2025-113
Appendix B

PORT COLBORNE

City of Port Colborne

Corporate Asset Management Plan

2025

Executive Summary

Asset Management Plan Overview

The City of Port Colborne is located on Niagara's South Coast, a destination steeped in marine heritage. The City boasts shopping districts, many restaurants, ample beachfront and a selection of natural attractions. Whether it's cycling, fishing or relaxing, the City has something to offer each of its residents and visitors. The City of Port Colborne's infrastructure supports a variety of municipal services that residents and businesses rely on every day including roads and bridges which facilitate travel, watermains which deliver clean drinking water, and sewer and storm systems which manage waste and excess rainfall.

The City owns approximately $1.87 billion in infrastructure assets and requires a comprehensive plan for managing these assets to maximize service delivery while balancing costs to the community. An asset management plan (AMP) can help guide the City in making the best decisions in the management of its infrastructure assets and is designed to:

- Meet regulatory requirements.
- Outline the current state of the City's infrastructure assets.
- Describe the current levels of service provided by these assets.
- Identify the lifecycle activities used to manage these assets.
- Forecast the infrastructure spending required to maintain the current levels of service.
- Develop a plan for improving AM planning for future iterations of the plan.

The plan aligns with the guidelines set out by the Ontario Ministry of Infrastructure's Building Together Guide for Municipal Asset Management Plans as well as Ontario Regulation 588/17 under the Infrastructure for Jobs and Prosperity Act which help to standardize asset management planning across the province. This has been updated to include proposed levels of service by July 1, 2025 as mandated by the regulatory requirements set out in O.Reg. 588/17.

This plan represents the City's commitment to improving municipal services for the community. The City through this plan has developed a financial strategy to address the infrastructure needs in alignment with the City's Strategic Policy, as well as the Strategic Plan established for 2023-2026. The anticipated budget needs developed for this plan

ultimately will assist the City in meeting the priorities established in consultation with Council.

Asset Management Plan Scope

This AMP is divided into chapters for each of the following 11 asset categories:

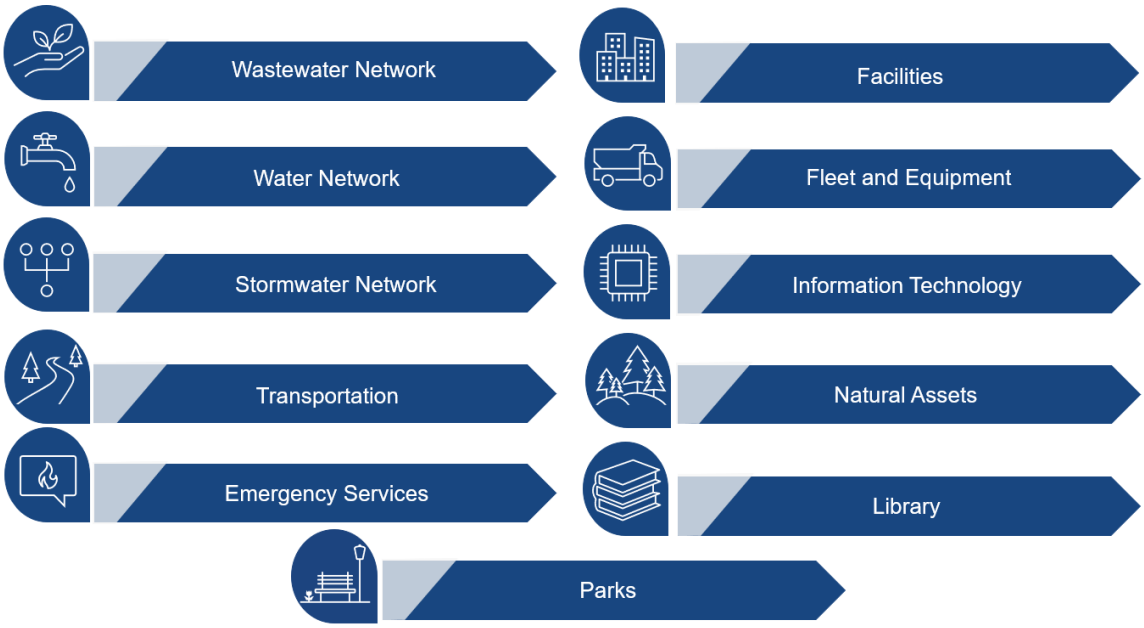

Figure 0-1. 2025 AMP Scope

For each of these asset category chapters, the following sections are included:

State of the Infrastructure – A high-level inventory of the City's assets and insights on the overall age, condition, replacement value, and key metrics of the assets owned by the City.

Levels of Service – The metrics which outline the services the City provides to its customers, residents, and visitors in terms of capacity, function, and quality. These parameters will reflect improvements or reductions in services as they are updated in the future and other metrics may be added as AMP policies are more thoroughly developed.

Lifecycle Management Strategies – The set of planned actions which help maintain current levels of service and include the maintenance, rehabilitation, replacement, disposal, and expansion of assets. These activities are funded through City operating and capital budgets and are detailed for each asset in the AMP.

Funding the Lifecycle Activities – The forecasted lifecycle investment requirements over the next 20 years based on these current activities, including the forecasted

costs associated with the lifecycle activities and the performance (condition) of the City's assets.

Data Confidence and Improvement Plan – Information on the sources used to develop the asset inventory and the quality of the data.

These asset category specific chapters are followed by the Financial Strategy and Improvement and Monitoring Plan for all the City's assets.

Infrastructure Valuation and Condition Distribution

Overall, the City owns approximately $1.87 billion in infrastructure assets, broken out across 11 asset categories. As shown in Figure 0-2 below, Transportation assets account for the largest share of the City's assets by replacement value, totalling $525 million, followed by the Stormwater Network assets at $441 million and Water Network assets at $420 million.

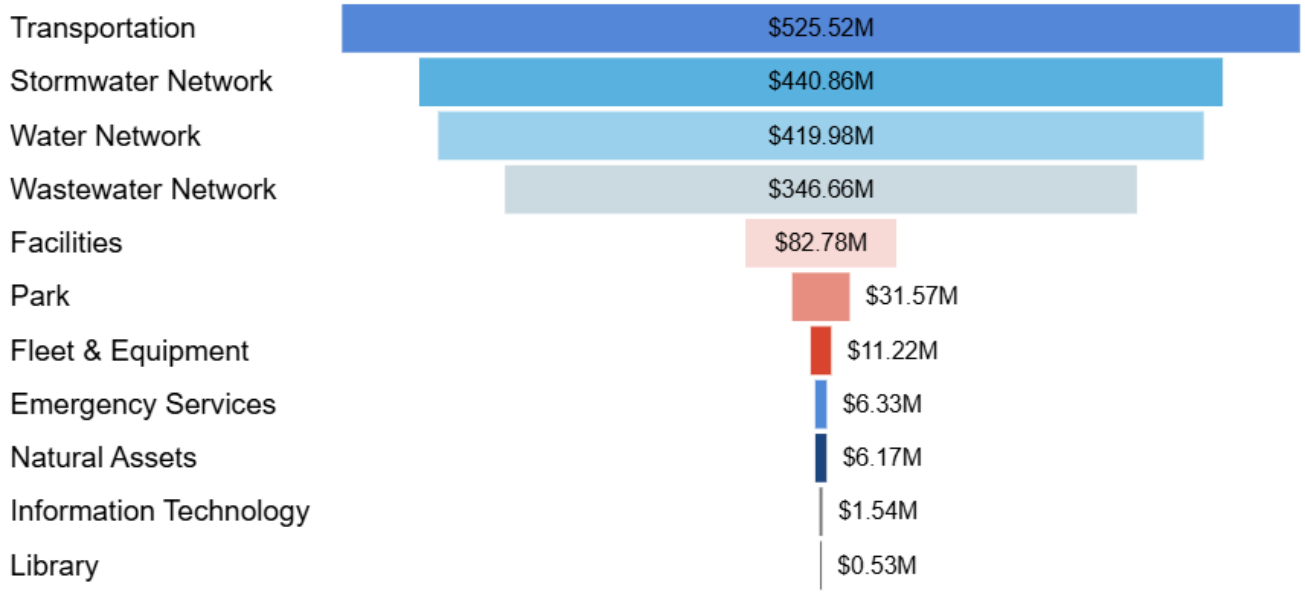

Figure 0-2. Overall Asset Valuation by Asset Category

On average, the City's assets are in Fair condition, with 75% of the City's assets (by replacement value) falling into Fair or better condition, see Figure 0-3. Detailed breakdowns for each asset category can be found within each of this AMP's asset category chapters.

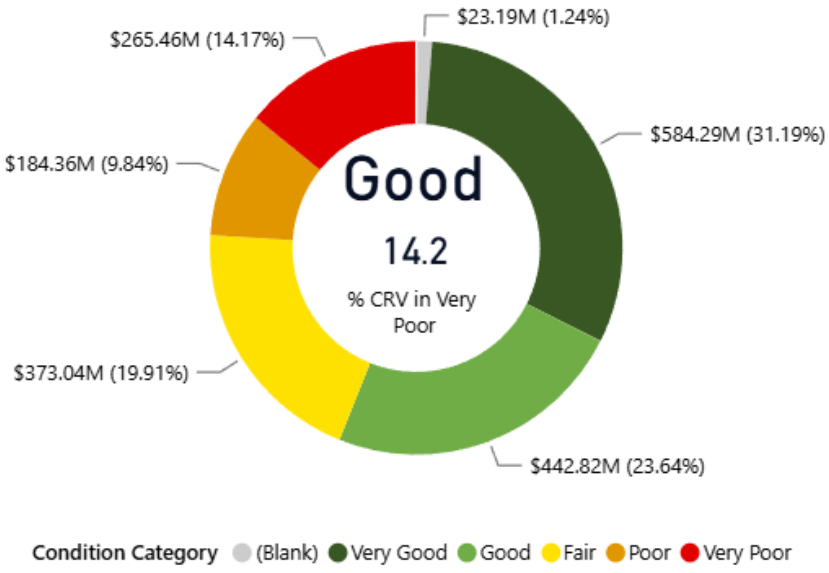

Figure 0-3. Overall Asset Condition by Replacement Value

Figure 0-4 shows the condition breakdown by asset category by replacement value.

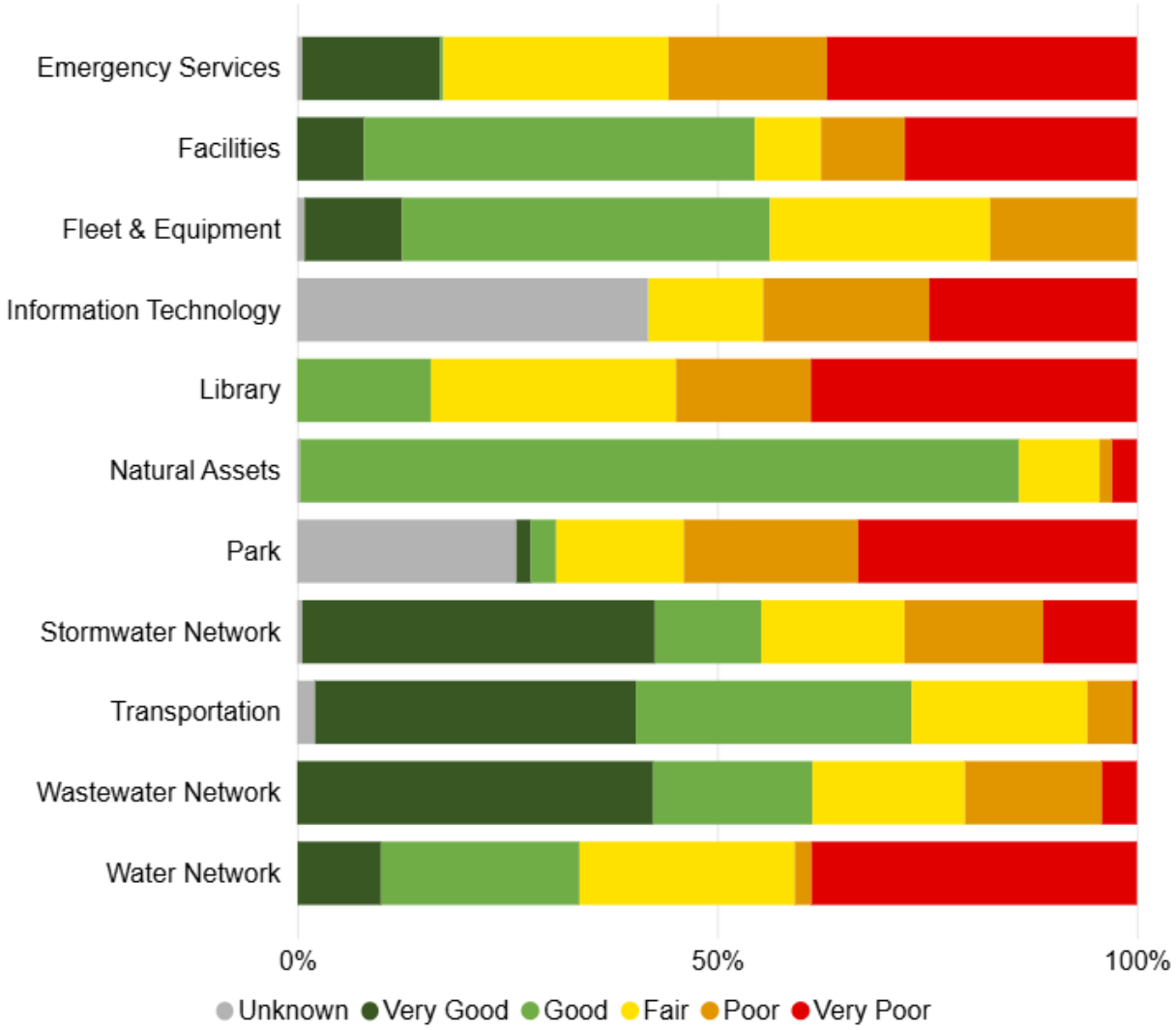

Figure 0-4. Asset Category Condition Profiles

The City's assets are split into two general funding categories, rate funded and tax funded. Stormwater, Wastewater and Water are rate funded asset categories, and the remaining are tax funded. The condition information for all asset categories is also summarized in Table 0-1 separated into rate and tax funded asset portfolios.

Table 0-1. Condition Values by Replacement Value for Asset Categories

Asset	Very Good	Good	Fair	Poor	Very Poor	Unknown	Total
Rate Funded							
Stormwater Network	$185,204,178	$55,676,461	$75,298,403	$72,833,152	$49,137,540	$2,713,167	$440,862,900
Wastewater Network	$149,638,066	$67,458,469	$60,032,979	$55,395,079	$14,127,689	$12,000	$346,664,281
Water Network	$50,561,937	$99,137,845	$107,733,751	$8,386,053	$153,893,505	$262,187	$419,975,278
Rate Funded Total	**$385,404,181**	**$222,272,774**	**$243,065,132**	**$136,614,284**	**$217,158,734**	**$2,987,354**	**$1,207,502,459**
Tax Funded							
Transportation	$237,138,522	$158,261,232	$93,494,328	$23,384,062	$2,082,588	$11,159,758	$525,520,490
Emergency Services	$1,040,000	$23,952	$1,697,453	$1,194,726	$2,336,753	$38,879	$6,331,764
Facilities	$6,604,775	$38,515,357	$6,515,849	$8,268,438	$22,873,736		$82,778,156
Fleet & Equipment	$1,299,202	$4,917,291	$2,941,638	$1,959,615		$99,528	$11,217,274
Information Technology			$210,694	$304,636	$380,520	$644,031	$1,539,881
Library		$83,756	$153,340	$84,517	$204,000		$525,613
Natural Assets		$5,288,400	$590,720	$91,520	$183,040	$20,800	$6,174,480
Park	$547,040	$949,312	$4,805,840	$6,547,694	$10,477,376	$8,241,064	$31,568,326
Tax Funded Total	**$246,629,539**	**$208,039,300**	**$110,409,863**	**$41,385,208**	**$38,538,013**	**$20,204,060**	**$665,377,231**
All Assets Total	**$630,838,518**	**$430,312,074**	**$353,474,995**	**$179,365,942**	**$255,696,747**	**$23,191,414**	**$1,873,158,443**

Financial Strategy

The Financial Strategy is one of the key components within the AMP, as it puts the AMP into action. The financial plan provides a way for municipalities to integrate asset management planning with financial budgeting.

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

The following three scenarios are run:

Scenario 1: Anticipated Funding Model – Evaluates asset performance under the anticipated funding level that the City anticipates allocating towards each asset category. The anticipated budgets were obtained from the City's 2025 capital and operating budget, as well as based on the capital expenditures required based on the Infrastructure Needs Study. This scenario assumed that the funding will be made available as outlined in this AMP. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category as part of this forecast.

Scenario 2: Maintain Current Performance (Level of Service) – This scenario determines the cost that would be required to maintain the City's assets in approximately the same condition they are currently assessed in over a 20-year forecast period. Understanding the cost to maintain current performance levels is a requirement of O.Reg. 588/17. For the purposes of this AMP, the current performance (condition) of the assets is used to determine the current level of service. The 2025 iteration of this AMP will require a further scenario, where the City will set targets to the level of service.

Scenario 3: Proposed Level of Service (PLOS) – This scenario replaced the Infrastructure Needs scenario that was developed for the 2025 AMP. This scenario determines the required spending for the 20-year period to replace/rehab all assets in very poor condition, as per Council's Strategic Plan.

Scenarios 2 and 3 for each asset category were compared the City's forecasted expenditures compared to the capital budget forecasts to determine if a gap in funding is present.

The expenditures for renewal, rehabilitation and replacement required for scenarios 2 and 3 are outlined below in Table 0-2. These expenditures represent the average annual cost of the 20-year forecast based on the identified scenarios.

Table 0-2. Cost to Maintain Current LOS and Proposed LOS (Rate & Tax Supported)

Service Category	Average Annual Expenditure to Maintain Current LOS (Scenario 2)	Average Annual Expenditure for Proposed LOS (Scenario 3)
Rate Supported		
Storm	$3,781,151	$3,295,958
Water	$2,144,005	$6,893,598
Wastewater	$2,037,963	$1,909,350
Rate Supported Total	**$7,963,119**	**$12,098,906**
Tax Supported		
Transportation	$5,076,712	$5,685,536
Emergency Services	$296,508	$517,326
Facilities	$2,428,909	$3,428,808
Fleet & Equipment	$1,112,316	$1,112,316
Information Technology	$129,178	$220,245
Library	$55,441	$82,845
Natural Assets	$200,000	$200,000
Parks	$1,209,573	$2,076,498
Tax Supported Total	**$10,508,638**	**$13,323,574**
All Assets Total	**$18,471,756**	**$25,422,480**

Table 0-3 provide an overview of the scenarios outlined, the operations budget, and the planned expenditures for the City. The City has made a significant effort to develop a forecasted budget to meet the infrastructure needs to improve the level of service provided to the community.

Table 0-3. Average Annual Lifecycle Expenditures (All Assets)

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for Proposed LOS
Operations & Maintenance	$22,740,600	$22,740,600	$22,740,600
Renewal, Rehabilitation & Replacement	$25,152,386	$19,188,846	$26,630,715
Total Expenditure	**$47,892,986**	**$41,929,446**	**$49,371,315**
Average Annual Funding Gap		**No Gap**	**$1,478,329**

As shown here, if the City continues its efforts to improve services for the community and provides the funding as documented in this plan to meet the funding requirements of the infrastructure needs, the City will not face an infrastructure gap. Since the previous AMP the City has taken significant steps to establish improved asset management planning through their efforts to obtain updated condition assessments for multiple assets, as well as to develop a comprehensive funding strategy (as outlined in this plan), to meet the infrastructure requirements as determined by the lifecycle strategies.

The City plans to fully remove assets in very poor condition by 2030, with the exception of water, and the Grain Terminal for facilities. By 2045, a small portion of assets will remain in very poor condition. It is anticipated that the needs for these assets will change as lower cost alternatives and asset management practices are enhanced to reach Council's goals. This Asset Management Plan, and the strategies in place demonstrate the City's commitment to upgrading its assets to ensure the quality of services for its customers.

The impact of the investments identified in this plan can be seen in Figure 0-5, which shows the overall condition profile of the City's assets currently and comparing it to the condition profile at the end of the of 20-year forecast.

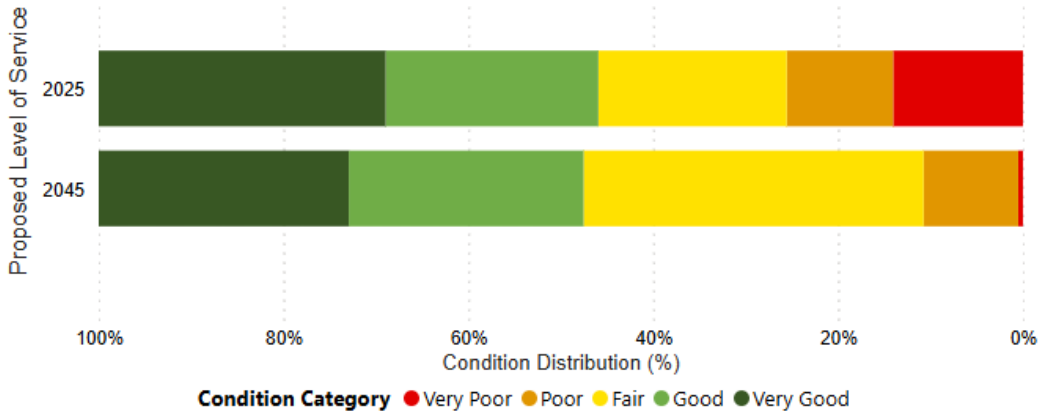

Figure 0-5. Impact of Following Proposed LOS Overall Condition by end of 20-year Forecast

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Glossary of Terms

Term	Definition
Asset	An item, thing or entity that has potential or actual value or benefit to an organization.
Asset Management	Coordinated activity of an organization to realize value from assets.
Asset Management Plan (AMP)	Long-term plans (usually 10-20 years or more for infrastructure assets) that outline the asset activities and programs for each service area and resources applied to provide a defined level of service in the most cost-effective way.
Asset Management Policy	A high-level statement of an organization's principles and approach to asset management (IIMM, 2015).
Bridge Condition Index (BCI)	A numerical index generally utilized for the assessment of the condition & structural reliability of bridges and culverts.
Connection Days	The number of properties connected to a municipal system that are affected by a service issue, multiplied by the number of days on which those properties are affected by the service issue.
Estimated Service Life (ESL)	An estimate of the duration of time that an asset is forecasted to be in service.
Infrastructure	The system of fundamental facilities and structures necessary for a public works of a country, state or region to function. Examples include roads, railway, bridges, tunnels, water supply, sewers, electrical, telecommunications, signs, equipment, fleet, etc.
Level of Service (LOS)	Parameter or combination of parameters, which reflect social, political, environmental and economic outcomes that the organization delivers. Levels of service statements describe the outputs or objectives an organization or activity intends to deliver to customers.
Lifecycle Activity	An activity undertaken to sustain asset integrity and service levels over the life of an asset, such as demand management or rehabilitation.
Lifecycle Cost	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.

Term	Definition
Lifecycle Management Strategy	The set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost.
LOS Framework	A set of tables which outlines the Levels of Service developed for each service category.
Ontario Regulation O.Reg. 588/17	Ontario Regulation 588/17 under the Infrastructure for Jobs and Prosperity Act 2015, as amended. Principles are set out in this regulation by the provincial government to regulate asset management planning for municipalities.
Performance Measure	Parameters / metrics that can be measured and monitored to assess the delivery of a service that is being provided.
Pipeline Assessment and Certification Program (PACP)	A standardized protocol for coding pipeline condition information from CCTV inspection footage.
Replacement Cost/Value	The cost of acquiring an asset to replace an existing asset with a new modern equivalent asset.
Reserves	A reserve is an allocation of accumulated net revenue. The Town's current strategy is to contribute fixed amounts to capital reserves which supports capital spending together with grants, development charges, debt, etc.

Abbreviations & Acronyms

The table below provides a summary of the abbreviations referenced in this document.

Acronym	Definition
AM	Asset Management
AMP	Asset Management Plan
AWWA	American Water Works Association
BCA	Building Condition Assessment
BCI	Bridge Condition Assessment
CAO	Chief Administrative Officer
CCTV	Closed Circuit Television Camera
CLI ECA	Municipal Consolidated Linear Infrastructure Environmental Compliance Approval

Acronym	Definition
CMMS	Computerized Maintenance Management System
CRV	Current Replacement Value
DC	Development Charges
DWQMS	Drinking Water Quality Management Standard
ECDM	Energy, Conservation and Demand Management
ESL	Estimated Service Life
FAO	Financial Accountability Office
FCI	Facility Condition Index
GFMAM	Global Forum on Maintenance & Asset Management
GHG	Green House Gases
GIS	Geographic Information Systems
INS	Infrastructure Needs Study
ISO	International Organization of Standardization
IT	Information Technology
LOS	Levels of Service
MECP	Ministry of the Environment, Conservation and Parks
MMS	Minimum Maintenance Standards
MTO	Ministry of Transportation
NASSCO	National Association of Sewer Service Companies
OSIM	Ontario Structure Inspection Manual
PACP	Pipeline Assessment and Certification Program
PCI	Pavement Condition Index
PLOS	Proposed Levels of Service
PM	Preventative Maintenance
PPCP	Pollution Prevention Control Plan
PVC	Polyvinyl Chloride
SME	Subject Matter Expert
SMRP	Society for Maintenance & Reliability Professionals
UNK	Unknown

1.0 Introduction

1 Introduction

1.1 Purpose and Regulation

1.1.1 Asset Management Plan Purpose

The City of Port Colborne's infrastructure supports a variety of municipal services that residents and businesses rely on every day. City infrastructure includes a variety of asset types such as roads and bridges which facilitate travel, watermains which deliver clean drinking water, sewer and storm systems which manage waste and excess rainfall, emergency services which keeps residents and property safe, parks which provide leisure spaces for residents and visitors, and library services which aim to empower, enrich, and educate visitors of all ages.

The City owns approximately $1.8 billion in infrastructure assets and requires a comprehensive plan for managing these assets to maximize service delivery while balancing costs to the community. An asset management plan (AMP) can help guide the City in making the best decisions in the management of its infrastructure assets and is designed to:

- Meet regulatory requirements.
- Outline the current state of the City's infrastructure assets.
- Describe the current levels of service provided by these assets.
- Set targets for proposed levels of service
- Identify the lifecycle activities used to manage these assets.
- Forecast the infrastructure spending required to achieve the proposed levels of service.
- Develop a plan for improving AM planning for future iterations of the plan.

The plan aligns with the guidelines set out by the Ontario Ministry of Infrastructure's Building Together Guide for Municipal Asset Management Plans as well as Ontario Regulation 588/17 under the Infrastructure for Jobs and Prosperity Act which help to standardize asset management planning across the province. Upon endorsement of this plan by the CAO, and approval through a resolution by the City Council, this plan will be made available on the City's website for public access. All background information and reports which informed the Asset Management Plan, which are not currently available on the City's website, may be requested through the City's clerk's office.

1.1.2 O.Reg. 588/17 Overview

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

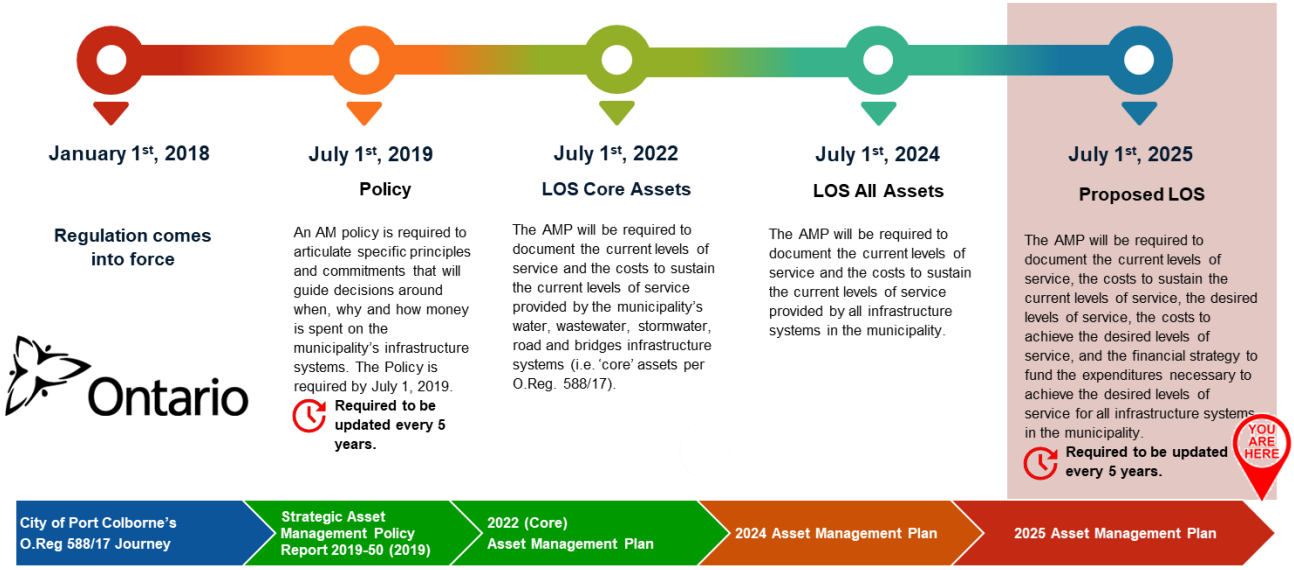


Figure 1-1. O.Reg. 588/17 Requirements and Timelines

This AMP satisfies requirements for July 1, 2025, as per the Ontario Regulation. This version of the AMP provides recommendations on the proposed levels of service, as well as the funding levels required to achieve them.

1.2 Asset Management Program in the City of Port Colborne

1.2.1 Corporate Asset Management Overview

The City of Port Colborne developed the Strategic Asset Management Policy, as per O.Reg.588/17 requirements in 2019 and will be updated upon completion of this AMP.

The objective of this policy is to provide leadership in and commitment to the development and implementation of the City's asset management program. It is intended to guide the consistent use of asset management across the organization, to facilitate logical and

evidence-based decision-making for the management of municipal infrastructure and to support the delivery of sustainable community services now and in the future.

The City will continue to review the current policy to see the progress of implementing this plan, as well as complete a maturity assessment and road map on how to further asset management and initiatives in the City. These recommendations have been included in Section 14 Improvement and Monitoring Plan.

1.2.2 Asset Management Stakeholders Roles & Responsibilities

Asset management is managed collectively between the Chief Financial Officer/Treasurer and Director of Public Works and the Supervisor of Asset Management. Key stakeholders are an integral part of the asset management planning process. They will aid in facilitating logical and evidence-based decision-making for the management of municipal infrastructure assets and to support the delivery of sustainable community services now and in the future. Having various key stakeholders will improve accountability and transparency to the community.

The current key stakeholders and their roles and responsibilities, as per the policy, include:

Council approves the AM policy and direction of the AM program. They maintain adequate organizational capacity and prioritize effective stewardship of assets.

The **CAO** provides oversight to the AM policy to ensure the AM program aligns with the City's strategic plan and provincial and federal regulations.

The **Executive Lead** (Chief Financial Officer/Treasurer or Designate) manages the policy and any updates, provides leadership in AM concepts and practices organization-wide, coordinates department staff and AM program implementation, and monitors levels of service.

The **Asset Management Team** develops policy and provides corporate oversight to goals and directions of the AM program to ensure it aligns with the City's strategic plan. They also develop and monitor levels of service, provide recommendations to Council and track AM program progress and results.

Departmental Staff participate in implementation task teams to carry out AM activities and implement and maintain levels of service. Staff provide support and direction for AM practices within their department, as well as track and analyze AM program progress and results.

It is recommended that the City further define roles and responsibilities for departmental staff for asset management specific tasks.

1.3 Alignment to the City's Vision, Mission, and Strategic Pillars

The City has developed the 2023-2026 Strategic Plan to illustrate the City's priorities and the actions planned to achieve these priorities. This includes the following statements and values:

Vision Statement:	**A healthy and vibrant waterfront community embracing growth for future generations.**
Mission Statement:	**To provide an exceptional small-town experience in a big way.**
Corporate Values:	**Integrity, respect, inclusion, responsibility, collaboration.**

To support these statements, the City developed Strategic Pillars which outline specific actions the City will take to achieve their goals in each area. Our strategic pillars were developed to support our vision and mission statements, and they are canopied by the concepts of sustainability and accessibility. Connecting the three core areas of sustainability – environmental, social and economic – to the importance of accessibility (for all) gives the structure an overarching element and a lens through which to view our decisions, actions, and outcomes.

This AMP supports the strategic objectives of the City of Port Colborne by connecting the levels of service developed in this AMP to the strategic pillars (as shown below in Figure 1-2). This AMP directly supports a number of strategic pillars referenced in the Strategic Plan and provides the plans for the effective and efficient management of the City Assets to advance all of the strategic pillars.

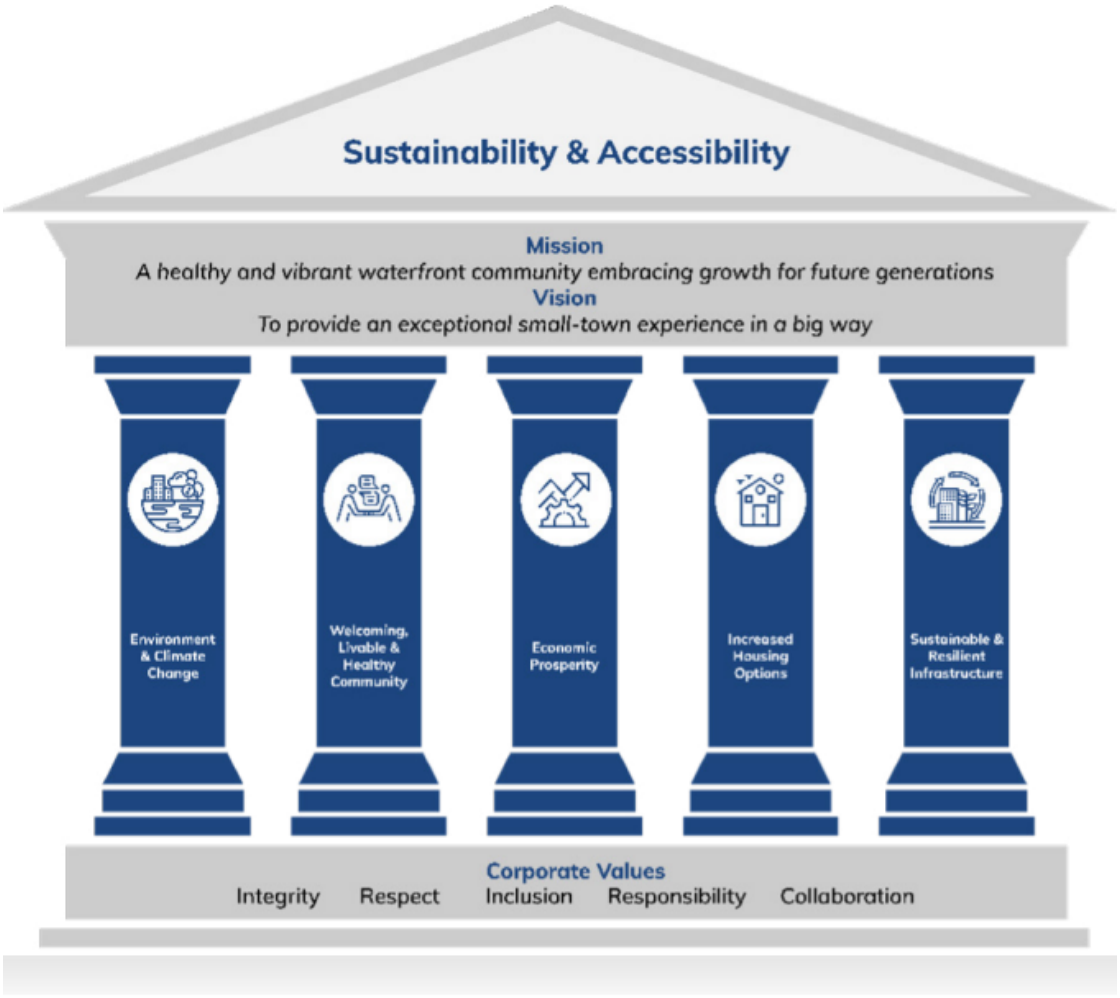


Figure 1-2. City of Port Colborne Strategic Pillars supported in this AMP

1.4 Development & Methodology of the Asset Management Plan

1.4.1 Asset Management Plan Scope

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

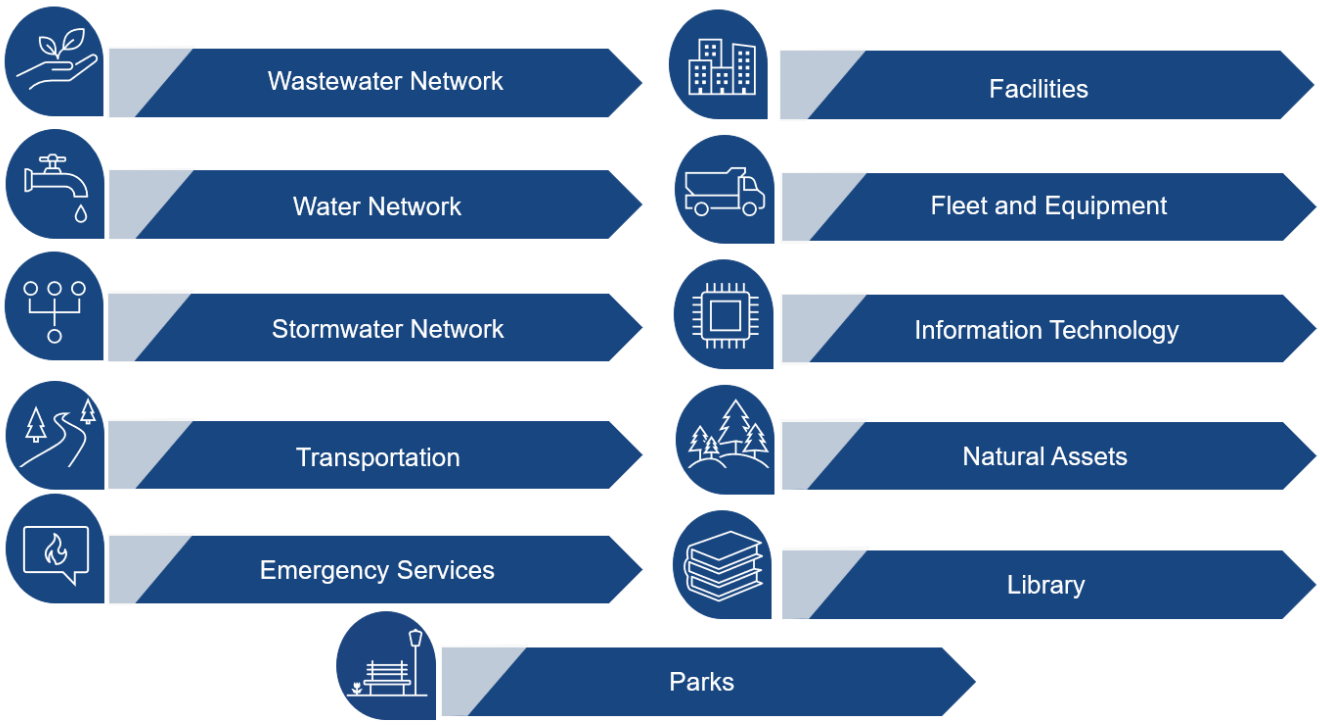


Figure 1-3. 2024 AMP Scope

Table 1-1 below outlines the types of assets included within each chapter of the AMP.

Table 1-1. Asset Management Plan Asset Scope

Asset Groups	Asset Types Included
Stormwater Network	Culverts, ditches, forcemains, leads, mains, outlets, ponds
Transportation	Bridge, culvert, parking lots, pedestrian bridge, retaining wall, right of way, roads, sidewalks
Wastewater Network	Forcemains, gravity mains, laterals
Water Network	Mains, meter, sample stations, bulk water station, AMI water towers
Emergency Services	Equipment, fleet
Facilities	City Hall, fire, grain terminal, library, marina, museum, Engineering & Operations Centre, recreation buildings
Fleet and Equipment	Equipment, fleet

Asset Groups	Asset Types Included
Information Technology	Hardware, software
Library	Library collection, office equipment
Natural Assets	Stump, tree
Parks	Active transportation, park assets, parking lot, pavilion, playground structure, roadway, sport structure, sport surface, Spraypad, trail, walkway

1.4.2 Previous Plans and Studies

This AMP builds on the work completed in previous plans and studies to continually improve and enhance the accuracy of the plan. Previous plans and studies that have been used to inform this AMP include:

- **2024 Asset Management Plan:** The purpose of this plan was to complete an asset management plan for all City owned assets and report on the cost to maintain current levels of service and build on lessons learned during the development of the 2022 Asset Management Plan.
- **2023 Infrastructure Needs Study:** The previous AMP highlighted the need for improved asset information, including condition assessments. The Infrastructure Needs Assessment was completed to provide the City with an actionable road map with an implementation schedule and budget based on updated condition data. Analysis included:
    - **Water Distribution INS:** Simulations of the existing water distribution hydraulic model were run to identify pressure and fire flow deficiencies throughout the system. The model outputs combined with an assessment of watermain material, watermain break data, age, and size were used to identify replacement and watermain upgrade needs. Recommendations included data collection, system analysis, watermain replacements, and new infrastructure improvements.
    - **Wastewater INS:** The objective of this assessment was used to assess current existing infrastructure condition, determine state of good repair needs, and identify capital projects needed to accommodate planned growth. Through this study, needs identified included data collection, system analysis, trenchless rehabilitation and new infrastructure projects, and wet weather management program. The City's existing CCTV data was analyzed for gaps and recommendations for improvements were included in this report.

- **Stormwater INS:** Prior to the INS there was limited reliable data available on the storm system. Based on the recommendations of the INS, a condition assessment program for all storm sewers was initiated to collect updated GIS data as well as assess conditions of all pipes. The condition assessment program was not complete at the time of the development of the 2024 AMP but has since been completed and incorporated into this AMP.
- **Roads INS:** A comprehensive roads need study was completed to allow staff to effectively allocate operating and capital funds to manage its road network. A key aspect of this study was to perform a network-wide road condition assessment using applicable MTO rating methodologies based on the surface type of the roadway. This study provided an updated Pavement Condition Index (PCI) score for each road segment of the road network.
- **Sidewalk, Guiderail, Bridges INS:** A sidewalk and guiderail inventory and condition assessment were completed as part of the INS to inform the City of major defects and general condition of these asset. The OSIM inspections provided updated condition assessment for Bridges.

- **Updated 2022 Core Asset Management Plan:** This initial iteration of the AMP reviewed all core infrastructure and reported on the cost to maintain the currently levels of service.
- **Capital & Operating Budget:** The City's 2025 budgets were used to analyze the funding available for lifecycle management activities.

1.4.3 Future Plans, Programs and Studies

Future plans that will inform and further enhance the accuracy of future iterations of this AMP include:

- Water Master Servicing Plan and Model Calibration (Recommended in INS)
- Pollution Prevention Control Plan (PPCP) including updated Hydraulic Model
- Wastewater Flow Monitoring Program (Recommended in INS)
- Wastewater Wet Weather Management Program (Recommended in INS)
- Stormwater Management Plan

1.5 Asset Management Plan Structure & Methodology

The AMP is divided into chapters for each asset group listed above in Section 1.4.1 Asset Management Plan Scope. Each chapter outlines the State of the Infrastructure, Levels of Service, Lifecycle Management, Data Confidence, and Improvement Plan. The chapters are followed by the Financial Strategy and Improvement and Monitoring Plan for the City.

The methodology for each section is described below.

1.5.1 State of the Infrastructure

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

1.5.1.1 Asset Register

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

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

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

1.5.1.2 Current Replacement Value

Current Replacement Value (CRV) of an asset refers to the cost that would be incurred to replace the asset with a similar one. It represents the current market value of the asset, considering factors such as inflation and changes in market conditions. Determining the current replacement value is important for asset management purposes, as it helps the

City assess the financial implications of asset replacement, and plan for future capital expenditures. It is best practice to include all costs required to replace an asset with a comparable asset. It represents the current market value of the asset, considering factors such as inflation and changes in market conditions. Determining the current replacement value is important for asset management purposes, as it helps the City assess the financial implications of asset replacement, and plan for future capital expenditures. It is best practice to include all costs required to a replacement, and construct, an asset with a comparable asset. Where required, these costs may include engineering and design, project management, materials, and labour.

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

CRVs used in this AMP represent the best available information for the development of this document and will continue to be evaluated and updated as required prior to the 2025 AMP. Current market conditions have been reflected in this AMP, and in some cases are dramatically different than those provided in the previous AMP. There is no growth, technology change, or enhancement assumptions included in those costs (unless identified).

1.5.1.3 Estimated Service Life

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

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

1.5.1.4 Asset Condition

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

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

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

Table 1-2. Condition Rating Scale

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

1.5.2 Levels of Service

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

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

Level of Service Statement: A brief description presented in plain language for public understanding of the service provided by each asset category to residents based upon the City's core values and mission.

Key Service Attribute: Categorizes the LOS metrics to specific areas of customer interest which are recognizable to the customer/public. These attributes are tied to the strategic objects of the City. See Table 1-3 for the City's Key Service Attributes.

Table 1-3. Strategic Pillars and Key Service Attributes

Service Attributes	Description	Supported Strategic Pillars
Accessible & Reliable	Services are convenient, reliable and available to the whole community with minimal service disruptions. Service Requests are responded to promptly.	✓ Welcoming, Liveable, Healthy Community ✓ Sustainable & Resilient Infrastructure
Cost Efficient	Services are managed cost-effectively for the expected level of service.	✓ Economic Prosperity ✓ Sustainable & Resilient Infrastructure
Safe & Regulatory	Services are provided that are safe and compliant with all regulatory requirements.	✓ Environment and Climate Change ✓ Sustainable & Resilient Infrastructure

Proposed Level of Service: The proposed levels of service (PLOS) for the various metrics. The target shown in this document has been set to reach the City's goal of reducing the amount of assets in very poor condition to zero percent.

Levels of Service Metrics (Community and Technical): A statement that describes quantifiable metrics of the service delivery outcomes from the perspective of the customer and service provider, expressed in terms that can be easily understood by customer.

These metrics serve multiple purposes:

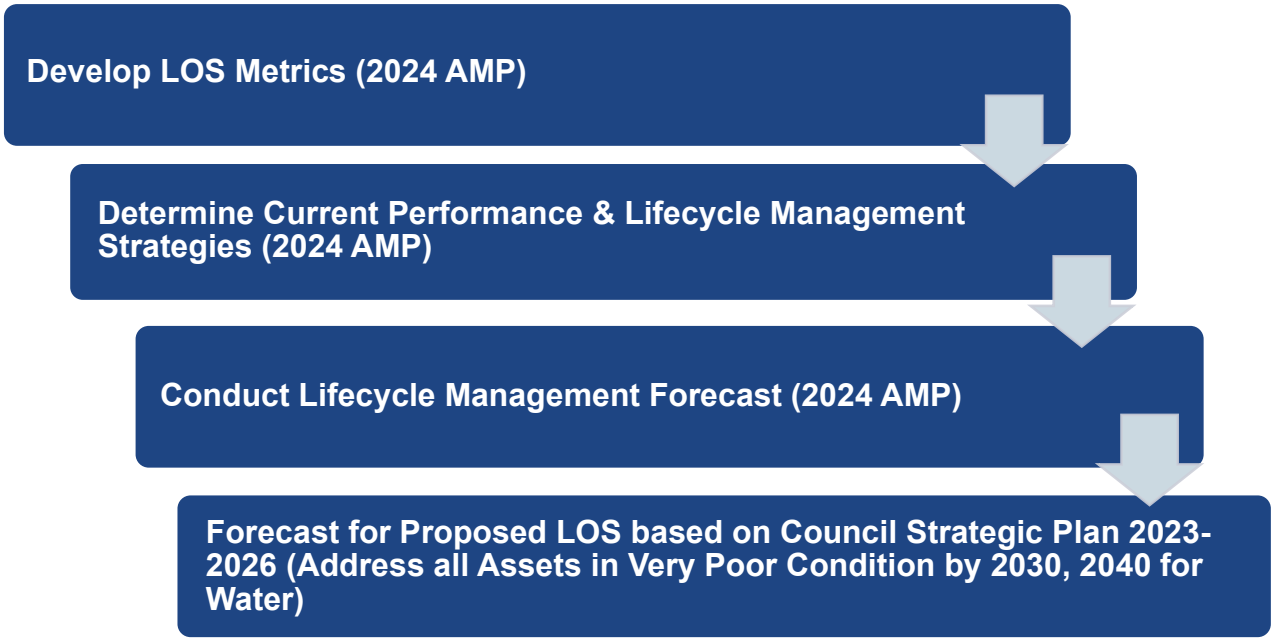
Assessment of Customer Expectations: The metrics chosen represent benchmarks or targets that reflect the level of service customers expect to receive. These may include factors such as response times for service requests, reliability of service delivery, water quality standards, and measures related to flood prevention or management.

Internal Reporting: The metrics can be used for internal reporting purposes within the City department or the broader city administration. These indicators provide a way to track and monitor the performance of the infrastructure and services. They may include metrics such as infrastructure condition performance, efficiency, compliance with regulatory standards, and operational costs.

Assessment of Assets: Both customer and technical metrics serve as tools to assess the overall effectiveness and performance of the City's assets. By tracking these indicators, the City can evaluate whether the infrastructure investments and operational strategies are meeting their intended goals.

The 2024 AMP assesses the current performance of the City using these levels of service metrics (which are based on data from 2023). This AMP determines the cost to address the target LOS based on Council Strategic Plan to address all assets in very poor condition.

The process for setting the LOS is shown below:



1.5.3 Lifecycle Management Strategy

Within the Lifecycle Management Strategy sections of this AMP, defines the set of planned actions that will enable the assets to provide their desired level of service in a sustainable way while mitigating risks and reducing costs throughout their life. Lifecycle activities are important as they work together to extend the asset life, reduce overall lifecycle costs, and achieve other objectives such as environmental goals and balancing risk. The goal of this assessment is to capture the activities that are required to sustain the assets within each asset category.

1.5.3.1 Lifecycle Management Activities

Lifecycle management activities are categorized to summarize the various lifecycle activities that asset owners complete during the lifecycle of an asset. For the purposes of this plan, the lifecycle activity categories are as follows:

- **Non-Infrastructure Solution:** Actions or policies that can lower costs and contribute to the management of assets.
- **Operations & Maintenance Activities:** Including regulatory scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- **Renewal/Replacement Activities:** Significant repairs designed to extend the life of the asset, or activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.

- **Disposal Activities:** Associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
- **Service Improvement:** Planned activities required to extend services to previously unserved areas or expand services to meet growth demands to maintain LOS.
- **Growth Activities:** Planned activities to improve LOS. Example, an asset's capacity, quality, or system reliability. Not driven by growth needs.

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

1.5.3.2 Lifecycle Management Strategies and Forecast Scenarios

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

- The AMP focuses on the identification of renewal, rehabilitation and replacement needs and the associated infrastructure investments required to achieve the proposed levels of service.
- Expenditures required for the remaining lifecycle activities (non-infrastructure, service improvements, operations and maintenance, and growth) are assumed to be adequate to meet the needs of the City, based on the Operating and Capital Budget. These activities have been captured to analyze the full lifecycle cost of asset ownership.
- The forecast does not assume any increases in current funding over the forecast period for these activities. This is outside the scope of this AMP.
- Costs for non-infrastructure, service improvements, operations and maintenance and growth, in particular the costs for operations and maintenance, may not be reflective of actual operational needs and should be further analyzed.

To appropriately forecast the expenditure needs of each asset category, the lifecycle activities were reviewed for all Renewal, Rehabilitation, and Replacement activities, and developed to lifecycle management strategies to be applied in the forecasts outlined below. Each of the scenarios outlined in Section 1.5.4 consider only the asset renewal, rehabilitation, and replacement activities. These activities are crucial for ensuring that infrastructure remains in a state of good repair to continue to provide services to the community.

1.5.4 Funding the Lifecycle Activities

O.Reg. 588/17 requires a 10-year plan that selects the lowest cost life cycle activity that will maintain service levels over the plan period. This AMP will provide a 20-year plan. For the purposes of this AMP, the analysis is completed using the assumption that maintaining the current performance (condition) of assets, will ensure that the City continues to provide service levels moving forward. Analysis has also been completed to understand the lifecycle activities and costs associated with meeting Council's Strategic Plan goal of addressing all assets in very poor condition by 2030, and 2040 for water assets. Three forecasting scenarios are run to analyze the City's assets, which provide insight on the City's ability to continue to provide services into the future. This is achieved by comparing the performance of assets based on needs and various budgetary or condition-based targets. The following three scenarios are run:

Scenario 1: Anticipated Funding Model – Evaluates asset performance under the anticipated funding level that the City anticipates allocating towards each asset category. The anticipated budgets were developed in 2025 based on information from the City's 2024 and 2025 capital and operating budget, as well as based on the capital expenditures required based on the analysis completed for this AMP. This scenario assumed that the funding will be made available as outlined in this AMP.

Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category as part of this forecast.

Scenario 2: Maintain Current Performance (Level of Service) – This scenario determines the cost that would be required to maintain the City's assets in approximately the same condition they are currently assessed in over a 20-year forecast period. Understanding the cost to maintain current performance levels is a requirement of O.Reg. 588/17. For the purposes of this AMP, the current performance (condition) of the assets is used to determine the current level of service. The 2025 iteration of this AMP will require a further scenario, where the City will set targets to the level of service.

Scenario 3: Proposed LOS– This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan. This scenario is not constrained by a budget, so any work that was planned based on the asset's lifecycle strategies are completed in the year it was triggered.

The City has adjusted the anticipated budget to be in line with the needs to meet Proposed LOS, to ensure understanding of the financial impact and planning to reach the City's goals.

1.5.5 Data Confidence and Improvement Plan

Each asset category will provide information on the data confidence and improvement plan specific to that asset category. This information will provide further information on the sources used to develop the asset register and provide a data quality grade based on the criteria outlined below in Table 1-4. Improvements for the data included in the chapter will then be provided.

Table 1-4. Data Confidence Rating Scale

Data Quality/ Reliability Rating	Data Accuracy
Very Good	No assumptions, with available condition data from a reliable data source, and age and current replacement value are known.
Good	Minor assumptions are made for condition, age, or replacement values (e.g. most of condition, age, and replacement values are known). Data sources are reliable and updated.
Fair	Assumptions are made for condition, age, or replacement values from moderately reliable sources.
Poor	Data comes from significantly out of date documents, data sources are moderately reliable, or values are unknown or unreliable.

1.5.6 Financial Strategy

The Financial Strategy is one of the key components within the AMP, as it puts the AMP into action. The financial plan provides a way for the City to integrate asset management planning with financial budgeting.

The Financial Strategy forecasts the total required annual expenditures for the City to perform the lifecycle activities in alignment with the scenarios to maintain current performance and meeting proposed levels of service targets.

The scenarios for each asset category will be combined to assess the City's forecasted expenditures to understand the full cost of achieving the current levels of service and proposed LOS over the 20-year forecast period. Forecasts for expenditures will be compared to the capital budget forecasts to determine if an infrastructure gap is present. Strategies to address this gap will also be discussed.

Note that forecasts for major capital works including renewal/rehabilitation and replacement activities are derived from analysis of the data provided by the City, the level of service metrics developed with City staff, and the lifecycle strategies developed with

subject matter experts based on best practices. Operations and maintenance costs were informed by the City's budget. It is assumed that other lifecycle activities such as non-infrastructure activities, service improvements and growth are included in the operating and renewal, rehabilitation and replacement costs. It is recommended that in the future the City further break down the budget to determine the costs associated with these activities, and to ensure the money allocated for renewals, rehabilitations and replacements is accurate.

1.5.7 Improvement and Monitoring Plan

As the City matures in their Asset Management journey, the processes for Asset Management Planning will continue to evolve and improve. Within the Category chapters, the data confidence and improvement plan provide category specific opportunities for improvements, while the Improvement and Monitoring Plan will speak to the opportunities for maturity on a city-wide or program level.

1.6 Asset Management Plan Assumptions and Limitations

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

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

Assumptions:

Scope

- The scope of this AMP covers the assets directly owned by the City of Port Colborne.

Costs

- All costs (including in the financial forecast) are presented in 2025 dollars, unless specified otherwise.
- Service improvement to an asset is generally not included in replacement costs. Some exceptions include if it is standard practice to upgrade infrastructure such as replacing a cast iron pipe with PVC.
- The cost of climate change has not been included in replacement costs identified in this AMP. Unexpected events such as severe storms attributed to climate change can cause immediate infrastructure replacement/renewal needs

not identified in this AMP. Also not included are the likely effects climate change will have on the estimated useful life of the assets.

Risk

- The City has not implemented an asset risk management strategy that goes beyond legislative requirements for all assets. This will continue to be reviewed and enhanced for future iterations of the plan.

Budgets

- It is assumed that the projected capital budgets and expected available reserve funds will occur as planned over the period of analysis.
- This AMP assumes that the anticipated budgets are sufficient to meet current needs for non-infrastructure, operations and maintenance, growth, and service improvement activities to maintain current levels of service.

1.7 Asset Management Pressures

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

- **Soil Contamination:** Port Colborne has faced significant environmental challenges stemming from historical industrial activities, particularly those associated with the nickel refinery. These challenges have included soil contamination and issues related to bedrock integrity. This has significantly increased costs associated with underground infrastructure replacements.
- **Bedrock:** Port Colborne sits on Niagara Escarpment limestone, a hard and dense rock that is difficult to excavate. The bedrock creates several significant challenges when replacing underground infrastructure such as watermains and sewers. As bedrock lies close to the surface, this limits the depth available for infrastructure placement without excavation into rock. This means that infrastructure usually requires rock excavation, which is time-consuming and costly, as it requires specialized equipment.
- **Market Volatility:** Asset managers must navigate constantly changing market conditions, including fluctuations in asset prices, and interest rates. Market volatility can make it challenging to appropriately plan for future asset needs.
- **Regulatory Changes:** Municipalities are often subject to a wide range of regulations that can vary by jurisdiction. Changes in regulations, such as those related to reporting requirements, can require asset managers to adapt their processes and systems.

- **Budget Constraints & Funding Options:** Municipalities often operate within tight budget constraints, limiting their ability to invest in infrastructure maintenance, upgrades, and new projects. Balancing competing priorities within limited budgets. Municipalities must explore various funding and financing options to support asset management initiatives, and other infrastructure needs. Identifying sustainable funding sources and securing financing on favourable terms can be challenging.
- **Population Growth and Urbanization:** Growing populations and urbanization place increased strain on municipal infrastructure and services. Municipalities must manage the demands for housing, transportation, utilities, and public amenities while ensuring sustainable development, and balancing the current asset portfolios.
- **Aging Infrastructure:** Many municipalities face aging infrastructure. Maintaining and upgrading this infrastructure requires significant investment, but funding may be insufficient to address all needs.
- **Environmental Regulations:** Municipalities must comply with environmental regulations related to air, water quality, waste management and land use. Meeting these regulations often requires investment in infrastructure upgrades and environmental mitigation measures. There is also significant staff time required for data tracking and reporting to ensure compliance.
- **Climate Change and Natural Disasters:** Climate change poses significant challenges for municipal asset management, including increased risk of extreme weather evens such as floods and storms. Municipalities must invest in resilience measures to protect infrastructure and communities from climate-related risks.
- **Limited Human Resources:** Municipalities may face challenges in recruiting and retaining qualified staff with expertise.
- **Political and Public Pressure:** Asset management decisions are often subject to political and public scrutiny. Balancing the needs and preferences of various stakeholders, including elected officials, residents, and businesses can be complex and contentious.
- **Data Management and Technology Adoption:** Effective asset management relies on accurate data collection, analysis, and decision-making. This requires reliable asset data, and implementing systems and processes that leverage technology to optimize asset performance.
- **Resilience and Sustainability Goals:** There are increasingly greater pressures to prioritize resilience and sustainability in asset management practices. This includes

incorporating green infrastructure, renewable energy, and sustainable transportation solutions into asset planning and management.

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

1.8 Growth and Climate Change

Growing populations and urbanization place increased strain on municipal infrastructure and services. Municipalities must manage the demands for housing, transportation, utilities, and public amenities while ensuring sustainable development, and balancing the current asset portfolios. Development Charges (DCs) help to fund projects that are triggered by an increase in population. Where available, demographic and employment forecasts also inform asset.

The Canada Census information published in 2021 indicated that Port Colborne's population has increased from 18,306 in 2016 to 20,033 which represents a change of 9.4% (See Figure 1-4. Population Increase). Future growth will continue to be analyzed for the increase required of service and asset capacity needs, resulting in demand for new and/or enhanced municipal infrastructure construction. Any known activities required to accommodate growth have been identified in the infrastructure needs scenarios within the asset chapters. Upon completion of the Development Charge Study, and future master plans, this information will be expanded upon in future iterations of the AMP.

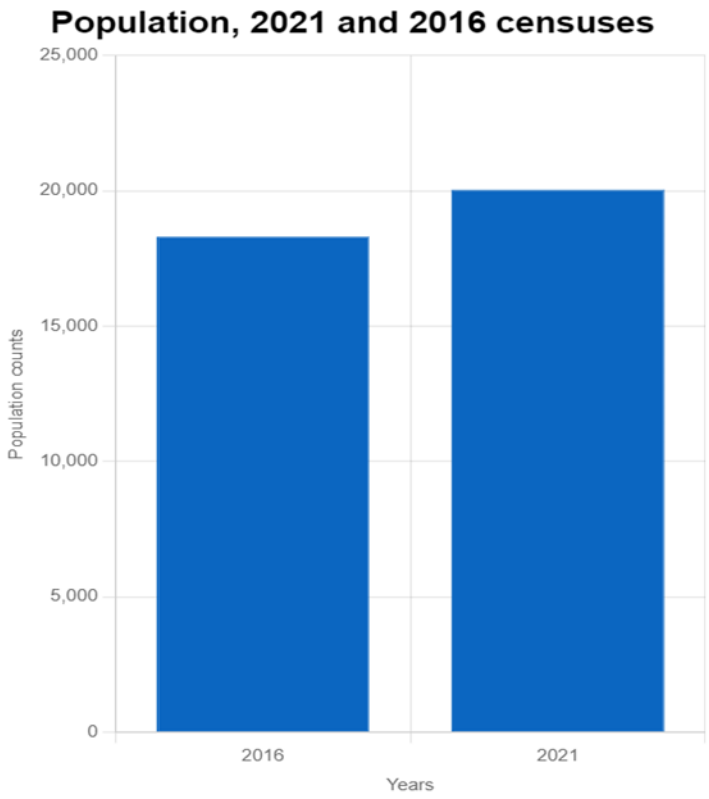


Figure 1-4. Population Increase

Climate change is increasingly impacting communities and infrastructure, making it crucial to mitigate and adapt to current and future changes in order to grow and protect the community into the future. Climate hazards are speeding up asset deterioration, according to a 2023 report titled "Costing Climate Change Impacts to Public Infrastructure" by the Financial Accountability Office (FAO) of Ontario. This means that more capital investments will be required for more frequent rehabilitations and early renewals, as well as increased pressure on operations and maintenance (O&M) activities. According to FAO projections, in the absence of any adaptation approaches, climate change will result in an increase in the annual maintenance costs of the $708 billion portfolio of current public infrastructure assets throughout the Province of Ontario by an average of $4.1 billion Figure 1-5.

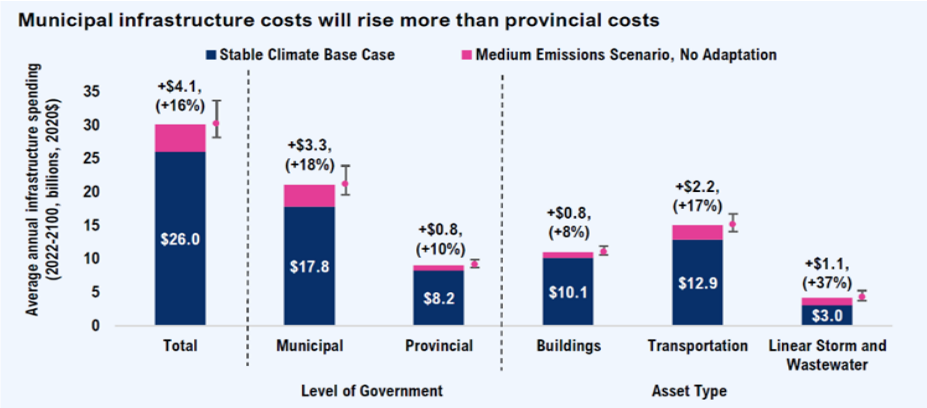


Figure 1-5. Infrastructure Cost Increase Analysis per Level of Government and Asset Type (Source: FAO report Costing Climate Change Impacts to Public Infrastructure[1])

The City of Port Colborne has been engaged in various efforts to mitigate and adapt to climate change, some of which include:

1. **Emissions Reduction Initiatives:** Implementing strategies to reduce greenhouse gas emissions from municipal operations, such as transitioning to renewable energy sources, and improving energy efficiency in buildings. The City's first Energy Conservation and Demand Management Plan (ECDM Plan) was approved by Council in 2024 and have set out goals for the 2024-2029 Plan which includes:
    - 51% reduction in electricity consumption
    - 46% reduction in natural gas consumption
    - 37% reduction in greenhouse gas emissions
2. **Climate Action Plans:** Developing and implementing comprehensive climate action plans that outline specific goals, targets, and actions to reduce carbon emissions, and enhance resilience to climate impacts.
3. **Community Engagement:** Engaging residents, businesses, and community organizations in climate action efforts through education, outreach campaigns, and partnerships to raise awareness and encourage behavioural change.
4. **Monitoring and Reporting:** Tracking progress towards climate goals, monitoring key indicators such as emissions, energy consumption, and adaptation measures, and reporting results to stakeholders to ensure transparency and accountability.

By systematically costing climate change impacts to our infrastructure, decision-makers can better understand the financial implications of climate risks, prioritize investments in adaptation and mitigation, and optimize resource allocation to enhance the resiliency of infrastructure systems.

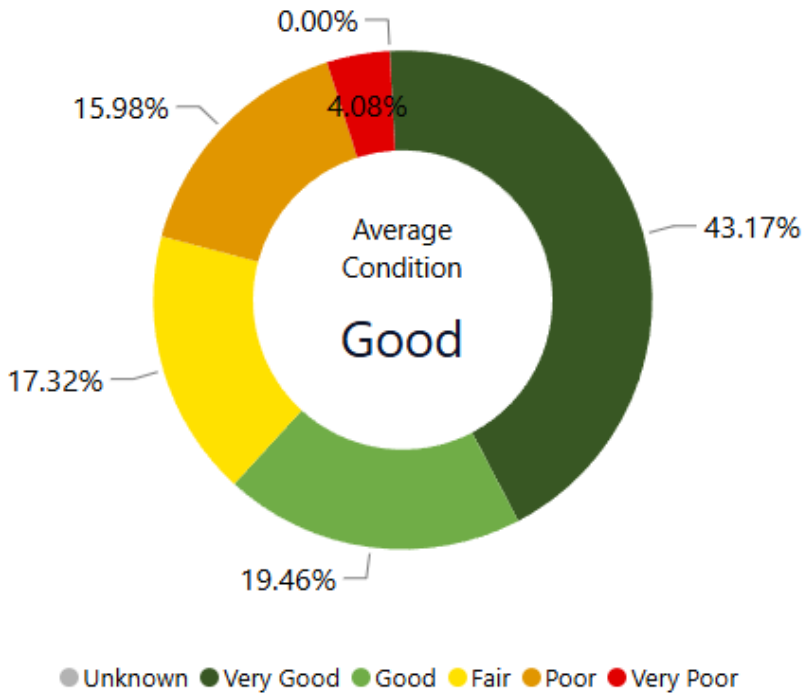
[1] https://fao-on.org/en/other-resources/cipi/

2 Wastewater Network

Replacement Value

$346,664,280

Overall Average Asset Condition



Quick Facts

The Wastewater Network maintains:

- 92 km of gravity mains and forcemains including associated assets such as manholes, laterals, and cleanouts

2 Wastewater Network

Wastewater collection services are provided to the City under a “two-tier” system whereby the Niagara Region is responsible for the operation and maintenance of the Seaway Wastewater Treatment Plant, 17 pump stations and related forcemains, and some trunk sanitary sewer mains. The City operates and maintains 91 km of wastewater gravity mains. Wastewater is collected from properties within the City’s urban area which flow by gravity to the Region’s pump stations which direct flow to the treatment plant where it is treated before being discharged to the Welland Canal.

Like many other municipalities, the City’s wastewater collection system is greatly impacted by wet weather which causes extraneous flow to enter the system through defects in the infrastructure and direct or indirect connections. Less than half of the City’s urban centre is serviced by storm gravity mains, which normally collect runoff from precipitation. Thus, when many areas were developed, some private infrastructure such as downspouts and sump pump discharges were directed to the wastewater system. Finding and repairing system defects and separating storm flow from the wastewater network are two priority issues for the City to improve the reliability and efficiency of the system. Less stormwater flow entering the wastewater system reduces the likelihood of basement flooding, system overflows, and the cost of treating the flow.

2.1 State of the Infrastructure

The methodology to represent state of the infrastructure information for this AMP were adjusted from the 2024 AMP to provide a more accurate assessment, which includes:

- Updated and inflated replacement costs (2025 dollars)
- Condition updates to reflect pipe relining for 2023, 2024 and 2025.

2.1.1 Asset Inventory and Valuation

The Wastewater Network includes gravity mains, forcemains, and laterals with a total estimated replacement value of $347 million. Table 2-1 below details the inventory and the current estimated replacement value by asset type.

Table 2-1. Asset Inventory and Estimated Replacement Values - Wastewater Network

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Gravity Mains	90,587	m	$269,031,042
Forcemains	1,693	m	$4,517,239
Laterals[2]	6,093	unit	$73,116,000
Total			**$346,664,281**

2.1.2 Asset Condition

Condition was assigned to the wastewater network using PACP scores (for mains that have CCTV inspections completed) or using age/estimated service life. A description of the condition rating scale can be found in Table 2-2.

Table 2-2. Condition Rating Scale – Wastewater Network

Condition	Age/ESL	PACP Condition Rating
Very Good	>80% life remaining	1: Failure unlikely in foreseeable future
Good	60-80% life remaining	2: Pipe unlikely to fail for at least 20 years
Fair	40-60% life remaining	3: Pipe may fail in 10-20 years / Grade 3
Poor	20-40% life remaining	4: Pipe will probably fail in 5 – 10 years
Very Poor	0-20% life remaining	5: Pipe failed or likely to fail within 5 years
Unknown		

The City has implemented a CCTV program on a 6-year cycle which means approximately 15 km of the system is flushed and inspected annually and all gravity mains are inspected once every six years. Through the Infrastructure Needs Study, the specifications for the CCTV data collection were updated to be in line with industry best practices. It is recommended that the City follow the updated specifications and continue its efforts to obtain CCTV data for its wastewater system. Data management is a critical component of a successful CCTV and sewer rehabilitation program.

Wastewater network overall condition by replacement value can be seen in Figure 2-1 below. The condition distribution of the wastewater assets has drastically changed from the previous AMP. The methodology of how the CCTV data is used was also updated to

[2] Note that laterals were included in the replacement cost for gravity mains in the 2024 AMP.

enhance the accuracy of the information within this AMP. The methodology to assign condition for this AMP were adjusted to provide a more accurate assessment, which used likelihood of failure calculated based on NASSCO methodology from the structural score, which provides an assessed remaining life (which differs from actual age and remaining life). Age-ESL was then applied as per Table 2-2.

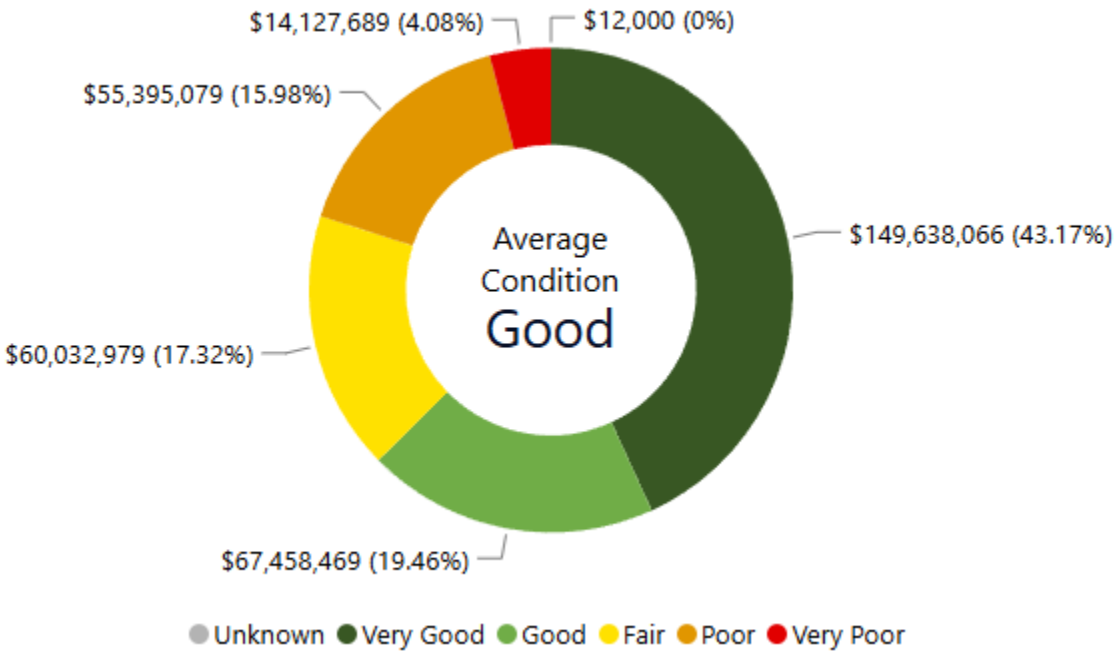


Figure 2-1. Asset Condition by Replacement Value – Wastewater Network

Wastewater Network assets are on average in **Good** condition. With approximately 80% of assets are in fair or better condition. Figure 2-2 shows a breakdown of condition by replacement value by asset type.

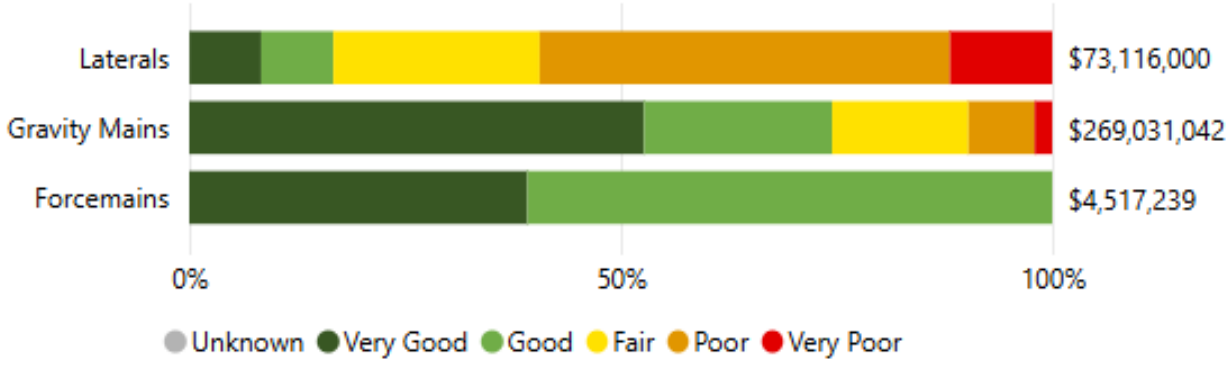


Figure 2-2. Asset Type Condition by Replacement Value – Wastewater Network

Both forcemains and gravity mains are in good to very good condition – a significant improvement from last year as a result of relining work that has been completed. In addition, laterals were included in the condition summary and replacement value of gravity mains within the 2024 AMP which influenced the condition reported at that time under the gravity mains grouping. Laterals have been identified to require relining investments to address inflow and infiltration concerns, and so have been called out separate to better understand the investments needs in the coming years.

The City is continuing its efforts to obtain reliable CCTV ratings for the wastewater system. Future iterations of this AMP will be enhanced as updated information is made available. The work that was done as part of the Infrastructure Needs Study has been used to better inform this AMP.

2.1.3 Average Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives (ESL) can help municipalities make decisions on the management of Wastewater Network assets. The average age and average ESL for gravity mains and forcemains in the wastewater network can be seen below in Figure 2-3. The average age of gravity mains and forcemains is lower than their average ESL. The age of laterals is assumed to be the same as the gravity main that it is connected to. This information should be documented as relining is addressed.

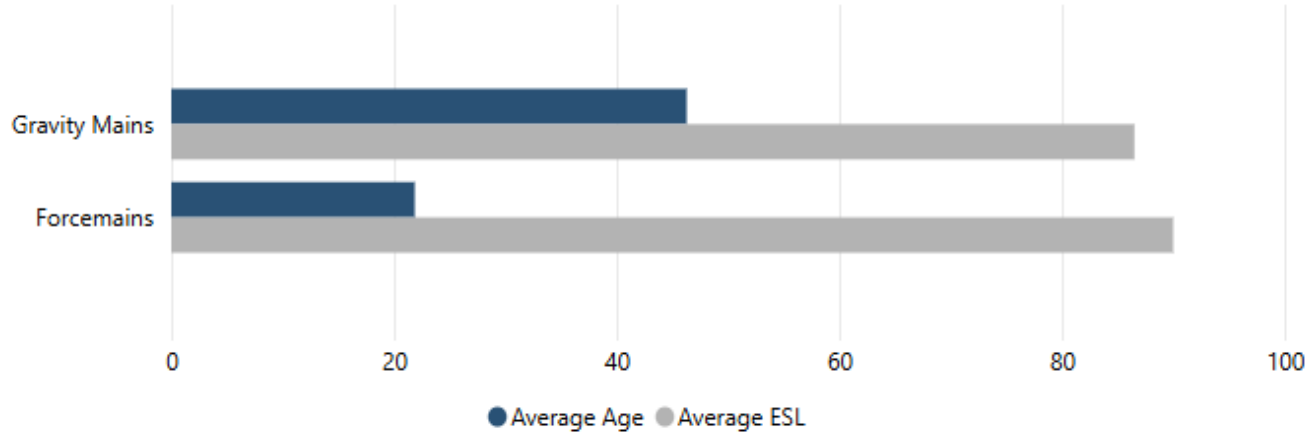


Figure 2-3. Average Age and Average Estimated Service Life – Wastewater Network

2.2 Levels of Service

Service Statement: Provide reliable and cost-efficient wastewater services while protecting the environment and the community.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 2-3 and Table 2-4 provide a summary of the community and technical levels of service metrics for the City's Wastewater Network. These are segmented into those that are required under the O.Reg.588/17 and other levels of service metrics that are defined by the City. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Wastewater Network assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

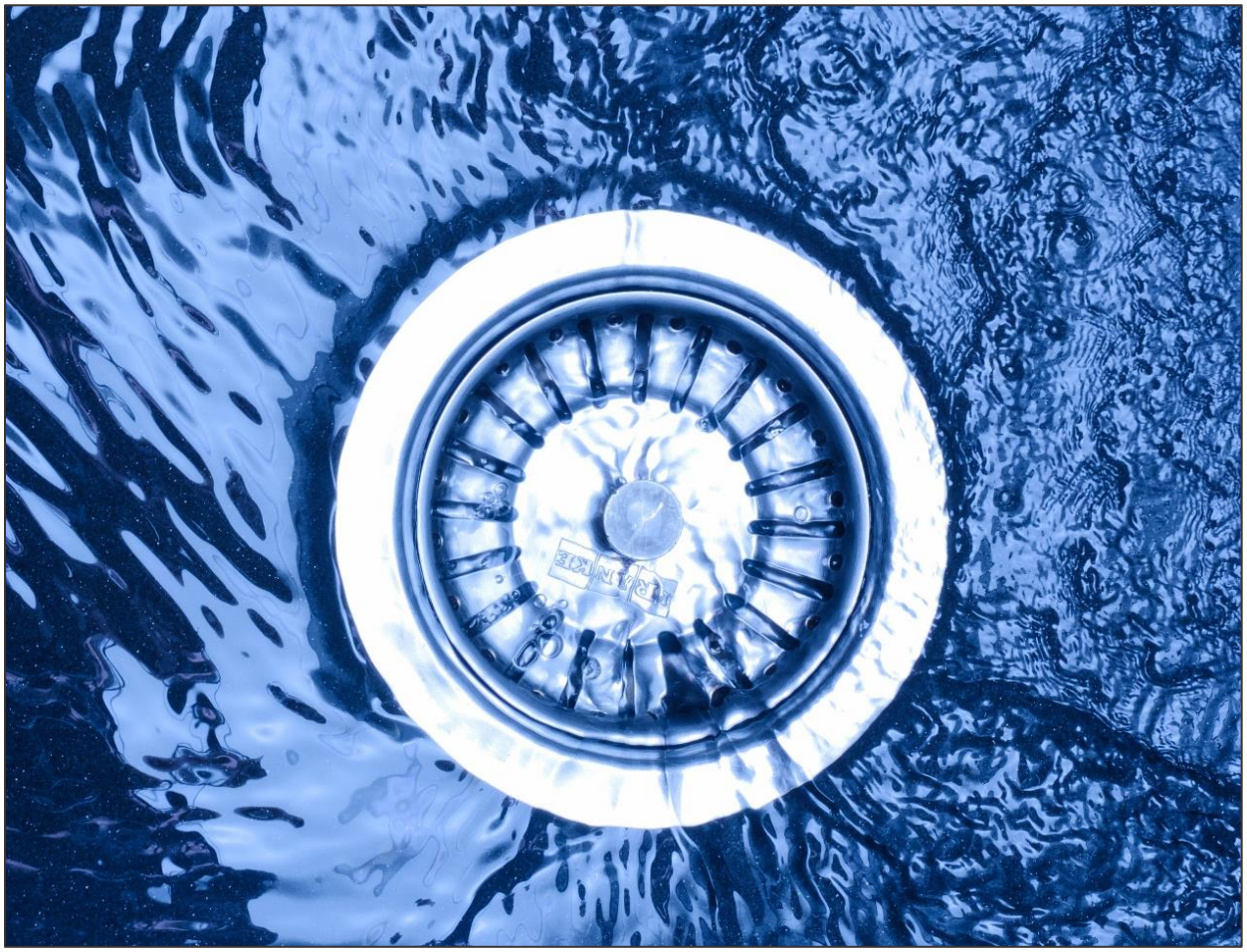


Table 2-3. Community Level of Service– Wastewater Network

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Regulatory				
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	The wastewater collection system is comprised of 90 km of sewer mains within the urban area which drain to the Region's pump stations for conveyance to the Seaway. Wastewater Treatment Plant. The Region owns and maintains 17 pump stations within the City. See Appendix A.	N/A	N/A
Scope	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.	N/A	N/A	N/A
Reliability	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.	N/A	N/A	N/A

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Reliability	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	Stormwater enters the sanitary system through cracks, offset joints, maintenance hole covers, and private lateral defects. Parts of the system have connected downspouts and sump pump discharges.	N/A	N/A
Reliability	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events such as those listed above	Stormwater enters the sanitary system through cracks, offset joints, maintenance hole covers, and private lateral defects. Parts of the system have connected downspouts and sump pump discharges.	N/A	N/A
Reliability	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	This regulatory metric is not applicable to the City as the sewage treatment plants are owned and operated by the Regional Municipality of Niagara.	N/A	N/A
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	26%	Maintain	↔

Table 2-4. Technical Level of Service–Wastewater Network

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Regulatory				
Scope	Percent of properties in City connected to the municipal wastewater system	67.34%	Maintain	↔
Reliability	The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.	N/A	N/A	N/A
Reliability	# of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system	0	Maintain	↔
Reliability	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	N/A	N/A	N/A
City Defined				
Accessible & Reliable	Percent of wastewater systems flushed and CCTV inspected annually	16.70%	Maintain	↔
Accessible & Reliable	Amount of wastewater assets in very poor condition	4.08%	0%	↘
Accessible & Reliable	Wastewater to water billed ratio	2.3:1	1:1	↘

2.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within the Wastewater Network.

2.3.1 Lifecycle Activities

Lifecycle activities for Wastewater Network assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset, from planning and design to decommissioning or repurposing. These activities ensure that wastewater assets continue to provide the intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Table 2-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 2-5. Asset Management Practices and Associated Frequency – Wastewater Network

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Pollution Prevention Control Plan (PPCP)	• Every 5 years / as required
• Smoke testing	• As required
• Flow monitoring	• Annually
• Update/review of design standards	• As required
• Inflow and infiltration	• As required
• Operations and Maintenance Plan	• Annual review
Operations & Maintenance Activities	
• CCTV inspection and flushing / cleaning	• Annually
• Spot repairs / grouting	• As identified
• Renewal/Replacement Activities	• Annually
• Trenchless re-lining	• As per program
• Replacement of gravity mains	• As identified
• Replacement of remaining assets	• As identified
Disposal Activities	
• Removal of gravity mains through standard construction practices	• As required
• Removal or manholes through standard construction practices	• As required
• Removal or remaining assets through standard construction practices	• As required
Service Improvement & Growth Activities	
• Pipe upsizing	• As required
• Expansion to support growth	• As required (e.g. development)

2.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies from Section 2.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2024 and 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

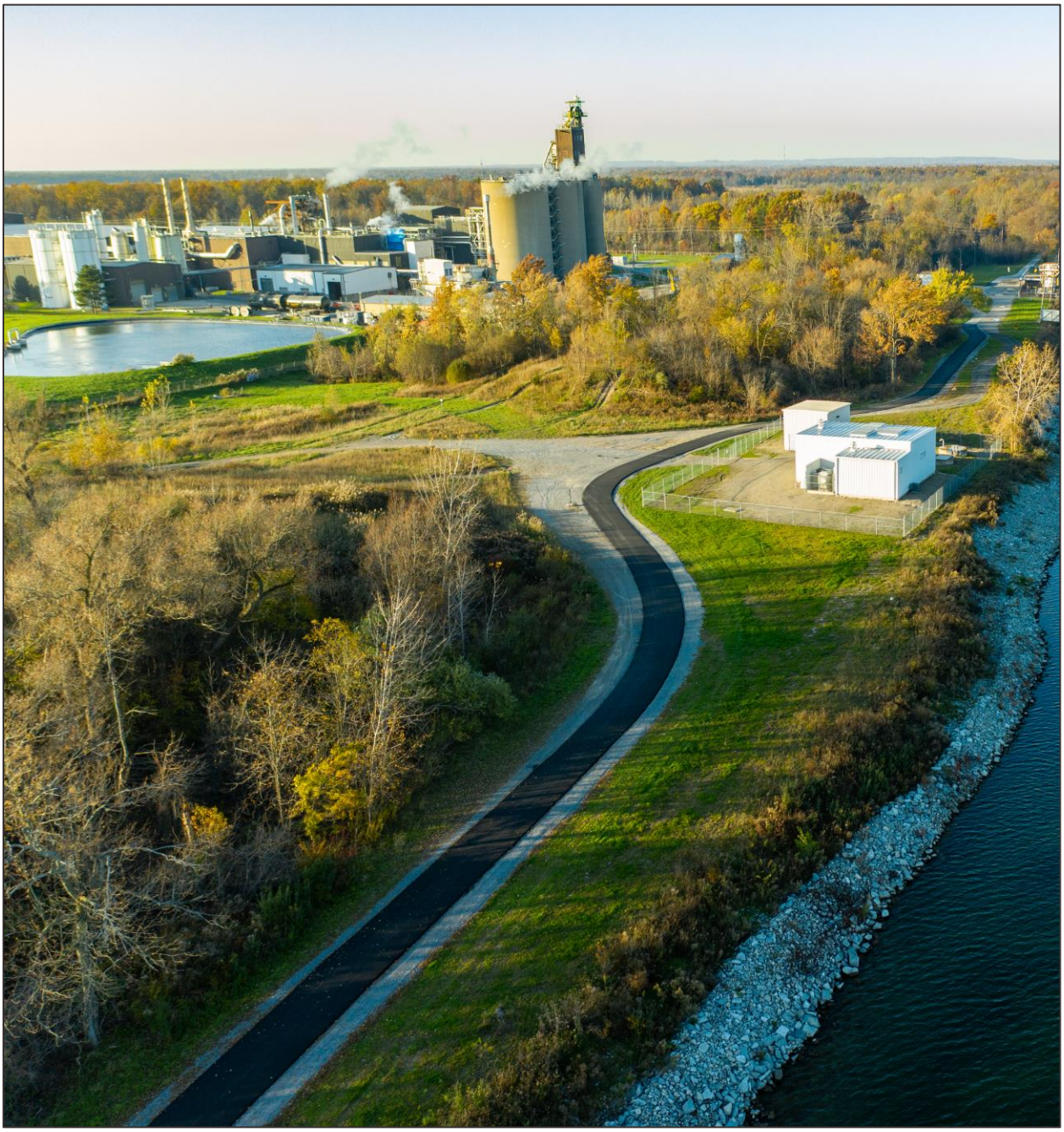
An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this

analysis, this is accomplished by determining the current performance (condition) of assets.

- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 2-4.



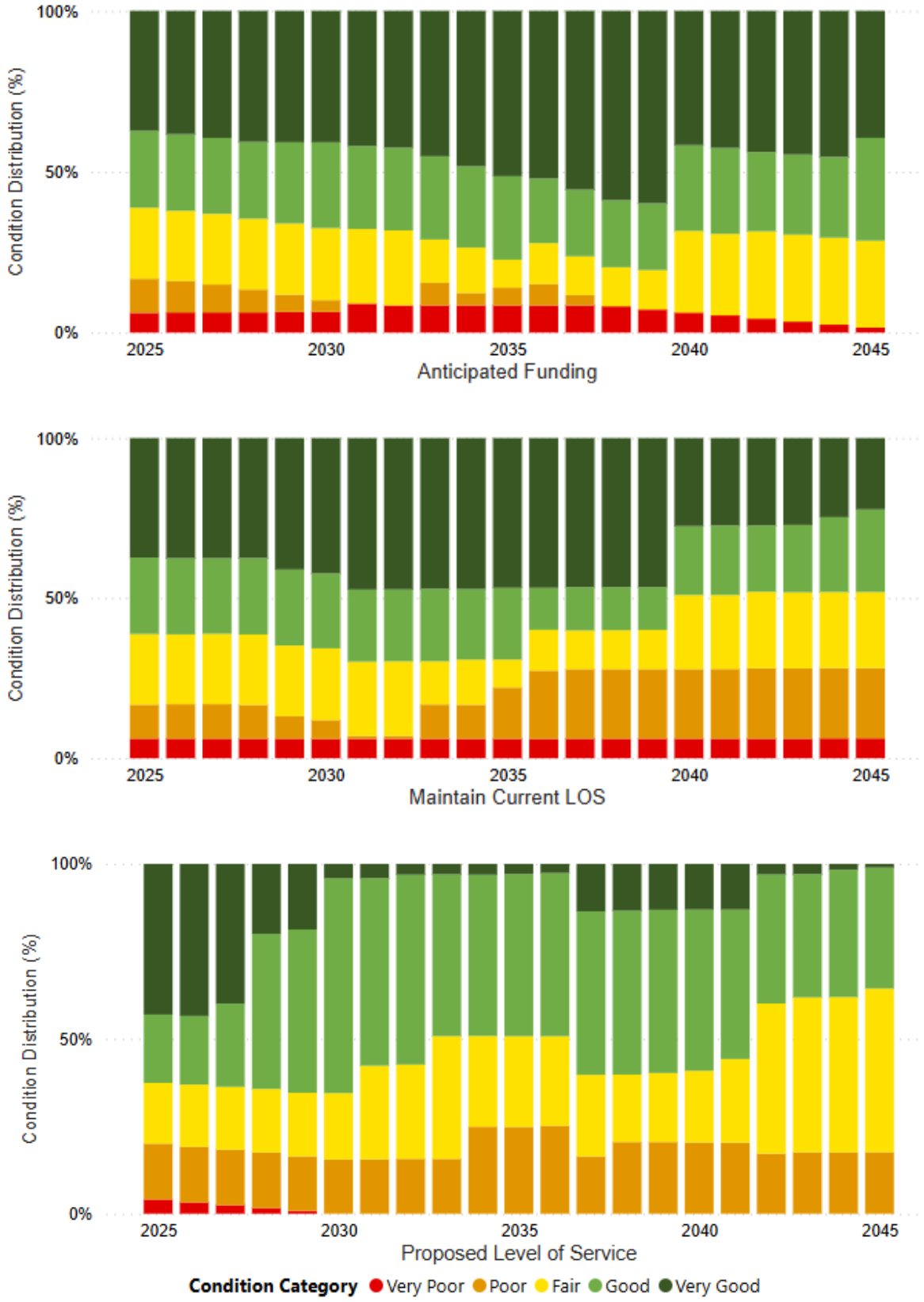


Figure 2-4. Wastewater Network Performance Forecast with Current Funding

Figure 2-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the wastewater assets was determined to be approximately $1.9M. The percentage of assets in very poor condition is reduced to less than 2% by 2045.

In the Current LOS scenario, the anticipated annual funding required for wastewater assets is approximately $2.0M for renewal, rehab and replacement activities. The condition distribution shows that the proportion of assets in very poor condition is maintained at around over the 20-year period.

In Scenario 3, the anticipated annual budget required to achieve PLOS was determined to be $1.9M for renewal, rehab and replacement activities, which eliminates assets in very poor condition by 2030. For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 2-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

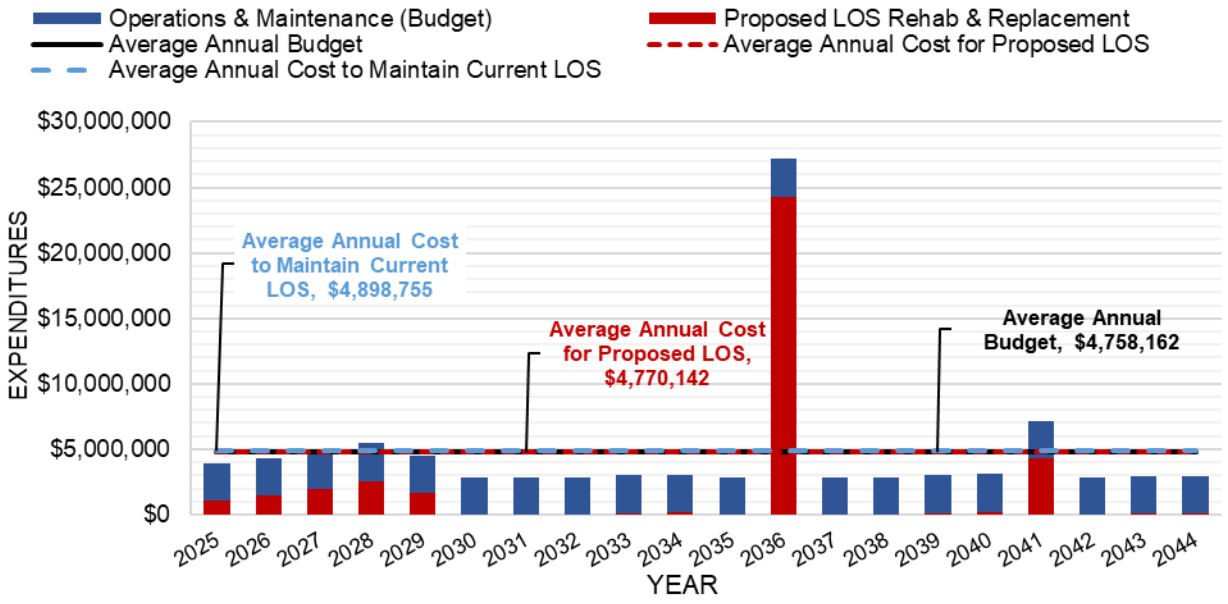


Figure 2-5. Wastewater Network Scenario Comparison

Until 2030, there are annual expenditures to address relining efforts of the lateral and gravity main systems to remove all assets in very poor condition. There is a further spike in 2036 to keep assets that will fall into very poor condition in that year, based on asset degradation.

Growth needs will be further reviewed for this asset category through future master plans to clearly identify needs for growth, which will then be incorporated into future iterations of this AMP, as they become available. This may greatly impact the infrastructure expenditure requirements.

Continued deferrals of projects will also lead to significantly higher operational and maintenance costs and will affect the availability of services in the future. Properly funded and timely renewals will ensure the assets perform as expected and it is recommended to continue to analyze asset renewals based on criticality and availability of funds for future AM Plans.

Anticipated funding for capital budgets presented are the annual average for the 2025-2044 fiscal years. By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

The City's anticipated budget has been developed to meet the proposed level of service and includes increases of up to 20% to "catch up" to required expenditures up to 2030. The average annual expenditures required for each scenario is summarized and compared below in Table 2-6.

Table 2-6. Wastewater Network Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$2,860,792	$2,860,792	$2,860,792
Renewal, Rehabilitation & Replacement	$1,932,247	$2,037,963	$1,909,350
Total Expenditures	**$4,793,039**	**$4,898,755**	**$4,770,142**
Average Annual Funding Gap		**$105,717**	**No Gap**

For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. By fully funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets.

2.5 Data Confidence and Improvement Plan

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

Table 2-7. Data Confidence – Wastewater Network

Data Source	Data Confidence
GIS Infrastructure Needs Study CCTV Assessments	Good

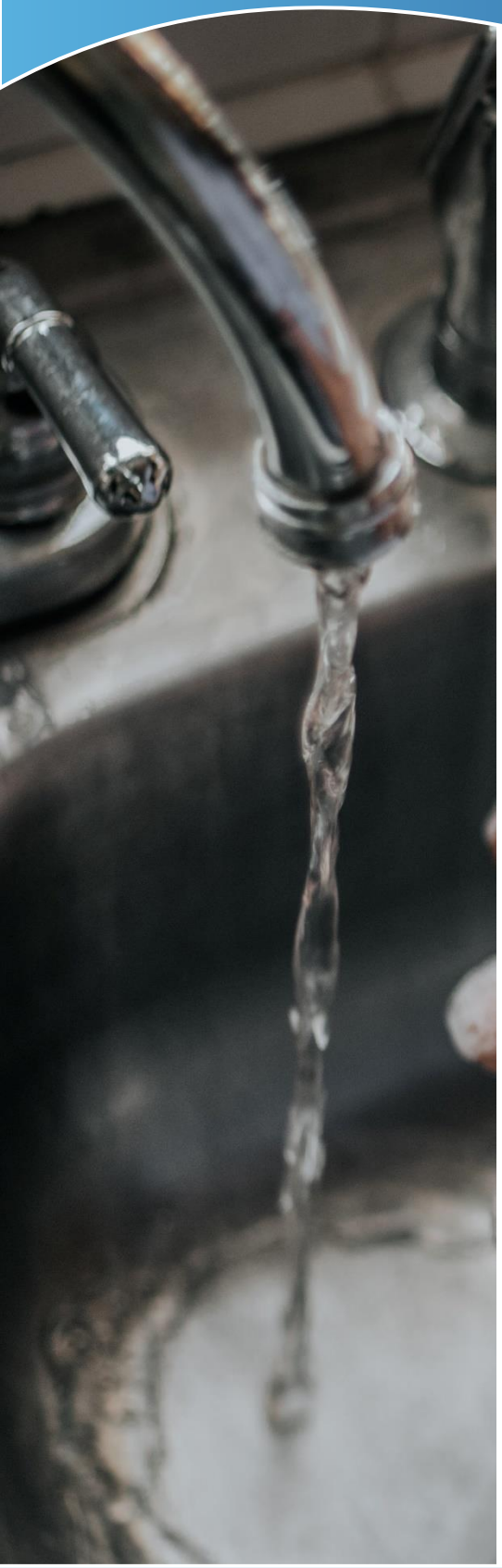
2.5.1 Recommendations for Improvements

The level of confidence in the wastewater network data has increased from the previous plan as a result of the Infrastructure Needs Study completed, and the availability of more CCTV data available for the system which was used to inform the condition summary and financial analysis in this plan. As the CCTV inspections cover a greater proportion of the network this data will be used in future iterations of the plan.

Future studies planned for the City include a Pollution Prevention Control Plan, Wastewater Flow Monitoring Program, and a Wet Weather Management Program. These studies will further inform asset management initiatives to ensure the City is making information decisions and maximizing investments to their infrastructure while also planning for growth.

It is also recommended that the City review and document needs for the GIS to fill gaps and document processes and governance of all data. As the City continues down their asset management journey, a strong data management strategy is required to keep and maintain information on all assets, including condition information and renewal activities. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

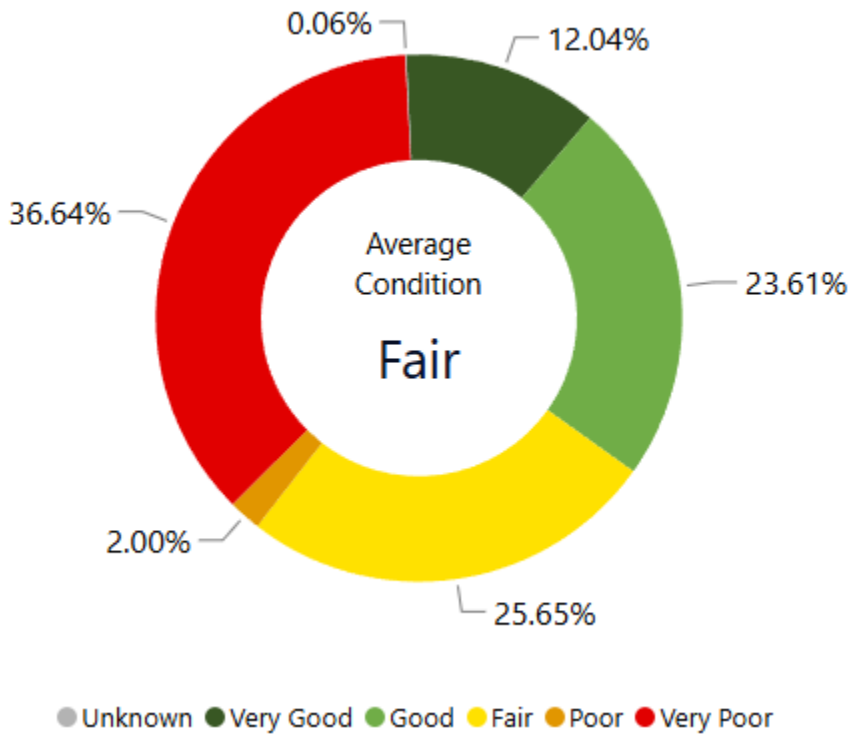
3 Water Network



Replacement Value

$419,975,278

Overall Average Asset Condition



Quick Facts

The Water Network has

- 113 km of distribution water mains providing clean drinking water to residents

3 Water Network

Water is provided to the City under a “two-tier” system whereby the Niagara Region is responsible for the operation and maintenance of the Port Colborne Water Treatment Plant, two storage facilities, and transmission trunk watermains. Water is drawn from the Welland Canal, treated to be drinkable, and sent via the transmission watermains to storage and the City’s water distribution system. The City operates and maintains approximately 113 km of distribution watermains.

The Region and City water systems are strictly regulated by the Ontario Ministry of Environment, Conservation and Parks (MECP) under the Safe Drinking Water Act (2002) and extensive testing and annual inspections ensure compliance to numerous standards and requirements for the protection and safety of users of the system.

3.1 State of the Infrastructure

The methodology to represent state of the infrastructure information for this AMP were adjusted from the 2024 AMP to provide a more accurate assessment, which includes:

- Updated replacement costs (2025 dollars)

3.1.1 Asset Inventory and Valuation

The Water Network includes mains, meters, bulk water stations, sample stations and AMI water towers with a total estimated replacement value of $420 million. Replacement costs have been updated since the 2024 AMP to reflect construction costs from recent contracts. Table 3-1 details the inventory and current estimated replacement value by asset type.

Table 3-1. Asset Inventory and Current Replacement Value – Water Network

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Mains	112,996	m	$418,481,696
Meters[3]	5,844	Units	$3,699,252
Stations – Bulk Water Station	2	Units	$1,040,000
Sample Stations	59	Units	$262,187
AMI Water Towers	3	Units	$187,200
Total			**$423,670,335**

3.1.2 Asset Condition

Condition was assigned to assets in the water network based on age/estimated service life. A description of the condition ratings scale can be found in Table 3-2. Conditions were assessed for the water system in line with the previous AMP, and the Infrastructure Needs Study. It is recommended through future initiatives that the City evaluate other ways to determine condition of their water system such as the analysis of watermain break data which is currently being collected and could be used to inform future renewal decisions.

Table 3-2. Condition Rating Scale – Water Network

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

[3] Information on water meters was not available for inclusions in the analysis of this AMP, but have been included in the total replacement value of the water assets.

Water Network overall condition by replacement value can be seen in Figure 3-1 and Figure 3-2.

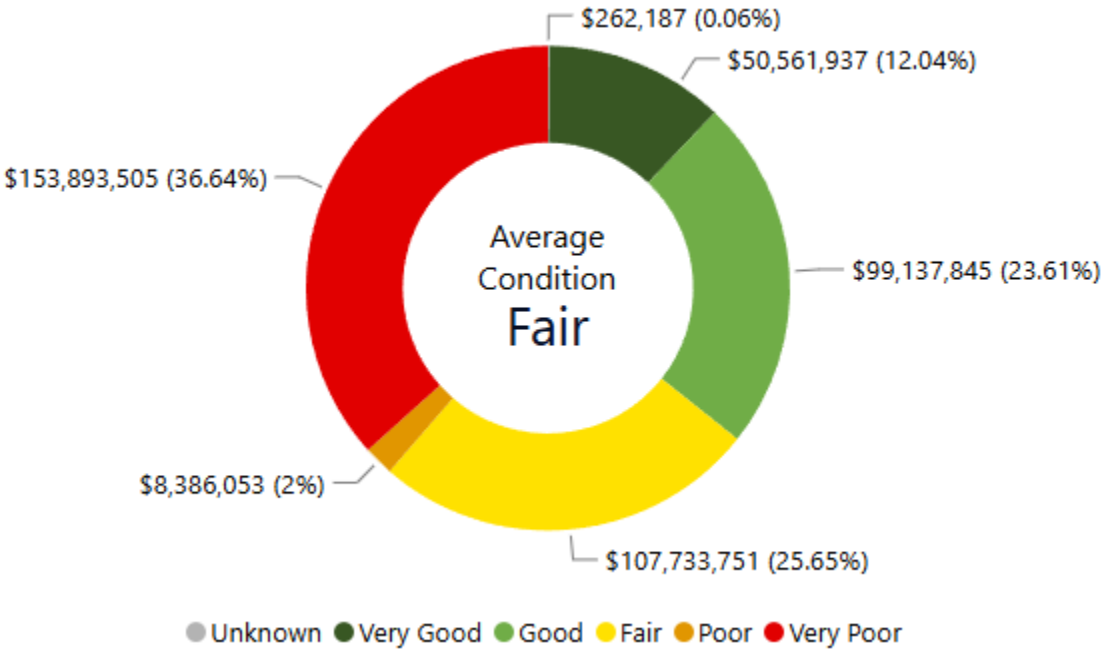


Figure 3-1. Asset Condition by Replacement Value – Water Network

On average Water Network assets are in **Fair** condition with approximately 60% of assets in fair or better condition. Figure 3-2 shows a breakdown of the condition distribution by replacement value for each asset type in the Water Network.

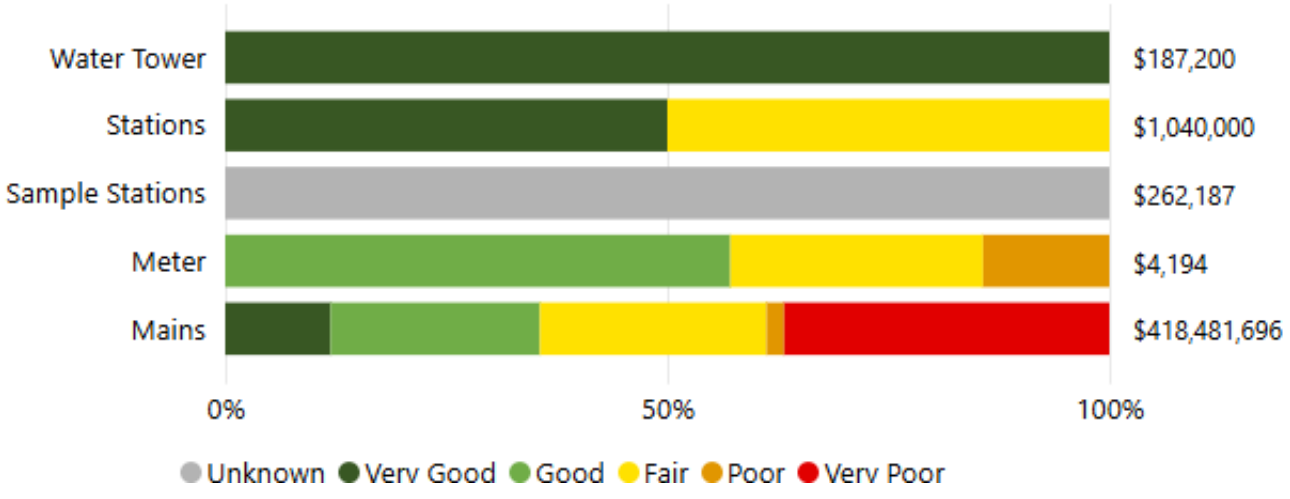


Figure 3-2. Asset Type Condition by Replacement Value – Water Network

Install dates for the Sample Stations were not available at the time of the development of this AMP. It is recommended that the City continue its efforts to fill gaps in asset information.

Many water mains are currently close to or past their estimated service lives, with nearly 40% of water mains in poor or very poor condition. A large portion of these water mains are cast iron and ductile iron mains which are due for replacement with more reliable material such as PVC. While these assets are close to or past their estimated service lives, many assets can continue to provide service well beyond their service lives. Figure 3-3 below shows the length of watermain by material type. The largest portions of the water network are PVC and cast iron watermains, with small portions of other materials such as asbestos cement, ductile iron and steel. The large portion of cast iron (CI) pipes are priorities for replacement.

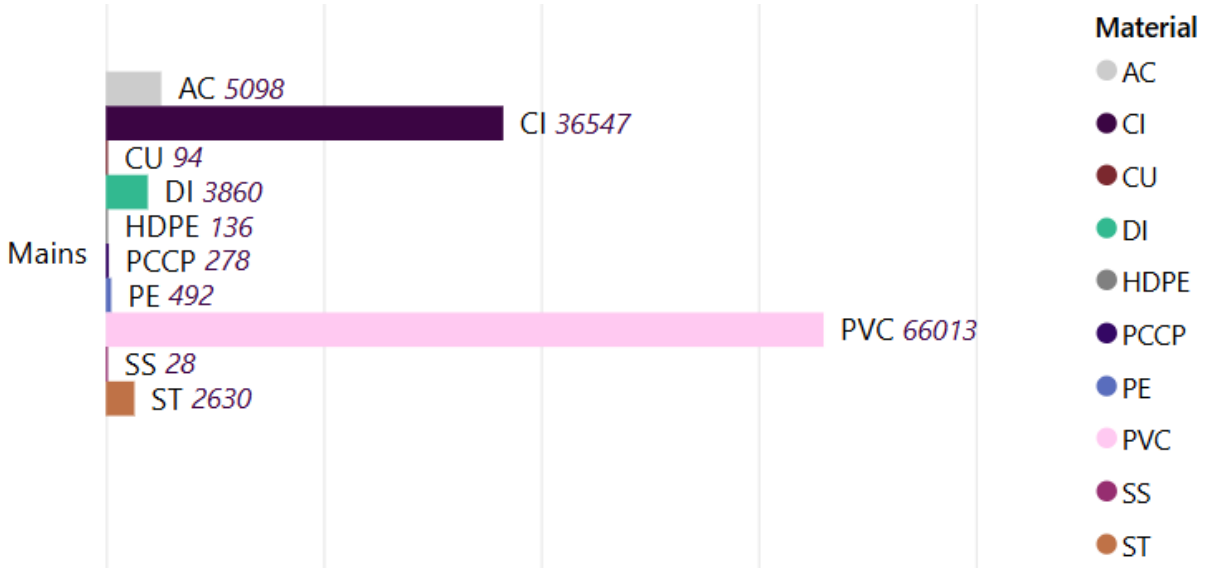


Figure 3-3. Water Main Length by Material Type (m)

3.1.3 Average Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Water Network assets. Average age and average

estimated services lives for assets in the Water Network are shown in

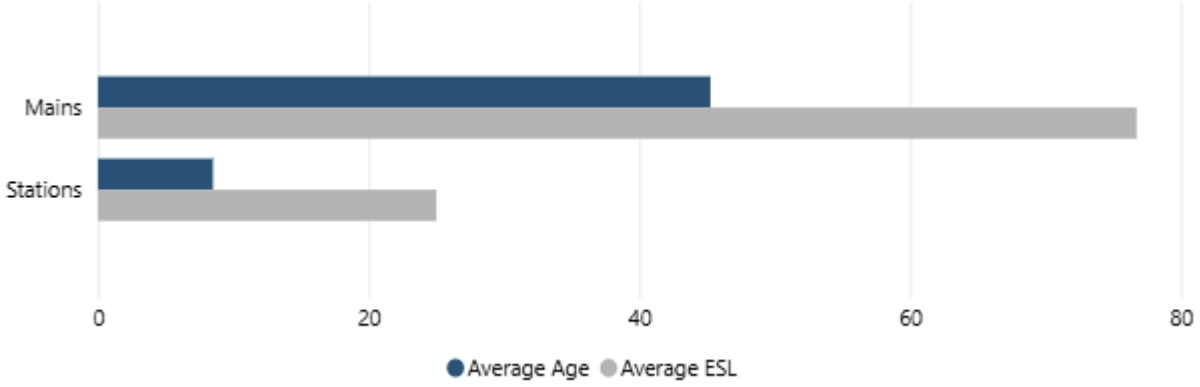


Figure 3-4.

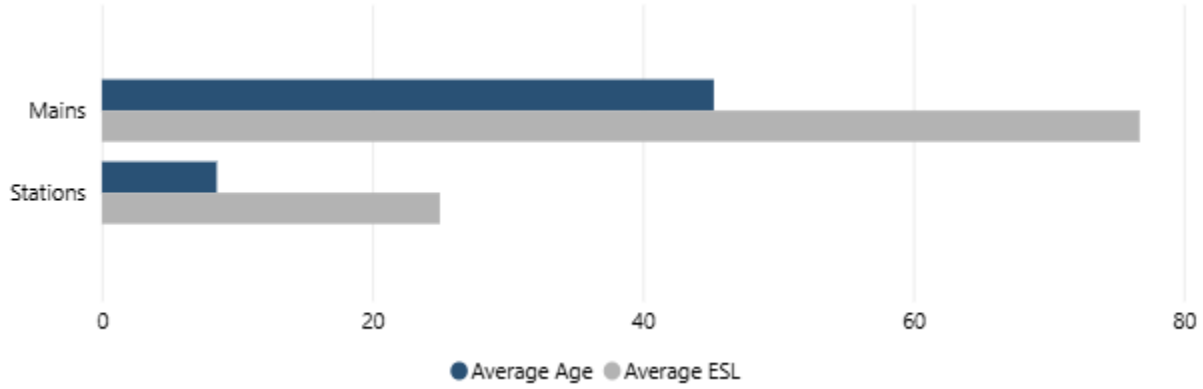


Figure 3-4. Average Age and Average Estimated Replacement Value – Water Network

Water mains, stations (bulk water stations), meters, and AMI water towers all have an average age well below their average ESL. The ages of the sample stations are currently unknown. It is recommended that the City make efforts to fill out any remaining information for this asset category.

3.2 Levels of Service

Service Statement: Provide reliable and cost-efficient, safe, high quality drinking water with adequate pressure and flow.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 3-3 and

Table 3-4 provide a summary of the community and technical levels of service metrics for the City's Water Network. These are segmented into those that are required under the O.Reg.588/17 and other levels of service metrics that are defined by the City. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Water Network assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 3-3. Community Level of Service– Water Network

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Regulatory				
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system.	Drinking water is supplied to the urban area of the City via 112 km of watermains as illustrated in Appendix B. This Class 1 distribution system conveys water purchased from the Region who draws water from the Welland Canal and treats it to meet regulatory requirement	N/A	N/A
Scope	Description, which may include maps, of the user groups or areas of the municipality that have fire flow.	Fire flow is provided by 622 hydrants within the urban area of the City. See Appendix B.	N/A	N/A
Reliability	Description of boil water advisories and service interruptions.	0	N/A	N/A
City Defined				
Safe & Regulatory	# of confirmed water quality customer complaints.	14	Maintain	↔
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	8%	Maintain	↔

Table 3-4. Technical Level of Service–Water Network

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Regulatory				
Accessible & Reliable	Percent of properties connected to the municipal water system	67.99%	Maintain	↔
Accessible & Reliable	Percent of properties where fire flow is available	67.99%	Maintain	↔
Accessible & Reliable	# of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system	UNK	Maintain	↔
Safe & Regulatory	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0	Maintain	↔
City Defined				
Accessible & Reliable	Percent of replacement value of water network assets very poor condition	36.64%	0%	↘
Accessible & Reliable	5-year average number of water main breaks	10	Maintain	↔
Cost Efficient	Water loss as a percentage of water purchased	44.6%	15%	↘
Safe & Regulatory	Percentage of water sampling meeting Safe Drinking Water Standards	100%	Maintain	↔

3.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within the Water Network.

3.3.1 Lifecycle Activities

Lifecycle activities for Water Network assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset, from planning and design to decommissioning or repurposing. These activities ensure that water assets continue to provide the intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Table 3-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 3-5. Asset Management Practices and Associated Frequency – Water Network

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Water quality complaint tracking	• As required
• Water loss reports	• Monthly
• AWWA audits	• Annually
• Hydraulic analysis (water modelling)	• As required
• GIS & asset tracking	• On-going
• Water Master Plan, Infrastructure Needs Study, Asset Management Plan	• Every 5 years
• Water Financial Plan	• Every 5 years
• Drinking Water Quality Management Standard Audits (DWQMS)	• Annually (internal & external), accreditation every 3 years
Operations & Maintenance Activities	
• Flushing	• Targeted areas
• Valve turning	• 25% annually
• Break repairs	• As required
• Hydrant inspection	• Twice annually
• Fire flow testing	• 25% annually
• Hydrant Painting	• 10 years
• Hydrant Repairs	• As required
• Leak detection	• Twice annually
• Bulk Water Station inspections	• Twice annually
• Curb Stop repairs	• As required
• Large industrial meter calibrations (AWWA standards)	• Annually (based on AWWA standards)
Renewal/Replacement Activities	
• Trenchless relining	• As identified
• Watermain Replacement	• As identified
• Replacement of remaining assets	• End of service life

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Disposal Activities	
• Watermain removal through standard construction practices or abandoned in place	• As required
• Hydrants - decommission and store parts	• As required
• Hydrants - decommission and scrap	• As required
• Removal through standard construction practices for remaining asset types	• As required
Service Improvement & Growth Activities	
• Upsizing	• As required
• Expansion to support growth	• As required (e.g. development)
• Local improvements	• Based on opportunity
• Hydrants - design standards requirements	• As required

3.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies from Section 3.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2024 and 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided, with the exception of water and the Grain Terminal for facilities at this time. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal,

Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.
- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 3-5.

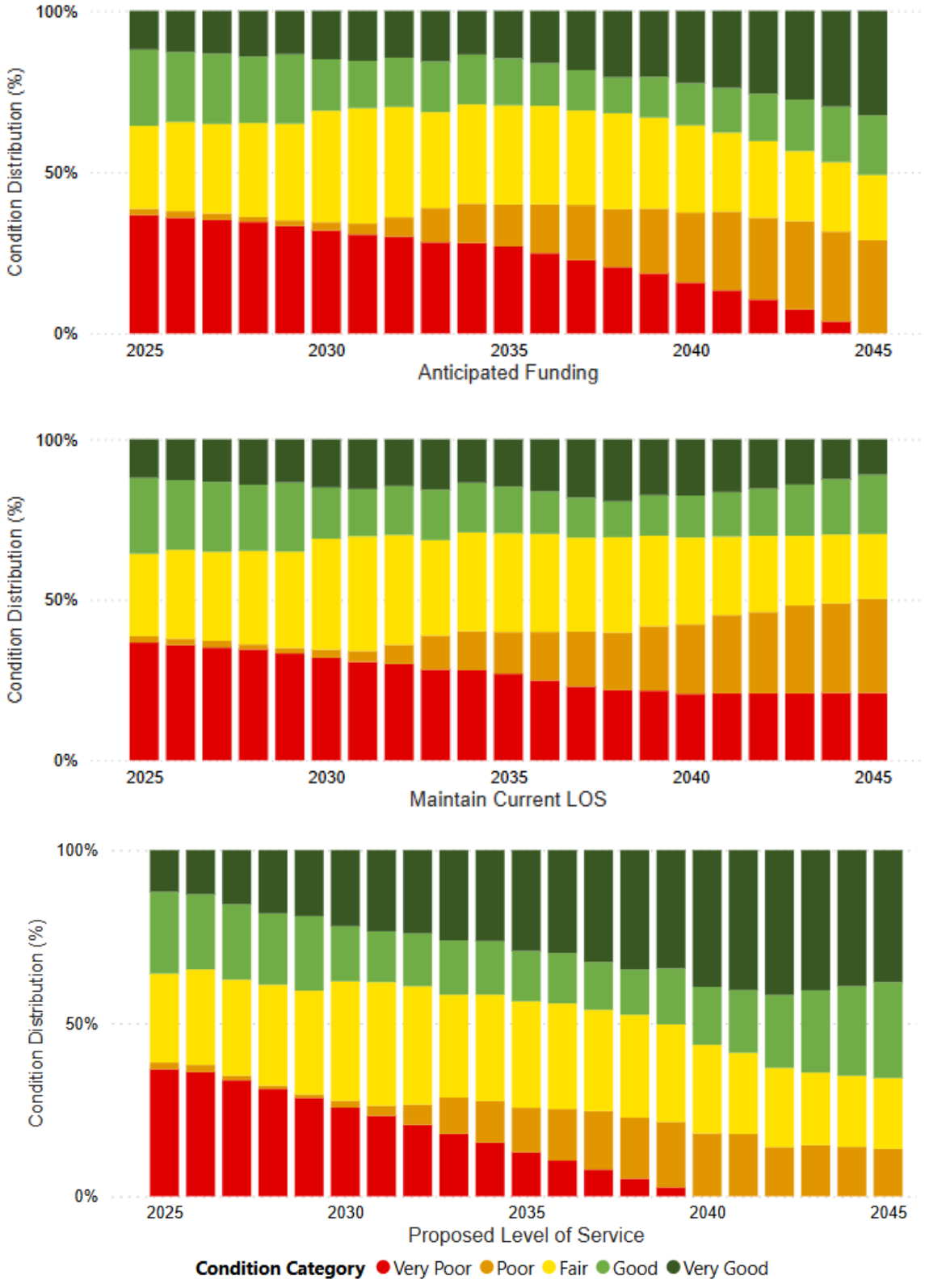


Figure 3-5. Condition Profile for Service Level Scenarios - Water

Figure 3-5 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the Water assets was determined to be approximately $6.6M. The percentage of assets in very poor condition decreases throughout the 20-year forecast period and is reduced to zero by 2045.

In the Current LOS scenario, the anticipated annual funding required for water network assets is approximately $2.1M for renewal, rehab and replacement activities. The condition distribution shows that the proportion of assets in very poor condition is steadily reduced from 37% to 21% over the 20-year period.

In Scenario 3, the anticipated annual budget needed to achieve PLOS was determined to be $6.9M for renewal, rehab and replacement activities, which eliminates the amount of assets in very poor condition to negligible by 2040, sooner than Scenario 1. For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 3-6. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

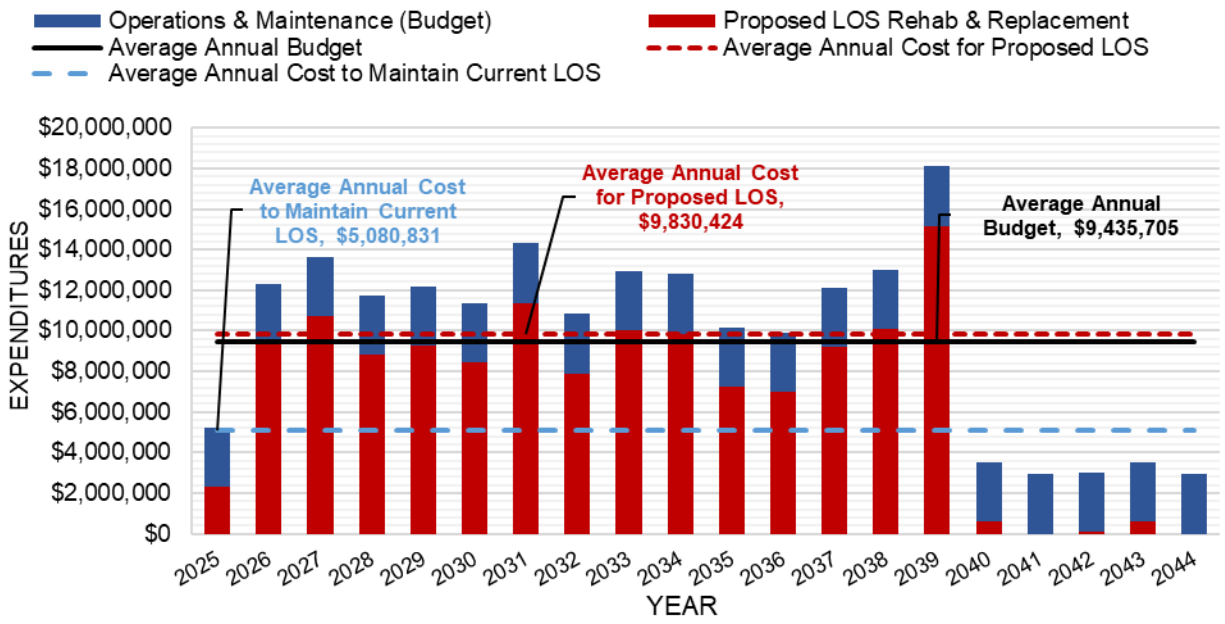


Figure 3-6. Water Network Scenario Comparison

Growth needs will be further reviewed for this asset category through future master plans to clearly identify needs for growth, which will then be incorporated into future iterations of this AMP, as they become available. This may greatly impact the infrastructure expenditure requirements.

Continued deferrals of projects will also lead to significantly higher operational and maintenance costs and will affect the availability of services in the future. Properly funded and timely renewals will ensure the assets perform as expected and it is recommended to continue to analyze asset renewals based on criticality and availability of funds for future AM Plans.

The City's anticipated budget has been developed to meet the proposed LOS and includes increases of up to 20% to "catch up" to required expenditures up to 2030. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) but about $395k to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in Water Network are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 3-6.

Table 3-6. Water Network Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$2,936,826	$2,936,826	$2,936,826
Renewal, Rehabilitation & Replacement	$6,569,856	$2,144,005	$6,893,598
Total Expenditures	**$9,435,705**	**$5,080,831**	**$9,830,424**
Average Annual Funding Gap		**No Gap**	**$394,720**

The expenditures required for water could decrease as the City explores the viability of a watermain relining program as a lower cost alternative to open cut replacement. For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. It is anticipated that the needs for these assets will change as lower cost alternatives and asset management practices are enhanced to reach Council's goals. This Asset Management Plan, and the strategies in place demonstrate the City's commitment to upgrading its assets to ensure the quality of services for its customers

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets.

3.5 Data Confidence and Improvement Plan

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

Table 3-7. Data Confidence – Water Network

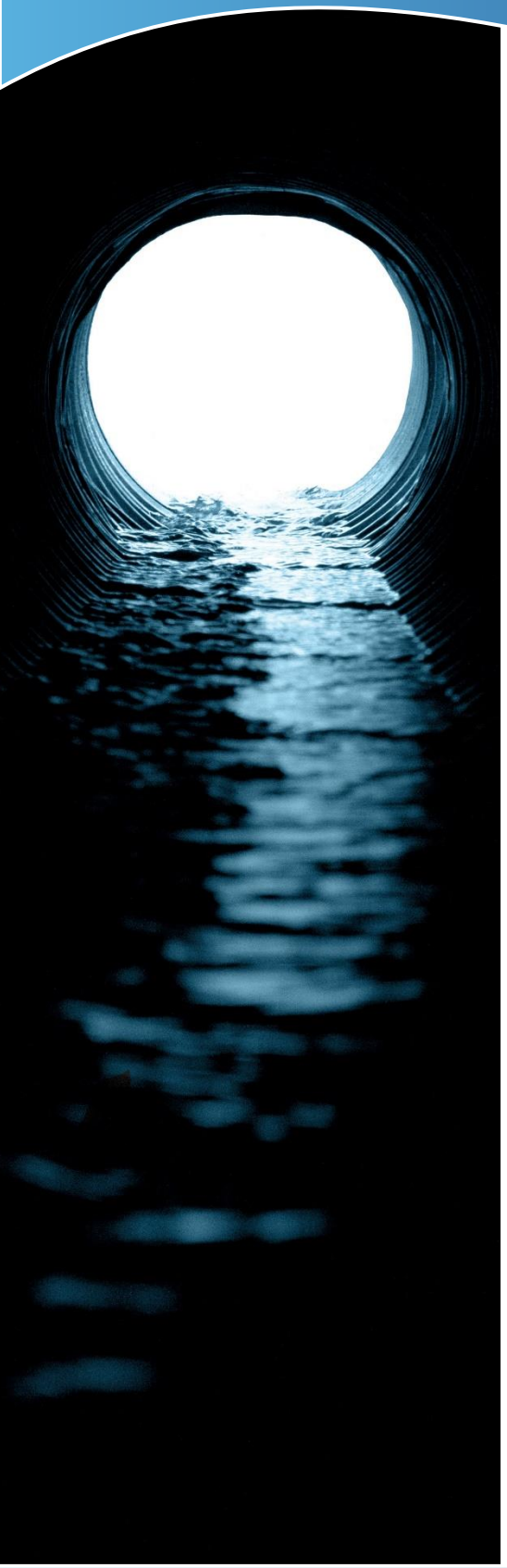
Data Source	Data Confidence
GIS Infrastructure Needs Study	Good

3.5.1 Recommendations for Improvements

The Infrastructure Needs Study provided simulations of needs based on existing hydraulic models to identify pressure and fire flow deficiencies throughout the system, which informed the needs forecasted in this AMP. The planned Water Master Servicing Plan and Model Calibration will further improve the information available for asset management planning.

It is also recommended that the City review and document needs for the GIS to fill gaps and document processes and governance of all data. As the City continues down their asset management journey, a strong data management strategy is required to keep and maintain information on all assets, including condition information and renewal activities. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

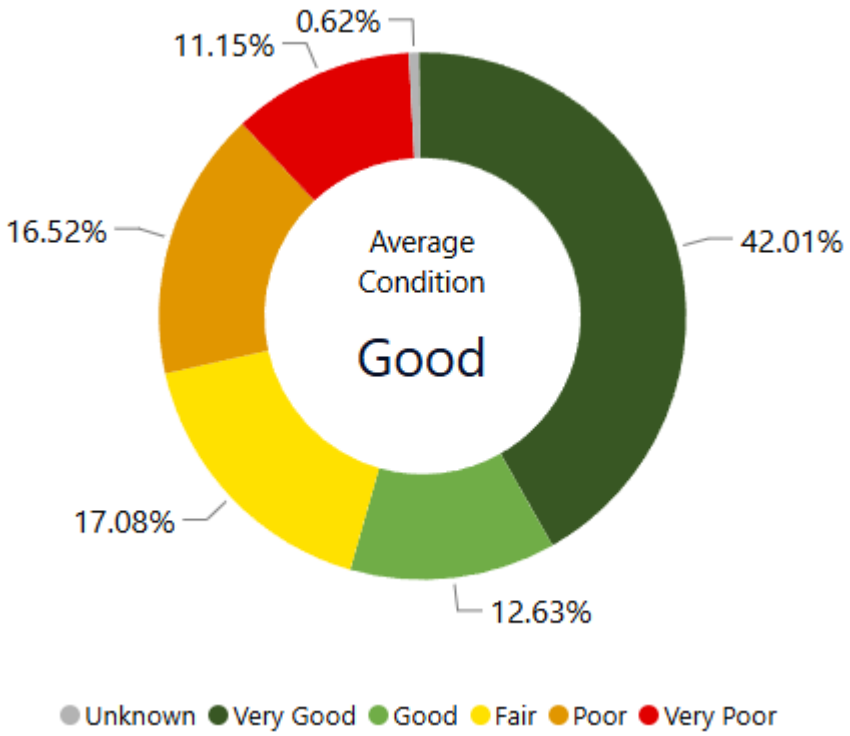
4 Stormwater Network



Replacement Value

$440,862,297

Overall Average Asset Condition



Quick Facts

The Stormwater Network has

- 97 km of stormwater mains (42% designed to current standards)
- Supporting assets including stormwater management ponds, outlets, forcemains, ditches and culverts

4 Stormwater Network

The City's stormwater infrastructure is located primarily throughout the urban setting. Rain and snowmelt generate stormwater, which permeates into the soil or flows as surface runoff. The storm sewer system gathers runoff through catch basins and directs it towards the nearest water body through gravity mains, primarily the Welland Canal or Lake Erie, mitigating the potential for property flooding. Urban development and increased impervious surfaces have diminished natural drainage, underscoring the growing importance of stormwater management, especially amid climate change-induced intensification of storms.

4.1 State of the Infrastructure

The methodology to represent state of the infrastructure information for this AMP were adjusted from the 2024 AMP to provide a more accurate assessment, which includes:

- Updated replacement costs based on current contracts for unit rates (2025 dollars)
- Condition updates based on completion of Zoom camera inspection

4.1.1 Asset Inventory and Valuation

The Stormwater Network includes mains, forcemains, leads, ditches, culverts, outlets, and ponds with a total estimated replacement value of $441 million. Valuation is much higher this year than noted in the 2024 AMP, as it was updated to reflect recent contracts. Currently only 42% of the storm system is designed to current standards. Table 4-1 below details the inventory and the current estimated replacement value by asset type.

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

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Mains	96,580	m	$434,336,011
Outlets	58	Units	$1,590,731
Forcemains	1,569	m	1,581,409
Leads	1,614	Units	$1,389,781
Ditches	334	Units	$905,387
Ponds	2	Units	$811,313
Culvert	418	Units	$248,267
Total			**$440,862,897**

4.1.2 Asset Condition

Condition was assigned to assets in the stormwater network using condition scores from the recent zoom camera inspection or age/estimated service life for the remaining assets (including where information was unavailable). A description of the condition rating scale is shown below in Table 4-2. Based on the previous AMP and the Infrastructure Needs Study, the City began an initiative to acquire updated condition data by zoom camera, which has provided a baseline condition of the storm system. The update condition information has greatly improved the reported condition of the storm system, which highlights the importance of the investment in data.

Table 4-2. Condition Rating Scale – Stormwater Network

Condition	Age/ESL	Zoom Camera Condition Rating
Very Good	>80% life remaining	1: Failure unlikely in foreseeable future
Good	60-80% life remaining	2: Pipe unlikely to fail for at least 20 years
Fair	40-60% life remaining	3: Pipe may fail in 10-20 years / Grade 3
Poor	20-40% life remaining	4: Pipe will probably fail in 5 – 10 years
Very Poor	0-20% life remaining	5: Pipe failed or likely to fail within 5 years
Unknown		

The Stormwater Network overall condition by replacement value can be seen in Figure 4-1.

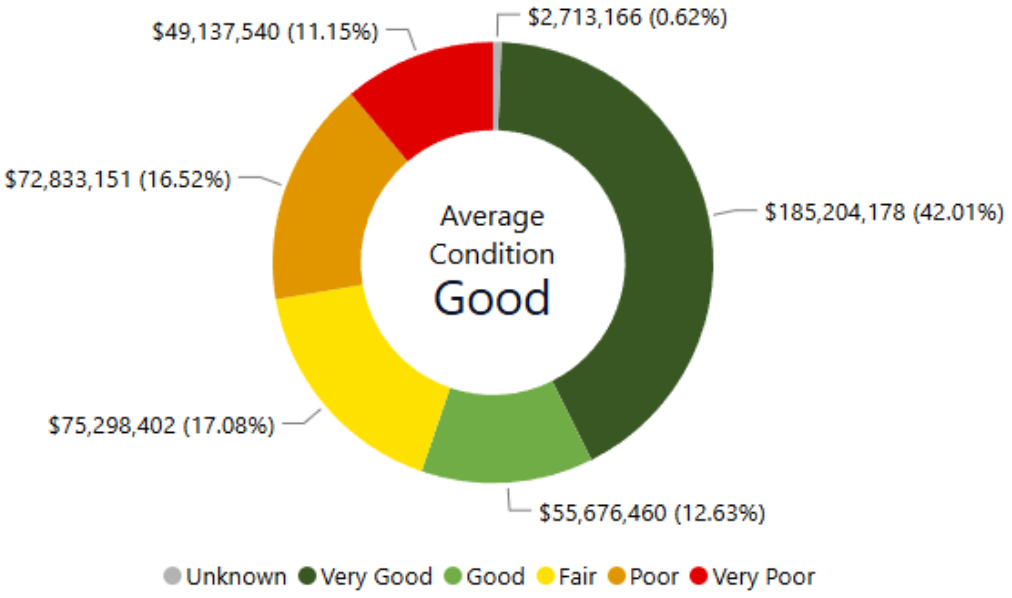


Figure 4-1. Asset Condition by Replacement Value – Stormwater Network

Stormwater Network assets are on average in **Good** condition with approximately 72% of assets in fair or better condition. Less than 1% of assets have an unknown condition with ditches, ponds and outlets being the primary asset classes where this data isn't available. Figure 4-2 shows a breakdown of the condition distribution by replacement value for each asset type in the Stormwater Network.

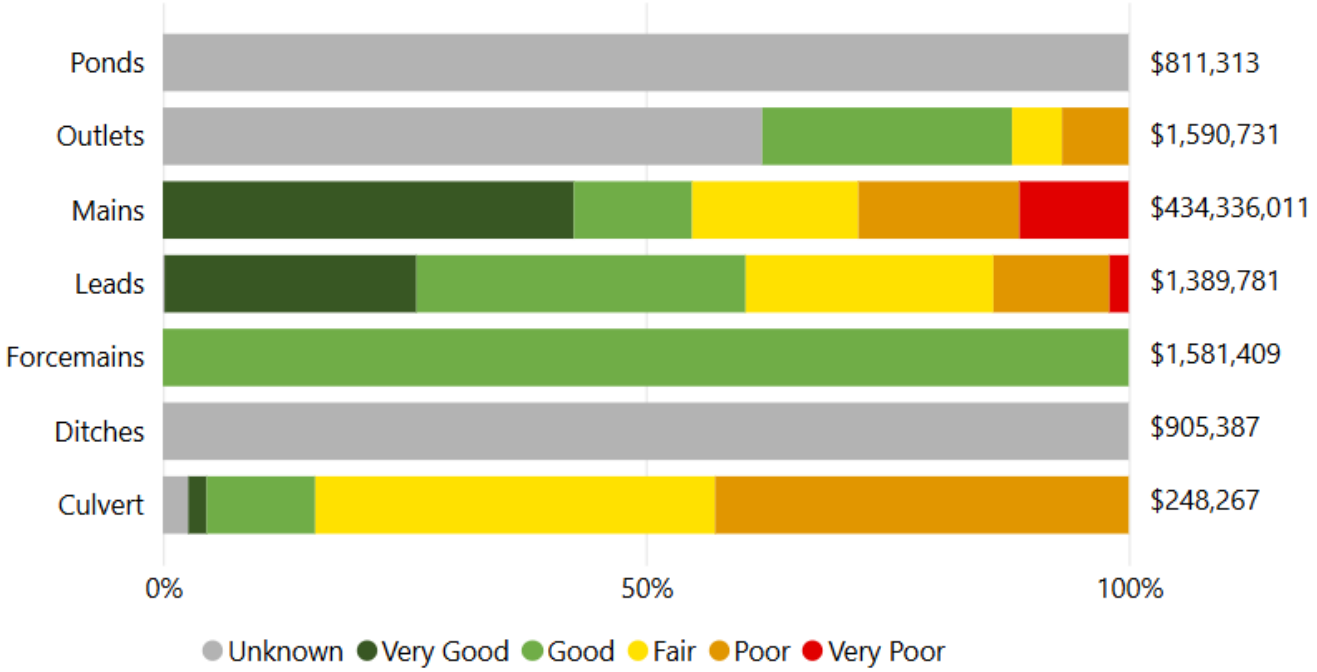


Figure 4-2. Asset Type Condition by Replacement Value – Stormwater Network

There is a small portion of storm main assets currently in very poor condition. The improvement in condition since the last AMP can be attributed to the completion of the zoom camera assessment of the stormwater mains. This allowed for assessment of condition based on actual asset condition, rather than relying on age/estimated service life calculations as done in the previous AMP.

Although the updated condition data shows a more positive outlook of the storm system than the 2024 AMP, a large portion of the system is not designed to engineering standards, and while may be in good condition, still may require work to improve the level of service to the community. There are also many areas that are currently not serviced by the storm system in the urban area, that would benefit from the expansion of the storm system. This will also improve inflow into the sanitary system (water other than sanitary wastewater that enters a sewer system from sources such as roof leaders and foundation drains). Inflow currently is a contributing factor to the high treatment costs experienced by Port Colborne.

At the time of the development of this AMP, the condition of ponds was unknown, but have recently been assessed and determined to be in Good condition. Ditches do not have a known condition, the work on ditches is performed on a complaint basis. It is recommended that the City analyze the ponds to determine which ponds require dredging and use a sediment level metric to determine condition.

4.1.3 Average Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Stormwater Network assets.

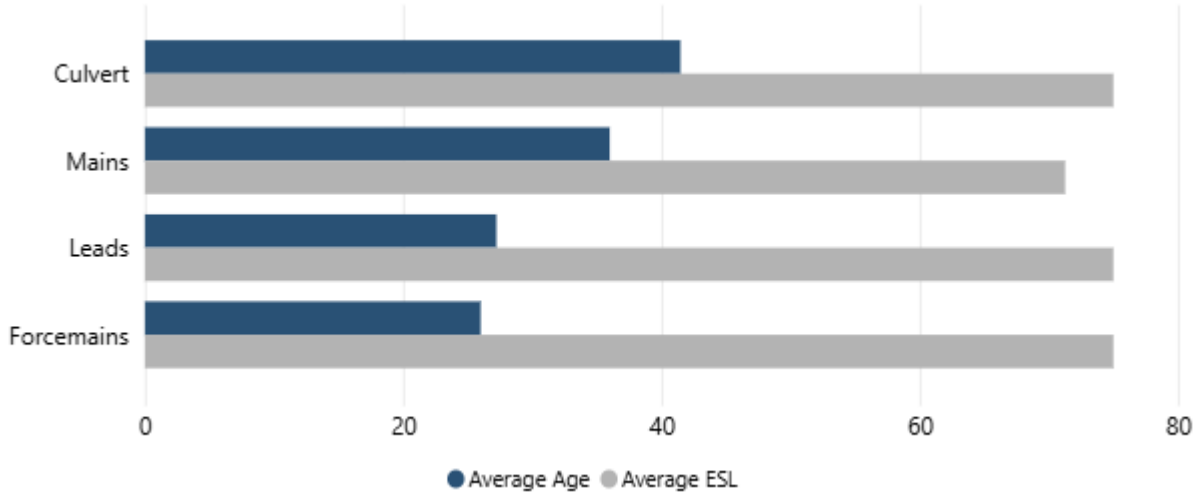


Figure 4-3 compares the average age of Stormwater Network asset types to the average ESL.

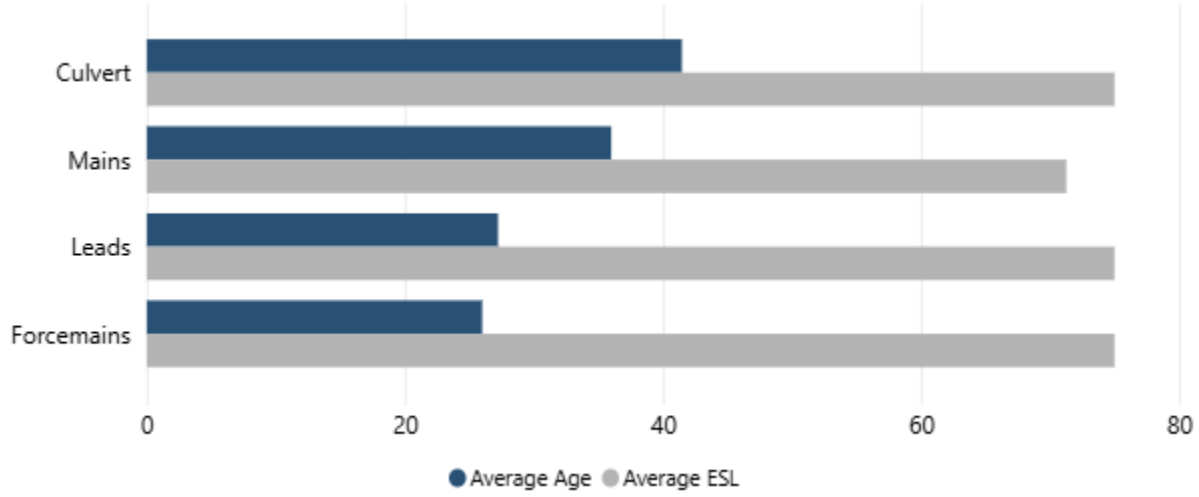


Figure 4-3. Average Age and Average Estimated Service Life – Stormwater Network

All stormwater asset types have an average age less than the average ESL, except for ditches and outlets which do not have a known age. It is recommended that the City try to determine the ages of the outlets. The nature of how ditches are maintained, it would not provide value for the City to try to fill the gap in age information for this asset type. These assets are maintained through operations and maintenance and age is not a factor in their condition.

4.2 Levels of Service

Service Statement: The stormwater system aims to protect property and people from the impacts of flooding and minimize exposure to risk.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 4-3 and Table 4-4 provide a summary of the community and technical levels of service metrics for the City's Stormwater Network. These are segmented into those that are required under the O.Reg.588/17 and other levels of service metrics that are defined by the City. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Stormwater Network assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 4-3. Community Level of Service – Stormwater Network

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Regulatory				
Scope	Description, which may include maps, 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	In the urban area, stormwater is conveyed via 98 km of City storm sewers, as well as over 5 km of culverts and 40 km of managed ditches and swales. Throughout the entire city, overland drainage routes and natural watercourses contribute to the conveyance of surface stormwater. See Appendix C.	N/A	N/A
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	3%	Maintain	↔

Table 4-4. Technical Level of Service – Stormwater Network

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Regulatory				
Scope	Percentage of properties in municipality resilient to a 100-year storm.	5.05%	Maintain	↔
Scope	Percentage of the municipal stormwater management system resilient to a 5-year storm.	85%	Increase	↗
City Defined				
Safe & Regulatory	Percentage of stormwater management system designed to current standards.	42%	Increase	↗
Safe & Regulatory	Percentage of network inspected within last 5 years.	100%	Maintain	↔
Accessible & Reliable	Percentage of replacement value of assets in very poor condition.	11.15%	0%	↘
Accessible & Reliable	Percentage of catchbasins cleaned annually.	33%	Maintain	↔

4.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is a concise overview of some existing asset management practices within the Stormwater Network.

4.3.1 Lifecycle Activities

Lifecycle activities for Stormwater assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset, from planning and design to decommissioning or repurposing. These activities ensure that Stormwater assets continue to provide the intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Table 4-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

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

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Infrastructure Needs Study (INS)	• As required
• CLI-ECAs	• As per regulatory requirements
Operations & Maintenance Activities	
• Storm Sewer CCTV inspection / zoom camera inspections	• As required
• Outlet Inspections	• Weekly; as required
• Storm Sewer flushing / cleaning	• As required
• Catchbasin and Lead flushing	• 33% of catchbasins/leads per year
• Urban ditch cleaning	• As required
• Outlet cleaning	• As required (storm based)
• Lead inspections	• As required
• Storm Sewer spot repair	• As required
Renewal/Replacement Activities	
• Storm Sewer replacement (gravity & forcemains)	• End of Service Life
• Remaining asset replacements (culverts, inlets, leads, manholes, outlets)	• End of Service Life
Disposal Activities	
• Mains removals through standard construction practices	• As required
Service Improvement & Growth Activities	
• Pipe upsizing	• As required
• Expansion to support growth	• As required (e.g. development)

4.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies from Section 4.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2024 and 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this

analysis, this is accomplished by determining the current performance (condition) of assets.

- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 4-4.

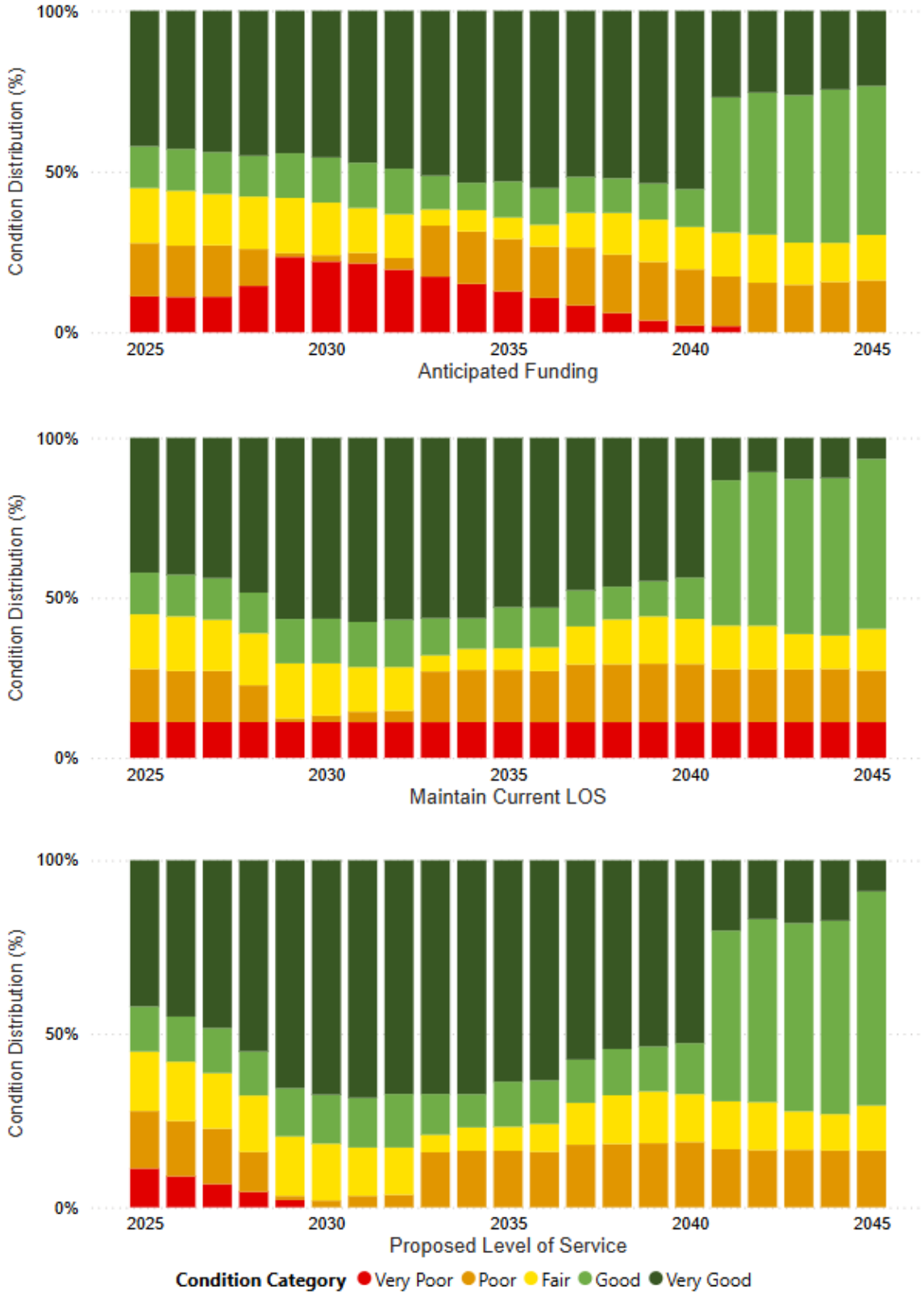


Figure 4-4. Condition Profile for Service Level Scenarios - Stormwater

Figure 4-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the stormwater assets was determined to be approximately $3.3M. The percentage of assets in very poor condition increases from 11% to 23% over the first 5 years and then decreases throughout the remaining 20-year forecast period, with no assets in very poor condition by 2042.

In the Current LOS scenario, the anticipated annual funding required for stormwater assets is approximately $2.8M for renewal, rehab and replacement activities. The condition distribution shows that the proportion of stormwater network assets in very poor condition is maintained at 11%.

In Scenario 3, the anticipated annual budget needed to achieve PLOS was determined to be $3.3M for renewal, rehab and replacement activities, which eliminated very poor assets by 2030. For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 4-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

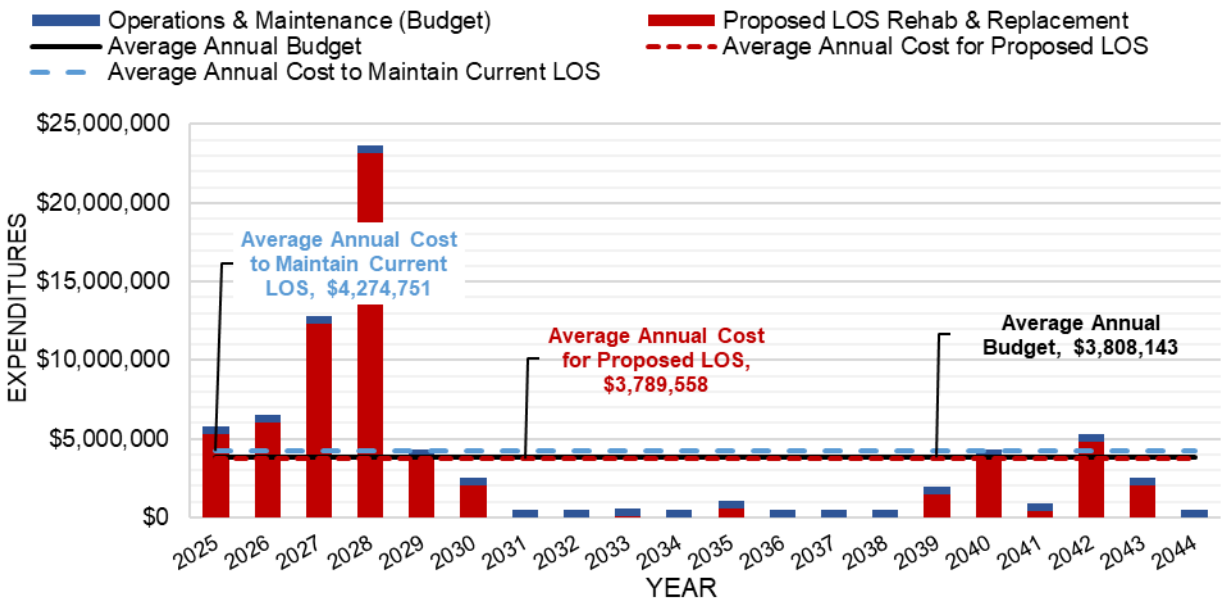


Figure 4-5. Stormwater Network Scenario Comparison

By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

The City's anticipated budget has been developed to meet the proposed LOS and includes increases of up to 20% to "catch up" to required expenditures up to 2030. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in storm assets are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 4-6.

Table 4-6. Stormwater Network Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$493,600	$493,600	$493,600

Renewal, Rehabilitation & Replacement	$3,314,543	$3,781,151	$3,295,958
Total Expenditures	**$3,808,143**	**$4,274,751**	**$3,789,558**
Average Annual Funding Gap		**$466,608**	**No Gap**

As further analysis of the storm system is completed through the master service plan, it is expected that the infrastructure needs for this asset class to grow, as currently only 42% of the storm system is designed to current standards, and many areas in the urban areas are not serviced by the storm system. Further needs for the storm system will be reviewed in the planned stormwater master plan to consider needs for growth.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets. Figure 4-6 details the priority areas for the City to address inflow and infiltration concerns, and Figure 4-7 highlights the sources of inflow and infiltration that the City plans to address in the coming years.

Inflow and infiltration is critically important for the City because unmanaged, it can lead to serious financial, operational, and environmental challenges. By addressing this key challenge, the City will reduce unnecessary sanitary treatment costs, prevent sewer overflows and backups, extends infrastructure life, delays or avoid costly capital upgrades, improves regulatory compliance, and supports climate resilience. Proactively managing inflow and infiltration protects public health, reduces costs, and supports environmental goals, and ensure the long-term sustainability of the wastewater, and storm systems.

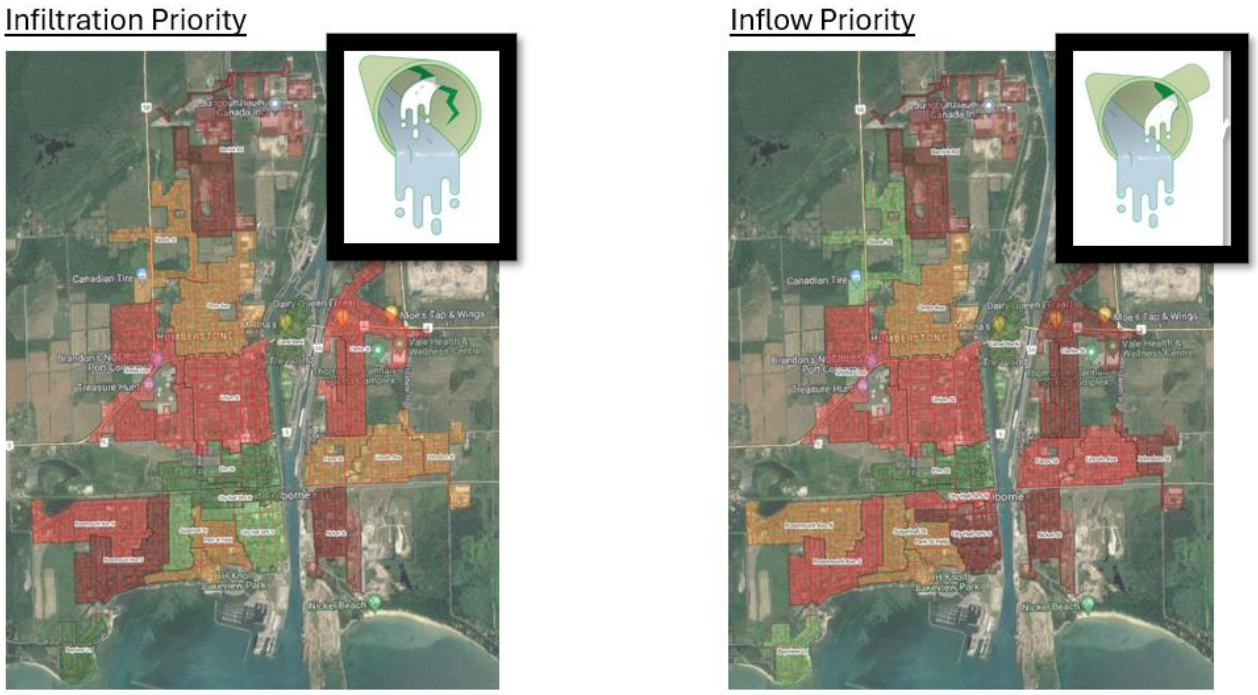


Figure 4-6. Storm System Infiltration and Inflow Priority Areas

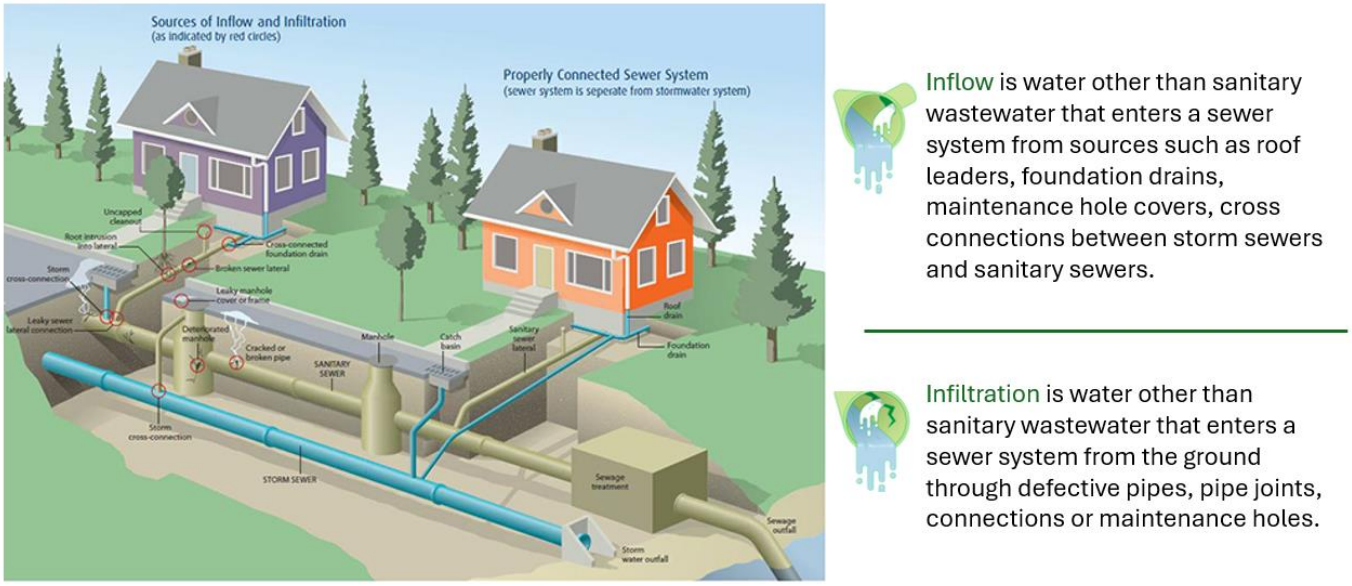


Figure 4-7. Inflow & Infiltration Recap

4.5 Data Confidence and Improvement Plan

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

Table 4-7. Data Confidence – Stormwater Network

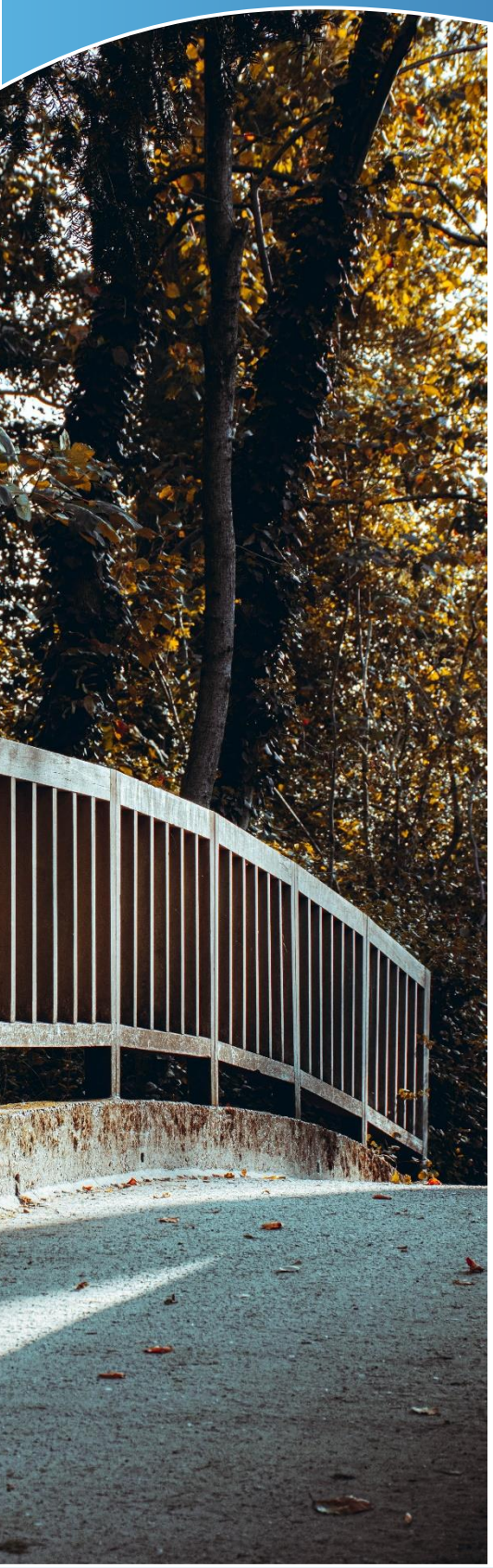
Data Sources	Data Confidence
GIS Infrastructure Needs Study Zoom camera condition assessments for Sewers	Good

4.5.1 Recommendations for Improvements

The Stormwater Master Servicing Plan will assist the City in further informing future iterations of the AMP and include needs to address future growth.

It is also recommended that the City review and document needs for the GIS to fill gaps and document processes and governance of all data. As the City continues down their asset management journey, a strong data management strategy is required to keep and maintain information on all assets, including condition information and renewal activities. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

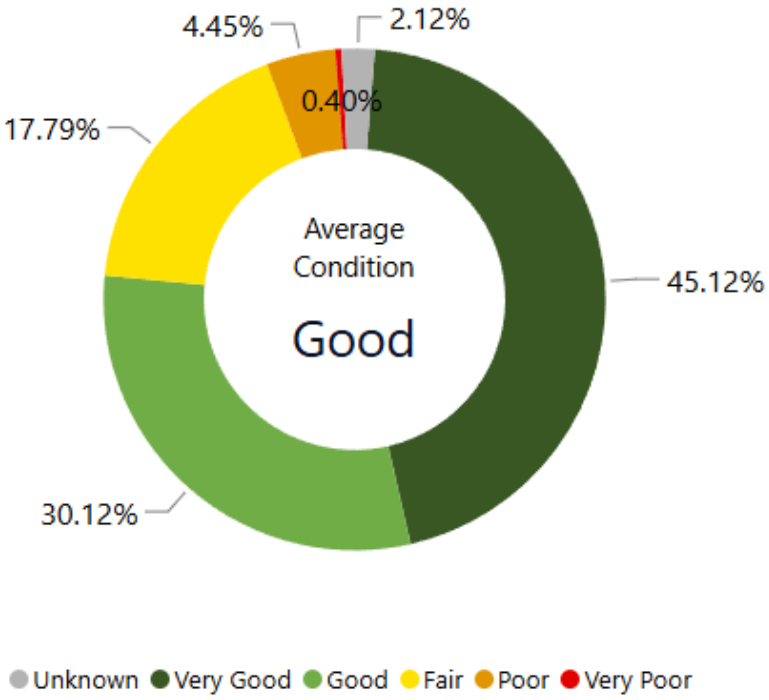
5 Transportation



Replacement Value

$525,520,490

Overall Average Asset Condition



Quick Facts

Transportation maintains:

- 251 km of roads throughout the City
- A number of supporting assets including guiderails, sidewalks, streetlights, pedestrian bridges, and parking lots

5 Transportation

Transportation assets allow for the movement of people, goods, and services to support residents' lifestyles and economic activity. The City has approximately 251 km of roads as well as several bridges and culverts, all of which are inspected and maintained to provide safe and reliable service for residents and visitors. Of note, this asset class does not include small drainage culverts (less than 1m in diameter) or driveway culverts.

5.1 State of the Infrastructure

The methodology to represent state of the infrastructure information for this AMP were adjusted from the 2024 AMP to provide a more accurate assessment, which includes:

- Updated and inflated replacement costs (2025 dollars)

5.1.1 Asset Inventory and Valuation

The transportation network includes bridges and culverts, parking lots, pedestrian bridges, retaining walls, assets within the right of way, roads, and sidewalks with a total estimated replacement value of approximately $526 million. Table 5-1 below summarizes the asset inventory and the current estimated replacement values by asset type.

Table 5-1. Asset Inventory and Current Replacement Values - Transportation

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Bridge	2	Units	$6,975,161
Culvert	26	Units	$21,500,104
Parking Lots	49	Units	$1,289,261
Pedestrian Bridge	2	Units	$1,073,023
Retaining Wall	11	Units	$9,65,957
Total Structures & Parking Lots			**$30,837,549**
Right of Way – Guiderails	4,537	m	$1,155,295
Right of Way – Street Light	2,112	Units	$13,263,444
Right of Way – Traffic Signs	4,131	Units	$859,248
Total Right of Way			**$15,234,028**
Roads – Arterial	79,852	m	$172,198,312
Roads – Local	171,331	m	$290,186,427
Total Roads			**$462,384,739**
Sidewalks	90,586	m	$16,054,257
Total			**$524,554,532**

5.1.2 Asset Condition

Transportation asset condition was assigned using bridge condition index (BCI) scores for bridges and culverts, pavement condition index (PCI) scores for roads, and age/estimated service life for remaining asset types. A description of the condition rating scales descriptions for Transportation assets is shown in Table 5-2.

The City ensures bridge and culvert structures are safe and reliable in accordance with regulatory requirements and community expectations. All bridges and major structures are inspected every two years in conformance with the Ontario Structure Inspection Manual (OSIM) which provides a standardized, systematic assessment in accordance with O. Reg. 104/97. These inspections provide the BCI scores used to evaluate condition, and ensure the structural integrity, safety, and condition of these structures through renewal and rehabilitation recommendations.

The roads were assessed during the Roads Needs Study performed as part of the Infrastructure Needs Study, which provided updated PCI values were used to evaluate condition as per the table below.

Table 5-2. Condition Rating Scale – Transportation

Condition	Age/ESL	PCI	BCI
Very Good	>80% life remaining	> 80	> 86
Good	60-80% life remaining	67 – 80	70 – 86
Fair	40-60% life remaining	55 – 67	61 – 70
Poor	20-40% life remaining	35 – 55	41 – 61
Very Poor	0-20% life remaining	< 35	< 41
Unknown			

The overall condition distribution for Transportation assets by replacement value is in Figure 5-1. Condition of roads has been updated to reflect recent resurfacing of roads since the 2024 AMP.

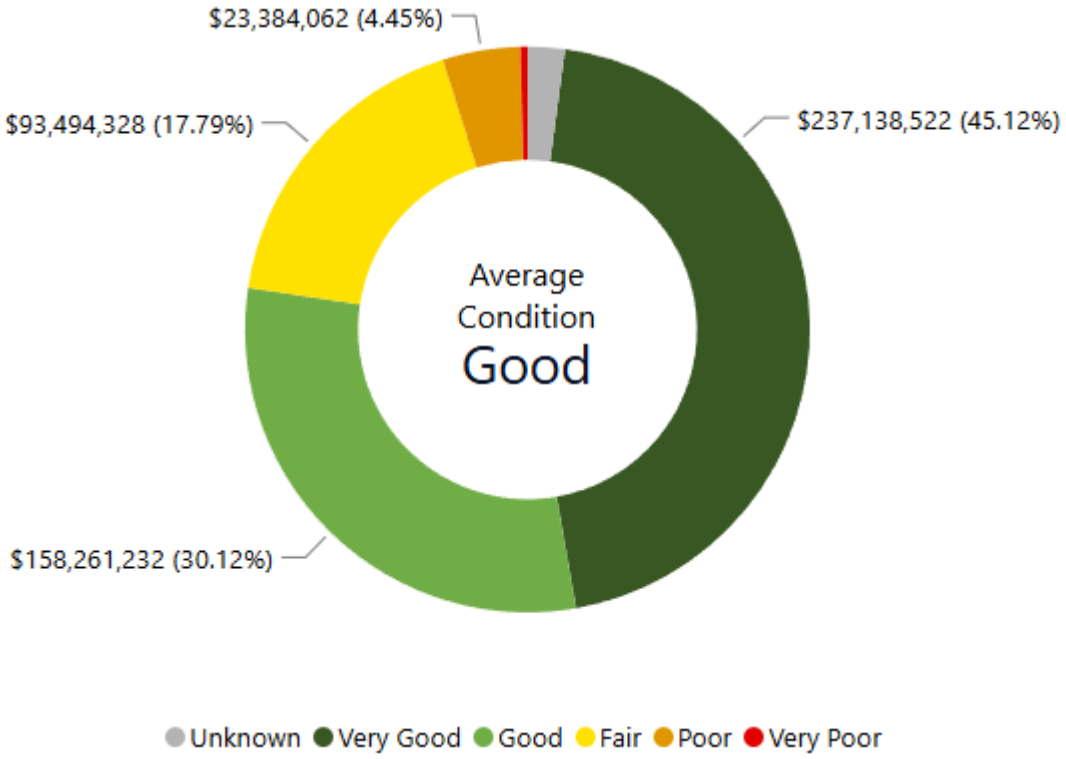


Figure 5-1. Asset Condition by Replacement Value – Transportation

Transportation assets are on average in good condition with 92% of assets in fair or better condition. Approximately 2% of assets have an unknown condition. The breakdown of condition by replacement value for each asset type can be seen in Figure 5-2.

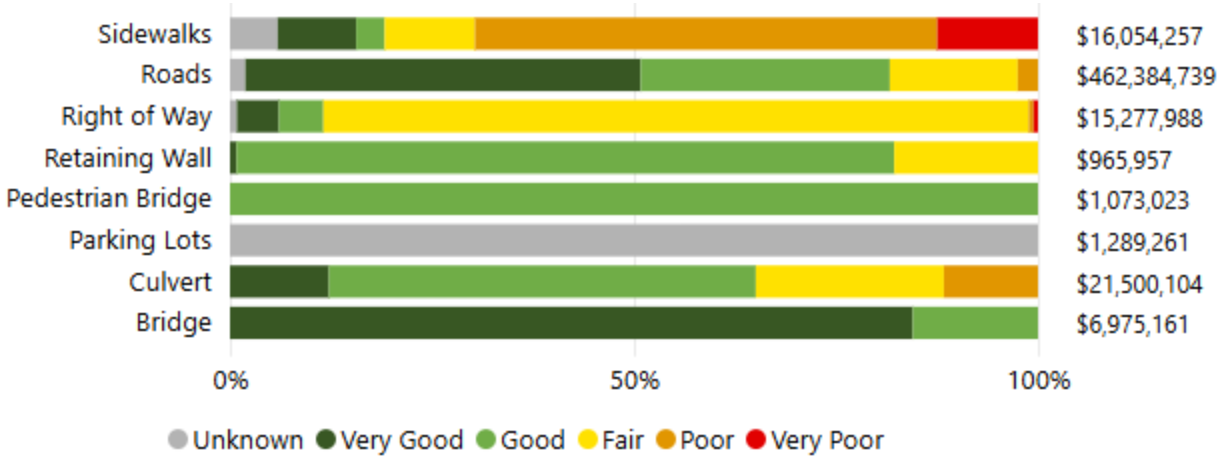


Figure 5-2. Asset Type Condition by Replacement Value – Transportation

Parking lots currently have unknown conditions. The large remainder of assets have conditions assigned. Only 0.52% of the overall transportation condition distribution is in very poor condition, which includes a small portion of Right of Way assets and Culverts.

Over 75% of the City's roads are in good to very good condition, which accounts for a large amount of the overall Transportation asset register.

5.1.3 Average Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Transportation assets. Figure 5-3 below compares the average age of Transportation asset types to the average estimated service life.

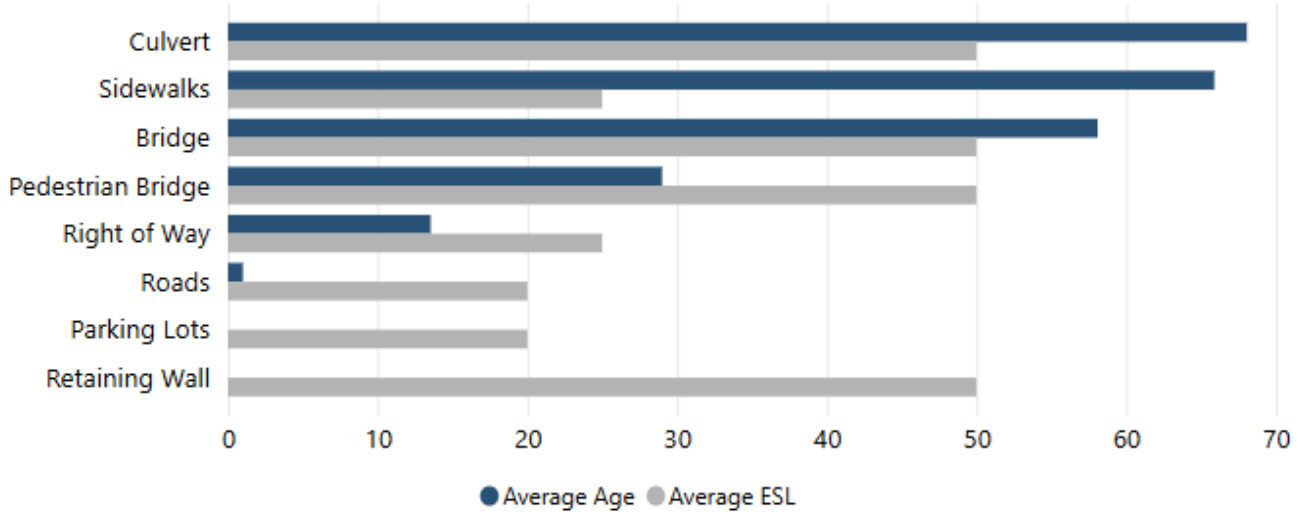


Figure 5-3. Average Age and Average Estimated Service Life – Transportation

Figure 5-3 shows that culverts, sidewalks, and bridge assets are on average past their ESL. Bridges and Culverts are inspected regularly through OSIMs in accordance with O. Reg. 104/19 ensuring that they are structurally safe, so while their ages are past the estimated service lives, these regular inspections ensure that these assets are in good condition and are safe to use. Parking lots and retaining walls do not currently have age information.

It is recommended the City obtain asset age information for parking lots and the retaining walls. Roads does not require an installation date/age to assess condition. The roads are evaluated for condition on a regular basis, and this information is used to inform the lifecycle strategies. It would be a valuable for the City to maintain resurfacing/ reconstruction history of the roads to use this information to assist in guiding forecasting of how often roads should be resurfaced.

5.2 Levels of Service

Service Statement: The transportation network is convenient, safe, efficient, and managed in accordance with regulatory requirements.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 5-3 and

Table 5-4 provide a summary of the community and technical levels of service metrics for the City's Transportation Network. These are segmented into those that are required under the O.Reg.588/17 and other levels of service metrics that are defined by the City. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Transportation assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 5-3. Community Levels of Service – Transportation

Asset Type	Key Service Attribute	Performance Measure	Current Performance (2024)	Proposed Performance	Proposed Change
Regulatory					
Roads	Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity	The road network in the City of Port Colborne includes provincial, regional, and municipal roads. The 251km of City owned roads are classified as arterial, collector, local and laneways, in decreasing order of size and capacity. See Appendix D.	N/A	N/A
Roads	Quality	Description or images that illustrate the different levels of road class pavement condition	See Appendix E.	N/A	N/A
Bridges & Culverts	Scope	Description of the traffic that is supported by municipal bridges (e.g. heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Bridges & Culverts on roads support all classes of vehicles including motor vehicles, heavy transport vehicles, buses, and emergency vehicles, as well as pedestrians and cyclists.	N/A	N/A

Asset Type	Key Service Attribute	Performance Measure	Current Performance (2024)	Proposed Performance	Proposed Change
Bridges & Culverts	Quality	Description or images of the condition of bridges and how this would affect use of the bridges	The City follows the standards and best practices in the Ontario Structure Inspection Manual to determine the condition of bridges and culverts.	N/A	N/A
Bridges & Culverts	Quality	Description or images of the condition of culverts and how this would affect use of the culverts	The City follows the standards and best practices in the Ontario Structure Inspection Manual to determine the condition of bridges and culverts.	N/A	N/A
City Defined					
All	Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	12%	Maintain	↔

Table 5-4. Technical Level of Service – Transportation

Asset Type	Key Service Attribute	Performance Measure	Current Performance (2024)	Proposed Performance	Proposed Change
Regulatory					
Roads	Scope	Number of lane-kilometres of each of arterial roads as a proportion of square kilometres of land area of the municipality.	0.64	Maintain	↔
Roads	Scope	Number of lane-kilometres of each of collector roads as a proportion of square kilometres of land area of the municipality.	No collector roads	Maintain	↔
Roads	Scope	Number of lane-kilometres of each of local roads as a proportion of square kilometres of land area of the municipality.	1.37	Maintain	↔
Roads	Quality	Average pavement condition index for paved roads in the municipality	74.3	Maintain	↔
Roads	Quality	Average surface condition for unpaved roads in the municipality	71.2	Maintain	↔
Bridges & Culverts	Scope	Percent of bridges in the municipality with loading or dimensional restrictions	50%	Improve	↗
Bridges & Culverts	Quality	For bridges, the average bridge condition index value	65	Improve	↗
Bridges & Culverts	Quality	For structural culverts, the average bridge condition index value. (span of 3m or greater)	67	Improve	↗

Asset Type	Key Service Attribute	Performance Measure	Current Performance (2024)	Proposed Performance	Proposed Change
City Defined					
Roads	Accessible & Reliable	Percentage of replacement value of assets in very poor condition	0%	0%	↔
Roads	Accessible & Reliable	Percentage of roads that are paved	72.23%	Maintain	↔
Roads	Accessible & Reliable	Length of off-road trails	25.30km	Maintain	↔
Roads	Accessible & Reliable	Percent local roads with sidewalks	63.99%	Maintain	↔
Bridges & Culverts	Accessible & Reliable	Percent of replacement value of assets in very poor condition	2.35%	0%	↘

5.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within Transportation.

5.3.1 Lifecycle Activities

Lifecycle activities for Transportation assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset, from planning and design to decommissioning or repurposing. These activities ensure that transportation assets continue to provide the intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Maintaining these assets in optimal condition, the City can extend their lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services and amenities offered from well-maintained assets. Table 5-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities. Any lifecycle activity mentioning minimum maintenance standards refers to those established under O. Reg. 239/02 Minimum Standards for Municipal Highways.

Table 5-5. Asset Management Practices and Associated Frequency – Transportation

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Traffic Studies/Counts	• As needed
• Pavement Condition Assessment (Roads Needs Study)	• Every 5 years
• Bridge and Culvert Condition inspections (following OSIM)	• Bi-Annually
Operations & Maintenance Activities	
• Road inspections as per the Minimum Maintenance Standards	• As per MMS
• Road sweeping	• Road classification
• Visual inspections by road patrol	• As per MMS
• Additional maintenance as per finds of road patrol inspections	• As required
• Winter maintenance – snow plowing, salt/sand	• As required
• Asphalt patching	• As required
• Line painting	• Annually
• Crack sealing	• As required
• Dust suppression	• Annually
• Culvert inspections	• As required
• Road side shouldering	• Annually
• Catch basin cleanouts	• Annually 25% per year
• Sidewalk maintenance	• As required
• Guiderail maintenance	• As required
• Roadside ditching	• As required
• Roadside lawn mowing	• As required
• Road grading (stone, clay roads)	• Annually

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
• Roadside tree work	• Road/pedestrian safety
• Signage – retroreflectivity inspections	• As required
• Bridge and Culvert inspection in accordance with Minimum Maintenance Standards	• Bi-Annually
Renewal/Replacement Activities	
• Road resurfacing	• Annually
• Guiderail replacement	• End of life
• Sidewalk replacement	• End of life
• Curb replacement	• End of life
• Major road reconstruction	• End of life
• Bridge and Culvert replacement of deteriorated structures	• End of Life
• Bridge and Culvert activities instigated by OSIM inspection findings	• Annually
Disposal Activities	
• Asphalt re-use as backfill from milling	• Ad-hoc
• Reuse of asphalt in granular A and B in reconstruction	• Ad-hoc
• Contaminated soils disposal from Roads work	• Ad-hoc
• Bridge and Culvert - decommission at end of useful life	• As identified
• Bridge and Culvert - disposal of abandoned or obsolete structures during construction projects	• As identified
Service Improvement & Growth Activities	
• Road widening	• As identified
• New sections of road	• As identified
• Addition of new sidewalks	• As identified

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
• On demand changes as per development	• As identified
• Bridge and Culvert - additions to support changes in demand as per local developments	• As identified

5.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies from Section 5.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2024 and 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels.

Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.

- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.
- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 5-4.

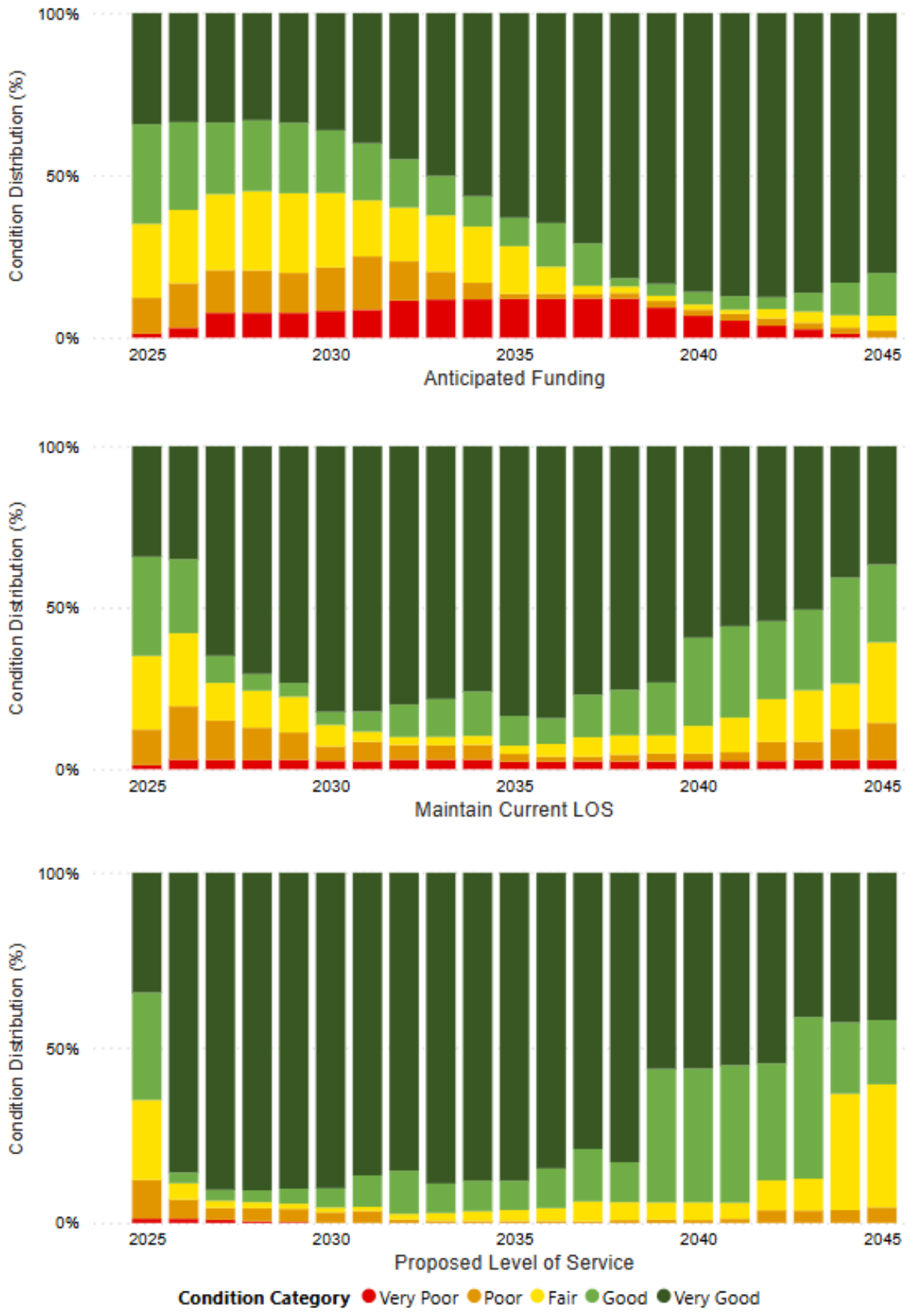


Figure 5-4. Condition Profile for Service Level Scenarios - Transportation

Figure 5-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the Transportation assets was determined to be approximately $5.8M. The percentage of assets in very poor condition fluctuate slightly between 1% and 12% throughout the 20-year forecast period, with the anticipated budget intermittently being increased in 2025, 2026 and 2031.

In the Current LOS scenario, the anticipated annual funding required for Transportation assets is approximately $5.1M for renewal, rehab and replacement activities. The condition distribution shows that the overall condition of the transportation network, would maintain a portion of assets in Very Poor condition, which is why the spending required for this scenario is less than the Anticipated Budget Scenario and Proposed LOS scenario. It is the goal of the City to improve asset condition beyond what it currently is now.

For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan. In Scenario 3, the anticipated annual budget needed for this scenario (to achieve PLOS) was determined to be $5.7M for renewal, rehab and replacement activities. Assets in very poor condition are eliminated by the first 4 years and assets in very good condition are consistently at 90% around this timeframe.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 5-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

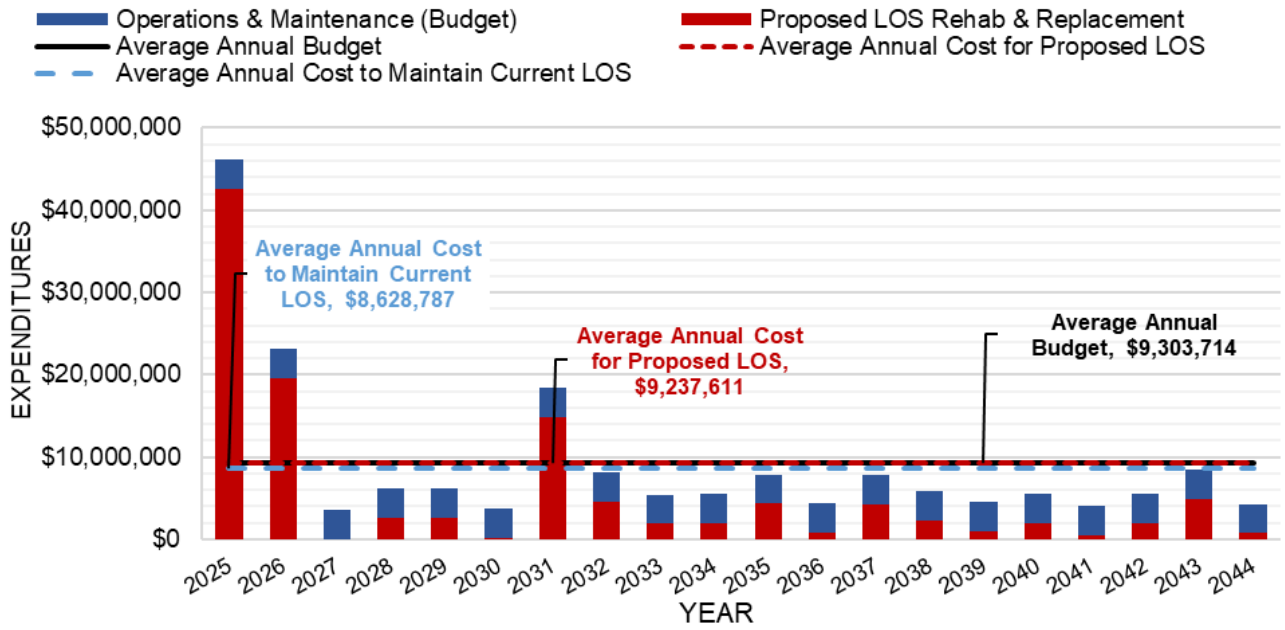


Figure 5-5. Transportation Scenario Comparison

There is a "backlog" included in the year 2025, which represents the cumulative backlog of deferred work that has accumulated and is needs to be completed. By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

The City's anticipated budget has been developed to meet the proposed LOS and includes increases of up to 20% to "catch up" to required expenditures up to 2030. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) or to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in Transportation are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 5-6.

Table 5-6. Transportation Network Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$3,552,075	$3,552,075	$3,552,075
Renewal, Rehabilitation & Replacement	$5,890,989	$5,076,712	$5,685,536
Total Expenditures	**$9,303,714**	**$8,628,787**	**$9,237,611**
Average Annual Funding Gap		**No Gap**	**No Gap**

For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. By fully funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets.

5.5 Data Confidence and Improvement Plan

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

Table 5-7. Data Confidence - Transportation

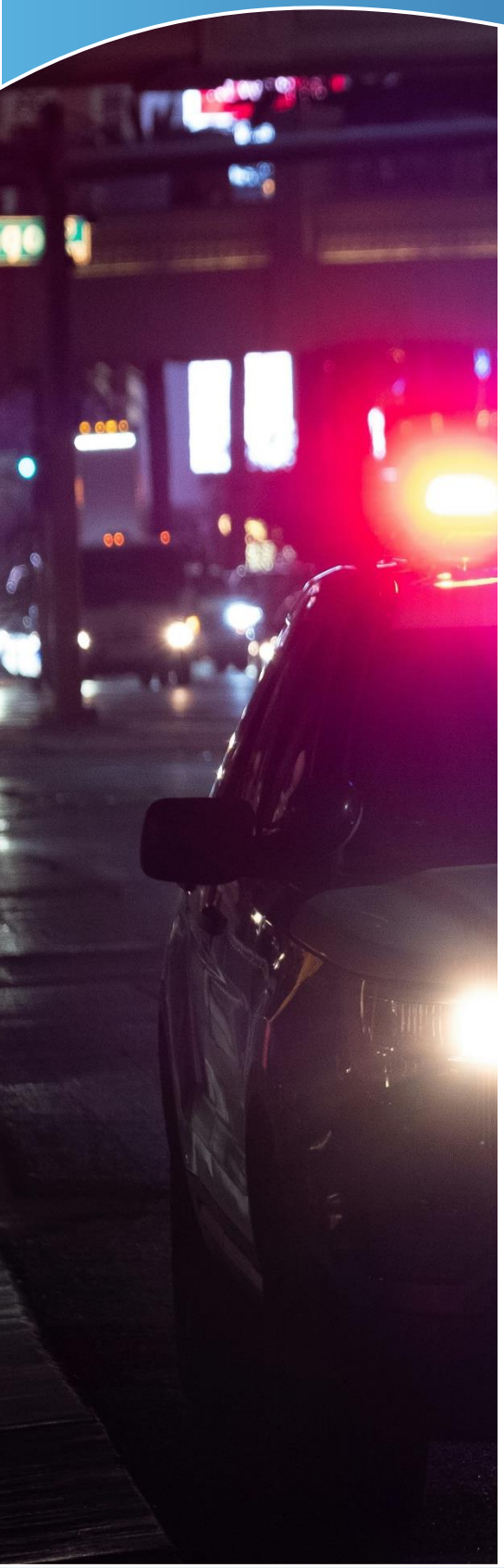
Data Source	Data Confidence
GIS Infrastructure Needs Study, including Roads Needs Study, Sidewalk Inspection, Guiderail Inspection OSIM Inspections	Good

5.5.1 Recommendations for Improvements

Most transportation assets have a high level of confidence as a result of the Infrastructure Needs study that assessed and compiled conditions for many of the transportation assets. There are some outliers, where minimal information was available (i.e. Parking Lots), and further assessment of these assets are required.

It is also recommended that the City review and document needs for the GIS to fill gaps and document processes and governance of all data. As the City continues down their asset management journey, a strong data management strategy is required to keep and maintain information on all assets, including condition information and renewal activities. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

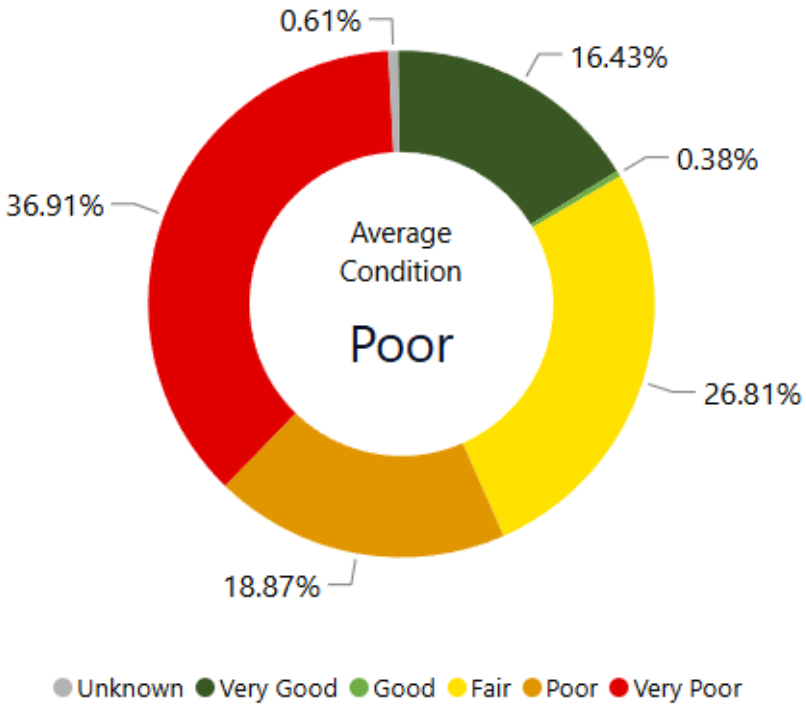
6 Emergency Services



Replacement Value

$6,331,764

Overall Average Asset Condition



Quick Facts

Emergency Services has

- 9 Fleet Assets including response vehicles, pumper trucks, a tanker, rescue truck and ladder truck
- 539 pieces of equipment to support Emergency Service delivery

6 Emergency Services

Emergency Services is a critical service in the City of Port Colborne, providing timely response and assistance during emergencies in the community ensuring the well-being of residents. The fleet and equipment assets that support Emergency Services are essential. Ensuring they are in good condition is vital to the services the City provides.

6.1 State of the Infrastructure

The methodology to represent state of the infrastructure information for this AMP were adjusted from the 2024 AMP to provide a more accurate assessment, which includes:

- Updated and inflated replacement costs (2025 dollars)
- Conditions were assigned to assets based on age and estimated service life if condition assessment data was not available.

6.1.1 Asset Inventory and Valuation

Emergency Services includes fleet and equipment with a total estimated replacement value of approximately$6 million. The inventory of Emergency Services was developed through consultation with emergency services and includes assets maintained in their expert system, where gaps were found they were filled in consultation with staff. It is recommended that the City put efforts into maintaining and updating this information for asset management purposes to improve the forecasting of the needs of the emergency services assets. The fire stations have been included under the Facilities category for the purposes of this AMP. Table 6-1 below details the inventory and the current estimated replacement value by asset type.

Table 6-1. Asset Inventory and Current Replacement Value – Emergency Services

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Fleet	9	Units	$5,836,688
Equipment	539	Units	$495,076
Total			**$6,331,764**

6.1.2 Asset Condition

Condition was assigned to assets in the Emergency Services based on age/estimated service life. A description of the condition rating scale is shown in Table 6-2.

Table 6-2. Condition Rating Scale – Emergency Services

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

Emergency Services overall asset condition by replacement value can be seen in Figure 6-1.

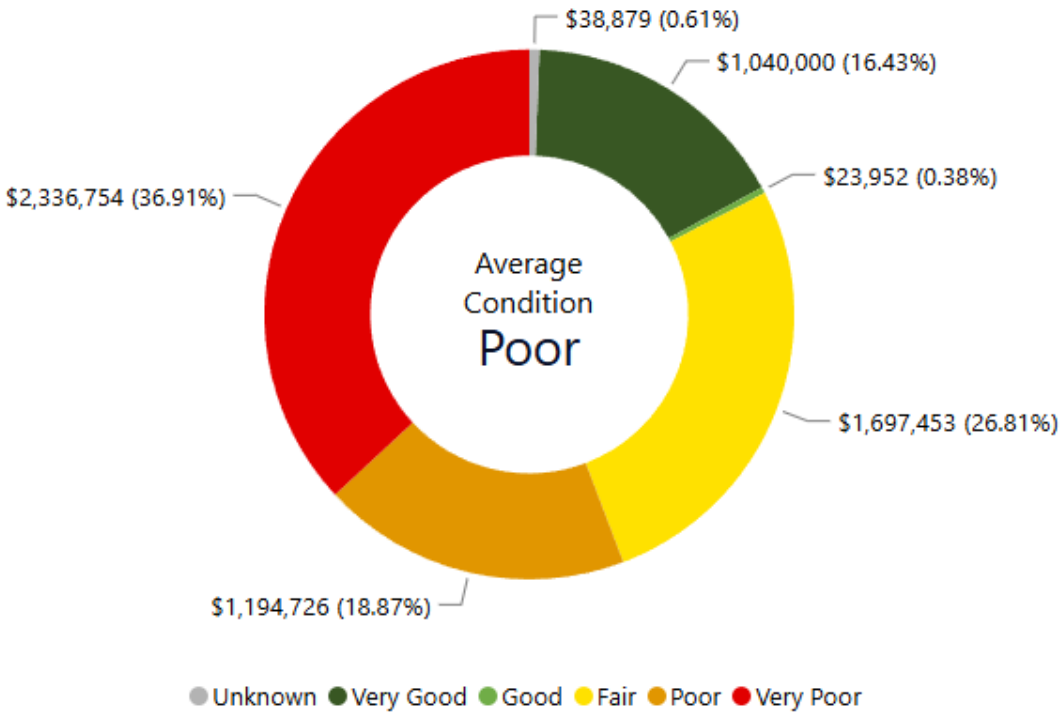


Figure 6-1. Asset Condition by Replacement Value – Emergency Services

Assets in Emergency Services are on average in **Poor**, with approximately 43% of assets in fair or better condition. The breakdown of condition by replacement value for each asset type can be seen in Figure 6-2.

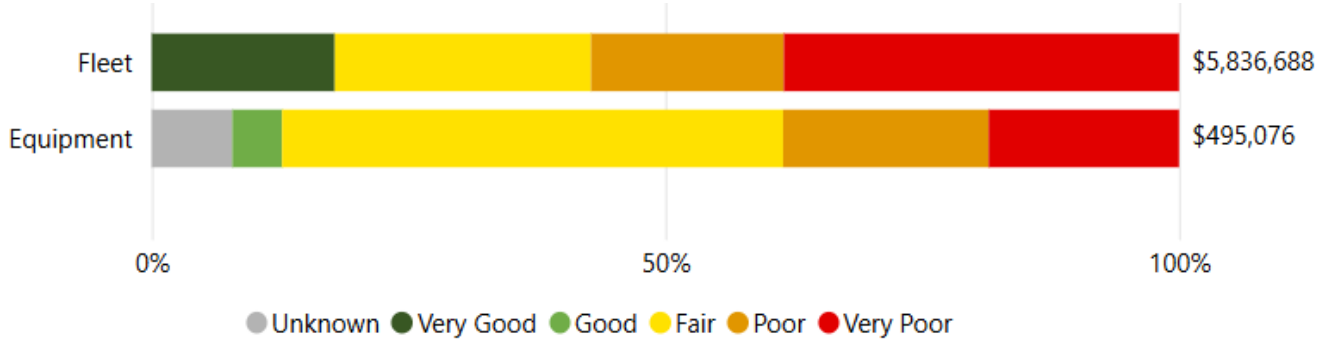


Figure 6-2. Asset Type Condition by Replacement Value – Emergency Services

Over 53% of Equipment assets are in fair or better condition. A large potion of Emergency Services Fleet is currently in very poor condition. These assets are at or nearing the end of their estimated service lives and are due for replacement. Fleet assets are inspected regularly by staff, so although they are in very poor condition, staff ensure these vehicles are safe to be in service and can continue to provide excellent service to the community.

6.1.3 Average Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Emergency Services assets. The average age and average estimated service lives of Emergency Services Fleet and Equipment assets is shown below in Figure 6-3.

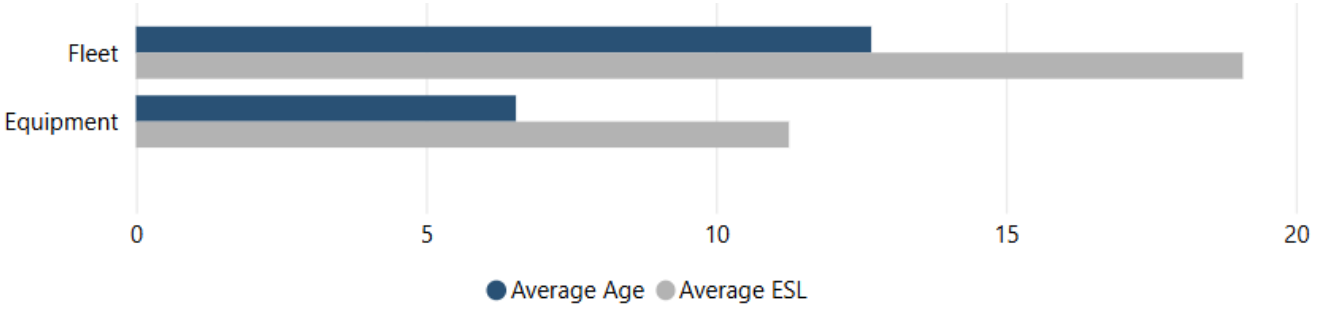


Figure 6-3. Average Age and Average Estimated Service Life – Emergency Services

Both Fleet and Equipment assets have lower average age compared to their average estimated service lives. It should be noted, however, that some of these assets may need to be replaced prior to or shortly after the next iteration of this AMP.

6.2 Levels of Service

Service Statement: Emergency services protects the lives and properties of City residents and ensure public safety through emergency response, fire prevention and community education.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 6-3 and Table 6-4 provide a summary of the community and technical levels of service metrics for the City's Emergency Services. There are no metrics for this asset category that are required by O.Reg. 588/17. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Emergency Services assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 6-3. Community Level of Service– Emergency Services

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	9%	Maintain	↔

Table 6-4. Technical Level of Service– Emergency Services

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Accessible & Reliable	Percentage of total replacement value of assets in very poor condition	36.91%	0%	↘

6.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within Emergency Services.

6.3.1 Lifecycle Activities

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

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in Section 13.3.1 Risks Associated with Lifecycle Strategies.

Table 6-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 6-5. Asset Management Practices and Associated Frequency – Emergency Services

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Fire Master Plan	• As Required
Operations & Maintenance Activities	
• Planned maintenance (PM)	• As required
• Reactive maintenance	• As required
• Equipment inspections	• Daily
• Purchase of personal protective and rescue equipment, small equipment, and materials	• As legislated or as required
Renewal/Replacement Activities	
• Replacement	• End of service life as per strategy
• Spare fire fleet replacement	• Fleet is front run for first 15 years of service, then rotated to a spare for 5 years and decommissioned at 20 years
• Re-build engines	• Reactive
Disposal Activities	
• Sell-off vehicles, fleet and equipment	• Opportunistically

6.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies from Section 6.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2024 and 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures

required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.
- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 6-4.

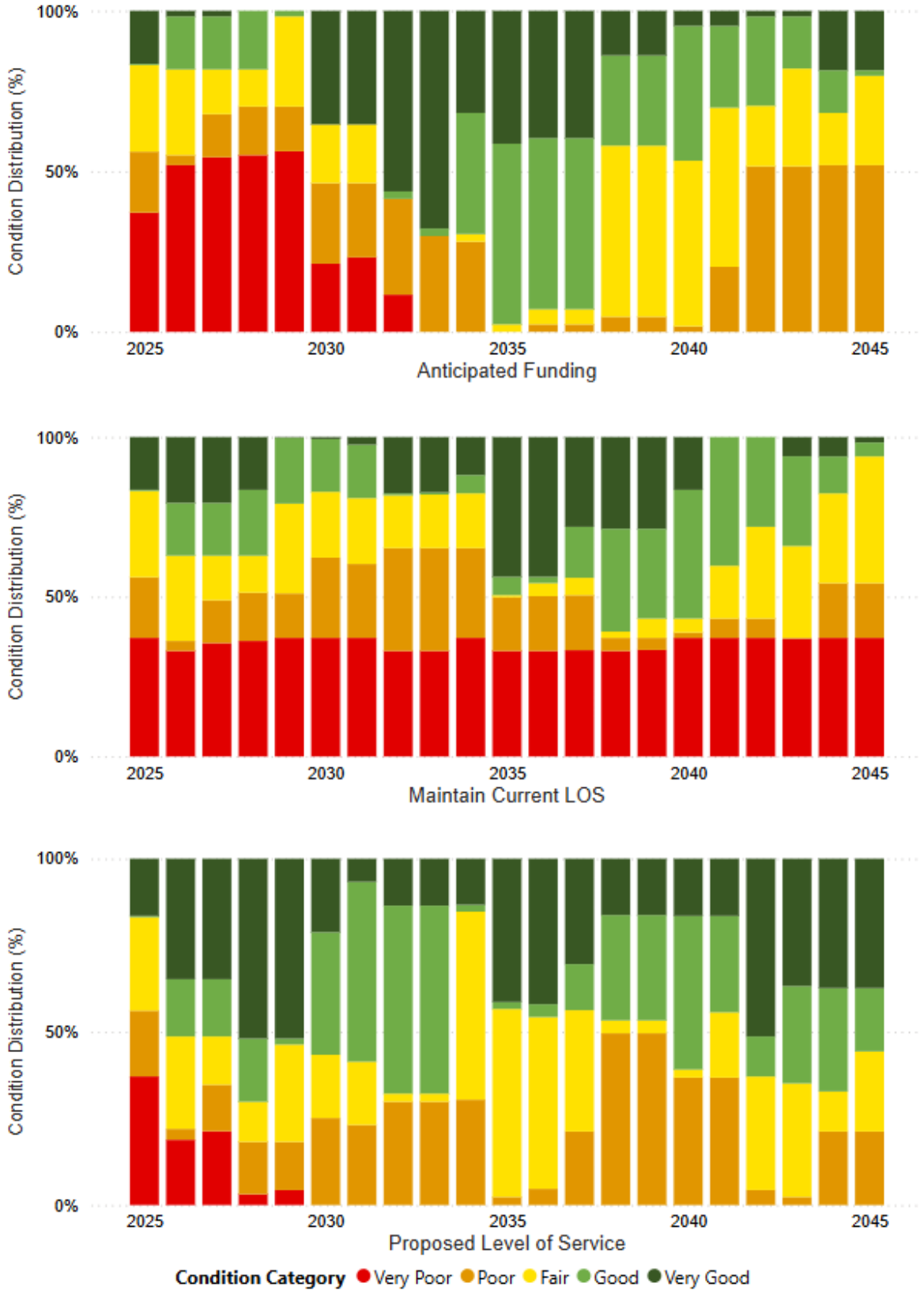


Figure 6-4. Condition Profile for Service Level Scenarios - Emergency Services

Figure 6-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the Emergency Services assets was determined to be approximately $546K. The percentage of assets in very poor condition is reduced to zero by 2030.

In the Current LOS scenario, the anticipated annual funding required for emergency services assets is approximately $297K for renewal, rehab and replacement activities, which maintains the proportion of very poor assets at around 37%.

In Scenario 3, the anticipated annual budget needed to achieve PLOS was determined to be $517K for renewal, rehab and replacement activities, which eliminates all very poor assets by 2030. For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 6-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

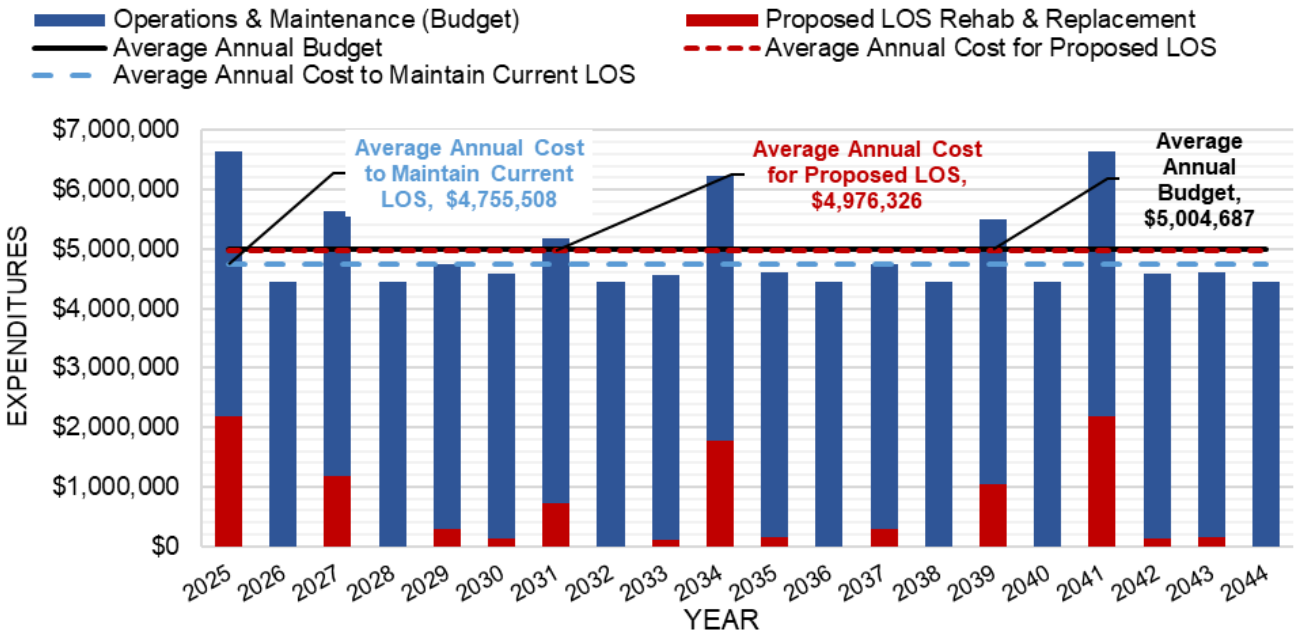


Figure 6-5. Emergency Services Scenario Comparison

There is a "backlog" included in the year 2025, which represents the cumulative backlog of deferred work that has accumulated and is needed to be complete. By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

The City's anticipated budget has been developed to meet the proposed LOS and includes increases of up to 20% to "catch up" to required expenditures up to 2030. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) or to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in Emergency Services are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 6-6.

Table 6-6. Emergency Services Network Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$4,459,000	$4,459,000	$4,459,000
Renewal, Rehabilitation & Replacement	$545,687	$296,508	$517,326
Total Expenditures	**$5,004,687**	**$4,755,508**	**$4,976,326**
Average Annual Funding Gap		**No Gap**	**No Gap**

The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. By fully funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets.

6.5 Data Confidence and Improvement Plan

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

Table 6-7. Data Confidence – Emergency Services

Data Source	Data Confidence
Export from Fire Software Staff Feedback on Data	Fair

6.5.1 Recommendations for Improvements

A thorough review and update of the data for Emergency Services is required. Much of the information provided had gaps, which were attempted to be filled by staff at the time of development of this AMP.

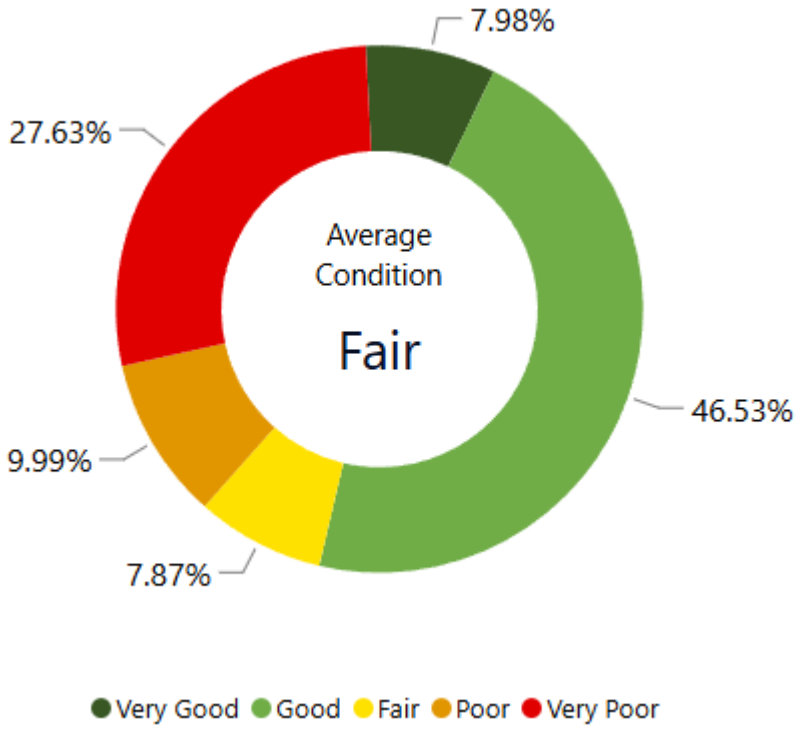
Once complete, the resulting inventory should be used and maintained on an on-going basis. Ensuring accurate and comprehensive data is crucial for effective planning and resource allocation. By updating information such as installation dates, and replacement costs, they City can better assess its emergency services infrastructure and make informed decisions for maintenance and improvements. Review for completeness will help identify any gaps or inconsistencies in the data, allowing for more reliable basis for decision-making. This proactive approach can contribute to the overall efficiency and effectiveness of emergency services within the City. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

7 Facilities

Replacement Value

$240,700,000

Overall Average Asset Condition



Quick Facts

Facilities has:

- 31 different Facilities throughout the City
- Various public facilities including museum and recreation buildings

7 Facilities

The City of Port Colborne owns and operates 31 buildings ranging from municipal work sites to buildings that provide recreation and leisure to residents. Facilities can provide several benefits to a community's sense of belonging and well-being. Facilities like the Library and Museum can provide meeting places for residents. Recreation buildings such as community centres and athletic fields offer health and wellness benefits allowing residents to gather and move their bodies.

7.1 State of the Infrastructure

The methodology to represent state of the infrastructure information for this AMP were adjusted from the 2024 AMP to provide a more accurate assessment, which includes:

- Updated and inflated replacement costs (2025 dollars)
- Conditions were assigned to assets based on age and estimated service life if condition assessment data was not available.

7.1.1 Asset Inventory and Valuation

There are several different facility types including a grain terminal, museum, fire, marina, library, corporate services, economic development, recreation and public works facilities. In total the City has 32 buildings, with a total estimated replacement value of $240 million. Table 7-1 below details the inventory and the current estimated replacement value by asset type.

Table 7-1. Asset Inventory and Current Replacement Value - Facilities

Service Group	Facility Name	Gross Floor Area (sf)	FCI	2025 Estimated Replacement Value
Corporate Services	Animal Shelter	1,260	5	$504,000
Corporate Services	City Hall	21,700	2.6	$14,690,900
Economic Development	Tour & Info	1,750	1.9	$1,130,500
Fire	Fire Station #2	3,610	2.8	$2,321,230
Fire	Killaly Fire Hall	17,427	0.7	$11,205,561
Grain Terminal	Grain Terminal	172,260	13.4	$43,581,780

Service Group	Facility Name	Gross Floor Area (sf)	FCI	2025 Estimated Replacement Value
Library	Library	12,040	3	$7,043,400
Marina	Marina Supply Store	4,050	7.8	$2,616,300
Marina	Sugarloaf Marina	9,500	6.3	$6,137,000
Museum	Arabella's Tearoom	1,494	14.8	$995,004
Museum	Museum Heritage Resource Centre (Museum Sharpe)	3,600	0.9	$2,397,600
Museum	Museum William's Home	2,208	5.4	$1,470,528
Museum	Roselawn Heritage	26,480	3.6	$17,635,680
Museum	Museum LR Wilson Archives	2,990	UNK	$1,196,000
Public Works	Johnson Pumping	330	182.4[4]	$99,000
Public Works	PCOC BCA (Operations Center)	38,400	1.8	$22,464,000
Recreation	Athletic Field BCA - Draft (Washroom)	1,800	7.7	$720,000
Recreation	Bandshell BCA Draft	1,900	3.5	$760,000
Recreation	Bethel Community Centre	6,275	32.7	$3,413,600
Recreation	Centennial Park (Washroom)	522	10.4	$208,800
Recreation	Elizabeth Street (Thomas A Lannan Washrooms)	1,900	1.4	$760,000
Recreation	Fielden Avenue (Washroom)	406	0	$162,400
Recreation	Harbour Master	350	12.6	$140,000
Recreation	Lions Club Field (Cantenne & Kitchen)	1,400	3.4	$560,000
Recreation	Lock 8 Washrooms	512	5.3	$204,800
Recreation	Lockview (Washroom)	572	59.6	$228,800
Recreation	Sherkston CC	5,050	16.6	$2,747,200
Recreation	Tennis Courts (Washroom)	1,900	0	$760,000
Recreation	Vale Health & Wellness Centre	145,443	3.8	$93,956,178
Recreation	Lock 8 Gateway Park Pavilion	1,130	UNK	$113,000
Recreation	Nickle Beach Portable Washrooms	1,000	UNK	$472,500
Total				**$240,695,761**

[4] Based on results of BCA, Johnson Pumping Station would be more costly to repair than it is to replace the facility.

It should be noted that the conditions provided in the valuation table are evaluated based on the FCI of the facility which is calculated based on aggregating the total cost of any outstanding needs in relation to the total replacement value of the facility. This information has been provided to have a complete view of the overall facility, and the remainder of the analysis for facilities is based on the building condition assessments at the component level for all facilities, where available. How condition is assigned based on FCI (in Table 7-1) and for the components based on the building condition assessments, can be found in Table 7-2.

The component-level data is derived from the Building Condition Assessments (BCAs) which the City completed in 2022-2023, which provide detailed evaluations of the condition and replacement needs of individual facility components. By analyzing the component level, a more granular and accurate understanding of rehabilitation and replacement priorities can be achieved and provides a more accurate forecast of the facility needs.

It is important to note that the replacement values of the facilities are not a direct aggregation of the replacement costs for the individual components of these facilities. The overall cost to replace an entire facility is higher than the sum of replacing individual components separately. This higher costs consider factors such as demolition, land acquisition, and other complexities that may arise when replacing an entire facility rather than its parts.

Efforts have been made by staff to update the replacement values of the facilities based on known replacement costs per square foot. Insurance values, and other estimators have been noted as being too low in some cases, so this analysis was required to update replacement values to reflect present day costs and pressures being seen within the industry.

7.1.2 Asset Condition

The information noted above was for the overall building condition assessment and replacement values, provided for reference. The remainder of the analysis for this AMP is based on the component information provided by the building condition assessments. The overall condition of Facilities components by replacement value can be seen below in Figure 7-1 and Figure 7-2.

Table 7-2. Condition Rating Scale – Facilities

Condition	Overall: FCI Range	Component: Condition Score
Very Good		1
Good	0-5%	2
Fair	5-10%	3
Poor	10-20%	4
Very Poor	>20%	5
Unknown		

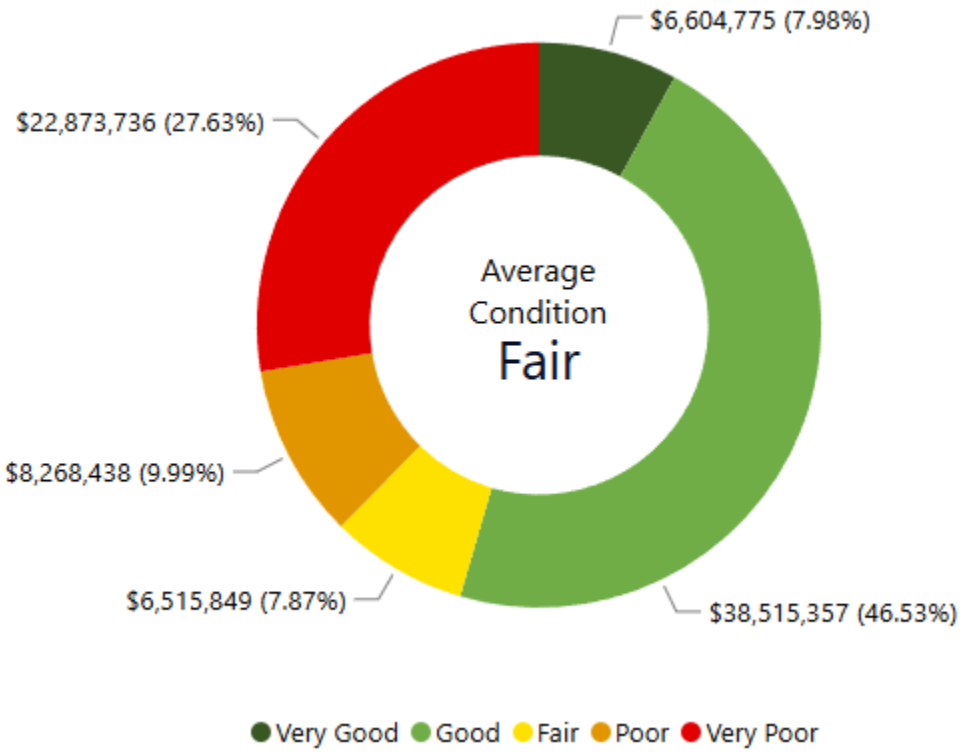


Figure 7-1. Asset Condition by Replacement Value – Facilities

Facilities are on average in **Fair** condition, with approximately 62% of assets in fair or better condition. The breakdown of condition by replacement value for each asset type can be seen in Figure 7-2.

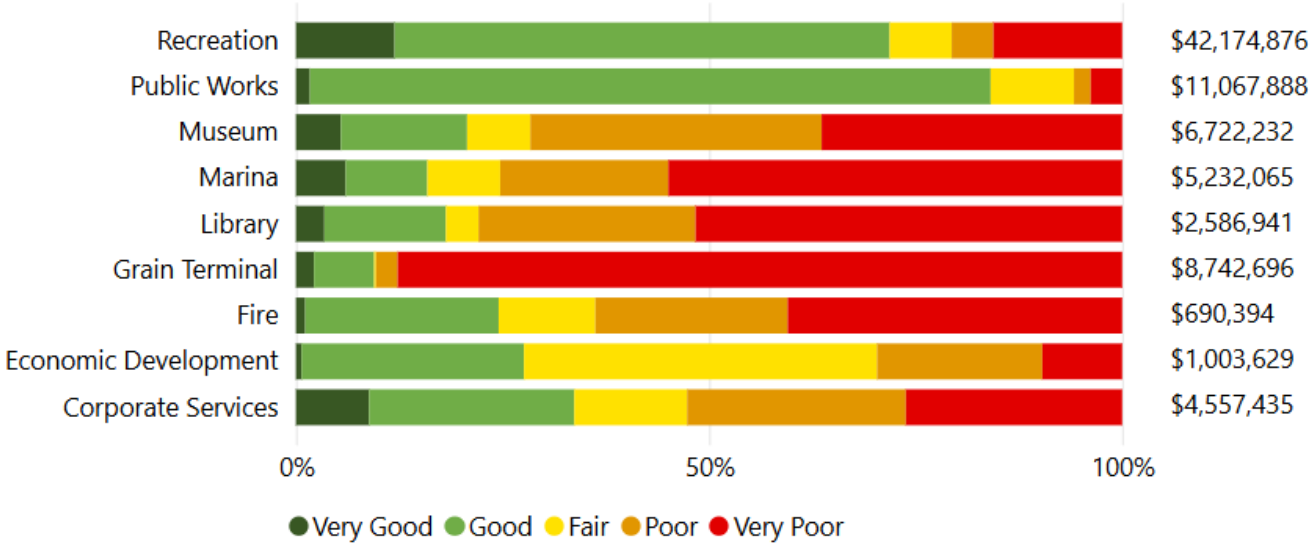


Figure 7-2. Asset Type Condition by Replacement Value – Facilities

Figure 7-2 shows that the Grain Terminal is largely in very poor condition, otherwise, Facilities assets are generally in fair or better condition.

7.1.3 Average Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Facilities. Figure 7-3 below shows the average age compared to the average estimated service life for all Facilities asset groups.

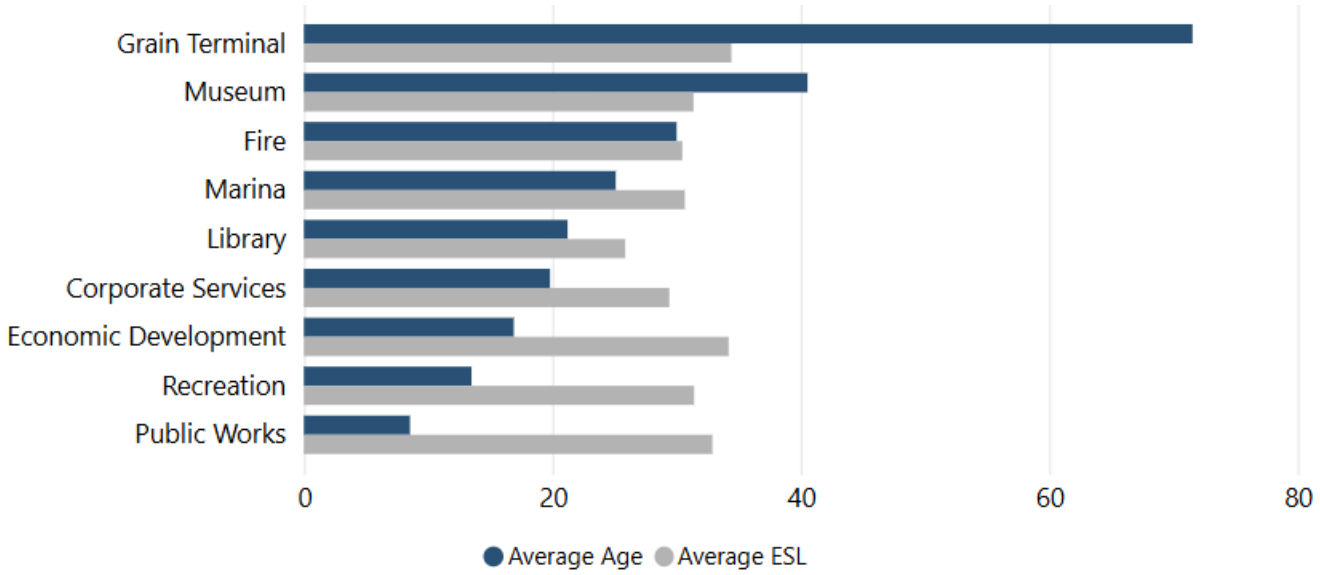


Figure 7-3. Average Age and Average Estimated Service Life - Facilities

All asset groups have age information. Most Facility asset groups have an average age that is lower than its ESL. The Museum and Grain Terminal both have an average age older than its estimated service life. While this could suggest that these assets need replacement, we have building condition assessments for information on actual condition. The Grain Terminal is past its service life, being in mostly very poor condition. This building is to be torn down in future as it is no longer serving the community. At least one Museum building is a designated heritage building, so a higher age is in line with this designation.

7.2 Levels of Service

Service Statement: City facilities include services such as infrastructure management, recreation, economic development, and administration. The City aims to keep facilities that are well-maintained, safe, and meet the needs of the community.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 7-3 and Table 7-4 provide a summary of the community and technical levels of service metrics for the City's Facilities. There are no metrics for this asset category that are required by O.Reg. 588/17. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Facilities assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 7-3. Community Level of Service– Facilities

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	7%	Maintain	↔

Table 7-4. Technical Level of Service– Facilities

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Accessible & Reliable	Percent of facilities above target FCI (target is FCI is less than 10%)	35%	Decrease	↘
Accessible & Reliable	Percent of replacement value facility assets in very poor condition	27.63%	0%	↘
Accessible & Reliable	Gross Square Footage	7,944,608	Maintain	↔
Sustainable	Annual GHG emissions	2,096 tonnes CO_2 equivalent	Decrease	↘

7.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within Facilities.

7.3.1 Lifecycle Activities

Lifecycle activities for Facilities assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset, from planning and design to decommissioning or repurposing. These activities ensure that Facilities assets continue to provide the intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Table 7-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 7-5. Asset Management Practices and Associated Frequency – Facilities

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Roof inspection program	• As required
• Condition assessment	• On-going
• Hazardous material assessment (asbestos, etc.)	• As required
• Master Plan	• Future (to be assessed with Parks Master Plan)
Operations & Maintenance Activities	
• Reactive and Preventative Maintenance	• As required
• Health & Safety Inspections	• Monthly
Renewal/Replacement Activities	
• Replacement of major facility components	• As identified
• Replacement of other facility components based on condition performance score	• As identified
Disposal Activities	
• Tenders pertaining to facility equipment (recycling requirements)	• As required
Service Improvement & Growth Activities	
• New facilities	• As identified
• Equipment upsizing	• As identified
• Expansion	• As identified
• Interior renovations	• As identified
• New technology	• As identified

7.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies Section 7.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2024 and 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs, with the exception of water assets, and the Grain Terminal for facilities, to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.
- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 7-4.

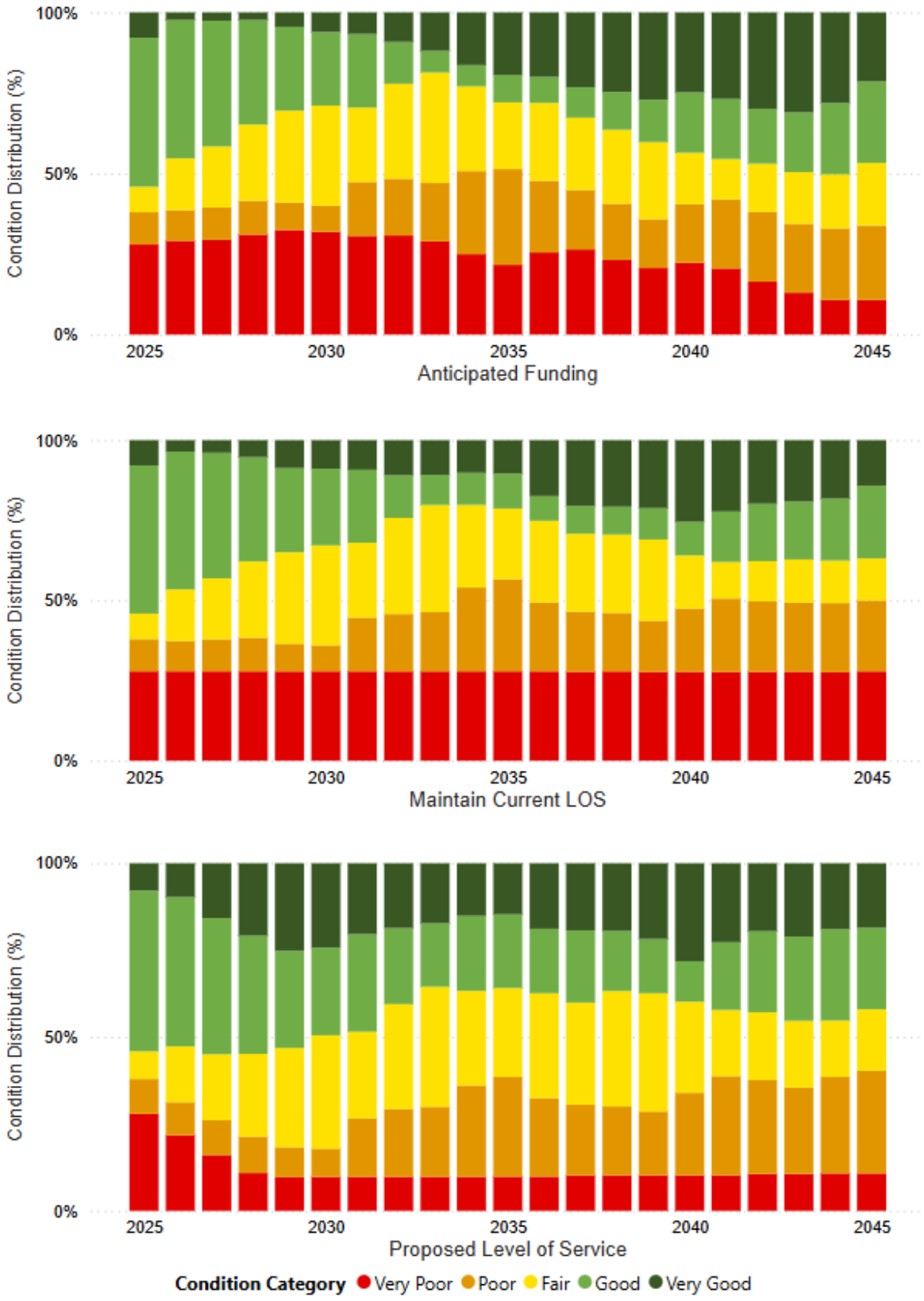


Figure 7-4. Condition Profile for Service Level Scenarios – Facilities

Figure 7-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the facilities assets was determined to be approximately $3.3M, which reduces amount of assets in very poor condition from 28% to 11% by the end of the 20-year period.

In the Current LOS scenario, the anticipated annual funding required for facilities assets is approximately $2.4M for renewal, rehab and replacement activities, which maintains the proportion of assets in very poor condition at 28%.

In Scenario 3, the anticipated annual budget needed to achieve PLOS was determined to be $3.4M for renewal, rehab and replacement activities. This will reduce the amount of assets in very poor condition from 28% to 10% by 2030 and then maintain it at 10% for the rest of the period. It is anticipated that the Grain Terminal will be the only remaining asset with Very Poor condition components by 2030. For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 7-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

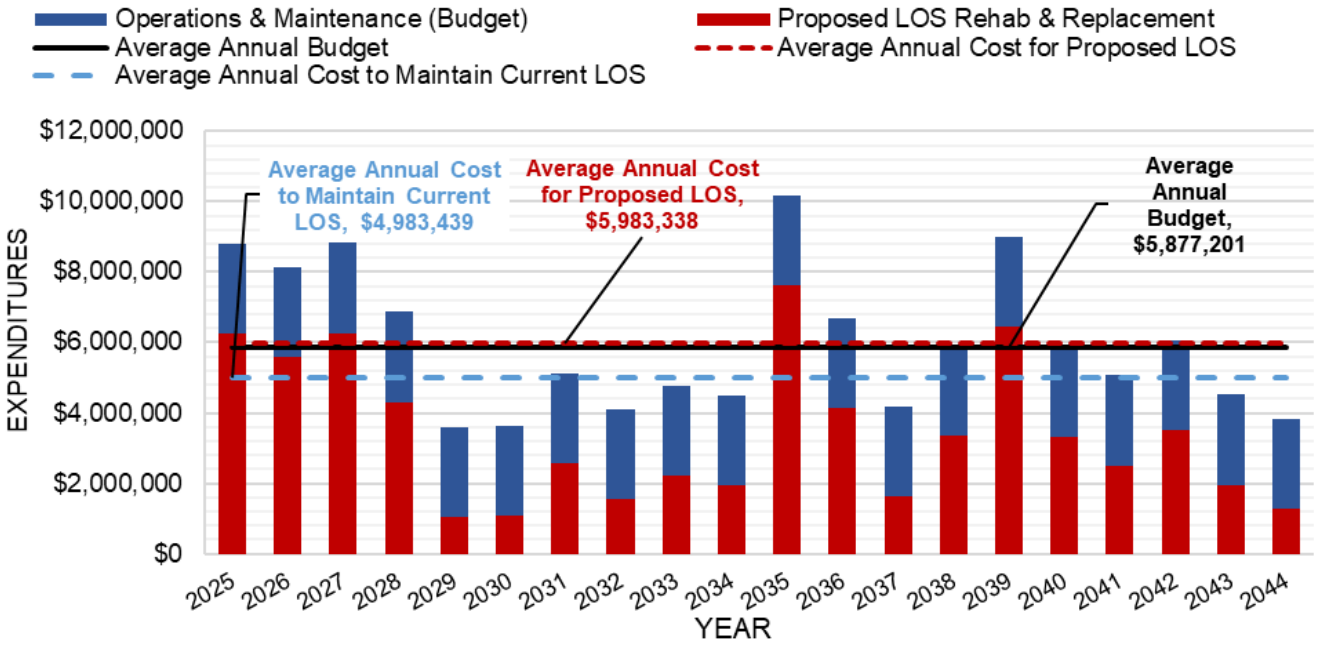


Figure 7-5. Facilities Scenario Comparison

Continued deferrals of projects will also lead to significantly higher operational and maintenance costs and will affect the availability of services in the future. Properly funded and timely renewals will ensure the assets perform as expected and it is recommended to continue to analyze asset renewals based on criticality and availability of funds for future AM Plans.

By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

The City's anticipated budget has been developed to meet the proposed LOS and includes increases of up to 30% to "catch up" to required expenditures up to 2034. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) and a minimal gap of $100K annually to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in Facilities are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 7-6.

Table 7-6. Facilities Network Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$2,554,530	$2,554,530	$2,554,530
Renewal, Rehabilitation & Replacement	$3,322,671	$2,428,909	$3,428,808
Total Expenditures	**$5,877,201**	**$4,983,439**	**$5,983,338**
Average Annual Funding Gap		**No Gap**	**$106,138**

The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. By fully funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more analysis is completed on the building condition assessments.

7.5 Data Confidence and Improvement Plan

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

Table 7-7. Data Confidence - Facilities

Data Source	Data Confidence
2022-2023 Building Condition Assessments	Good

7.5.1 Recommendations for Improvements

The building condition assessments completed over the 2022-2023 period have been used this AMP. The City continues to review the recommendations in the BCAs to develop capital plans and address the needs as required. It is recommended that this information is integrated into the City's asset management systems to continue to be reviewed, and the information be maintained, as changes to assets within these facilities are completed. It is also recommended that the City, as it continues to assess the results of this study, determine if the timelines and recommended costs are valid.

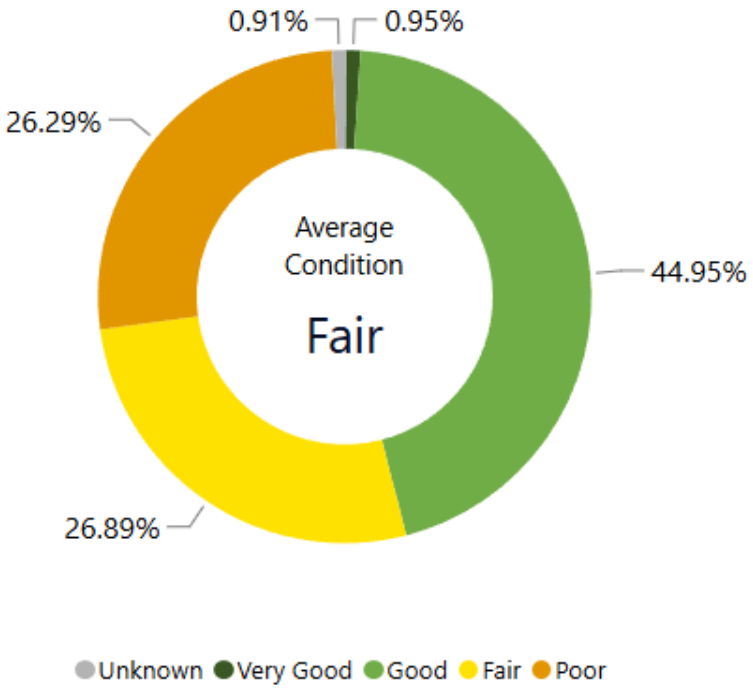
Although the information for these facilities conditions is highly reliable for the component information, the overall replacement values of the facilities was determined to be too low, so was updated for the purposes of this AMP to reflect more realistic replacement values. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

8 Fleet and Equipment

Replacement Value

$10,938,520

Overall Average Asset Condition



Quick Facts

Fleet and Equipment has

- 46 Fleet including heavy duty, medium duty and passenger vehicles
- 69 Equipment assets including small equipment, trailers, medium and heavy duty equipment.

8 Fleet and Equipment

Fleet and Equipment assets allows staff to deliver municipal services to residents. Fleet and Equipment assets supports several services areas in the City of Port Colborne including Roads, Parks, Water and Wastewater, Marina, Bylaw, Community Service and Building Maintenance. The City manages 46 Fleet assets and 69 different equipment assets. These assets allow staff to provide services in a safe and efficient manner throughout the City.

8.1 State of the Infrastructure

8.1.1 Asset Inventory and Valuation

Fleet and Equipment has a total estimated replacement value of approximately $11.2 million. Table 8-1 below details the inventory and the current estimated replacement value by asset type.

Table 8-1. Asset Inventory and Current Replacement Value – Fleet and Equipment

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Equipment			
Attachment	19	Units	$501,685
Heavy Duty	5	Units	$1,573,682
Medium Duty	10	Units	$856,445
Small Equipment	16	Units	$727,075
Trailer	15	Units	$275,866
Fleet			
Heavy Duty	11	Units	$4,585,082
Medium Duty	7	Units	$700,700
Passenger Vehicles	28	Units	$1,996,737
Total			**$11,271,274**

The fleet asset inventory was developed based on the City's asset listing maintained in a spreadsheet to plan for capital replacements. It is recommended that the City identify the "source of truth" for these assets for the inventory and ensure that there is someone assigned to maintain this information on an on-going basis.

8.1.2 Asset Condition

Knowing the condition of assets is an important part of asset management, as it helps us determine when assets might need to be replaced and supports short- and long-term planning. Condition was assigned to Fleet assets through staff inspections and Equipment assets using age. It is recommended that staff define the methodology for how condition is assigned to ensure that this methodology is applied using the same logic in future asset planning initiatives. A description of the condition ratings scale can be found in Table 8-2.

Table 8-2. Condition Rating Scale – Fleet and Equipment

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

The overall condition distribution for Fleet and Equipment assets by replacement value is shown below in Figure 8-1 and Figure 8-2.

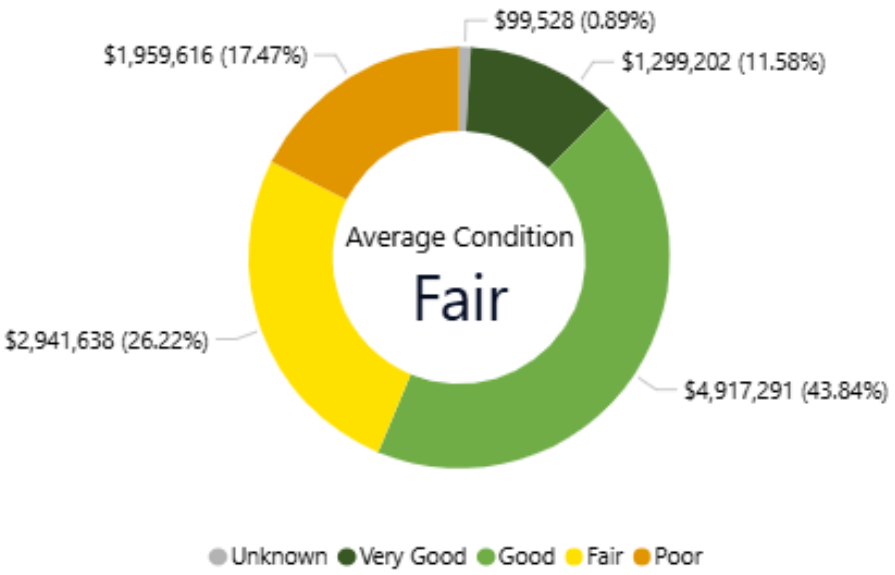


Figure 8-1. Asset Condition by Replacement Value – Fleet and Equipment

Fleet and Equipment assets are on average in **Fair** condition, with approximately 82% of assets in fair or better condition. The breakdown of condition by replacement value for each asset type can be seen in Figure 7-2.

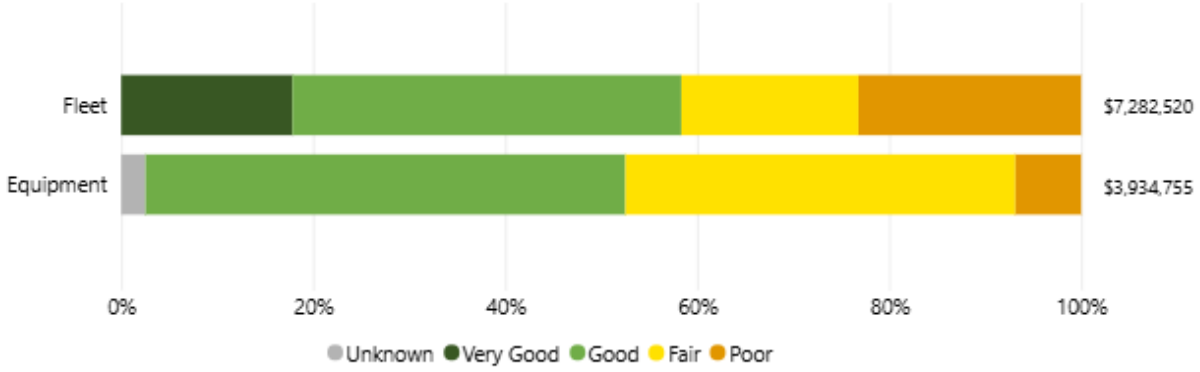


Figure 8-2. Asset Type Condition by Replacement Value - Fleet and Equipment

8.1.3 Asset Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Fleet and Equipment assets. Figure 8-3 shows the average age and average estimated service life for Fleet and Equipment Assets.

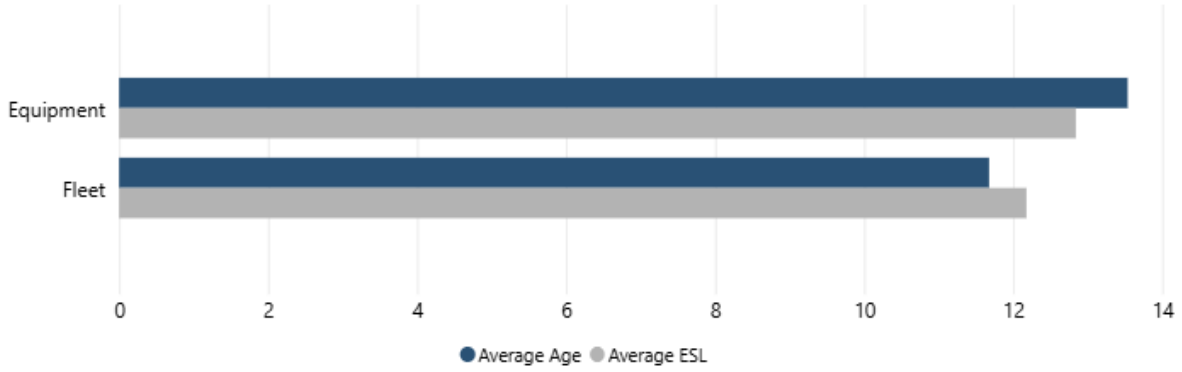


Figure 8-3. Average Age and Average Estimated Service Life – Fleet and Equipment

The average age of Fleet is below the average estimated service life and the average age of Equipment assets are slightly above the average estimated service life. However, regular condition assessments have shown that most of these assets are in fair or better condition, and that they are capable of providing reliable service past their ESL.

8.2 Levels of Service

Service Statement: Fleet and Equipment help the City keep operations running smoothly and efficiently to provide services to the community.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 8-3 and Table 8-4 provide a summary of the community and technical levels of service metrics for the City's Fleet and Equipment. There are no metrics for this asset category that are required by O.Reg. 588/17. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Fleet and Equipment assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 8-3. Community Level of Service– Fleet and Equipment

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	3%	Maintain	↔

Table 8-4. Technical Level of Service– Fleet and Equipment

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Sustainable	# of Electric Vehicles	0	Increase	↗
Sustainable	Annual GHG emissions	429 tonnes CO_2 equivalent	Decrease	↘
Sustainable	# of public charging stations	0	Increase	↗

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Cost Efficient	Percent of value of fleet assets in very poor condition	0%	0%	↔
Accessible & Reliable	Percent of dedicated fleet vehicles beyond estimated useful life	28.36%	Decrease	↘

8.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within Fleet and Equipment.

8.3.1 Lifecycle Activities

Lifecycle activities Fleet and Equipment assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset. These activities ensure that Fleet and Equipment assets continue to provide the intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Table 8-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 8-5. Asset Management Practices and Associated Frequency – Fleet and Equipment

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Condition assessments, feasibility studies, management plans	• Annually
• MTO inspections	• Annually
• Planning, collision review committee	• As required, quarterly review
Operations & Maintenance Activities	
• Seasonal inspections on seasonal equipment	• Seasonal
• Third party inspections (crane/hoists, compressor)	• As required
• In-house inspections	• As required
• Reactive maintenance and repairs	• As required
• Daily inspections	• Daily
• Health and Safety inspections	• Monthly
• Preventative maintenance (cranes/hoists, compressors)	• Annually
• Preventative maintenance schedule by class of vehicle (in-house and external)	• On-going
• Reactive maintenance for Fleet (damage, accidents, breakdowns)	• Daily
• Spraying of vehicles	• Annually
• Vehicle refurbishments	• As identified
Renewal/Replacement Activities	
• Renewal activities for equipment	• As required
• Equipment replacement	• On-going
• Fleet replacement	• As identified; End of life
Disposal Activities	
• Equipment Disposal	• On-going, as needed

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
• Fleet - sell/auction	• As identified
• Fleet - keep for spare parts	• As required
• Fleet - sell to department	• As required
• Fleet - scrap	• As identified
Service Improvement & Growth Activities	
• Fleet additions/upgrades requiring new equipment	• As identified
• New Assets	• As identified
• Vehicle upgrade	• As identified

8.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies Section 0 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2024 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.
- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 8-4.

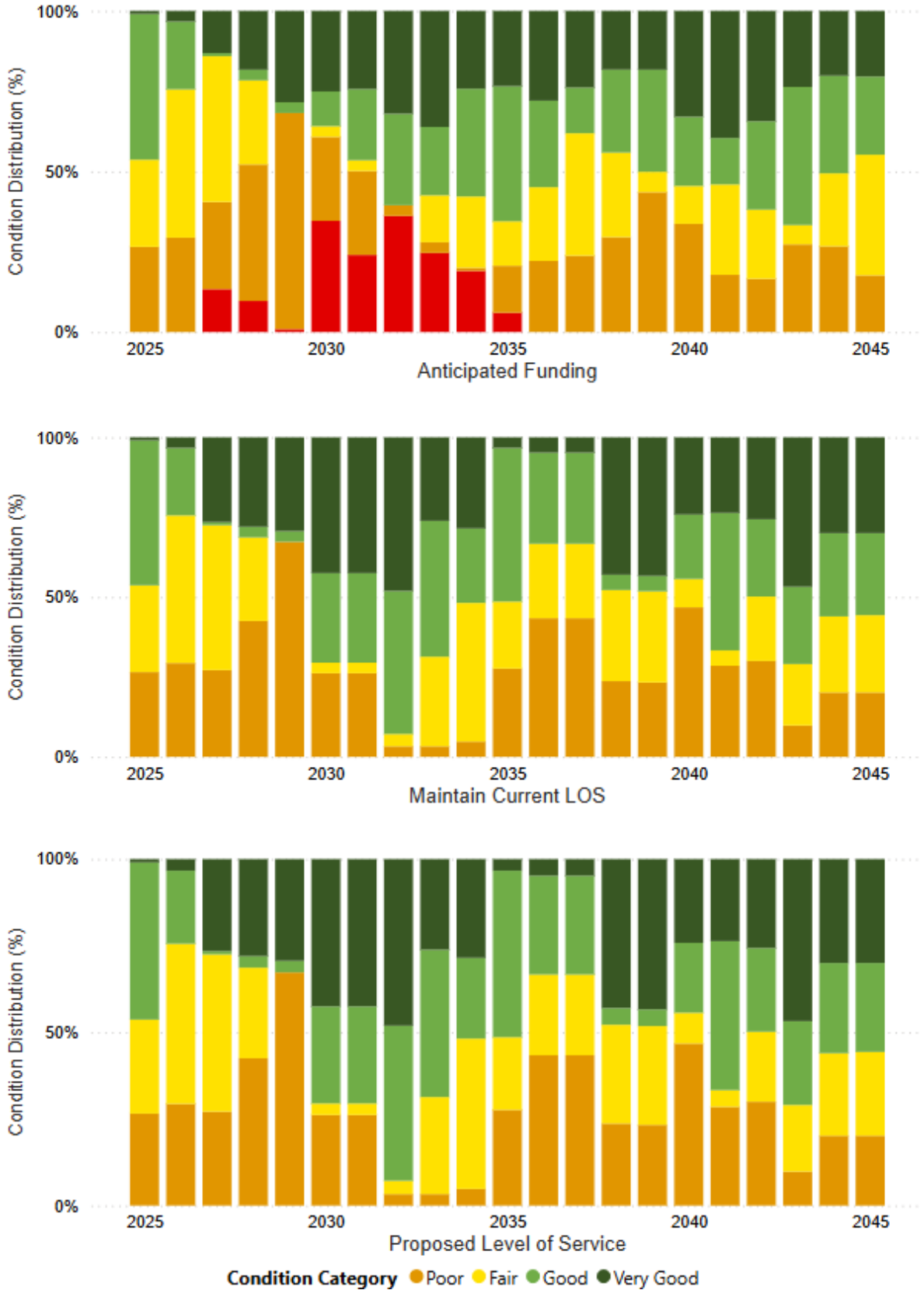


Figure 8-4. Condition Profile for Service Level Scenarios - Fleet and Equipment

Figure 8-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the fleet and equipment assets was determined to be approximately $1.1M. The percentage of assets in very poor condition increase and decrease between 2027 and 2035 with the anticipated budget decreasing with minor increased fluctuations.

In the Current LOS scenario, the anticipated annual funding required for fleet and equipment assets is approximately $1.1M for renewal, rehab and replacement activities. The condition distribution shows that the overall condition of the fleet and equipment assets, has negligible assets in very poor condition, as needed by assets in this service area, which is why the spending required for this scenario is about equal to the Anticipated Budget Scenario and Proposed LOS scenario. It is the goal of the City to improve asset condition beyond what it currently is now.

For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan. Similar to Scenario 2, in Scenario 3, the anticipated annual budget needed for this scenario (to achieve PLOS) was determined to be $1.1M for renewal, rehab and replacement activities.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 8-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

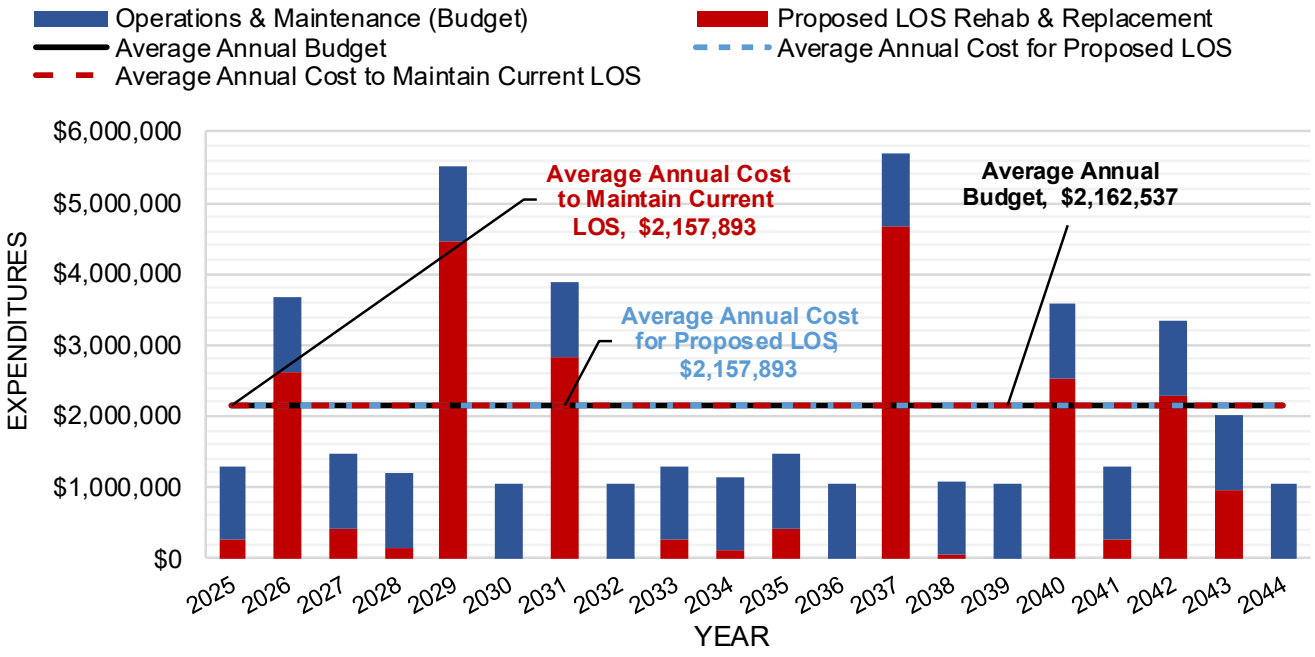


Figure 8-5. Fleet and Equipment Scenario Comparison

By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

Table 8-6. Fleet and Equipment Network Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$1,045,577	$1,045,577	$1,045,577
Renewal, Rehabilitation & Replacement	$1,116,960	$1,112,316	$1,112,316
Total Expenditures	**$2,162,537**	**$2,157,893**	**$2,157,893**
Average Annual Funding Gap		**No Gap**	**No Gap**

The City's anticipated budget has been developed to meet the proposed LOS and includes increases of up to 20% to "catch up" to required expenditures up to 2030. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) or to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in Fleet and Equipment are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 8-6.

The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. By fully funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets.

8.5 Data Confidence and Improvement Plan

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

Table 8-7. Data Confidence – Fleet and Equipment

Data Source	Data Confidence
Spreadsheet	Good

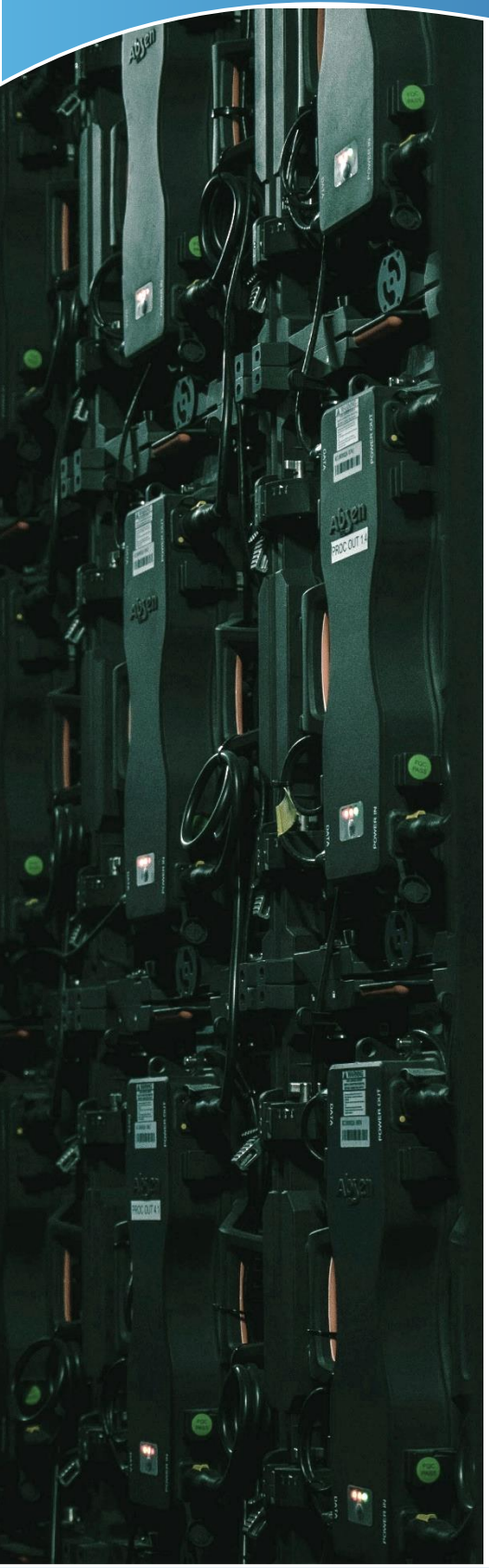
8.5.1 Recommendations for Improvements

Only minor gaps in the fleet data were found, which it is recommended the City update. It is also recommended that the City, as part of data management strategy identify the "source of truth" for fleet and equipment assets and identify responsible parties for the maintenance of this information. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing

asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

Implementing a computerized maintenance management system to document work orders and money being spent on fleet assets is recommended to better inform the condition of assets and to better prioritize replacements based on a developed methodology, or based on estimated service life.

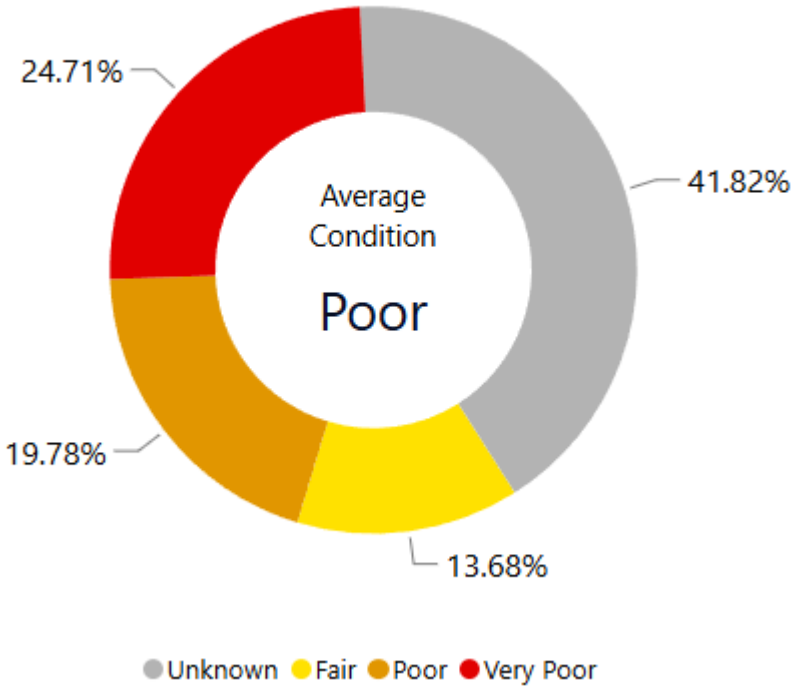
9 Information Technology



Replacement Value

$1,539,881

Overall Average Asset Condition



Quick Facts

Information Technology has

- Hardware and software assets supporting various service delivery groups throughout the City

9 Information Technology

Information Technology assets support most other asset categories in this plan. The Hardware and Software assets are used by other service groups to help deliver services throughout the City. Managing these assets helps ensure that reliable service is provided for residents.

9.1 State of the Infrastructure

9.1.1 Asset Inventory and Valuation

Information Technology includes a variety of hardware and software with a total estimated replacement value of $1.5 million. Table 9-1 below details the inventory and the current estimated replacement value by asset type.

Table 9-1. Asset Inventory and Current Replacement Value – Information Technology

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Hardware			
Access Control Systems	26	Units	$10,226
Mid-range Servers	9	Units	$152,931
Routers and Switches	44	Units	$43,634
Security Cameras	87	Units	$112,115
Smartphones	99	Units	$119,536
Standard Computers	310	Units	$612,560
Televisions	31	Units	$38,688
Uninterruptable Power Supply	4	Units	$10,822
Wireless Access Points	48	Units	$20,353
Software			
On Premise	12	Units	$99,632
SaaS	26	Units	$319,380
Total			**$1,539,877**

City staff worked to compile an inventory of assets for the purposes of this AMP. It is recommended that the City continue to improve this information and fill gaps where identified to improve the forecasting for this asset class. IT assets support the organization through a variety of services and represents an important asset category. The inventory developed for IT should be maintained on a regular basis for budgeting and reporting purposes.

9.1.2 Asset Condition

Condition was assigned to Information Technology assets using age/estimated service life. A description of the condition rating scale is shown in Table 9-2.

Table 9-2. Condition Rating Scale – Information Technology

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

The overall condition distribution for Information Technology assets by replacement value is shown below in Figure 9-1 and Figure 9-2. Many of the install dates for IT assets were unknown and therefore could not be assessed for condition. Many of these assets are replaced as needed through operating expenses but would be valuable information to maintain going forward. It should also be noted that the asset register has not been updated to reflect IT expenditures in 2024, so these assets would see improvements in overall condition.

Software is a unique asset across the City and represents a large operating expense to the City. It is recommended the City determine a strategy for planning for software as it is a continually evolving asset type as cloud, or software-as-a-service becomes more widely used in the organization.

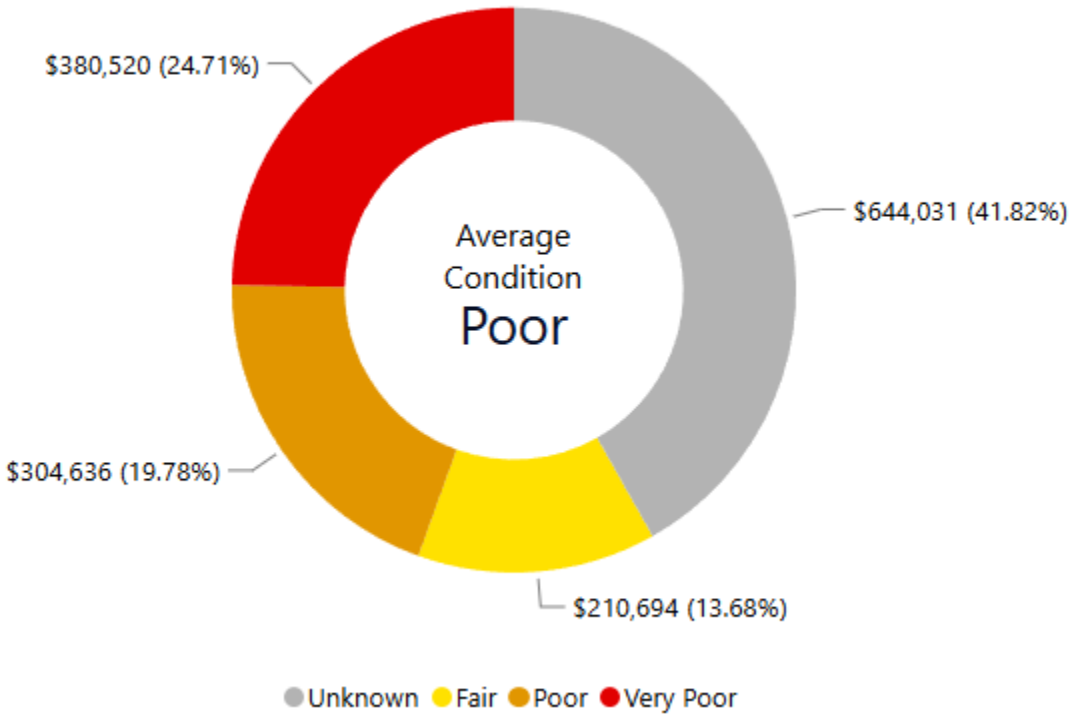


Figure 9-1. Asset Condition by Replacement Value – Information Technology

The average condition for Information Technology assets is **poor**, with less than 20% of assets in fair condition. Figure 9-2 shows that condition for all Software assets is unknown, accounting for 42% of the total condition distribution.

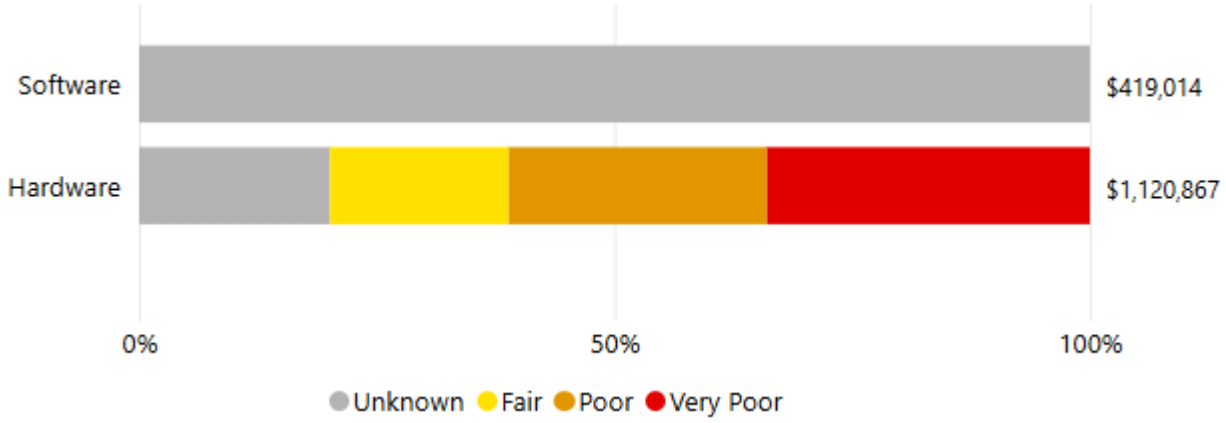


Figure 9-2. Asset Type Condition by Replacement Value – Information Technology

9.1.3 Asset Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Information Technology assets. Figure 9-3 shows the average age versus the average estimated service life for hardware assets in the City of Port Colborne.

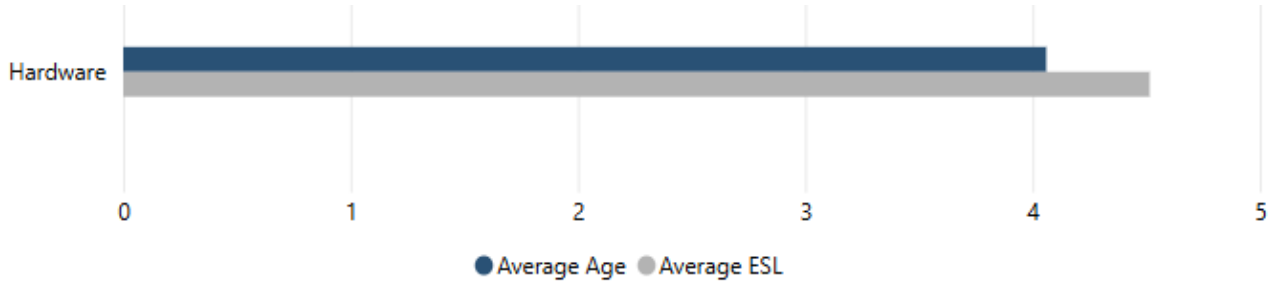


Figure 9-3. Average Age and Average Estimated Service Life – Information Technology

The average age of Hardware assets is below the average estimated service life. In general, these assets can continue to provide services to the City. The graph includes only information where age is currently known for assets. Currently age is unknown for access control systems, routers and switches, security cameras, televisions, wireless access points, and software.

9.2 Levels of Service

Service Statement: Information Technology plays a crucial role in modernizing municipal operations and improving the deliver of services to residents through data management, digital infrastructure, online services, security, and communication.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 9-3 and Table 9-4 provide a summary of the community and technical levels of service metrics for the City's Information Technology assets. There are no metrics for this asset category that are required by O.Reg. 588/17. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Information Technology assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 9-3. Community Level of Service– Information Technology

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	4%	Maintain	↔

Table 9-4. Technical Level of Service– Information Technology

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percentage of total replacement cost for IT assets past their ESL	4.95%	Decrease	↔
Accessible & Reliable	Percentage of replacement value of IT assets above very poor	24.71%	0%	↘
Accessible & Reliable	IT Staff Size	4	Increase	↗

9.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within Information Technology.

9.3.1 Lifecycle Activities

Lifecycle activities for Information Technology assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset, from planning and design to decommissioning or repurposing. These activities ensure that Information Technology assets continue to provide the intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of infrastructure assets.

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Table 9-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 9-5. Asset Management Practices and Associated Frequency – Information Technology

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Monitor recalls and updates (patching and security) on assets to ensure proper functionality, testing	• On-going
• Hardware - capacity planning, contingency and redundancy planning, master plan, other technical studies	• On-going
Operations & Maintenance Activities	
• Security risk reviews and updates	• On-going
• Support contracts and maintenance	• On-going
• Purchase of small equipment and materials	• As identified
• Hardware repairs	• As needed
• Software licensing, agreement renewals	• As needed
• Refurbishment/major upgrade	• As identified
Renewal/Replacement Activities	
• Replacement of hardware and software	• Asset end of life
Disposal Activities	
• Uninstall software	• As identified
Service Improvement & Growth Activities	
• New hardware assets, sites, employees	• As identified
• Updated/new software	• As identified
• New software technology for improvement	• As required

9.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies Section 9.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair. It should be noted that the asset register was not updated to reflect actual expenditures incurred in 2024, which may affect the accuracy of forecasts and scenario assumptions.

The City has developed the anticipated budget based on the 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP.

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of

service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.

- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 9-4.

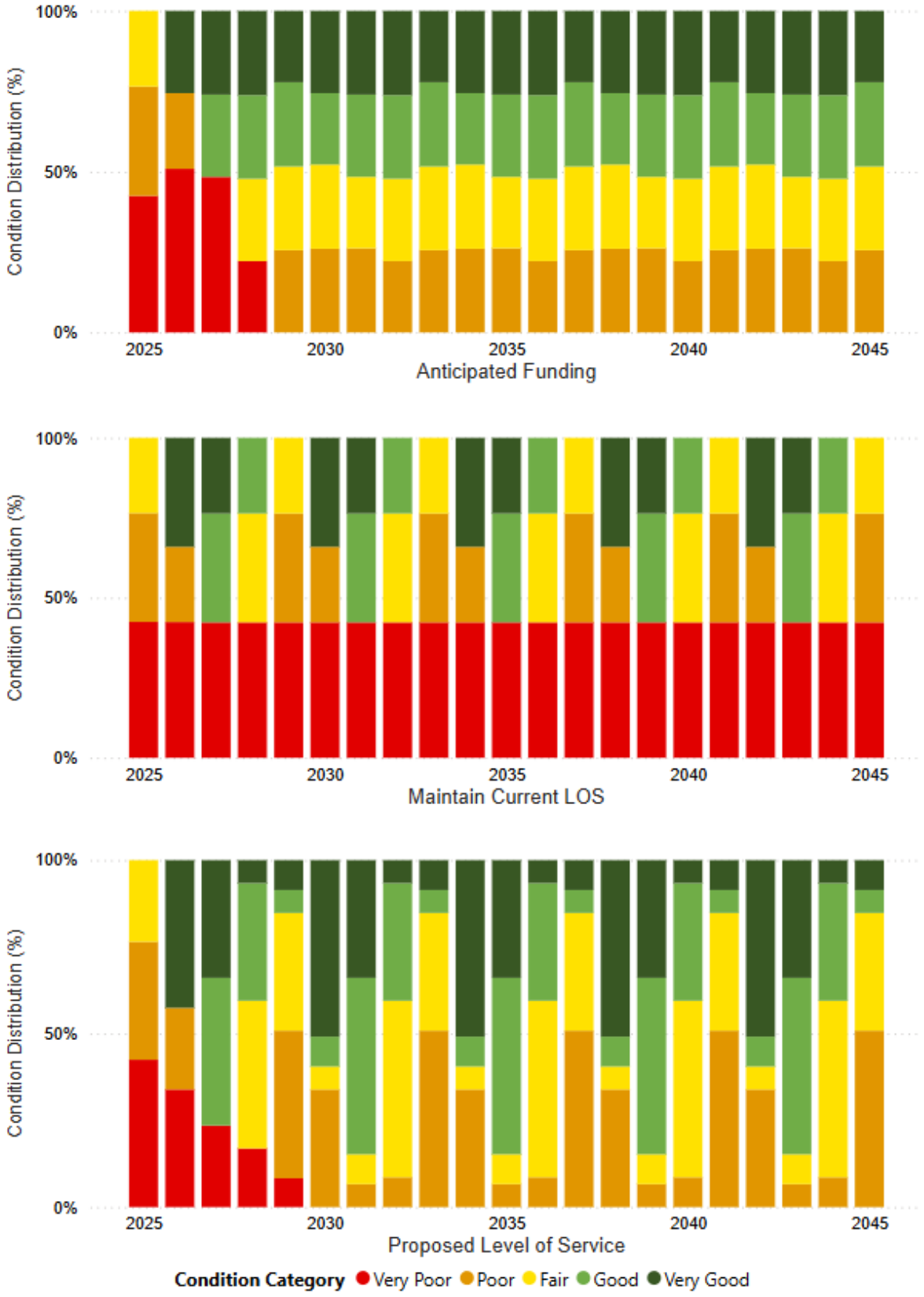


Figure 9-4. Condition Profile for Service Level Scenarios - Information Technology

Figure 9-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the IT assets was determined to be approximately $233.1k. The percentage of assets in very poor condition decreases within the first 4 years throughout the 20-year forecast period, and all other conditions stabilize with the anticipated budget incrementally fluctuating. This is a result of the short estimated service life of IT assets and expected to show the cycle of assets moving through their service lives.

In the Current LOS scenario, the anticipated annual funding required for IT assets is approximately $129.2k for renewal, rehab and replacement activities. The condition distribution shows that the overall condition of the information technology network, would maintain a portion of assets in Very Poor condition, which is why the spending required for this scenario is less than the Anticipated Budget Scenario and Proposed LOS scenario. It is the goal of the City to improve asset condition beyond what it currently is now.

For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan. In Scenario 3, the anticipated annual budget needed for this scenario (to achieve PLOS) was determined to be $220.2k for renewal, rehab and replacement activities. While very poor condition assets are eliminated within 5 years of the forecast period, the other conditions fluctuate similar to the budget fluctuations.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 9-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

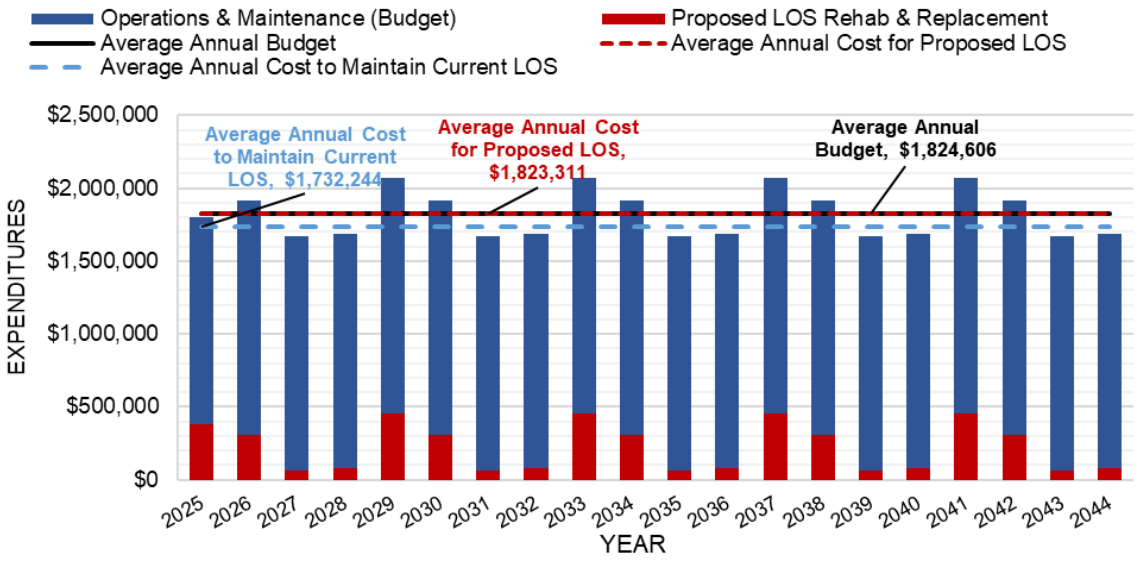


Figure 9-5. Information Technology Scenario Comparison

By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

The City's anticipated budget has been developed to meet the proposed LOS and includes increases of up to 20% to "catch up" to required expenditures up to 2030. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) or to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in Information Technology are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 9-6.

Table 9-6. Information Systems Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$1,603,066	$1,603,066	$1,603,066
Renewal, Rehabilitation & Replacement	$233,090	$129,178	$220,245
Total Expenditures	**$1,824,606**	**$1,732,244**	**$1,823,311**
Average Annual Funding Gap		**No Gap**	**No Gap**

For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. By fully funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets.

9.5 Data Confidence and Improvement Plan

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

Table 9-7. Data Confidence – Information Technology

Data Source	Data Confidence
Spreadsheet	Fair

9.5.1 Recommendations for Improvements

Staff made a concerted effort to create an inventory of all IT assets for the purposes of this AMP, which is what was used to inform all scenarios and required expenditures. It is recommended that the City continue to fill the gaps in this information and continue to maintain it. A register of current software systems for the City is also required, and represents a large portion of the expenditures required for IT.

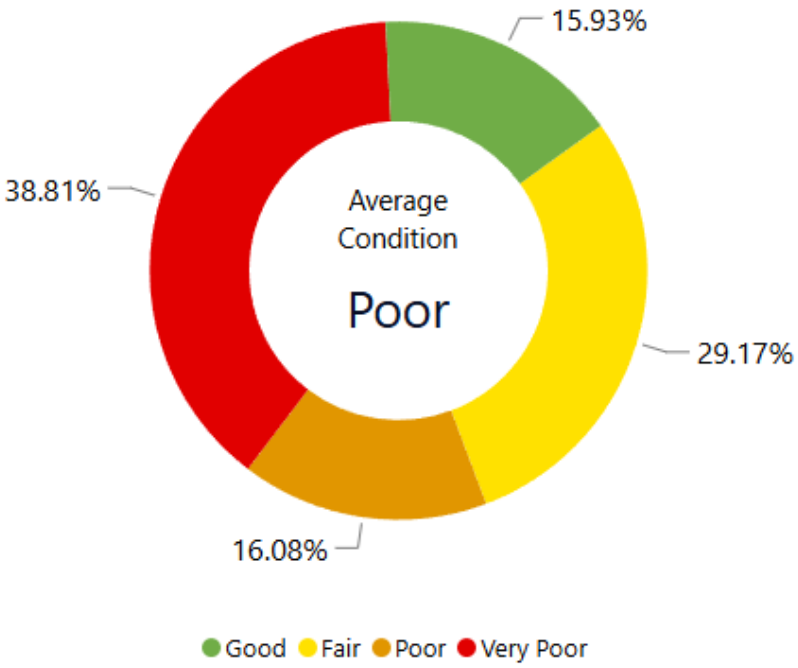
It is also recommended that the City, as part of data management strategy identify the "source of truth" for IT assets and identify responsible parties for the maintenance of this information. Ensuring accurate and comprehensive data is crucial for effective planning and resource allocation. By updating information such as installation dates, and replacement costs, they City can better assess its IT infrastructure and make informed decisions for maintenance and improvements. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

10 Library

Replacement Value

$525,613

Overall Average Asset Condition



Quick Facts

The City of Port Colborne Library

- Serves the community by providing digital and print resources, various services and programs
- Maintains the Library Collection and Office Equipment to support service delivery

10 Library

Library services proudly serves the community in the City of Port Colborne. They strive to enrich, empower, and educate through great books, services, programs, resources and more. The library is welcoming and accessible for all residents and visitors, serving as a community hub for education, culture, and social interactions. The reliability of Library assets is vital to the delivery of services by staff. Ensuring Library assets are maintained in good condition ensures the community can continue to enjoy all the services the Library has to offer.

10.1 State of the Infrastructure

10.1.1 Asset Inventory and Valuation

The Library includes library equipment and office equipment with a total estimated replacement value of $526 thousand. Table 10-1 below details the inventory and the current estimated replacement value by asset type.

Table 10-1. Asset Inventory and Current Replacement Value - Library

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Library Collection	7	Pool[5]	$305,956
Office Equipment	47	Units	$219,657
Total			**$525,613**

The library asset inventory was derived based on the Tangible Capital Asset inventory for the library based on 2022 information. It is recommended that this inventory be updated on a regular basis and an asset hierarchy be developed and used going forward for more accurate forecasting of library assets.

[5] Pool represents a collection of assets represented as a singular asset.

10.1.2 Asset Condition

Asset condition was assigned to Library assets using age/estimated service life. A description of the condition rating scale is shown in Table 10-2.

Table 10-2. Condition Rating Scale – Library

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

The overall condition distribution for Library assets by replacement value can be seen below in Figure 10-1.

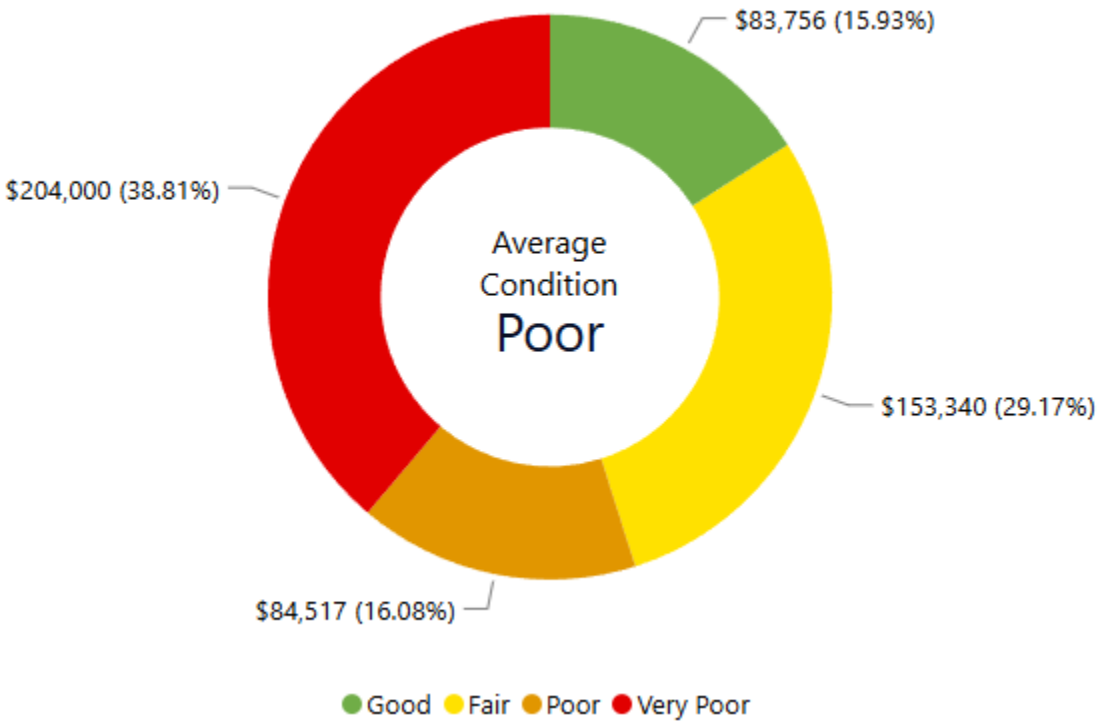


Figure 10-1. Asset Condition by Replacement Value – Library

The average condition for Library assets is **poor**, with 45% of assets in fair or better condition. The condition profiles for individual asset types can be seen in Figure 10-2.

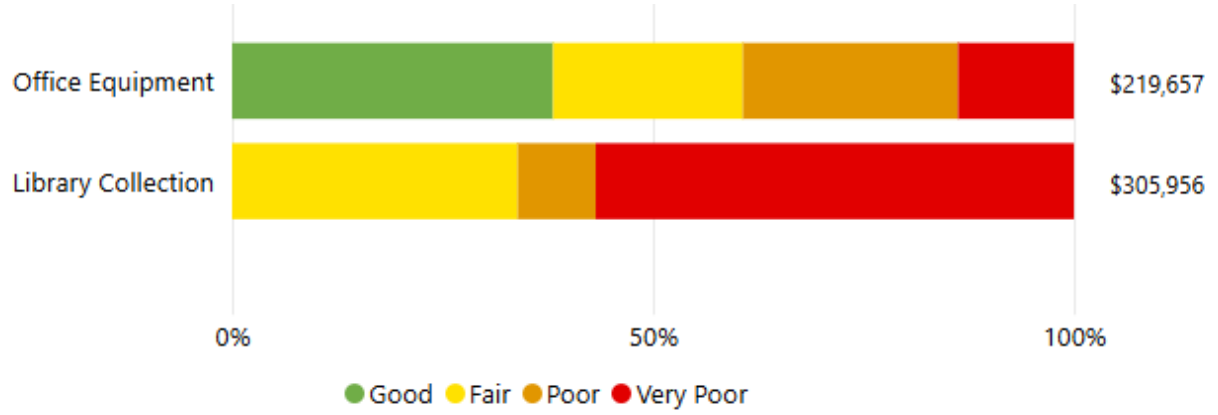


Figure 10-2. Asset Type Condition by Replacement Value - Library

Over 60% of Library Office Equipment is in fair or better condition while over half of Library Collection assets are in poor to very poor condition. Library Collections have a very short service life, which can be seen below in Section 10.1.3 Asset Age.

The library collection represents over half of the libraries assets and is continually renewed to maintain this collection. It is recommended that the City further expand on the lifecycle strategies for this collection, as well as the estimated service life to better understand the condition of these assets.

10.1.3 Asset Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Library assets. The average age of Library assets is shown below in Figure 10-3.

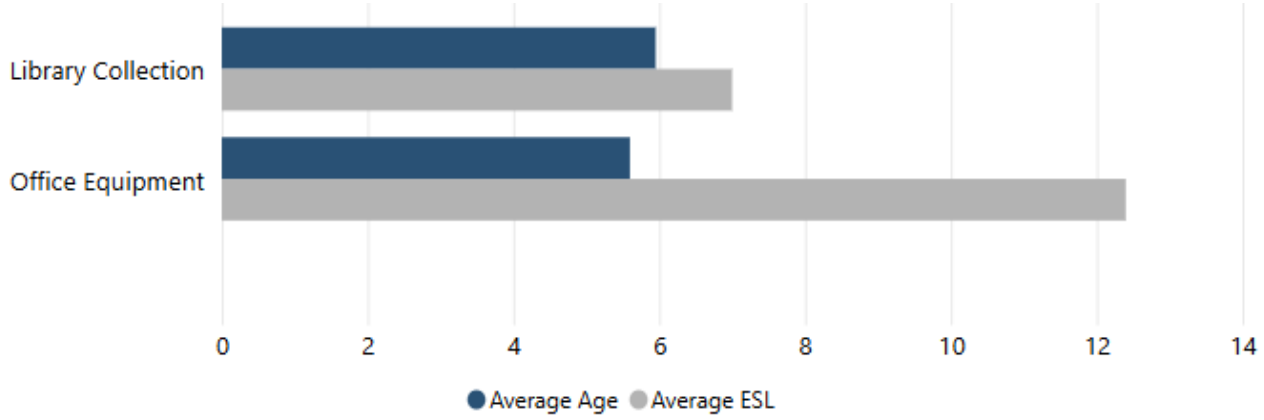


Figure 10-3. Average Age and Average Estimated Service Life – Library

The average age of Library Collection and Office Equipment assets is less than the average ESL.

10.2 Levels of Service

Service Statement: The Library serves as a community hub that fosters learning, cultural enrichment and social interaction by providing access to information, educational support, digital services, community programs, and public services.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 10-3 and Table 10-4 provide a summary of the community and technical levels of service metrics for the City's Library. There are no metrics for this asset category that are required by O.Reg. 588/17. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Library assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 10-3. Community Level of Service– Library

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	2%	Maintain	↔

Table 10-4. Technical Level of Service– Library

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Accessible & Reliable	Percentage of assets in very poor condition	38.81%	0%	↘

10.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within the Library.

10.3.1 Lifecycle Activities

Lifecycle activities for Library assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset, from planning and design to decommissioning or repurposing. These activities ensure that Library assets continue to provide the intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of assets.

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Table 10-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 10-5. Asset Management Practices and Associated Frequency – Library

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Condition assessments	• As required
• Accessibility Plan	• As required
Operations & Maintenance Activities	
• Lighting maintenance	• As required
• Planned maintenance	• As required
Renewal/Replacement Activities	
• Rehabilitation	•
• Replacement	• As required – end of service life
Disposal Activities	
• Disposal of assets	• As identified
Service Improvement & Growth Activities	
• New Assets	• In-line with asset replacement
• Accessibility Improvements/Upgrades	• As identified

10.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies Section 10.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.
- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 10-4.

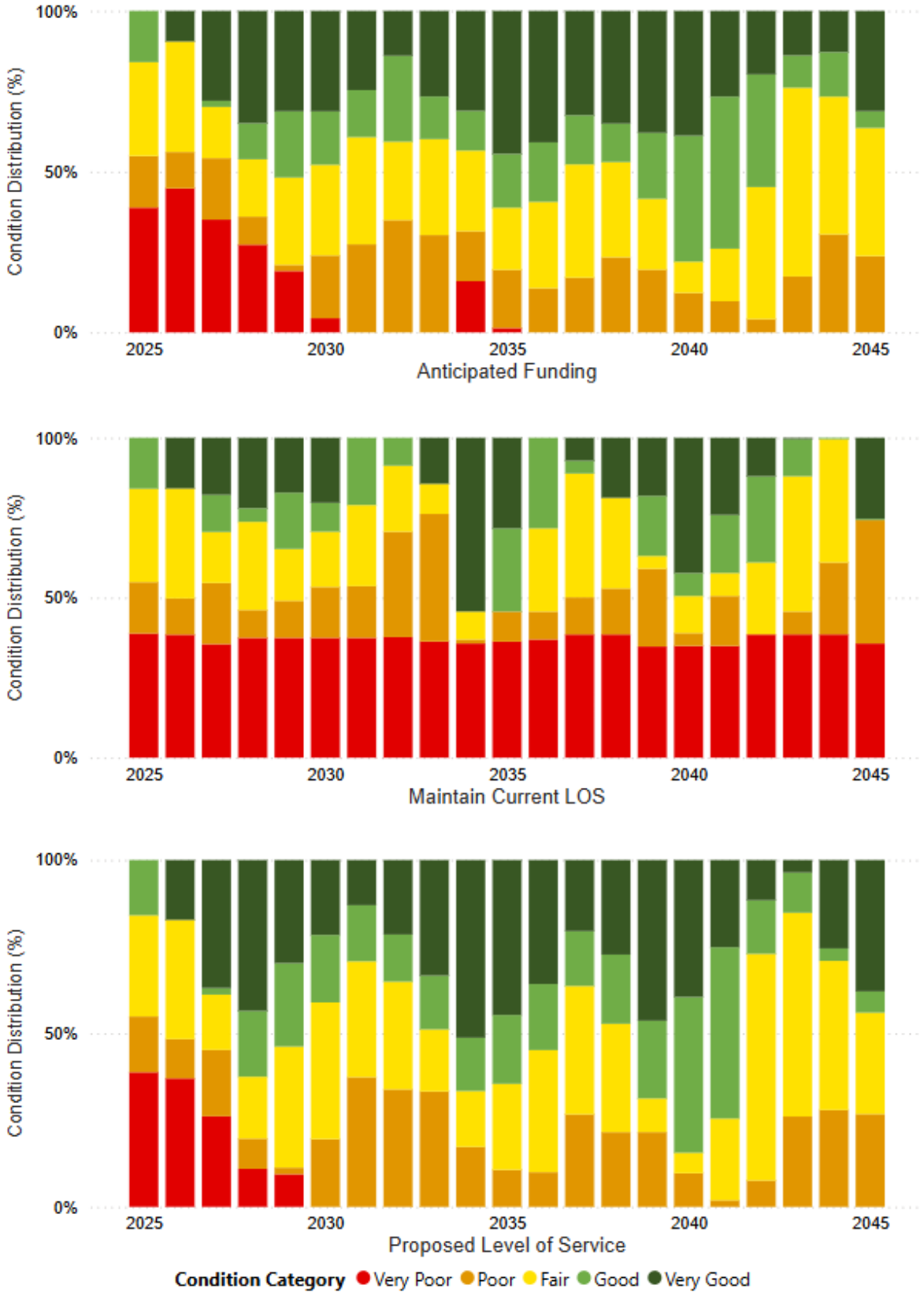


Figure 10-4. Condition Profile for Service Level Scenarios - Library

Figure 10-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the library assets was determined to be approximately $82.0k. Throughout the 20-year forecast period, the percentage of assets in very poor condition decreases by the end of 2030 with a slight increase in 2034 and 2035 as budget decreases. Assets in very poor condition are forecasted for the remaining period to be negligible as spending increases slightly.

In the Current LOS scenario, the anticipated annual funding required for library assets is approximately $55K for renewal, rehab and replacement activities. The condition distribution shows that the overall condition of the library assets would maintain a portion of assets in Very Poor condition, which is why the spending required for this scenario is less than the Anticipated Budget Scenario and Proposed LOS scenario. It is the goal of the City to improve asset condition beyond what it currently is now.

For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan. In this scenario, the anticipated annual budget needed for this scenario (to achieve PLOS) was determined to be $82.8k for renewal, rehab and replacement activities. This scenario will provide the elimination of very poor condition assets by 2030 and the rest of the forecast period.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 10-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

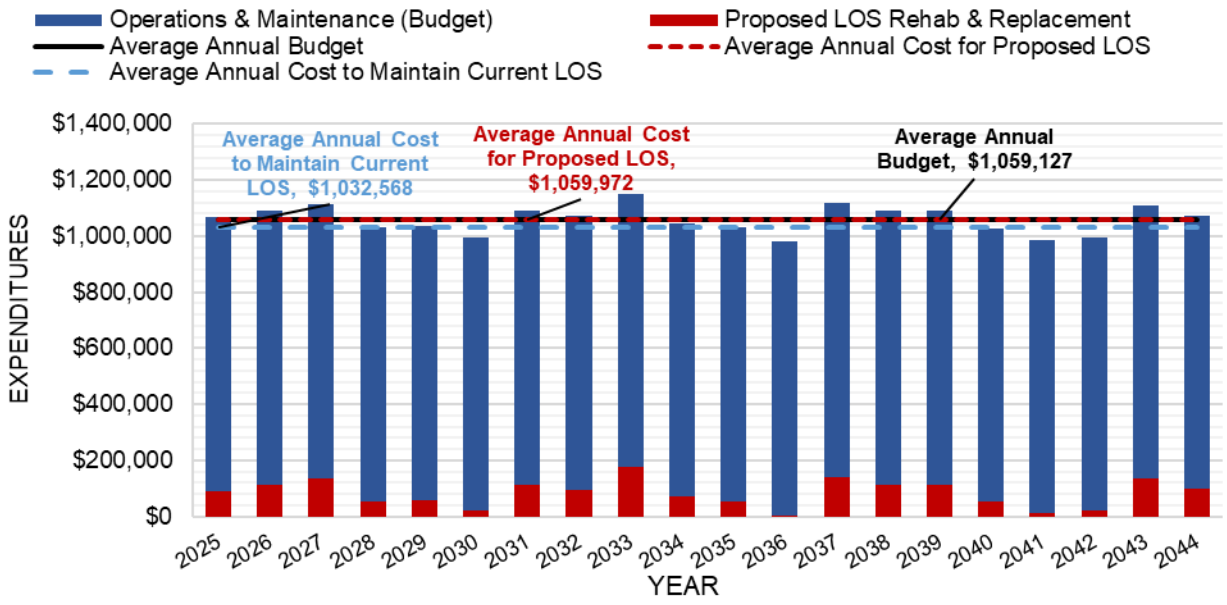


Figure 10-5. Library Scenario Comparison

By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) or to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in Library assets are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 10-6.

Table 10-6. Library Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$977,127	$977,127	$977,127
Renewal, Rehabilitation & Replacement	$82,000	$55,441	$82,845
Total Expenditures	**$1,059,127**	**$1,032,568**	**$1,059,972**
Average Annual Funding Gap		**No Gap**	**$845**

For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. By fully funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets.

10.5 Data Confidence and Improvement Plan

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

Table 10-7. Data Confidence - Library

Data Source	Data Confidence
Citywide (2022)	Good

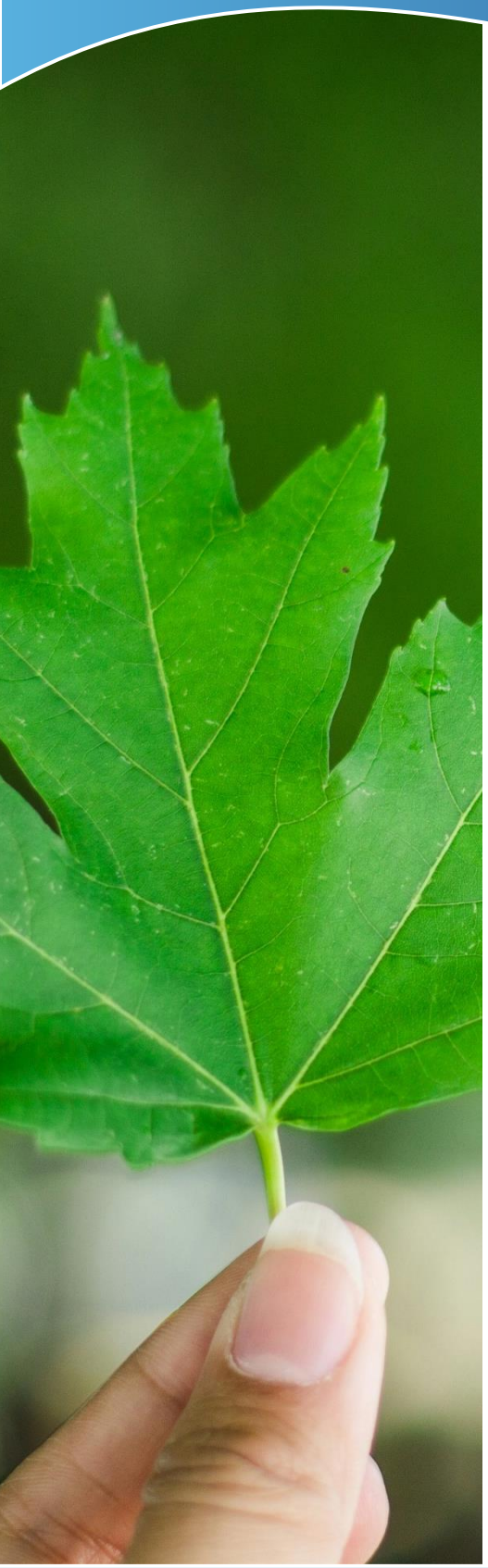
10.5.1 Recommendations for Improvements

Information for the Library was informed by the City's Citywide database. This information is updated on an annual basis, and at the time of the development of this plan, only information from 2022 was available.

It is recommended that the data provided be reviewed and inconsistencies be cleaned to ensure assets are appropriately grouped together and improve planning. It is also recommended that the City review with Library staff if this information is thorough and complete.

Assumptions were made for the lifecycle strategies for the library assets, which also should be reviewed and assessed with Library staff. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

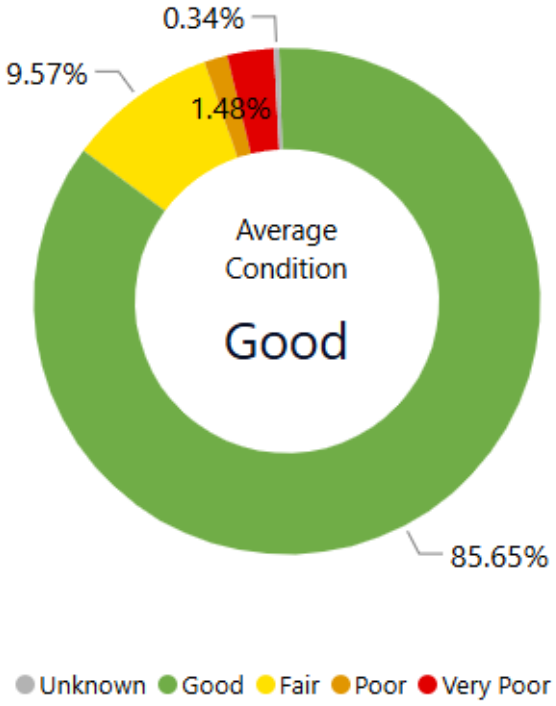
11 Natural Assets



Replacement Value

$6,174,800

Overall Average Asset Condition



Quick Facts

Natural Assets has

- 5,923 trees with over 75 different species
- Numerous native tree species including Redbud, Eastern White Pine, Red Maple and Kentucky Coffee Tree

11 Natural Assets

Natural Assets are also referred to as green infrastructure assets in the O. Reg. 588/17, consisting of assets that provide ecological and hydrological functions and processes. In the City of Port Colborne this asset group consists of trees and stumps, providing many benefits to residents including but not limited to air filtration, shade, and water filtration.

11.1 State of the Infrastructure

11.1.1 Asset Inventory and Valuation

The City manages Natural Assets including trees and stumps with a total replacement value of $5,937,000. Table 11-1 shows the natural assets inventory and the current replacement value by asset type.

Table 11-1: Asset Inventory and Current Replacement Value – Natural Assets

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Trees	5,923	Units	$6,159,920
Stumps	14	Units	$14,560
Total			**$6,174,480**

11.1.2 Asset Condition

Asset condition was assigned to trees and stumps by staff inspections. A description of the condition ratings scale can be found in Table 11-2.

Table 11-2. Condition Rating Scale – Natural Assets

Condition	Age/ESL
Very Good	1
Good	2
Fair	3
Poor	4
Very Poor	5
Unknown	

Overall asset condition for Natural Assets by replacement value can be seen below in Figure 11-1 and Figure 11-2.

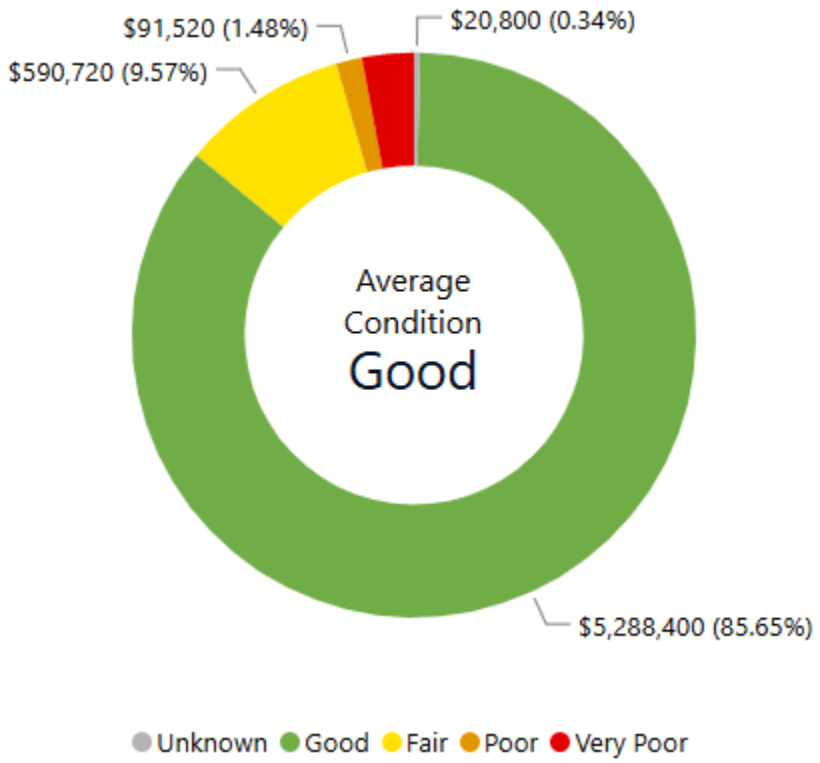


Figure 11-1. Asset Condition by Replacement Value – Natural Assets

The average condition of Natural Assets is good, with over 85% of assets in good condition. Figure 11-2 shows the small portion of Trees in poor to very poor condition, and a small number of stumps in very poor condition.

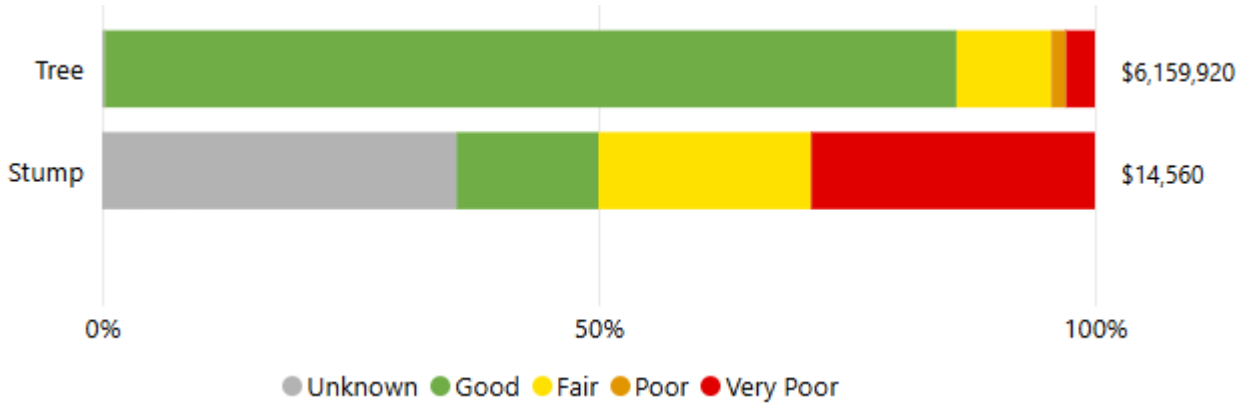


Figure 11-2. Asset Type Condition by Replacement Value – Natural Assets

11.1.3 Asset Age

While most assets decrease in value as they age, trees typically provide more value to the community as they grow. Age is not collected for tree assets. Figure 11-3 below shows the count of trees and stumps by the diameter at breast height measurement to show a distribution of the maturity of urban trees throughout the City.

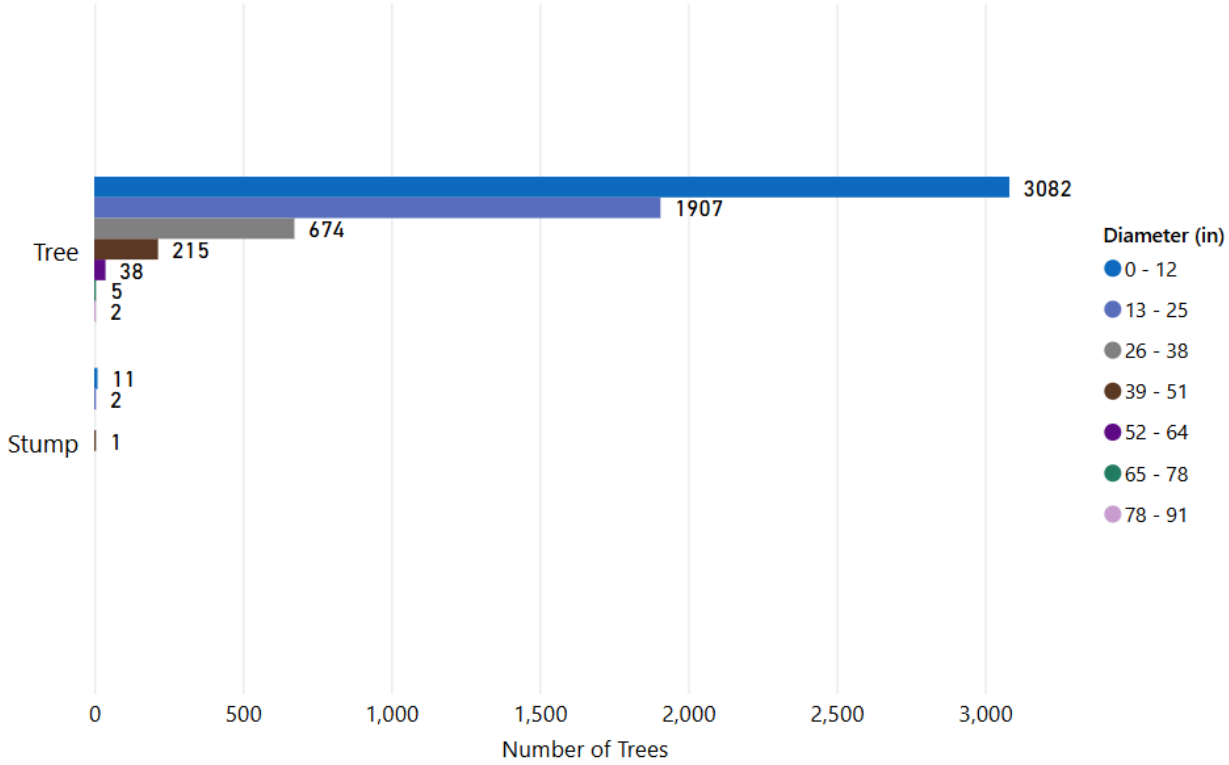


Figure 11-3: Count of Trees and Stumps by Diameter at Breast Height (in)

11.2 Levels of Service

Service Statement: Natural assets can lead to more sustainable, resilient, and cost-effective municipal planning and development.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 11-3 and Table 11-4 provide a summary of the community and technical levels of service metrics for the City's Natural Assets. There are no metrics for this asset category that are required by O.Reg. 588/17. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Natural Assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 11-3. Community Level of Service– Natural Assets

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	0.38%[6]	Maintain	↔

Table 11-4. Technical Level of Service– Natural Assets

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percentage of total replacement cost for Tree assets in very poor condition	2.96%	0%	↘
Accessible & Reliable	Trees planted per year by City Forestry office	35	Increase	↗
Accessible & Reliable	Percent of urban canopy coverage	32%	Increase	↗
Accessible & Reliable	Percent of tree related work orders closed within designated timeline	100%	Maintain	↔

[6] Budget for tree assets is covered under Parks & Transportation, which provide a combined budget of $200k for tree maintenance and renewal.

11.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices for Natural Assets.

11.3.1 Lifecycle Activities

Lifecycle activities for Natural Assets involve a series of processes and tasks aimed at effectively managing the entire lifespan of an asset. These activities ensure that Natural Assets continue to provide their intended services efficiently, effectively, and sustainably throughout their lifecycle, and maximize the value they provide to the community. This approach aligns with best practices in asset management, where preventive maintenance and timely repairs are crucial for preserving the functionality, safety, and longevity of assets.

Ensuring Natural Assets and maintained in optimal condition, the City can extend their lifespan and mitigate the risk of premature replacement. It also ensures that residents continue to benefit from amenities offered from well-maintained assets, which promotes community well-being. Table 11-5 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 11-5. Asset Management Practices and Associated Frequency – Natural Assets

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Urban forest management plan	• As needed
Operations & Maintenance Activities	
• Reactive maintenance: trimming, inspections, pruning, road clearance	• As needed

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
• Preventative maintenance: trimming, inspections, pruning, road clearance	• On-going
Renewal/Replacement Activities	
• End of life replacement / replanting of trees	• As needed
• Deep root fertigation, propping, cabling	• As needed
Disposal Activities	
• Tree removal	• As needed
Service Improvement & Growth Activities	
• New areas to include trees	• Through developments
• Urban forest expansion	• As budget allows

11.4 Funding the Lifecycle Activities

Natural assets are a unique asset within the AMP. This asset is not replaced and renewed as typical infrastructure assets. Trees within the City of Port Colborne are regularly maintained and replaced under the operations budget for trees. The expenditures required for each scenario is summarized and compared below in Table 11-6.

Table 11-6. Natural Assets Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$200,000	$200,000	$200,000
Renewal, Rehabilitation & Replacement	No Budget	No Budget	No Budget
Total Expenditures	**$200,000**	**$200,000**	**$200,000**
Average Annual Funding Gap		**No Gap**	**No Gap**

11.5 Data Confidence and Improvement Plan

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

Table 11-7. Data Confidence – Natural Assets

Data Source	Data Confidence
GIS Tree Assessment	Good

11.5.1 Recommendations for Improvements

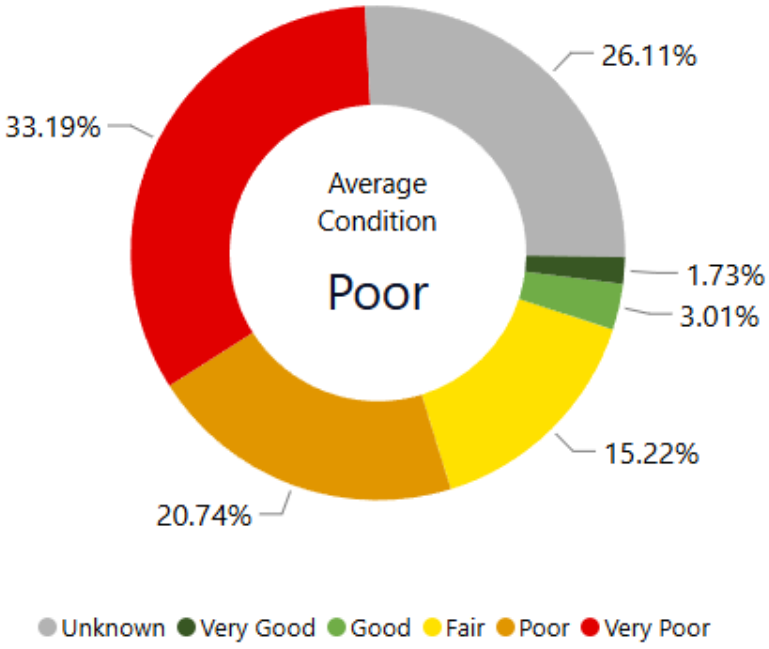
Although the data for trees has a high level of confidence, it is recommended that the City further enhance the natural assets category, and consider other green infrastructure that the City owns, as required by O.Reg. 588/17. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

12 Parks

Replacement Value

$31,568,326

Overall Average Asset Condition



Quick Facts

Parks has

- 32 different Parks with pavilions, sport surfaces, and playgrounds
- Walkways, trails and an active transportation area

12 Parks

Parks provide numerous benefits to residents and visitors in the City of Port Colborne. Parks provide spaces for community members to gather in spaces like playgrounds, sports surfaces, trails, and walkways. This supports cohesion and a sense of social belonging in one's community. Parks also help support community health and wellness through access to green spaces.

12.1 State of the Infrastructure

12.1.1 Asset Inventory and Valuation

The City of Port Colborne has several different asset types in the Parks category including active transportation, park assets, parking lots, pavilions, playground structures, roadways, sport structures and surfaces, a Spraypad, and trails and walkways. The total current replacement value for these assets is $32 million. Table 12-1 shows the asset inventory and current estimated replacement value for Parks assets.

Table 12-1. Asset Inventory and Current Replacement Value - Parks

Asset Type	Count	Quantity Unit	2025 Estimated Replacement Value
Active Transportation	10,718	m	$3,344,016
Park Assets	284	Units	$968,136
Parking Lot	88,531	Sq m	$4,557,134
Pavilion	4,940	Sq m	$513,760
Playground Structure	41	Units	$12,220,000
Roadway	5,000	Sq m	$104,000
Sport Structure	1	Unit	$1,248,000
Sport Surface	35	Units	$7,612,800
Spraypad	1	Unit	$364,000
Trail	5,600	m	$599,040
Walkway	200	m	$37,440
Total			**$31,568,326**

A park asset inventory was developed by staff for the purposes of this AMP. It is recommended that this inventory continue to be enhanced to verify all assets and fill in gaps as required. Replacement values were based on similar assets to represent present costs for these asset types.

12.1.2 Asset Condition

Condition was assigned to Parks assets using age and estimated service life. A description of the condition rating scale can be found in Table 12-2.

Table 12-2. Condition Rating Scale – Parks

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

Figure 12-1 and Figure 12-2 show the overall condition distribution for Parks assets in the City of Port Colborne.

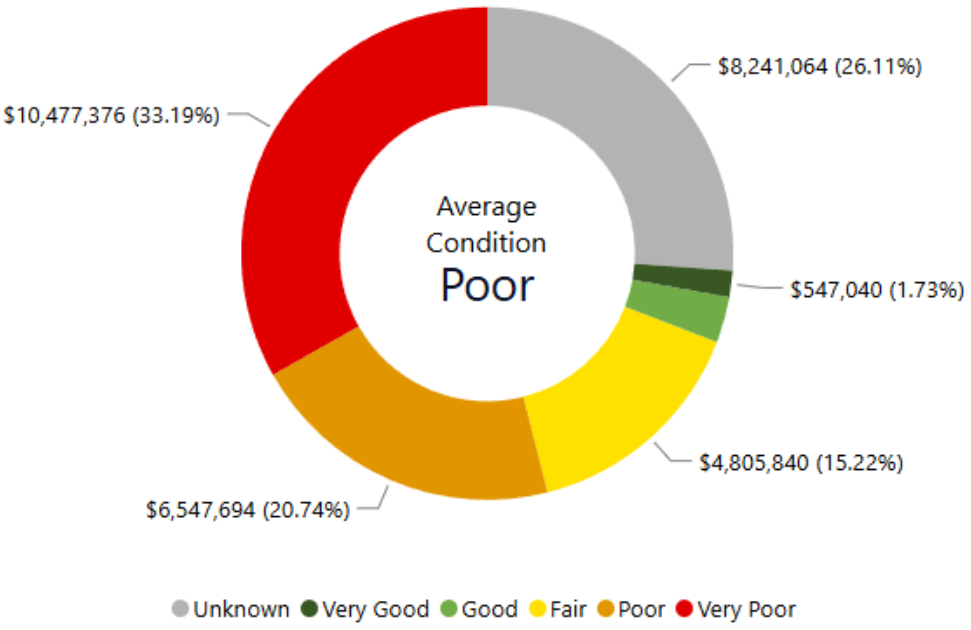


Figure 12-1. Asset Condition by Replacement Value – Parks

The average condition of Parks assets is poor, with nearly 54% of assets in poor to very poor condition. This suggests that a large portion of parks assets are at or nearing the end of their service life. Figure 12-2 shows asset type conditions, highlighting that all or a large portion of walkways, trails, playground structures, parking lots and park assets are in very poor condition.

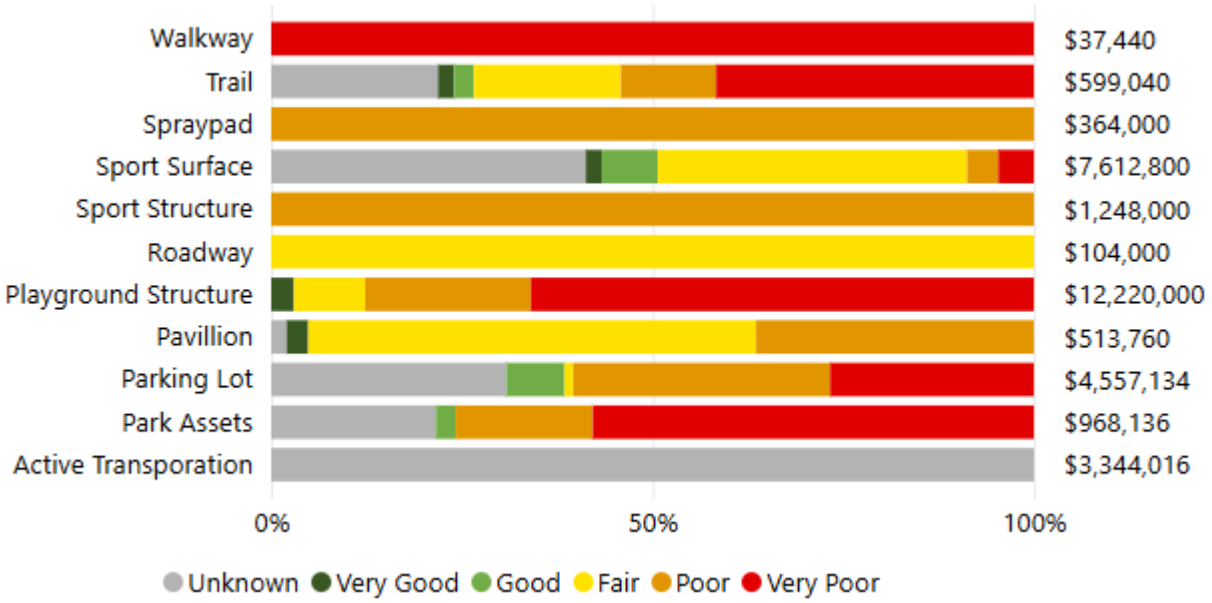


Figure 12-2. Asset Type Condition by Replacement Value – Parks

With this information, the City can plan for the replacement of these assets in the Capital plan.

12.1.3 Asset Age

Asset age can be important data in asset management planning as it provides municipalities with information to use in planning for short- and long-term replacements. Comparing the average age of assets to estimated service lives can help municipalities make decisions on the management of Parks assets. The average age and average estimated service life for Parks asset types can be seen below in Figure 12-3.

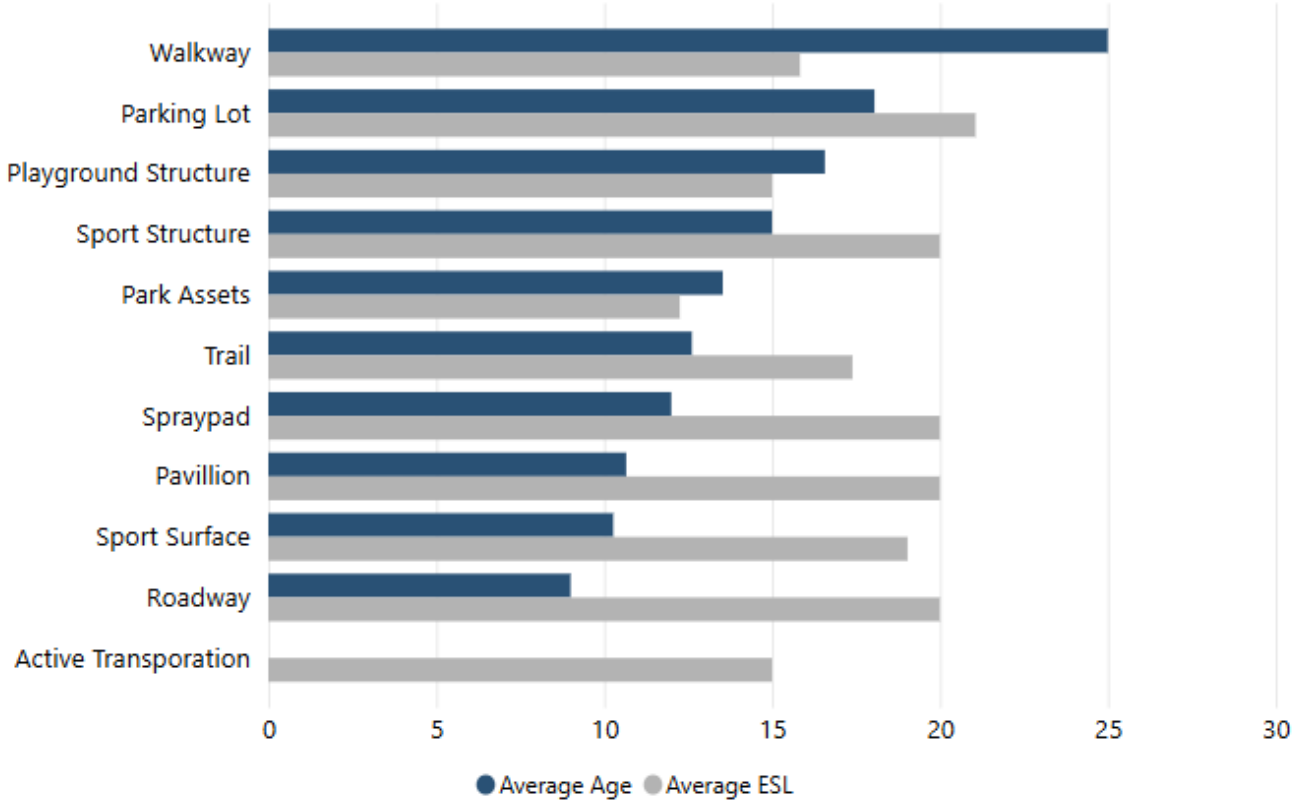


Figure 12-3. Average Age and Average Estimated Service Life – Parks

All assets have an average age that is below its average estimated service life, apart from walkway and playground structure assets. Playground structures are inspected regularly by City staff to ensure their safety, but these assets are beyond their service life with some in very poor condition as seen in Figure 12-2.

12.2 Levels of Service

Service Statement: Parks provide a wide range of services and benefits that contribute to the physical, social, cultural, and economic well-being of the City.

By establishing levels of service metrics, municipalities can assess their performance, identify areas for improvement, and make informed decisions to better meet the needs of their communities while optimizing resource allocation and promoting accountability and transparency in municipal governance. Table 12-3 and Table 12-4 provide a summary of the community and technical levels of service metrics for the City's Park assets. There are no metrics for this asset category that are required by O.Reg. 588/17. The City has chosen metrics that define and measure the desired standards for delivering services that are provided by Park assets. These metrics help set goals, evaluate performance, allocate resources effectively, and communicate expectations to stakeholders.

Table 12-3. Community Level of Service – Parks

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Cost Efficient	Percent of current budget (Capital & Operating Budget - 2024)	5%	Maintain	↔

Table 12-4. Technical Level of Service – Parks

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
City Defined				
Accessible & Reliable	All Parkland in Municipality as a percent of Total Area of Municipality	1%	Maintain	↔
Accessible & Reliable	Parks per 2,014 residents	3.4	Maintain	↔
Accessible & Reliable	Park acreage per 1,000 residents	20.59	Maintain	↔
Accessible & Reliable	Kilometre of trails per 20,000 residents	19.75	Maintain	↔

Key Service Attribute	Performance Measure	Current Performance	Proposed Performance	Proposed Change
Accessible & Reliable	Percentage of total replacement cost of Park assets in very poor condition	33.19%	0%	↘
Cost Efficient	Percentage of total replacement cost for parks assets past their estimated useful life	20.44%	Decrease	↘

12.3 Lifecycle Management Strategy

The aim of the Lifecycle Management Strategy is to define and implement a series of planned measures, drawing from industry best practices, to ensure our assets consistently deliver a sustainable level of service to residents. As the City progresses, it is enhancing its asset management practices by implementing standardized processes, procedures, and tools across all service areas. Below is an overview of some existing asset management practices within Parks.

12.3.1 Lifecycle Activities

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

Maintaining these assets in optimal condition and completing lifecycle management activities and following the strategies within this plan, the City can extend their asset's lifespan and mitigate the risk of costly major repairs or premature replacement. It also ensures that residents continue to benefit from high-quality services, the City can provide services at the lowest possible cost, as well as avoid risks associated with asset ownership. The risks of not following the activities and strategies within this plan have been further defined in 13.3.1 Risks Associated with Lifecycle Strategies.

Table 12-7 below identifies asset management practices and planned actions and their frequency for each of the lifecycle activity categories. The lifecycle activity categories include non-infrastructure, operations and maintenance activities, renewal/replacement activities, disposal activities, and service improvement and growth activities. A description of each lifecycle activity category can be found in Section 1.5.3.1 Lifecycle Management Activities.

Table 12-5. Asset Management Practices and Associated Frequency – Parks

Asset Management Practices/ Planned Actions	Frequency Associated with Practices / Planned Actions
Non-Infrastructure	
• Asset tracking / GIS	• On-going
• Recreation Masterplan (feasibility study for level of service changes)	• 10 years; review need for update every 5 years
Operations & Maintenance Activities	
• Seasonal inspections on seasonal equipment	• Seasonally
• Park inspections (playground inspections, etc.)	• Monthly
• Reactive repairs	• As required
• Preventative maintenance	• As required
• Grooming, grass cutting, line and general field/court maintenance	• Daily / weekly activities
Renewal/Replacement Activities	
• Renewal activities	• As required
Disposal Activities	
• Disposal	• As required
Service Improvement & Growth Activities	
• Requiring new equipment	• As identified
• New assets	• As identified

12.4 Funding the Lifecycle Activities

The City uses the lifecycle strategies Section 12.3 to plan work and forecast future expenditures. Along with the scenarios below, these strategies provide a framework for managing infrastructure assets, ensuring services and infrastructure remain reliable. Each scenario focuses on the costs and needs for renewal, rehabilitation, and replacement activities to maintain assets in good repair.

The City has developed the anticipated budget based on the 2025 capital and operating budget, as well as the forecast scenarios for infrastructure expenditures required to reach the Proposed LOS. This AMP provides an analysis that ensure the planned budget is in alignment with the needs to reach the Strategic Plan to address all assets in Very Poor condition. It is the goal of the City to fully fund the infrastructure needs to improve the quality of the assets and services currently being provided. The AMP assumes that the City will fund the assets as per the budgets developed for this AMP

Costs for other lifecycle activities are broken down to Renewal, Rehabilitation & Replacement activities, and Operations & Maintenance. It should be noted that non-infrastructure, service improvement and growth activities are included in the Renewal, Rehabilitation and Replacement costs in the following analysis. It is recommended to further break down these costs by activity type for future AMPs. Although O.Reg. 588/17 mandates only a 10-year analysis, this AMP extends the evaluation of lifecycle expenditures to a 20-year period, demonstrating the City's commitment to long-term planning and proactively addressing future needs.

An overview of the scenarios that were evaluated for the purposes of this AMP include:

- **Scenario 1: Anticipated Funding** – This scenario forecasts the condition of the assets under the current funding level that the City anticipates allocating towards each asset category. The current budgets were obtained from the City's 2023 budget and is used as the average spending for the 10-year forecast. This is used to illustrate the change in performance (condition) under anticipated funding levels. Only renewal, rehabilitation and replacement activities are completed that fit within the current funding allotted to the asset category are completed as part of this forecast.
- **Scenario 2: Maintain Current Level of Service** – determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.
- **Scenario 3: Proposed Levels of Service** – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The impacts to the condition of the City's assets based on the described scenarios and the associated costs and comparison of these scenarios can be found in Figure 12-4.

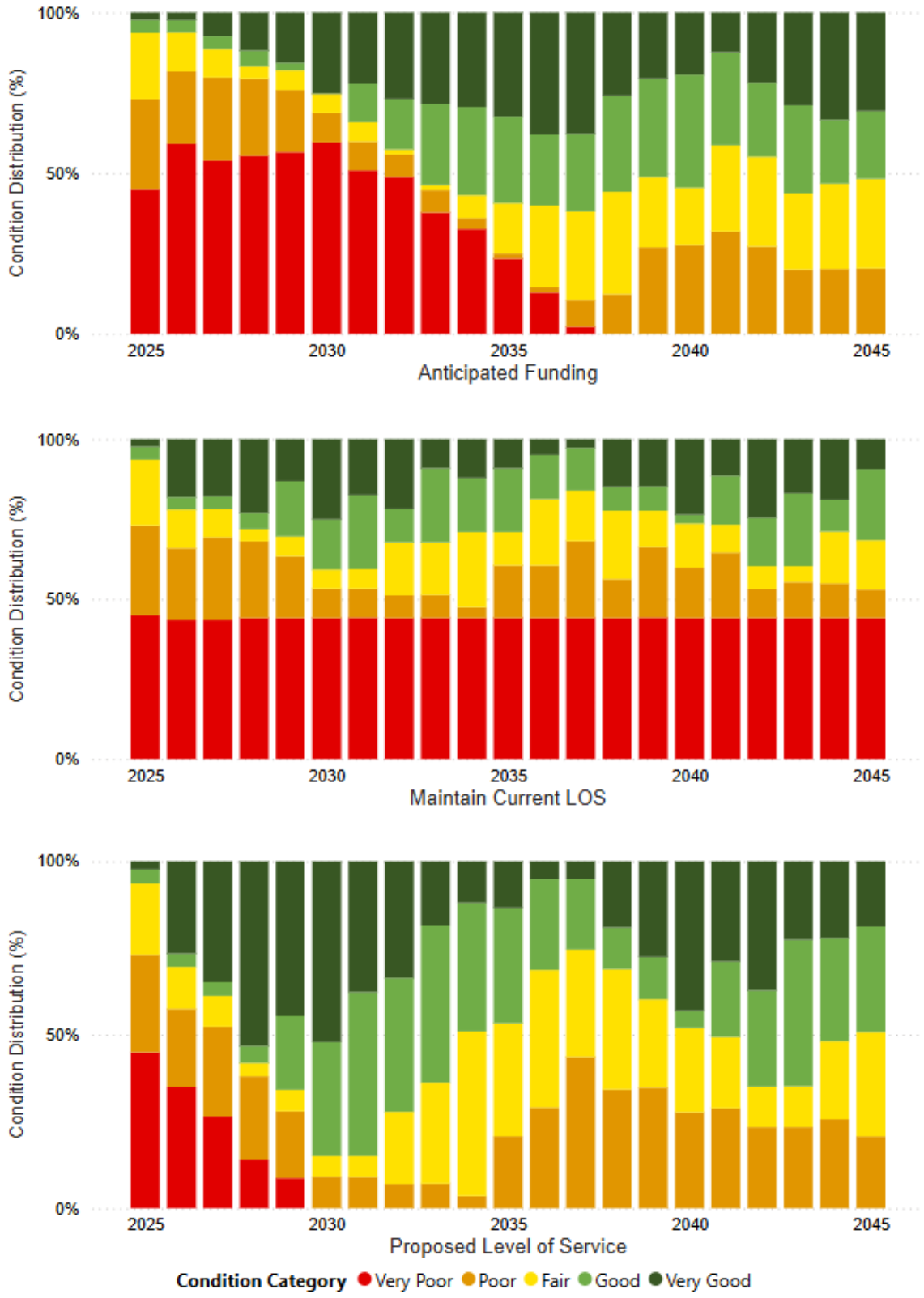


Figure 12-4. Condition Profile for Service Level Scenarios - Parks

Figure 12-4 shows the impact to the condition of the assets based on the Anticipated Funding, Maintain Current LOS and Proposed LOS.

In the Anticipated Funding Scenario, the average annual expenditure required for Renewals, Rehabilitations and Replacements for the Park assets was determined to be approximately $2.1M. Throughout the 20-year forecast period, the percentage of assets in very poor condition decreases after the first 10 years of the forecast period as the budget also decreases; and is then eliminated while spending more in the latter half of the forecast to improve park asset condition.

In the Current LOS scenario, the anticipated annual funding required for parks assets is approximately $1.2M for renewal, rehab and replacement activities. The condition distribution shows that the overall condition of Parks assets would maintain 44% of assets in Very Poor condition, which is why the spending required for this scenario is significantly less than the Anticipated Budget Scenario and Proposed LOS scenario. It is the goal of the City to improve asset condition beyond what it currently is now.

For the assets within this service area, PLOS was established to address all assets in Very Poor condition, in line with Council's Strategic Plan. This results in an elimination of assets in very poor condition by 2030. In Scenario 3, the anticipated annual budget needed for this scenario (to achieve PLOS) was determined to be $2.1M for renewal, rehab and replacement activities.

By comparing the scenarios above, City staff can better understand how each one affects asset conditions over the long-term and understand the City's plan to address the infrastructure needs. Included in the total lifecycle cost with renewal, rehab and replacement activities is the operations and maintenance funding required for the asset class, which is consistent across all scenarios as seen in Figure 12-5. This figure further highlights the lifecycle expenditures required, and any identified funding gaps, this analysis is intended to support informed decision-making.

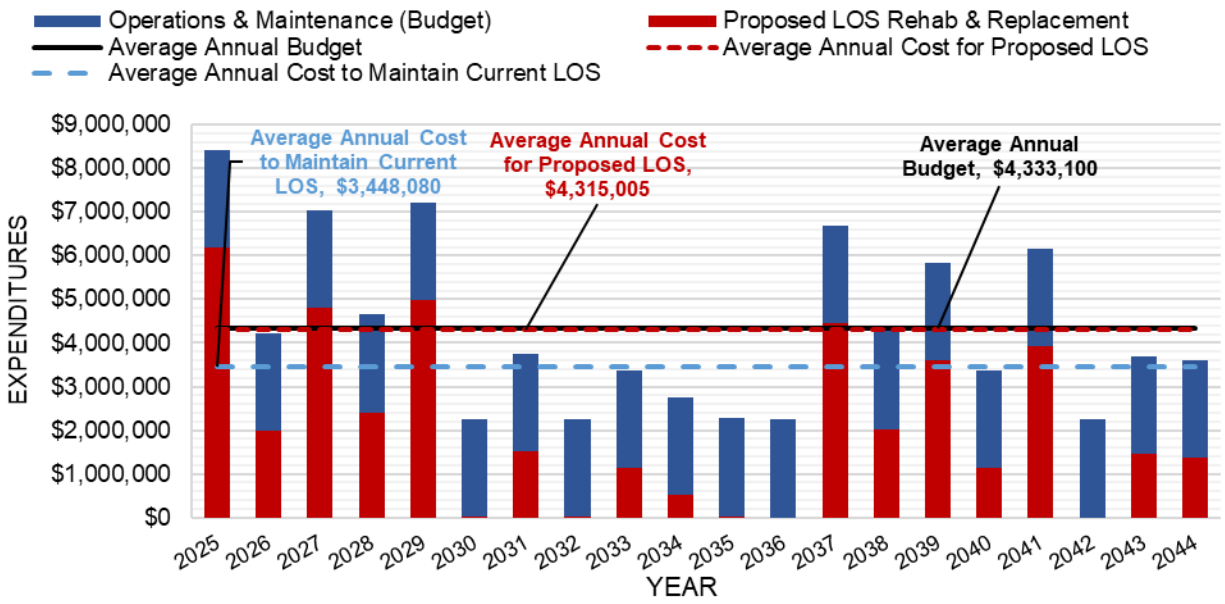


Figure 12-5. Parks Scenario Comparison

There is a "backlog" included in the year 2025, which represents the cumulative backlog of deferred work that has accumulated and is needed to be complete. By having a clear understanding of the costs associated with necessary lifecycle activities and their potential impact on infrastructure performance, the City can make informed decisions about budget allocations, prioritize maintenance and replacement projects, and develop strategies to ensure the long-term sustainability and reliability of its infrastructure.

The City's anticipated budget has been developed to meet the proposed LOS and includes increases of up to 20% to "catch up" to required expenditures up to 2032. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) or to meet Proposed LOS, if the funding levels developed are provided as reported in this plan. If current anticipated investments in Parks are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne. The expenditures required for each scenario is summarized and compared below in Table 12-6.

Table 12-6. Parks Lifecycle Activity Investments & Annual Average Infrastructure Gap

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for PLOS
Operations & Maintenance	$2,238,507	$2,238,507	$2,238,507
Renewal, Rehabilitation & Replacement	$2,144,343	$1,209,573	$2,076,498
Total Expenditures	**$4,333,100**	**$3,448,080**	**$4,315,005**
Average Annual Funding Gap		**No Gap**	**No Gap**

The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. By fully funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

This document, and the infrastructure forecasts, will continue to be enhanced and updated as more information is made available on the City's assets.

12.5 Data Confidence and Improvement Plan

Table 12-7 outlines the main data sources and overall confidence in the data used for this AMP. Data confidence is based on how many assumptions needed to be made and the reliability of the data sources.

Table 12-7. Data Confidence - Parks

Data Source	Data Confidence
Spreadsheet Staff Review	Fair

12.5.1 Recommendations for Improvements

Data for the park assets was compiled for the purposes of this AMP, many gaps being filled based on staff assessments and assumptions of install dates, estimated service lives and replacement values.

It is recommended that the City continue to fill the gaps in this information and continue to maintain it. It is also recommended that the City, as part of data management strategy identify the “source of truth” for park assets and identify responsible parties for the maintenance of this information. Ensuring accurate and comprehensive data is crucial for effective planning and resource allocation. By updating information such as installation dates, and replacement costs, they City can better assess its IT infrastructure and make informed decisions for maintenance and improvements. It is essential for the City to continue updating asset information, including records of renewal, rehabilitation, and replacement activities, to improve forecasting and accuracy to ensure this data can be effectively used for ongoing asset management and long-term planning after the completion of this AMP, which will not be required to be updated for another 5 years.

It is recommended that the City implement a computerized maintenance management system for Park assets to ensure work being done for these assets is documented, and to better understand the condition and costs of this asset category.

13.0 Financial Strategy

13 Financial Strategy

The Financial Strategy in this AMP is based on the City of Port Colborne's planned expenditures (budget) to determine the funding available to support infrastructure. All forecasted dollars are presented in 2025 dollars, and no inflationary measure has been included in the needs. This Financial Strategy provides an analysis of the average annual funding available, the expenditures required to maintain current LOS, as well as the ideal expenditures to meet proposed levels of service.

For the purposes of this AMP only renewal, rehabilitation and replacement lifecycle activity costs and needs are analyzed. These lifecycle activities ensure infrastructure remains in a state of good repair and can continue to provide services to residents. Costs for the remaining lifecycle activities (including non-infrastructure, operations and maintenance, service improvements, and growth) are incorporated into the capital and operating budgets shown within this AMP. For the purposes of this AMP, it is assumed that these activities and their associated costs are adequate to fulfill the community's expectations. This AMP does not provide an optimization analysis for the activities or costs. Growth needs are captured based on the planned projects. Recommendations for future AMPs include breaking these costs down further into their respective lifecycle activity categories to better understand lifecycle activity expenditures.

For the purposes of this AMP, it is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. By funding the infrastructure needs, the City is demonstrating a commitment to maintaining and upgrading its assets to ensure the quality of services for its customers. This proactive approach can lead to more efficient and effective asset management, ultimately benefiting the community.

13.1 Budget Overview

Effective asset management planning requires that an approved AM strategy be fully integrated into annual financial planning and budgeting processes. The budget overview provides an analysis of the average annual planned funding available, the expenditures required to maintain current performance, or level of service, and identifies funding required to meet infrastructure needs based on the lifecycle strategies defined throughout this document.

The City's budgets are developed to allocate funds to cover the costs of providing services, maintain existing infrastructure, and construct new assets. The budgets are

designed to balance required costs (expenditures) with available funding (revenues) and are categorized into:

Operating Budget: Supports the day-to-day activities and functions to provide City services. Samples of the expenditures funded from the operating budget include staff salaries, equipment maintenance, material supply and facility services. These are expensed within the fiscal year.

Capital Budget: Includes large expenditures associated with repair, rehabilitation, renewal, and construction or purchase of new infrastructure. It leverages various available funding sources over a ten-year period planning period. The establishment of capital budgets includes the evaluation of long-term investment proposals along with estimating future cash flows.

13.1.1 Anticipated Budget

A summary of the forecasted expenditures for the 20-year period are provided in Table 13-1. Based on the review of this forecast, the average annual expenditures planned for operating and renewal and replacement activities are listed for rate and tax supported assets is $18.1M, and $29.8M respectively.

The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. The planned expenditures are based on the 2025 operating and capital budget, and the planned expenditures developed by staff. The annual average budget required to fulfill this plan are outlined in Table 13-1. This plan has been developed in consultation with staff on the development of this plan, the wastewater financial plan, and the approved water financial plan. The planned budget has been developed with the intention of increasing funding to address the infrastructure gap and leveraging debt where required.

Table 13-1. Infrastructure Expenditure Summary (Average Annual Anticipated Budget)

Service Category	Operations & Maintenance	Renewal, Rehabilitation & Replacement (Capital)	Total
Rate Supported			
Storm	$493,600	$3,314,543	**$3,808,143**
Water	$2,936,826	$6,569,856	**$9,506,682**
Wastewater	$2,860,792	$1,932,247	**$4,793,039**

Service Category	Operations & Maintenance	Renewal, Rehabilitation & Replacement (Capital)	Total
Total	**$6,291,218**	**$11,816,646**	**$18,107,864**
Tax Supported			
Transportation	$3,552,075	$5,890,989	**$9,443,064**
Emergency Services	$4,459,000	$545,687	**$5,004,687**
Facilities	$2,554,530	$3,322,671	**$5,877,201**
Fleet & Equipment	$1,045,577	$1,116,960	**$2,162,537**
Information Technology	$1,422,566	$233,090	**$1,655,656**
Library	$977,127	$82,000	**$1,059,127**
Natural Assets	$200,000	No Budget	**$200,000**
Parks	$2,238,507	$2,144,343	**$4,382,850**
Total	**$16,449,382**	**$13,335,740**	**$29,785,122**

13.2 Infrastructure Needs

The infrastructure renewal, rehabilitation, and replacement needs were determined based on Scenario 2 and Scenario 3, outlined below.

Scenario 2: Maintain Current Level of Service determines the approximate annual cost to maintain assets in a similar performance (condition) as their current state. This is used to determine the annual cost to provide the current level of service for the assets (as mandated by O.Reg. 588/17). For the purposes of this analysis, this is accomplished by determining the current performance (condition) of assets.

Scenario 3: Proposed Levels of Service – This scenario determines the cost of the lifecycle activities to address all assets in Very Poor condition, as per Council's Strategic Plan.

The expenditures for renewal, rehabilitation and replacement required for both scenarios are outlined below in Table 13-2.

Table 13-2. Cost to Maintain Current Level of Service and As Per Proposed LOS (Rate & Tax Supported)

Service Category	Average Annual Expenditure to Maintain Current LOS (Scenario 2)	Average Annual Expenditure for Proposed LOS (Scenario 3)
Rate Supported		
Storm	$3,781,151	$3,295,958
Water	$2,144,005	$6,893,598
Wastewater	$2,037,963	$1,909,350
Rate Supported Total	**$7,963,119**	**$12,098,906**
Tax Supported		
Transportation	$5,076,712	$5,685,536
Emergency Services	$296,508	$517,326
Facilities	$2,428,909	$3,428,808
Fleet & Equipment	$1,112,316	$1,112,316
Information Technology	$129,178	$220,245
Library	$55,441	$82,845
Natural Assets	$200,000	$200,000
Parks	$1,209,573	$2,076,498
Tax Supported Total	**$10,508,638**	**$13,323,574**
All Assets Total	**$18,471,756**	**$25,422,480**

These expenditures represent the average annual cost of the 20-year forecast based on the identified scenarios.

It is assumed that the anticipated budget will be provided to fund the infrastructure needs for the City's assets. The City has developed a comprehensive plan to improve the condition of its assets and enhance the services provided to its residents. The City plans to fully remove assets in very poor condition by 2030, with the exception of water, and the Grain Terminal for facilities. By 2045, a small portion of assets will remain in very poor condition. It is anticipated that the needs for these assets will change as lower cost alternatives and asset management practices are enhanced to reach Council's goals. This

Asset Management Plan, and the strategies in place demonstrate the City's commitment to upgrading its assets to ensure the quality of services for its customers.

Table 13-3. Average Annual Lifecycle Expenditures (All Assets)

Lifecycle Activity	Avg. Anticipated Annual Budget	Avg. Annual Cost to Maintain Current Performance (LOS)	Avg. Annual Cost for Proposed LOS
Operations & Maintenance	$22,740,600	$22,740,600	$22,740,600
Renewal, Rehabilitation & Replacement	$25,152,386	$19,188,846	$26,630,715
Total Expenditure	**$47,892,986**	**$41,929,446**	**$49,371,315**
Average Annual Funding Gap		**No Gap**	**$1,478,329**

The City's anticipated budget has been developed to meet the infrastructure needs of the asset category. It is assumed that this funding will be made available as prescribed in this AMP. The scenario comparison highlights there is no gap to maintain the current performance (condition) of assets and a minimal gap to optimize performance of assets based on lifecycle strategies if the funding levels developed are provided as reported in this plan. If current anticipated investments are sustained over time, infrastructure needs will continue to be met and provide high quality services to residents in the City of Port Colborne.

Since the previous AMP, the City has taken significant steps to establish improved asset management planning through their efforts to obtain updated condition assessments for multiple assets, as well as to develop a comprehensive funding strategy (as outlined in this plan), to meet the infrastructure requirements as determined by the lifecycle strategies. As updated information, and further plans and studies become available, this AMP will continue to evolve and become more precise in the recommendations for infrastructure expenditures.

13.3 Financial Strategies

The City currently has multiple funding sources, the largest being Property Taxes and User Rates. An overview of the funding envelope can be seen in Figure 13-1. The City is actively looking at strategies to increase revenues to address the significant infrastructure needs.

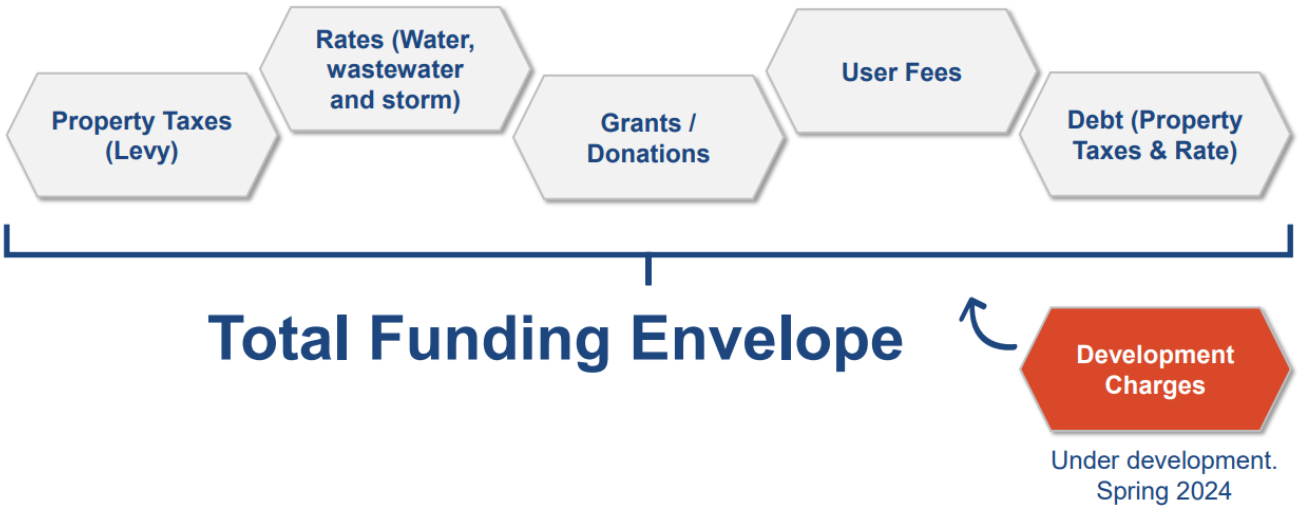


Figure 13-1. City of Port Colborne Funding Envelope (source 2025 Budget)

The City has developed the anticipated budget communicated in this AMP as the financial plan to address the City's proposed level of service. The financial strategies that have been incorporated into the planned budget to address the infrastructure needs include:

Non-Financial Strategies

Advocacy: City staff and Council have been instrumental in advocating for the City to senior levels of government seeking funding support for the municipality, which continues to be successful.

Level of Service: As the City matures in asset management, the City will continue to review the priorities of the City but currently have established levels of service to meet Council's Strategic Plan to address all assets in very poor condition. This level of service should be monitored on an annual basis to ensure targets are being met. This target can also be reviewed to determine if all assets in very poor condition need to be addressed, as very poor assets, while nearing or at end of life may still be fit for service.

Lifecycle Management Strategies: The City continues to enhance the development of lifecycle management strategies to provide accurate, and affordable measures to address the infrastructure needs. For wastewater assets for instance, rather than assuming costly replacements at end of life, the City plans to reline pipes where appropriate to improve condition and extend the life of these assets.

Financial Strategies

Debt Financing: Based on the pressures faced by the City and the significant amount of expenditures required, the City plans to leverage debt financing to address the infrastructure needs to ensure reliable and sustainable services for the community.

Long-Term Planning: The City has reviewed many expert documents, and the infrastructure needs to develop an appropriate plan to address the infrastructure needs over the 20-year period.

Revenue Increases: The City has planned for incremental tax increases, while also applying for grant funding to "catch-up" to the infrastructure needs that have been identified within this AMP, as well as based on recommendations from the previous AMP and Infrastructure Needs Study. The City is also undergoing a Development Charge Study to assist the City in updating development charges so that appropriate funding is available to accommodate growth.

The City has taken a progressive approach to reach their goal to fully fund infrastructure needs, with the exception of water assets and the Grain Terminal for facilities, and remove the infrastructure gap.

13.3.1 Risks Associated with Lifecycle Strategies

Asset ownership inherently involves various risks, and managing these effectively is a continual challenge for the City. The primary goal is to balance costs, service levels and risk. To address infrastructure needs and minimize asset ownership costs for the community, the strategies outlined in this plan provide the best opportunity to accomplish this. These strategies will evolve as new information becomes available from future plans and studies, and as the City advances its asset management program.

Neglecting infrastructure needs and failing to implement the lifecycle activities and strategies in this plan, can lead to significant immediate and long-term negative consequences. The City is already experiencing many of these due to historically insufficient investment in infrastructure and appropriate lifecycle management strategies. These risks and their consequences at a high level include:

Deterioration of Infrastructure and Asset Failure: Without proper investments for renewal, rehabilitation and replacement activities, infrastructure assets will deteriorate over time, leading to increased breakdowns, service disruptions, and potentially safety hazards.

Decreased Operational Efficiency: Without proper lifecycle management strategies, infrastructure may become inefficient, leading to increased downtime, delays, and reduced productivity.

Increased Costs: Delaying infrastructure investments leads to higher costs in the long run. Deferred maintenance and rehabilitations can result in more extensive reactive maintenance, or the need for premature asset replacements, which are significantly more

expensive than timely maintenance and upgrades. Ultimately by not adequately keeping assets in a good state of repair leads to higher lifecycle cost.

Improper Forecasts: Many non-infrastructure activities such as master plans, asset management planning, provide valuable insights into the infrastructure needs, if these activities are no completed, it can lead to inaccurate estimations for funding requirements and capacity requirements.

Service Disruptions: The deterioration of assets often leads to unplanned and unexpected disruptions to the services the community currently enjoys and relies on through asset failures.

Negative Impact to Quality of Life: Poor infrastructure affects the quality of life for residents, including issues like traffic congestion, inadequate public transportation, sewer backups, basement flooding, or lack of access to services. Assets in poor working order also increase the risk of potential healthy and safety impacts.

Environmental Impacts: Inefficient infrastructure can have adverse environmental impacts such as increased emissions from old facility or fleet assets, or sewage reaching the environment through leaks in pipes. This also increases the potential risk of not meeting regulatory requirements.

Regulatory Non-Compliance: Many of the assets, in particular Water and Transportation, are highly regulated assets that require assets to be properly maintained and reported on their compliance. Failure to meet regulatory requirements for infrastructure maintenance and safety can result in fines, penalties, legal actions, and possible loss of licenses or permits.

Loss of Public Trust and Confidence: Persistent neglect of infrastructure needs can erode public trust and undermine confidence in the ability of leaders to address pressing challenges.

Negative Economic Impact: Inadequate infrastructure can hinder economic growth because of inefficient and unreliable services to residents and businesses.

Safety Risks: Aging or poorly maintained infrastructure can pose safety hazards to users, workers, and the surrounding community, potentially leading to accidents, injuries, or even fatalities.

13.4 Risk Mitigation Strategies to Address the Infrastructure Gap

O.Reg.588/17 requires that the City identify how the risks of not undertaking the lifecycle strategies to meet the proposed LOS will be managed. The City actively manages risks associated with the funding levels, in the following ways:

Maintenance and Rehabilitation Activities: The City continually maintains assets to the best of their ability based on the funding available to prolong asset life where possible. Many assets are beyond suggested services lives, and where possible, maintained to keep them in working order until such time that funding is available for replacements.

For sanitary and storm assets, a spot repair and relining capital program has been put in place to address defects to ensure asset risks are minimized and are able to continue to be used. The City also continues to complete inflow and infiltration remediation activities. For water assets, the City is investigating alternative rehabilitation strategies instead of completing full replacement at end of life. For all assets, regular maintenance and preventative maintenance programs are put in place to ensure assets are maintained to reach their expected service life, and where possible are still in a state of good repair beyond expected service lives. The City has also implemented Citywide for some assets to track maintenance and prioritize maintenance and rehabilitation activities of at-risk assets. This system should be implemented for all assets.

Prioritizing Assets Based on Risk: Resources available are strategically assigned to higher risk and priority assets, based on staff expertise, ensuring limited budgets are used effectively to mitigate the most risk. This is completed through the capital planning process during the development of the annual budgets. Assets are replaced based on priorities to find efficiencies to reduce impacts and implement strategic purchase cycles.

Updating Condition Assessments: The City actively updates condition assessments on assets, particularly high-risk assets, to ensure assets are prioritized based on accurate condition data. Purchases are prioritized based upon up-to-date needs assessments.

Technology & Data: The City should continue to implement computerized maintenance management to better understand the current costs of maintenance, as well as to prioritize asset maintenance and replacement activities based on the data derived from the maintenance management system.

Regulatory and Compliance Standards: The City ensures compliance with all regulatory and safety standards to avoid risk.

Grant Opportunities: The City reviews opportunities for grants and partnerships where possible to increase funding available for asset replacements.

The City is committed to providing the level of service expected by the community, while managing risk, and in consideration of fiscal responsibility. While the City considers options to address the funding gap, these strategies will continue to be implemented and enhanced to mitigate the risks associated with not meeting the proposed LOS.

14.0 Improvement and Monitoring Plan

14 Improvement and Monitoring Plan

Continual improvement is essential to ensure effective management of assets. As part of the development of this AMP, opportunities for improvement of asset management practices, and this plan have been identified. Some key points related to the development of this AMP:

- **Asset Management is a Journey**
  - Asset management is not a one-time even but rather a continuous journey. Organizations need to adapt and evolve their practices over time.
  - Regular assessments, data collection and analysis help identify areas for improvement.
- **Based on Best Available Information**
  - This AMP has been developed on the most up-to-date information available, in coordination with multiple City departments and staff, and systems.
  - This included data on asset information and condition, performance, and financial considerations.
- **Opportunities for Improvement**
  - Stakeholders should actively seek opportunities for enhancement which may arise from lessons learned or technological advancements.

When establishing an improvement plan, the following international standards and well-known asset management guidance for advancing asset management capabilities are considered:

- **ISO 55000**
- **International Infrastructure Management Manual (IIMM) 2015**
- **BSI PAS55: 2008**

These standards were developed over several years with international collaboration and are widely regarded as best practices for the field of asset management.

14.1 Opportunities for Improvement

Further to the recommendations stated throughout this plan, the following recommendations have been compiled throughout the development of the 2025 AMP and include previous recommended initiatives that remain outstanding. Recommendations from the previous AMP still apply and the City should make efforts to address the previous recommendations as well as the items identified below.

Table 14-1. AMP Recommendations

Description	Task	Benefit / Outcome
Define Functional Asset Hierarchy Structure Standard	The scope of work for developing a functional asset hierarchy includes definition of objectives as they relate to asset management and maintenance management. Data collection, preliminary analysis, and stakeholder interviews will focus on confirming the organization's specific needs. The main deliverable is a report outlining the hierarchy structure, division-specific context, and instructions on how to build the hierarchy. Additional scope can include building a tool compatible with the work management system for import and export of the asset hierarchy, and validation of typical attributes to enable asset and maintenance management within the work management system.	**Alignment with O. Reg 588 and industry standards e.g., ISO 14224**: Promotes informed infrastructure investment decisions and structured data capture. **Optimized Resource Utilization**: Sustains levels of service with optimized resources, improving workforce effectiveness. Cost-Effective Service Levels: Identifies the most cost-effective ways to achieve proposed levels of service. **Enhanced Asset Management Execution**: Aligns maintenance activities with system function and levels of service. **Consistency Across the Organization**: Promotes consistency in maintenance and reporting practices. **Public Transparency and Accountability**: Facilitates public trust and understanding of the annual review of asset management plans. **Drill-Down to Problems and Roll-up Costs**: Function-based hierarchies enable streamlined problem analysis, coordinated planning of work on multiple assets, and systematic application of remedies.
Ongoing Asset Management Reporting, including Annual Update of Progress Implementing AMP	O.Reg. 588/17 requires that the City provide an annual update of the progress implementing the AMP, following the 2025 Asset Management Plan. It is recommended that this update include an update to the State of the Infrastructure, and the LOS metrics as set out in this AMP.	**Alignment with O. Reg 588:** This is a requirement of the regulation. **Public Transparency and Accountability:** Ensures the public is aware of the progress being made in AMP, and the benefit of the implementation of the recommendations in this plan in providing services. **Supports Asset Management Planning and Long-Term Planning:** The annual update provides an opportunity to ensure asset management continues to evolve in the City to ensure data-driven decisions.

Description	Task	Benefit / Outcome
Grant Funding	To support the continued efforts to find alternatives to address the funding gap, it is imperative the City continue to look for opportunities to leverage grant funding from various levels of government in support of asset management planning. This requires tracking existing and new grants as they come available, organizing the coordination of the application processes among various stakeholders, and application submittals.	**Cost Savings:** The City heavily relies on grant funding to support infrastructure and services to minimize impacts on the taxpayers. Without these grant funds, the City would be forced to lower/remove services available or put the additional costs on the tax levy and increase rates.
Data Methodology	Review and develop consistent methods for determining data fields that may change over time, particularly replacement values.	Updating replacement values of assets is crucial for several reasons including: **Accurate Financial Reporting:** Regularly updating asset values ensures that financial statements reflect the true cost of replacing assets. This helps in providing a clear and accurate picture of the City's financial health. **Inflation Adjustment:** Inflation can significantly impact the cost of materials and labour needed to replace assets. By updating replacement values, the City can account for these changes and avoid underestimating future costs. **Insurance Coverage:** Accurate replacement values are essential for determining appropriate insurance coverage. If asset values are outdated, insurance may not fully cover the cost of replacing damaged or lost assets. **Budgeting and Planning:** Knowing the current replacement costs helps in effective budgeting and long-term planning. It ensures that sufficient funds are allocated for asset maintenance and replacement. **Asset Management:** Regular updates to asset values aid in better

Description	Task	Benefit / Outcome
		asset management, helping the City make informed decisions about repairs, upgrades or replacements.
Condition Assessment: Develop a consistent framework and data collection protocol	Document and provide more information on condition definitions and how condition ratings are assigned to individual asset categories. Identify which subjectively rated assets require a formal objective condition rating process and look to define and implement those processes, where able. **Standardize Condition Definitions:** Establishing clear, well-documented definitions that reflect the unique characteristics and performance expectations of each asset category. **Validate Across All Assets:** Ensuring that these definitions are applied consistently across the entire asset portfolio, with validation processes in place to confirm accuracy and relevance. **Enhance Stakeholder Understanding:** Documenting and communicating condition definitions to all relevant stakeholders, including asset managers, decision-makers, and operational teams, to promote a shared understanding and support informed decision-making. **Develop a consistent framework and data collection protocol** for condition assessments on linear and non-linear assets. Include attribute data required for data collection and how condition data is integrated with the work management system.	**Increased Transparency and Reliability:** Defining how condition ratings are assigned provides increased transparency and reliability in the data when how condition is evaluated is clear. It is also a requirement of O. Reg. 588/17 to provide "a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate." **Consistency:** By ensuring there is consistency, asset reporting will be repeatable, and the City will be able to assess the improvements/declines in asset condition regularly to improve oversight on assets.

Description	Task	Benefit / Outcome
Data Updates & Data Governance	Review and update basic asset information where possible, such as installation dates to improve accuracy and precision. This may include reviewing historic documents to determine values or developing consistent strategies for addressing gaps and understanding how these assumptions may impact decision-making. Align data sources and ensure that asset registries are maintained regularly and stored appropriately and continue the development of processes to annually review asset sub-systems and financial data. Process to include identification of gaps in current process to ensure better alignment between all systems going forward	Data updates and data governance are essential to asset management for several reasons: **Accuracy and Reliability:** Regular updates ensure that the data used for asset management is accurate and reflects the current state of assets. **Risk Management:** Updated data helps in identifying potential risks and mitigating them promptly. **Compliance:** Keeping up-to-date data ensures compliance with regulatory requirements. **Data Quality:** A robust framework ensures high data quality by establishing standards and practices for data management. This reduces errors and consistency and improves the accuracy of asset management forecasts. **Operational Efficiency:** Effective data governance streamlines data management processes, reducing redundancy and improving efficiency. **Strategic Decision-Making:** With reliable and well-governed data, asset managers can make strategic decisions that drive growth and innovation.
Business Process Mapping	Develop and maintain business processes, a detailed easy to read visual component outlining the process of a venture from start to finish. This not only applies to asset management processes, but data and lifecycle management as well. This includes reviewing current processes and explicitly defining tasks, decision points, inputs and outputs, as well as roles and responsibilities.	**Ensures data will support data-driven, defensible, and strategic decision-making:** Asset management planning forecasts will be more accurate, and more time available further enhancing problem solving than simply reporting. The outcome from this visual will reduce costs, confusion on asset information and asset planning.

Description	Task	Benefit / Outcome
Maintenance Maturity Assessment	Conduct a Maintenance Management Maturity Assessment in alignment with a generally accepted framework such as a Global Forum for Maintenance and Asset Management (GFMAM). Perform data analysis, conduct surveys and interviews to determine the current state and desired future state. Develop a 5-year improvement roadmap to achieve the desired future state.	**Provides a Roadmap** to improve overall execution of the defined asset management plan from the maintenance perspective. The roadmap serves as a common guide for all groups. **Build Consistency and Alignment Across the Organization**: Builds further alignment between the asset management plan and operations and maintenance.
Work Management System Audit and Assessment	Understanding the value extracted from your existing maintenance work system is key to ensure alignment with execution of your asset management plan, managing your levels of service at the lowest risk and cost. The audit will consist of extracting data from the work management system, conducting current state interviews, and reporting overall findings using metrics based on typical industry standards such as a Society for Maintenance and Reliability Professionals (SMRP). The key deliverable will be a roadmap with initial recommendations to improve work management, data and information management, and bridge gaps between maintenance and asset management.	**Build Consistency and Alignment Across the Organization:** Builds further alignment between the asset management plan and operations and maintenance. **Improved Resource Utilization**: By analyzing current processes and identifying inefficiencies, the audit can help optimize resource allocation, reducing waste and improving productivity. **Enhanced Decision-Making**: The audit provides detailed insights and expert recommendations, enabling more informed and effective decision-making. **Increased Efficiency**: Identifying gaps and areas for improvement can streamline operations, leading to faster and more efficient workflows. **Cost Savings:** By addressing inefficiencies and optimizing maintenance practices, the audit can lead to significant cost reductions. **Compliance and Risk Management:** Ensuring alignment with industry standards like SMRP can help mitigate risks and ensure compliance with regulations.

Description	Task	Benefit / Outcome
Asset Management and CMMS Improvement Implementation	Implementing the recommendations of the Work Management and Asset Management System Audit and Assessment, including expanding CMMS systems to areas not currently leveraging technology to track work.	**Build Consistency and Alignment Across the Organization:** Builds further alignment between the asset management plan and operations and maintenance. **Improved Resource Utilization**: To optimize resource allocation, reducing waste and improving productivity. **Enhanced Decision-Making**: Enables more informed and effective decision-making. **Increased Efficiency**: Identifying gaps and areas for improvement can streamline operations, leading to faster and more efficient workflows. **Cost Savings:** By addressing inefficiencies and optimizing maintenance practices, the audit can lead to significant cost reductions. **Provides the most accurate and up-to-date information:** Allows for ease of reporting with clear definitions of sources of information. **Decision support systems:** allow forecasting to be done similar to the analyses completed for this AMP, with opportunities to continually enhancing the forecasts to incorporate several strategies and alternative interventions for consideration.
Failure Analysis	List of failure modes and mitigating actions. All decisions about the refurbishment and replacement of an asset and the timing of these activities should be based on a sound determination of the asset's critical failure mode. Identification of critical failure modes will ensure that the City focuses on the assets and failures that can have the most impact on its ability to deliver services.	**Improve Prioritization:** Identification of critical failure modes will ensure that the City focuses on the assets and failures that can have the most impact on its ability to deliver services. **Accurate Forecasts:** By understanding when the City should/needs to replace assets, these decisions can more accurately be integrated into forecasting to ensure accurate investments are identified. By having an improved understanding of asset failure, the City can more accurately forecast asset needs and target assets more likely to fail based on reliable data. Assets as they reach the end of their service life are prone to increased risks and failures and more costly for

Description	Task	Benefit / Outcome
		reactive maintenance. These should be documented to ensure transparency and consistency for asset planning purposes.
Incorporate Asset Management into Budget Development	Develop processes to align budget with asset management planning. This can be accomplished by incorporating LOS into business cases for capital projects, explanation of lifecycle cost impacts of new assets, focusing communication of budget requests to the long-term needs of the assets and the impacts to service delivery, and aligning budgets to Lifecycle Activities, specifically for the Operation Budget.	**Connects Spending to Service Delivery:** Asset management links infrastructure investments to the levels of service the City wants to provide. Instead of budgeting based on what was spent last year, decisions are grounded in what assets are needed, when, and why to meet service expectations. **Supports Long-Term Financial Planning:** Municipal budgets often focus on the next year or two, but infrastructure assets last decisions. Asset Management provides a long-term view of costs, helping Councils understand future funding needs and avoid unexpected spikes. **Prioritization of Limited Resources:** Asset management helps identify high-risk assets, and prioritize investment where it will have the most impact, improve value for money. **Improves Transparency and Accountability:** By linking asset needs to budget decisions, the City can explain their decisions clearly to Council and the public, building trust and demonstrates that funding requests are data-driven and strategic.
Lifecycle Strategy Enhancements	Continue to expand and improve on lifecycle management strategies used to forecast the infrastructure needs of assets. Determine how lower cost alternatives for interventions can be included in forecasting (i.e. Relining for pipes, etc.).	**Cost Savings:** Optimize maintenance practices and reduce unplanned downtime, leading to substantial cost savings. Understanding and documenting where cheaper alternatives (like pipe relining instead of open-cut replacement) can be leveraged also helps to ensure services are provided at the lowest possible cost. **Accurate Forecasting:** The City often uses alternative lifecycle strategies to improve asset reliability. These are often on a case-by-case basis and not well documented for how and why these

Description	Task	Benefit / Outcome
		alternatives are appropriate. Understanding these alternatives and documenting them will allow for more accurate forecasting.
Implement a Criticality and Risk Assessment Framework	Build a criticality and risk assessment framework. It is recommended the framework be aligned to organizational objective and levels of service. When building the framework, it is important to define the risk- and criticality-based decisions the framework will support. This includes the prioritization of aspects such as capital plans, capital project prioritization, condition assessments, operational procedures development, asset strategy development, work requests and orders, etc..	**Improved Asset Management**: Prioritize maintenance and investment based on asset criticality and risk, leading to more efficient resource allocation. **Enhanced Risk Mitigation**: Identify and address high-risk areas, reducing the likelihood of asset failure and associated costs. **Cost Savings**: Optimize maintenance practices and reduce unplanned downtime, leading to substantial cost savings. **Compliance and Resilience**: Ensure compliance with regulations and improve the resilience of municipal infrastructure **Risk and criticality-based decisions** to sustain level of service at the lowest cost.
Integrating Climate Change into Asset Management Planning	To strengthen climate integration in asset management, the City should prioritize updating data, improving reporting practices, and securing sustainable funding to address climate-related infrastructure vulnerabilities. To enhance climate resilience, the City should: **Assess Climate Risks to Infrastructure** **Enhance Financial Planning for Climate Resilience** **Update Master Plans and Policies** **Implement Climate-Responsive Asset Management Practices**	**Long-term Service Reliability & Financial Sustainability:** Integrating climate considerations into asset management planning is essential to ensuring long-term service reliability, financial sustainability, and infrastructure resilience. Climate change can accelerate asset deterioration, increase maintenance and replacement costs, and introduce new risks that must be proactively managed. **Improved Decision-Making:** By integrating climate change into asset management planning, the Region can make informed investment decisions that protect assets, services, and communities from the impacts of climate change and extreme weather events.

15 O.Reg. 588/17 Asset Management Plan Compliance

An overview of the status of the City's compliance for asset management plans based on O.Reg. 588/17 can be found in Table 15-1.

Table 15-1. O.Reg. 588/17 Asset Management Plan Compliance

Section	Regulation Requirement	Compliant Check
5.(1)	**Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets by July 1, 2022, and in respect of all of its other municipal infrastructure assets by July 1, 2024.**	Yes
5. (2)	**A municipality's asset management plan must include the following:**	
5. (2) 1.	For each asset category, the current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan	Yes
5. (2) 1. i.	With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.	Yes
5. (2) 1. ii.	With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.	Yes

Section	Regulation Requirement	Compliant Check
5. (2) 2.	The current performance of each asset category, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency, and based on data from at most two calendar years prior to the year in which all information required under this section is included in the asset management plan	Yes
5.(2) 3.	**For each asset category,**	Yes
5.(2) 3. i.	A summary of the assets in the category,	Yes
5.(2) 3. ii.	The replacement cost of the assets in the category,	Yes
5.(2) 3. iii.	The average age of the assets in the category, determined by assessing the average age of the components of the assets,	Yes
5.(2) 3. iv.	The information available on the condition of the assets in the category, and	Yes
5.(2) 3. v.	A description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate.	Yes
5.(2) 4.	For each asset category, the lifecycle activities that would need to be undertaken to maintain the current levels of service as described in paragraph 1 for each of the 10 years following the year for which the current levels of service under paragraph 1 are determined and the costs of providing those activities based on an assessment of the following:	Yes
5.(2) 4. i.	The full lifecycle of the assets	Yes

Section	Regulation Requirement	Compliant Check
5.(2) 4. ii.	The options for which lifecycle activities could potentially be undertaken to maintain the current levels of service.	Yes
5.(2) 4. iii.	The risks associated with the options referred to in subparagraph ii.	Yes
5.(2) 4. iv.	The lifecycle activities referred to in subparagraph ii that can be undertaken for the lowest cost to maintain the current levels of service.	Yes
5.(2) 5.	For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, the following:	Yes
5.(2) 5. i.	A description of assumptions regarding future changes in population or economic activity.	Yes
5.(2) 5. ii.	How the assumptions referred to in subparagraph i relate to the information required by paragraph 4.	Yes
5.(2) 6.	For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census, the following:	N/A
5.(2) 6. i.	With respect to municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are set out in Schedule 3 or 7 to the 2017 Growth Plan, those forecasts.	N/A
5.(2) 6. ii.	With respect to lower-tier municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are not set out in Schedule 7 to the 2017 Growth Plan, the portion of the forecasts allocated to the lower-tier municipality in the official plan of the upper-tier municipality of which it is a part.	N/A

Section	Regulation Requirement	Compliant Check
5.(2) 6. iii.	With respect to upper-tier municipalities or single-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the municipality that are set out in its official plan.	N/A
5.(2) 6. iv.	With respect to lower-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the lower-tier municipality that are set out in the official plan of the upper-tier municipality of which it is a part.	N/A
5.(2) 6. v.	If, with respect to any municipality referred to in subparagraph iii or iv, the population and employment forecasts for the municipality cannot be determined as set out in those subparagraphs, a description of assumptions regarding future changes in population or economic activity.	N/A
5.(2) 6. vi.	For each of the 10 years following the year for which the current levels of service under paragraph 1 are determined, the estimated capital expenditures and significant operating costs related to the lifecycle activities required to maintain the current levels of service in order to accommodate projected increases in demand caused by growth, including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets.	Yes
5. (3)	Every asset management plan must indicate how all background information and reports upon which the information required by paragraph 3 of subsection (2) is based will be made available to the public.	Yes

Section	Regulation Requirement	Compliant Check
5. (4)	In this section, "2017 Growth Plan" means the Growth Plan for the Greater Golden Horseshoe, 2017 that was approved under subsection 7 (6) of the Places to Grow Act, 2005 on May 16, 2017 and came into effect on July 1, 2017; ("Plan de croissance de 2017") "Greater Golden Horseshoe growth plan area" means the area designated by section 2 of Ontario Regulation 416/05 (Growth Plan Areas) made under the Places to Grow Act, 2005	
6. (1)	**Asset management plans, proposed levels of service Subject to subsection (2), by July 1, 2024 (2025), every asset management plan prepared under section 5 must include the following additional information:**	Yes
6. (1) 1.	For each asset category, the levels of service that the municipality proposes to provide for each of the 10 years following the year in which all information required under section 5 and this section is included in the asset management plan, determined in accordance with the following qualitative descriptions and technical metrics:	Yes
6. (1) 1. i.	With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.	Yes
6. (1) 1. ii.	With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.	Yes
6. (1) 2.	An explanation of why the proposed levels of service under paragraph 1 are appropriate for the municipality, based on an assessment of the following:	Yes

Section	Regulation Requirement	Compliant Check
6. (1) 2. i.	The options for the proposed levels of service and the risks associated with those options to the long term sustainability of the municipality.	Yes
6. (1) 2. ii.	How the proposed levels of service differ from the current levels of service set out under paragraph 1 of subsection 5 (2).	Yes
6. (1) 2. iii.	Whether the proposed levels of service are achievable.	Yes
6. (1) 2. iv.	The municipality's ability to afford the proposed levels of service.	Yes
6. (1) 3.	The proposed performance of each asset category for each year of the 10-year period referred to in paragraph 1, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency.	Yes
6. (1) 4.	A lifecycle management and financial strategy that sets out the following information with respect to the assets in each asset category for the 10-year period referred to in paragraph 1:	Yes
6. (1) 4. i.	An identification of the lifecycle activities that would need to be undertaken to provide the proposed levels of service described in paragraph 1, based on an assessment of the following:	Yes
6. (1) 4. i. A.	The full lifecycle of the assets.	Yes
6. (1) 4. i. B.	The options for which lifecycle activities could potentially be undertaken to achieve the proposed levels of service.	Yes

Section	Regulation Requirement	Compliant Check
6. (1) 4. i. C.	The risks associated with the options referred to in sub-subparagraph B.	Yes
6. (1) 4. i. D.	The lifecycle activities referred to in sub-subparagraph B that can be undertaken for the lowest cost to achieve the proposed levels of service.	Yes
6. (1) 4. ii.	An estimate of the annual costs for each of the 10 years of undertaking the lifecycle activities identified in subparagraph i, separated into capital expenditures and significant operating costs.	Yes
6. (1) 4. iii.	An identification of the annual funding projected to be available to undertake lifecycle activities and an explanation of the options examined by the municipality to maximize the funding projected to be available.	Yes
6. (1) 4. iv.	If, based on the funding projected to be available, the municipality identifies a funding shortfall for the lifecycle activities identified in subparagraph i,	Yes
6. (1) 4. iv. A.	An identification of the lifecycle activities, whether set out in subparagraph i or otherwise, that the municipality will undertake, and	Yes
6. (1) 4. iv. B.	If applicable, an explanation of how the municipality will manage the risks associated with not undertaking any of the lifecycle activities identified in subparagraph i.	Yes
6. (1) 5.	For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, a discussion of how the assumptions regarding future changes in population and economic activity, set out in subparagraph 5 i of subsection 5 (2), informed the preparation of the lifecycle management and financial strategy referred to in paragraph 4 of this subsection.	Yes

Section	Regulation Requirement	Compliant Check
6. (1) 6.	For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census,	N/A
6. (1) 6. i.	The estimated capital expenditures and significant operating costs to achieve the proposed levels of service as described in paragraph 1 in order to accommodate projected increases in demand caused by population and employment growth, as set out in the forecasts or assumptions referred to in paragraph 6 of subsection 5 (2), including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets,	N/A
6. (1) 6. ii.	The funding projected to be available, by source, as a result of increased population and economic activity, and	N/A
6. (1) 6. iii.	An overview of the risks associated with implementation of the asset management plan and any actions that would be proposed in response to those risks.	Yes
6. (1) 7.	An explanation of any other key assumptions underlying the plan that have not previously been explained.	Yes
6. (2)	With respect to an asset management plan prepared under section 5 on or before July 1, 2021, if the additional information required under this section is not included before July 1, 2023, the municipality shall, before including the additional information, update the current levels of service set out under paragraph 1 of subsection 5 (2) and the current performance measures set out under paragraph 2 of subsection 5 (2) based on data from the two most recent calendar years.	Yes

Section	Regulation Requirement	Compliant Check
7. (1)	Every municipality shall review and update its asset management plan at least five years after the year in which the plan is completed under section 6 and at least every five years thereafter.	N/A until after 2025 AMP
7. (2)	The updated asset management plan must comply with the requirements set out under paragraphs 1, 2 and 3 and subparagraphs 5 i and 6 i, ii, iii, iv and v of subsection 5 (2), subsection 5 (3) and paragraphs 1 to 7 of subsection 6 (1).	N/A until after 2025 AMP
8	**Every asset management plan prepared under section 5 or 6, or updated under section 7, must be,**	Yes
8.(a)	Endorsed by the executive lead of the municipality; and	Yes, upon endorsement of executive lead
8.(b)	Approved by a resolution passed by the municipal council.	Yes, upon approved resolution passed by municipal council
9. (1)	Every municipal council shall conduct an annual review of its asset management progress on or before July 1 in each year, starting the year after the municipality's asset management plan is completed under section 6.	N/A until after 2025
9. (2)	**The annual review must address,**	N/A until after 2025
9. (2) (a)	The municipality's progress in implementing its asset management plan;	N/A until after 2025

Section	Regulation Requirement	Compliant Check
9. (2) (b)	Any factors impeding the municipality's ability to implement its asset management plan; and	N/A until after 2025
9. (2) (c)	A strategy to address the factors described in clause (b).	N/A until after 2025
10.	Every municipality shall post its current strategic asset management policy and asset management plan on a website that is available to the public, and shall provide a copy of the policy and plan to any person who requests it.	Yes

Appendix A: Wastewater Scope Map

PORT COLBORNE

Appendix B: Water Scope Map

PORT COLBORNE

Appendix C: Stormwater Scope Map

PORT COLBORNE

Appendix D: Transportation Scope Map (Road Class)

PORT COLBORNE

Appendix E: Transportation Quality Map (Surface Type)

PORT COLBORNE

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