed in 2004
- 2 shoreline protection assets installed in 1981, (53 metres total length)

Figure 14-4 Risk Exposure for Parks, Outdoor Recreation & Natural Areas ($M)*

Risk exposure in year 2025 $, millions

LoF						
	5	$0.0	$0.0	$0.0	$1.4	$0.0
	4	$0.0	$0.0	$0.0	$3.0	$0.0
	3	$0.0	$4.0	$0.1	$17.0	$0.0
	2	$1.3	$1.8	$4.1	$1.5	$0.0
	1	$4.6	$7.6	$0.9	$16.1	$0.0
		1	2	3	4	5
		CoF				

Risk Exposure	$	%
Very High	$1.4M	2.2%
High	$3M	4.7%
Moderate	$17M	26.9%
Low	$9.7M	15.3%
Very Low	$32.2M	51.0%
Total	$63.3M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

Over the past few years, the Town has experienced steady growth, and continues to plan for responsible growth and development through the Official Plan review, development of the Transportation Master Plan, and update to the Parks Master Plan. The Town mitigates capacity-related risks by assessing the need for additional infrastructure and planning for additional infrastructure assumed by the Town through development. The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs.

14.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that parks, outdoor recreation, and natural infrastructure provide safe, accessible, and reliable recreational opportunities while also addressing increasing demands due to population growth. The costs for these activities to meet proposed service levels are discussed in the following subsections.

Summary of Recommended 10-Year Renewal Strategy:

- Maintains percentage of assets in fair/better condition above 67% (overall portfolio is maintained in Fair condition).
- Assets are replaced at expected end-of-life based on observed condition or age compared to the estimated service life, with some deferred renewals of less critical assets.

14.5.1 Renewal Forecast

The renewal forecast considers the current condition or age of each asset and estimates the planned replacement year based on the estimated service lives summarized in Table 14-3. The lifecycle of natural assets such as trees and woodlots are managed through operations and maintenance activities and are not designated an estimated service life.

Table 14-3 Estimated Service Life – Parks and Outdoor Recreation

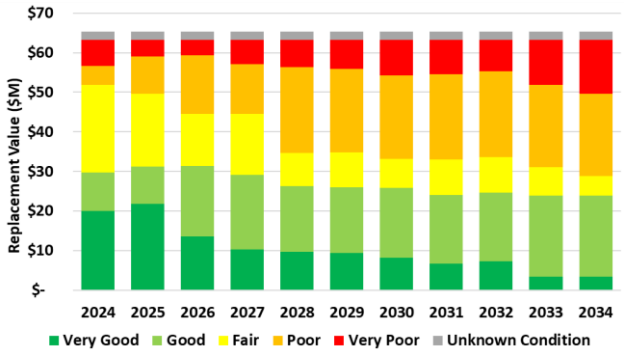
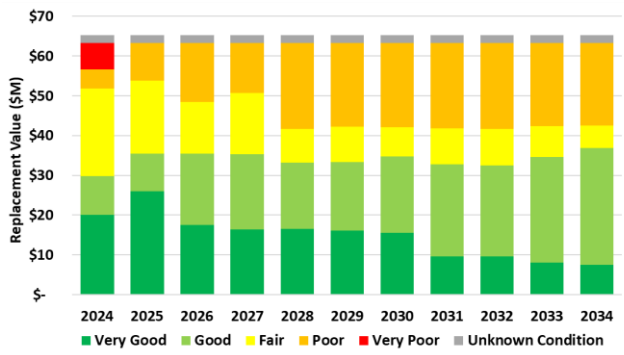
Asset Category	Asset Class	Estimated Service Life (Years)
Outdoor Recreation	Basketball Court, Tennis Courts	15 to 20*
	Multi-Use Court	25*
	Other amenities (baseball, soccer, skateboard park, splash pad, etc.)	15 to 25*
	Play Structures, Swings	15
	Light Posts (Sports Field)	25
	Fencing (Sports Field)	30
Park Vehicular and Pedestrian Network	Park Parking Lots	Gravel: 10; Asphalt: 15; Concrete: 50
	Trails	Paved: 20 to 30; Gravel, Woodchips: 10; Dirt/Native: 50
	Bridges (footbridges), Retaining Wall, Pier	50
	Shoreline Protection	40
Other Parks & Recreation Assets	Park furniture (benches, picnic tables)	15
	Garbage can	7
	Bike rack	10
	Monument	20
	Light posts (Pathways, Park)	25
	Signs	10
	Fences and Walls	Wrought Iron: 50 Other materials: 20 to 30

* For hard surface courts, the estimated service life is for a major rehabilitation of the court surface rather than full replacement.

For park infrastructure, the proposed performance is to renew all assets at end of life over the next 10 years, as shown in Figure 14-5. The average annual renewal need is estimated at $2.1 million per year. The expected performance based on the estimated available funding is lower than the proposed service level.

The expected performance based on the funding contributions to Capital projects is lower than the proposed service level, resulting in a decline in asset condition.

Figure 14-5 Renewal Needs Forecast – Parks, Outdoor Recreation, and Natural Areas

Expected Performance ($0.9 million/yr)	Proposed Performance ($2.1 million/yr)
The condition is expected to deteriorate based on available funding to 46% of assets being in fair or better condition by 2034. **The average available funding is $0.9 million per year.**	The proposed performance is to complete asset renewals at end of service life and maintain condition of assets at above 67% in fair or better condition over the next 10 years. The % of Very Poor assets is reduced. **Average renewal need is $2.1 million per year.**
	

14.5.2 Growth Forecast

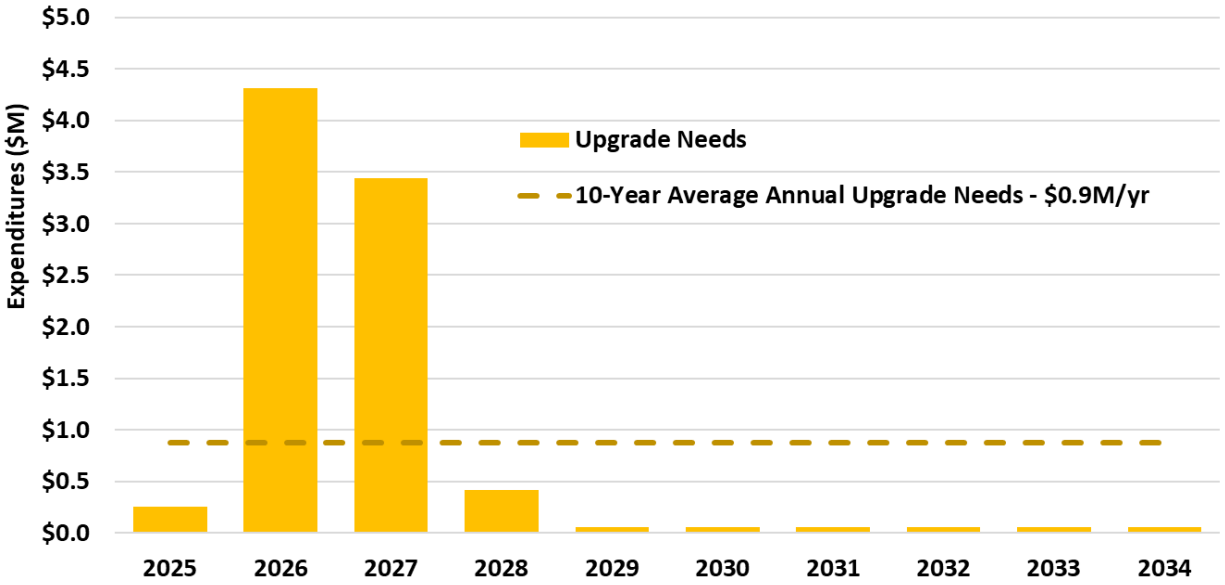
There are no projects specifically designated as growth in the Town's 10-year Capital Plan. To manage the impacts of a growing population and evolving demographics, the Town is completing trail improvements identified through the Recreational Trails Master Plan. These projects are considered to be upgrades and are described further in Section 14.5.3. The proposed per capita service levels and associated need for new outdoor recreation amenities such as baseball diamonds and tennis courts will be informed by the update to the Parks Master Plan. Parkland area per capita provision rates will also be informed by the Master Plan update. The Town estimates that an additional 20 hectares of parkland is required to maintain the current provision of 2.77 hectares of parkland per 1000 residents through to 2035. The costs for this additional parkland have not yet been estimated.

14.5.3 Upgrade Forecast

The Town upgrades its assets to improve the quality of life for residents, in alignment with the Town's strategic priorities. Planned trail upgrades totalling $5.3 million over the next 10 years will add 5.53 km of trail segments. These trails include primarily off-road links that support walking, cycling, and other active recreation, including the Bruce Trail, park pathways, trails in natural areas, hydro corridors and long rail connections, and pathway access to the waterfront.

Another key upgrade is the repair and revitalization of the pier and surrounding park at the Elizabeth St. Pumphouse. It is estimated that 75% of the pier and Pumphouse improvements are related to upgrades, with 25% considered renewal. Other upgrades include Nelles Lake Beach Park improvements, of which 50% are estimated to be related to upgrades, and 50% renewal. Total upgrade needs are currently estimated at $8.8 million over the next 10 years, with projects mainly scheduled in the first four years. The Town has an annual shoreline protection program of which 25% is assumed to be related to upgrades. Other upgrade projects include green infrastructure projects, park signage replacement, and wayfinding signage. Additional needs related to parks and outdoor recreation upgrades may be determined in the update to the Parks Master Plan.

Figure 14-6 Upgrade Needs Forecast – Parks, Outdoor Recreation, and Natural Infrastructure



14.5.4 Operations and Maintenance Forecast

Operations and maintenance work is critical for ensuring the continued provision of parks and recreation services and meeting the proposed service levels related to asset condition.

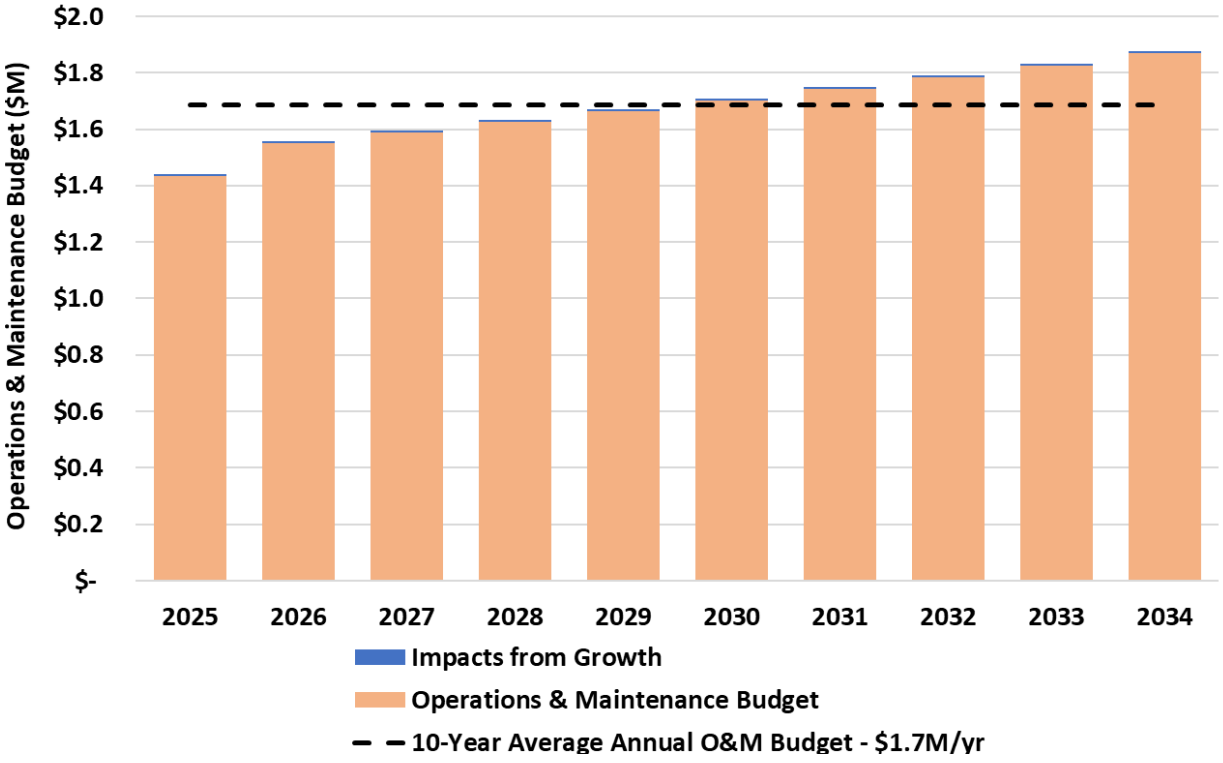
The Town also supports asset reliability service levels through operations and maintenance (O&M) work. The forecast excludes non-asset lifecycle related expenses such as recreational programming. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 3.0%. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio due to the completion of the trails upgrade projects.

Operations and maintenance activities include:

- Grass mowing
- General parks maintenance such as planting and beautification
- Maintenance of irrigation systems
- Maintenance of amenities such as baseball diamonds, soccer fields, and outdoor ice rinks
- Utility costs
- Tree pruning
- Contracted services

The Town will be reviewing O&M activities for natural infrastructure such as forested areas, meadows, and wetlands and considering formalizing these activities for incorporation into the Operating budget in the future. The forecast does not include impacts from assets constructed independently through development projects and later assumed by the Town.

Figure 14-7 Operations and Maintenance Needs Forecast – Parks, Outdoor Recreation, and Natural Infrastructure



14.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs.

The funding available for renewal of parks, outdoor recreation, and natural infrastructure is estimated to be an average of $0.9 million per year over the next 10 years based on the Town's contributions to funding projects in the Capital Plan, as well as an infrastructure levy distributed proportionally across applicable service areas. The significant need in 2025 is due to a backlog of renewal work for parks & recreation assets in very poor condition and/or past their service life. As these needs cannot all be addressed in one year, the Town will balance this work in future years along with the additional needs identified over the forecast period. As discussed in Section 14.5.1, the estimated average annual renewal need is $2.1 million per year to meet proposed service levels. This results in an investment gap of $1.2 million per year, assuming that the Town has the resources to carry out the renewal projects currently planned at $0.9 million per year.

Figure 14-8: Capital Renewal Needs versus Funding – Parks, Outdoor Recreation, and Natural Areas

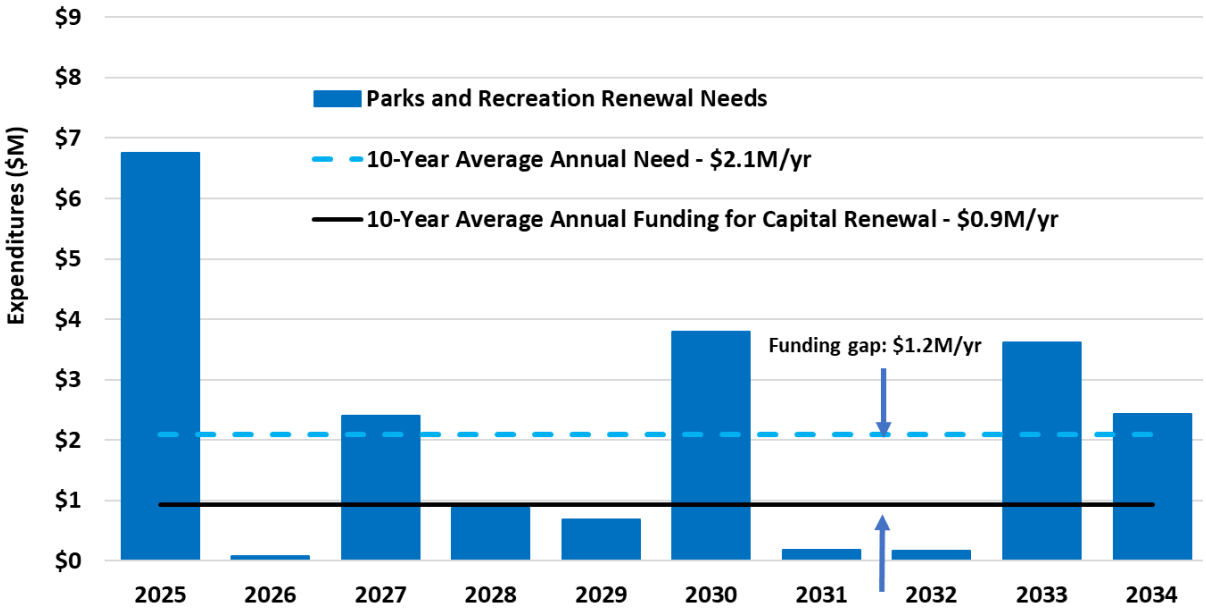


Table 14-4 summarizes the financial sustainability and affordability for growth, renewal and upgrade, and O&M activities. The Parks Master Plan update will inform additions needed to meet target service levels, and may provide recommended financial strategies to further close the growth and upgrade gaps.

Table 14-4 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Investment Gap	Potential Impacts
Capital Growth	Included under upgrades	Included under upgrades	Included under upgrades	Master Plan update may inform additional needs.
Capital Upgrade	$0.9 M/yr	$0.7 M/yr	$0.2 M/yr	Unfunded trails resulting in inadequate access and missing trail connections.
Capital Renewal	$2.1 M/yr	$0.9 M/yr	$1.2M/yr	Deterioration in condition of infrastructure, increasing risks related to resident safety and service disruption.
Operations and Maintenance	$1.4M in 2025 to $1.9 M in 2034; 3.0% average annual increase	-	3.0% average annual increase	In addition to impacts of growth, additional O&M funding is required to address service level gaps. Quality and reliability of park and outdoor recreation services may be affected.

The funding gap pertaining to upgrade is from the inadequate contributions (78%) expected for Development Charges currently committed in the 10-Year Capital Plan for trails projects, mainly due to the slower than expected rate of development. The Town may need to offset lost revenue through property tax increases, utility rate hikes, or service level changes. The other two significant funding sources for upgrade projects are the Canada Community Building Fund, which has contributions of ~72% of its Capital Plan commitments, and Parkland Acquisition, with contributions of ~62% of its Capital Plan commitments.

The Town manages the renewal funding gap by employing strategies that further extend asset life and reduce lifecycle costs, such as prioritizing critical infrastructure and considering additional rehabilitation work to defer more expensive renewals.

14.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations include:

Table 14-5 AM Plan Improvement Recommendations – Parks, Outdoor Recreation and Natural Areas

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Improve and complete inventory of sports field fencing. • Develop an inventory of public art. • Consider updating hierarchy category for shoreline protection. • Reference forthcoming Shoreline Protection report for updated replacement costs of shoreline protection assets. • Improve accuracy of facility and outdoor recreation amenity costs. • Continue to build natural infrastructure inventory, which is currently based on the Niagara Peninsula Conservation Authority categorization by Ecological Land Classification (ELC). • Complete park tree and street tree condition data collection and documentation. • Continue to populate missing construction year data in GIS for park assets included in the AM Plan. • Develop a condition rating framework and approach for assessing condition for more critical assets that are currently using age-based estimates.
Levels of Service	• Incorporate updated target provision levels and expected performance of service. levels from the Parks Master Plan.
Risk Management	• Improve understanding of growth and upgrade needs by incorporating recommendations from the updated Parks Master Plan. • Refine lifecycle strategies for assets as data on condition and renewal treatment timing is collected, particularly on assets with longer service lives. • Continue to improve consequence of failure scoring methodologies.
Lifecycle Management	• Incorporate growth and upgrade recommendations from update to the Parks Master Plan. • Incorporate costs of additional projects into the needs forecast from studies such as the shoreline protection assessment once the recommendations and associated scope and costs are understood.

AM Plan Section	Improvement Recommendation
	• Develop and formalize operations and maintenance activities related to natural infrastructure.
Financial Management	• Update Operating budget forecast as impact of on-going pressures, such as the increasing costs in the current economic and political environment are better understood.

15 FACILITIES

15.1 Overview

Facility assets include buildings for the following Service Areas: Public Works, Community Services, Administration, Library/Art Gallery, and Fire. The Parks and Facilities department is responsible for the operation, maintenance, renewal, expansion, and upgrade of the facility structural components, building systems, site works, and utility services including main electrical services, distribution, and emergency generators. The department or service partner manages the processes, programming, and service operations.

Key Findings

- Facilities are in overall good condition (FCI of 5.5%). Based on available funding, the FCI is projected to worsen to 17.2% (poor condition) by 2034. **The funding gap is estimated at $0.9 million per year to maintain the FCI at or below 10%.**
- An updated Parks Master Plan and Facility Utilization Study will inform target provision levels for future growth.

15.2 State of Infrastructure

The Town has 31 facilities estimated at a replacement value of $130.7 million. The majority of facilities fall under Community Services, which covers Peach King Centre and other recreation facilities, including the park operations shop, park gazebos and pavilions. The cemetery building is classified under Public Works. Table 15-1 below shows a detailed breakdown of the quantity and estimated replacement value of facilities by Service Area.

Table 15-1 Inventory Summary - Facilities

Asset Class	Quantity	Unit	Replacement Value (2025$M)
Public Works	4	Facilities	$9.0
Community Services	23	Facilities	$83.6
Administration	1	Facilities	$12.9
Library/Art Gallery	1	Facilities	$10.0
Fire	2	Facilities	$15.4
		Total	**$130.7**

* Totals may not add up due to rounding.

The Town conducted building condition assessments to identify renewal needs for its facilities. Based on the assessment information, an overall condition is determined for each facility based on the Facility Condition Index (FCI). The Town uses a 3-year FCI, calculated based on the following formula:

$$FCI = \frac{\text{Total Cost of Needed Repairs/Renewals}}{\text{Current Replacement Value of Facility}}$$

Where:

- **Total Cost of Needed Repairs/Renewals:** Deferred and needed repair/renewal requirements over next 3 years
- **Current Replacement Value:** Overall facility replacement value (like-for-like)

Higher repairs and renewals result in a higher FCI and worse facility condition. The FCI is converted to a Very Good to Very Poor condition rating based on Table 14-2.

Table 14-2 Conversion Table for Condition Grades and Facility Condition Index

Condition	Facility Condition Index	Condition Description
Very Good	0 to 5%	The asset is fit for the future. It is well maintained, in good condition, new or recently rehabilitated.
Good	>5 to 10%	The asset is adequate. It is acceptable and generally within the mid-stage of its expected service life.
Fair	>10 to 15%	The asset requires attention. The asset shows signs of deterioration and some elements exhibit deficiencies.
Poor	>15 to 30%	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	>30%	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.

Overall, the Town's average FCI is 5.5% and the overall facility portfolio is in 'Good' condition. The condition distribution of the Town's facility assets is summarized in Figure 15-1. The figure shows the replacement value by Service Area, and the proportion of assets by condition grade, with almost all facilities in fair or better condition (97.2%). Considerable renewal work is still required over the next 10 years to maintain facilities from deteriorating to a lower condition state. Figure 15-2 shows the condition distribution in more detail by asset class for Facilities assets, with the total replacement value of each asset class shown at the top of each bar.

Figure 15-1 Condition Distribution by Replacement Value ($M) - Facilities

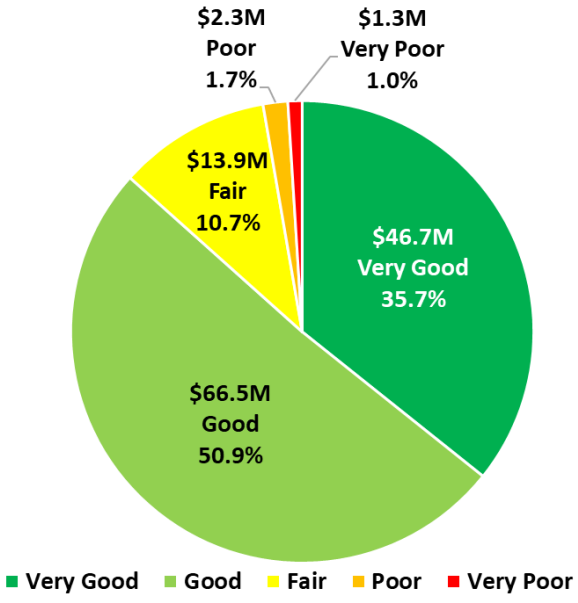
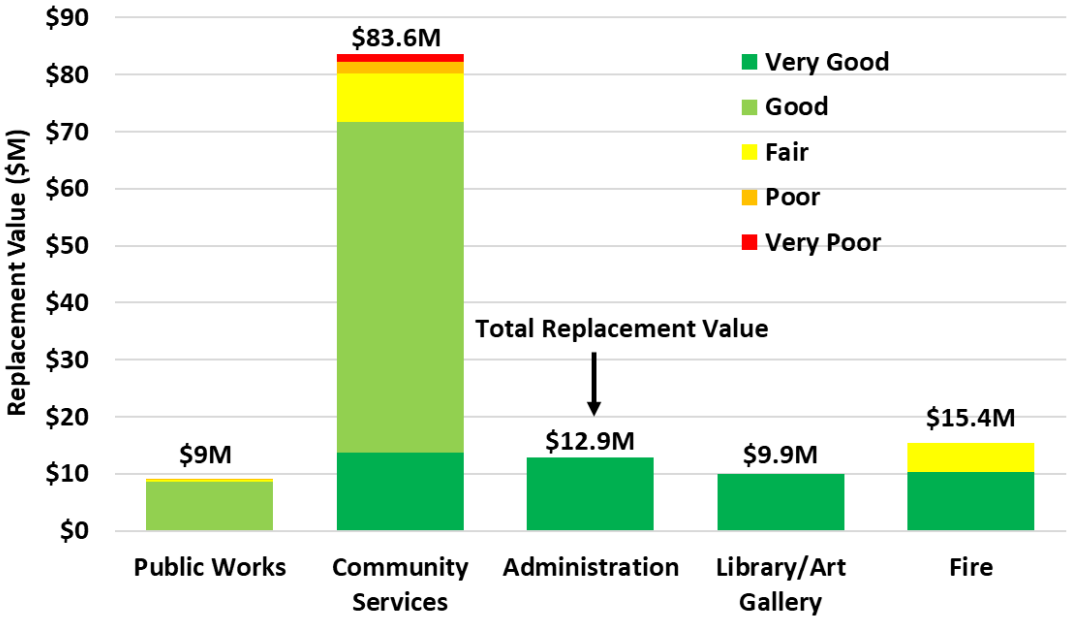
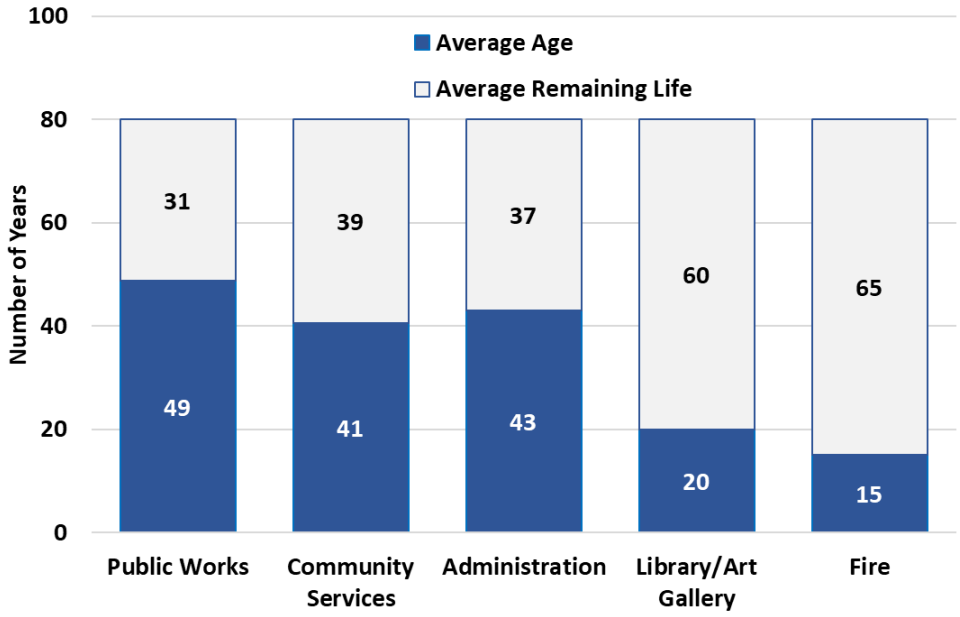


Figure 15-2 Condition Distribution by Replacement Value – Facilities



The average age and estimated service life of the Town's facilities, weighted by replacement value, is summarized in Figure 15-3. On average, the Town's Public Works, Community Services, and Administration facilities are at or past mid-life based on the original construction year of the facilities. The Town continues to complete major renovations on its facilities, including Peach King Centre, Grimsby Operations Centre, and Grimsby Municipal Offices which help maintain these assets in a state of good repair and meet changing Town and community needs.

Figure 15-3 Average Asset Age - Facilities



15.3 Levels of Service

The Town maintains safe, functional, and well-kept facilities by managing activities such as repairs, renovations, cleaning, security, and energy efficiency. It also oversees space planning, facility improvements, and adherence to building codes and regulations. These efforts support the effective delivery of municipal services and contribute to a high quality of life for staff, residents, and visitors.

Table 15-2 summarizes Community and Technical LOS related to facility assets. To manage the impacts of the Town's growing population and evolving demographics, the Town maintains an appropriate number of facility spaces compared to the population to ensure that the Town's portfolio is aligned with current and future needs.

The Town expects to have 2 gymnasium facilities by 2034. With ongoing upgrades to the Peach King Centre, it is expected that for community centres and arenas, the provision level targets from the 2019 Parks, Recreation and Culture Master Plan will be met. The Town is currently developing an update to the Parks Master Plan, which will identify the potential need for expansion or additional facilities. Target provision levels will be revised and a forecasted expected performance will be determined based on the most up-to-date population projections. Provision levels for key facilities and spaces are included in Table 15-2, with current performance based on the most recent 2021 Statistics Canada Census of Population. Service levels are not specifically documented for library or fire stations, but a need has been identified for expansion of the library and a new fire station to meet community needs (refer to Section 15.5). The Facilities Utilization Study is expected to be completed within the next year and will inform additional needs, particularly for recreational and staff facilities.

To support climate change mitigation, the Town completed ASHRAE energy audits on its facilities, and has implemented projects such as upgrades to more energy efficient LED lighting and monitors energy consumption across its facility portfolio. The Town has committed to a 2% reduction in energy consumption over the next 5 years, a level it expects to achieve based on planned Capital projects. The Town's GHG emissions target is a 30% reduction from 2023 levels over the next ten years. For both energy consumption and GHG emissions, the proposed performance is based on the existing asset portfolio. As the Town grows and adds more assets, adjustments to the performance levels may be required.

In addition to energy audits, the Town also completed accessibility audits on its facilities, which supports the Town's priority to reduce barriers for residents in accessing facilities and spaces. It is estimated that the Town is approximately 95% complete in implementing the accessibility audit recommendations and will reach 100% completion before 2034.

In terms of facility quality and reliability, facility assets are generally performing well, with most facilities in fair or better condition based on FCI. While the proposed performance is to maintain FCI below 10.0% over the next 10 years, the expected performance based on available funding results in an estimated FCI of 17.2% (Poor condition) by 2034.

The levels of service are summarized in Table 15-2. This table includes the current performance (as of the end of 2024 unless noted otherwise), and any aspirational targets set out by the Town and proposed performance over the next 10 years. Proposed performance is determined based on what is appropriate for the Town in consideration of the Town's current 10-year planned funding provision in the Capital Plan as well as risks associated with various performance levels, discussed further in Section 15.6.

Table 15-2 LOS Framework - Facilities

<table>
<tr><th rowspan="2">Community LOS</th><th colspan="4">Technical LOS</th></tr>
<tr><th>Metric(s)</th><th>Current LOS</th><th>Target LOS</th><th>Proposed LOS</th></tr>
<tr><td colspan="5">Capacity & Use - An adequate provision of facilities provides services that meet the changing demands of the community.</td></tr>
<tr><td>Indoor recreational facilities provide valuable space for year-round activities and events for Grimsby. Both the Town and community organizations use these spaces to help keep residents of all ages active, healthy and engaged.</td><td>Number of residents per facility type</td><td><table><tr><th>Asset Type</th><th>Per Capita (2021)</th></tr><tr><td>Arena, Artificial Ice Area (Indoor Ice Pads)</td><td>1:14,442</td></tr><tr><td>Community Centre / Multi-Use Recreational Facility</td><td>1:14,442</td></tr><tr><td>Gymnasium</td><td>0</td></tr></table></td><td><table><tr><th>Asset Type</th><th>Per Capita (2021)</th></tr><tr><td>Arena, Artificial Ice Area (Indoor Ice Pads)</td><td>1:20,000</td></tr><tr><td>Community Centre / Multi-Use Recreational Facility</td><td>1:25,000</td></tr><tr><td>Gymnasium</td><td>1:16,715</td></tr></table>Targets may be revised based on updated Master Plan</td><td><table><tr><th>Asset Type</th><th>Per Capita (2034)*</th></tr><tr><td>Arena, Artificial Ice Area (Indoor Ice Pads)</td><td>1:16,715</td></tr><tr><td>Community Centre / Multi-Use Recreational Facility</td><td>1:16,715</td></tr><tr><td>Gymnasium</td><td>1:16,715</td></tr></table>Performance will decrease but still meet current targets ⟷</td></tr>
<tr><td colspan="5">Function - Reduce energy consumption and associated costs, and provide accessible facilities.</td></tr>
<tr><td rowspan="2">Energy performance of Town infrastructure is optimized with a goal to reduce utility consumption and support climate change priorities.</td><td>Annual facility energy consumption (GJ)</td><td>21,094 GJ</td><td>2% decrease over the next 5 years</td><td>↓ Same as target</td></tr>
<tr><td>GHG emissions**</td><td>1054 tCO2e</td><td>30% decrease over 10 years</td><td>↓ Same as target</td></tr>
<tr><td>Accessibility: Facility accessibility is strengthened by reducing barriers for residents in accessing facilities, spaces, and services.</td><td>% of facilities meeting accessibility requirements</td><td>~95%</td><td>100%</td><td>↑ 100%</td></tr>
</table>

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Quality & Reliability - Facility assets are maintained in a state of good repair				
Facilities assets are maintained in a state of good repair to provide reliable services to the community.	Average Facility Condition Index (weighted by replacement value)	5.5% (Good Condition)	Renew assets per building condition assessment recommendations	 <10.0% (Good/Fair condition)
	Percentage of Facilities in Fair or Better Condition	97.2%	N/A	Refer to FCI analysis

*Based on a 2034 population of 33,430, extrapolated between the Town of Grimsby's Official Plan estimate for 2031, and the Region of Niagara's Official Plan estimate for 2051.
**Facilities contribute to approximately 70% of the Town's total GHG emissions; ~30% is from Transportation, Waste, and Street Lighting.

15.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur. Critical assets with a high CoF include:

- Fire Station 1 and 2
- Peach King Centre
- Parks Operations Shop
- Grimsby Operations Centre
- Grimsby Municipal Offices
- Skateboard Park
- Salt Dome

The risk results are plotted on a risk map (Figure 15-4) to show a visual representation of risk exposure across the Town's assets. There are no facilities with a very high-risk exposure, although an estimated $6.0 million of assets, worth 4.6% of the portfolio, are current in high-risk, including:

- Fire Station 1 (critical and in fair condition)
- Tennis Building (moderately critical but in very poor condition)

The Town has plans to demolish the Tennis Building and replace it with a mobile building.

Figure 15-4 Risk Exposure for Facility Assets* ($M)

Risk exposure in year 2025 $, millions

LoF						
	5	$0.4	$0.0	$0.9	$0.0	$0.0
	4	$0.1	$1.4	$0.8	$0.0	$0.0
	3	$0.4	$0.0	$8.4	$0.0	$5.1
	2	$0.0	$1.3	$3.5	$0.0	$61.7
	1	$0.9	$0.9	$18.3	$13.8	$12.8
		1	2	3	4	5
		CoF				

Risk Exposure	$	%
Very High	$0M	0.0%
High	$6M	4.6%
Moderate	$62.4M	47.8%
Low	$26.6M	20.4%
Very Low	$35.7M	27.3%
Total	$130.7M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

The Town mitigates capacity-related risks by assessing the need for additional infrastructure and planning for additional infrastructure assumed by the Town through development. The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs.

15.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that facilities are maintained in a state of good repair while also

addressing changing demands due to facility usage and population growth. The costs for these activities to meet proposed service levels are discussed in the following subsections.

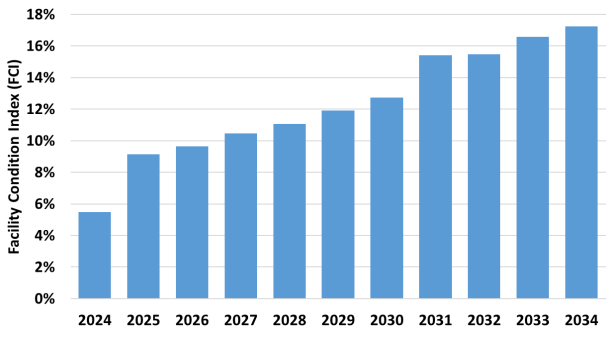
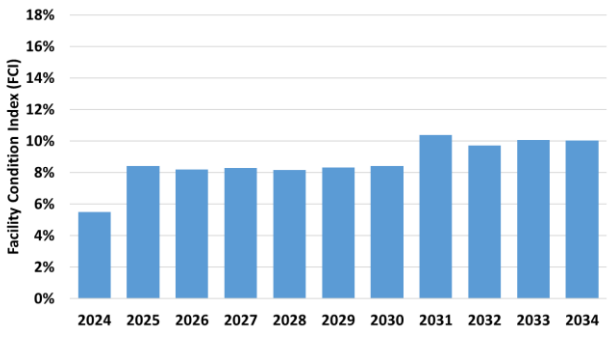
15.5.1 Renewal Forecast

The Town's renewal needs were identified through building condition assessments completed in 2023. Recommendations from the condition assessments include rehabilitation activities that extend the life of a building element. These activities and associated benefits are recommended when it is more cost effective than allowing the asset to reach its end of life. At a certain point in an asset's lifecycle, it is no longer cost-effective to rehabilitate the facility element, and replacement is required. The average annual renewal needs to maintain an FCI below 10.0% by 2034 is $1.2 million per year, as shown in Figure 15-5. This recommended expenditure represents a reinvestment rate of 0.9% of the facility portfolio value. The Canadian Infrastructure Report Card recommends a reinvestment rate of 1.7% to 2.5% annually. It is expected that as the Town's facilities age, the renewal forecast will increase, particularly beyond the next 10 year period. Oakes Road Soccer Building, Elizabeth Street Pumphouse, and Lakeside Drive Conservation Building are planned for decommissioning and are not included in the renewal forecast.

Summary of Recommended 10-Year Renewal Strategy:

- Renewal forecast is based on recommendations from building condition assessments, with some deferrals on less critical assets.
- In the proposed scenario, Facility Condition Index worsens but is maintained below 10.0% (good/fair condition).

Figure 15-5 Renewal Needs Forecast – Facilities

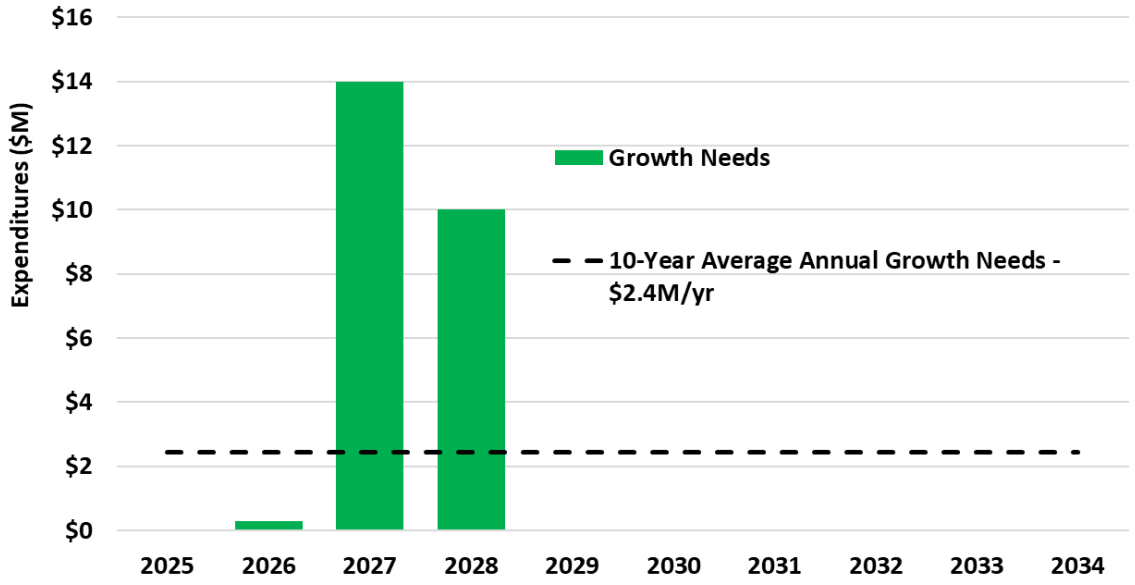
Expected Performance ($0.3 million/yr)	Proposed Performance ($1.2 million/yr)
The condition is expected to worsen (increase in FCI) based on the contributions to funding sources of Capital renewal projects. **Average available funding is $0.3 million per year.**	The proposed performance is recommended to maintain an FCI of 10.0% (good/fair condition) by 2034, an increase from the current FCI of 5.5% (good condition). **Average renewal need is $1.2 million per year.**
	

15.5.2 Growth Forecast

To meet growing population demands and align with proposed service levels, the Town is planning on construction of a new fire station. The Town is completing an expansion and upgrade of Peach King Centre, a need that was identified in the 2019 Parks, Recreation and Culture Master Plan. This project was funded in prior years and is therefore not included in the

growth forecast. The expansion will include additional spaces for seniors as well as youth, as well as space that could be considered for uses such as an auditorium. It will also offer additional outdoor greenspace which could be used for cultural events. The main growth projects are Fire Station 3 and expansion of the library. The average annual growth need for these facilities is estimated at $24 million, or $2.4 million per year over the next 10 years.

Figure 15-6 Growth Needs Forecast – Facilities



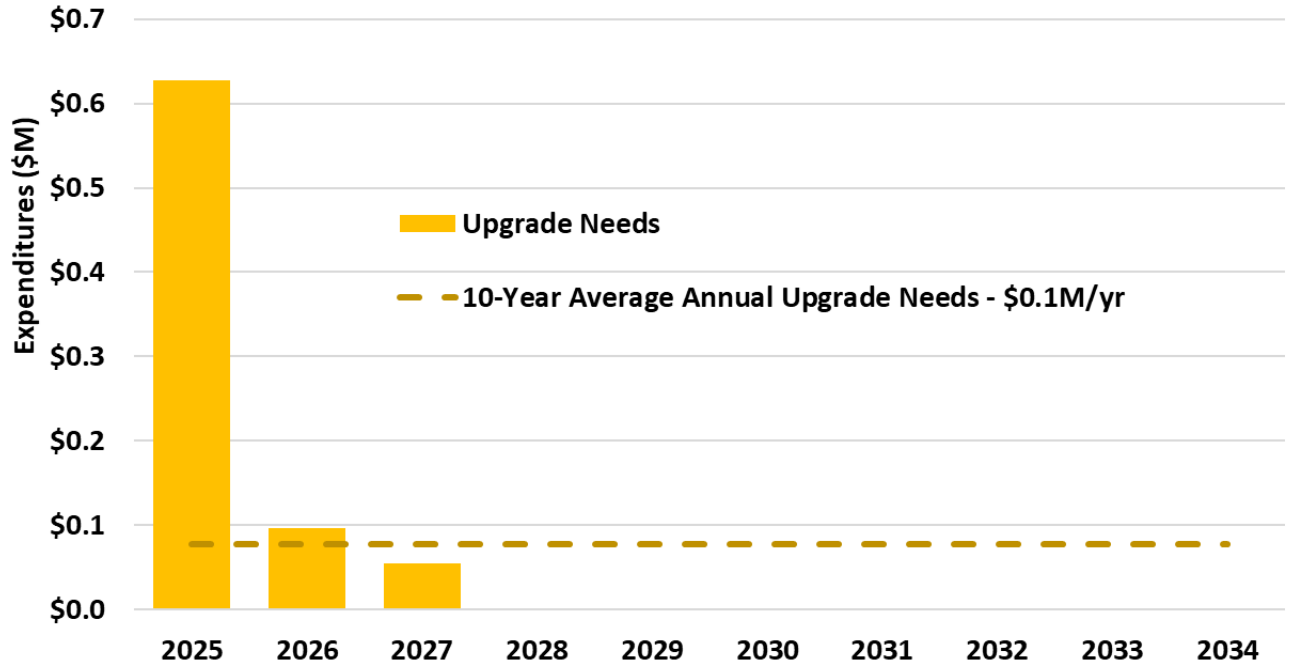
15.5.3 Upgrade Forecast

The Town's facility upgrades over the next 10 years total $0.8 million, or an average of $0.1 million per year rounded, as shown in Figure 15-7. Upgrade projects include:

- Climate change work
- Functional improvements at the Operations Centre
- Accessibility improvements
- The upgrade portion of LED lighting installation projects at various facilities
- Heating and AC unit replacement at Peach King Centre and Auditorium
- Universal public washrooms, wayfinding, landscaping, public art, and a water bottle filling station at the Art Gallery/Library
- The upgrade portion of the Art Gallery's Administrative office renovation

Through the Partners for Climate Protection Program report, the Town has developed a target to achieve a 30% reduction of 2023 GHG emissions levels by 2035. To meet this proposed service level, additional upgrades will be need to be developed, costed, and incorporated in future updates to this AM Plan .

Figure 15-7 Upgrade Needs Forecast – Facilities



15.5.4 Operations and Maintenance Forecast

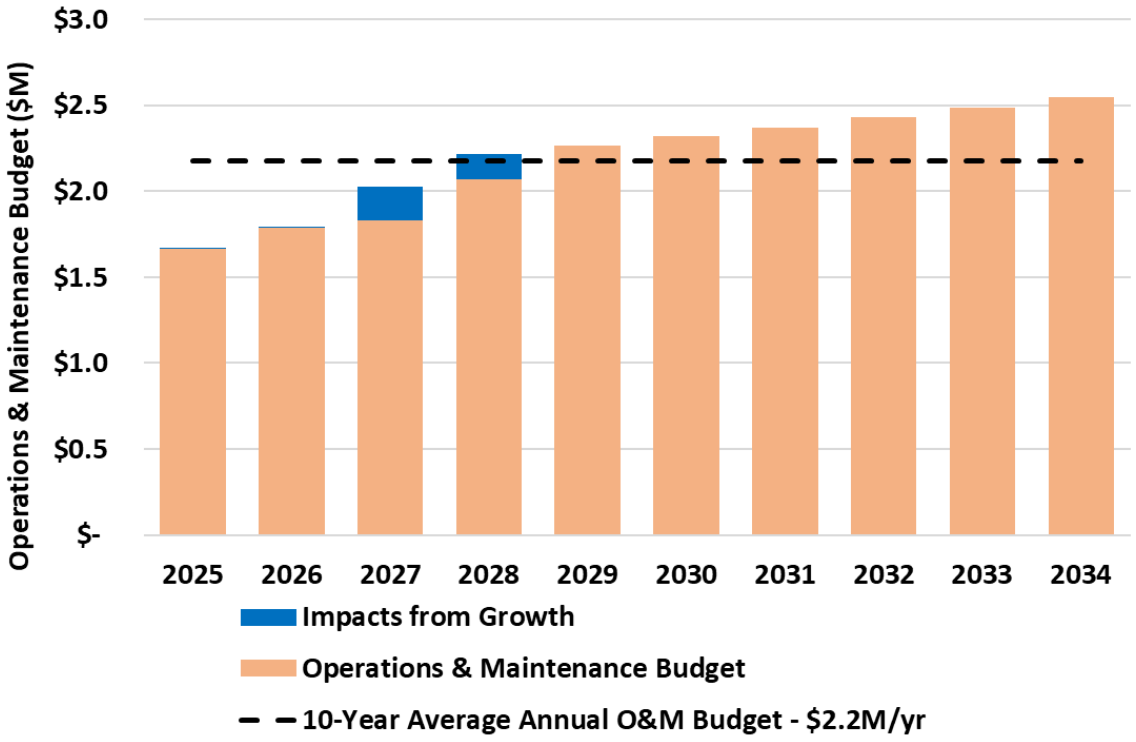
Operations and maintenance work is critical for ensuring the continued provision of facility services and meeting the proposed service levels related to asset condition.

Figure 15-8 shows the Operations and Maintenance needs over the next 10 years. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 4.8%. The Peach King Centre expansion is expected to result in increased Operations & Maintenance costs. In the current forecast, an additional 6.6% increase in building maintenance costs for the facility have been included in 2026, but future iterations of the AM Plan will further refine the estimated increased costs related to the expansion. The forecast in Figure 15-8 excludes non-asset lifecycle related expenses such as recreational programming.

Operations and maintenance activities related to asset activity costs include:

- Cleaning
- Utilities
- Scheduled and unscheduled maintenance
- Contracted services
- HVAC component replacements and repairs
- Generator and emergency light testing
- Snow clearing and general grounds maintenance
- Parking lot repairs
- Foundation wall/waterproofing repairs
- Brick and Masonry block repairs
- Interior wall and ceiling finish repairs
- Roof repairs

Figure 15-8 Operations and Maintenance Needs Forecast – Facilities



15.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs.

The funding available for facilities renewal is estimated to be an average of $0.3 million per year over the next 10 years based on the Town's contributions to funding projects in the Capital Plan, as well as an infrastructure levy distributed proportionally across applicable service areas. As discussed in Section 15.5.1, the estimated average annual renewal need is $1.2 million per year to meet proposed service levels. This results in a funding gap of $0.9 million per year, assuming that the Town has the resources to carry out the projects as currently planned.

Figure 15-9 Capital Renewal Needs versus Funding – Facilities

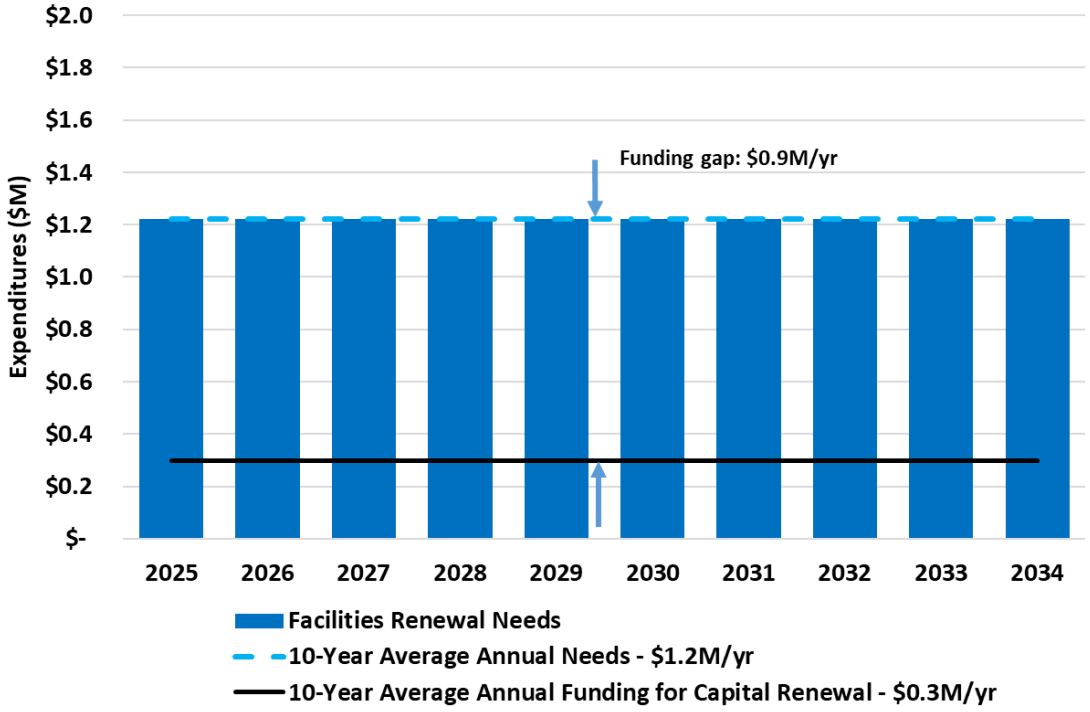


Table 15-3 summarizes the financial sustainability and affordability for growth, renewal and upgrade, and O&M activities. Growth and upgrade needs are expected to be fully funded over the next 10 years. The Parks Master Plan update will inform additions needs to meet target service levels.

The Town manages the renewal funding gap by employing strategies that further extend asset life and reduce lifecycle costs, such as prioritizing critical infrastructure and considering additional rehabilitation work to defer more expensive renewals. As additional building condition assessments are completed, the Town will further refine its renewal forecast and enhance capital renewal planning. This will help balance larger renewal projects with minor capital work to achieve the lowest overall lifecycle cost for facility assets. The Town has proposed a reduced service level that still maintains facilities at an overall FCI at or below 10% (Good/Fair) by 2034, which may enable opportunities to prioritize other activities such as renovating old buildings to achieve energy consumption goals.

To manage the risks of the operating budget pressures, the Town focuses on prioritizing critical infrastructure to ensure continued service delivery. Routine staff walkaround inspections are conducted to identify potential hazards related to site infrastructure.

Table 15-3 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Investment gap	Potential Impacts
Capital Growth	$2.4 M/yr	$2.4 M/yr	No funding gap	Growth needs are expected to be fully funded.
Capital Upgrade	$0.1 M/yr	$0.1 M/yr	No funding gap	Upgrade needs to meet GHG emission reduction target of 30% are to be considered in future updates of AM Plan.
Capital Renewal	$2.1 M/yr	$0.3 M/yr	$0.9 M/yr	Deterioration in condition of infrastructure as shown in Figure 15-5.
Operations and Maintenance	$1.7M in 2025 to $2.5 M in 2034; 4.8% average annual increase	-	4.8% average annual increase	Failure to fund operations and maintenance activities will result in reduced service levels and worsening asset condition which may present safety risks.

15.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations include:

Table 15-4 AM Plan Improvement Recommendations – Facilities

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Continue to maintain up-to-date building condition assessments.
Levels of Service	• Develop specific targets for broader aspirational service levels related to lowering GHG emissions. • Incorporate any provision service levels in the update to the Parks Master Plan to inform proposed service levels.
Risk Management	• Apply risk at the building component level with CoF ratings and up-to-date condition ratings to better understand the level of risk across asset types (such as roofs, HVAC, and electrical components).
Lifecycle Management	• Quantify and incorporate additional operating impacts of the Peach King Centre into the Operations and Maintenance forecast. • Incorporate recommendations for facility growth and upgrades from the Parks Master Plan update and the Facility Utilization Study.
Financial Management	• Update Operating budget forecast as impact of on-going pressures, such as the increasing costs in the current economic and political environment are better understood. • Continue increases to Operating budget for transfers to asset management reserves.

16 FLEET

16.1 Overview

Fleet assets support the maintenance, servicing, and repair of vehicles and equipment to meet safety standards and operational needs, allowing municipal departments to perform their functions effectively and efficiently. The Town also manages fuel usage, vehicle acquisition, lifecycle planning, and fleet optimization to ensure efficient use of resources and to minimize costs.

Key Findings

- **77% of fleet assets are currently in fair or better condition, and are on average approaching or just past mid-service life.**
- **There is a $0.3 million per year funding gap for renewal of corporate fleet to meet the proposed service level.**
- Renewal of fire fleet is currently estimated to be fully funded**, but the Fire Services Review may identify additional growth, upgrade, renewal, and operational & maintenance needs.**

16.2 State of Infrastructure

Fleet assets support departments and services across the Town. Assets include vehicles and equipment. Fleet for the fire department is also covered under this section. Table 16-1 shows the $17.9 million estimated replacement value of the Town's fleet assets by Service Area. The inventory does not include vehicles or equipment that are set to be decommissioned. Low value and low criticality equipment that are run-to-failure are not individually tracked and are also not included in the inventory. The largest portion of the asset portfolio are the fire department fleet which account for approximately 45% of all Fleet assets by replacement value.

Table 16-1 Inventory Summary – Fleet

Service	Quantity	Unit	Replacement Value (2025$M)
Community Services	116 assets 23 vehicles 93 equipment	Assets	$1.8
Fire	17 assets 17 vehicles	Assets	$8.1
By Law	2 assets 2 vehicles	Assets	$0.1
Building	3 assets 3 vehicles	Assets	$0.1
Cemetery	8 assets 1 vehicle 7 equipment	Assets	$0.2
Water & Wastewater	33 assets 11 vehicles 22 equipment	Assets	$1.9
Transportation	86 assets 36 vehicles 50 equipment	Assets	$5.6
Total	**265**		**$17.9**

* Totals may not add up due to rounding.

The condition distribution for the Town's Fleet assets is shown in Figure 16-1. The condition for fleet is based on age compared to the estimated remaining service life according to the scale previously described in Table 3-3. In general, the fleet network is in fair condition, with 77.0 % of assets estimated to be in fair or better condition across each asset category. As the condition is an age-based assessment, some of these vehicles may still be in better condition than represented in Figure 16-1, as the Town carries out regular inspections and preventive maintenance strategies to maximize vehicle service life. Assets without an estimated condition represent only 0.005% of the overall inventory and are not included in Figure 16-1.

Figure 16-1 Condition Distribution by Replacement Value ($M) - Fleet

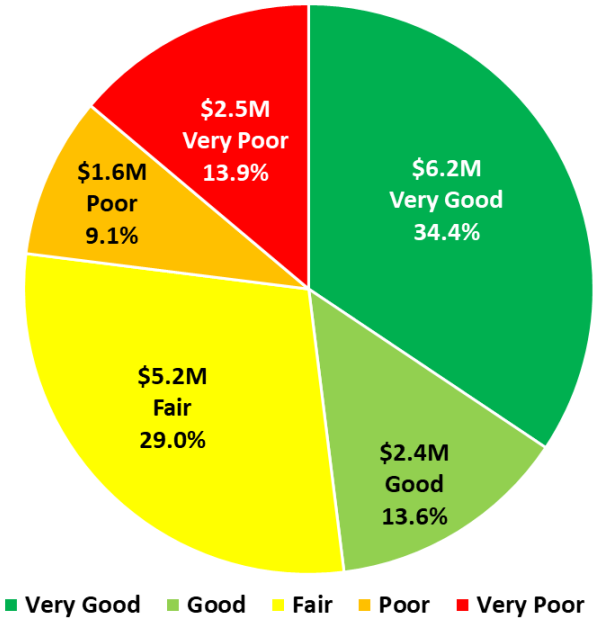
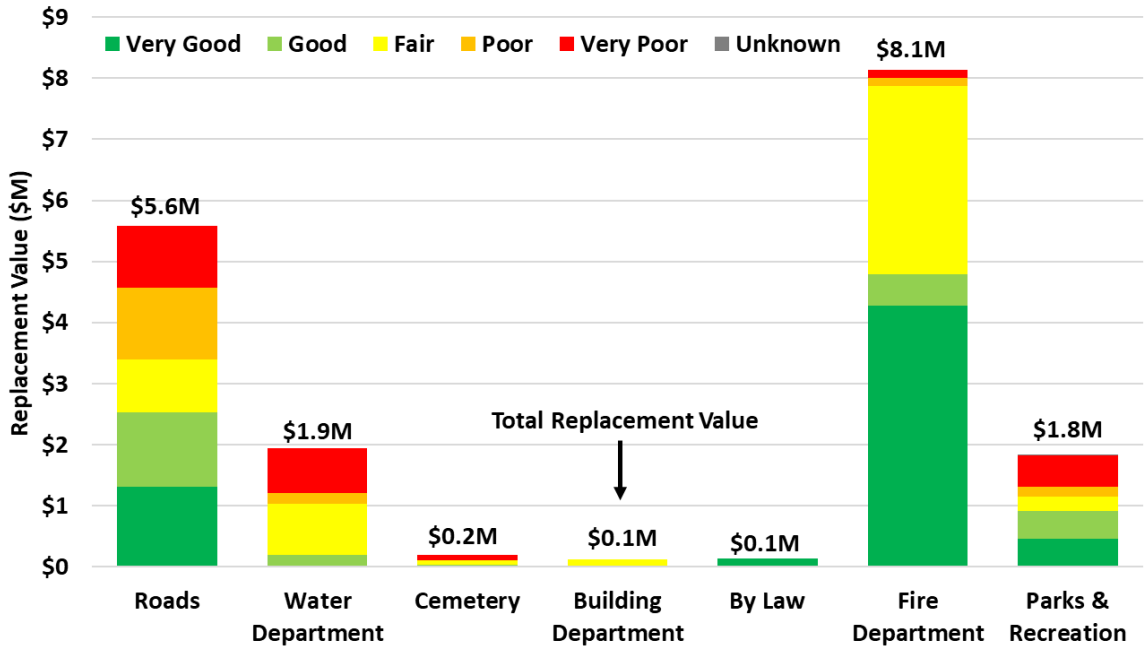


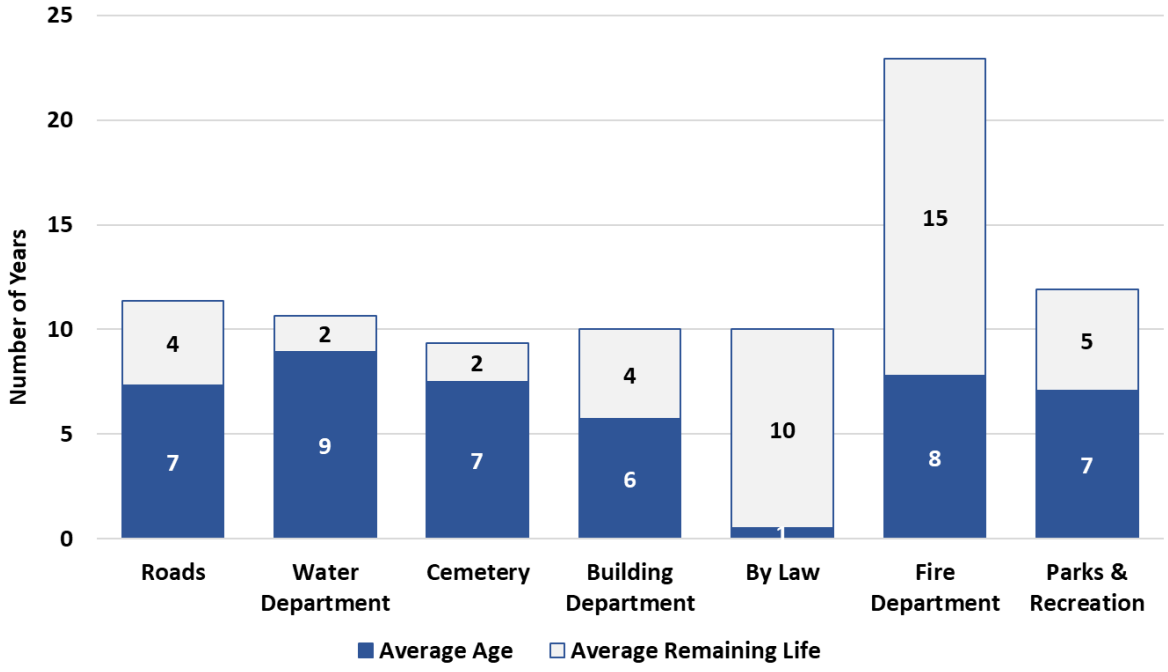
Figure 16-2 summarizes the fleet condition profile by service area, with the replacement value of each asset class shown at the top of each bar. One fire pump truck, valued at $1.4 million in very poor condition due to its age, was replaced in 2024 and moved into reserve vehicle status to be used as a backup truck. For the roads division, one dump truck and one street sweeper both costing $300,000 are in very poor condition due being past their service lives. In water and wastewater, one dump truck and one medium-sized truck, also both costing $300,000 each, are due for replacement due to their age. An ice resurfacer in Community Services is also past its service life, valued at $220 thousand.

Figure 16-2 Condition Distribution by Replacement Value – Fleet



The age distribution for fleet assets is shown in Figure 16-3. This figure shows the average age of assets relative to their average service lives weighted by replacement value and are categorized by asset class. On average, the Town's fleet are at or past mid-life of their expected service lives for all service area except fire and by-law.

Figure 16-3 Average Asset Age – Fleet



16.3 Levels of Service

Fleet assets enable Town staff to deliver services to the community as well as other Town departments. A key focus for managing the Town's fleet is to ensure that the fleet has the capacity and reliability to provide continued service provision.

Table 16-2 summarizes Community and Technical LOS related to fleet assets, including fire vehicles. For public works, a key objective is to meet O.Reg. 239 Minimum Maintenance Standards, including winter control standards. Currently, based on the existing inventory of snow plow vehicles, there is one snow plow for every 39 lane km of roads. The Town expects to maintain this performance over the next 10 years with no additional funding required, as the expected change to the number of lane kilometres due to growth is minimal. A key action in the Strategic Priorities is to optimize the delivery of fire prevention and fire protection services. Response times are indicated as a future measure in Table 16-3. The Fire Department is undertaking a study to determine response time service levels, benchmarked against NFPA 1710 and 1720 standards as appropriate. In terms of quality and reliability, corporate fleet assets are generally past mid-life with 77% of assets in fair or better condition based on age. For fire fleet, 97% of fleet are in fair or better condition, with one pick-up truck and one SUV representing the two assets in Very Poor condition. Table 16-2 includes the current performance (as of the end of 2024 unless noted otherwise), and any aspirational targets set out by the Town and proposed performance over the next 10 years. Proposed performance is determined based on what is appropriate for the Town in consideration of the Town's current 10-year planned funding provision in the Capital Plan as well as risks associated with various performance levels, discussed further in Section 16.6.

Table 16-2 LOS Framework - Fleet

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Capacity & Use – Town's fleet network has adequate capacity for Town staff and community needs				
Town maintains adequate number of fleet to meet O.Reg. 239 Minimum Maintenance Standards.	# of km of snow removal required per vehicle	39 lane km / vehicle	Maintain current performance	 Maintain current performance
Fire Services provides emergency response considering the growing population and needs of the community, and continues to optimize the delivery of fire prevention and fire protection services.	Response times	Fire department is undertaking a study to determine response time service levels, benchmarked against NFPA 1710 and 1720 standards as appropriate	TBD based on study	TBD based on study
Quality & Reliability - Fleet assets are maintained in a state of good repair				
Town's fleet and equipment are reliable and available for service	% of Corporate fleet and equipment in Fair or better condition	61%	Renew assets per estimated service life	 Maintain > 52%
	% of Fire fleet in Fair or better condition	97%	Renew assets per estimated service life	 Maintain > 73%

16.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur. Critical assets with a high CoF include:

- Fire trucks
- Dump trucks / snow plows
- Loaders
- Backhoes

The Town has decided to keep three fire trucks which are past their service life but have been maintained in good condition and can be used as spare or reserve vehicles. They have been assigned a lower criticality score due to their secondary function. The decision to keep or dispose of fire vehicles once they reach end of life is based on each vehicle's condition and the fire station's needs.

The risk results are plotted on a risk map (Figure 16-4) to show a visual representation of risk exposure across the Town's fleet assets. An estimated $1.3 million of assets, worth 7.0% of the portfolio, are current in very high risk, including:

- 2 Roads department trucks, at or past service life
- 2 Water department trucks, both past service life

Figure 16-4 Risk Exposure for Fleet Assets* ($M)

Risk exposure in year 2025 $, millions

LoF	CoF 1	CoF 2	CoF 3	CoF 4	CoF 5
5	$0.1	$1.5	$0.1	$0.6	$0.3
4	$0.0	$0.4	$0.7	$0.2	$0.3
3	$0.0	$1.1	$1.9	$0.6	$1.7
2	$0.0	$0.6	$0.2	$0.6	$1.1
1	$0.0	$1.1	$1.2	$0.0	$3.9

Risk Exposure	$	%
Very High	$1.3M	7.0%
High	$1.9M	10.5%
Moderate	$3.9M	21.5%
Low	$8M	44.8%
Very Low	$2.9M	16.3%
Total	$17.9M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

The Town mitigates capacity-related risks by assessing the need for additional infrastructure, such as through the Fire Department study which will determine response time service levels. The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs.

16.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that their Fleet remains safe and reliable while also addressing increasing demands. The costs for these activities to meet proposed service levels are discussed in the following subsections.

16.5.1 Renewal Forecast

The renewal forecast considers the current condition or age of each asset and estimates the planned replacement year based on the estimated service lives summarized in Table 16-3. For assets that have an unknown condition or age, an average annual investment rate is used based on the value of the asset and the estimated service life.

Summary of Recommended 10-Year Renewal Strategy:

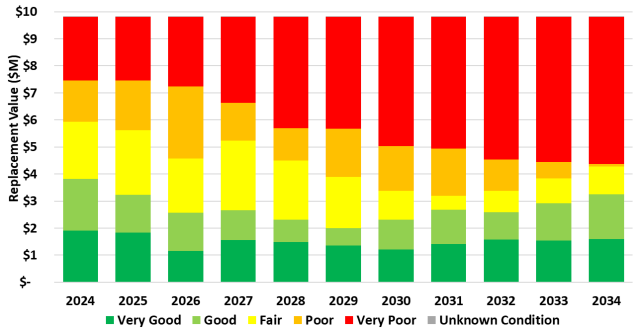
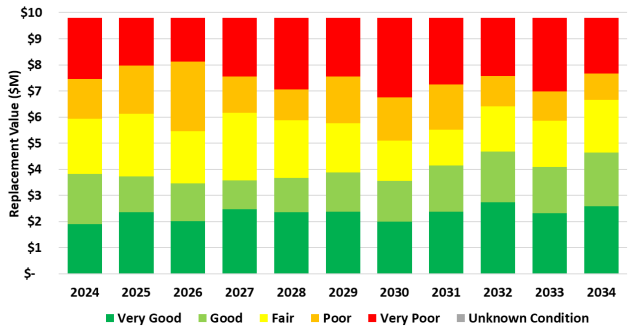
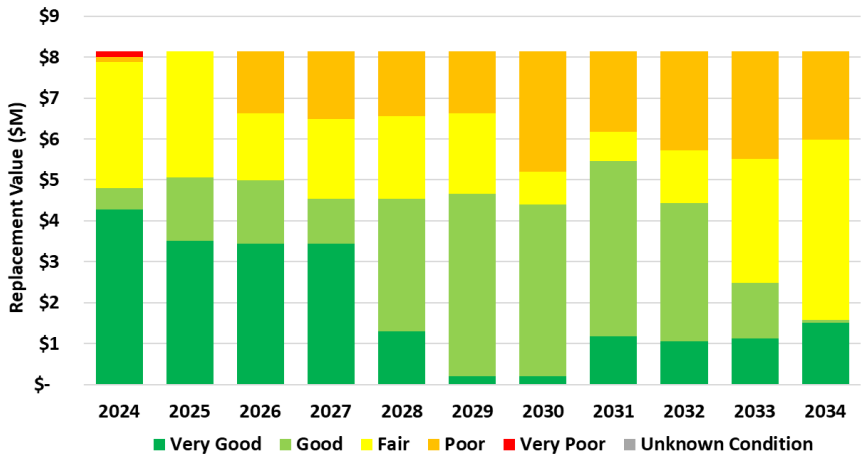
- Vehicles and equipment are replaced at expected end-of-life based on age and the estimated service life, with some deferred replacements on less critical assets
- Maintains assets at above 60% in Fair or better condition by 2034.

Table 16-3 Estimated Service Life – Fleet

Asset	Estimated Service Life (Years)
Equipment	5-28
Farm Tractor	15-20
Parks Mower	6-15
SUV	10
Trackless	10
Trailer	18
Truck	10-20
Van	10-13
Aerial	10
Pump Fire Truck	20
Rescue and Pumper Fire Truck	20
Rescue Fire Truck	20
Tanker Fire Truck	20
Reserve	30-31

For Corporate fleet, the proposed performance is to maintain current condition, with assets above 60% in fair or better condition by 2034, as shown in Figure 16-5. The average annual renewal need is estimated at $0.75 million per year. The expected performance based on the estimated available funding is lower than the proposed service level. For fire fleet, the proposed and expected performance is to renew assets as forecasted, with no expected funding gap to complete these renewals.

Figure 16-5 Renewal Needs Forecast – Fleet

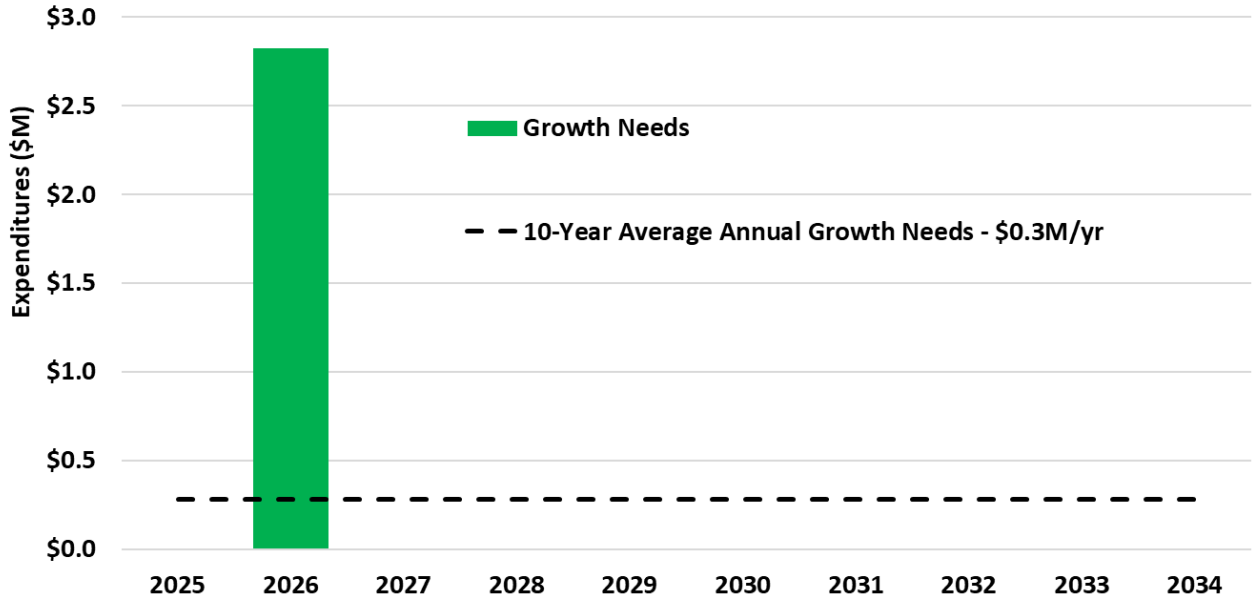
Expected Performance ($0.6 million/yr)	Proposed Performance ($0.95 million/yr)
Corporate Fleet	
The condition is expected to worsen based on the contributions to funding sources of Capital renewal projects, to 44% of assets in fair or better condition by 2034. **Average available funding is $0.4 million per year**.	The proposed performance is to maintain condition of assets at above 60% in fair or better condition over the next 10 years. **Average renewal need is $0.75 million per year.**
	
Fire Fleet	
The proposed performance is the same as the expected performance, which is to renew assets as forecasted. This will maintain Very Poor assets below 5%, and 73% in fair or better condition by 2034. **Average renewal need is $0.2 million per year.**	
	

16.5.2 Growth Forecast

Figure 16-6 shows the Growth needs over the next 10 years for Fleet. For corporate fleet, additional assets are typically required as the number of Town staff increase to meet service level requirements due to the increasing population and evolving demographics. To address winter control needs, the Town has recently purchased and added a new sidewalk plow to its portfolio.

For the Fire Department, two new vehicles associated with Fire Station 3 are budgeted for in the Capital Plan for 2026. The new vehicles include a squad truck/medical rescue vehicle and a quint truck, totalling $2.8 million. Equipment costs for each vehicle are included with the vehicle costs. The Fire department is considering combining the scheduled replacement of a squad truck for Fire Station 1 with the truck needs of the new fire station. The ongoing Fire Service Review may identify additional needs, which will be included in the next iteration of this AM Plan. The average annual growth need for Fleet infrastructure is estimated at $0.3 million per year over the next 10 years.

Figure 16-6 Growth Needs Forecast – Fleet



16.5.3 Upgrade Forecast

There are no projects specifically designated as upgrades in the Town's 10-year Capital Plan. For corporate fleet, the Town considers upgrading light vehicles to electric vehicles as opportunities arise, but no formal service levels are currently set to electrify fleet. For fire fleet, upgrades are included as part of vehicle replacements. For example, the Town purchased a replacement pumper-rescue in 2023 which will provide enhanced fire suppression capabilities required as a result of continued growth and proliferation of high-rise buildings in the community.

16.5.4 Operations and Maintenance Forecast

Operations and maintenance work is critical for ensuring the continued reliability of Fleet assets and meeting the proposed service levels.

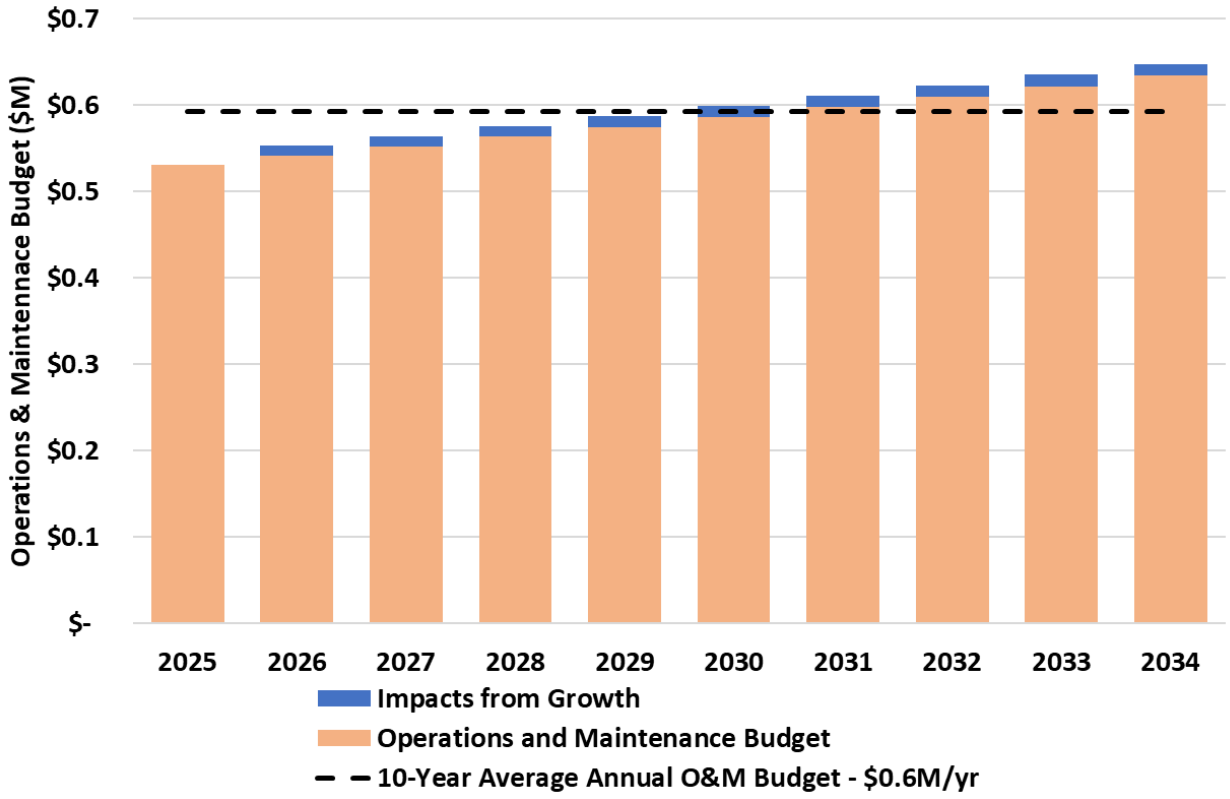
Figure 16-7 shows the Operations and Maintenance needs over the next 10 years for Fleet. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 2.2%. The forecast does not include wages related to staff completing the repair or preventive maintenance work.

Operations and maintenance activities include:

- Preventative maintenance
  - Oil changes, filter replacements, fluid checks
- Reactionary maintenance
  - Repair of damaged parts (brakes, tires, batteries, etc.)
  - Accident-related repairs
- Inspections
  - Routine safety and mechanical inspections
  - Computerized diagnostics

A Service Level Agreement (SLA) is being developed for fire fleet, which may inform additional future Operational needs, while their costs will be determined through the forthcoming Fire Services Review. This review is considering affordability and possible long-term structural changes, such as merging with fire departments of other municipalities.

Figure 16-7 Operations and Maintenance Needs Forecast – Fleet

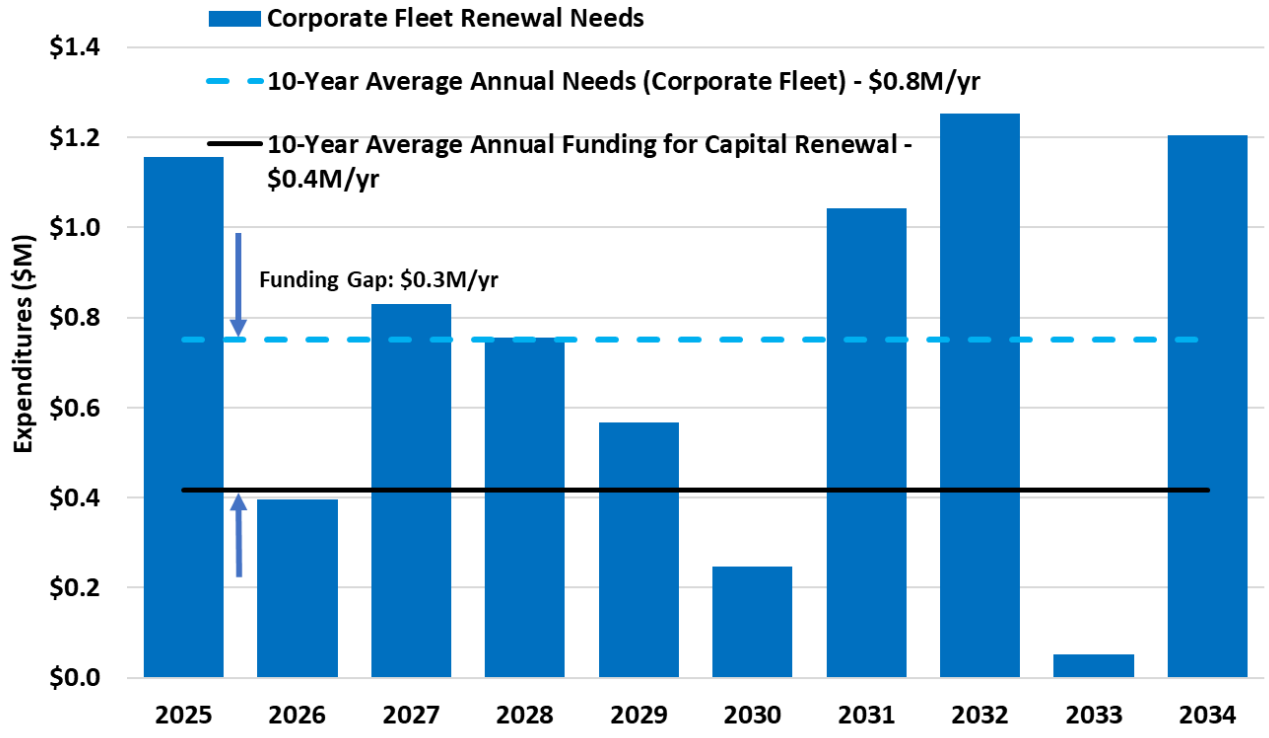


16.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs.

An average of $0.4 million and $0.3 million per year is available as funding for corporate fleet renewal and fire fleet renewal, respectively, based on the Town's contributions to funding projects in the Capital Plan, as well as an infrastructure levy distributed proportionally across applicable service areas. As discussed in Section 16.5.1, the estimated average annual renewal need is $0.8 million per year for corporate fleet to meet the proposed service level of maintaining current condition. This results in a funding gap of $0.3 million per year for corporate fleet, assuming that the Town has the resources to carry out the projects as currently planned. The need to meet proposed service levels is $0.2 million per year for fire fleet, and it is expected that these renewal needs for fire fleet are fully funded.

Figure 16-8 Capital Renewal Needs versus Funding – Corporate Fleet*



* Funding gap total may not add up due to rounding.

Figure 16-9: Capital Renewal Needs versus Funding – Fire Fleet

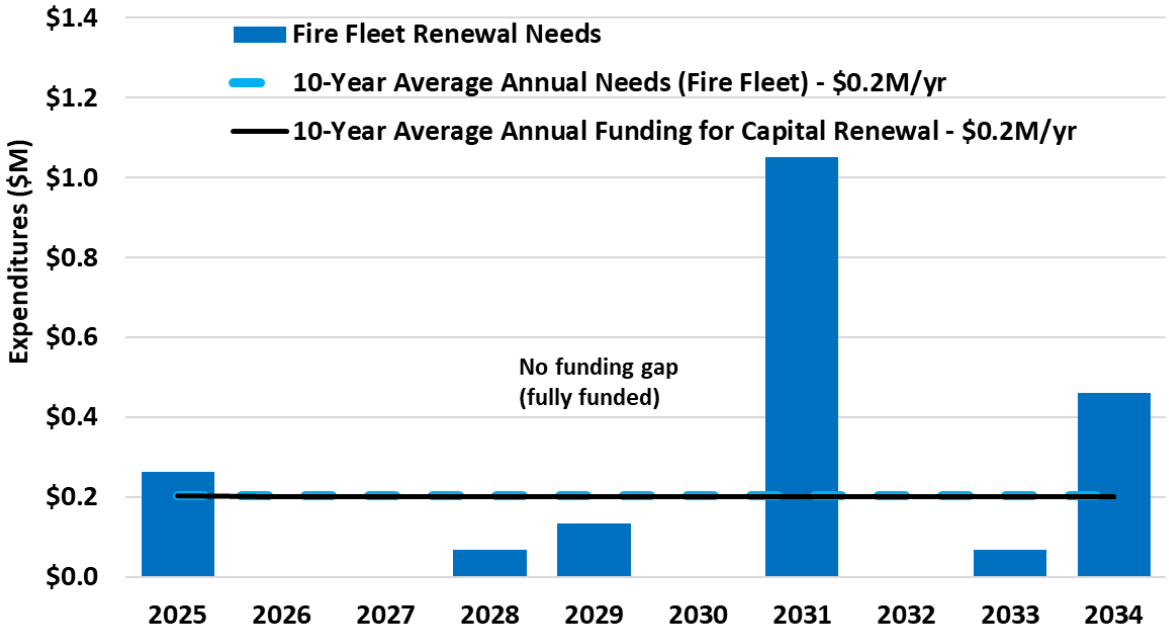


Table 16-4 summarizes the financial sustainability and affordability for growth, renewal and upgrade, and O&M activities.

Table 16-4 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Investment gap	Potential Impacts
Capital Growth	$0.3 M/yr	$0.1 M/yr	$0.2 M/yr	Reductions in available funding may delay or scale back critical infrastructure projects needed to support new growth.
Capital Upgrade	-	-	N/A	-
Capital Renewal	$0.8 M/yr (Corporate Fleet) $0.2 M/yr (Fire Fleet)	$0.4 M/yr (Corporate Fleet) $0.2 M/yr (Fire Fleet)	$0.3 M/yr* (Corporate Fleet) -- (Fire Fleet)	Deterioration in condition of infrastructure as shown in Figure 16-5.
Operations and Maintenance	$0.5 M in 2025 to $0.6 M in 2034	-	2.2% average annual increase	Failure to increase resources to operate and maintain new assets will result in reduced service levels and increased risks for vehicle breakdowns and increased reactive maintenance.

*Totals may not add due to rounding.

The funding gap pertaining to growth is due to the inadequate contributions (19%) expected for Development Charges currently committed in the 10-Year Capital Plan for the two new fire vehicles, mainly due to the slower than expected rate of development. The Town may need to offset lost revenue through property tax increases, utility rate hikes, or service level changes.

There are several strategies the Town can implement to manage the risk of the $0.3 million per year renewal funding gap for Corporate fleet, such as improved tracking of condition, utilization, and maintenance records to support more accurate forecasting and replacement planning. Additional risk mitigation may be achieved through improving fleet efficiency. Efficiency strategies include evaluating the potential for interdepartmental asset sharing, retiring underutilized assets, and optimizing fleet usage to more closely align with operational needs.

16.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations include:

Table 16-5 AM Plan Improvement Recommendations – Fleet

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Improve accuracy of fleet unit costs to reflect rapidly increasing market costs. • Develop more advanced methodologies for assessing fleet asset condition, such as incorporating maintenance history and mileage.
Levels of Service	• Consider a measure related to the number of staff per vehicle. • Complete study regarding fire response time service levels, benchmarked against NFPA 1710 and 1720 standards as appropriate, and incorporate associated service levels into next AM Plan update. • Consider a measure related to unscheduled fleet downtime to help identify potential issues with vehicles.
Risk Management	• Continue to monitor the risk profile of the fleet and prioritize critical fleet replacements with the goal of minimizing risks.
Lifecycle Management	• Plan for warranty maintenance requirements on new vehicles. • Potentially contract specialized maintenance, or consider hiring an Emergency Vehicle Technician (EVT) for maintenance of fire trucks. • Continue rotating vehicles between frontline and reserve status to manage wear and optimize fleet network efficiency.
Financial Management	• Stagger vehicle replacements to avoid simultaneous large capital expenditures. • Update Operating budget forecast as impact of on-going pressures, such as the increasing costs in the current economic and political environment are better understood. • Continue to plan for vehicle procurement 1-2 years before the end of service life for long-lead deliveries

17 FIRE

17.1 Overview

Fire equipment assets support the provision of critical fire protection services by the Town's Fire Department, helping to safeguard residents and visitors from fires and other hazards. The Town is responsible for ensuring this equipment is properly maintained, serviced, and repaired to meet safety standards and operational requirements, enabling these vital, life-saving services to be carried out efficiently and safely. Fire facilities are covered in Section 15 and Fire fleet are covered in Section 16.

Key Findings

- **Fire equipment is currently in overall good condition,** with 84.5% being in fair or better condition and is expected to remain above 80% over the next 10 years
- **Future needs for growth, upgrade, and renewal of assets are estimated to be fully funded over the next 10 years**

17.2 State of Infrastructure

Fire assets include equipment such as communications (e.g. radios), general fire equipment (e.g. hoses, extrication equipment), personal protective equipment (PPE), self-contained breathing apparatus (SCBA), and facility equipment (e.g. washing machine, emergency generator). Fire trucks and vehicles are captured under Fleet in Section 16. Table 17-1Table 17-1 shows the $3.1 million estimated replacement value of the Town's fire equipment by asset type. The largest portion of the asset portfolio are the SCBA assets which account for approximately 29% of all Fire assets by replacement value.

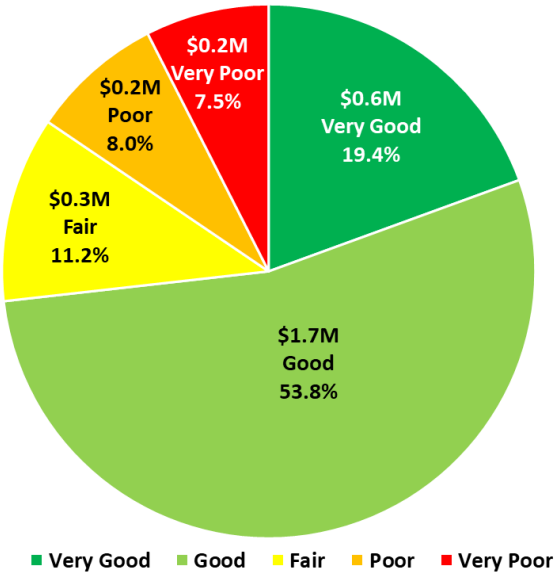
Table 17-1 Inventory Summary – Fire Equipment

Asset Type	Quantity	Unit	Replacement Value (2025$M)*
Communications	135	Assets	$0.7
Facility Equipment	6	Assets	$0.2
General Fire Equipment	320	Assets	$0.8
Personal Protective Equipment	319	Assets	$0.5
SCBA	202	Assets	$0.9
Total	**982**		**$3.1**

* Totals may not add up due to rounding.

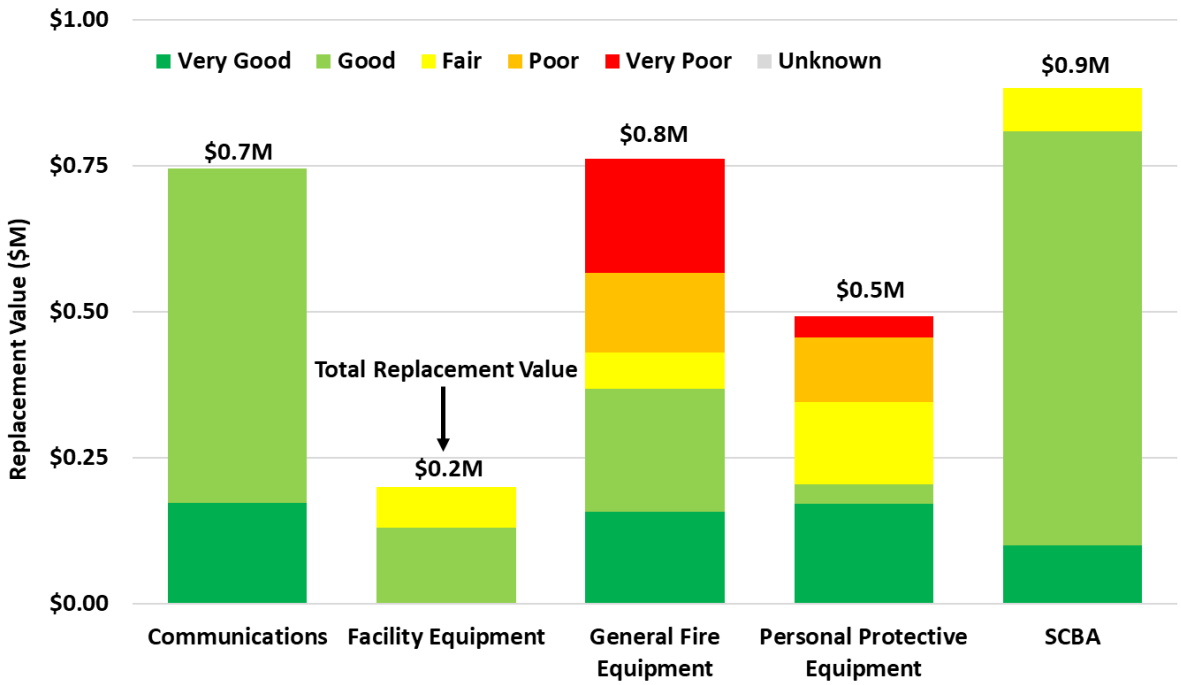
The condition distribution for the Town's Fire assets is shown in Figure 17-1. The condition of the Town's fire equipment is based on age compared to the estimated service life. There are no assets with unknown condition.

Figure 17-1 Condition Distribution by Replacement Value ($M) – Fire



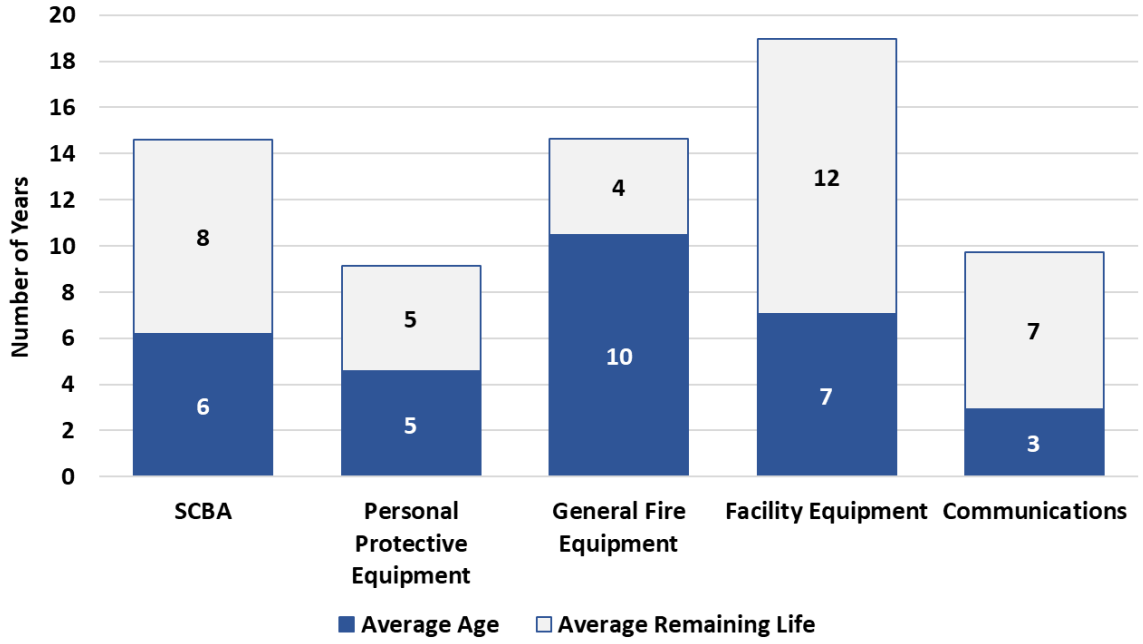
The condition by asset type is summarized in Figure 17-2. General fire equipment assets are on average past mid-life with a significant portion of assets at end-of-life. Most of the general fire equipment in very poor condition are hoses that are at or past their estimated service life. These assets, as well as other equipment are renewed through the Fire department's annual replacement program in the Capital Plan, discussed further in Section 17.5.1.

Figure 17-2 Condition Distribution by Replacement Value – Fire



The age distribution for fleet assets is shown in Figure 17-3. This figure shows the average age of assets relative to their average service lives weighted by replacement value and are categorized by asset class. On average, general fire equipment assets are over 70% of their estimated service lives.

Figure 17-3 Average Asset Age – Fire



17.3 Levels of Service

Fire assets enable the Town's Fire department staff to effectively protect the community from fires and other safety hazards. Well-maintained fire assets enhance operational readiness and response times, and safeguard the health and safety of both firefighters and the public during emergency situations.

Table 17-2 summarizes Community and Technical LOS related to the Fire service. Additional levels of service from facility and fleet perspectives are covered in Sections 15 and 16, respectively. As indicated in Section 16.3, a key action in the Strategic Priorities is to optimize the delivery of fire prevention and fire protection services, which influences the need for adequate fire facilities and fleet as well as fire equipment. Service levels related to response times are an indicator of service delivery efficiency, and will be developed as a future service level, as noted in Table 17-5. Additional considerations in supporting efficient service delivery include ensuring the procurement of appropriate types of fire apparatus and having adequate human resources.

In terms of quality and reliability, fire equipment assets are generally in good condition, with 84% of assets in fair or better condition based on age. The Town expects to maintain this service level over the next 10 years based on funding available for Capital renewal.

The levels of service are summarized in Table 17-2. This table includes the current performance (as of the end of 2024 unless noted otherwise), and any aspirational targets set out by the Town

and proposed performance over the next 10 years. Proposed performance is determined based on what is appropriate for the Town in consideration of the Town's current 10-year planned funding provision in the Capital Plan as well as risks associated with various performance levels, discussed further in Section 17.6.

Table 17-2 LOS Framework - Fire

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Capacity & Use – Town's fire assets provide adequate capacity for Town staff and community needs				
Fire Services provides emergency response considering the growing population and needs of the community, and continues to optimize the delivery of fire prevention and fire protection services.	Response times	Fire department is undertaking a study to determine response time service levels, benchmarked against NFPA 1710 and 1720 standards as appropriate	TBD based on study	TBD based on study
Quality & Reliability – Fire assets are maintained in a state of good repair				
Town's fire equipment assets are reliable and available for service	% of Fire equipment in Fair or better condition	84%	Renew assets per estimated service life	⟷ Maintain > 80%

17.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur. Critical assets with a high CoF include:

- All frontline fire equipment such as personal protective equipment, SCBA, extrication equipment
- Critical equipment in fire stations such as generators and washing machines

The risk results are plotted on a risk map (Figure 17-4) to show a visual representation of risk exposure across the Town's assets. An estimated $0.3 million of assets, worth 11.0% of the portfolio, are current in very high risk, including:

- Bunker Gear, installed between 2015 and 2020
- Hoses, installed between 1994 and 2007
- Ice Water Rescue, Helmets, Firefighting Boots, Ladders, Extrication Equipment, Emergency Generators, approaching or past their service lives

The Town plans to replace a significant portion of these assets in its capital plan programs.

Figure 17-4 Risk Exposure for Fire Assets* ($M)

Risk exposure in year 2025 $, millions

LoF						
	5	$0.00	$0.02	$0.00	$0.17	$0.05
	4	$0.00	$0.03	$0.00	$0.10	$0.12
	3	$0.00	$0.02	$0.00	$0.04	$0.29
	2	$0.00	$0.02	$0.01	$0.67	$0.96
	1	$0.00	$0.02	$0.00	$0.31	$0.27
		1	2	3	4	5
		CoF				

Risk Exposure	$	%
Very High	$0.3M	11.0%
High	$0.4M	12.7%
Moderate	$1M	32.9%
Low	$1M	32.0%
Very Low	$0.4M	11.4%
Total	$3.1M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

The Town mitigates capacity-related risks by assessing the need for additional infrastructure. The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs.

17.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that Fire assets continue to provide reliable support to the Town's Fire department to respond to safety risks in the community, while also addressing increasing demands. The costs for these activities to meet proposed service levels are discussed in the following subsections.

17.5.1 Renewal Forecast

The renewal forecast considers the current condition or age of each asset and estimates the planned replacement year based on the estimated service lives summarized in Table 17-3. For assets that have an unknown condition or age, an average annual investment rate is used based on the value of the asset and the estimated service life.

Summary of Recommended 10-Year Renewal Strategy:

- Maintains percentage of assets in fair or better condition above 80%
- Equipment is replaced at expected end-of-life based on age and the estimated service life.

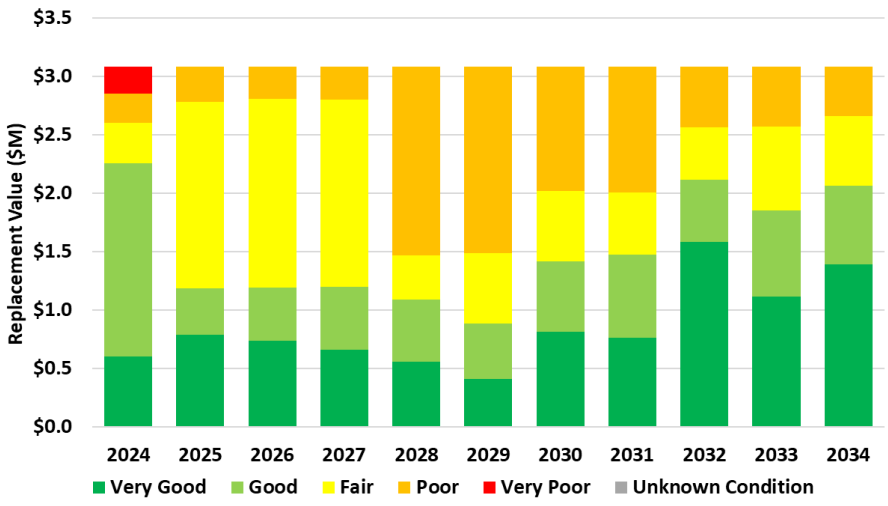
Table 17-3 Estimated Service Life – Fire

Asset	Asset Sub-type	Estimated Service Life (Years)
Communications	Pager	7
	Radio	10
Facility Equipment	Breathing Air Compressor	20
	Emergency Generator	20
	Floor Scrubber	15
	Washing Machine	15
Fire Equipment	Covered Trailer	20
	Emergency Generator	20
	Extrication Equipment	10-15
	Hose	15
	Ladder	15-20
	Monitor	20
	Other Equipment	10-20
	Thermal Imaging Camera	10
Personal Protective Equipment	Bunker Gear	5-10
	Firefighting Boots	5
	Helmet	10
	Ice Water Rescue	5
SCBA	MSA Air Cylinder	15
	MSA Pak	10
	SCBA Holder	20
	SCBA Mask	10

The proposed performance is to renew all assets as forecasted as shown in Figure 17-5. The average annual renewal need is estimated at $0.3 million per year, with no expected funding gap to complete these renewals.

Figure 17-5 Renewal Needs Forecast – Fire

Expected Performance ($0.3 million/yr)	Proposed Performance ($0.3 million/yr)
Fire Fleet	
The proposed performance is the same as the expected performance, which is to renew assets as forecasted per the estimated service lives. This will maintain assets at above 73% in fair or better condition by 2034. **Renewal need is $0.3 million per year.**	

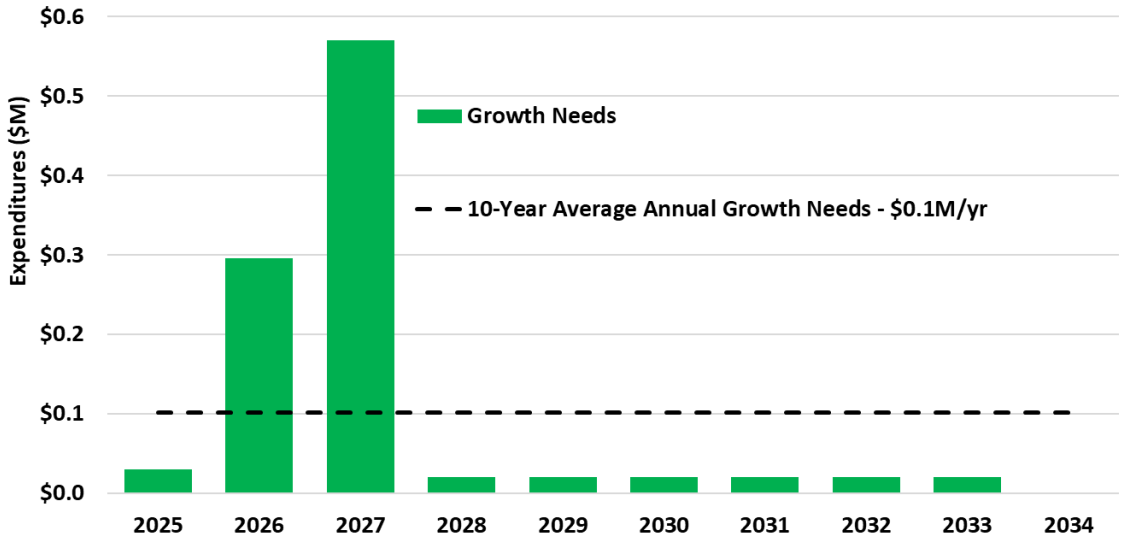


17.5.2 Growth Forecast

Figure 17-6 shows the Growth needs over the next 10 years for Fire. For fire equipment, additional personal protective equipment and SCBA is required for new staff and other needs associated with Fire Station 3. Each staff requires a backup set of PPE; therefore, the number of additional PPE needed is higher than currently identified. More detailed requirements will be defined through the Fire Service review.

Equipment that is required for the new vehicles associated with Fire Station 3 are included with fleet forecasts in Section 16. The average annual growth need for Fire equipment is estimated at $0.1 million per year over the next 10 years.

Figure 17-6 Growth Needs Forecast – Fire



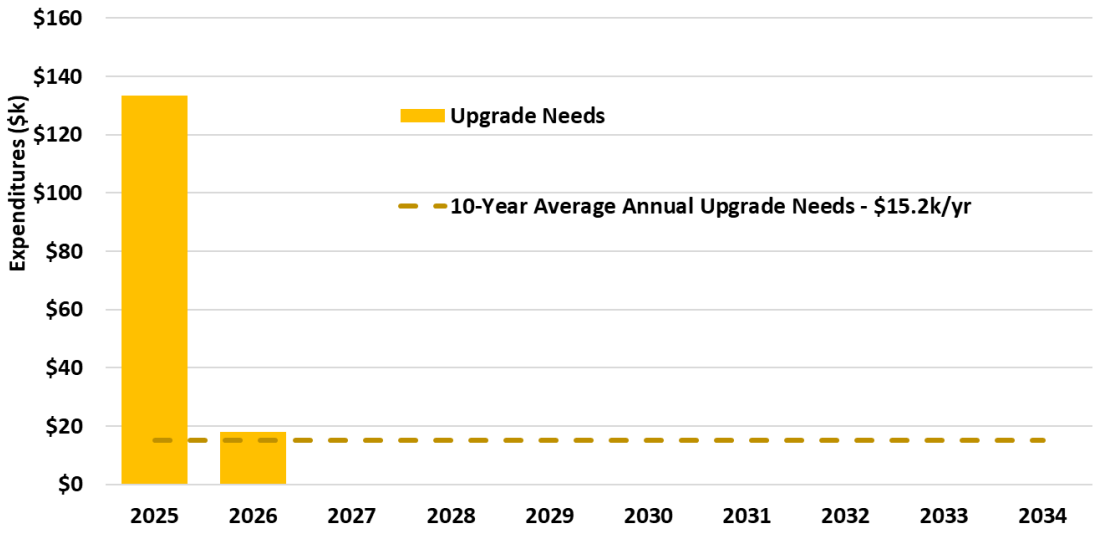
17.5.3 Upgrade Forecast

Upgrades for fire equipment include the following projects:

- Upgrades for a drone and drone truck conversion
- IT upgrades at Fire Station 2
- Upgrading the washer and air dryer for PPE to reduce exposure to hazardous chemicals and particles

Upgrades related to fire fleet are discussed in Section 16. The average annual upgrade need for Fire equipment is estimated at $15,200 per year over the next 10 years.

Figure 17-7 Upgrade Needs Forecast – Fire



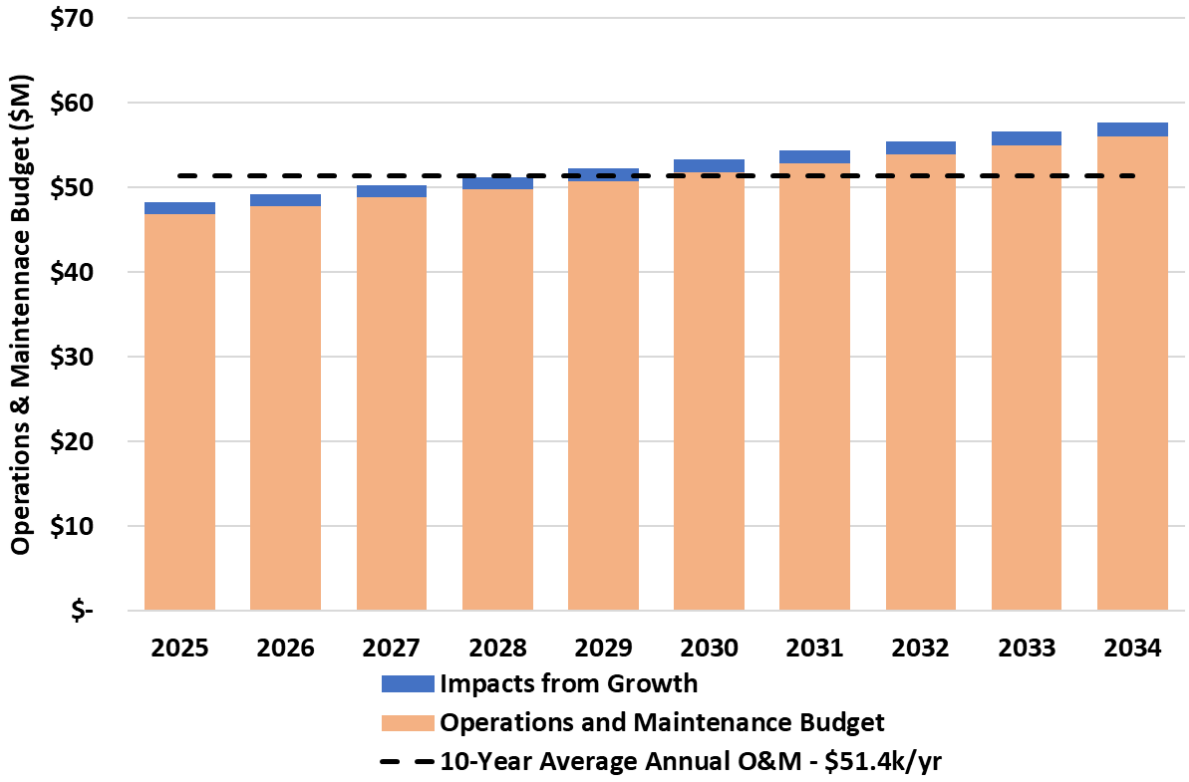
17.5.4 Operations and Maintenance Forecast

Operations and maintenance work is critical for ensuring the continued reliability of Fire equipment assets and meeting the proposed service levels.

Figure 17-8 shows the Operations and Maintenance needs over the next 10 years for Fire. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 2.0%.

The forthcoming Fire Services Review is considering affordability and possible long-term structural changes, such as merging with fire departments of other municipalities, and may identify additional growth or upgrade needs which will impact the Operating forecast.

Figure 17-8 Operations and Maintenance Needs Forecast – Fire



17.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs.

An average of $0.3 million per year is available as funding for capital renewal of fire assets based on the Town's contributions to funding projects in the Capital Plan, as well as an infrastructure levy distributed proportionally across applicable service areas. As discussed in Section 17.5.1, the estimated average annual renewal need is $0.3 million per year to meet proposed service levels. Therefore, fire renewal needs are expected to be fully funded, assuming that the Town has the resources to carry out the projects as currently planned.

Figure 17-9 Capital Renewal Needs versus Funding – Fire

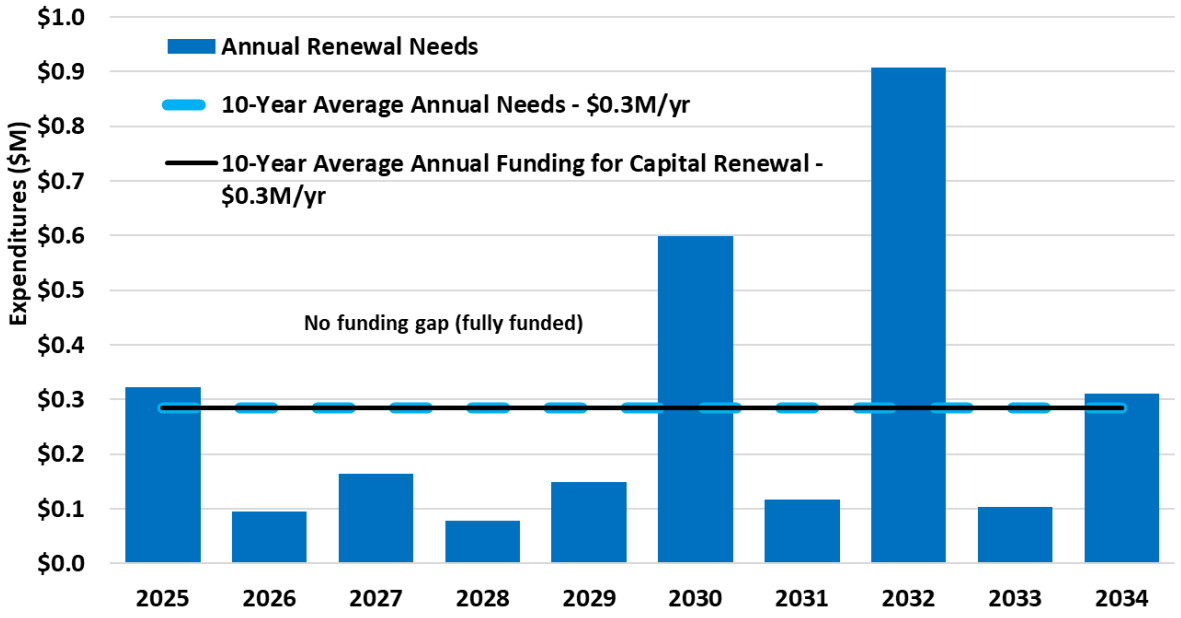


Table 17-4 summarizes the financial sustainability and affordability for growth, renewal and upgrade, and O&M activities.

Table 17-4 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Investment gap	Potential Impacts
Capital Growth	$0.1 M/yr	$0.1 M/yr	No funding gap	Growth needs are expected to be fully funded.
Capital Upgrade	$15 k/yr	$19 k/yr	No funding gap	Upgrade needs are expected to be fully funded.
Capital Renewal	$0.3 M/yr	$0.3 M/yr	No funding gap	Renewal needs are expected to be fully funded.
Operations and Maintenance	$48 k in 2025 to $58 k in 2034	-	2.0% average annual increase	Failure to increase resources to operate and maintain new assets will result in reduced service levels, including the ability for the Fire department to respond to safety risks in the community.

17.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations include:

Table 17-5 AM Plan Improvement Recommendations – Fire

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Improve accuracy of fire equipment unit costs to reflect rapidly increasing market costs.
Levels of Service	• Complete study regarding fire response time service levels, benchmarked against NFPA 1710 and 1720 standards as appropriate, and incorporate into next AM Plan update.
Risk Management	• Continue to monitor the risk profile of the assets and prioritize critical asset replacements with the goal of minimizing risks.
Lifecycle Management	• Consider contracting external maintenance due to specialized equipment requirements.
Financial Management	• Re-evaluate funding gaps after Fire Service Review is completed.

18 IT

18.1 Overview

The Town's information technology (IT) assets are vital in supporting efficient municipal operations, enabling service delivery, and safeguarding digital infrastructure across departments. These assets include hardware, servers, and network infrastructure that ensure reliable access to data, communication platforms, and operational systems. The Town's IT framework underpins critical daily operations across all Town departments. The Town focuses on maintaining a secure, resilient, and adaptable IT environment that aligns with organizational needs, regulatory requirements, and the evolving expectations of residents and staff.

Key Findings

- **With the proposed projects in the 10-year Capital Plan, the condition of IT assets will be improved** by replacing assets past their service life.
- **There is a funding gap of approximately $0.1 million per year** to meet the needs identified in the 10-year Capital Plan.

18.2 State of Infrastructure

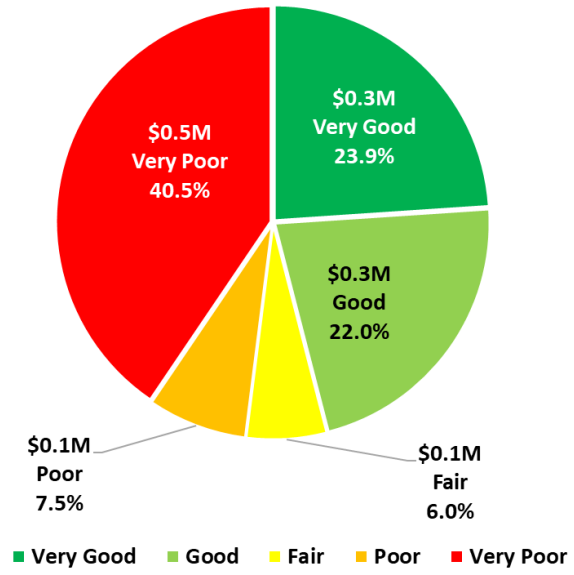
The Town's IT network is supported by infrastructure that enables secure and continuous access to municipal systems and services. Assets include hardware, networking and audio/visual infrastructure. Table 18-1 shows the $1.4 million estimated replacement value of the Town's IT infrastructure and includes a breakdown of the inventory by asset category. Networking assets account for 57% ($0.8 million) of the Town's IT asset portfolio. Public-facing Library assets are excluded from the Town's IT inventory as they are managed by the Library Board. Printers and scanners are excluded from the inventory as these assets are leased.

Table 18-1 Inventory Summary – IT Infrastructure

Asset Category	Quantity	Replacement Value (2025$M)
Hardware	533	$0.5
Networking	106	$0.8
Audio Visual	47	$0.1
	Total	**$1.4**

* Totals may not add up due to rounding.

Figure 18-1 Condition Distribution by Replacement Value - IT

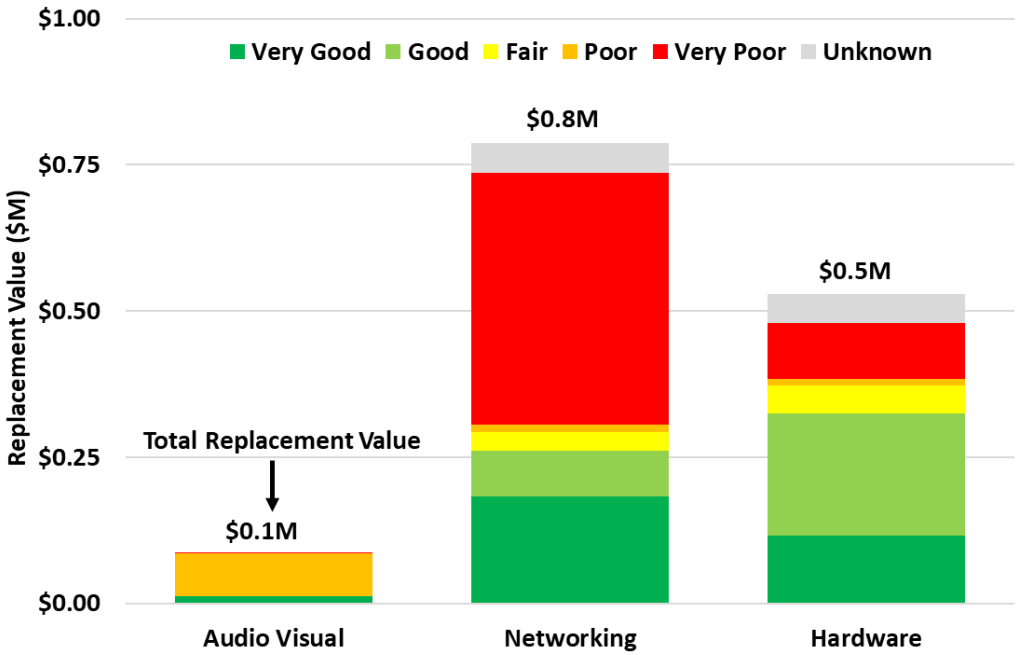


The condition distribution for the Town's IT assets is shown in Figure 18-1.

Overall, IT assets are on average fair condition, with 50.2% of assets in fair or better condition. 40.5% of assets are in very poor condition. It is expected that approximately 20% of the portfolio will consistently remain in very poor condition due to the short service lives and frequent replacements of IT assets. Assets with unknown condition represent 7.2% of the overall inventory.

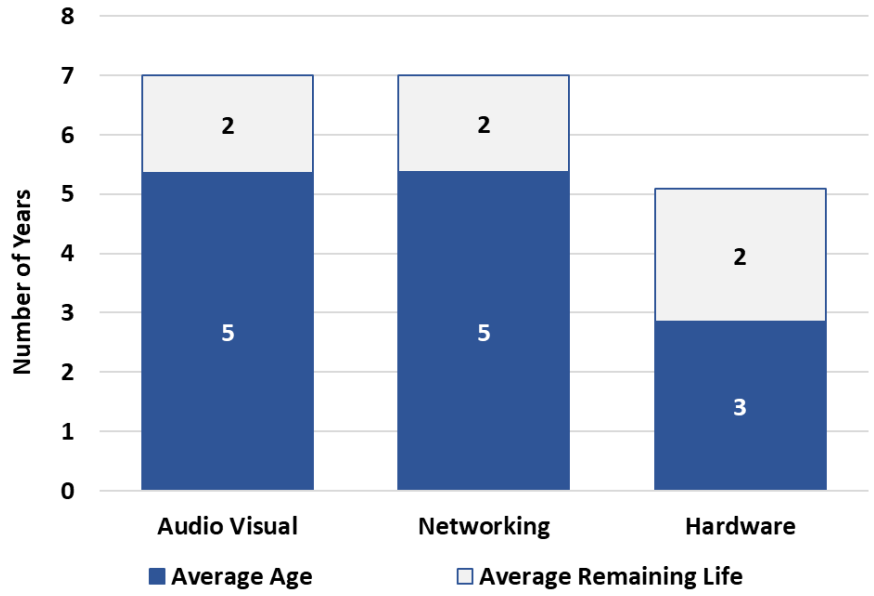
Figure 18-2 shows the condition distribution in more detail by asset category. 77.8% of hardware, 39.7% of networking assets and 14.2% of audio/visual assets are estimated to be in fair or better condition.

Figure 18-2 Condition Distribution by Replacement Value - IT



The average age and estimated service life of the Town's IT assets, weighted by replacement value, is summarized in Figure 18-3. Due to the short service lives of IT assets, it is expected to have a significant portion (approximately 20%) of assets, particularly hardware such as computers, at or past their service life in any given year.

Figure 18-3 Average Asset Age – IT Infrastructure



18.3 Levels of Service

IT assets are essential to maintaining service continuity, data security, and efficient delivery of public services. While there are no direct legislated standards specific to municipal IT assets in Ontario, the Town adheres to broader legislative frameworks such as the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA) and best practices for data protection and system reliability.

Table 18-2 includes the current performance (as of the end of 2024), aspirational targets set out by the Town and the proposed performance over the next 10 years. These measures reflect the Town's commitment to minimizing service disruptions, managing cyber risks, and ensuring technology remains aligned with operational needs. The Town maintains data on the average megabits per second of internet service received and transmitted to measure network bandwidth and throughput. The IT department also focuses on data and information security, and monitors the percentage of incoming emails blocked to Town staff, which mitigates threats to data and information breaches. In terms of quality and reliability, network IT assets are on average past service life. The Town has planned expenditures to replace this equipment in the 10-year Capital Plan, as discussed further in Section 18.5. These replacements will help to support server and network uptime availability. The Town is proposing to maintain or improve service levels over the next 10 years. Proposed performance is determined based on what is appropriate for the Town in consideration of the Town's current 10-year planned funding provision in the Capital Plan as well as risks associated with various performance levels, discussed further in Section 18.6.

Table 18-2 LOS Framework - IT

Community LOS	Technical LOS			
	Metric(s)	Current LOS	Target LOS	Proposed LOS
Capacity & Use - Provide adequate availability of IT service				
IT Services provides adequate supply of assets to meet needs of increasing number of staff and new applications and technologies.	Average megabits per second (mbps) for Internet service received/ transmitted/total	Received - 9.3 mbps Transmitted - 17.0 mbps Total - 26.3 mbps	Maintain above current performance	 Maintain above the current performance
Function				
IT services provide assets that meet technological requirements of staff and services provided to residents while protecting data and information security.	% of incoming email blocked	90.05% (2023)	Maintain above current performance	 Maintain above the current performance
Quality & Reliability – Maintain IT assets in a state of good repair				
IT services provide assets that support reliable services to staff and Town Service Areas.	% of assets in Fair or Better condition	52%	Renew assets per estimated service life	 72%
	Server uptime availability (%) (last 365 days as of Feb 2024)	99.975%	99.997%	 99.997%
	Network uptime availability (%) (last 365 days as of Feb 2024)	99.974%	99.997%	 99.997%

18.4 Risk Management Strategy

Risk exposure is the multiplication of the criticality or consequence of failure (CoF), which is the direct and indirect impact on the Town if an asset failure were to occur, by the likelihood of failure (LoF), which is the likelihood or chance that an asset failure may occur. Critical assets with a high CoF include networking equipment such as:

- Firewalls
- Routers
- Servers
- Switches
- UPS

The risk results are plotted on a risk map (Figure 18-4) to show a visual representation of risk exposure across the Town's assets. An estimated $0.3 million of assets, worth 19.2% of the portfolio, are current in very high risk due to being past their service life, including:

- Switches, Power Supply Switch, Servers, Routers, UPS (31 assets total)

Figure 18-4 Risk Exposure for IT Assets ($M)

Risk exposure in year 2025 $, millions

LoF						
	5	$0.1	$0.0	$0.2	$0.2	$0.1
	4	$0.0	$0.0	$0.1	$0.0	$0.0
	3	$0.0	$0.0	$0.0	$0.0	$0.0
	2	$0.2	$0.0	$0.1	$0.0	$0.0
	1	$0.1	$0.0	$0.1	$0.1	$0.0
		1	2	3	4	5
		CoF				

Risk Exposure	$	%
Very High	$0.3M	19.2%
High	$0.2M	16.5%
Moderate	$0.1M	8.4%
Low	$0.2M	13.4%
Very Low	$0.6M	42.4%
Total	$1.3M	100%

* Assets with unknown condition are not included. Totals may not add up due to rounding.

In addition to asset condition and reliability risks, the Town mitigates capacity and functional related risks related to IT assets by assessing the need for, and planning for, additional infrastructure as required. The Town also plans for service improvements to functional service levels while balancing these risks against capacity and reliability-related needs.

18.5 Lifecycle Management Strategy

The Town balances asset needs across renewal, growth, upgrade, and operations & maintenance activities to ensure that the IT system is sustainable and reliable. The costs for these activities to meet proposed service levels are discussed in the following subsections.

18.5.1 Renewal Forecast

The renewal forecast for IT assets considers the current age and estimates the planned replacement year based on estimated service lives summarized in Table 18-3. For assets that have an unknown age, an average annual investment rate is used based on the value of the asset and the estimated service life.

Summary of Recommended 10-Year Renewal Strategy:

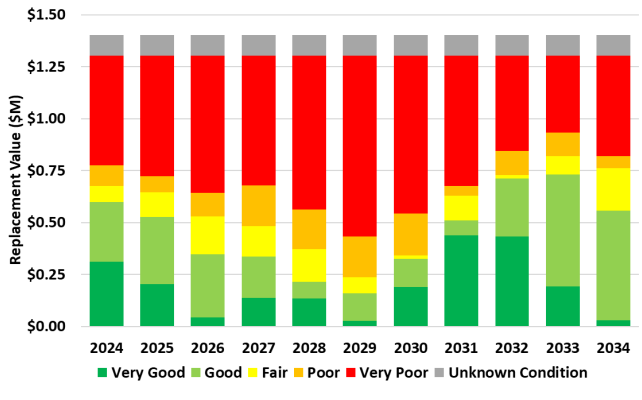
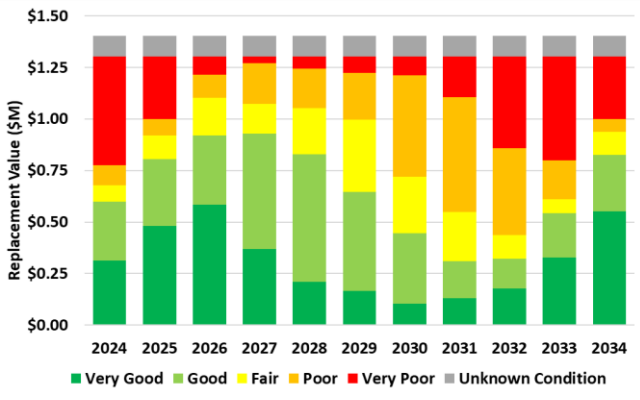
- Proposed renewal forecast is based on capital project commitments over the next 10 years, which replace assets at the end of the estimated service lives
- Asset condition improves from 52% to 72% fair or better.

Table 18-3 Estimated Service Lives - IT

Asset Types	Estimated Service Life (Years)
Smartphones	3
Laptops, Desktops, Tablets	5
Audiovisual Assets, Networking Assets, IP Phones	7
Security Cameras	10

For IT infrastructure, the proposed performance is to replace assets based on capital project commitments over the next 10 years, in line with the estimated service lives noted above. These projects result in an improvement in the condition of assets, as shown in Figure 18-5. The average annual renewal need is estimated at $0.2 million per year.

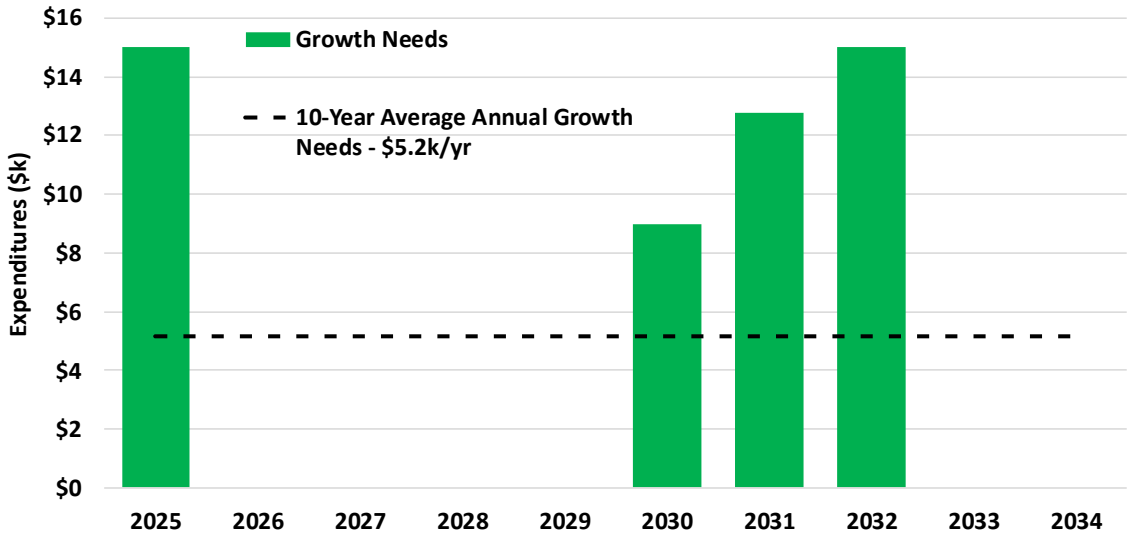
Figure 18-5 Renewal Needs Forecast – IT Infrastructure

Expected Performance ($0.1 million/yr)	Proposed Performance ($0.2 million/yr)
The condition is expected to improve slightly based on the contributions to funding sources for capital projects over the next 10 years. 58% of assets are expected to be in fair or better condition by 2034. **Average available funding is $0.1 million per year**.	The proposed performance is to improve the current condition of assets over the next 10 years in alignment with capital project commitments. This will improve asset condition to 72% of assets in fair or better condition by 2034. **Average renewal need is $0.2 million per year**.
	

18.5.2 Growth Forecast

Figure 18-6 summarizes the currently identified growth needs over the next 10 years for IT assets that support the Town's capacity and use measures in Section 18.3. Growth assets forecasted include approximately 15% of the Equipment Replacement Reserve for Network Equipment. The average annual growth need for IT infrastructure is estimated at $5.2 thousand per year over the next 10 years.

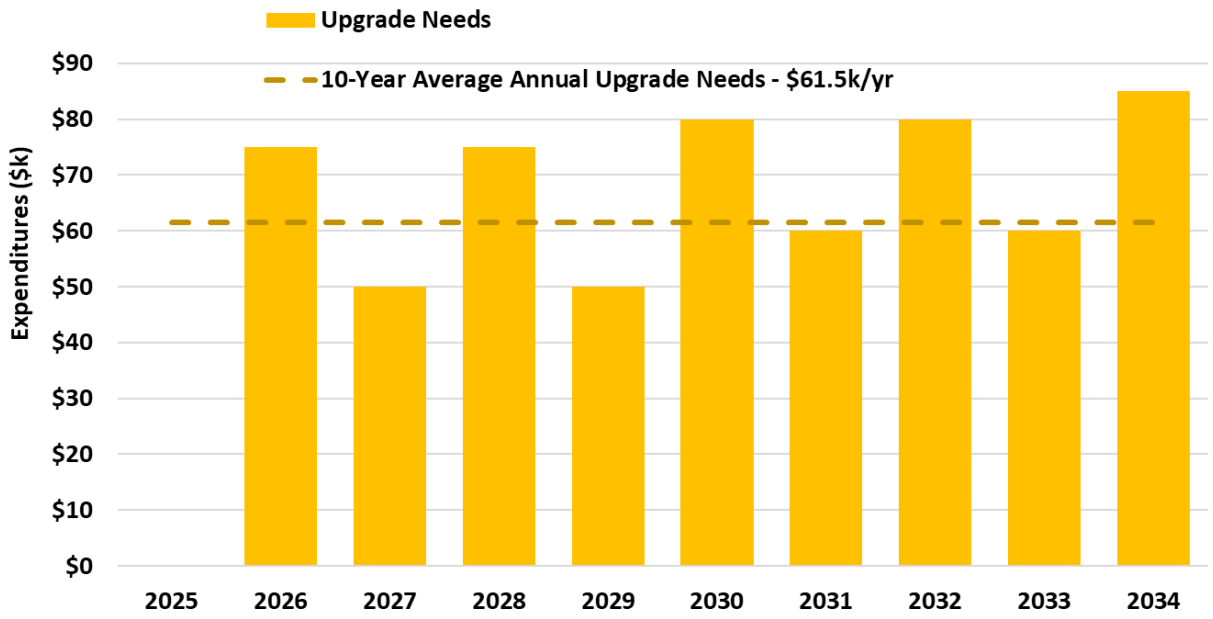
Figure 18-6 Growth Needs Forecast – IT



18.5.3 Upgrade Forecast

The Town's IT upgrades over the next 10 years average $61,500 per year, as shown in Figure 18-7. The Town has a cyber security enhancement project which includes expenditures for performing audits and implementing the audit recommendations.

Figure 18-7 Upgrade Needs Forecast – IT



18.5.4 Operations and Maintenance Forecast

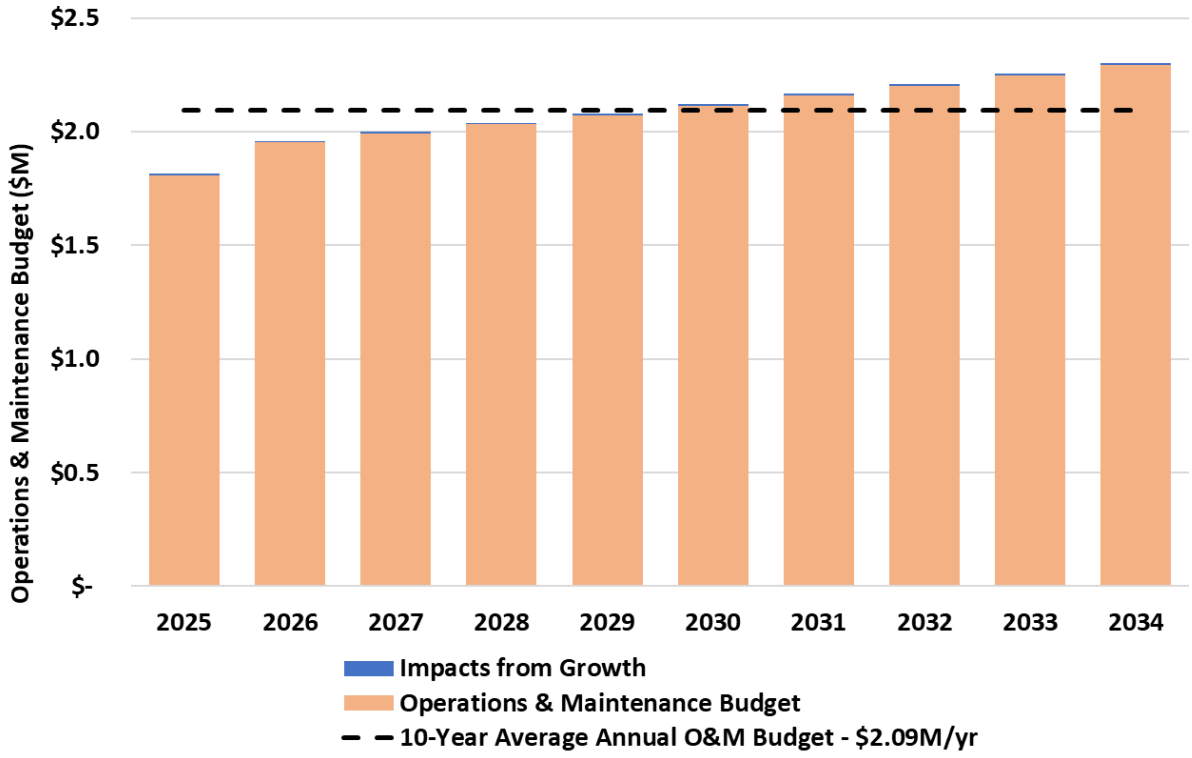
Operations and maintenance work is critical for ensuring the continued reliability of IT assets and meeting the proposed service levels.

Figure 18-8 shows the Operations and Maintenance needs over the next 10 years for IT infrastructure. which includes activities related to equipment maintenance as well as overall contracted services, wages, and software licenses. The increase in costs beyond 2025 in operations and maintenance activities is impacted by the estimated growth in the asset portfolio. To meet proposed service levels over the next 10 years, the Operating Budget is estimated to need to increase at an average annual rate of 2.7%.

Operations and maintenance activities include:

- Hardware:
  - Routine device updates and patch management
  - User support and troubleshooting for workstation functionality
- Networking:
  - Firewall, switch, and router configuration updates and monitoring
  - Scheduled backups and disaster recovery testing
- Audio/Visual:
  - Regular testing and calibration of projectors, microphones, and conferencing equipment
  - Firmware updates and compatibility checks with Town meeting systems

Figure 18-8 Operations and Maintenance Needs Forecast – IT



18.6 Financing Strategy

The financial analysis considers the affordability of the proposed service levels based on the funding available compared to the forecasted needs.

The funding available for renewal of IT infrastructure is estimated to be an average of $0.1 million per year over the next 10 years based on the Town's contributions to funding projects in the Capital Plan. The estimated average annual renewal need is $0.2 million per year to meet proposed service levels, resulting in an investment gap of $0.1 million per year, assuming that the Town has the resources to carry out the projects as currently planned.

Figure 18-9 Capital Renewal Needs versus Funding – IT

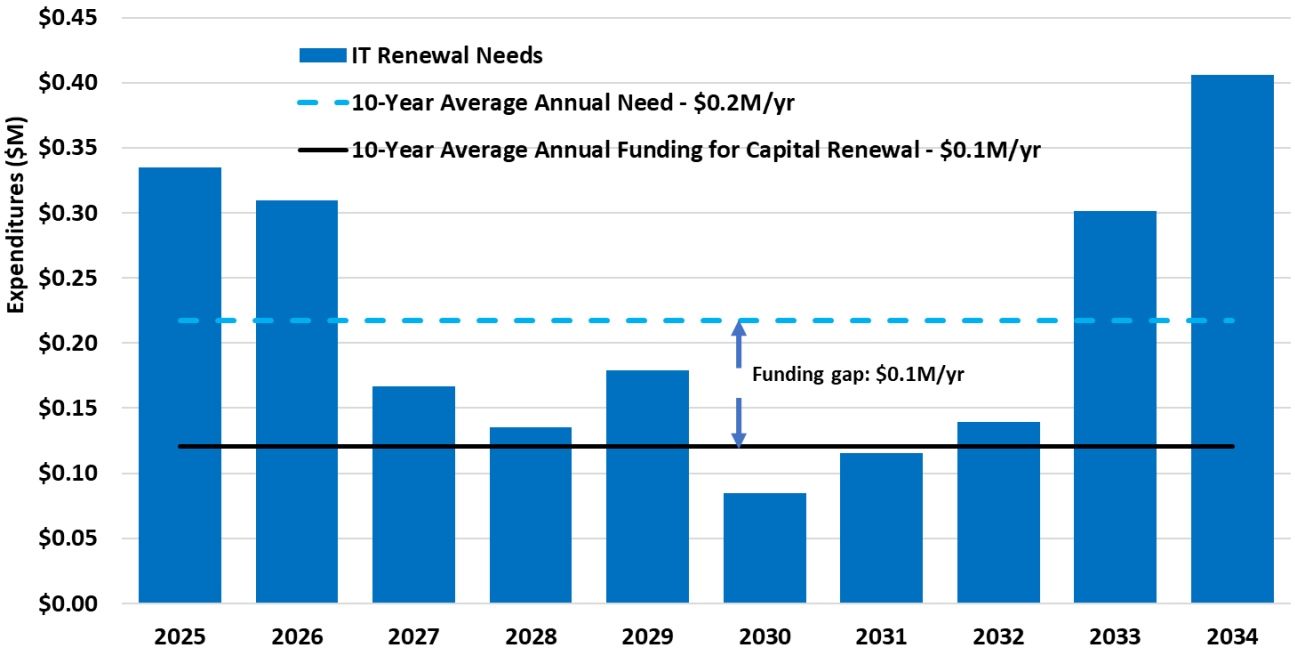


Table 18-4 summarizes the financial sustainability and affordability for growth, upgrade, renewal, and O&M activities.

Table 18-4 10-Year Financial Sustainability of Proposed Service Levels

Asset Lifecycle	Average Annual Forecast Needs	10-Year Average Annual Funding	Average Annual Funding gap	Potential Impacts
Capital Growth	$5.2 k/yr	$2.7 k/yr	$2.5 k/yr	Reductions in available funding may delay or scale back critical infrastructure projects needed to support new growth.
Capital Upgrade	$61.5 k/yr	$31.8 k/yr	$29.7 k/yr	Reductions in available funding may delay or scale back critical projects related to upgrading infrastructure.
Capital Renewal	$0.2 M/yr	$0.1 M/yr	$0.1 M/yr	IT infrastructure that continue to be used past its estimated service life, potentially resulting in service disruptions.
Operations and Maintenance	$1.8M in 2025 to $2.3M in 2034; 2.7% average annual increase	-	2.7% average annual increase	Failure to increase resources to operate and maintain new assets will result in reduced service levels and increased risks.

The funding gap pertaining to growth and renewal is due to the inadequate contributions (51%) expected for funding currently committed to the Technology Equipment Replacement Reserve,

and 0% contributions expected for funding currently committed to the Library Equipment Replacement Reserve.

The Town will also continue to refine its asset replacement schedules and prioritize investment in the most business-critical systems. Should the gap persist, the Town may consider phasing renewals over longer timelines, adjusting internal service expectations, or allocating additional funding from reserves or the tax levy to maintain essential levels of service and cybersecurity readiness.

18.7 Recommendations for Continuous Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. Continuous improvement recommendations include:

Table 18-5 AM Plan Improvement Recommendations – IT

AM Plan Section	Improvement Recommendation
State of Infrastructure	• Continue to update the IT inventory with purchase year data as equipment is replaced. • Complete inventory data with updated replacement costs. • Consider including software as IT assets into future updates to the AM Plan.
Levels of Service	• Continue to aim for improved future performance of service levels.
Risk Management	• Continue to monitor novel cybersecurity risks and plan for software updates to address potentially increased risks accordingly.
Lifecycle Management	• Continue to closely track software costs and consider including inflation of these costs in lifecycle forecasting.
Financial Management	• Apply for grants when opportunities arise to support unfunded infrastructure replacements.