CITY OF STRATFORD

ASSET MANAGEMENT PLAN 2026

Acknowledgements

The City of Stratford 2026 Asset Management Plan (AMP) is an update of the interim plan presented in early 2025, outlining the state, risk profile, service levels, and funding needs of the City's 36,000 assets, valued at approximately $1.770 billion. It details the asset inventory, replacement costs, lifecycle strategies, and financial planning required to meet service level expectations. As a dynamic document, the AMP will evolve with data, market conditions, technology, and changes in service requirements.

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This plan is made possible through the efforts of many City staff and members of outside boards, with extended gratitude to the following contributors for their work:

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City of Stratford Land Acknowledgement

We acknowledge that Stratford is positioned on the traditional territory of the Haudenosaunee, Anishinaabe, and the Neutral (Attawandaron) Peoples. As we gather, we are reminded that the City of Stratford is situated on treaty land that is steeped in rich Indigenous history and home to many First Nations, Métis, and Inuit Peoples today.

We acknowledge that Stratford is situated on land that was shared between the Haudenosaunee, Anishinaabe, and the Neutral (Attawandaron) Peoples. We are grateful to have the opportunity to live, work, and play on this land.

Table of Contents

1.0 Executive Summary

The City of Stratford's infrastructure forms the foundation of the City's economic strength, environmental sustainability, and overall quality of life for residents and visitors. The City's Asset Management Plan (AMP) provides a strategic framework for managing these assets responsibly to ensure that essential services are delivered safely, reliably, and cost effectively.

Effective asset management supports long-term planning, informed decision making, and risk management by aligning infrastructure investment with community priorities and available funding. Understanding the current condition and performance of assets is critical to maintaining service levels and planning for future needs. Changes in funding, service expectations, or maintenance strategies can influence long-term forecasts, emphasizing the importance of following multi-year capital plans rooted in sound asset management principles. Departures from these plans should be limited to emergencies or urgent repairs to preserve financial stability and predictability.

Like many municipalities across Ontario, Stratford faces a significant infrastructure funding gap. Ontario's combined municipal deficit in roads and bridges alone exceeds $44 billion, illustrating that Stratford's challenges are not unique but rather, are part of a broader, province-wide issue.

As the city continues to grow, the proactive management of both new and existing infrastructure will be essential to support sustainable development and maintain high quality services for residents. This updated Asset Management Plan and ongoing maintenance of the Plan reflect Stratford's commitment to progressive, sustainable practices and its vision of a vibrant, inclusive, and well serviced community for all who live, work, and visit here.

1.1 Key Statistics

36,000 Total number of City owned assets ⇧ **Increase from 2019 (34,500)**	**51.5%** Percentage of total assets that are underground (not visible) ⇧ **Increase from 2019 (48.1%)**
$1.770 billion Replacement cost of asset portfolio ⇧ **Increase from 2019 ($944 million)**	**76%** Percentage of assets in fair or better condition ⇧ **Increase from 2019 (56%)**
$32.3 million Target annual capital investment to meet asset replacement needs ⇧ **Increase from 2019 ($21.5 million)**	**$21.6 million** Average available capital funding for asset replacement ⇧ **Increase from 2019 ($12.3 million)**
13,287 Number of households in the City ⇧ **Increase from 2019 (12,376)**	**$133,062** Replacement cost of infrastructure per household ⇧ **Increase from 2019 ($68,149)**

With the adoption of this plan, the City has achieved compliance with the Phase 4 requirements within Ontario Regulation 588/17. The Plan replaces the AMP developed in 2019 and the interim plan presented in March 2025. The outputs of the asset management process are intended to inform and shape the budgeting and capital planning processes to ensure financial sustainability.

1.2 Scope of Assets

The Asset Management Plan summarizes the state of the infrastructure for the City's core and non-core asset portfolio as defined within O.Reg. 588/17. The plan establishes current and proposed levels of service and the associated technical and community driven key performance indicators (KPIs). It outlines lifecycle strategies for optimal asset management and performance and provides financial strategies to reach sustainability for the asset categories listed below.

It should be noted that in this AMP, the categorization of assets has changed from previous versions of the plan. This was done to better align the categories with services which makes the data more intuitive and practical to navigate and interpret.

Table 1: Asset Categories and Sources of Funding

Asset Category	Source of Funding
City Facilities	Tax Levy
Fleet and Equipment	Tax Levy
Parks and Land Improvements	Tax Levy
Social Housing (Municipally Shared)	Tax Levy
Solid Waste	Tax Levy/User Rates
Stormwater Network	Tax Levy
Transportation Network	Tax Levy
Wastewater Network	User Rates
Water Network	User Rates

1.3 State of the Infrastructure

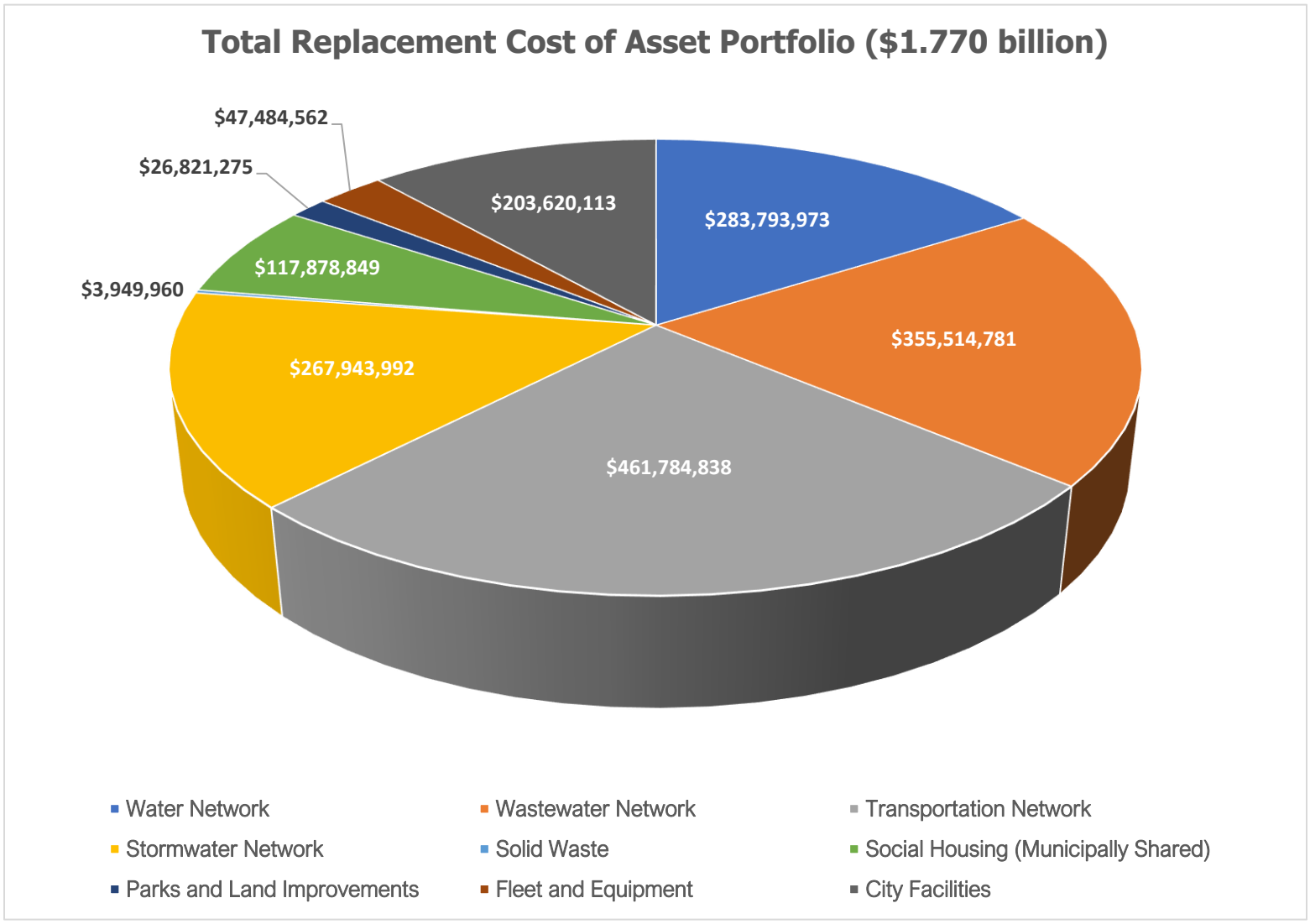
The State of the Infrastructure provides a comprehensive assessment of physical assets (roads, water systems, buildings, etc.) to determine their condition, age, remaining useful life, and replacement value, helping the City to plan maintenance, identify investment needs, and ensure public service delivery. It's a snapshot showing how well essential services are supported, often using rating scales (ex. Good, Fair, Poor) to highlight areas needing rehabilitation or replacement to avoid future failures. Conditions are typically assessed using an industry-standard scale ranging from Very Good to Very Poor. This standardized approach allows for consistent comparison across different asset types. The City continues to refine its methods for evaluating asset conditions and calculating replacement costs.

As of 2025, the City's asset portfolio holds an estimated replacement value of approximately $1.770 billion. Figure 1 displays the distribution of the total replacement

cost across the asset categories. This equates to an estimated replacement cost of $133,062 per household.

It is important to note that this plan is based on data as of November 2025 therefore, it represents a snapshot in time using the best available processes, data, and information at the City. It will be emphasized throughout this report that asset management planning is an ongoing process that requires continuous data updates and dedicated data management resources.

Figure 1: Total Replacement Cost by Category



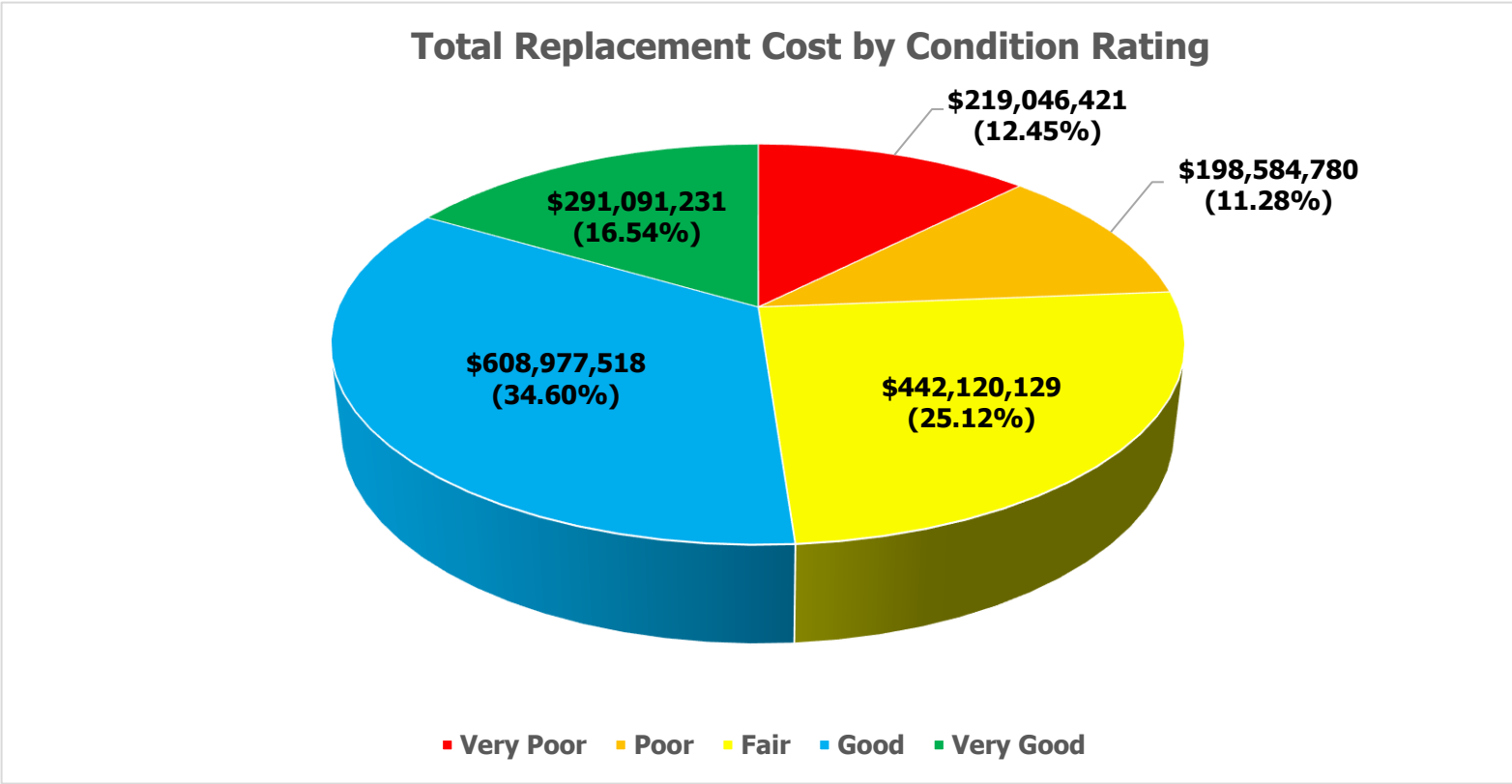
Asset value can refer to historical cost, replacement cost or its contribution to the community. For the purposes of this plan, the focus of replacement value is exclusively on replacement cost. Estimating replacement cost considers the type of asset and relies on the most recent information available. Replacement cost may include consideration of technological enhancements or obsolescence, so replacing like-for-like is not always

possible. Where possible, actual costs from recent projects or procurement activities are used as a reference. In cases where this data is unavailable, estimates may be derived using historical costs adjusted by indices such as the Consumer Price Index (CPI), Building Construction Price Index (BCPI) or informed by expert and professional staff judgment in the asset category.

Currently, about 76% of the City's assets are rated as Very Good, Good, or Fair but continuous and increasing investment in both capital work and lifecycle management remains critical. This rating is a significant increase from the last AMP which showed 56% of the total assets in fair or better condition. Updating asset condition data was prioritized in 2025 in preparation of this AMP update. The Plan highlights the importance of condition data because better quality data reflects the true state of the infrastructure, which includes backlogged works.

Although updated data has contributed to the improvement of the overall condition of the City's assets, a significant portion of the increase in asset ratings were a result of infrastructure renewal investments driven by the current term of Council. Updating the condition data of existing assets has been critical but the investment into roads, facilities, water, wastewater etc. should not be understated as significant capital work has been completed in the last few years. Figure 2 illustrates how the total replacement cost is distributed across the five condition categories.

Figure 2: Total Replacement Cost by Condition Rating



Approximately 66% of Stratford's assets have assessed condition data available, while the remainder rely on asset age or an internal condition scoring matrix as a proxy. This approach is common for assets that are difficult or costly to inspect, such as underground sewer mains. While age provides an estimate, it may not fully reflect true condition, reinforcing the importance of regular assessments. It is also why 'desktop' condition assessments that incorporate other known attributes like pipe material, maintenance history and pipe size, are important because this data provides more accurate condition estimates than conventional age-based scoring.

Table 2 provides an overview of the data collection methodology and confidence rating of the data by asset category.

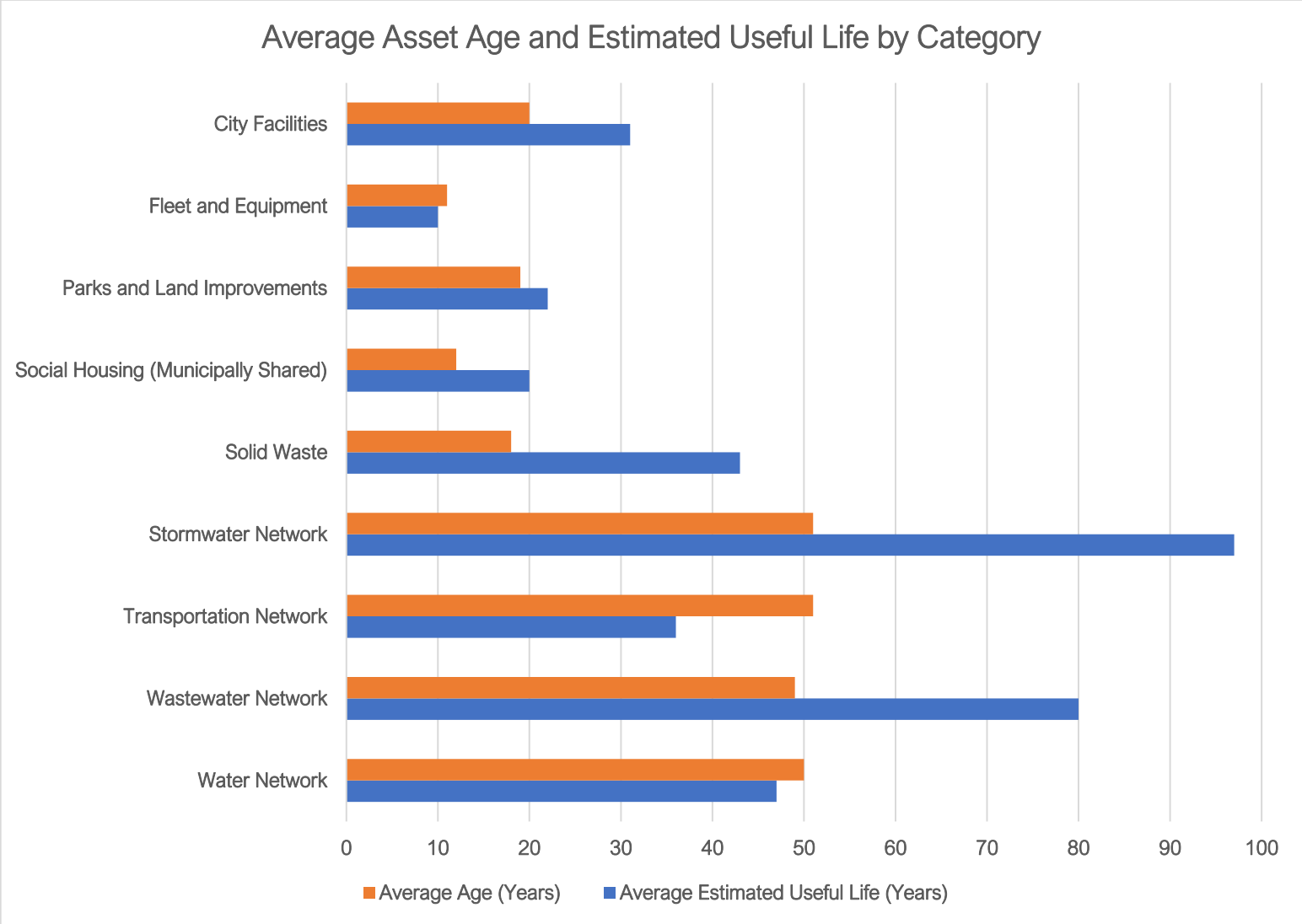
Table 2: Data Collection Methodology and Confidence Rating

Asset Category	Data Confidence Rating	Condition Data	Replacement Cost Method
City Facilities	Low	2026 Building Condition Assessment (BCA) study to be completed which will give 100% Condition Assessments to all assets	Inflating historical costs and market values after BCA
Fleet and Equipment	Very High	100% Staff Assessments	Historical costs inflated
Parks and Land Improvements	High	80% Staff Assessment 20% Age of Assets	Historical costs inflated
Social Housing (Municipally Shared)	Low	2026 BCA study to be completed which will give 100% Condition Assessments to all assets	Inflating historical costs and market values after BCA
Solid Waste	Moderate	75% Staff Assessment 25% Age of Assets	Historical costs inflated
Stormwater Network	Low	10% Formal Condition Assessment 90% Staff Desktop Assessment	Per unit costing, staff estimates and inflating historical costs
Transportation Network	High	90% Formal Condition Assessment 10% Age of Assets	Per unit costing, staff estimates and inflating historical costs
Wastewater Network	Low	10% Formal Condition Assessment 90% Staff Desktop Assessment	Per unit costing, staff estimates and inflating historical costs
Water Network	Moderate	20% Formal Condition Assessment 80% Staff Desktop Assessment	Per unit costing, staff estimates and inflating historical costs

The accuracy of this plan depends on the quality of available data. The City is actively addressing data gaps, collecting additional information, and improving records to strengthen confidence for future AMP updates. Asset management is an ongoing, evolving process, and this plan identifies areas for improvement with recommendations for future enhancements.

Each asset is assigned an Estimated Useful Life (EUL), indicating the period it is expected to deliver its intended level of service. EULs range from a few years for frequently replaced components, like water system sensors, to over 75 years for infrastructure appurtenances like fire hydrants. City Land in Asset Management is typically given no EUL because it is land and not expected to be replaced the same as a typical tangible asset. Figure 3 summarizes the average age and EULs across all asset categories.

Figure 3: Average Asset Age and Estimated Useful Life by Category



A portion of the City's infrastructure is approaching the end of its expected service life, with condition ratings generally declining as assets age. As these assets continue to deteriorate, the cost of operations and maintenance typically increases until renewal, rehabilitation, or replacement is required.

Proactive lifecycle management can often extend an asset's useful life beyond initial projections. Fleet and Equipment is a good example as the City has many assets in this category operating beyond their EUL. Conversely, if appropriate maintenance and interventions are not performed, assets may fail prematurely or require financial injections sooner than originally anticipated.

1.4 Community Research and Expectations

A community survey was conducted through the City's Engage Stratford platform and via public "pop up" events in 2025 to gather feedback on satisfaction with the condition and performance of municipal assets and services. The survey focused on key service areas and provided residents an opportunity to identify areas for improvement and share their perspectives on potential changes to service levels. In total there were 235 responses to the survey, a notable result for a survey of this length and detail.

An overall takeaway from the survey is that residents value Stratford's quality of life, parks, and public facilities but are highly concerned about affordability and the condition of core infrastructure, particularly roads and snow removal. While there is some willingness to accept modest tax increases, most residents favour maintaining or improving service levels through operational efficiencies, cost recovery, and better spending management rather than higher taxation.

Key survey data points:

- Demographics:
    - Most respondents were between 35-64 years of age
    - 57% of respondents have lived in Stratford for more than 15 years
    - 63% of respondents described themselves as "knowledgeable" about city infrastructure

- Satisfaction Levels:
    - Highest satisfaction categories: parks, green spaces, and city facilities
    - Moderate satisfaction categories: water and stormwater management
    - Lowest satisfaction categories: roads, traffic flow, pedestrian, and cyclist safety

- Service Priorities (Top 3):
    - Highest priority services for residents: roads, water, and wastewater, parks, and green spaces

    - Service improvements residents are most willing to fund: roads, parks and outdoor recreation, active transportation
    - Services residents want reduced spending: fire, police, parking, and transit

- Tax and Funding:
    - 42% preferred to maintain taxes at current levels, accepting minor service reduction
    - 31% supported a slight tax increase to maintain existing service levels
    - 24% favoured a tax decrease even if it means reduced service levels
    - 3% were undecided

- Themes of Open Comment Section:
    - Road conditions were the most common service concern
    - Mixed views on downtown beautification spending, some value it while many see it as a lower priority
    - Broad support for user pays models (ex. recreation and cultural services)
    - Many calls to explore alternative delivery models with specific comments on volunteer-based fire support
    - Encouragement to pursue non taxing funding options such as grants, sponsorship and tourism revenue
    - Interest in enhanced pedestrian and cycling safety though opinions on bike lane expansions are divided
    - Some residents highlighted needs for affordable housing, social support, and family programming

The most common message is clear in the feedback: maintain service quality though existing resource management, not higher taxes. Based on this main theme, the AMP will show in several sections, how long-term strategies involve approaches that focus on maintaining service levels by better utilization of existing resources without having to resort to significant tax increases.

1.5 Levels of Service

A key principle of effective asset management is clearly defining the levels of service (LOS) that the community expects and is willing to fund, along with determining the most cost-effective way to deliver those services. Many service levels for municipalities are legislated or mandated by the provincial and federal governments. In the case of most of these legislated requirements, the City is expected to deliver the service but also has discretion over how the service is administered and delivered.

Feedback from the 2025 community survey indicates limited support for tax increases, highlighting the importance of maximizing value within existing resources. In response, this plan emphasizes the use of non-financial strategies such as improved asset data management, optimized maintenance planning, and enhanced coordination between departments to sustain current service levels efficiently.

To support this principle, this AMP includes detailed Levels of Service tables for all asset categories. These tables clearly link current service levels with proposed or target levels and outline any applicable corresponding costs to achieve those targets. This approach establishes a strong foundation for informed decision making and reinforces the City's commitment to maintaining quality service while ensuring fiscal responsibility.

It is important to note that O. Reg 588/17 does not prescribe which proposed LOS metrics municipalities need to define. A proposed LOS will be specific to each community's resident desires, political goals, and financial capacity. This can result in ranges of proposed LOS from increasing service levels and costs, to maintaining or even reducing current performance to mitigate future cost increases. Regardless of the proposed LOS chosen, O. Reg 588/17 requires municipalities to demonstrate the achievability and sustainability of their selected metrics.

1.6 Forecasted Capital Requirements

As assets age, they require increased maintenance, rehabilitation, and eventual replacement. This section will describe and summarize the forecasted capital requirements for the City's assets.

This Asset Management Plan primarily focuses on the management, renewal, and rehabilitation of existing municipal assets required to maintain current levels of service.

Growth-related infrastructure, including new assets and capacity expansions, is addressed through a combination of Development Charge-funded projects and growth enabling capital initiatives included in the City's 10-year capital forecast. While growth-related investments are reflected in the financial projections presented in this Plan, renewal of existing infrastructure remains the dominant driver of long-term funding needs.

Backlog

Backlog represents the value of asset renewal work that is considered overdue. The conventional method calculates backlog by identifying assets that have exceeded their modeled useful life. While this provides a standardized measure, it often overstates, or sometimes understates, an asset's true needs because many assets continue to perform well beyond their initially estimated service life.

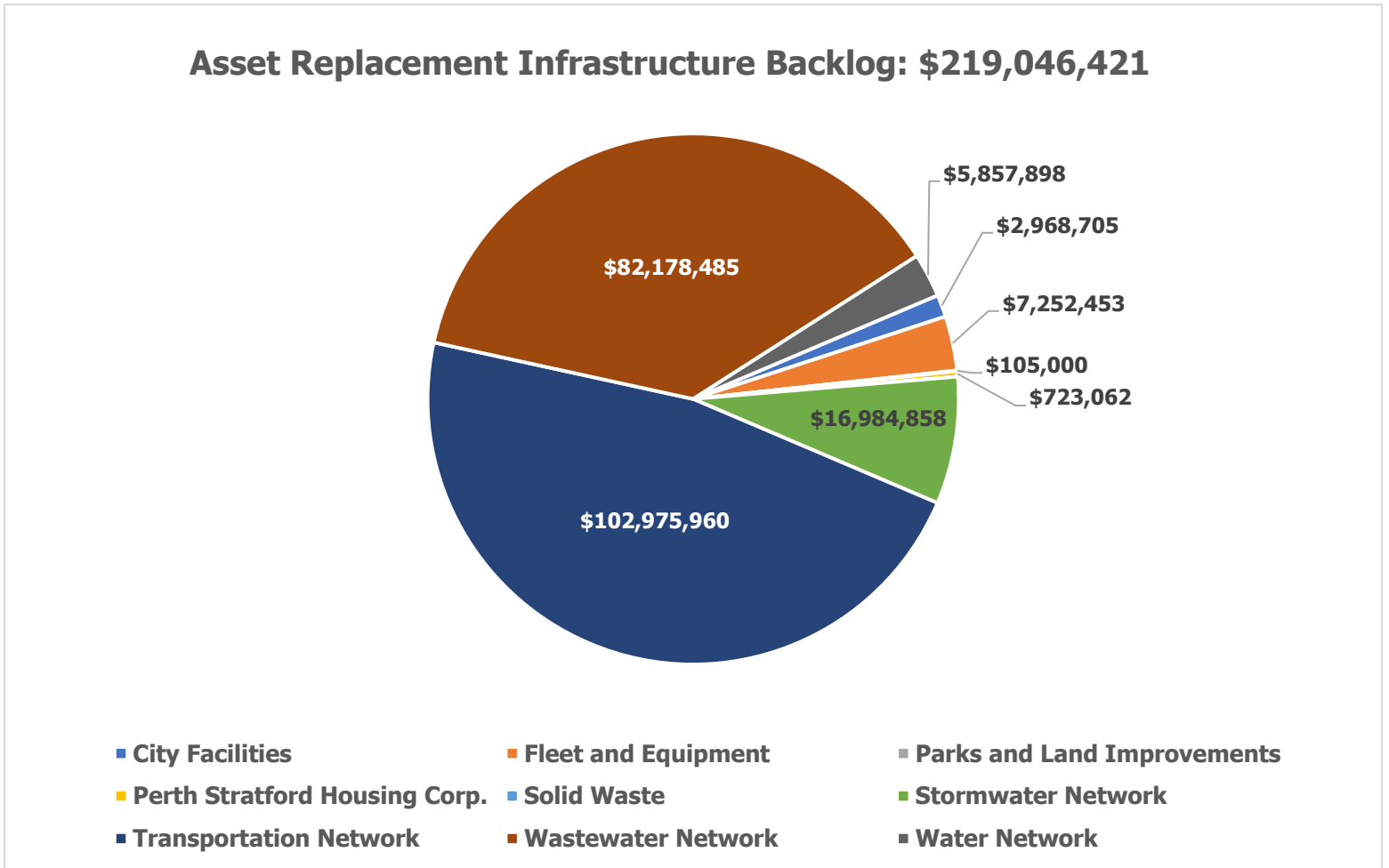
To provide a more accurate picture of urgent renewal needs, this AMP reports backlog as assets in "very poor" condition. These assets have been assessed as no longer providing expected service and present a higher risk of failure. This approach better reflects where immediate investment is required, while the conventional backlog shows the broader lifecycle deficit.

The City's assets considered in backlog are represented in the table and graph on the following page which shows by category, approximately $219 million in backlog asset replacement, representing approximately 12% of the total asset count.

Table 3: City Asset Backlog Summary

Asset Category	Backlog ("Very Poor" Condition Assets)
City Facilities	$2,968,705
Fleet and Equipment[1]	$7,252,453
Parks and Land Improvements	$105,000
Social Housing (Municipally Shared)	$723,062
Solid Waste	$0
Stormwater Network	$16,984,858
Transportation Network	$102,975,960
Wastewater Network	$82,178,485
Water Network	$5,857,898
Total	**$219,046,421**

Figure 4: City Asset Backlog Summary



[1] A portion of these assets are Stratford Police Services fleet and equipment, noting the existing data is all age based. Police fleet and equipment asset condition data with internal assessments is scheduled for completion in 2026. Updates will be reflected in the next AMP annual update.

While remediating assets in very poor condition is a critical priority, the City cannot allocate all available capital funding solely to backlog replacement. This is because capital investment is ideally required before assets fall into very poor condition to avoid service disruptions, higher long-term costs, and increased risk. Large replacement-only programs would also exceed current staff and contractor capacity and create significant future investment spikes.

It is important to recognize that residents experience the outcomes of infrastructure performance such as smooth roads, reliable water service, and functioning facilities, not the backlog itself. Their perception of value is tied to service levels, not lifecycle accounting metrics. For these reasons, the City must balance backlog reduction with proactive lifecycle needs to ensure sustainability and consistent levels of service.

As the City plans future capital projects, backlog will remain an important consideration and will be incorporated into capital programming when feasible and cost effective. The backlog will gradually reduce through coordinated renewal and project bundling opportunities, as well as consistent review of whether specific assets or components are still desired or required at all. For the purposes of this Asset Management Plan, the financial forecasts focus on the annual lifecycle funding needs including addressing the backlog but not with a focus on eliminating it. This approach helps ensure that both residents and Council have a realistic view of the City's continuous investment requirements while still making progress on reducing the existing backlog over time.

Annual Funding Requirements

When assessing the financial requirements for the AMP, the City relies on the analysis of average available funding. This is a combination of annual transfers to reserves and reliable, predictable government funding streams (OCIF, CCBF). The summary chart on the following page also includes average annual spending which was put in as a data point to show recent reserve fund usage habits. The spending average in recent years has been exceeding the available funding average which shows that the City has been using existing reserve funds to support levied amounts. To improve sustainability, available funding should be equal to or greater than the annual spending.

The following table breaks down the City's capital replacement funding needs and the average annual capital requirement to meet the City's levels of service targets.

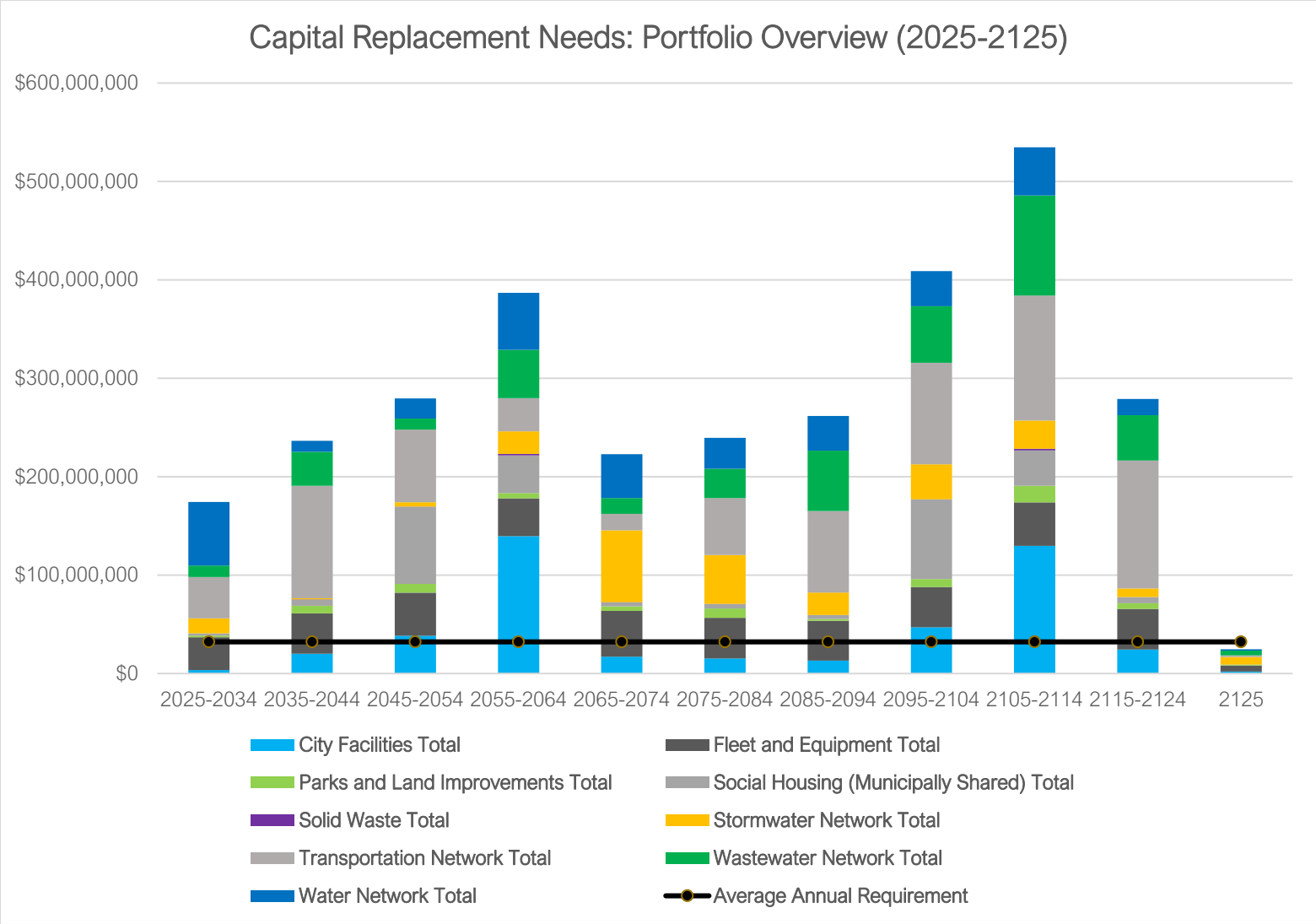
Table 4: Capital Funding Summary

Asset Category	Current Replacement Value (CRV)	Average Annual Capital Spending	Average Available Funding	Average Annual Need for PLOS[2]	PLOS Capital Gap
City Facilities	$203,620,113	$3,076,497	$3,306,930	$4,648,382	$1,341,452
Fleet and Equipment	$47,484,562	$3,637,763	$3,350,314	$4,557,203	$1,206,889
Parks and Land Improvements	$26,821,275	$1,030,086	$492,267	$724,693	$232,426
Social Housing (Municipally Shared)	$117,878,849	$1,833,171	$1,606,953	$2,617,829	$1,010,876
Solid Waste	$5,454,443	$742,482	$608,653	$69,967	-$538,686
Stormwater Network	$267,943,992	$2,682,021	$2,570,000	$2,809,667	$239,667
Transportation Network	$461,784,838	$6,920,378	$5,320,648	$8,389,907	$3,069,259
Tax Supported Total	**$1,130,988,072**	**$19,922,398**	**$17,255,765**	**$23,817,648**	**$6,561,883**
Wastewater Network	$355,514,781	$2,068,612	$2,173,868	$4,973,135	$2,799,267
Water Network	$283,793,973	$2,104,375	$2,229,897	$3,545,439	$1,315,542
Rate Supported Total	**$639,308,754**	**$4,172,987**	**$4,403,765**	**$8,518,574**	**$4,114,809**
All Assets Total	**$1,770,296,826**	**$24,095,385**	**$21,659,530**	**$32,336,222**	**$10,676,692**

The graph on the following page illustrates the capital replacement needs over the next 100 years and the average annual requirement of $32.3 million.

[2] PLOS is an acronym for “Proposed Levels of Service”

Figure 5: Capital Replacement Needs (Average Annual Requirement of $32.3 million)



The City uses a 100-year profile for the portfolio overview to ensure that at least one full lifecycle for each asset occurs. The historical capital investment average years reflect a recent period of substantial capital investment (2022-2025) which far exceeds the capital investment averages from the previous AMP reporting period (2016-2021). This shows that in recent years, the City has been funding the closest to its capital requirement in many decades.

Based on current asset data and lifecycle modelling, it is estimated that the City faces an annual infrastructure funding shortfall of approximately $10.7 million ($800 per household) across all asset categories. This shortfall reflects the gap between the full lifecycle cost of maintaining infrastructure in a state of good repair and the capital funding currently available through tax-based revenues, user rates, grants, and reserves.

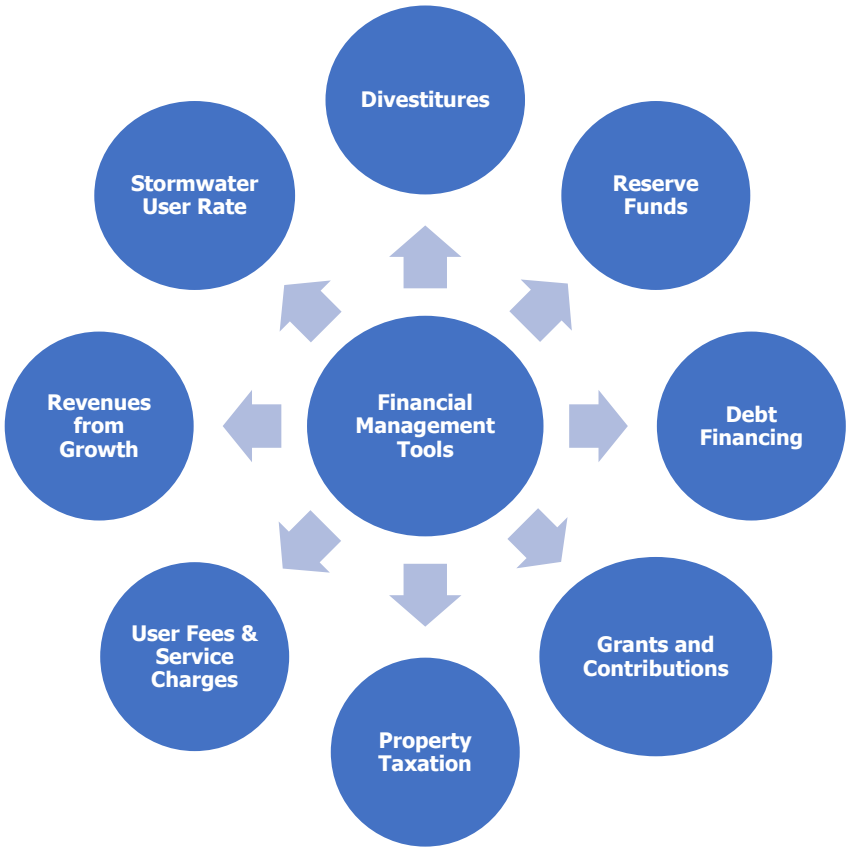
1.7 Financial Strategy

As noted, a significant gap exists between the City's projected infrastructure needs and current funding levels. This situation is not unique to Stratford and for context, an infrastructure gap in one form or another exists in every municipality in Ontario. To address this, the City will need to explore a combination of financial and non-financial strategies aimed at increasing non-taxation funding, reducing costs, or both. Non-financial strategies focus on improving asset management practices, optimizing existing resources, enhancing data quality, standardizing condition assessments, strengthening lifecycle planning and aligning funding with asset priorities. These non-financial strategies will be covered in more detail in Section 5.0 of the AMP.

Financial strategies, illustrated below, involve applying fiscal management tools to strengthen funding for asset renewal. Implementing both types of strategies in a coordinated manner will help the City close the infrastructure gap while maintaining service levels.

This will position the City to remain resilient to economic, environmental, and demographic pressures while supporting a safe, livable, and thriving community for generations to come.

Figure 6: Financial Management Tools



1.8 Next Steps and Recommendations

The City remains committed to continuously strengthen its asset management program through the recommendations included in each asset category appendix in this AMP. The recommendations in this section focus on concepts which in most cases, apply to all categories. Category specific recommendations are included in each appendix in the AMP.

Staff Requirements:

Annual asset management progress reviews

- Direct staff to prepare an annual report to Council summarizing progress in implementing the Asset Management Plan, identifying any challenges, and outlining strategies to address barriers to implementation. This is also a regulatory requirement under O. Reg. 588/17.

Asset Management Training

- Direct staff to incorporate a specific Council training module for Asset Management training, as part of future Council onboarding sessions.

City Policies

- Direct staff to create a corporate wide Data Governance Policy to ensure the City's data is accurate, secure, consistently managed and used responsibly to support efficient service delivery.
- Direct staff to update the Strategic Asset Management Policy to ensure alignment with current legislation, best practices, and organizational objectives.
- Direct staff to update the Tangible Capital Asset (TCA) Policy to ensure the City has accurate and up to date financial thresholds and EUL designations.

Data Improvements

Enhance integration with GIS, AI, and CMMS

- Direct staff to integrate existing asset data and the Geographic Information System (GIS) to help streamline capital planning and improve data reliability across asset categories.
- Direct staff to review possible applications of AI to coordinate backfilling data gaps or enhancing data quality, specifically on linear assets with low data quality confidence. Specific examples of AI recommendations can be found within the appendix recommendations for linear infrastructure categories.

- Direct staff to integrate a work order software with the City's asset management software to improve real-time data collection and begin to utilize field staff to efficiently update data gaps.

Enhance Data Quality

- Direct staff to create a Strategic Five-Year Data Improvement Roadmap, to achieve "high confidence" in all data categories by updating:
    - Inventory completeness (especially hidden and vertical assets)
    - Condition data standardization
    - Unit cost and replacement cost updates
    - Climate risk data inputs
    - GIS integration milestones

Update City Facility and Social Housing (Municipally Shared) Condition, EUL, and Replacement Cost Data

- Direct staff to update condition and replacement cost data in the City's asset management software, once the 2026 Building Condition Assessments (BCAs) and Accessibility Audits (AAs) are completed in Q2 of 2026. This is critical because it will have a significant impact on the City Facilities and Social Housing categories and will impact future funding requirements.

Redefine Estimated Useful Lives (EUL) of assets

- Direct staff to update the EUL profiles once the TCA policy is updated. The EUL assumptions will be based on observed performance and condition trends and will significantly improve the accuracy of long-term planning.

Lifecyle, Financial and Community Considerations

Overall Optimization of Existing Resources

- Direct staff to complete an internal corporate optimization review. The most common theme in the many recommendations throughout this AMP is the optimization of existing resources and this will be the main non-financial strategy for closing the infrastructure gap. This approach aligns with the community engagement feedback as it was one of the main themes and suggestions. It also reflects Councils desire to maintain palatable annual tax increases for the public, which means finding alternatives to traditional tax levy increases.

Allocating Growth Revenue

- Direct staff to continue to allocate a minimum of 25% of annual revenue from

assessment growth towards asset renewal via transfers to reserves. This ensures steady, committed progress to closing the funding gap while financial and non-financial strategies are implemented. This percentage could be increased annually as part of the budget process depending upon other budgetary constraints.

Staff Structure and Maintenance Optimization

- Direct the CAO to lead an asset management-focused review of staffing deployment, workflows, facilities, and programs to confirm they are aligned to the AMP's lifecycle and levels-of-service strategies, and to identify efficiency improvements to maximize maintenance outcomes within existing resources

Reserve Allocation and 10-Year Capital Planning

- For tax funded assets, direct staff to consider a transition from the historical departmental capital program methodology of prioritization to corporate-wide project prioritization.
- Direct staff to continue reviewing and refining the existing 10-year capital plans to better align project timing and priorities with established levels of service targets.
- Direct staff to include monitoring the progress of the financial and non-financial financial strategies in this AMP as part of each subsequent AMP update.
- Direct staff to continue incorporating Asset Retirement Obligations (AROs) into the asset management software to better track future retirement and decommissioning costs. These estimates are preliminary and will be refined and fully integrated into future AMP updates as data quality improves and methodologies are finalized.

Service Level Tracking

- Direct staff to continuously measure and assess both community and technical levels of service to establish annual performance benchmarks and monitor progress toward target service levels.
- Direct staff to flag where service expectations are drifting from service levels or actual performance levels

Increase community engagement in asset management

- Direct staff to continue to seek ongoing community feedback on proposed levels of service to ensure that decisions reflect community values, priorities, risk tolerance, and affordability.

- Direct staff to continue exploring non-conventional methods for public consultation for capital projects, operating budgets, and any other City related information sessions to increase public feedback from different demographics.
- Direct staff to update the City's Asset Management page on the website to better educate residents on service levels, financial data, and create interactive, easy to understand features to help navigate the page and information.

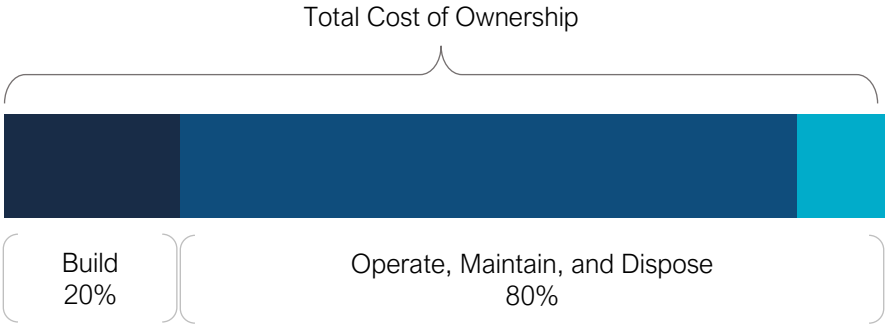
2.0 Introduction and Context

Asset Management Defined

Municipalities are tasked with overseeing and maintaining a wide range of infrastructure assets to provide essential services to the community. The objective of asset management is to reduce the long-term costs of infrastructure service delivery, mitigate related risks, and ensure that the community receives the greatest value from the asset portfolio.

The acquisition of capital assets represents just 10-20% of their overall ownership cost, with the remaining 80-90% attributed to operational and maintenance costs. This AMP concentrates its analysis on the capital costs associated with maintaining, rehabilitating, and replacing existing municipal infrastructure assets.

Figure 7: Asset Management Ownership



To ensure long-term financial sustainability, the City must plan accordingly as these costs can span decades. The development of an AMP is a critical step in planning for a sustainable financial future and a key part of a broader asset management program. This begins with the development of a Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy that aligns strategic objectives with asset management objectives, and concludes with an AMP.

2.1.1 Benefits of Asset Management

Implementing the key principles and best practices of asset management can lead to notable changes in the organizational processes. Figure 8 below highlights numerous benefits of asset management and the value of organizational change.

Figure 8: Benefits of Asset Management

Good governance and increased accountability

Data-driven decision making

Enhanced sustainability of infrastructure

Improved level of service and quality of life

Accurate forecasting of infrastructure replacement

Compliance with federal and provincial regulations

2.1.2 Asset Management Strategy

The asset management strategy outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. It explains the philosophy and alignment with Council's role and how the municipality plans to achieve asset management objectives through planned activities and decision-making criteria.

The City's Tangible Capital Asset (TCA) Policy contains many of the key components of an asset management strategy and will be expanded on in future revisions or as part of a separate strategic document. The future Data Governance Policy will also play a key role in the asset management strategy.

2.1.3 Asset Management Policy

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

The City adopted a Strategic Asset Management Policy on June 24, 2019, in accordance with Ontario Regulation 588/17. An updated Asset Management Policy will be presented to Council in 2026. The objectives of the policy include:

- Fiscal Responsibilities
- Delivery of Services/Programs
- Public Input/Council Direction
- Risk/Impact Mitigation

2.1.4 Asset Management Plan

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

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

By outlining long-term renewal needs and timing, the AMP ensures that capital planning is prepared proactively rather than reactively, helping Council plan and prioritize investments more effectively.

2.2 Key Concepts in Asset Management

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

2.2.1 Lifecycle Management Strategies

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

To ensure that municipal assets are performing as expected and meeting the needs of residents, it is important to establish a lifecycle management strategy to proactively manage asset deterioration as well as establishing the timing of required interventions though levels of service.

There are various field interventions that can help prolong an asset's life until its ultimate replacement. These activities typically fall into two of the three main categories: maintenance, rehabilitation, and replacement. Table 5 below outlines each activity type and highlights the general cost differences between them.

Table 5: Lifecycle Management Example

Lifecycle Activity	Description	Example (Paved Roads)	Cost
Maintenance	Activities that prevent defects or deteriorations from occurring.	Crack Seal	$
Rehabilitation	Activities that rectify defects or deficiencies that are already present and may be affecting asset performance.	Mill & Re-surface	$$
Replacement	Asset end-of-life activities that often involve the complete replacement of assets.	Full Reconstruction	$$$

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

The City's current approach to lifecycle management is described within each asset category outlined in this AMP. Developing, implementing, and defining this approach will help guide staff and Council in determining which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership while maintaining proposed or expected levels of service.

Growth-related assets, including new facilities, transportation infrastructure, and fleet additions, will introduce new lifecycle requirements over time. These assets will require ongoing operations, maintenance, and eventual renewal, increasing future lifecycle costs beyond those associated with the existing asset base.

Lifecycle activities for growth-related assets are considered as part of the City's broader financial planning process, recognizing that while new assets may initially reduce operational pressures, they contribute to long-term renewal obligations.

2.2.3 Risk Management Strategies

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

By identifying the various consequences of asset failure and the likelihood of failure, risk management strategies can identify and prioritize critical assets, and determine where maintenance efforts, and spending, should be focused.

This AMP includes a preliminary evaluation of asset risk and criticality. Each asset has been assigned a probability of failure rating and consequence of failure rating based on available asset data. These risk ratings will be reviewed and adjusted based on data as well as identified strategic and community priorities. A comprehensive review of the risk profiles and strategies is a priority for 2026 and will require input from all internal departments, external stakeholders, and service partners.

2.2.4 Levels of Service

The City's assets exist to deliver essential and optional services to the community. Levels of Service (LOS) function as a benchmark for measuring the quality and effectiveness of those services, ensuring that decisions focus on service outcomes rather than just physical condition of assets. These measures reflect the community's values and expectations, providing a clear picture of the type and quality of service being delivered.

Monitoring levels of service over time enables Council, staff, and stakeholders to measure progress toward organizational goals while linking asset performance directly to available funding. This connection supports transparent, evidence-based decision-making about investment priorities and long-term sustainability.

The measures outlined in this plan include both those required under Ontario Regulation 588/17, which are primarily technical in nature and additional indicators identified by City staff as meaningful to Stratford's community priorities. The City evaluates performance from both complementary perspectives: Community Levels of Service and Technical Levels of Service.

Community Levels of Service

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

Technical Levels of Service

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

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

Current and Proposed Levels of Service

In accordance with Phase 4 under Ontario Regulation 588/17, the City has established proposed levels of service for a 10-year period. These proposed levels align with the outcomes of the 2026 budget and capital planning process and the 2026–2035 Ten-Year Capital and Reserve Forecast. Council and staff are required to monitor and refine

both community and technical levels of service each year to assess current performance and measure progress toward future targets.

Risks and Reducing Service Levels

Reducing service levels means adjusting how services are delivered or how assets are maintained, not removing them entirely. Unlike increasing service levels, which usually requires additional funding, a reduction focuses on managing costs by prioritizing critical work, extending maintenance intervals, or scaling back non-essential improvements. The assets and services remain in place and functional but may receive less frequent attention or lower levels of enhancement. This approach helps balance affordability while maintaining safety and usability. Each appendix discusses risks with reducing service levels, so this section aims to help clarify what reducing refers to since it typically comes with a negative connotation related to a total loss of service.

2.3 Ontario Regulation (O. Reg.) 588/17

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

Table 6 on the following page highlights the asset management implementation in Ontario since 2019.

Table 6: Asset Management in Ontario Timelines

2019	2022	2024	2025 (This AMP)
• Strategic Asset Management Policy	• Asset Management Plan for Core Assets with the following components: • Current levels of service • Inventory analysis • Lifecycle activities to sustain LOS • Population and employment forecasts • Discussion of growth impacts	• Asset Management Plan for Core and Non-Core Assets • Must contain all components required in the 2022 AMP	• Asset Management Plan update with the following additional components: • Proposed Levels of Service (PLOS) for the next 10 years • Updated inventory analysis • Lifecycle management strategies • Financial strategy and addressing shortfalls • Discussion of growth impacts on financail strategy and lifecycle activities

2.4 Ontario Regulation 588/17 Compliance Review

The following table identifies the requirements outlined in Ontario Regulation 588/17 for municipalities to as part of the phase 4 implementation.

Table 7: Compliance Summary

Requirement	O. Reg. Section	Status
Summary of core assets in each category	S.5(2), 3(i)	Complete
Summary of non-core assets in each category	S.5(2), 3(ii)	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	Complete
Average age of assets in each category	S.5(2), 3(iii)	Complete
Condition of assets in each category	S.5(2), 3(iv)	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	Complete
Proposed Levels of Service in each category	S.5(2), 1(i-ii)	Complete
Current performance measures in each category	S.5(2), 2	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	Complete
Growth assumptions	S.5(2), 6(i-iv)	Complete

2.3 Climate Change

Canada's Climate Change Report (2022)

Climate change has significant impacts on human and natural systems worldwide, including Canada. These effects include rising temperatures, increased precipitation, droughts, and extreme weather events, primarily driven by human influence. In 2022, Environment and Climate Change Canada (ECCC) released *Canada's Changing Climate Report (CCCR 2022)*, highlighting the country's vulnerability to these changes.

The report revealed that between 1948 and 2022, Canada's average temperature rose by 1.9 °C, double the global average. The effects of widespread warming are evident in many parts of Canada and are projected to intensify. Without significant reductions in greenhouse gas emissions, temperatures in Canada could rise by as much as 5.5 °C by 2100, compared to 2022 levels. Observed precipitation has also increased by 8% to over 70% in various regions between 1948 and 2012, with the most substantial changes occurring in northern areas. Meanwhile, smaller increases were observed in the Prairies and southwestern British Columbia. Southern Canada is expected to face more frequent summer droughts, while extreme weather events like floods, wildfires, cold and warm extremes, and record-low Arctic sea ice extent are becoming more common nationwide.

Canada's changing climate poses serious risks to its economy, society, environment, and infrastructure. Climate-related extremes such as droughts, floods, frequent freeze-thaw cycles, prolonged heatwaves, high winds, and wildfires threaten physical infrastructure, increasing the risk of damage and wear. Municipalities across Canada influence roughly half of Canada's GHG emissions and therefore are in a unique position to safeguard their local economies, communities, environments, and physical assets from these escalating threats.

2.3.1 Stratford Climate Profile

The City of Stratford is located along the Avon River in Southwestern Ontario. The Municipality is expected to experience notable effects of climate change which include higher average annual temperatures, an increase in total annual precipitation, and an increase in the frequency and severity of extreme weather events. According to climatedata.ca a collaboration supported by Environment and Climate Change Canada (ECCC), the City of Stratford may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1971 and 2020, the annual average temperature was 7.0 °C.
- Under a high emissions scenario, the average annual temperatures are projected

to increase by 2.6°C by the year 2050 and 6.5 °C by the end of the century.

Increase in Total Annual Precipitation:

- Between the years 1971 and 2020, the annual average annual precipitation was 986mm.
- Under a high emissions scenario, Stratford is projected to experience an 11% increase in precipitation by the year 2050 and a 15% increase by the end of the century.

2.3.2 Integrating Climate Change and Asset Management

To promote long-term sustainability, climate change considerations are being integrated into asset management practices and policies. The City is approaching climate change using two primary strategies: mitigation and adaptation.

Mitigation focuses on reducing greenhouse gas (GHG) emissions and lowering the municipality's carbon footprint to help lessen the severity of future climate change. This includes initiatives such as the transition to electric vehicles and improvements in energy efficiency. Adaptation focuses on preparing infrastructure to better withstand future climate-related impacts, such as increased storm intensity, temperature extremes, and other changing climate conditions. Examples include designing stormwater infrastructure to manage larger rainfall events or incorporating resilience measures into capital reconstruction projects.

In September 2023, Council adopted the Corporate Energy and Emissions Plan (CEEP) and directed staff to advance the strategies outlined within it. This direction has influenced long-term planning across the organization and continues to evolve how asset management planning is undertaken, ensuring infrastructure decisions are evaluated through a strategic climate lens.

While climate considerations are increasingly embedded into lifecycle planning, it is important to note that the Asset Management Plan does not necessarily account for all potential future infrastructure enhancements or additional capacity that may be required to fully adapt to a changing climate. As climate projections evolve and service expectations are refined, these considerations may influence future capital planning, risk management, and funding strategies.

3.0 Scope and Methodology

3.1 Asset Categories Included in this AMP

Ontario Regulation 588/17 requires an analysis of all assets including proposed levels of service for at least the next 10 years, updated inventory analysis, lifecycle management strategies, financial strategy and addressing shortfalls, and a discussion of growth impacts on financial strategy and lifecycle activities.

This AMP summarizes the state of infrastructure for Stratford's asset portfolio, establishes levels of service and the corresponding technical and community key performance indicators, outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to achieve sustainability for the AMP categories in the figure below.

Figure 9: Asset Categories

3.2 Deriving Replacement Costs

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

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

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs and are the preferred source. Cost inflation is typically used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the City incurred. While less preferred, much of the plan is still reliant on this method as it is a reasonably consistent approach but might not reflect factors such as specific sector pricing, technological advancements or other supply and demand related variables.

3.3 Estimated Useful Life and Service Life Remaining

The estimated useful life (EUL) of an asset is the period over which the City expects the asset to be available for use and remain in service before requiring replacement or disposal. The EUL for each asset in this AMP was assigned according to the knowledge and expertise of municipal staff and supplemented by existing industry standards when necessary. As the data quality improves for specific assets within a class, the City can create a more customized approach to assigning EUL based on variables like frequency of use, weather or other factors that may cause one asset to last longer than another similar asset.

By using an asset's in-service data and its EUL, the City can determine the service life remaining (SLR) for each asset. Using condition data and the asset's SLR, the City can more accurately forecast when it will require replacement. This is important because EUL and condition drive replacement dates therefore, reliable data for these factors allows for more precise replacement planning The SLR is calculated as follows:

Service Life Remaining (SLR) =

In-Service Date + Estimated Useful Life (EUL) – Current Year

3.4 Deriving Asset Condition

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

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the City's asset portfolio. The table below outlines the condition rating system used in this AMP to determine asset condition. This rating system is aligned with the Canadian Core Public Infrastructure Survey which is an industry standard tool used to develop the Canadian Infrastructure Report Card. When assessed condition data is not available, service life remaining is used to approximate asset condition.

Table 8: Asset Condition Rating System

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

Using asset age alone for a condition assessment rating can overstate or understate the remaining service life of an asset. In some cases, it may show that fully functional assets that are older, are automatically categorized as "very poor" in the absence of using non-age-based methods. For example, a sewer main pipe that has been in service for 100 years will be categorized as "very poor" condition based on its age alone. However, a video inspection or other method of physical condition assessment may determine that the pipe is in "fair or good" condition which would replace the age-based assessment.

There has been a significant improvement in asset condition since the last AMP update. This is a result of condition assessments replacing age-based condition ratings. The result of the improved data is a more accurate summary of financial requirements to address the backlog and future capital investments.

4.0 Impacts of Growth

4.1 Introduction

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

O. Reg. 588/17 requires municipalities to assess how future demand from growth will impact assets, service levels, and lifecycle needs. The City's Development Charges (DC) Background Study provides the most comprehensive forecast of Stratford's long-term growth-related asset requirements and forms the basis of the growth analysis for this Asset Management Plan.

4.2 Growth Considerations

Anticipated population and employment growth will place additional demands on the City's infrastructure networks and municipal services over the planning horizon. Growth-related asset needs have been identified through the City's development planning processes, including the Development Charges (DC) Study, Official Plan, and annual capital forecasting process.

Growth is primarily accommodated through the construction of new assets and capacity expansions, including employment land servicing, new or upgraded facilities, transportation and linear improvements, and supporting fleet and operational assets. These investments are intended to ensure that municipal services can be maintained as growth occurs, while balancing affordability and available funding sources.

4.2 Forecasted Growth and Demand Drivers

The City adopted its Official Plan in January 1993, and Official Plan Amendment 21 was approved by the Ministry of Municipal Affairs in July 2016. The Official Plan is a planning document used for the purpose of guiding the future development of the City of Stratford, and establishes the goals and objectives needed to manage the effects on the social, economic, and natural environment of the City. The growth data in the 2016 document is out of date; however, the next Official Plan Amendment is expected to be completed in 2026 and the information in that document will be included in the subsequent Asset Management Plan update.

The 2022 DC Growth Plan (Watson and Associates Economists Ltd., 2022) contains the most recent growth assumptions. The table below summarizes the residential and employment growth projections utilizing 2022 as the base year.

Table 9: Population Growth Forecast

Year	Population	Institutional Population	Population Excluding Institutional Population	Growth
2022	33,742	912	32,830	Benchmark
2032	37,359	1,022	36,337	3,617
2041	40,383	1,078	39,305	6,641

4.3 Impact of Growth on Required Service Levels

Future growth will increase demand across all major municipal service areas. The DC Study summarizes the following impacts:

- Infrastructure Services (Buildout Forecast):
    - Water Services: growth will require expansion of capacity and new linear/transmission assets
    - Wastewater Services: increased flows will require system expansion and Water Pollution Control Plant (WPCP) capacity investments
    - Roads: more lane-km, intersections, active transportation, and growth-related road expansions will be needed
    - Solid Waste: additional wheeled carts/bins, equipment and related capacity will be required

- Protective Services (20-Year Outlook):
    - Fire Protection: need for additional facility space, fleet, equipment expansion to maintain response times
    - Police Services: growth continues to drive additional facility space, fleet, and equipment

- Community and Social Services (10-Year Outlook)
    - Parks and Recreation: there will be increased demand for parkland development, trails, amenities, and recreational facilities
    - Library Services: expansion of facility space, materials and technology will be needed
    - Social Housing: demand for additional units and increased administrative capacity will be required

4.4 Growth Related Capital Requirements

The DC Study identifies $44.47 million in planned growth-related capital expenditures over the five-year DC by-law period (2022-2027):

- $23.13 million (52%) is recoverable from Development Charges
- $21.34 million (48%) Non-DC and must be funded by taxes, rates, or other revenue

Growth-related capital investments identified through the Development Charges Study and reflected in the City's capital program and forecast (shown below) include, but are not limited to, linear upgrades, new and rehabilitated facilities, transportation improvements, and growth-related fleet assets.

Over the 10-year planning horizon, DCs are forecasted to contribute approximately $30 million toward growth-related capital projects. These investments are supplemented by debt, reserves, and other funding sources where DC revenues are insufficient, or timing does not align with project delivery. This is illustrated on the table below.

Table 10: DC Identified Assets (2026-2035)

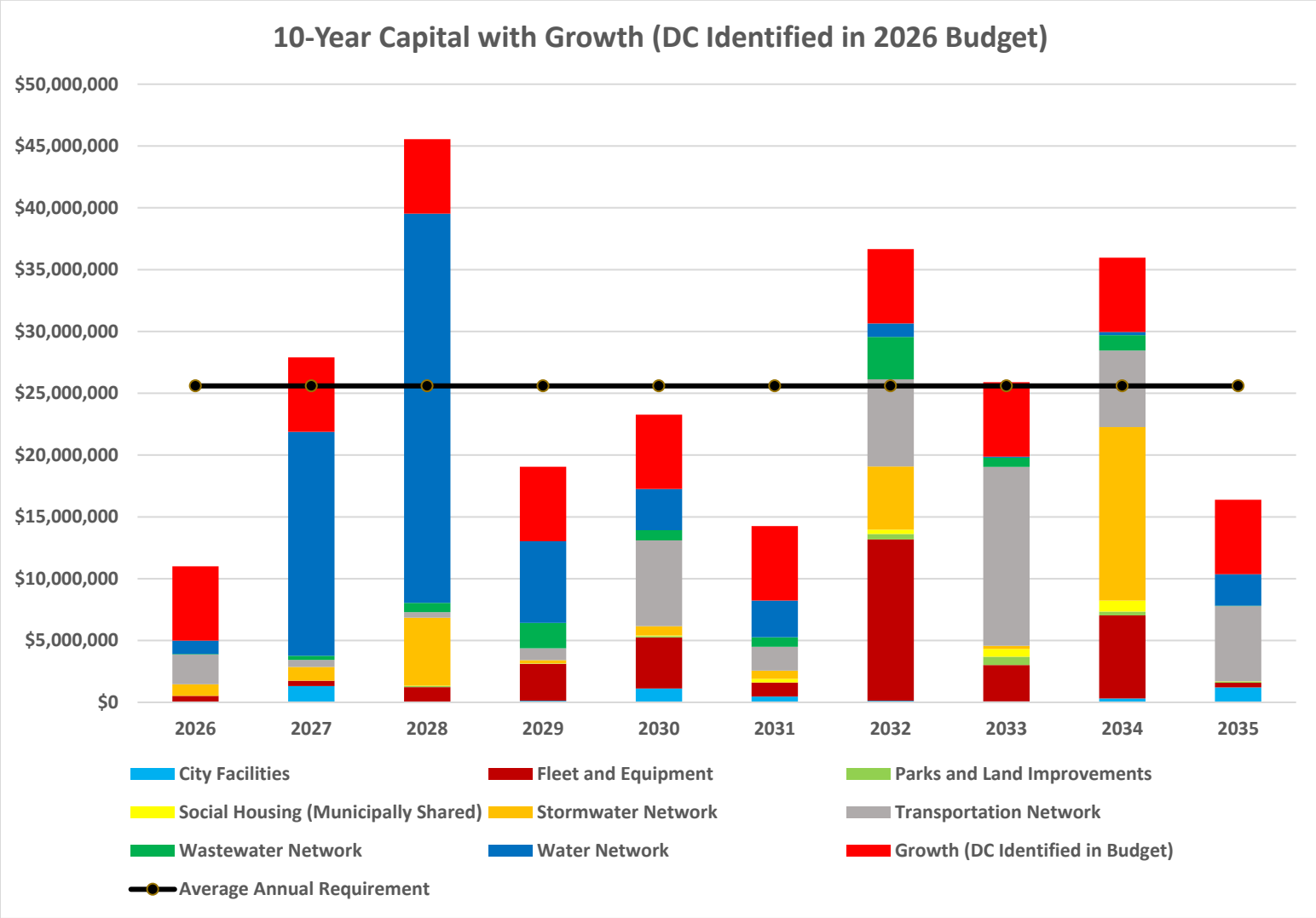
New Assets Identified in the DC Study (2026-2035 Forecast)	Total Project Cost	DC Portion as a Funding Source
Ontario St Sanitary Upgrade East of CH Meier	$800,000	$536,000
Ontario St. Sanitary Extension	$400,000	$125,000
Quinlan Sanitary PS and Force Mains (Phase 2)	$400,000	$400,000
Tertiary Filter Upgrade WPCP	$2,850,000	$285,000
Huron St. Sanitary Extension West	$1,100,000	$935,000
New Sidewalks (Collector and Arterial Roads)	$2,400,000	$1,200,000
New Traffic Signals (McCarthy and Romeo)	$150,000	$135,000
New Traffic Signals (Quinlan and Mornington)	$150,000	$135,000
McCarthy/O'Loane Roundabout	$600,000	$600,000
New Fire Station	$9,000,000	$1,620,000
Rehabilitation and Expansion of Public Works Facility	$15,000,000	$6,200,000
Short St. (Matilda to O'Loane)	$725,000	$448,950
McCarthy Rd. (Orr to O'Loane)	$900,000	$539,000
Public Works - Sidewalk Machine	$320,000	$320,000
Public Works - New Service Truck	$70,000	$70,000
Public Works - Dump Truck	$85,000	$85,000
Public Works - Loader	$250,000	$250,000
Public Works - Plow Truck	$300,000	$300,000
Parks - Pickup Truck	$500,000	$500,000
Landfill Cell Expansion	$3,400,000	$3,060,000

Landfill Facility Upgrades	$700,000	$490,000
Diversion Site - Methane Expansion	$1,500,000	$1,350,000
New Landfill Equipment	$120,000	$120,000
Bin Upgrades	$1,200,000	$840,000
Methane Burner Upgrades	$250,000	$175,000
Additional Facility Upgrades	$350,000	$245,000
Physical Library Collection	$1,895,824	$189,582
Plow Van Replacement	$85,000	$5,000
Library Building	$26,000,000	$1,300,000
New Police Facility	$30,000,000	$5,000,000
Total	**$101,500,824**	**$27,458,532**

The projects identified in the previous chart do not represent the full extent of all growth-related infrastructure needs, but reflect those projects currently identified, prioritized, and costed through the City's Development Charges Study and capital planning and forecasting process. There are more projects in the DC Study than are shown in the chart, not all recommendations are part of the 10-year capital plan.

The following is a chart that shows the 10-year capital with growth which as just described, are the projects identified in the 2026 capital program and forecast. The growth costs in the chart represent the funding portions from reserves and long-term debt, not DCs or developer contributions. The costs have been averaged out over the 10-year period.

Figure 10: 10-Year Capital With Growth



Many of the costs related to growth over this period are for new facilities (Public Works yard rehabilitation, new Library, new Fire Hall and new Police Station). It does not factor in other potential major projects such as the Grand Trunk site and what the City's capital cost would be for that project as there is no clear long-term direction for that project at the time of this AMP development.

The scale of growth-related capital identified, combined with limited DC funding, contributes to the City's long-term infrastructure funding gap and reinforces the need to balance growth-related investments with the renewal of existing assets.

A new DC Study was identified as a key activity planned in the 2026 workplan with the expectation that the study will be funded by development charges.

4.5 Lifecycle Impacts and Financial Sustainability

Growth-related assets, including new facilities, transportation infrastructure, and fleet additions, will introduce new lifecycle requirements over time. These assets will require ongoing operations, maintenance, and eventual renewal, increasing future lifecycle costs beyond those associated with the existing asset base.

Lifecycle activities for growth-related assets are considered as part of the City's broader financial planning process, recognizing that while new assets may initially reduce operational pressures, they contribute to long-term renewal obligations.

4.6 Growth Summary

The City recognizes that growth-related infrastructure needs will continue to evolve as development patterns, servicing strategies, and Council priorities are refined. Future iterations of this Asset Management Plan will incorporate additional detail on growth-related asset requirements as updated growth information becomes available.

In particular, the next AMP update will be informed by the forthcoming DC Study (2026/2027) and Council direction on major initiatives, including projects such as the Grand Trunk site. These inputs will allow for more refined identification, timing, and costing of growth-related capital projects, improved differentiation between growth and renewal investments, and clearer integration of growth impacts into long-term lifecycle and financial planning.

5.0 Financial Strategy

5.1. Financial Strategy Overview

The City of Stratford's ability to deliver long-term, reliable, efficient infrastructure services depends on achieving and maintaining financial sustainability. This requires aligning capital renewal needs with available funding, while managing risk, service levels, and affordability for residents and businesses.

Financial sustainability involves managing service levels, infrastructure, and financial assets in both the short and the long term. A standard Ontario definition is that municipality is considered financially sustainable if it:

- Provides a level of service proportionate with willingness and ability to pay
- Can adjust service levels in response to changes in economic conditions
- Can adjust its implementation plans in response to changes in the rate of growth
- Has sufficient reserves and/or debt capacity to replace infrastructure when it needs to be replaced to keep its infrastructure in a state of good repair

Potential risks to achieving municipal financial sustainability include:

- A mismatch between level of service aspirations and fiscal capacity
- Uncertainty in future costs of needed infrastructure investments
- Unforeseen shocks to revenue, such as an economic downturn
- Growth that does not materialize as expected

The financial strategy will continue to evolve based on enhanced data around the value and condition of the assets, the current levels of service, the risks to service delivery, and the lifecycle activities needed to migrate the risks towards acceptable levels. The financial strategy considers how the City will fund the planned asset management actions to meet service level requirements.

An important financial consideration in this AMP is intergenerational equity, which is the principle that the costs of municipal infrastructure should be shared fairly between current and future users. Infrastructure assets are typically less expensive to operate and maintain in the early stages of their lifecycle, with significantly higher costs incurred later when major rehabilitation and replacement are required. As a result, today's tax and ratepayers often contribute less than the full cost associated with their use of infrastructure. From a municipal finance perspective, proactively setting aside funding for future asset management needs helps ensure that costs are not unfairly transferred to future generations and supports intergenerational fairness.

5.1.1 Funding Sources

Through the City's annual capital program and forecast process, capital project and operating activity expenditure information is gathered from each service area, including investment needs, trends, and priorities to enable preparation of the operating budgets and capital program. As the estimates are refined, a financing plan is developed which includes several key sources of funding as outlined in the following table.

Table 11: Conventional Municipal Funding Sources

Funding Source	Description
Federal (CCBF)	A five-year transfer payment agreement with the Association of Municipalities of Ontario (AMO), that provides a portion of the federal gas tax revenues to municipalities for revitalization of infrastructure that achieves positive environmental results.
Provincial (OCIF)	Ontario Community Infrastructure Fund for small, rural, and northern communities to develop their infrastructure.
Investing in Canada Infrastructure Program (ICIP)	ICIP is a senior government funding source that supports major capital renewal and growth projects and is not guaranteed year-to-year.
Provincial Gas Tax	This is used as the primary source of funding for public transit services.
Other Grants	Project-specific grants or subsidies.
Development Charges	Fees collected from developers to help pay for the cost of infrastructure required to provide municipal services to new developments.
Long-Term Debt	Long-term borrowing, to be paid for by future taxpayers.
User Fees	Funds collected for the use of City services or infrastructure (ex. Water and wastewater rates).
Property Taxes	City property owners pay an annual tax to the City.

5.1.2 Annual Requirements & Capital Funding

Annual Requirements

The annual requirement represents the amount the City should spend annually towards each asset category to meet replacement needs as they arise, prevent further infrastructure backlogs from accumulating and achieve long-term sustainability. In total, the City must allocate approximately $32.3 million annually to meet the capital requirements for the assets included in this AMP, plus continuing to reduce the existing backlog. This total is estimated using a combination of data sourced from the City's data along with inflationary increases to better reflect recent replacement costing.

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

The figure and table on the following pages illustrate the average annual requirement needed for each asset category.

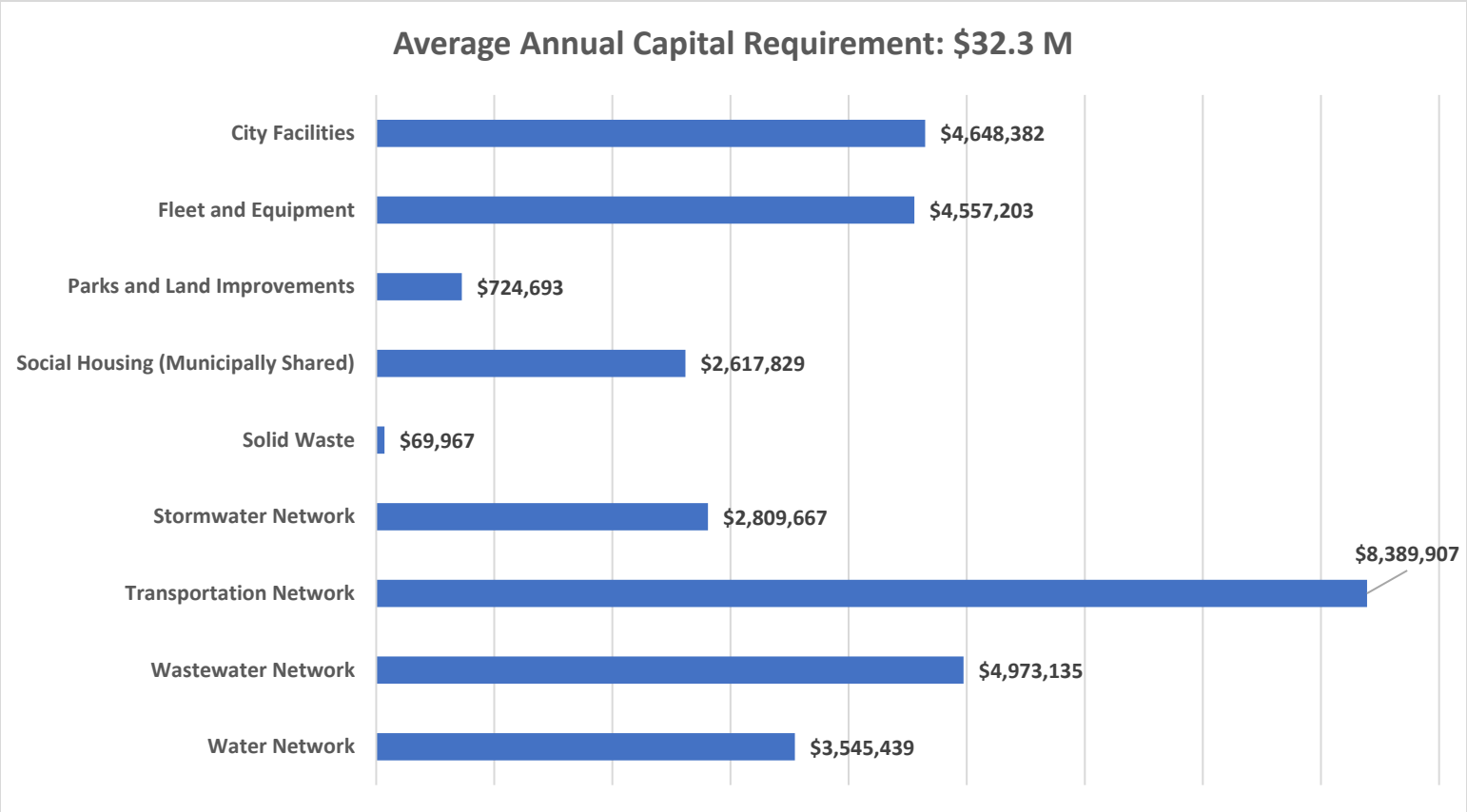
Table 12: Capital Funding Summary

Asset Category	Current Replacement Value (CRV)	Average Annual Capital Spending	Average Available Funding	Average Annual Need for PLOS	PLOS Capital Gap
City Facilities	$203,620,113	$3,076,497	$3,306,930	$4,648,382	$1,341,452
Fleet and Equipment	$47,484,562	$3,637,763	$3,350,314	$4,557,203	$1,206,889
Parks and Land Improvements	$26,821,275	$1,030,086	$492,267	$724,693	$232,426
Social Housing (Municipally Shared)	$117,878,849	$1,833,171	$1,606,953	$2,617,829	$1,010,876
Solid Waste	$5,454,443	$742,482	$608,653	$69,967	-$538,686
Stormwater Network	$267,943,992	$2,682,021	$2,570,000	$2,809,667	$239,667
Transportation Network	$461,784,838	$6,920,378	$5,320,648	$8,389,907	$3,069,259
Tax Supported Total	**$1,130,988,072**	**$19,922,398**	**$17,255,765**	**$23,817,648**	**$6,561,883**
Wastewater Network	$355,514,781	$2,068,612	$2,173,868	$4,973,135	$2,799,267
Water Network	$283,793,973	$2,104,375	$2,229,897	$3,545,439	$1,315,542
Rate Supported Total	**$639,308,754**	**$4,172,987**	**$4,403,765**	**$8,518,574**	**$4,114,809**
All Assets Total	**$1,770,296,826**	**$24,095,385**	**$21,659,530**	**$32,336,222**	**$10,676,692**

There is a key item to note based on the capital funding summary which illustrates how trends can sometimes distort data. The Solid Waste category shows the spending and funding exceeding the annual requirement. This category was not overfunded. A new landfill cell was designed and constructed during that period and was a major asset replacement for an otherwise, low asset count and cost category. This in turn, overstates the typical average spending and funding for the Solid Waste category.

The figure on the following page shows the breakdown of the required capital funding for each asset category.

Figure 11: Annual Capital Requirements



As the asset management program develops, the road, water, wastewater and stormwater networks will have lifecycle management strategies developed to identify capital costs that are realized through strategic rehabilitation and renewal. In other asset categories, replacement cost may include consideration of technological enhancements or obsolescence, so replacing like-for-like is not always possible. The development of these strategies allows for a comparison of potential cost omittance if the strategies were to be implemented.

> **Replacement Only Scenario**: Based on the assumption that assets deteriorate and without regularly scheduled maintenance and rehabilitation, are replaced at the end of their service life.
> **Lifecycle Strategy Scenario**: Based on the assumption that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required.
> **Technology Driven Scenario:** Replacement with technological advanced solutions to realize operational, environmental, and social efficiencies.

The implementation of a proactive lifecycle strategy can lead to direct cost savings as well as indirect savings. For example, the relining of water, storm and sewer mains

reduce costs related to road removal, traffic controls, and public dissatisfaction. These cost savings depend on the current unit replacement costs used and the number of rehabilitations/replacements combined to minimize engineering and contingency costs.

5.1.3 Annual Funding Available

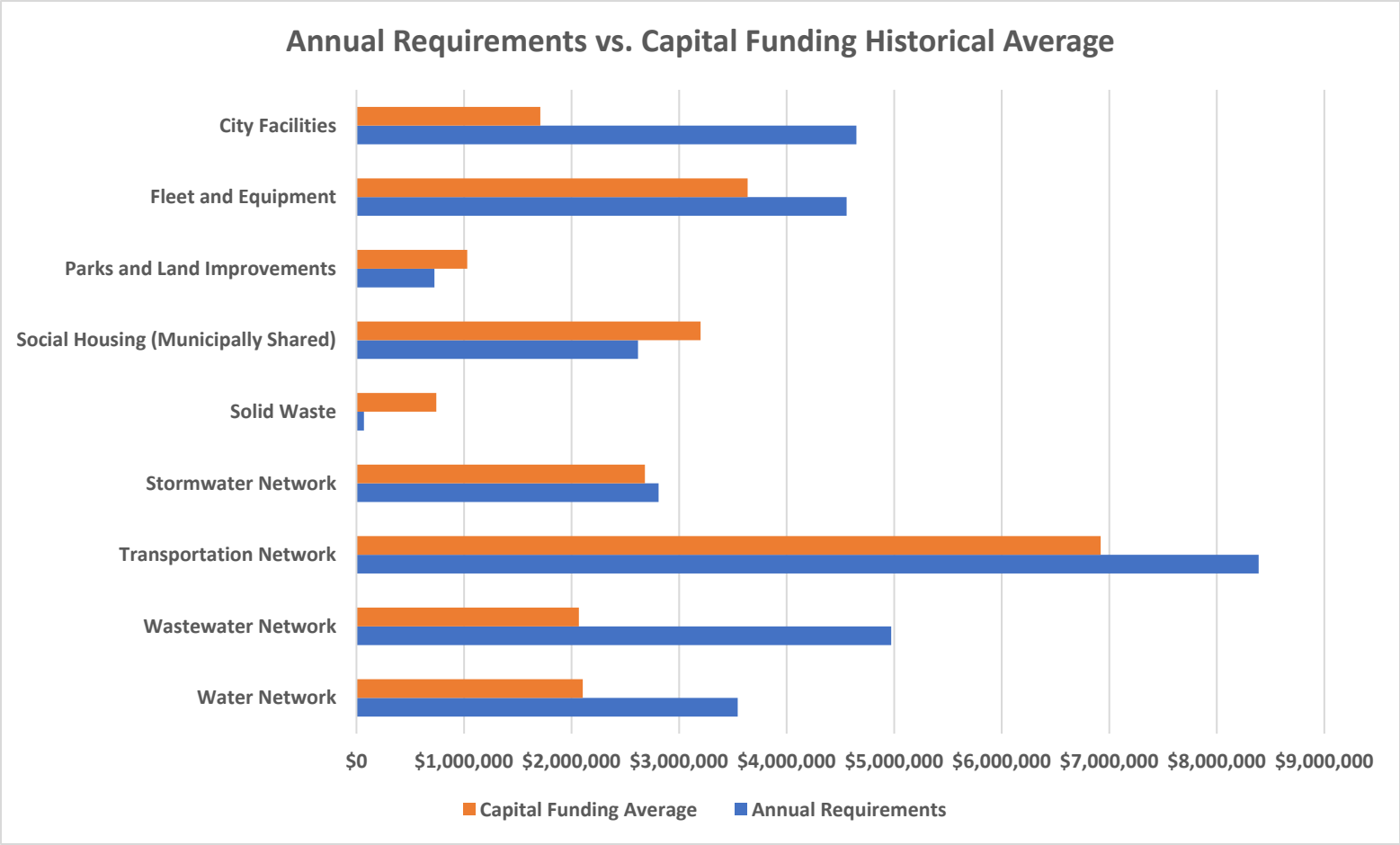
Annually, the City has funded approximately $21.6 million towards capital projects per year from revenue sources that have historically been reliable. Given the annual capital requirement of $32.3 million, there is currently an average annual funding gap of $10.7 million. For comparison, at the time of the 2021 Asset Management Plan, the City was committing $12.3 million towards capital projects and there was an average annual funding gap of $9.1 million based on the information available at that time. This comparison highlights the commitment the City has made in recent years to building reserves sustainability and investing in capital programs to maintain service levels.

The funding gap is not a bill that comes due each year. It represents a long-term average used to assess whether current funding levels are sufficient to sustain the assets the City already owns. Actual capital spending will vary from year to year, with some years requiring more investment and others less. Over time, if average funding remains below average lifecycle need, the result is an accumulation of deferred renewal, increased risk, or reduced flexibility.

The gap is expressed on an annual basis to allow consistent comparison between long-term infrastructure needs and available funding, even though actual expenditures are irregular. This analysis represents a planning snapshot based on current 2025 asset data, replacement costs, and assumptions, and will change as assets, costs, and funding levels are updated. This is noted throughout the AMP, including the anticipated updates in 2026 when the Building Condition Assessments (BCAs) and Accessibility Audits (AAs) for City Facilities and Social Housing (Municipally Shared) are completed. These update will have a significant impact on the annual funding requirements.

The following figure illustrates the average annual requirement versus the capital funding historical averages.

Figure 12: Annual Requirements and Historical Funding

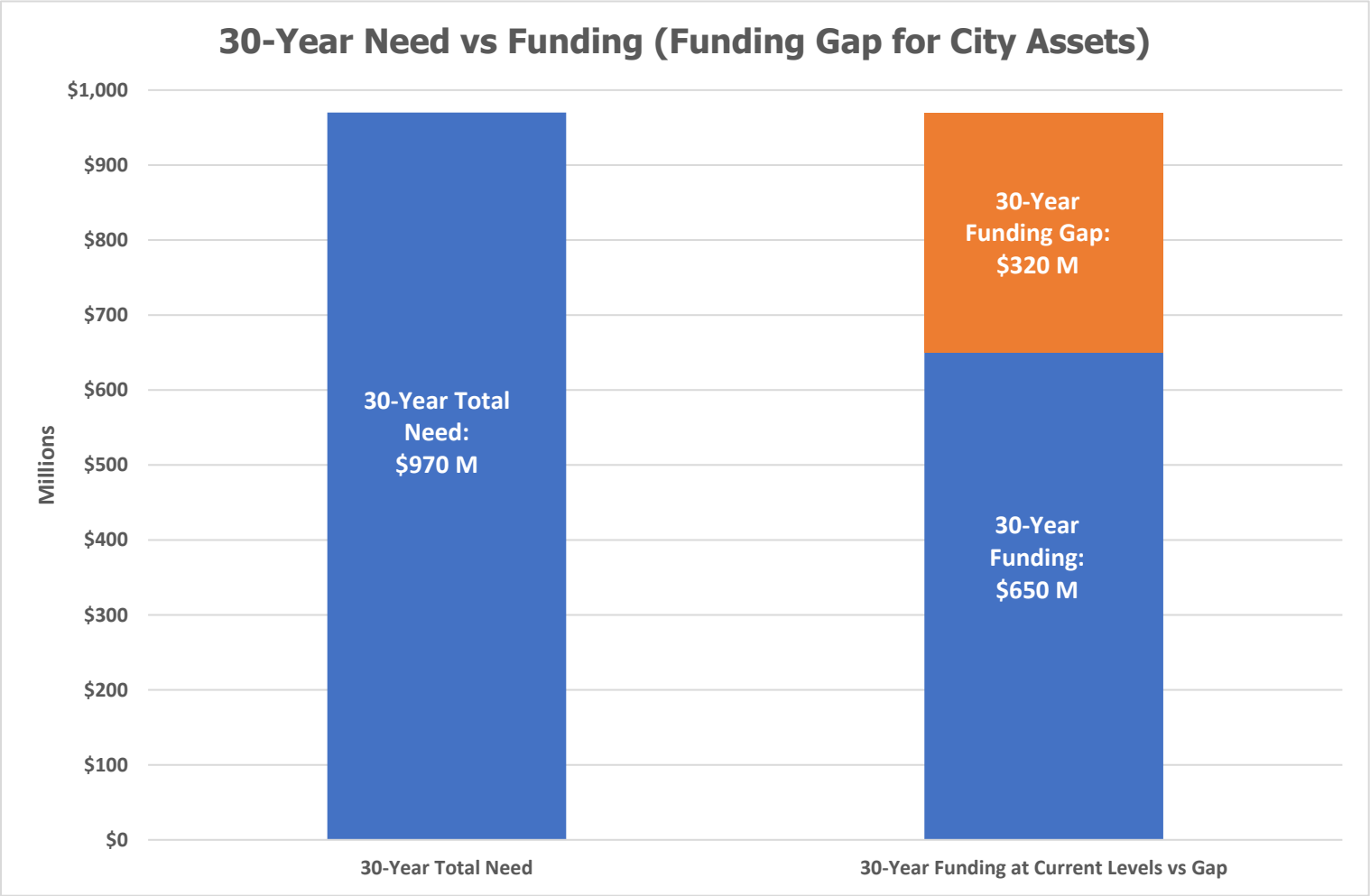


5.1.4 Funding Scenario: 30-Year Gap Closure

This scenario is provided for context only and does not represent a recommended funding strategy or a commitment to future funding increases. It is an additional data point that can be referenced when Council is reviewing potential long term, major cost projects. The data reflects a snapshot in time based on 2025 asset data, replacement costs, and funding levels which will already change in 2026 when the BCAs and AAs for City facilities and social housing are completed.

Based on the City's current asset inventory, lifecycle cost projections, and available funding levels, the analysis indicates an average annual infrastructure funding shortfall of approximately $10.7 million, which would result in a projected cumulative funding gap of roughly $320 million over a 30-year period (if no action was taken and no other changes are made to the current City asset inventory). This is represented in the figure below.

Figure 13: 30-Year Funding Needs and Gap



To illustrate the scale of funding required to address this potential gap, a 30-year phased funding scenario has been modelled. A 30-year horizon was selected for this scenario because shorter periods, such as 5 to 20 years, would require unrealistically large annual increases that would be difficult to fund within the City's tax levy and capital capacity. The 30-year timeframe provides a more gradual, financially manageable illustration of how the gap could be addressed over the long term.

Under this scenario, capital funding could be resolved through a fixed annual step increase of approximately $690,000, plus inflation, in addition to existing capital funding. Each year's increase would be carried forward into the base budget, so that by the end of the 30-year period, the cumulative additional funding amounts to approximately $20.7 million per year, which would be sufficient to offset the projected infrastructure funding gap.

This table illustrates a 30-year phased funding scenario in which annual capital contributions increase by $690,000 (about 0.8% of the City's 2026 Tax Levy), plus inflation, and are carried forward each year.

Table 13: 30-Year Cumulative Funding Scenario

Year	Annual Step Increase *(plus TBD inflation)*	Cumulative Additional Funding
1	$0.69 M	$0.69 M
5	$0.69 M	$3.45 M
10	$0.69 M	$6.90 M
15	$0.69 M	$10.35 M
20	$0.69 M	$13.80 M
25	$0.69 M	$17.25 M
30	$0.69 M	$20.70 M

It is very important to note that this scenario is exclusive of any growth or major cost projects like the GTR. The inclusion of these would impact the funding requirement of $690,000 and would require increasing this annual step amount accordingly. Future updates to the AMP and long-range financial planning exercises will provide opportunities to reassess this scenarios funding requirement and refine potential strategies accordingly.

5.2. Strategies to Address the Funding Gap

As highlighted in the previous sections, a gap exists between the City's projected infrastructure requirements and the reliable funding estimates. To bridge this gap, the City must consider approaches to either increase funding, lower projected infrastructure costs/investments, or apply a combination of both.

Reducing the shortfall will require an ongoing mix of strategies, encompassing both financial and non-financial measures, several of which are described below. Many of the non-financial approaches have been in place already in the City, however, they have not been as well defined as they are now with the AMP. While incremental financial measures can make a notable impact in reducing the infrastructure gap, it is equally important to use non-financial strategies whenever possible that help mitigate the shortfall.

5.2.1 Non-Financial Strategies

Using non-financial strategies is essential to supporting the City's long-term sustainability. These approaches incorporate asset management best practices which enable the City to manage risk, maintain service levels, and make decisions supported by reliable data and forecasting. These tools contribute to narrowing the infrastructure gap and can be applied in tandem with the incremental funding measures outlined in the Financial Strategies Section 5.2.2.

Existing Resource Optimization

The City can strengthen asset management outcomes by optimizing how existing staff, processes, and departmental structures support infrastructure planning and delivery. This includes improving cross-department coordination, conducting periodic organizational structure reviews, refining roles and responsibilities, standardizing workflows/software, and leveraging staff expertise more effectively.

By aligning people, processes, and technology, the City can reduce duplication, improve decision making, and find efficiencies without requiring significant new financial resources. Staff should plan to achieve this review by an establishing an internal working group including the CAO's office.

Asset Prioritization:

Deferring capital renewal projects on lower-risk assets can ensure that critical infrastructure will meet its required service levels and allows less critical assets to deteriorate to lower service levels. It should be noted that this may increase overall lifecycle costs of these lower-risk assets in the long term.

For example, the deferral of a leaking roof project may potentially result in more expensive reconstruction costs if the leak results in other facility damage. This deferral strategy may still be appropriate for low critical assets that do not have much impact on the community even at reduced service levels.

This kind of fulsome review has already been started by establishing internal working groups to assess the transportation and water/wastewater asset categories. These groups are currently reviewing lifecycle management strategies and long-term capital planning approaches.

Asset Management Data, Systems and Technology:

Improving the City's tools and technology for asset data collection, analysis, and reporting will improve decision making by ensuring staff have access to accurate, timely, and complete asset information. Stronger data quality and analytic capabilities will help the City effectively evaluate asset condition, anticipate future infrastructure needs, and refine its maintenance and investment planning.

Additional data collection on the condition of the assets through cohesive, structured city-wide inspection and maintenance programs will increase the accuracy of the state of infrastructure and may reduce the forecasted capital need if assets are found to be in better condition than expected compared to the age-based assessments.

Consideration should be given to completing a full review of operational maintenance programs for all departments to document any inconsistencies in maintenance program implementation and data collection.

The use of AI should be maximized to determine any appropriate applications to help fill in data gaps, create better data assumptions or estimates or expedite any workflows.

The completion of the 2026 IT Strategic Plan will assist the City in determining the best utilization of existing IT resources and City software's and identifying any gaps in these resources.

Levels of Service Targets:

Ontario Regulation 588/17 requires municipalities to report each year on their progress in delivering their asset management plans. To meet this obligation, staff and Council must review and update the approved levels of service metrics annually. Doing so enables the City to monitor advancement toward the LOS targets identified in this plan and make any necessary adjustments to keep those targets realistic, financially viable, and supportive of narrowing the infrastructure gap.

Levels of service play a central role in determining what is affordable and achievable. Setting LOS requires careful consideration of risk, corporate priorities, and the community's willingness to fund. These discussions are critical during the budget process. When there is limited support for increased spending, decisions must be made about which service levels may need to be reduced.

Long-Term Planning:

Continue reviewing the City's long-term financial plans and 10-year capital planning and forecasting and how they relate to the AMP before each budget year. Continue working towards full integration between these processes and the AMP. This ensures that the City is strategically distributing resources across multiple budget cycles, addressing current priorities while gradually reducing the City's remaining infrastructure deficits and taking into consideration intergenerational equity.

Further, continue to align the AMP with the City's Official Plan (as amended/updated) and related growth management policies (such as the *Provincial Planning Statement, 2024*) so that asset renewal and growth-related investments support planned land use, servicing strategies, and complete community objectives, so infrastructure decisions remain coordinated with anticipated development patterns over the long term

Funding Advocacy:

The City should continue pursuing all funding opportunities relating to the management of assets from higher levels of government and exploring collaborative partnerships with neighbouring municipalities and other partners to share resources and costs. Sponsorship and advertising should also be factored in to maximize the City's existing physical locations (property) and mobile assets (fleet and transit).

Further consider how responsibility for grant submissions currently works and if there are any potential efficiencies.

Community Engagement:

Consulting with residents on the importance of infrastructure investment and collecting their input on service level expectations is critical to a successful asset management program. Incorporating this feedback into asset management planning can be challenging, as the long-term costs and needs of certain municipal assets may not be as immediately visible or valued by the public compared to others.

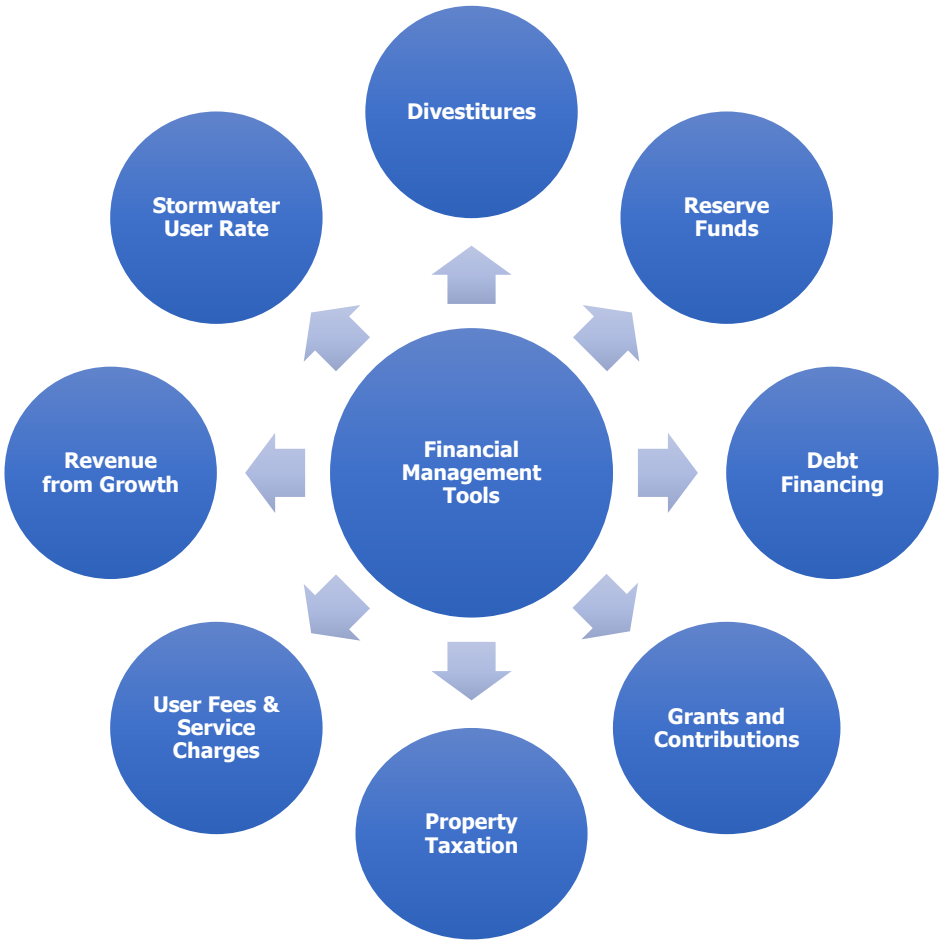
The City should continue to seek ongoing community feedback and explore additional, complementary approaches to public consultation for capital projects, the operating budget, capital plan and forecast, and other City-led initiatives, with the goal of reaching a broader range of demographics. Building on the early success of existing

tools such as Engage Stratford and "pop-up" events, a small working group could be established to review current practices, identify emerging trends, and recommend enhancements that ensure the City's community engagement approaches remain responsive, inclusive, and effective.

5.2.2 Financial Strategies

There are several fiscal management tools available that can be employed to increase funding for assets, as shown in Figure 14. These tools, along with the non-financial strategies discussed in the previous section, can be leveraged to help address the infrastructure gap.

Figure 14: Financial Management Tools



Property Taxation

Incremental tax and user rate increases can help close the infrastructure gap by gradually providing additional revenue to fund the long-term maintenance, renewal, and improvement of the City's infrastructure. This is the most common conventional financial strategy that all municipalities employ but is not necessarily sustainable.

Ongoing reliance in increasing the tax revenues will eventually cost too much on property owners.

Reserve Funds

Reserve Funds are fiscal management tools that set aside a dedicated portion of revenue over time to fund future infrastructure projects and manage contingencies. Much like a savings account, they provide stability and flexibility for asset management by supporting infrastructure renewal, major repairs, and unexpected costs based on estimated future costs derived from the AMP and growth needs.

Although reserve funds help ensure cash is available during emergencies, they are also essential for long-term financial planning. Reducing contributions to reserve funds to keep property tax increases low creates an artificial savings to the current tax base and threatens long-term sustainability, requiring larger increases in the future to rebuild reserve fund balances and maintain service levels.

The City currently utilizes reserve funds to support asset management by funding projects identified in the capital plan. It is recommended that the City continue to monitor and manage its dedicated capital reserve funds to ensure ongoing maintenance, renewal, and replacement of assets across all service areas. These reserves provide a financial mechanism that promotes long-term asset sustainability and reduces reliance on reactive or ad hoc funding.

For tax funded assets, the City will consider transitioning from department specific capital planning to a consolidated, corporate wide approach. Historically, departments have prioritized and delivered capital projects based on their own reserve fund availability, with funding generally retained within each department. Under a corporate model, departments would continue to identify and deliver capital projects however, funding decisions would be based on overall corporate priorities. This approach would balance critical infrastructure needs with community service level priorities, ensuring that capital projects continue to be delivered across all service areas while available funding is directed to the City's highest overall priorities.

Debt Financing

Debt is an effective tool when used responsibly to fund critical infrastructure. A carefully planned debt strategy supports long-term financial sustainability, aligns asset management objectives, balances affordability for taxpayers, and helps maintain service levels. Situations where debt may be appropriate include:

<u>Meeting Immediate Infrastructure Demands:</u>
When essential assets require urgent replacement and reserve funds or other funding

sources are insufficient, debt can provide the necessary funding to prevent service disruptions and avoid higher future costs from asset deterioration.

Enhancing Grant Leverage:
Debt may be used to provide matching funds for federal or provincial grants, ensuring the City can take full advantage of available opportunities when they arise.

Smoothing Funding for Large Projects:
Debt financing allows the City to undertake major projects without depleting reserve funds or imposing significant tax increases in a single year.

Maintaining Affordable Borrowing Levels:
Borrowing should align with the City's financial policies and remain within regulatory debt limits to maintain fiscal responsibility.

Debt is generally most appropriate for long-lived capital assets that will benefit future residents, as it spreads costs over the period of use and aligns repayment with the asset's service life (intergenerational equity).

Grants & Contributions

The City currently utilizes various grants to help offset the costs of providing services. It is recommended that the City continue to actively pursue and apply for grant opportunities. While grants are often unpredictable and should not be relied upon as a stable long-term funding source, they can still be an effective means of supporting expenditures and alleviating financial pressures.

User Fees & Service Charges

Adjusting or implementing fees and charges for municipal services is another strategy to help address the gap in asset renewals and replacements. Feedback from the recent community survey indicated that residents would like to see a greater portion of infrastructure funding come from user fees rather than general taxation, reflecting a preference for a more direct "pay-for-use" approach.

It should be noted that a delicate balance exists between user fee amounts and the groups that use the services that must be considered whenever there is a possibility of substantially raising fees.

A "sensitivity analysis" could also be conducted to determine how changing user fees would impact the end user. Services that are partially funded by user fees (bag tags for example) could be reviewed to determine different scenario outcomes such as, how much bag tags would need to cost for the program to be fully user funded.

Revenue from Growth

Increasing density and new developments can provide additional revenue produced from taxes and rates, particularly if new growth is focused in areas where the incremental costs to service the development are lower than the additional revenues. Historically, the City has leveraged this increased revenue from assessment growth to mitigate costs captured in the budget process, both to fund operating expenses and transfers to capital reserve funds.

The 2026 DC Study will analyze anticipated growth and determine whether increased development charge rates are needed. It is important that master plans for water, wastewater, stormwater, public transit, parks, recreation, and other services are up to date so that future development charges and rate studies fully account for all projected expenditures associated with growth, ensuring that development charge revenues can appropriately pay for increased service demands.

The Solid Waste and Stormwater Master Plan planned to begin in 2026, and the Sanitary Master Plan will be completed in early 2026.

Divestitures

Divesting non-essential assets is a strategy to generate one-time revenue and lower ongoing and future maintenance obligations. Disposing of assets that are unused or no longer support service delivery reduces the inventory the City must operate, maintain, and renew, thereby decreasing operating and capital costs. For example, an inactive facility or City owned building will still require investment to mitigate risk despite providing no community benefit.

Prior to any divestiture, the City regularly completes its due diligence by assessing its alignment with core services, community value, asset condition and lifecycle costs, financial impacts, legal and regulatory requirements, and stakeholder engagement.

Consideration should be given to creating a divestitures policy so that if there is a significant surplus over a certain amount, the City will have a process for deciding how those funds are allocated. For example, Council may want surplus funds over a certain amount to be spent on road resurfacing as an asset replacement priority.

Stormwater User Rate

Many municipalities have transitioned their stormwater network funding from the general tax levy to dedicated rate-based charges. This approach aligns the cost of service more closely with usage, as properties with higher impervious surface areas (compacted surfaces that block rainwater from soaking into the ground, like roads,

roofs, driveways, and parking lots) typically generate more stormwater runoff and place greater demand on the system.

Rate-based funding improves fairness and transparency by linking costs to the level of service received, encourages property owners to implement runoff reducing practices, and provides a more stable, predictable revenue stream for stormwater infrastructure. This is more important now than ever with the province's introduction of Consolidated Linear Infrastructure Environmental Compliance Approvals (CLI-ECAs) for stormwater and wastewater.

Using the current model, tax-based funding spreads the costs across all property owners regardless of contribution to runoff, making it less equitable and less reflective of actual system demand. The City should consider conducting a review into the feasibility of a transition to this model to determine if it is suitable for the City and the impact it may have on service levels.

Conclusion

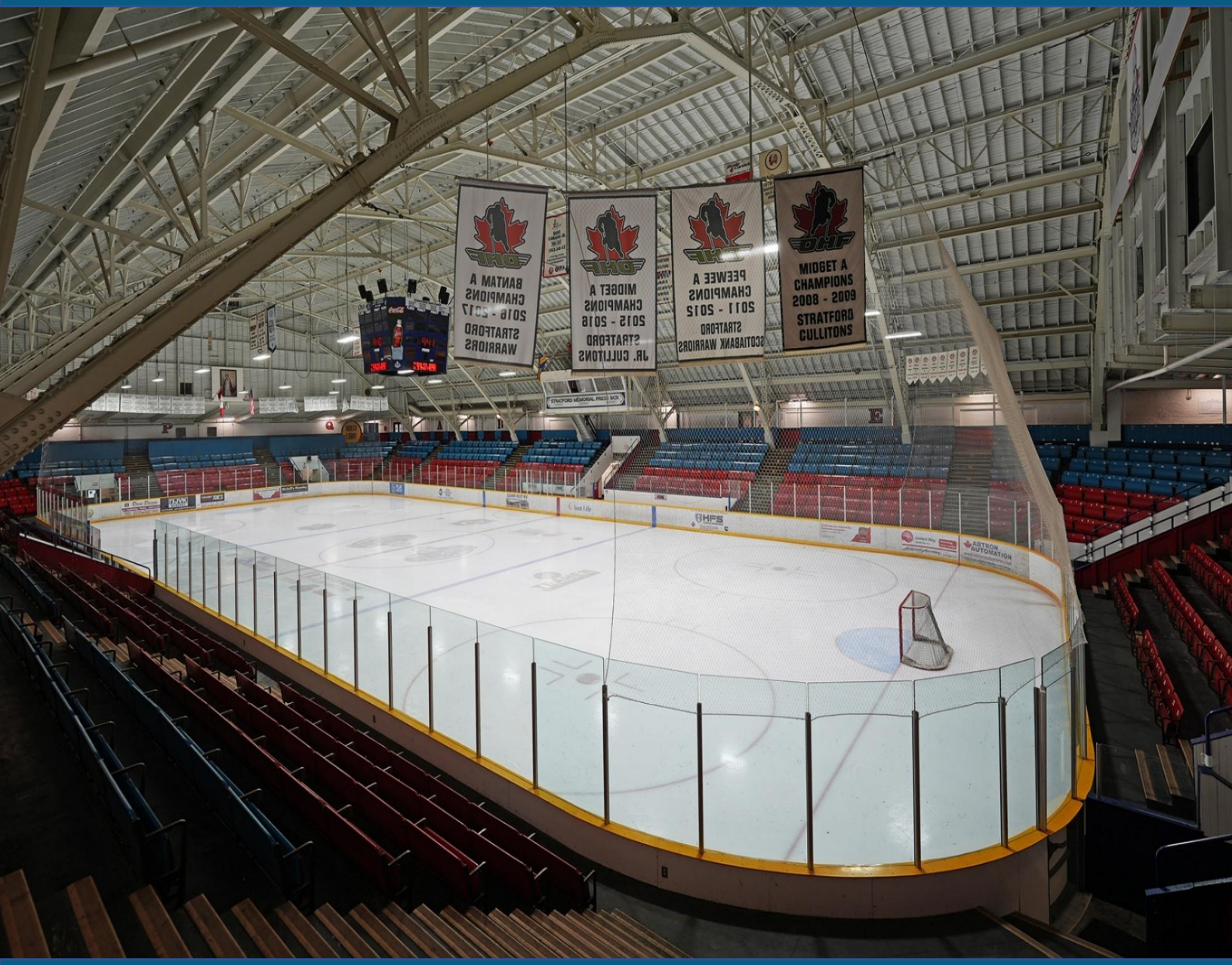
Bridging the City's infrastructure funding gap requires a comprehensive and coordinated approach. No single strategy whether financial or non-financial, can fully address the shortfall on its own.

Incremental revenue measures, such as property taxation, reserve funds, debt financing, user fees, grants, and revenue from growth, are essential to ensure sufficient funding, but they must be carefully balanced with prudent management of existing resources, optimized operations, and data-driven asset management practices.

Equally important are non-financial strategies, including asset prioritization, improved levels of service monitoring, long-term planning, enhanced data systems, and proactive community engagement. These approaches not only support sound decision-making but also help the City maximize the value of every dollar invested and mitigate future costs.

By implementing financial and non-financial strategies in tandem, the City can achieve a more sustainable, resilient, and equitable approach to infrastructure management. This integrated strategy ensures that critical assets are maintained, service levels are preserved, and the infrastructure funding gap is addressed in a fiscally responsible manner that considers both current and future generations.

Appendicies (A-L)



Appendix A: City Facilities

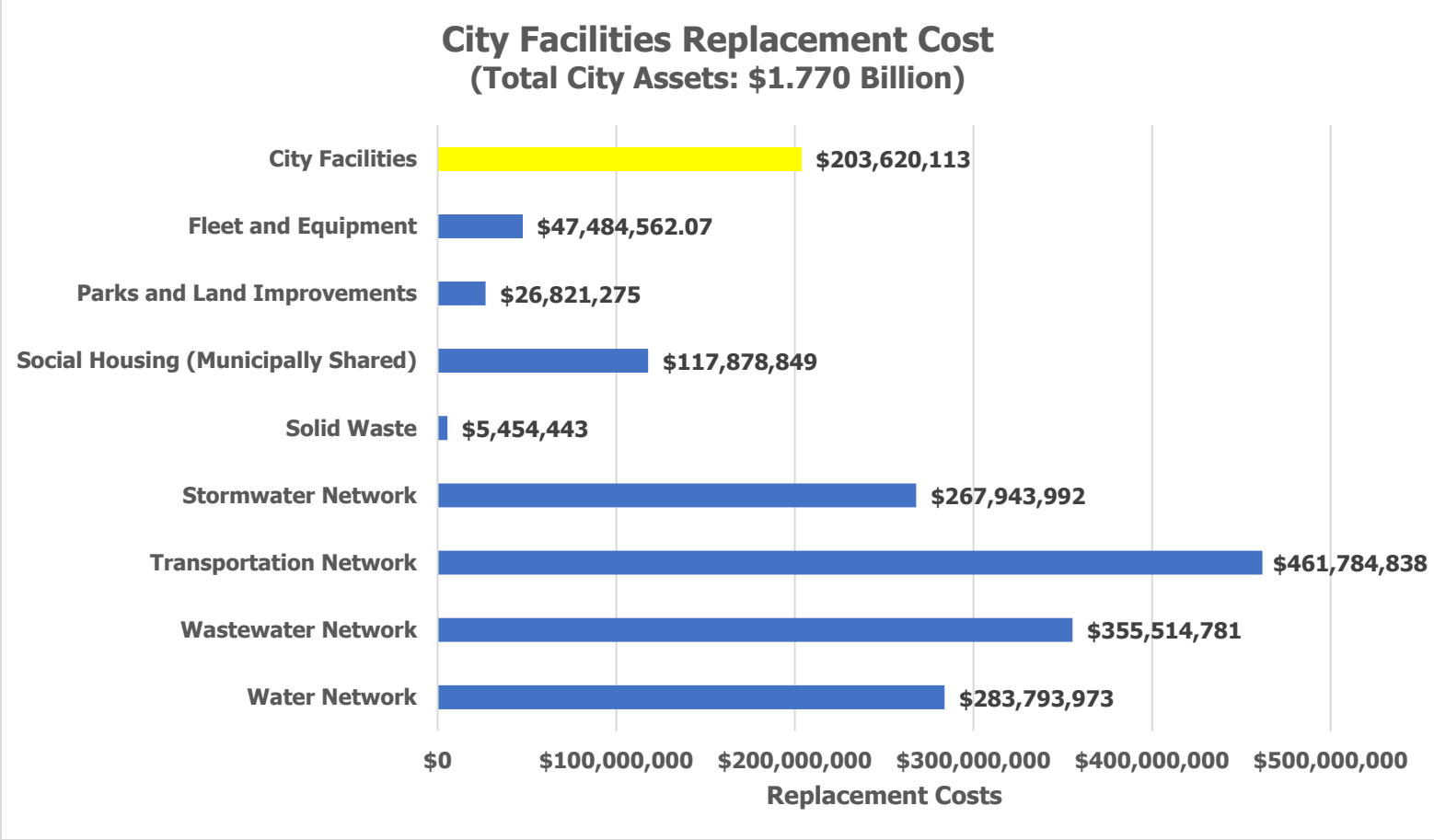
A.1 Introduction

The City maintains a portfolio of facility assets that support and enable all the services that the City, and its partners, provide for the benefit of residents. These include but are not limited to:

- Administrative offices
- Stratford Public Library
- Fire and Police stations
- Public Works garages and storage sheds
- Parks and recreation facilities
- City owned affordable housing
    - 200 and 230 Britannia, 246 Railway and 398 Erie St
    - All other social housing buildings fall under the shared responsibility of the Perth Stratford Housing Corporation (PSHC)

This appendix presents the strategy for managing the City Facility assets, highlighting the commitment to maintaining the levels of service valued by residents in the most efficient way possible.

Figure 15: City Facilities Replacement Cost



A.2 Asset Inventory & Replacement Cost

The City's facility asset inventory includes a mix of recreation, Police, Fire, corporate facilities, park washrooms, and auxiliary structures. Each facility's components are detailed according to the UNIFORMAT II standard. Replacement cost estimates are developed by both internal and external subject matter experts using recognized industry methods. These estimates reflect the cost to reconstruct a facility and its associated assets on the same site, using comparable materials and factoring in design and demolition costs based on current market rates for labour and materials.

When evaluating facility asset replacement costs, it is important to recognize that heritage buildings often involve unique construction methods, materials, and regulatory requirements that differ from standard facilities. Replacement or major rehabilitation of heritage assets (City Hall for example) may require specialized design, craftsmanship, and approvals to preserve cultural and historical value, resulting in higher costs and longer project timelines. As a result, replacement cost estimates for heritage facilities must reflect these additional considerations to ensure realistic long-term financial planning and informed decision-making.

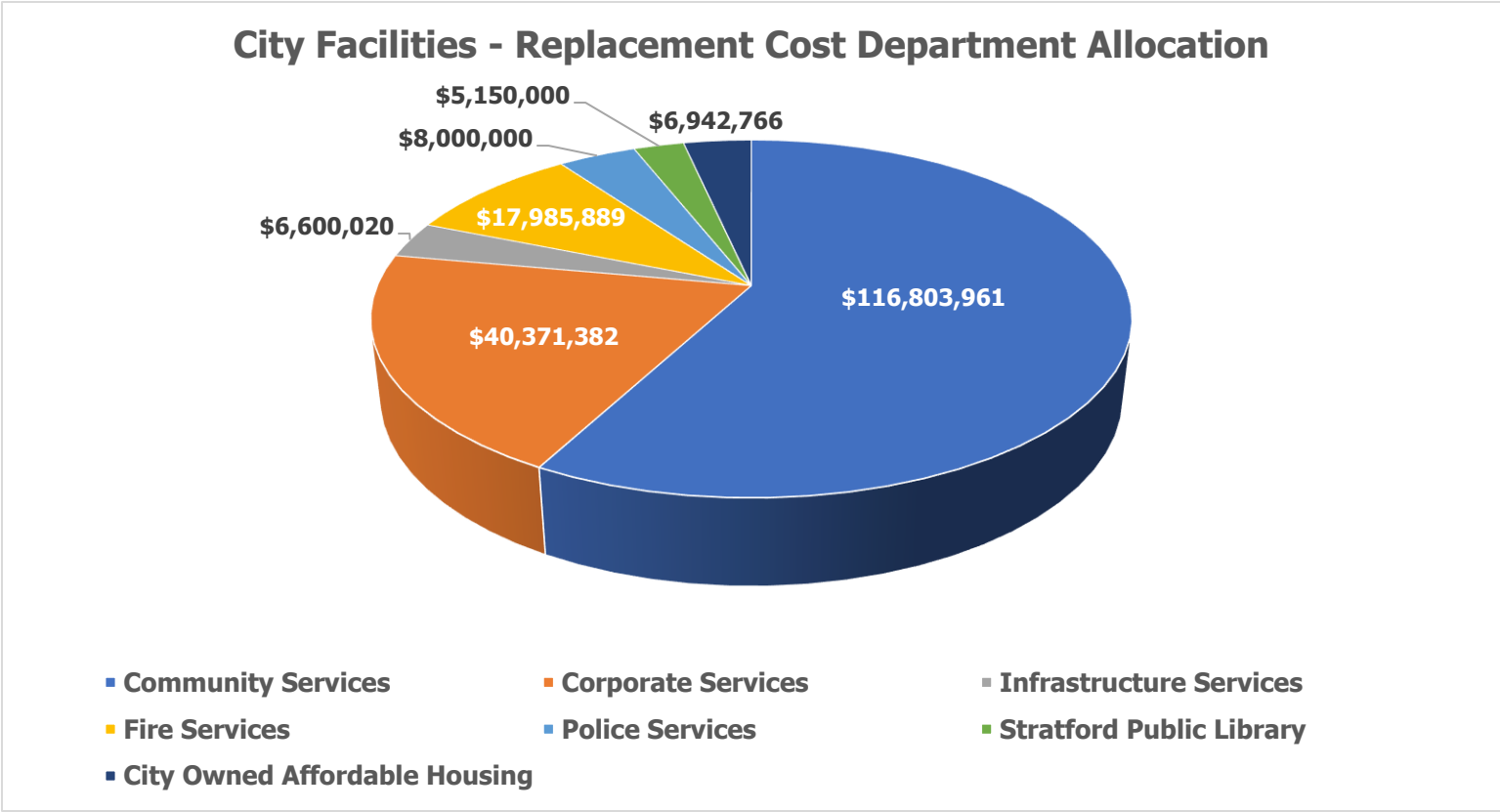
At the time of this AMP update, there are Building Condition Assessments (BCAs) and Accessibility Audits (AAs) underway which will provide updated facility structure and facility component condition and replacement values. Once this new data is incorporated into the asset management software, the new values will be reflected in a future update of the AMP. The table and pie chart below includes the asset segments and total replacement cost of each department in the City Facilities inventory.

Table 14: City Facilities Inventory and Replacement Costs

Asset Segment	Total Replacement Cost
Community Services	$116,825,054
Corporate Services	$40,371,382
Infrastructure Services	$8,345,020
Fire Services	$17,985,889
Police Services	$8,000,000
Stratford Public Library	$5,150,000
City Owned Affordable Housing[3]	$6,942,766
Total	**$203,620,112**

[3] Funding from this segment comes from Social Services, not Community Services. This segment is captured under City Facilities in the AMP as a means of clearly distinguishing it from PSHC.

Figure 16: City Facilities Replacement Costs by Department/Board



A.3 Estimated Useful Life (EUL) & Average Age

The Estimated Useful Life for facility assets has been estimated according to a combination of established industry standards and professional staff judgment. Please note that the EULs for this category are under review in 2026 with the TCA policy update. The Average Age of each asset is based on the number of years each asset has been in service. The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

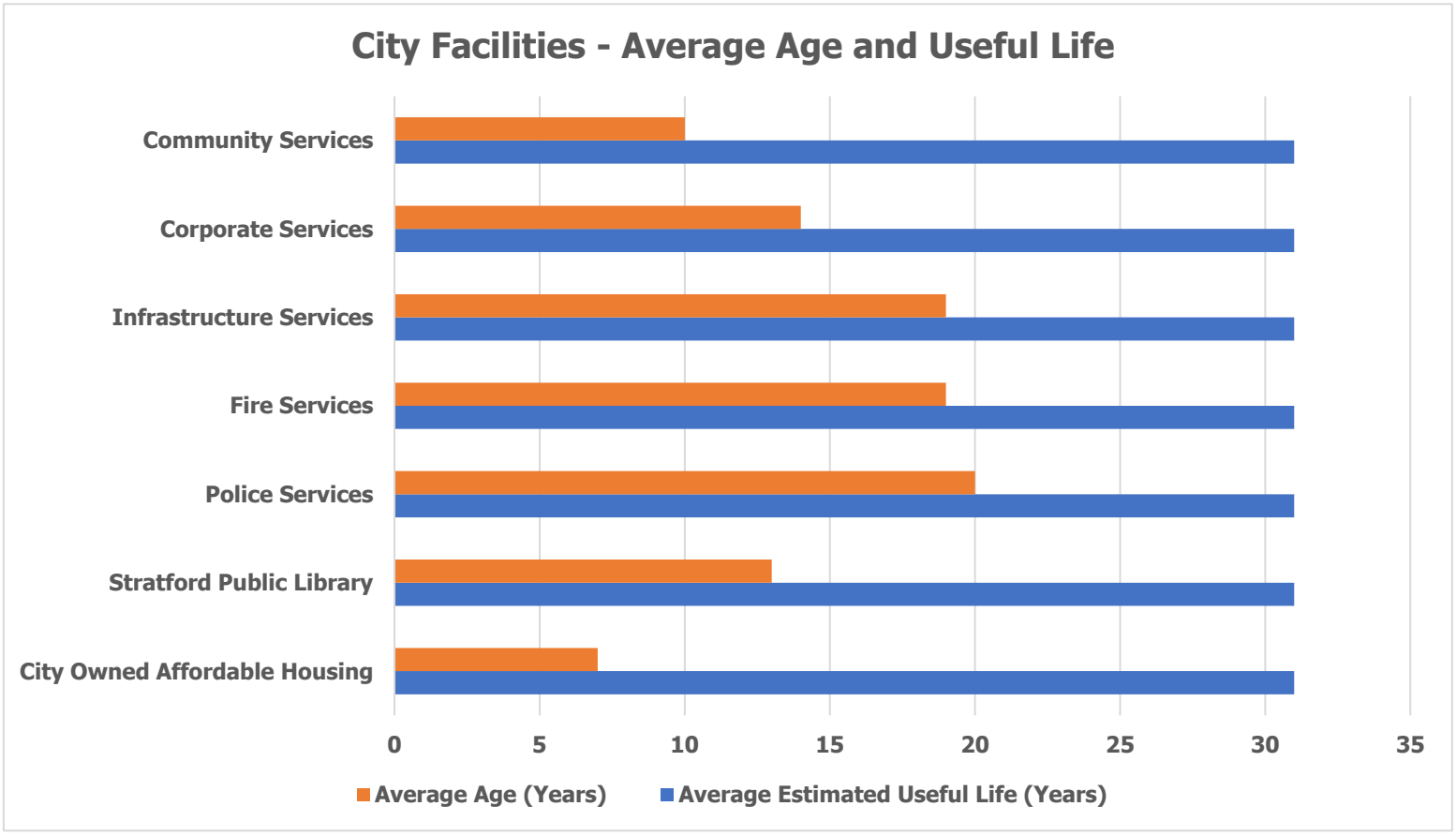
The average (EUL) shown for City Facilities appears lower than may be typically assumed for buildings. This is because the facility category includes all asset components, not just the building structure. Short-lived assets such as furnishings, finishes, equipment, and other interior components with useful lives of 10–20 years are included in the calculation and significantly lower the overall average. While core building structures often have useful lives of 40–60+ years, the inclusion of these shorter-life components results in a lower blended average EUL for these facilities.

Table 15: City Facilities Averages

Department	Average Estimated Useful Life (Years)	Average Asset Age (Years)	Average Service Life Remaining (Years)
City Owned Affordable Housing	31	7	24
Stratford Public Library	31	13	18
Police Services	31	20	11
Fire Services	31	19	12
Infrastructure Services	31	19	12
Corporate Services	31	14	17
Community Services	31	10	21

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies may be required. The figure below displays average asset age alongside the estimated useful life for each department and board.

Figure 17: City Facilities Average Age and Useful Life



For each facility asset, the average service life remaining will likely be longer than it would be if calculated using only the average estimated useful life and average age. This suggests that on average, assets are kept in service longer than their estimated useful life. Adjustments to the estimated useful life values may be required to ensure that they reflect the actual amount of time that assets can provide the required level of service.

As mentioned earlier in this appendix, there is a comprehensive, city-wide BCA study planned in2026 and it will assign facilities with condition rating which may change the average service life remaining for those assets. Expected changes will be reflected in a subsequent AMP annual update.

A.4 Asset Condition

The following section and table present the condition breakdown for each asset segment and describe the City's approach to assessing asset condition. Where feasible, the City applies industry-standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

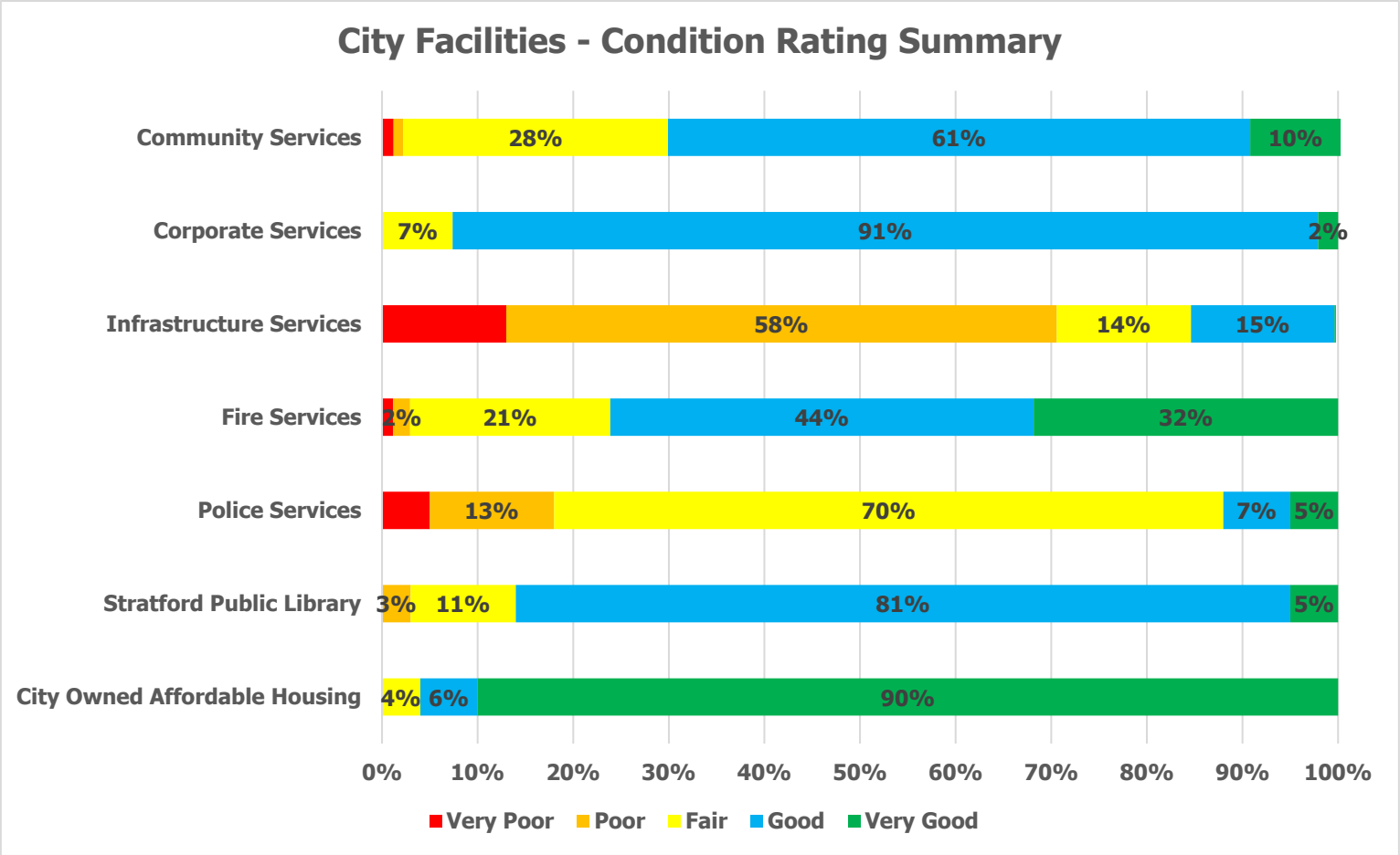
Table 16: City Facilities Asset Condition Strategy

Asset Segment	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
Community Services	Condition assessments by external consultants and staff	Every 5 - 7 Years	Varies by Division
Corporate Services	Condition assessments by external consultants and staff	Every 5 - 7 Years	2020
Infrastructure Services	Condition assessments by external consultants and staff	Every 5 - 7 Years	Varies by Division
Fire Services	Condition assessments by external consultants and staff	Every 5 - 7 Years	2020
Police Services	Condition assessments by external consultants and staff	Every 5 - 7 Years	2020
Stratford Public Library	Condition assessments by external consultants and staff	Every 5 - 7 Years	2020
City Owned Affordable Housing	Condition assessments by external consultants and staff	Every 5 - 7 Years	TBD

Additional routine and health and safety inspections are completed on a scheduled basis, including annual fire alarm tests, generator tests, and regular inspections of HVAC, refrigeration, and water treatment systems. Other inspections include elevator maintenance and backflow preventer testing.

The following figure illustrates the breakdown of condition ratings of the City's facilities' assets. 72% of these assets are in Very Good to Good condition with a small proportion, 3.7%, rated as Very Poor. Once the 2026 BCAs are completed and all assets are reviewed and componentized, these overall condition ratings will most certainly change. Any changes identified because of the BCAs will be reflected in a subsequent AMP annual update.

Figure 18: City Facilities Condition Rating Summary



The overall average condition of facilities assets is "Good." Assets are maintained by using the best options to manage the current condition and anticipated future deterioration of the asset. More information is found in the lifecycle management strategy details later in this appendix.

Due to the asset inventory not currently including all specific pieces of equipment, such as water heaters, HVAC units, electrical panels, etc., this plan omits sections presenting the fully detailed condition information for each group of sub-segments of assets. Again, this section will be substantially enhanced in a subsequent AMP update once the BCA data is incorporated into the asset database.

A.5 Levels of Service

The following tables identify the City's current and proposed levels of service for the City Facilities asset category. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17, as well as any additional metrics developed by staff.

Community Levels of Service

The following table outlines the current qualitative descriptions that determine the community levels of service provided by City Facilities.

Table 17: City Facilities Community Levels of Service

Service Attribute	Community Levels of Service	Related Assets
Accessibility	The City strives to make its facilities accessible to everyone.	All
Comfort	The City provides facilities that are pleasant to be in.	All
Security	The City takes steps to ensure the safety of all visitors at City facilities.	All
Reliability	The City strives to have its facilities available for use during regular operating hours.	All
Energy Efficiency	The City strives to reduce emissions of greenhouse gases.	All
Capacity	The City strives to align capacity of facilities to service demand.	All
Quality	The City inspects and maintains facilities at a condition level to ensure that it functions as designed.	All

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided by City Facilities. Some measures are identified but the required data is not available for 2025 and as a result, they will be calculated in a future AMP update.

Table 18: City Facilities Technical Levels of Service

Technical Levels of Service				Proposed LOS Justification
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	
Accessibility & Reliability				
Percentage of facilities that meet *Accessibility for Ontarians with Disabilities Act* requirements as a percentage of the total number of facilities	TBD	Improve Performance (increasing value)	TBD	City facility BCAs and Accessibility Audits will be completed in 2026 to establish benchmarks. Regardless of the benchmark, it is expected that the City will be looking to increase this LOS by 2035 (increase to be determined).
Percentage of facility users that rated their overall satisfaction level as "fair" or better	80%	Maintain Current Performance	N/A	Adequate resources are applied to maintain facility assets at fair or better. Increasing LOS would involve larger investment in staffing and equipment resources, which is not being considered at this time.
Percentage of users that rated the overall facility conditions as "fair" or better	90%	Maintain Current Performance	N/A	90% or higher is an acceptable benchmark and additional resources to improve this are not planned currently.
Number of residents per facility type	Ice Pads - 1: 8625 Gyms (Agri) - 1: 8625	Maintain Current Performance	N/A	Consistent with StatsCan Public Infrastructure Survey. Urban municipalities average one pad or gym per 18,000 residents. After reviewing demand, growth and capacity, there is no plan to increase this LOS within the next 10 years.

Annual number of unplanned facility closures	0 (2024)	Maintain Current Performance	N/A	Most facility closures are planned and residents are notified when possible. Redundancy is in place to ensure this, primarily in the form of fixed facility generators.
Sustainability				
Percentage of planned maintenance activities completed as per schedule	100%	Maintain Current Performance	N/A	Preventative maintenance is typically completed on schedule or if deferred, is completed as soon as possible to ensure compliance.
Overall percentage of City facilities in "good" or better condition	TBD	TBD	$25,368,000	Benchmark data will come when the facility BCAs are completed in 2026.

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for City facility assets.

Risks of Reducing Current Service Levels

- More frequent service disruptions resulting from increased reactive maintenance as asset conditions deteriorate
- Potential loss in services/programs provided to residents
- Potential ineligibility of funding/partnerships if service levels decrease
- Increased risk of not meeting GHG reduction targets.
- Reputational risks to the City if expected LOS are not delivered
- Inability to keep up with growth or to meet capacity needs
- Increased risk of higher operational costs to keep assets operational as assets deteriorate

Risks of Maintaining Current Levels of Service

- Continued increase of the deferred maintenance backlog which increases long-term financial pressure
- Inability to stay current with evolving Ontario Building Code, accessibility, and regulatory requirements without proactive upgrades
- Rising probability of unplanned capital failures as aging systems remain in service beyond intended lifecycle
- Stagnation in service quality, limiting the City's ability to meet modern user expectations
- Energy inefficiencies remain unaddressed, locking in higher utility costs and slowing progress towards climate goals
- Operational inefficiencies: outdated layouts, technology, or building systems.
- Loss of opportunity for modernization, innovation, and improved customer experience

Risks of Increasing Current Levels of Service

- Higher operating and capital funding requirements, which may exceed available funding or tax rate increase tolerance
- Increased long-term lifecycle obligations, as upgraded or expanded assets require more maintenance
- Greater staffing and resource needs, potentially exceeding existing capacity
- Increased expectations from the public, creating future commitments that may be difficult to scale back in times when economic pressures require
- Potential inequity across facilities where improvements in select buildings lead to service level gaps elsewhere
- Risk of overinvestment if elevated service levels exceed future community demand or usage

Different service level approaches offer distinct benefits for City Facilities. Reducing service levels can provide short-term financial flexibility and help manage budget pressures. Maintaining current service levels supports consistent facility performance and manages asset risk while meeting community expectations. Increasing service levels can improve safety, accessibility, functionality, and user experience, and may reduce long-term lifecycle costs through proactive investment.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally target maintaining current performance across most facility metrics, reflecting that the City's facilities are currently operating at sustainable levels. User satisfaction, facility condition perceptions, and reliability are expected to remain stable. These outcomes are supported by effective maintenance practices and adequate staffing.

The only area identified for improvement is accessibility compliance, where performance will be benchmarked following the 2026 BCAs and AAs with a target to increase overall accessibility by 2035.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned initiatives. Maintaining existing satisfaction, condition, and reliability metrics is realistic given the City's strong maintenance practices, adequate staffing, and the absence of unplanned closures.

The planned improvement to accessible facilities by 2035 is also achievable, as it is supported by the upcoming 2026 AAs which will establish a clear performance baseline and guide targeted upgrades. Additionally, the inclusion of approximately $25.4 million in the 10-year capital plan provides the financial capacity to support these service level objectives. Overall, the proposed LOS represents a balanced and attainable plan that aligns operational capability, funding, and regulatory expectations.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

It is presumed that the municipality's ability to afford the proposed levels of service is consistent with current financial planning and operational practices. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity. However, the affordability will be revisited when the BCAs are completed, and the capital recommendations are reviewed.

The anticipated improvement in accessibility compliance by 2035 is incorporated into and supported by a $25.4 million capital allocation in the 2025–2035 plan. This amount will be reviewed to determine if it will provide sufficient funding to address issues identified in the 2026 assessments. By deferring specific improvement targets until accurate condition and accessibility data are available, the City avoids premature or inefficient spending.

A.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its facility assets to maintain assets in a state of good repair and provide the appropriate levels of service. The different lifecycle activities are shown below.

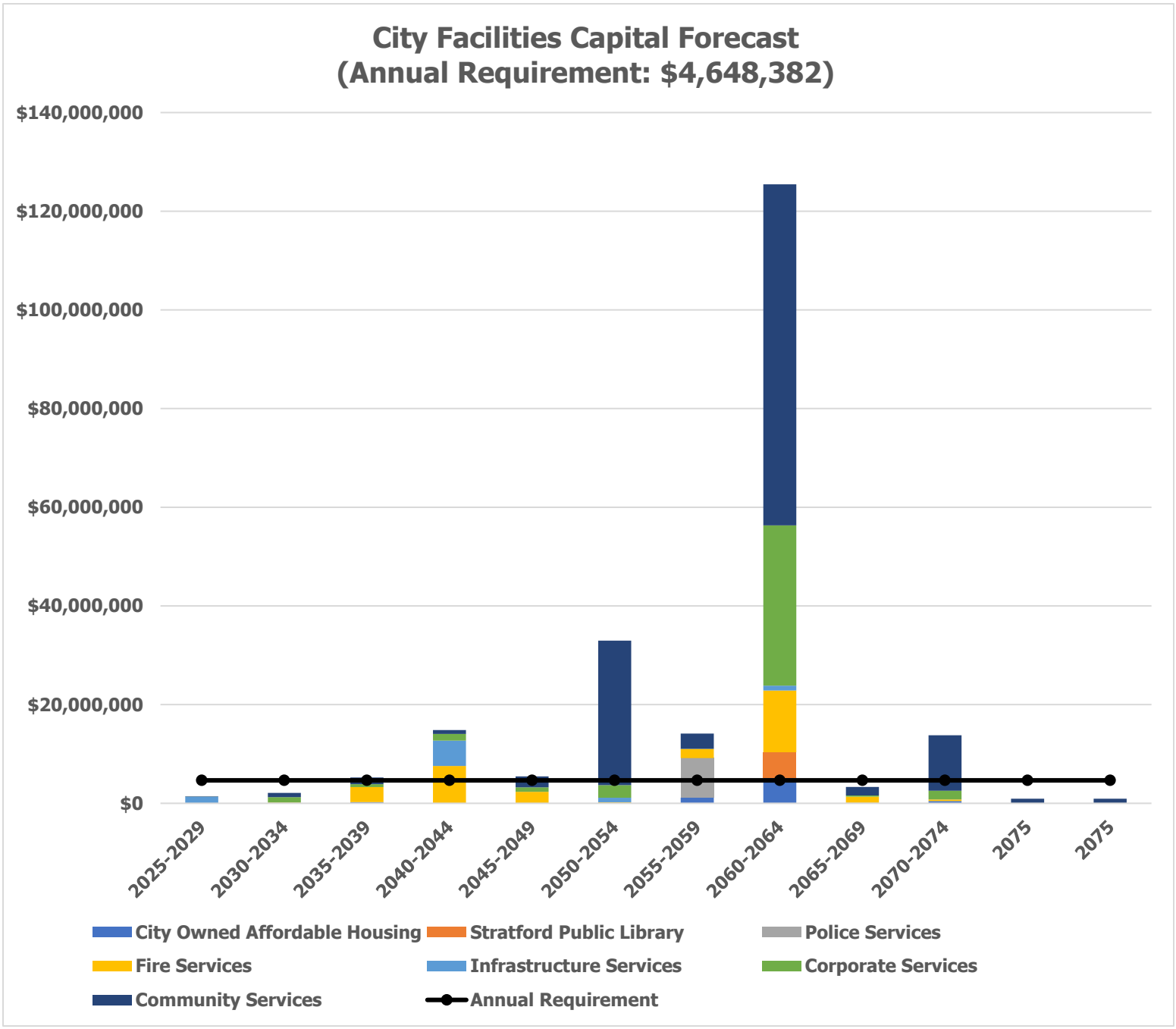
Table 19: Lifecycle Management Strategies

Activity Type	Description of Current Strategy
Prevention Inspection	Heating systems and other major component systems undergo annual inspections to maintain efficiency and safety standards, promoting occupant comfort and energy efficiency.
Assessment	Beginning in 2026, the municipality plans to conduct building condition assessments every 5-10 years, which will generate detailed recommendations for ongoing maintenance and rehabilitation needs. The first major BCA in 2026 will be completed by subject matter consulting experts and future assessments may be completed primarily by trained staff and the structural components by certified engineers.
Maintenance / Rehabilitation	Buildings are repaired as needed, addressing deficiencies identified by experts, staff, or residents. Immediate attention is given to urgent issues, ensuring quick resolution based on the level of urgency.
Replacement	Assessments are completed strategically to determine whether replacement or rehabilitation is appropriate. Renewal and replacement activities are guided by lifecycle analysis and align with the asset management plan's recommendations.

A.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should be allocating towards rehabilitation and replacement needs based on the data taken from the City's asset management software, Citywide. The following graph identifies capital requirements over the next 50 years. This timeline is used as it ensures that most assets have gone through at least one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $4.6 million.

Figure 19: City Facilities Capital Requirements



As mentioned earlier in this appendix, the completion of the BCAs will change the financial requirements of the City facilities. This section will be updated to reflect these updates in a subsequent AMP annual update.

A.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the City Facilities asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of assets within each range. See Appendix K for the criteria behind this risk rating matrix.

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limit the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 20: Risk and Criticality Summary

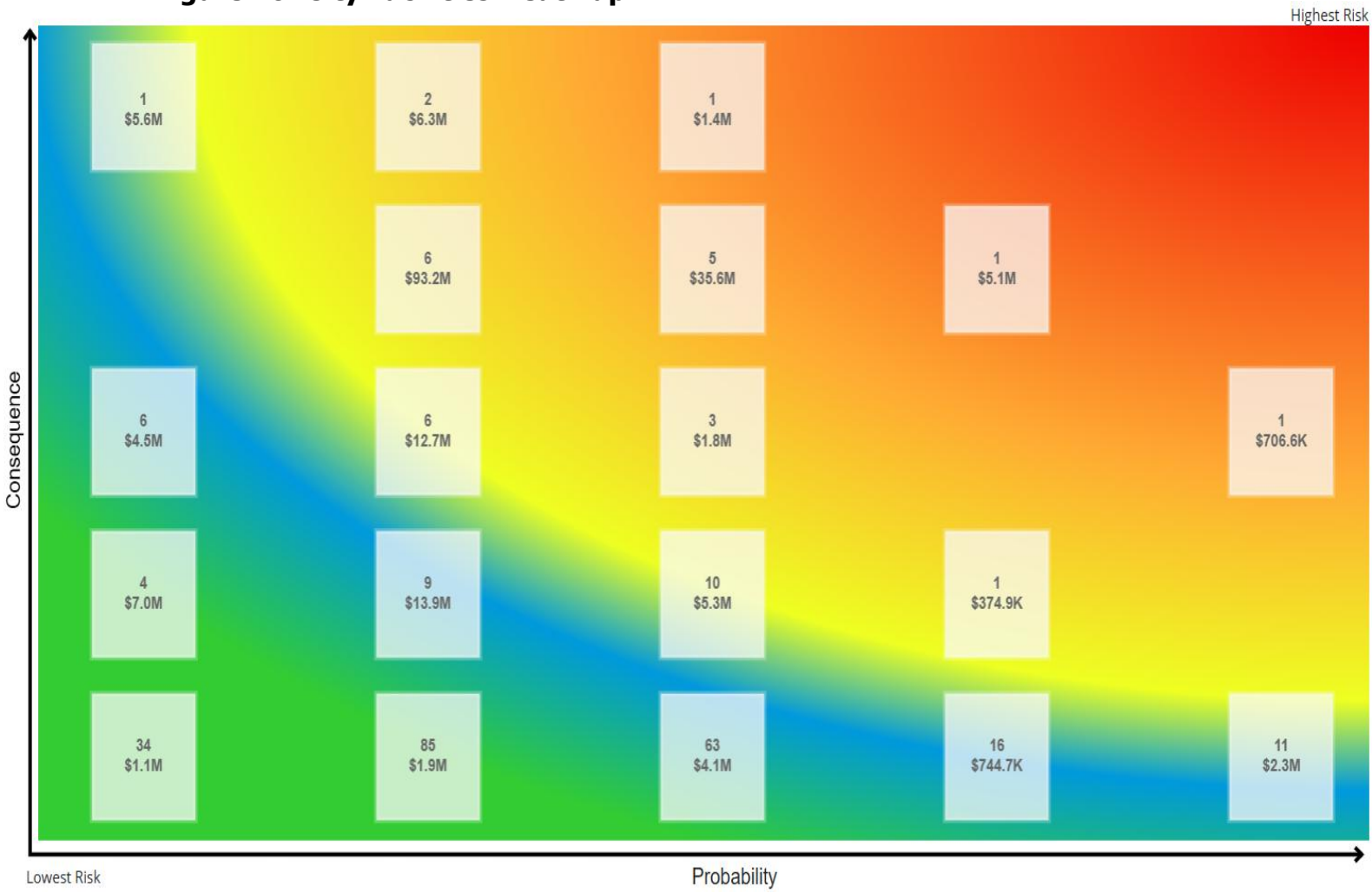
1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
215 Assets	29 Assets	11 Assets	7 Assets	3 Assets
398.00 unit(s)	34.00 unit(s)	11.00 unit(s)	7.00 unit(s)	529.00 unit(s)
$25,452,886.50	$32,769,234.00	$96,276,654.00	$41,905,893.00	$7,215,445.00

Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and lifecycle activity options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another visual data tool to illustrate the critical asset rating system and which assets (by quantity) are included in each part of the matrix.

Figure 20: City Facilities Heatmap



A.9 Recommendations

Replacement Costs

- Most replacement costs used in this AMP for City facilities are based on the overall replacement cost for each facility and are not broken down into components. The replacement costs come from various sources including insurance renewal replacement cost estimates and the 2022 DC Study. It is recommended that these replacement costs be updated and refined to accurately reflect the asset inventory once the 2026 BCA data is uploaded to the city's database.
- It is recommended that the recommendations from the 2026 AAs be incorporated into future facility capital planning.

Asset Inventory

- Continue to review and refine the asset inventory to improve scope, accuracy, and update estimated useful life values. The 2026 BCA will be the main driver for this data collection process.

Condition Assessment Strategies

- It is recommended that the City consider setting a fixed schedule for condition assessments to assess facility asset condition and accessibility audits at regular intervals.
- Train internal staff to perform facility asset condition assessments. Then, the only external cost, outside of the staff training, will be for consultants to complete the inspections of the structural and civil components of the facilities.
- It is recommended that any industry best practices and innovative technologies be explored to develop a better assessment strategy for the variety of facilities' assets.

Lifecycle Management Strategies

- Update the City's facilities lifecycle management strategies at regular intervals to include the major maintenance recommendations from the BCAs and AAs.
- Integrate maintenance and operations work order data into the tracking of individual assets.
- Develop more detailed preventative maintenance strategies and programs to maintain the current level of service.
- Complete a facility maintenance and operations audit to clearly define how resources are allocated to each facility and if optimization and efficiency can be improved.
- Develop a facility security rating scoring system to identify and manage security concerns.

Levels of Service

- Review any available facility studies, identify opportunities for improvement, and factor any applicable sections of the study into any facility capital planning.
- Continue to measure current levels of service in accordance with the metrics identified in Ontario Regulation 588/17 and the additional metrics included by the City.
- Track annual progress towards the City's proposed levels of service targets by completing annual reviews with CMT staff to discuss LOS annual outcomes.

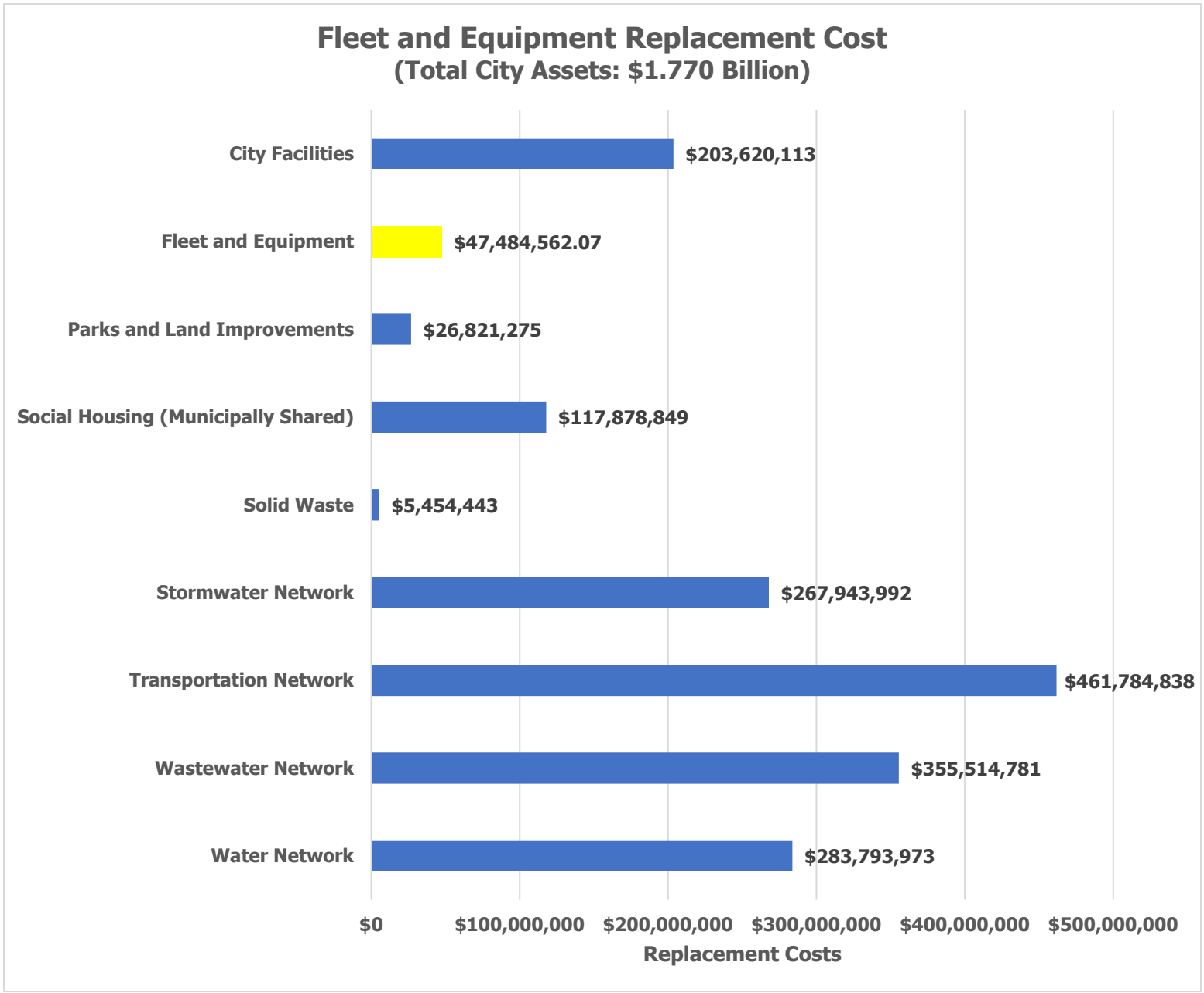
Appendix B: Fleet and Equipment

B.1 Introduction

To support the delivery of core City services, the City employs various types of tax and rate-supported fleet and equipment. This category is essential to the City as it enables the day-to-day operations. The category segments include but are not limited to:

- Landscaping equipment to maintain public parks
- Fire and police vehicles to support the emergency services responses
- Plows and sand hoppers to provide winter control activities

Figure 21: Fleet and Equipment Replacement Cost



B.2 Asset Inventory & Replacement Cost

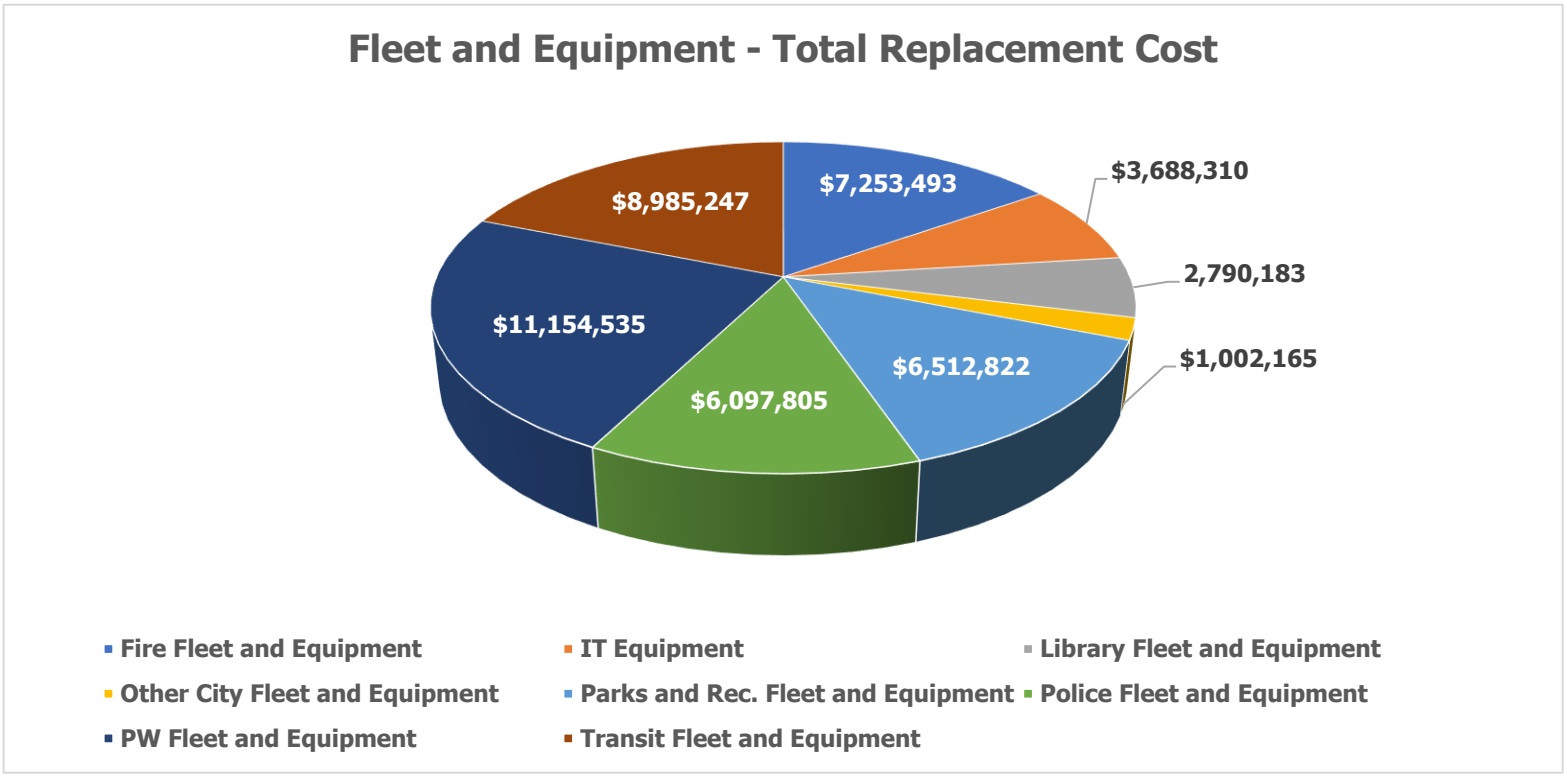
The City's fleet and equipment asset inventory includes a mix of police, fire, corporate, Public Works, community services and library vehicles and equipment. Replacement cost estimates are mainly based on actual recent replacement purchases.

The table and pie chart below includes the asset segments and total replacement cost of each department and board in the Fleet and Equipment inventory.

Table 21: Fleet and Equipment Inventory and Replacement Costs

Asset Segment	Total Replacement Cost
Fire Fleet and Equipment	$7,253,493
IT Equipment	$3,688,310
Library Fleet and Equipment	$2,790,183
Other City Fleet and Equipment	$1,002,165
Parks and Rec. Fleet and Equipment	$6,512,822
Police Fleet and Equipment	$6,097,805
Public Works Fleet and Equipment	$11,154,535
Transit Fleet and Equipment	$8,985,247
Total	**$47,484,562**

Figure 22: Fleet and Equipment Replacement Costs by Segment



B.3 Estimated Useful Life (EUL) & Average Age

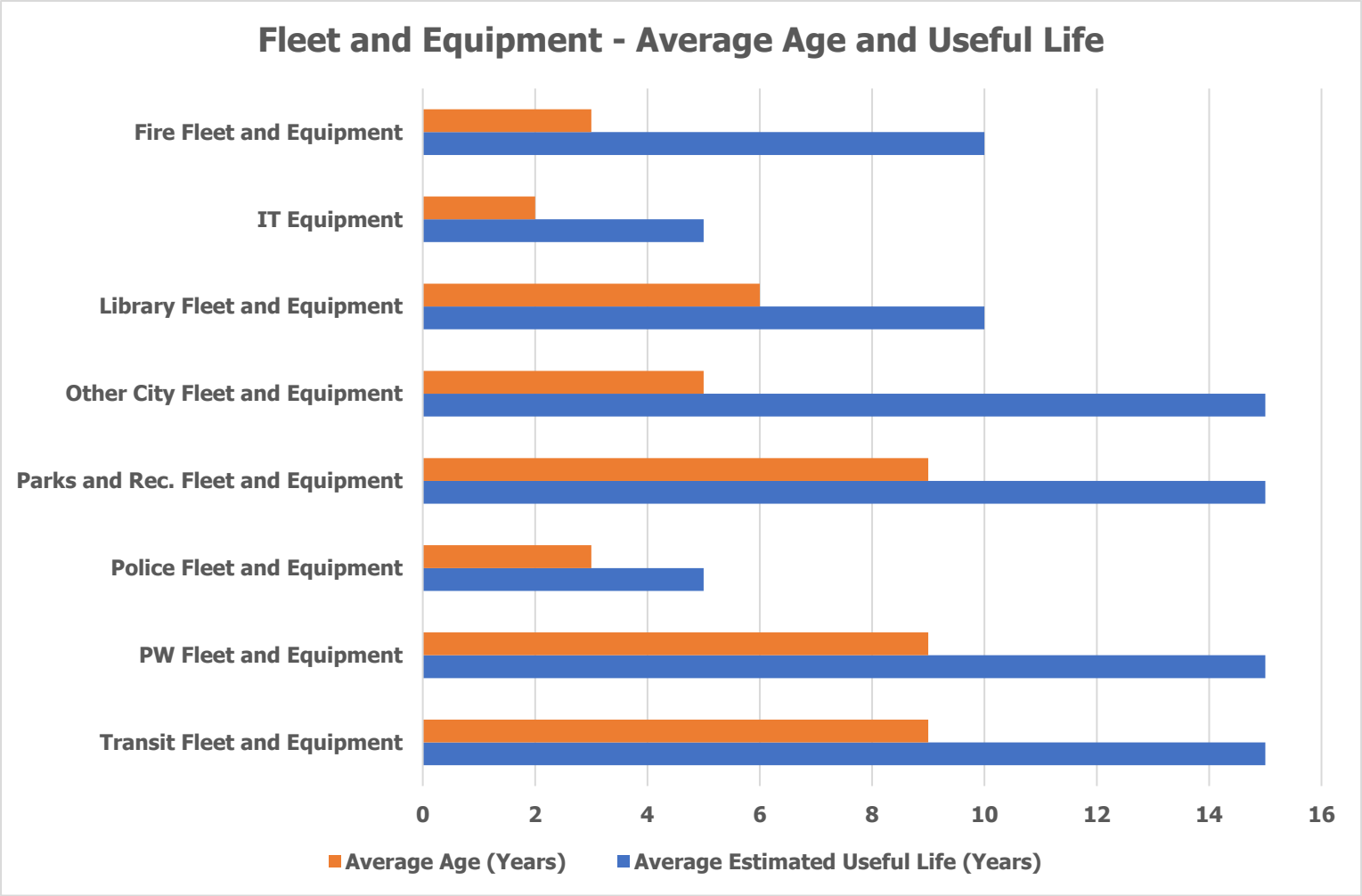
The Useful Life for Fleet and Equipment assets has been estimated using a combination of established industry standards and professional judgment. Note that the EULs for this category will are under review and may be changed in 2026 with the TCA policy update. The Average Age of each asset is based on the number of years each asset has been in-service. The Average Service Life Remaining is the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Table 22: Fleet and Equipment Averages

Asset Segment	Average Estimated Useful Life (Years)	Average Asset Age (Years)	Average Service Life Remaining (Years)
Fire Fleet and Equipment	10	3	7
IT Equipment	5	2	3
Library Fleet and Equipment	10	6	4
Other City Fleet and Equipment	15	5	10
Parks and Rec. Fleet and Equipment	15	9	4
Police Fleet and Equipment	5	3	2
Public Works Fleet and Equipment	15	9	6
Transit Fleet and Equipment	15	9	6

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies and when ultimate replacement may be required. The figure on the following page displays average asset age alongside the estimated useful life for each asset segment.

Figure 23: Fleet and Equipment Average Age and Useful Life



The data suggests that on average, assets are kept in service longer than their estimated useful life. This is an existing practice at the City to ensure equipment is used and maintained if it continues to make financial sense. Adjustments to the estimated useful life values may be required to ensure that they best reflect the estimates of time that assets can provide the required level of service.

B.4 Asset Condition

The following section and table present the condition breakdown for each asset segment and describe the City's approach to assessing asset condition. Where feasible, the City applies industry-standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

The following table provides an overview of the various techniques employed to assess the City's Fleet and Equipment asset condition.

Table 23: Fleet and Equipment Asset Condition Strategy

Asset Segment	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
Fire Fleet and Equipment	Condition assessments by staff	Every 1 - 5 Years	2025
IT Equipment	Condition assessments by staff	Every 1 - 5 Years	2025
Library Fleet and Equipment	Condition assessments by staff	Every 1 - 5 Years	2025
Other City Fleet and Equipment	Condition assessments by staff	Every 1 - 5 Years	2025
Parks and Rec. Fleet and Equipment	Condition assessments by staff	Every 1 - 5 Years	2025
Police Fleet and Equipment	Condition assessments by staff	Every 1 - 5 Years	2025
Public Works Fleet and Equipment	Condition assessments by staff	Every 1 - 5 Years	2025
Transit Fleet and Equipment	Condition assessments by staff	Every 1 - 5 Years	2025

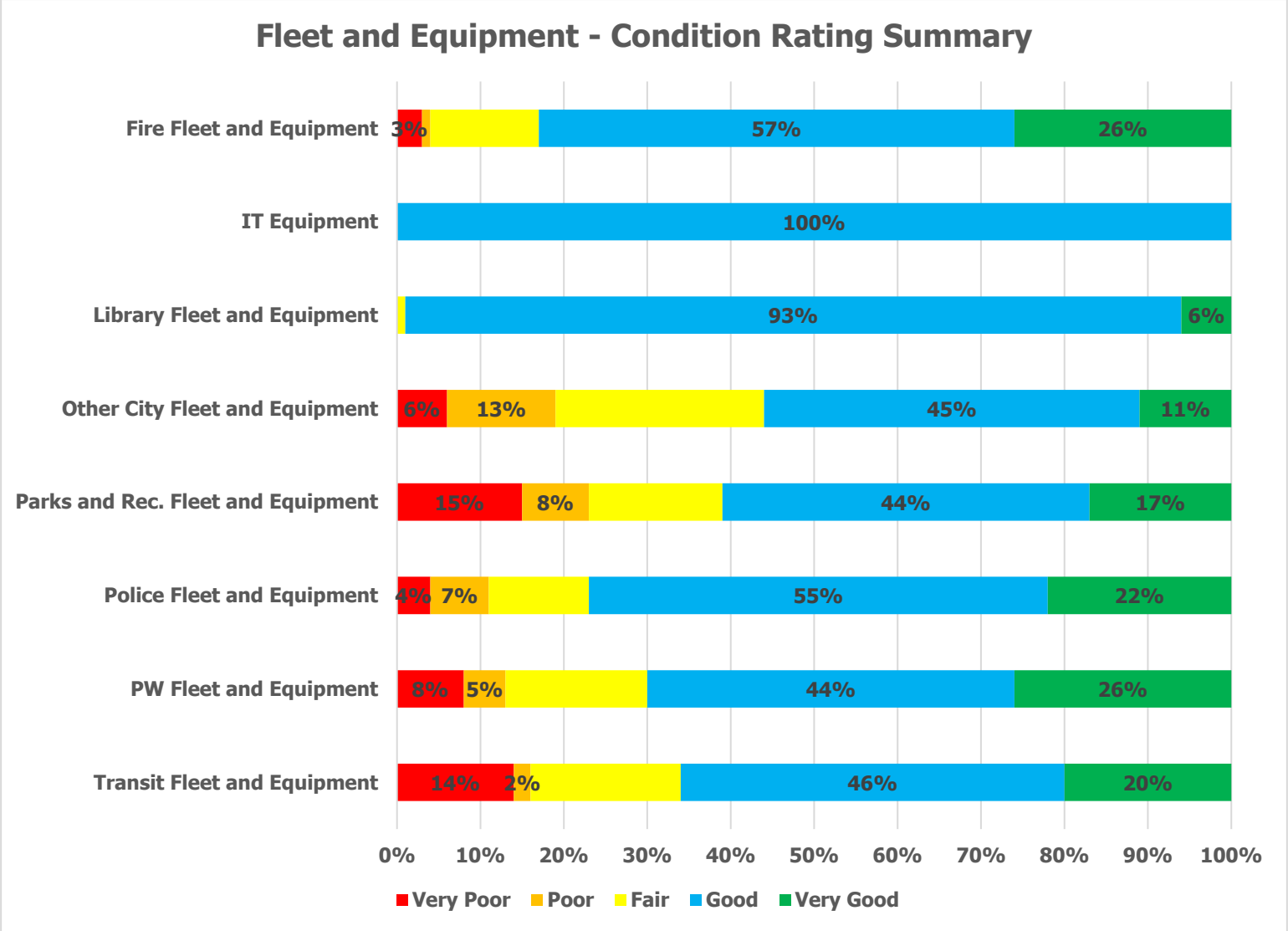
In 2025, a full internal condition review of City fleet and equipment was undertaken across all departments. The results from physical assessments when compared to the previous AMPs which were solely based on age as the condition metric, showed a significant swing in data.

The percentage of Fleet and Equipment that is in "fair" or better condition is 81% which is a significant increase from the last AMP which showed 45% in "fair" or better condition. This highlights the importance of scheduled condition assessments because proper data may translate into a reduced infrastructure backlog.

Internal formal condition assessments will be completed at regular intervals to ensure up to date data in future iterations of the AMP. It should also be noted that in practice, most fleet and equipment is inspected before each use, and any deficiencies are immediately reported for remediation.

The full condition data summary can be found in the graph on the following page.

Figure 24: Fleet and Equipment Condition Rating Summary



B.5 Levels of Service

The following tables identify the City's current and proposed levels of service for its Fleet and Equipment assets. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17, as well as any additional metrics developed by staff.

Community Levels of Service

The following table outlines the current qualitative descriptions that determine the community levels of service provided by Fleet and Equipment.

Table 24: Fleet and Equipment Community Levels of Service

Service Attribute	Community Levels of Service	Related Assets
Reliability	The City strives to have machinery and equipment perform as intended.	All
Availability	The City strives to ensure that equipment and machinery are available for use when required to perform their duties.	All
Environment	The City strives to lower its carbon emissions.	All
Quality	The City inspects and maintains the machinery and equipment inventory at a condition level to ensure that it functions as designed.	All

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided by City Fleet and Equipment. While some measures are identified, it is noted that the some of the required data is not available for 2025 and as a result, they will be calculated in a future revision.

Table 25: Fleet and Equipment Technical Levels of Service

Technical Metric(s)				Proposed LOS Justification and Notes
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	
Accessibility & Reliability				
Percentage of regulated MTO maintenance inspections completed	100%	Maintain Current Performance	N/A	Inspections scheduled and completed by staff as required.
Percentage of vehicles with preventative maintenance inspections completed per year	100%	Maintain Current Performance	TBD	Inspections scheduled and completed by staff as required.
Number of fleet vehicles being used beyond estimated service life (EUL)	15 Light Duty and 6 Heavy Duty	Maintain Current Performance	N/A	Vehicles are reassigned to other lesser-needed departments beyond their EUL, on a case-by-case basis. While the intent is to have vehicles replaced once they exceed service life, ordering, and receiving vehicles typically take one year.
Average condition of City fleet	Good	Maintain Current Performance	$19,077,750	This metric covers Light-duty, Heavy-duty, Tractor and Mid-Size equipment Replacement Schedule.
Average condition of Police fleet and equipment	Good	Maintain Current Performance	$10,808,411	The police fleet typically have shorter EULs because vehicles run 24/7 as opposed to standard 8- or 12-hour City operations shift.
Average condition of fire machinery and equipment	Good	Maintain Current Performance	$3,429,267	Most fleet and equipment to be replaced in the next ten years are the utility vehicles.

Percentage of training infrastructure inspected annually	100%	Maintain Current Performance	N/A	Equipment is inspected to ensure it is safe for training purposes.
Average condition of conventional transit vehicles	Good	Maintain Current Performance	$5,740,000	There are no fleet replacements currently planned for Transit in 2026. The costs make up planned projects and replacements between 2027-2035.
Average condition of mobility transit vehicles	Good	Maintain Current Performance	$1,650,000	The replacements of mobility transit vehicles planned in the 10-year forecast are for electric mobility buses.
Percentage of bus stops that meet accessibility standards	TBD	TBD	$750,000	The 10-year forecast shows $150,000 every second year for shelter replacements. When upgrades are completed, they will meet accessibility standards.
Percentage of bus stops in fair or better condition	100%	Maintain Current Performance	Same as above	Same as above.
Sustainability				
Number of alternative energy vehicles as a percentage of the total number of City vehicles	Light Duty: 36% Heavy Duty: 0% Mobility Transit: 0% Conventional Transit: 15% Fire: 0%	Improve Performance (increasing value)	N/A	Thie City is planning to transition all light duty fleet to electric by 2030 and 100% of light duty should be alternative energy by 2035. Transit capital has traditionally been provincially funded, which determines replacement rate. • 26/73 Light Duty Vehicles are hybrid • 0/10 Heavy Duty Vehicles are alt energy • 0/5 Mobility Buses are alt energy • 2/13 Transit buses are hybrid • 0/5 Light Duty and 0/4 Heavy Duty fire are alt energy

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for City facility assets.

Risks of Reducing Current Service Levels

- Reduced level of service for residents due to limited availability or declining condition of Fleet and Equipment assets
- Potential loss of provincial funding, partnerships, or revenue opportunities (bus advertising) if service levels decline
- Increased health and safety risks for residents who rely on transit assets
- Increased risk of not meeting GHG reduction targets. Reputational risks to the City if fleet and equipment are not operating as required and normal service levels are not met.
- Higher likelihood of non-compliance with regulatory requirements
- Increased operational costs required to keep aging assets functioning

Risks of Maintaining Current Levels of Service

- Higher frequency of unexpected breakdowns as aging vehicles and equipment operate beyond optimal lifecycle
- Declining operational efficiency, including increased fuel use and longer cycle times due to outdated equipment
- Inability to meet evolving accessibility standards which limit service improvements
- Increased downtime for maintenance which affects operational reliability even if service levels technically remain unchanged
- Reduced fleet resiliency during peak demand or emergencies as older assets cannot perform at required levels
- Missed opportunities for emissions reduction, electrification, or modern fleet optimization strategies

Risks of Increasing Current Levels of Service

- Significant increases in capital and operating costs including fuel, maintenance, staffing, and procurement
- Higher lifecycle obligations as additional or more advanced assets require expanded maintenance programs
- Greater staffing requirements, including the need for additional operators, mechanics, and support personnel
- Higher expectations from residents and Council, creating commitments that may be difficult to maintain long-term. For example, to increase service levels for snow removal response times or for major snow events, the City would need to invest in more equipment. However, when the need is not there, the equipment

will be sitting idle.
- Risk of oversizing the fleet relative to actual demand, resulting in underutilized assets and inefficient spending
- Increased reliance on specialized vehicles or technology, raising vulnerability to supply chain and parts shortages

Different service level approaches offer distinct benefits for fleet and equipment assets. Reducing service levels can defer replacement costs but may increase downtime and operational risk. Maintaining current service levels supports reliability and service continuity while managing lifecycle costs. Increasing service levels can improve operational efficiency, safety, and reliability, and may lower long-term costs through optimized replacement and maintenance.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally target maintaining current performance across most fleet and equipment metrics, reflecting that the category assets are operating at sustainable levels. User satisfaction, fleet condition perceptions, and transit reliability are expected to remain stable, supported by effective maintenance practices and adequate staffing.

The main area identified for improvement is the number of alternative energy vehicles in the City fleet. These targets will be aligned with the City's corporate emissions plan.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned replacement schedule. Maintaining existing asset condition, and reliability is realistic given the City's strong replacement practices, adequate staffing for fleet maintenance, and the absence of unplanned fleet or major equipment replacements.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

The municipality's ability to afford the proposed levels of service is consistent with current financial planning and operational practices. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity.

B.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its fleet and equipment assets to maintain assets in a state of good repair and provide the appropriate levels of service.

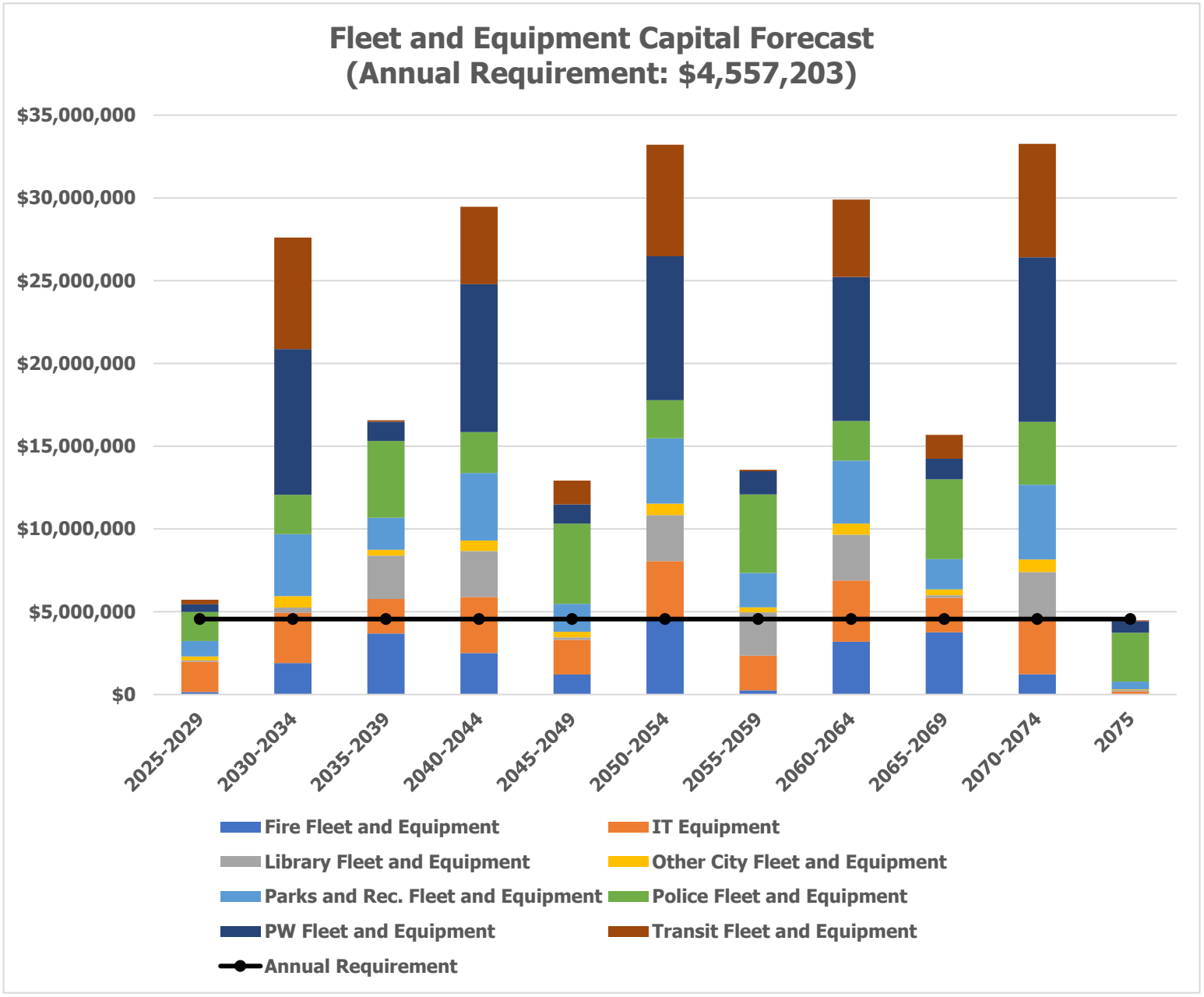
Table 26: Fleet and Equipment Lifecycle Management Strategies

Activity Type	Description of Current Strategy
Operations and Maintenance	The City's fleet and eqiupment stay in a state of good repair due, in part, to the guidelines and policies around Property, Municipal Equipment and Vehicles.
Renewal and Rehabilitation	Vehicle renewal and rehabilition decisions typically follow standard replacement cycles as determined by the City.
Growth-Related and Service Enhancements	Growth requirements are typically identified in the DC Study. For example, in the next 10 years, there is an anticipated expansion of fleet required due to growth to cost about $1.5 milllion.
Non-Infrastructure	Inspections and fleet or equipment optimization reviews (ex. shared assets for similar operation activities between departments).
Identification of Short-Term Priorities	The 10-year capital plan, which is built around EUL, is revised as a vehicle nears its scheduled replacement dated based on a formal review.

B.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should allocate towards funding rehabilitation and replacement needs based on the data from the City's asset management software. The following figure identifies capital requirements over the next 50 years. This projection timeline is used as it ensures that most assets have gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $4.5 million.

Figure 25: Fleet and Equipment Capital Forecast



B.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the Fleet and Equipment asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of assets within each range. See Appendix K for the criteria behind this risk rating matrix.

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limits the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 27: Risk and Criticality Summary

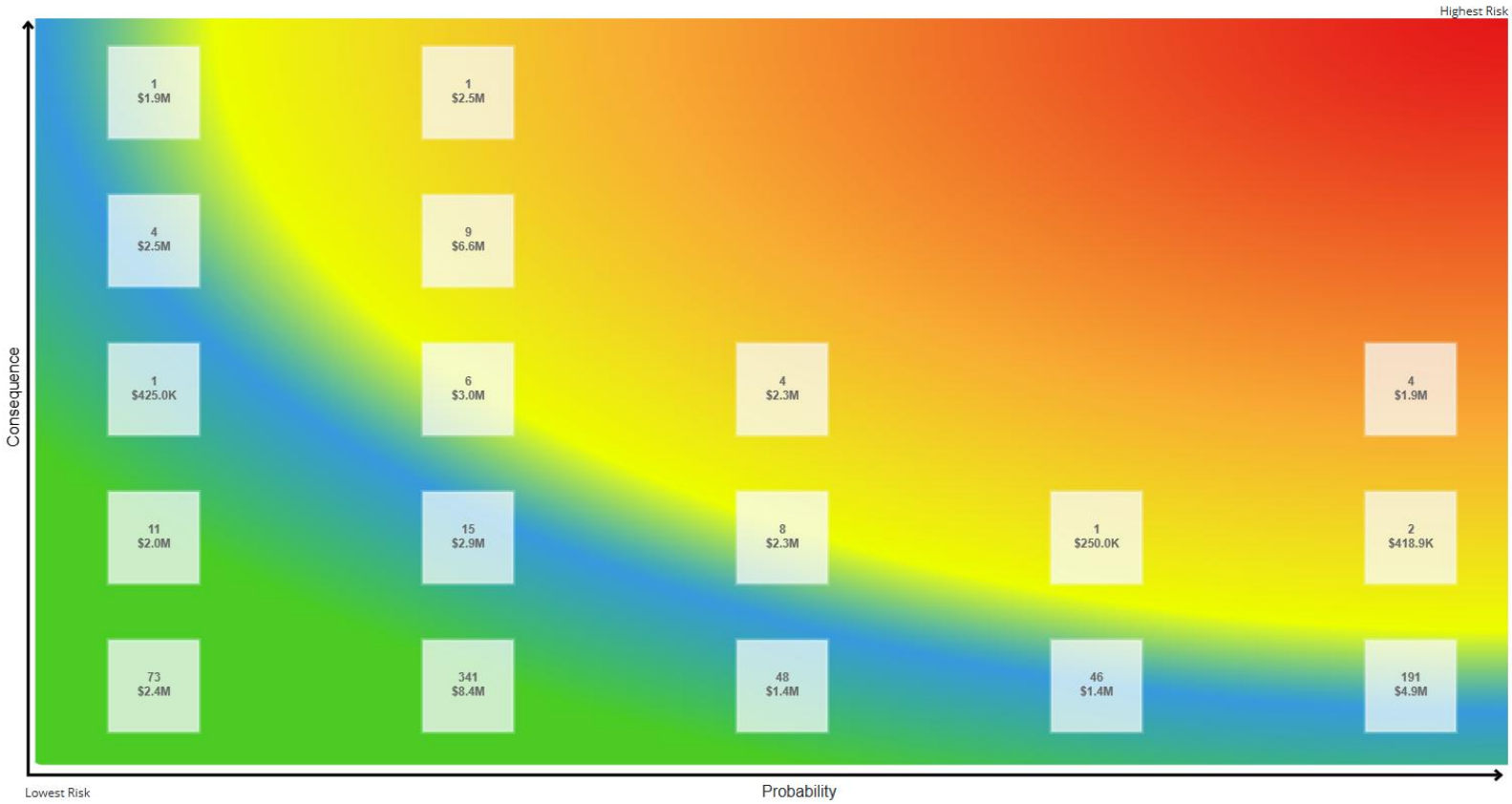
1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
539 Assets	206 Assets	14 Assets	3 Assets	4 Assets
1,139.00 unit(s)	304.00 unit(s)	10.00 unit(s)	110,729.00 unit(s)	4.00 unit(s)
$21,498,378.71	$12,020,710.56	$9,154,020.80	$2,891,875.00	$1,919,577.00

Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another visual tool to illustrate the critical asset rating system and which assets (by quantity) are included in each part of the matrix.

Figure 26: Fleet and Equipment Risk Matrix Heatmap



B.9 Recommendations

Asset Inventory and Capital Planning and Forecasting

- Update the capital plan and forecasting documents prepared during the budget process to include more detail and justification for fleet replacement, especially if ahead of schedule based on EUL. The updates may include metrics such as summary of maintenance costs, frequency of use, mileage, vehicle user history to understand usage patterns based on activity types (ex. Bylaw enforcement vs. Public Works operations)
- Review internal vehicle categorization system to ensure it aligns with industry standards and best practices.
- Ensure that fleet categorization and conventional naming systems are uniform across all departments.
- Integrate the City's asset management inventory with information available in the fleet management processes or other data sources (Pearl software).

Condition Assessment Strategies

- Review fleet replacement schedules and estimated useful life designations to ensure the City is maximizing its fleet investments by comparing actual performance of vehicles to the conventional replacement trigger metrics.
- Review how the City is using GPS data and information to inform decision making of usage and efficiency.

Lifecycle Management Strategies

- Create and adopt a comprehensive Fleet Management Policy to align the City's processes and procedures with industry best practices. This would result in updating several outdated policies still in place in the Policy Manual.
- Continue to explore shared or cross-departmental use of specialized equipment to improve utilization and return on investment. This would be captured as part of the corporate-wide optimization review as noted in earlier recommendations.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in Ontario Regulation 588/17 and the additional metrics included by the City.
- Track annual progress towards the City's proposed levels of service targets.

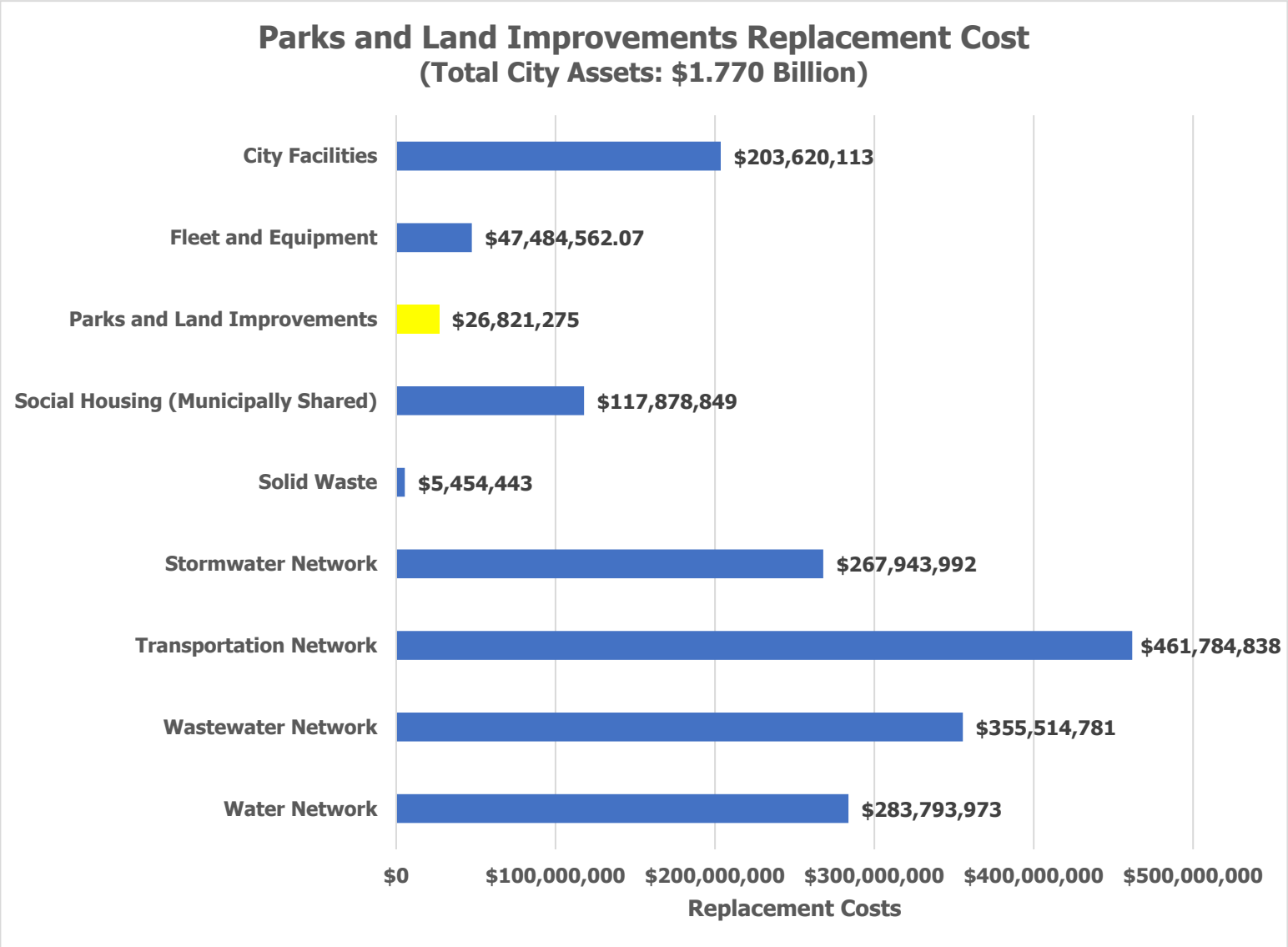
Appendix C: Parks and Land Improvements

C.1 Introduction

The City's Parks and Land Improvements category encompasses a wide range of natural and built features within public spaces which contribute to the quality of life and well being of residents and visitors in the community. Parks and Land Improvements infrastructure assets included in this category are natural assets and built infrastructure contained within parks and City owned parking areas. This asset category includes:

- Parks, parkettes, trails, cemetery
- Sport fields, tennis courts, skate parks, playgrounds
- Trees and natural assets
- Municipal parking lots and meters

Figure 27: Parks and Land Improvements Replacement Cost



C.2 Asset Inventory & Replacement Cost

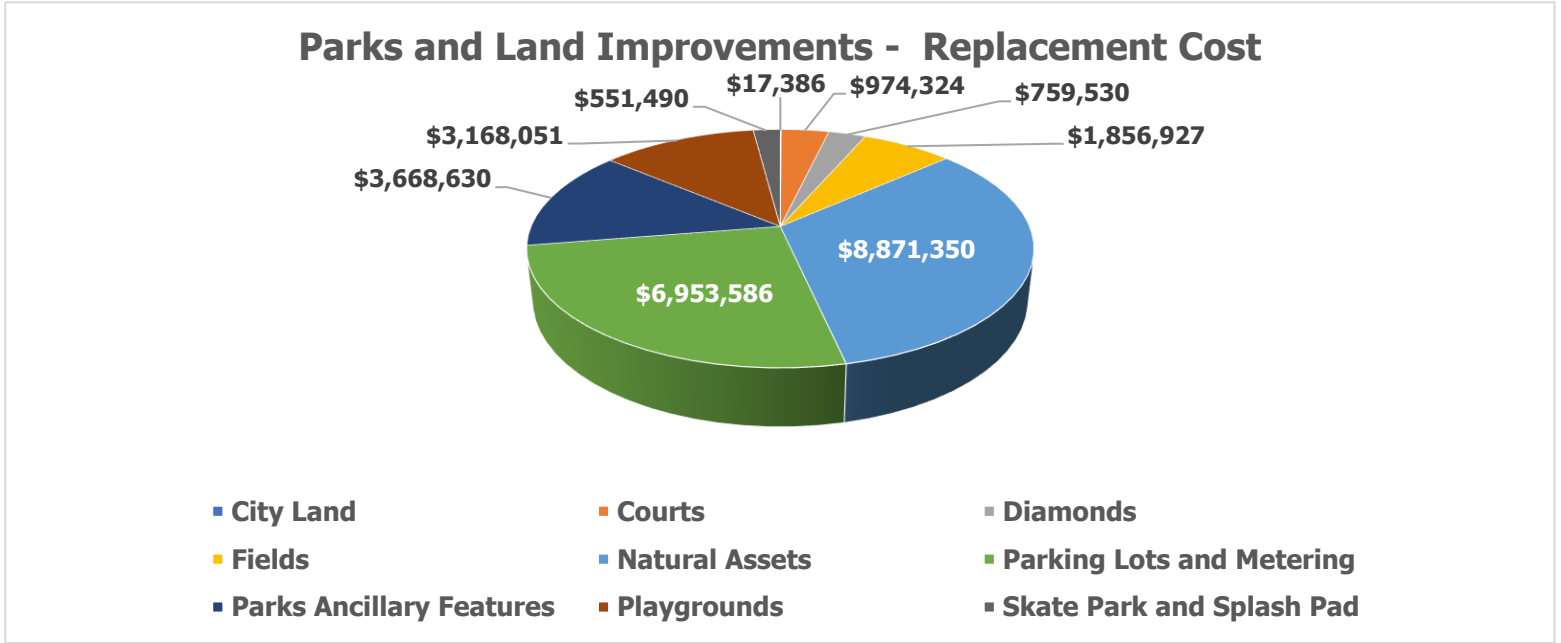
The table and pie chart below include the asset segment and total replacement cost of each of the City's Parks and Land Improvements inventory.

The Asset Management Plan now includes a Natural Assets segment, incorporating the City's tree inventory as a first step toward recognizing and managing natural assets. This segment is preliminary and will continue to be refined as data quality improves, asset definitions are clarified, and management approaches are further developed in future AMP updates.

Table 28: Parks and Land Improvements Inventory and Replacement Costs

Asset Segment	Total Replacement Cost
City Land	$17,386
Courts	$974,324
Diamonds	$759,530
Fields	$1,856,927
Natural Assets	$8,871,350
Parking Lots and Metering	$6,953,586
Parks Ancillary Features	$3,668,630
Playgrounds	$3,168,051
Skate Park and Splash Pad	$551,490
Total	**$26,821,275**

Figure 28: Parks and Land Improvements Replacement Costs by Segment



C.3 Estimated Useful Life (EUL) & Average Age

The Estimated Useful Life for Parks and Land Improvements assets has been assigned according to a combination of established industry standards and professional staff judgment. Please note that the EULs for this category are under review in 2026 with the TCA policy update.

The Average Age of each asset is based on the number of years each asset has been in service. The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

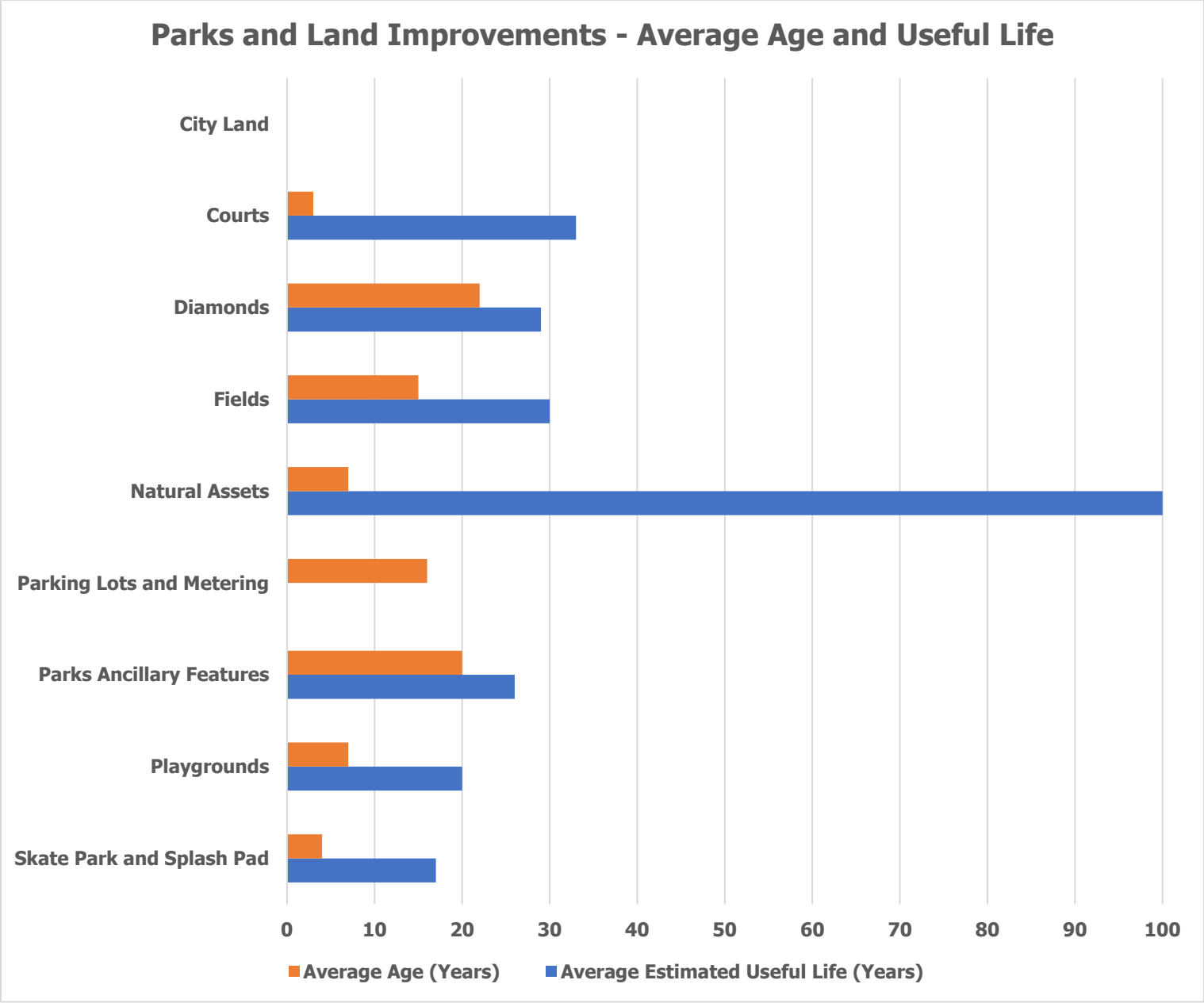
Table 29: Parks and Land Improvements Averages

Asset Segment	Average Estimated Useful Life (Years)	Average Asset Age (Years)	Average Service Life Remaining (Years)
City Land[4]	0	0	0
Courts	33	3	30
Diamonds	29	22	22
Fields	30	15	22
Natural Assets	100	7	20
Parking Lots and Metering	30	16	11
Parks Ancillary Features	26	20	16
Playgrounds	20	7	13
Skate Park and Splash Pad	17	4	10

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies may be required. The figure on the following page displays average asset age alongside the estimated useful life for each asset segment.

[4] City Land is typically assumed to not have an EUL because it is not expected to be replaced the same as a typical tangible asset.

Figure 29: Parks and Land Improvements Average Age and Useful Life



C.4 Asset Condition

The following section and table present the condition breakdown for each asset segment and describe the City's approach to assessing asset condition. Where feasible, the City applies industry-standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

Table 30: Parks and Land Improvement Asset Condition Strategy

Asset Segment	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
City Land	Condition assessments by staff	Every 1 - 5 Years	2025
Courts	Condition assessments by staff	Every 1 - 5 Years	2025
Diamonds	Condition assessments by staff	Every 1 - 5 Years	2025
Fields	Condition assessments by staff	Every 1 - 5 Years	2025
Natural Assets	Condition assessments by staff	Every 1 - 5 Years	2025
Parking Lots and Metering	Condition assessments by staff	Every 1 - 5 Years	2025
Parks Ancillary Features	Condition assessments by staff	Every 1 - 5 Years	2025
Playgrounds	Condition assessments by staff	Every 1 - 5 Years	2025
Skate Park and Splash Pad	Condition assessments by staff	Every 1 - 5 Years	2025

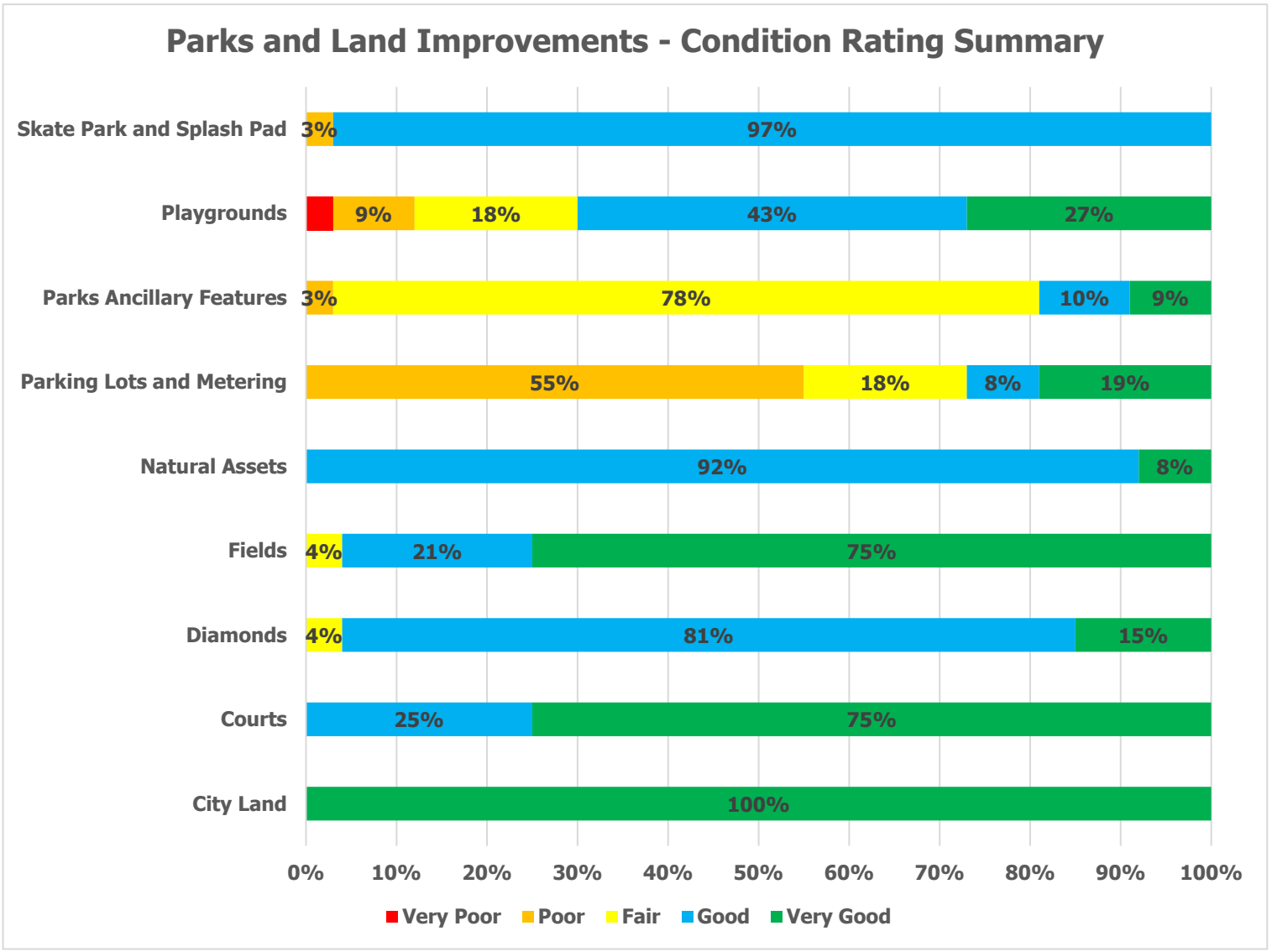
In 2025 an internal comprehensive condition review of City Parks and Land Improvements was completed. The results from physical assessments when compared to the previous AMPs which were solely based on age as the condition metric, showed a significant swing in data.

The percentage of Parks and Land Improvements that is in "fair" or better condition is 84% which is a significant increase from the last AMP which showed 53% in "fair" or better condition. This example highlights the importance of scheduled condition assessments because proper data may translate into a reduced infrastructure backlog.

Internal condition assessments will be completed at regular intervals to ensure current data in future iterations of the AMP. It should also be noted that some segments like playgrounds, are already inspected on a preventative maintenance schedule, and any deficiencies are immediately reported for remediation.

The full condition data can be found in the image on the following page.

Figure 30: Parks and Land Improvements Condition Rating Summary



C.5 Levels of Service

The following tables identify the City's current and proposed levels of service for the Parks and Land Improvements assets. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17, as well as any additional metrics developed by staff.

Community Levels of Service

The following table outlines current qualitative descriptions that determine the community levels of service provided by Parks and Land Improvements.

Table 31: Parks and Land Improvements Community Levels of Service

Service Attribute	Community Levels of Service	Related Assets
Proximity	The City strives to incorporate parks and green space into residential neighbourhoods.	Parks and Trails
Availability	The City's parks and park amenities are typically available for use with low to moderate congestion and waiting times.	Parks and Trails
Accessibility	The City strives to ensure that parks and park amenities are accessible by everyone.	Parks and Trails
Quality	The City inspects and maintains playground inventory at a condition level to ensure that it is safe, and functions as designed.	Parks and Trails
Capacity	The City ensures that parking spaces are generally available where and when motorists require them.	Parking
Accessibility	The City strives to ensure that everyone has access to parking options that meet their needs	Parking

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided by City Parks and Land Improvements. While some measures are identified, it is noted that some of the required data is not available for 2025 and as a result, they will be calculated in a future revision.

Table 32: Parks and Land Improvements Technical Levels of Service

Technical Metric(s)				Proposed LOS Justification and Notes
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	
Availability & Reliability				
Percentage of residentially zoned properties within the service radius of a park using the smallest service radius (500 m).	80%	Improve Performance (increasing value)	TBD	This percentage is expected to increase in 2028/2029 with the development of Countryside Park adjacent to the Rotary Complex.
Park washrooms (permanent, not portable stalls)	11	Maintain Current Performance	N/A	There are no plans to add washrooms. The 2026 BCA may recommend replacements which will alter this Proposed LOS during the next review.
Outdoor sports fields (soccer, baseball, tennis etc.) recreation	14 Baseball Diamonds 12 Soccer Fields 3 Tennis/Pickleball Areas 3 Basketball Courts	Maintain Current Performance	N/A	Many organizations that use these assets schedule during peak periods (Monday-Thursday after 4:00pm) which results in a surplus of non-peak availability only. If the City wanted to have more capacity during peak hours for these amenities, it would have to be done through future capital investments or possibly DCs.
Other Outdoor Recreation	1 Splash Pad 1 Skate Park 1 Outdoor Gym 1 Cricket Pitch	Improve Performance (increasing value)	$200,000	A splash pad is a consideration for Countryside Park which would increase service levels. If this does not proceed, this LOS can be reviewed and modified.

Percentage of users that find City parks, trails, and green space overall quality as "fair" or better	91%	Maintain Current Performance	N/A	90% or higher is considered an acceptable benchmark. Results are based on data from the Asset Management Plan Update Survey in 2025.
Percentage of users that find City courts, playgrounds, diamonds, etc. overall quality as "fair" or better	85%	Maintain Current Performance	N/A	Adequate resources are currently applied to maintain these assets. To improve this metric would require more staff and equipment which is not considered necessary at this time.
Percentage of playground inspections and corrective maintenance completed within prescribed time	100%	Maintain Current Performance	N/A	Corrective action responses can typically occur within one day.
Percentage of City trees rated in "Fair" or better condition	95%	Maintain Current Performance	N/A	Any tree inspected that is deemed "Poor" or "Very Poor" is removed within one year of inspection and monitored until the time of removal.
Parks: Accessibility				
Number of AODA-compliant park amenities as a percentage of the total number of park amenities	25 (out of 30)	Improve Performance (increasing value)	$1,295,000	As the City continues its strategy of replacing one playground structure each year, all 30 structures will be AODA compliant by 2031.
Parking: Accessibility				
Total number of pay-per-use downtown parking spaces	807	Maintain Current Performance	TBD	The downtown parking study is to be completed in 2026. The study will help assess if demand is met and will consider possible impacts of the GTR and Cooper Lot.

Total number of free downtown parking spaces	437	Maintain Current Performance	TBD	There is no expectation to be amended until the recommendations of the 2026 study are reviewed.
Parking lot occupancy rate	30% in downtown parking (Does not include Erie, Cooper, and Downie Lots)	Maintain Current Performance	TBD	The 2026 study is expected to recommend how to better use sensors to improve data quality and confidence.
Parking compliance rate (number of infraction tickets issued per year)	10,440 (2023)	Improve Performance (decreasing value)	N/A	Increasing parking compliance will allow the reallocation of existing staffing resources to enforcement outside of the downtown core to residential and construction zones. This would address an area where there has been an increase in complaints and infractions. No impact on the operating budget as it would be a reallocation of existing resources.
Number of accessible downtown parking spots	40	Maintain Current Performance	TBD	There is no expectation to be amended until the recommendations of the 2026 study are reviewed.
Parking: Sustainability				
Number of EV charging stations	14 stations (25 ports total)	Maintain Current Performance	N/A	This LOS is based on grant funding availability. There is no immediate plan to increase the service level without securing funding sources.

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for Parks and Land Improvement assets.

Risks of Reducing Current Service Levels

- Potential loss in services or programs provided to residents (parks, sports fields)
- Potential loss of organizational partnerships if service levels decline
- Increased health and safety risks for residents who use park assets
- Decrease in revenue if parking service levels are reduced
- Reputational risks to the City
- Increased operational costs required to keep aging assets functioning

Risks of Maintaining Current Levels of Service

- Limited ability to meet evolving accessibility or safety standards, potentially exposing the City to compliance risks
- Declining user experience, including aesthetics, comfort, and amenities which will reduce park usage over time
- Increased maintenance as older assets require more frequent attention despite stable service levels
- Missed opportunities for environmental improvements, such as naturalization or tree canopy expansion
- Potential reduction in community satisfaction, as assets may not reflect evolving recreational needs or expectations

Risks of Increasing Current Levels of Service

- Significant increases in capital and operating costs, including staff, equipment, irrigation, and landscaping
- Increase in lifecycle obligations, as enhanced features (ex. synthetic turf, upgraded amenities) require more intensive maintenance
- Staffing and resource pressures will exceed current capacity for maintenance and inspections
- Higher expectations from residents and Council, creating commitments that may be difficult to scale back
- Potential inequity across park facilities, where improvements in select areas may leave other neighborhoods underserved
- Risk of overinvestment relative to actual community demand, resulting in underused or inefficiently allocated assets

Different service level approaches offer distinct benefits for parks and land improvement assets. Reducing service levels can lower operating costs but may affect

park condition and user experience. Maintaining current service levels supports consistent usability, safety, and community enjoyment while managing asset risk. Increasing service levels can enhance amenity quality, accessibility, and community value, and may reduce long-term rehabilitation costs.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally target maintaining current performance across most Parks and Land Improvements metrics, reflecting that the category assets are operating at satisfactory and sustainable levels. User satisfaction, parks condition perceptions, and parking reliability are expected to remain stable, supported by effective maintenance practices and adequate staffing.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned initiatives. Maintaining existing condition, and reliability metrics is realistic given the City's strong replacement practices, adequate staffing for park maintenance, and the absence of unplanned parking or parks major asset replacements.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

The municipality's ability to afford the proposed levels of service is consistent with current financial planning and operational practices. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity.

The approved 2026 capital plan includes a second playground installed on Devon St. over and above the one-per-year. This decision was made to accelerate the replacement ahead of schedule of one that was removed due to safety concerns in 2025. In future years, the intent is to resume one replacement structure per year.

C.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its parks and land improvement assets to maintain assets in a state of good repair and provide the appropriate levels of service. The different lifecycle activities are shown below.

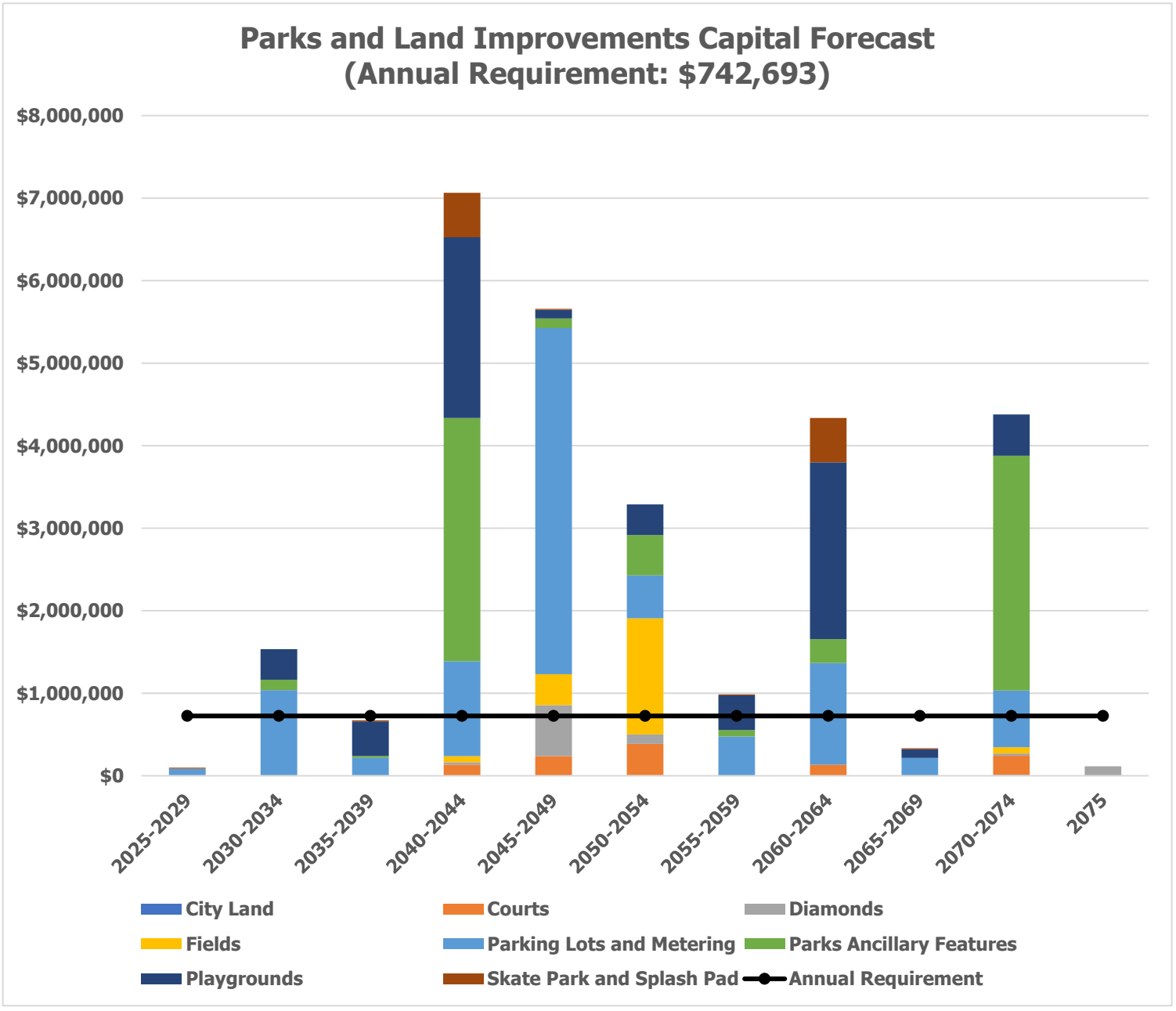
Table 33: Lifecycle Management Strategies

Activity Type	Description of Current Strategy
Operations and Maintenance	Includes considerable seasonal work including grass cutting, landscaping, the winterization of seasonal assets like irrigation systems, monitoring and removal of invasive species (poison ivy). Gravel parking lots are graded as required (ex. Packham Rd.) as well as parking lot lines which are painted every second year. Also includes the management of debris left behind from encampments and removal of garbage and debris on trails as required.
Renewal and Rehabilitation	The City maintains a 20-year replacement plan for playground structures and playgrounds to be replaced with equipment that meets accessibility standards. The replacement of park amenities (furniture, lighting, signage, etc. are completed on an as-needed basis and replacements are typically like-for-like unless adjustments in design are needed to address accessibility concerns or other requirements. Proactively respond to community demands and current trends in recreation (cricket, pickleball). Parking Lots are replaced and resurfaced as needed.
Growth Related and Service Enhancements and Lifecycle Needs	Population growth, urban design, and active transportation are considered when planning new parks, trails, or parking spaces.

C.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should allocate towards funding rehabilitation and replacement needs based on the data provided by the City's asset management software. The following figure identifies capital requirements over the next 50 years. This projection timeline is used as it ensures that most assets have gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $742,693.

Figure 31: Parks and Land Improvements Capital Forecast



C.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the Parks and Land Improvements asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of assets within each range. See Appendix K for the criteria behind this risk rating matrix.

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limits the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 34: Risk and Criticality Summary

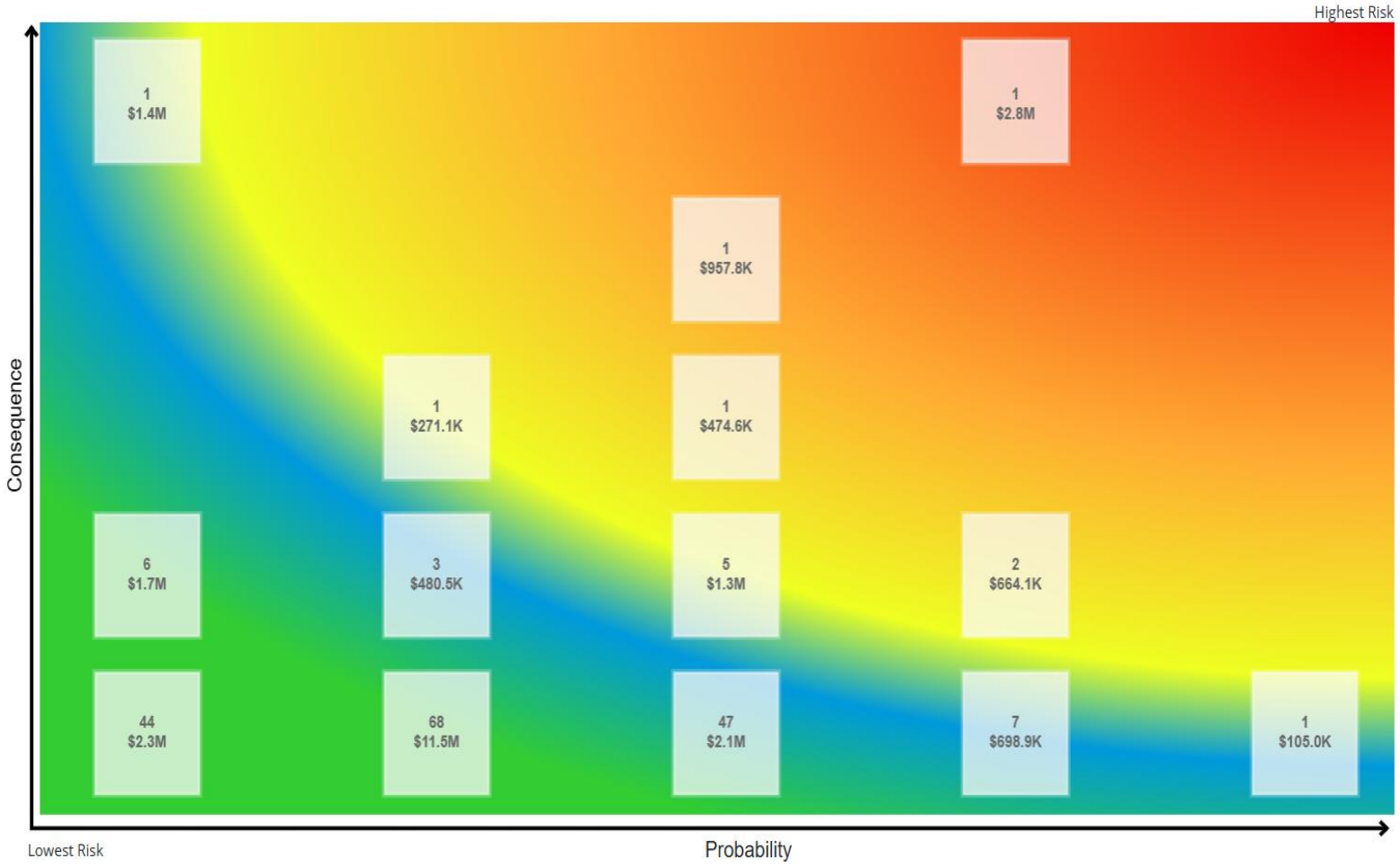
1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
175 Assets	8 Assets	3 Assets	1 Asset	1 Asset
23,909.00 unit(s)	629.00 unit(s)	3.00 unit(s)	1.00 unit(s)	1.00 unit(s)
$18,799,296.68	$3,079,833.00	$1,138,735.00	$957,775.00	$2,845,635.00

Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another visual tool to illustrate the critical asset rating system and which assets (by quantity) are included in each part of the matrix.

Figure 32: Parks and Land Improvements Risk Heatmap



C.9 Recommendations

Asset Inventory

- Continue to review and refine the asset inventory to improve scope, accuracy, and update estimated useful life values. Specifically, the Natural Asset category (tree inventory, trails, shoreline, etc.).
- Develop a long-term plan for eventual replacement or redevelopment of parking lots.
- Continue to review and explore funding options to expand EV charging station installations.
- Develop replacement schedules for park infrastructure besides playground equipment (ex. playground surfaces, park furniture).
- Review all cemetery assets to ensure they are all captured in the asset data software. This was identified as the asphalt road in the cemetery is not currently part of the asset portfolio.

Condition Assessment Strategies

- Integrate parks inspections and maintenance with asset data software to improve data and condition quality.
- Identify condition assessment strategies for high value and high-risk assets and update in the asset data software.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.
- Evaluate irrigation, lighting, and fencing practices to help establish maintenance or replacement schedules.

Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the City has established in this AMP.
- Track annual progress towards the City's proposed levels of service targets.

Appendix D: Social Housing (Municipally Shared)

D.1 Introduction

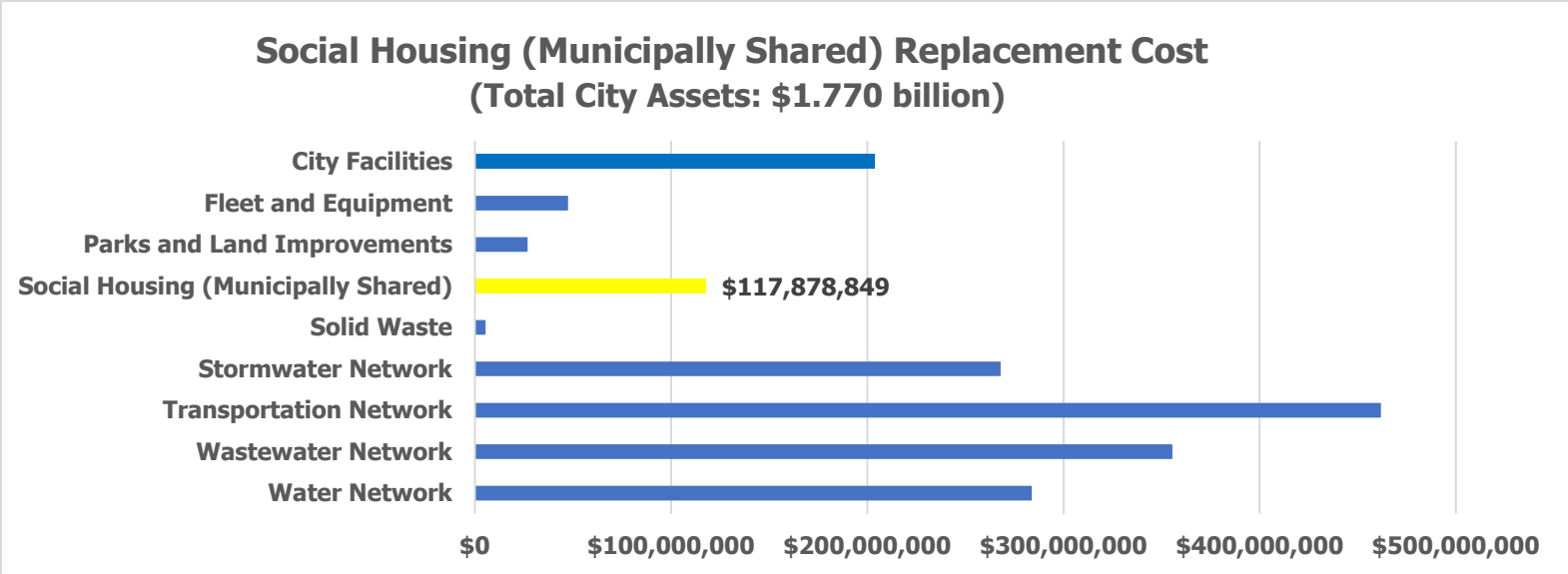
This asset classification includes assets owned by the City of Stratford, St. Marys, and the County of Perth within the Perth Stratford Housing Corporation. The City of Stratford is considered the "Operator" for the Perth Stratford Housing Corporation (PSHC) as one municipality in each region is responsible for managing social housing under the Housing Services Act. For clarity, these are the Social Housing (Municipally Shared) assets only. The City has solely owned Social Housing Assets as well, separate from this shared services entity, and these are grouped in the City Facilities asset category.

Capital and operational costs for Social Housing (Municipally Shared) assets are proportional to all municipalities in the corporation. The other municipalities who are part of the corporation are:

- St. Marys
- The County of Perth, encompassing the lower-tier municipalities of Perth East, West Perth, Perth South, and North Perth.

The Social Housing (Municipally Shared) category is essential because it provides safe, affordable housing for vulnerable residents and supports the stability, health, and economic well-being of the broader community. Social Housing buildings require long-term, sustainable asset management planning to preserve housing quality, prevent costly failures, and ensure these critical homes remain available for current and future residents. This appendix presents the current strategy for managing these assets, highlighting the commitment to maintaining the levels of service valued by residents in the most efficient way possible.

Figure 33: Social Housing (Municipally Shared)



D.2 Asset Inventory & Replacement Cost

The Social Housing (Municipally Shared) asset inventory includes 652 units; in a mix of apartment buildings, single and semi-detached homes, and townhouses that provide housing to approximately 1,065 people (2025). Upon completion of the BCAs, each building's components will be detailed according to the UNIFORMAT II standard. Replacement cost estimates are developed by subject matter experts using recognized industry methods. These estimates reflect the cost to reconstruct a facility and its associated assets on the same site, using comparable materials and factoring in design and demolition costs based on current market rates for labour and materials.

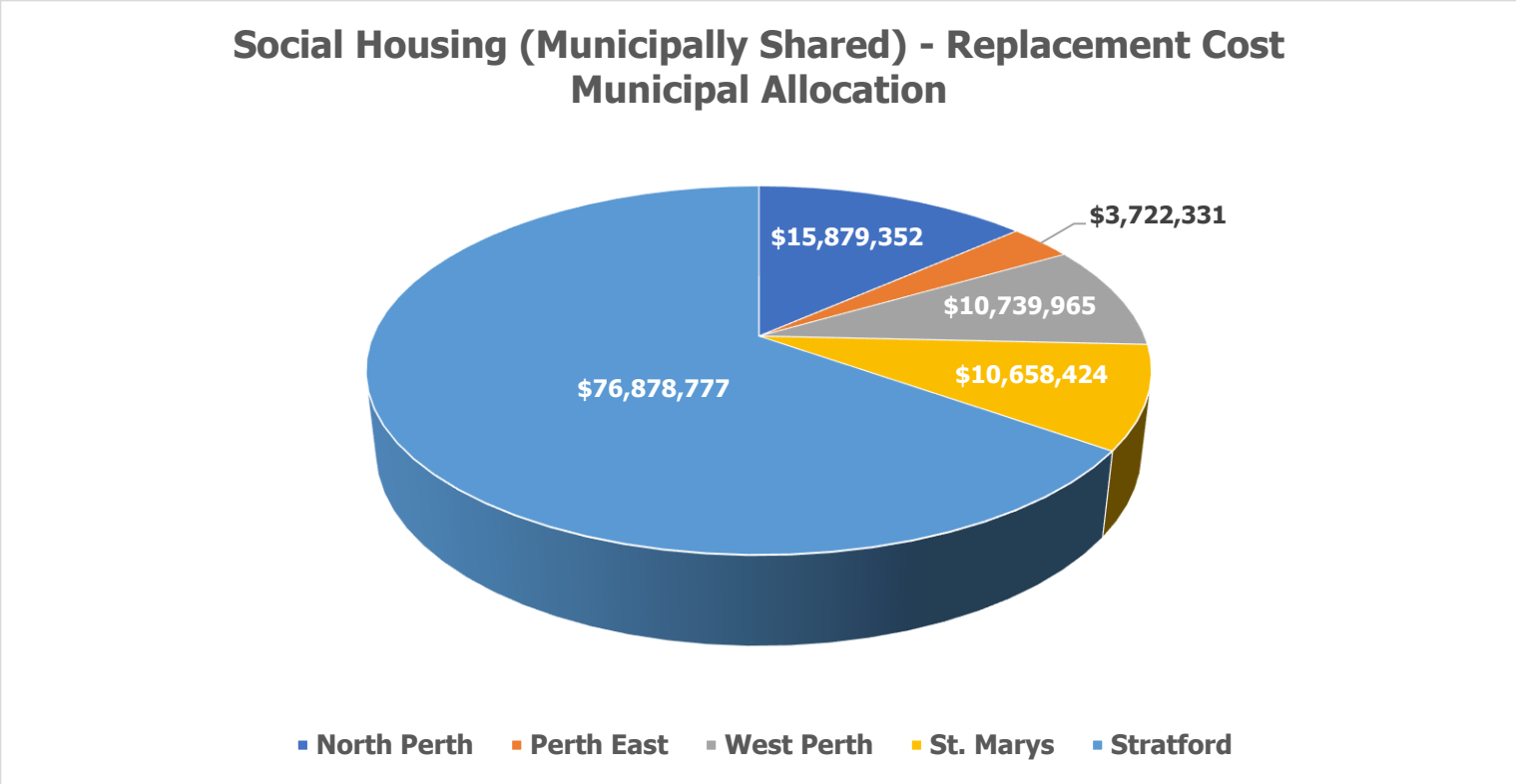
At the time of this AMP update, there is a Building Condition Assessment (BCA) and Accessibility Audit (AA) consulting project underway which will provide updated Social Housing (Municipally Shared) property component replacement values. Once this new data is incorporated into the asset management system, the new replacement values will be reflected in a subsequent AMP annual update.

The table and pie chart below includes the Social Housing (Municipally Shared) municipality and total replacement cost of the properties by municipality.

Table 35: Social Housing (Municipally Shared) Inventory and Replacement Costs

Municipality	Total Replacement Cost
North Perth	$15,879,352
Perth East	$3,722,331
West Perth	$10,739,965
St. Marys	$10,658,424
Stratford	$76,878,777
Total	**$117,878,849**

Figure 34: Social Housing (Municipally Shared) Replacement Costs by Municipality



D.3 Estimated Useful Life (EUL) & Average Age

The Estimated Useful Life for Social Housing (Municipally Shared) assets has been estimated according to a combination of established industry standards and professional staff judgment. Please note that the EULs for this category are under review in 2026 with the TCA policy update. The Average Age of each asset is based on the number of years each asset has been in service. The Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

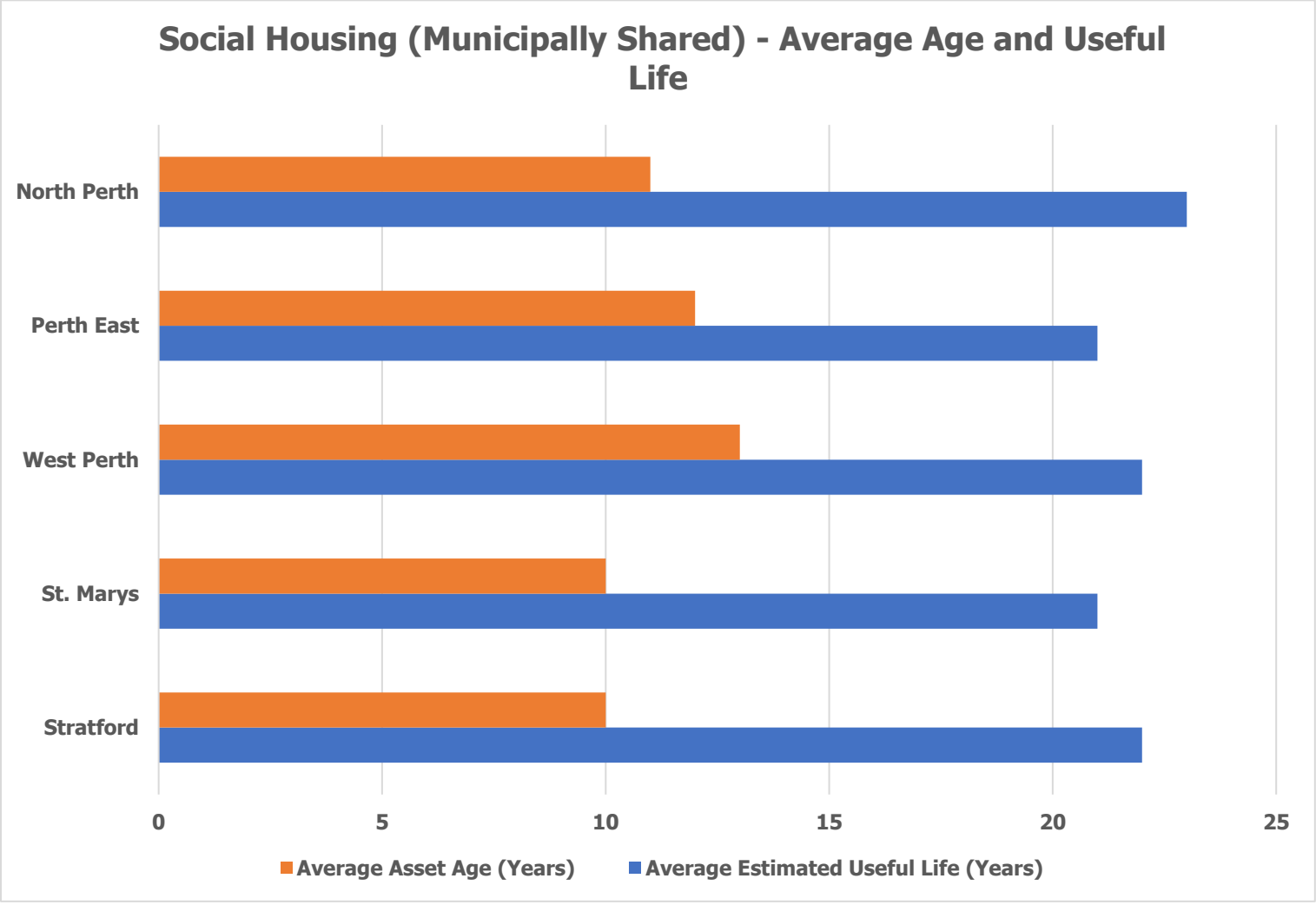
The average (EUL) shown for Social Housing (Municipally Shared) appears lower than may be typically assumed for buildings. This is because the facility category includes all asset components, not just the building structure. Short-lived assets such as furnishings, finishes, equipment, and other interior components with useful lives of 10–20 years are included in the calculation and significantly lower the overall average. While core building structures often have useful lives of 40–60+ years, the inclusion of these shorter-life components results in a lower blended average EUL for these properties.

Table 36: Social Housing (Municipally Shared) Averages

Municipality	Average Estimated Useful Life (Years)	Average Asset Age (Years)	Average Service Life Remaining (Years)
North Perth	23	11	12
Perth East	22	12	10
West Perth	23	13	10
St. Marys	22	10	12
Stratford	20	10	10

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies may be required. The figure below displays average asset age alongside the estimated useful life for each municipality.

Figure 35: Social Housing (Municipally Shared) Average Age and Useful Life



For each Social Housing (Municipally Shared) asset, the average service life remaining will likely be longer than it would be if calculated using only the average estimated useful life and average age. This suggests that on average, assets are kept in service longer than their estimated useful life. Adjustments to the estimated useful life values may be required to ensure that they reflect the actual amount of time that assets can provide the required level of service.

As mentioned earlier in this appendix, there is a BCA planned for 2026 and one of the requirements is to assign Social Housing (Municipally Shared) properties with a condition rating which will change the average service life remaining for those assets.

D.4 Asset Condition

The following sections and tables present the condition breakdown for each asset by municipality and describe the City's approach to assessing asset condition. Where feasible, the City applies industry standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

The following table provides an overview of the various techniques employed to assess Social Housing (Municipally Shared) asset condition.

Table 37: Social Housing (Municipally Shared) Asset Condition Strategy

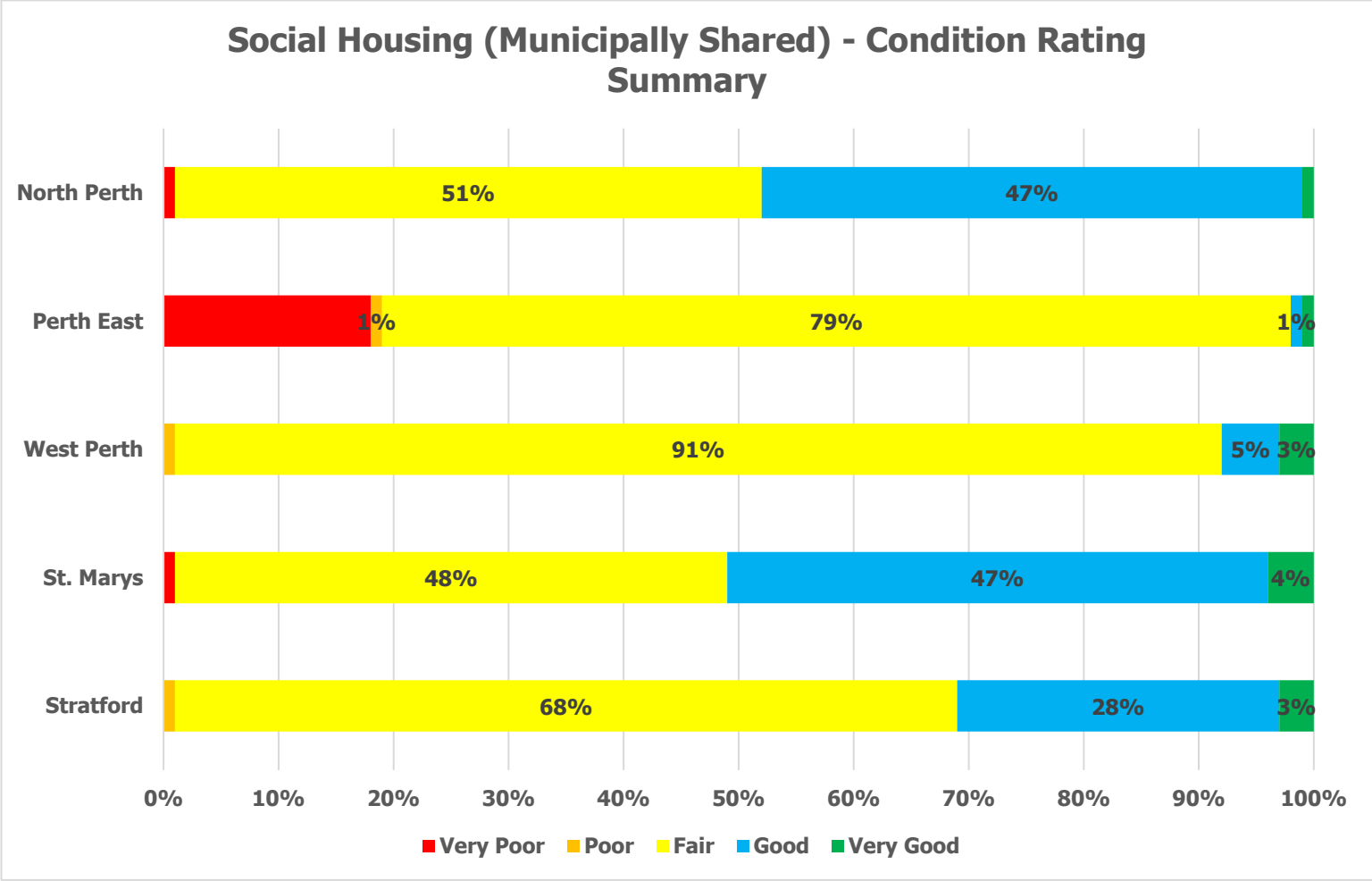
Municipality	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
Stratford	Condition assessments by external consultants and staff	Every 5 - 7 Years	N/A
St. Marys	Condition assessments by external consultants and staff	Every 5 - 7 Years	N/A
West Perth	Condition assessments by external consultants and staff	Every 5 - 7 Years	N/A
Perth East	Condition assessments by external consultants and staff	Every 5 - 7 Years	N/A
North Perth	Condition assessments by external consultants and staff	Every 5 - 7 Years	N/A

Formal building condition assessments will be conducted in 2026 to evaluate the condition of Social Housing (Municipally Shared) properties at the element level (UNIFORMAT II Level 3). In accordance with the Occupational Health and Safety Act, City staff also carries out monthly health and safety inspections of all facilities.

Additional routine and mandated inspections are completed by staff on a scheduled basis, including annual fire alarm tests, generator tests, and regular inspections of HVAC, refrigeration, and water treatment systems. Other inspections include elevator maintenance and backflow preventer testing.

The following figure illustrates the breakdown of condition ratings of the Social Housing (Municipally Shared) assets. 32% of these assets are in Good to Very Good condition with a small proportion, 3%, rated as Very Poor. It should be noted that the current assessments were completed as a desktop (internal) exercise. Once the 2026 BCAs are completed and all assets reviewed and componentized, these overall condition ratings will change. Any changes identified because of the BCAs will be reflected in a subsequent AMP annual update.

Figure 36: Social Housing (Municipally Shared) Condition Rating Summary



D.5 Levels of Service

The following tables identify the City's current and proposed levels of service for the social housing assets. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17, as well as any additional metrics developed by staff.

Community Levels of Service

The following table outlines the current qualitative descriptions that determine the community levels of service provided by Social Housing (Municipally Shared) properties.

Table 38: Social Housing (Municipally Shared) Community Levels of Service

Service Attribute	Community Levels of Service	Related Assets
Safety	The City provides safe, well-maintained facilities, meeting the Ontario Occupational Health and Safety Act (OHSA).	All
Reliability	The City provides reliable and responsive services to housing tenants.	All
Security	The City takes steps to ensure Social Housing (Municipally Shared) properties are safe and secure for tenants.	All
Accessibility	The City aims to maintain Social Housing (Municipally Shared) properties in alignment with the Accessibility for Ontarians with Disabilities Act (AODA)	All
Support	The City ensures 24/7 support for social housing properties.	All

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided for social housing services. Some measures are identified but the required data is not available for 2025 and as a result, they will be calculated in a future AMP.

Table 39: Social Housing (Municipally Shared) Technical Levels of Service

Technical Metric(s)				Proposed LOS Justification and Notes
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	
Accessibility & Reliability				
Percentage of social housing units that meet/exceed AODA standards	TBD	Improve Performance (increasing value)	TBD	Benchmark data will come from the 2026 Accessibility Audits (AAs). Regardless of the data, it is assumed that accessibility improvements will be made over the 10-year period.
Percentage of sites meeting municipal property standards for safety, cleanliness, and landscaping	100%	Maintain Current Performance	N/A	This benchmark is currently met by using current maintenance practices already in place.
Percentage of vacancies that exceed 30 days	TBD	TBD	TBD	This metric is not currently tracked. A recommendation will be made to consider tracking this data point as a level of service metric.
Sustainability				
Overall percentage of Social Housing (Municipally Shared) properties in "fair" or better condition	95%	Maintain Current Performance	$14,596,960	This data will be modified after the completion of formal BCAs in 2026.
Percentage of Social Housing (Municipally Shared) properties inspected annually	100%	Maintain Current Performance	N/A	Inspections are scheduled accordingly to ensure completion.
Safety				
Percentage of Social Housing (Municipally Shared) properties with	0%	Maintain Current Performance	N/A	This benchmark is currently met using existing maintenance practices in place.

one or more violations of the Ontario Building Code of Canada (dwellings constructed after 2010)				
Percentage of social housing properties with one or more violations of the Fire Code of Canada unaddressed exceeding 30 days in length	0%	Maintain Current Performance	N/A	This benchmark is currently met using existing maintenance practices in place. Any corrective action required is dispatched immediately.

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for Social Housing (Municipally Shared) assets.

Risks of Reducing Current Service Levels

- More frequent service disruptions for tenants resulting from increased reactive maintenance as asset conditions deteriorate
- Potential loss in housing availability provided to residents due to asset failure
- Reputational risks to the City in the form of poor feedback of services from tenants
- Inability to keep up with growth or to meet capacity needs
- Increased risk of higher operational costs to keep assets operational as assets deteriorate
- Increased risk of provincial and federal funding reductions due to the short-term commitments to these funding sources from other levels of government, reflected in agreements.

Risks of Maintaining Current Levels of Service

- Limited ability to meet evolving accessibility or building code standards, creating potential compliance risks
- Declining tenant satisfaction, as facilities and amenities do not meet modern expectations.
- Increased reactive maintenance, even to maintain service levels
- Reduced resilience to population growth or changing community needs, including limited flexibility of housing stock

Risks of Increasing Current Levels of Service

- Significant increases in capital and operating costs, including renovations, new equipment, staffing, and utilities.
- Greater lifecycle obligations, as upgraded units and amenities require ongoing and more intensive maintenance
- Increased staffing and management requirements, exceeding current operational complement
- Higher tenant and public expectations, creating commitments that may be difficult to scale back in times of economic uncertainty
- Potential inequity across housing units or developments, where improved service levels in some areas may leave other areas underserved.

Different service level approaches offer distinct benefits for social housing assets. Reducing service levels can ease short-term budget pressures but may impact tenant

comfort and building condition. Maintaining current service levels supports safe, habitable housing and predictable asset performance while managing risk. Increasing service levels can improve building quality, energy efficiency, and tenant well-being, while reducing long-term maintenance and renewal costs.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally target maintaining current performance across most metrics, reflecting that the Social Housing (Municipally Shared) assets are operating at satisfactory levels. This will be further determined after the 2026 BCAs. User satisfaction, facility condition, and reliability are expected to remain stable, supported by effective maintenance practices and adequate staffing.

The main area identified for improvement is accessibility compliance, where performance will be benchmarked following the 2026 Building Condition Assessments and Accessibility Audits, with a target to increase compliance by 2035.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned initiatives. Maintaining condition, and reliability metrics are realistic given the City's strong maintenance practices, adequate staffing, and with the BCA data as driver to ensure proactive capital works to avoid unplanned maintenance.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

The municipality's ability to afford the proposed levels of service is undetermined currently as staff are awaiting the BCA's long-term recommendations. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity.

The anticipated improvement in accessibility compliance by 2035 is supported by a $14.6 million capital allocation in the 2025–2035 plan. The City is unsure at this time if this amount will provide sufficient funding since the BCA capital recommendations are not completed yet. This amount will be reviewed at a subsequent budget once the BCA data has been incorporated into the City's long-term financial planning.

D.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its Social Housing (Municipally Shared) assets to maintain assets in a state of good repair and provide the appropriate levels of service. The different lifecycle activities are shown below.

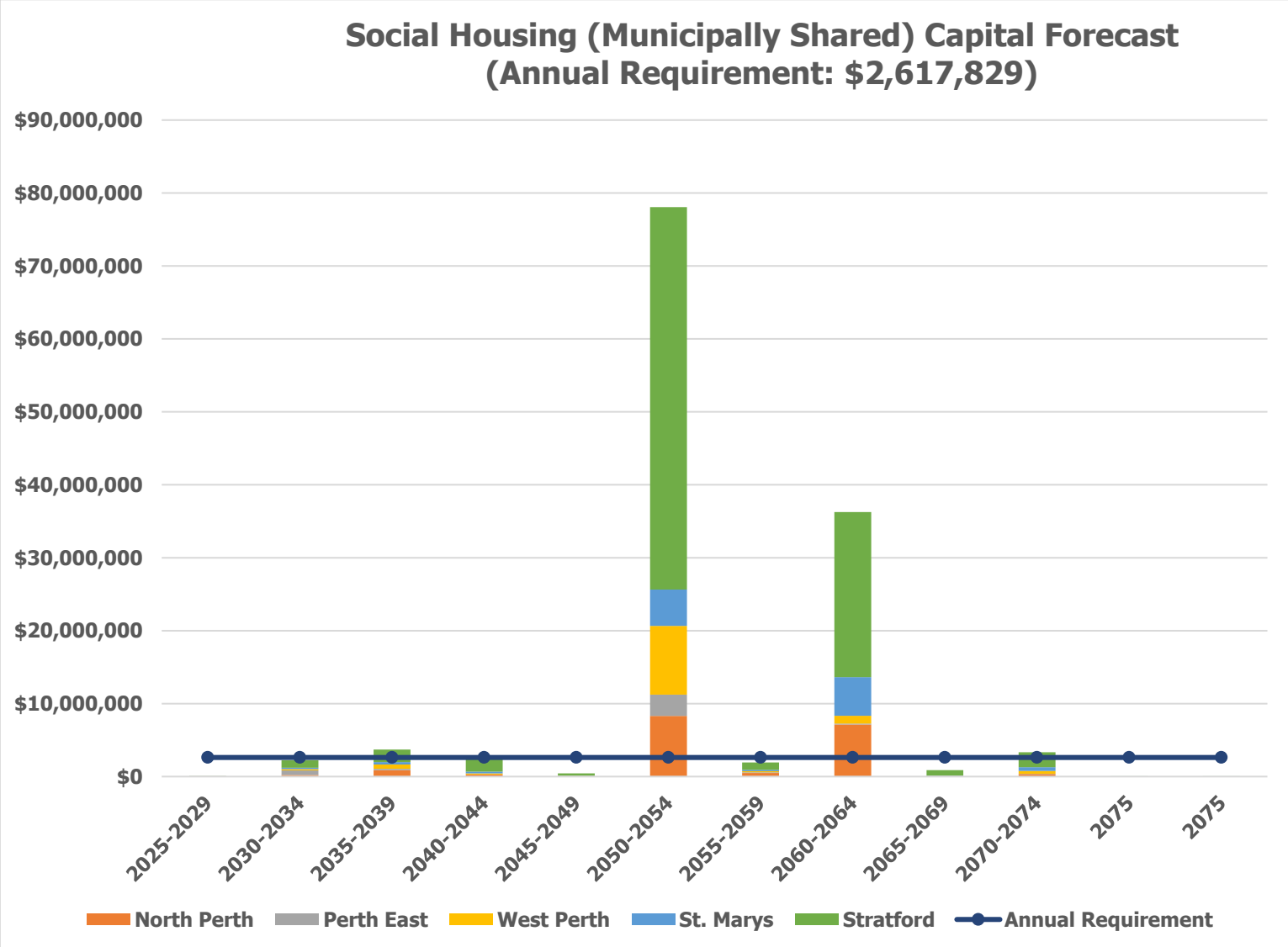
Table 40: Lifecycle Management Strategies

Activity Type	Description of Current Strategy
Inspections	Social Housing (Municipally Shared) component systems undergo annual inspections to maintain efficiency and safety standards, promoting occupant comfort and energy efficiency. Beginning in 2026, the municipality plans to conduct building condition assessments every 5-10 years, which will generate detailed recommendations for ongoing maintenance and rehabilitation needs.
Maintenance / Rehabilitation	Assets are repaired as needed, addressing deficiencies identified by staff, external experts/consultants or residents. Immediate attention is given to urgent issues after assessments are completed by Housing Maintenance staff and if required, staff ensure a quick resolution based on the level of urgency.
Replacement	Assessments are completed strategically as assets approach their end-of-life to determine whether replacement or rehabilitation is appropriate
Replacement	Renewal and replacement activities are guided by lifecycle analysis and align with the asset management plan's recommendations.

D.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 50 years according to the Citywide software data. This projection timeline is used to ensure that most assets have gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $2.6 million. This category will increase substantially when the 2026 BCA data is updated into the asset software.

Figure 37: Social Housing (Municipally Shared) Capital Forecast



D.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the Social Housing (Municipally Shared) asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of assets within each range. See Appendix K for the criteria behind this risk rating matrix.

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limits the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 41: Risk and Criticality Summary

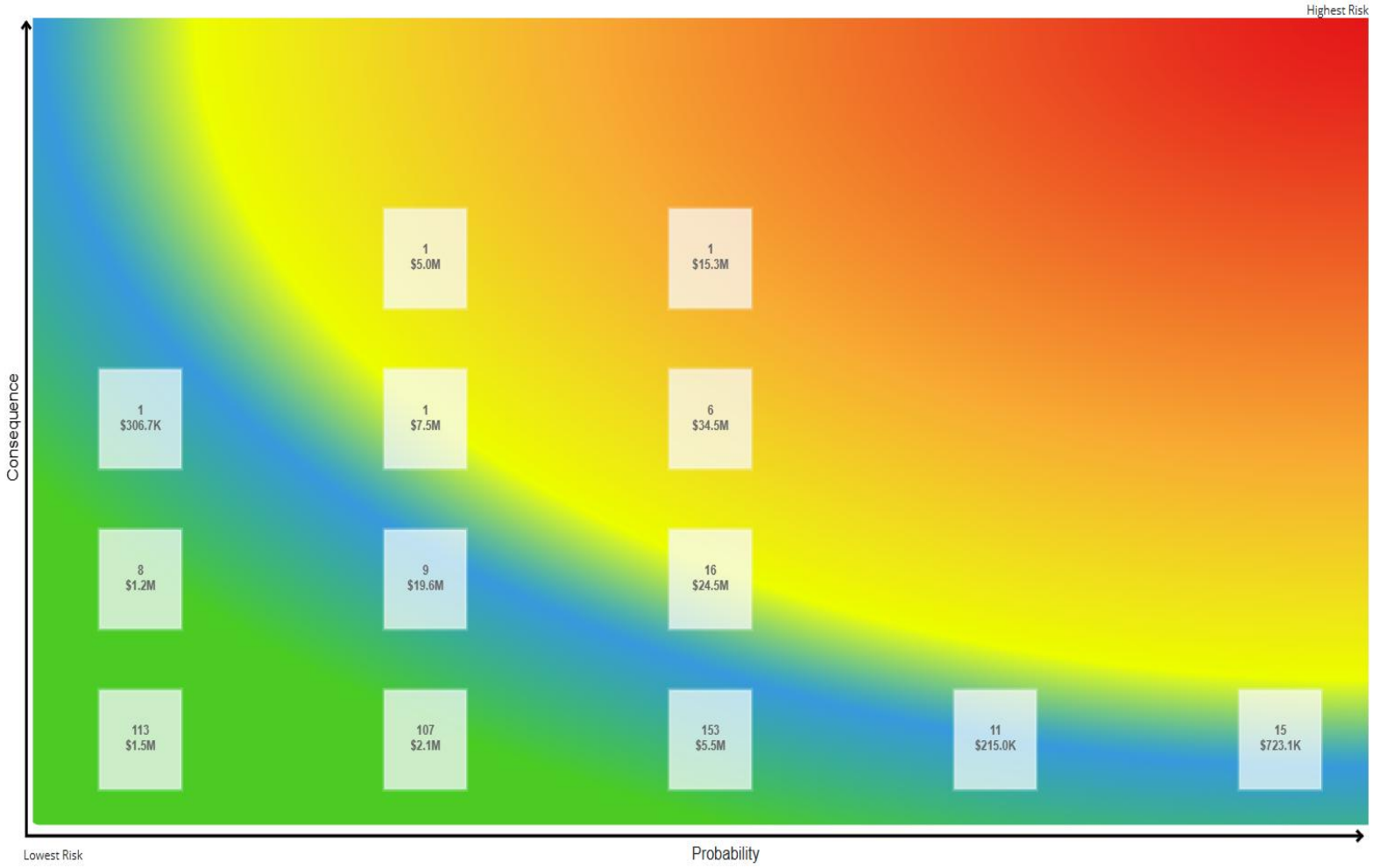
1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
402 Assets	32 Assets	7 Assets	1 Asset	0 Assets
400.00 unit(s)	32.00 unit(s)	7.00 unit(s)	1.00 unit(s)	-
$30,404,746.08	$32,674,103.00	$39,500,000.00	$15,300,000.00	$0.00

Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another visual tool to illustrate the critical asset rating system and which assets (by quantity) are included in each part of the matrix.

Figure 38: Social Housing (Municipally Shared) Risk Matrix Heatmap



D.9 Recommendations

Replacement Costs

- Most replacement costs used in this AMP for Social Housing (Municipally Shared) are based on the overall replacement cost for each property/building and are not broken down into components. The replacement costs come from various sources like insurance documents and the 2022 DC Study. Ensure that the replacement costs will be updated and refined to accurately reflect the asset inventory once the 2026 BCA data is uploaded to the city database.

Asset Inventory

- Expand the asset inventory to include all mechanical and facility component assets.
- Ensure GIS mapping is updated to visualize locations. Also consider adding an "Active Encampment" GIS layer that can be updated. This is becoming an industry standard.
- Review the use of the Yardi system to identify integration opportunities with Citywide and other existing City software to better link maintenance activities to asset health.

Condition Assessment Strategies

- Establish a fixed condition assessment schedule to assess facility asset condition and accessibility audits at regular intervals.

Lifecycle Management Strategies

- Have the Manager of Asset Manager host an information session with key municipal partners to review the City's asset management data, financial strategies and planning to ensure transparency and consistency with the approaches of the other municipal members of the PSHC.
- Consider whether Social Housing properties can be managed more efficiently by consolidating building management systems between departments.
- Consider developing a facility security rating scoring system to identify and manage security concerns.

Levels of Service

- Consider tracking the metric "Annual number of vacancies that exceed 30 days". This is a common metric tracked by other municipalities.
- Continue to measure current levels of service in accordance with the metrics identified in Ontario Regulation 588/17 and the additional metrics included by the City.
- Track annual progress towards the City's proposed levels of service targets.

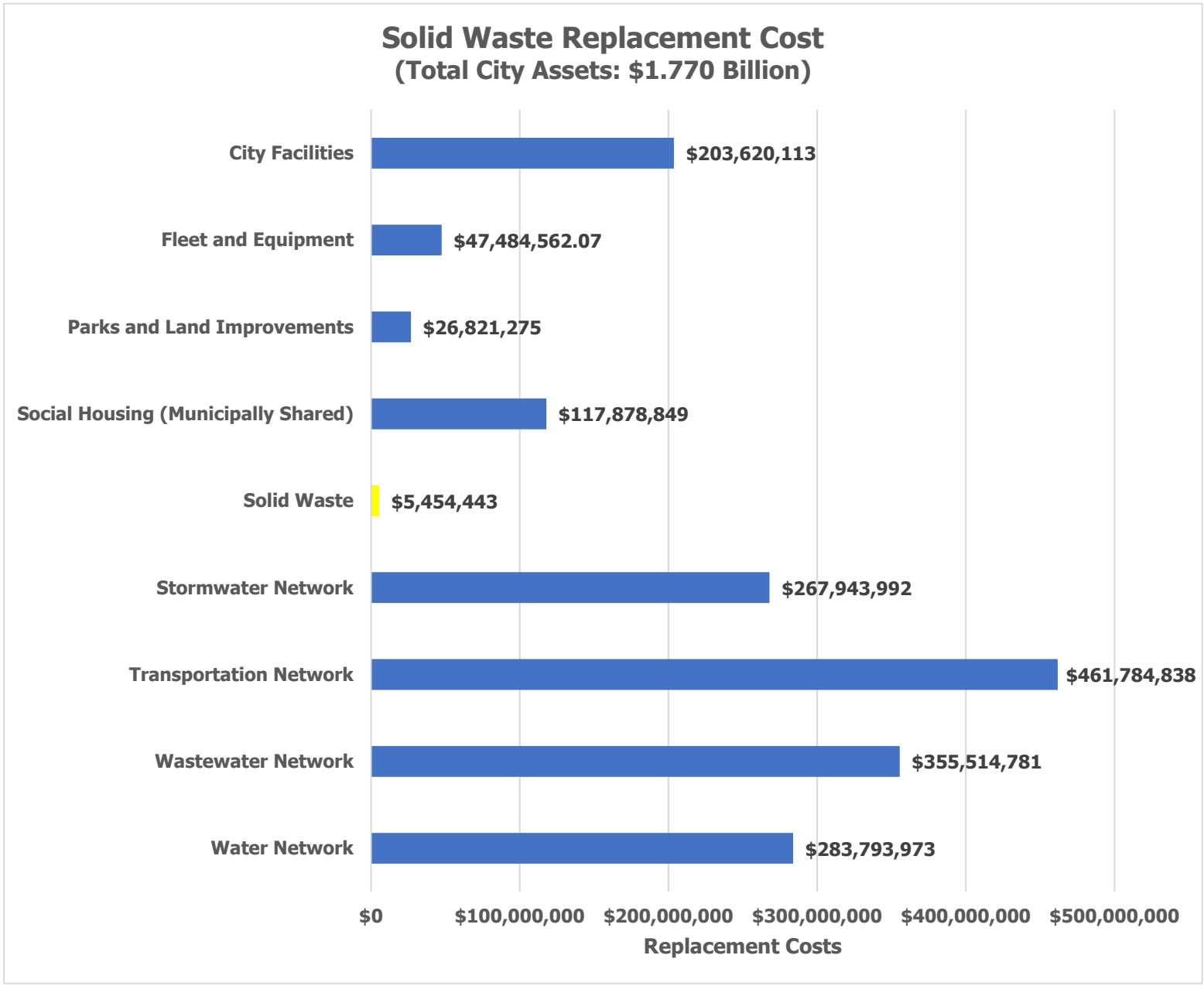
Appendix E: Solid Waste

E.1 Introduction

The City's Solid Waste assets encompass a range of components that support the functionality of the Stratford landfill. This asset category includes:

- Active Landfill Cells
- Ancillary Assets and Features (weigh scale, recycle depot, etc.)
- Methane Management System Unit
- Leachate System

Figure 39: Solid Waste Replacement Cost



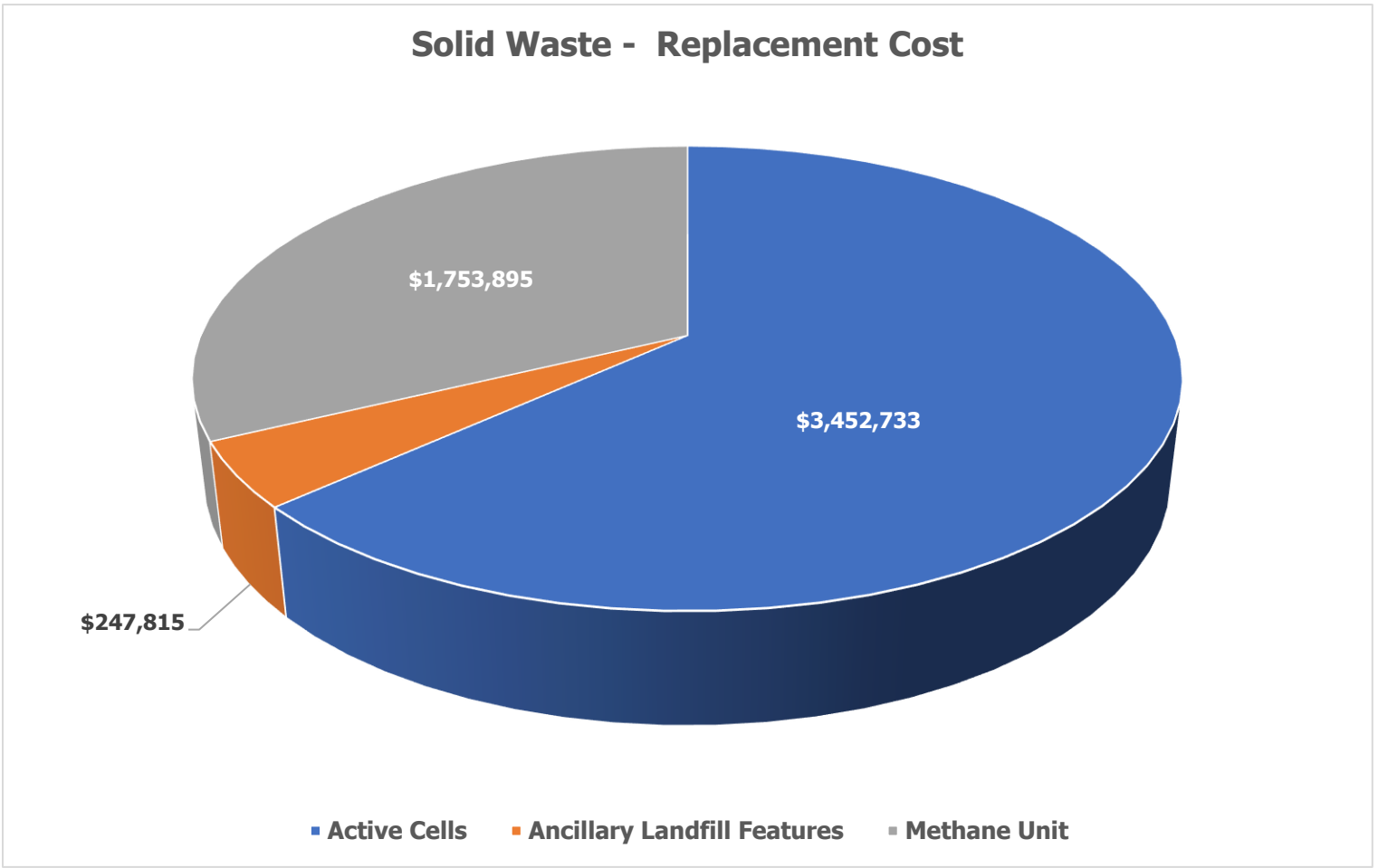
E.2 Asset Inventory & Replacement Cost

The table and pie chart below includes the segment and total replacement cost of each asset segment in the City's Solid Waste inventory.

Table 42: Solid Waste Inventory and Replacement Costs

Asset Segment	Total Replacement Cost
Active Landfill Cells	$3,452,733
Ancillary Landfill Features	$247,815
Methane Management System	$1,753,895
Total	**$5,454,443**

Figure 40: Solid Waste Replacement Costs by Segment



E.3 Estimated Useful Life (EUL) & Average Age

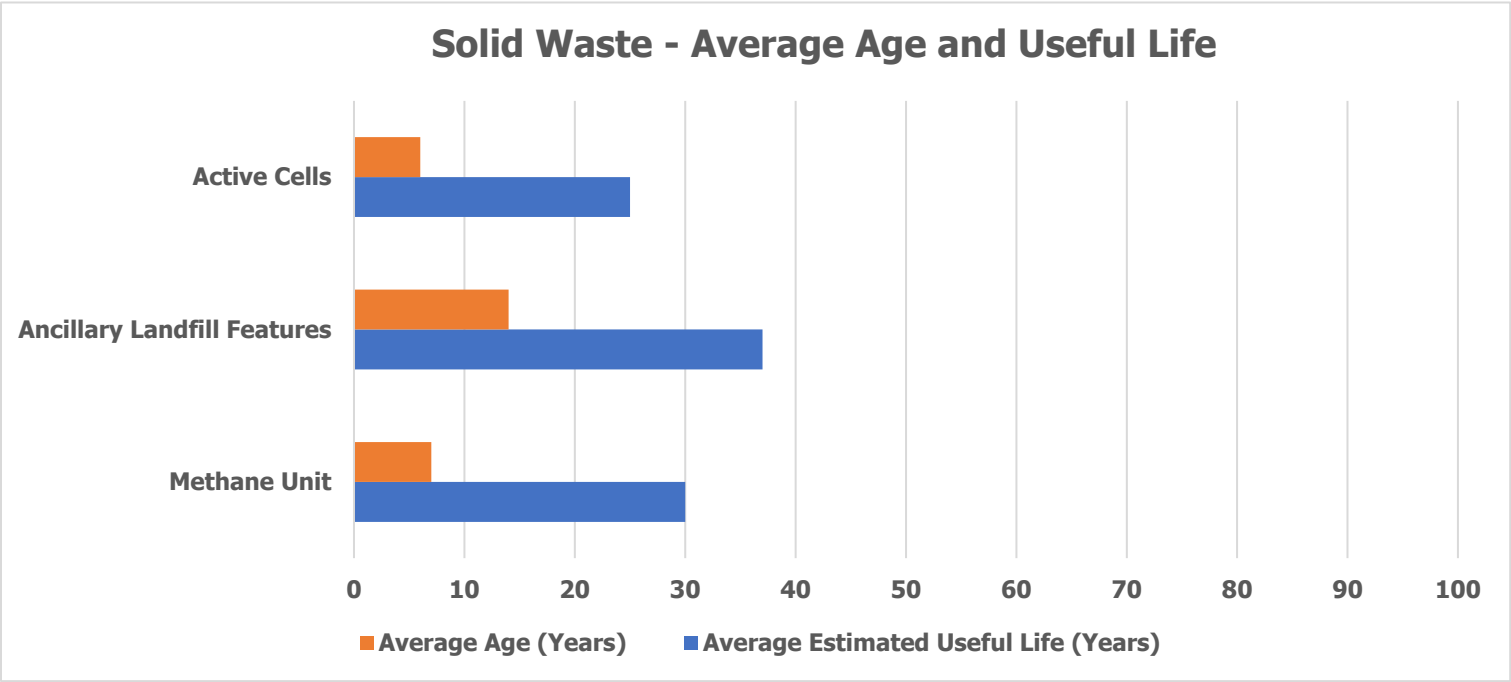
The Estimated Useful Life for Solid Waste assets has been assigned according to a combination of established industry standards and professional staff judgment. Please note that the EULs for this category are under review in 2026 with the TCA policy update. The average age of each asset is based on the number of years each asset has been in-service. Finally, the average service life remaining represents the difference between the estimated useful life and the average age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Table 43: Solid Waste Averages

Asset Segment	Average Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Active Landfill Cells	25	6	19
Ancillary Landfill Features	37	14	13
Methane Management System	30	7	23

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies may be required. The figure below displays average asset age alongside the estimated useful life for each asset segment.

Figure 41: Solid Waste Average Age and Useful Life



E.4 Asset Condition

The following section and table present the condition breakdown for each asset segment and describe the City's approach to assessing asset condition. Where feasible, the City applies industry-standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

Table 44: Solid Waste Asset Condition Strategy

Asset Segment	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
Active Landfill Cells	Condition assessments by staff and consultants	Every 1 - 5 Years	2025
Ancillary Landfill Features	Condition assessments by staff	Every 1 - 5 Years	2025
Methane Management System	Condition assessments by consultants	Every 1 - 5 Years	2025

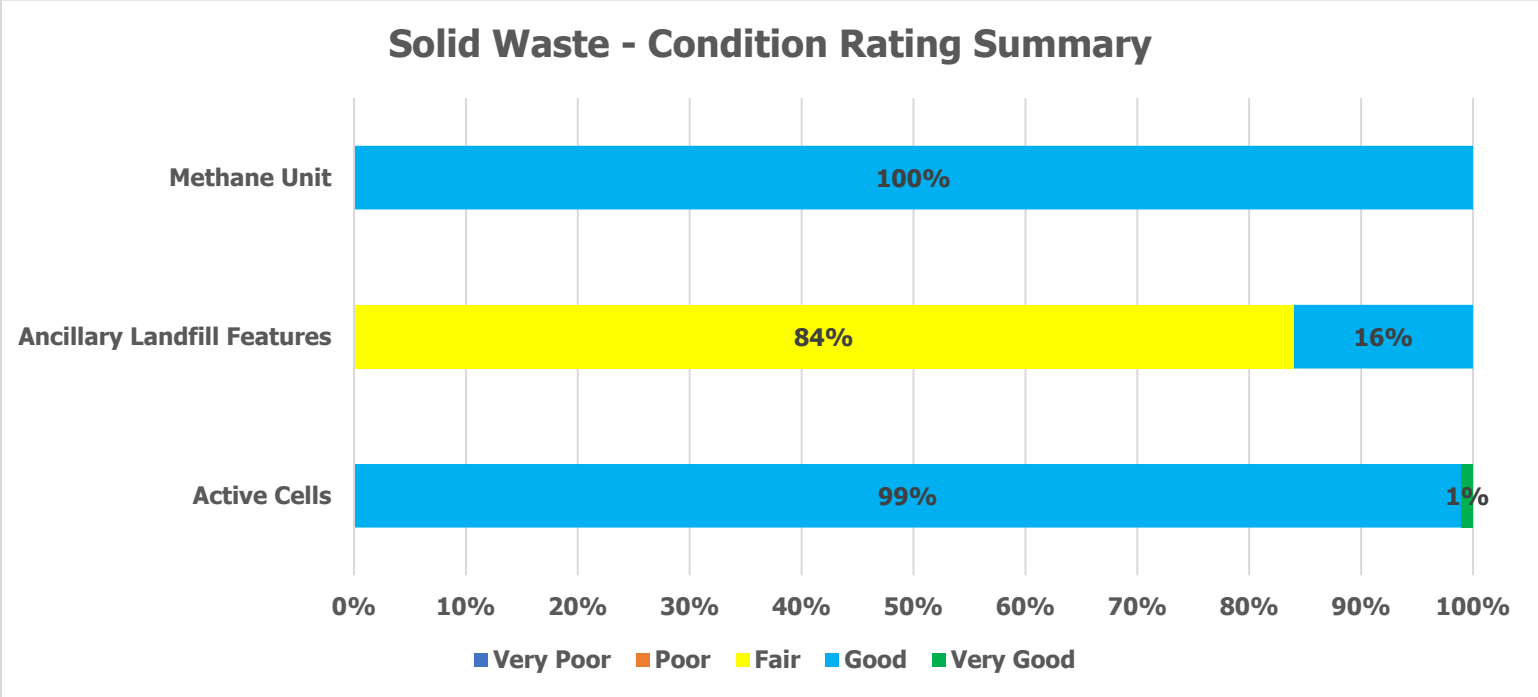
In 2025 a full condition review of Solid Waste assets was undertaken by departments. The results in professional judgment assessments compared to the previous AMPs which were solely based on age as the condition metric, showed a minor shift in the condition data.

The percentage of Solid Waste that is in "fair" or better condition is 100% which is a slight increase from the last AMP which showed 90% in "fair" or better condition. This example, although minor, highlights the importance of scheduled condition assessments because proper data helps with capital planning strategies.

Internal formal condition assessments will be completed at regular intervals to ensure up to date data in future iterations of the AMP. It should also be noted that some segments like the methane unit, are already inspected on a preventative maintenance schedule, and any deficiencies are immediately reported for remediation.

The full condition data can be found in the image on the following figure.

Figure 42: Solid Waste Condition Rating Summary



E.5 Levels of Service

The following tables identify the City's current and proposed levels of service for the Solid Waste assets. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17, as well as any additional metrics developed by staff.

Community Levels of Service

The following table outlines current qualitative descriptions that determine the community levels of service provided by Solid Waste.

Table 45: Solid Waste Community Levels of Service

Service Attribute	Community Levels of Service	Related Assets
Efficiency	The City strives to use capacity at the landfill efficiently.	Active Landfill Cells
Capacity	The City strives to have sufficient capacity to manage compostable waste.	Composting
Reliability	Equipment at the landfill operates as intended.	All
Quality	The City inspects and maintains the solid waste inventory at a condition level to ensure that it functions as designed.	All

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided by Solid Waste. Some measures are identified but the required data is not available for 2025 and as a result, they will be calculated in a future AMP revision.

Table 46: Solid Waste Technical Levels of Service

Technical Metric(s)				
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	**Proposed LOS Justification and Notes**
Reliability				
Availability of weigh scale - Number of days per year the scale is out of service	2 days annually for maintenance	Maintain Current Performance	N/A	The only option to eliminate downtime would be the installation of a second scale. This is not supported by demand, nor has it been recommended in any landfill long-term planning reports.
Number of annual complaints related to garbage collection	Average 4/day or approx. 960/year	Maintain Current Performance	N/A	Issues are typically related to contractor collection errors. As the new blue bin program evolves, staff will hold the contractors accountable to ensure we maintain our service level.
Methane performance - Annual number of days the methane unit is out of service	30 days due to alarms and system shutdown 30 days due to staff vacation 105 days due to weekends and holidays	Improve Performance (increasing value)	$5,000	Currently there is one staff member certified to control the methane unit. There are plans for more staff to complete the necessary training in 2026. This will allow the methane unit to operate on days when the current sole staff member is off. This comes at almost no cost except for the training fees.
Percentage of users who rated the overall reliability and frequency of waste collection as "fair" or better	73%	Decline in Performance (decreasing value)	N/A	With changes to the Ontario Blue Box collection program there may be a decrease in customer satisfaction with reliability as residents adjust to changes. This metric may revert to "maintain" at the next LOS annual review.

Percentage of landfill users who rated their overall satisfaction level for hours and operation as "fair" or better	80%	Improve Performance (increasing value)	$25,000	An ECA amendment is being investigated that would allow for household hazardous waste to happen quarterly over the course of a week rather than quarterly but all in one day. This would reduce traffic and waiting times, which are the main types of complaints received. This would involve a moderate increase in staffing resources (which are not included) and ECA application costs.
Sustainability				
The rate at which the landfill is being filled - Tons of waste collected per capita	25,700MT Total - 0.67MT per capita (residents, not including ICI)	Maintain Current Performance	N/A	As collection schedules are in place for the next 6 years, there is no expected increase in landfill contributions. One option to lower this rate is to implement new diversion programs (see below).
Percentage of material diverted from landfill (organics/recycling)	31% (2023)	Maintain Current Performance	N/A	An increase in material diversion would require the implementation of new programs (ex. mattress or construction and demolition material). These programs have significant upfront costs and are not planned currently.
Remaining lifespan of landfill based on capacity	19 Years Remaining	Improve Performance (increasing value)	$100,000	Consideration will be given to seek an ECA amendment to increase how high (vertically) the cells may increase. This would extend the lifespan of the landfill as capacity would vertically increase. Costs associated with this are the engineering designs required for the ECA amendment.

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for City solid waste assets.

Risks of Reducing Current Service Levels

- Service disruptions are likely to rise with decreased service levels
- Decrease in service performance, higher lifecycle costs, and funding may not be prioritized in a way that ensures the best value for money option is picked to maintain
  the level of service
- Increased health and safety risks to staff and residents who navigate the landfill
- Reputational risks to the City

Risks of Maintaining Current Levels of Service

- Limited ability to meet evolving environmental regulations or operational standards, creating compliance risk
- Inefficiencies in operations, such as collection, processing, or landfill management, which persist without modernization
- Increased likelihood of minor service disruptions, even if overall service levels remain nominally unchanged
- Missed opportunities to improve sustainability, such as waste diversion, recycling, or methane capture
- Reduced resilience to population growth or changing waste volumes, potentially limiting capacity during peak periods
- Stagnation in technology or process improvements, reducing operational efficiency and service quality over time

Risks of Increasing Current Levels of Service

- Significant increases in operating and capital costs, including equipment, vehicles, staffing, and landfill expansion or upgrades
- Increased staffing and resource requirements, potentially exceeding current operational capacity
- Greater public and regulatory expectations, creating commitments that may be difficult to scale back
- Risk of overinvestment relative to actual community demand, resulting in underutilized assets or facilities
- Increased reliance on specialized contractors or technologies (methane), making operations more vulnerable to supply chain or market fluctuations

Different service level approaches offer distinct benefits for solid waste landfill assets. Reducing service levels can provide short-term financial flexibility but may increase

operational, environmental, and regulatory risk. Maintaining current service levels supports compliant operations, environmental protection, and predictable asset performance. Increasing service levels can extend landfill life, improve environmental controls, and reduce long-term closure and remediation risks through proactive investment.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally target maintaining current performance across most Solid Waste metrics, reflecting that the category assets are operating at satisfactory and sustainable levels. User satisfaction and landfill asset condition and reliability are expected to remain stable, supported by effective maintenance practices and adequate staffing.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned initiatives. Maintaining existing condition, and reliability metrics is realistic given the City's strong replacement practices, adequate staffing for landfill operation, and the absence of unplanned major cell repairs or equipment replacements.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

The municipality's ability to afford the proposed levels of service is consistent with financial planning and operational practices. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity.

E.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its solid waste assets to maintain assets in a state of good repair and provide the appropriate levels of service. The different lifecycle activities are shown below.

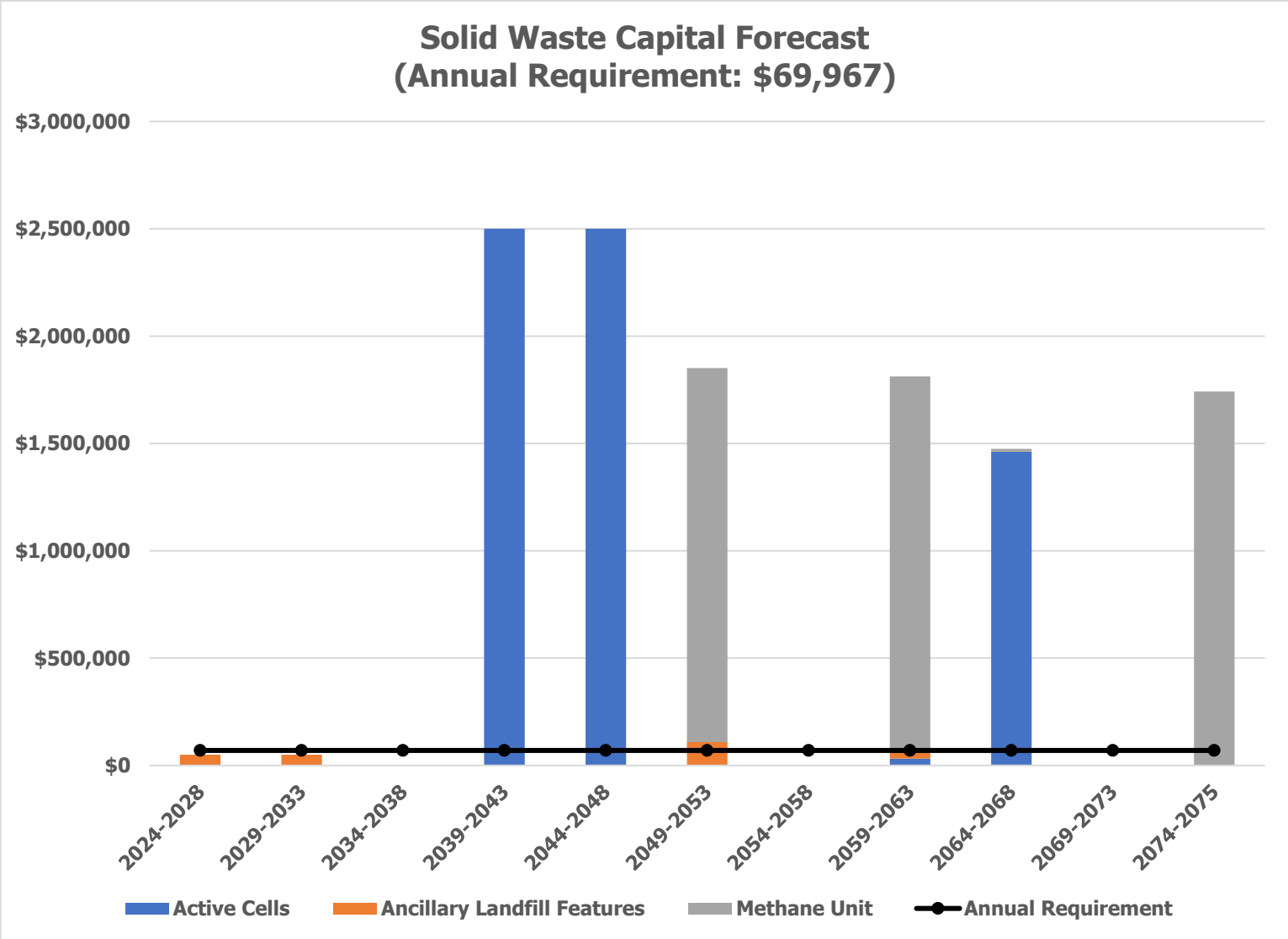
Table 47: Lifecycle Management Strategies

Activity Type	Description of Current Strategy
Operations and Maintenance	Internal staff typically manage any minor operations and maintenance needs.
Renewal and Rehabilitation	Renewal and rehabilitation activities are identified based on industry standards. Landfill specific software or internal software's already used by the City are being considered to formalize planning for lifecycle renewal and rehabilitation activities.
Growth Related and Service Enhancements Lifecycle Needs	Long-term capital needs will be reviewed and identified including how the landfill site is used and what assets are needed to operate effectively. Progression is typically identified in the 10-year capital plan.

E.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should allocate towards funding rehabilitation and replacement needs. The following figure identifies capital requirements over the next 50 years. This projection timeline is used as it ensures that most assets have gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $69,967.

Figure 43: Solid Waste Capital Forecast



Aside from the Active Landfill Cells and the Methane Unit, there are very few assets that exist as part of the Solid Waste category, so the annual requirement is low by comparison to other categories. The BCAs in 2026 are likely to include

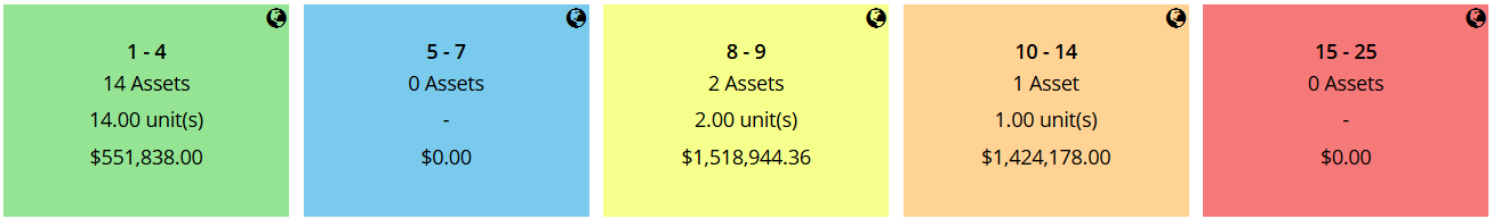
recommendations for the scale house and the site trailer which may impact future financial requirements as these are not currently included in the forecasts. Any of these changes in scope will be updated in a subsequent AMP annual update.

E.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the Solid Waste asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of assets within each range. See Appendix K for the criteria behind this risk rating matrix.

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limits the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 48: Risk and Criticality Summary

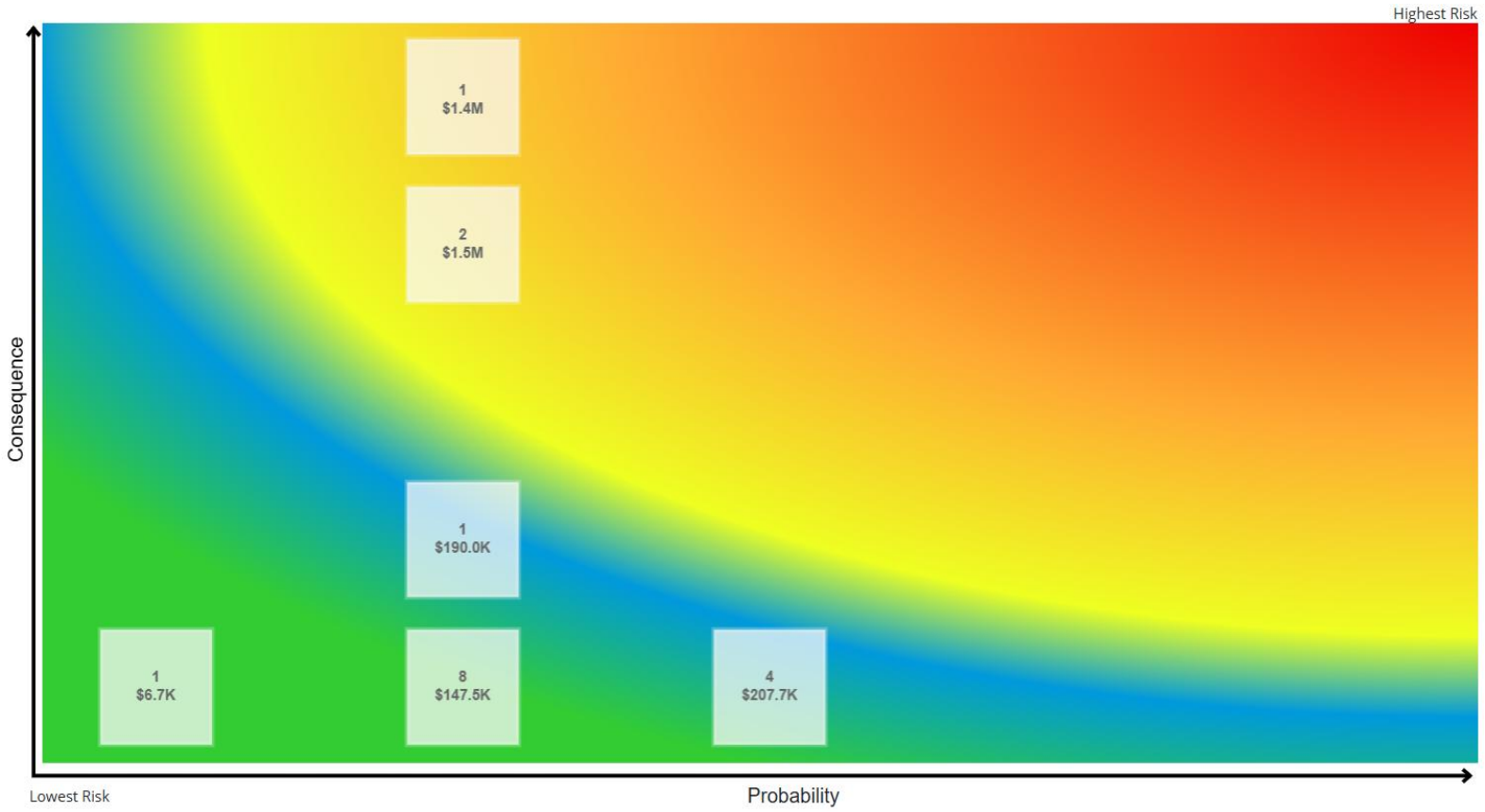


Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another tool to illustrate the critical asset rating system and which assets (by quantity) are included in each part of the matrix.

Figure 44: Solid Waste Risk Matrix Heatmap



E.9 Recommendations

Asset Inventory

- Conduct a comprehensive inventory review of all landfill cells, waste handling equipment, buildings, and supporting infrastructure. Current data is historical and needs an internal review.
- Add monitoring wells, flow monitors and leachate collection and pumping system into the asset inventory, it should be separate from wastewater collection.
- Review the existing Methane Unit asset and update it to fully reflect the current equipment and break it down into components instead of a single asset.
- Update GIS to include leachate pumping system, it is currently only the sewer mains and maintenance holes.

Condition Assessment Strategies

- Consider implementing a process to assess the condition of the landfill, using water and wastewater as a template, incorporate age, risk of failure, etc.
- Explore industry best practices and innovative technologies to develop a better condition assessment strategy for the variety of solid waste assets.

Lifecycle Management Strategies

- Develop a lifecycle management plan for landfill cells, equipment, and facilities, including closure and post-closure planning. This is currently not included in the asset management software.
- Review industry practices related to methane equipment to ensure maintenance practices are consistent and optimized.

Levels of Service

- Track any possible customer service metrics of the new blue box transition in 2026.
- Continue measuring current levels of service in accordance with the metrics that the City has established in this AMP.
- Track annual progress towards the City’s proposed levels of service targets.

Appendix F: Stormwater Network

F.1 Introduction

The City is responsible for owning and maintaining a stormwater network of storm sewer mains, catch basins, culverts (less than 3m diameter) and other supporting infrastructure.

The City's stormwater assets encompass a range of components that enable the functionality of the stormwater network. This asset category has several segments including but not limited to:

- Gravity mains
- Catch basins
- Stormwater Ponds
- Maintenance Holes

Figure 45: Stormwater Replacement Cost

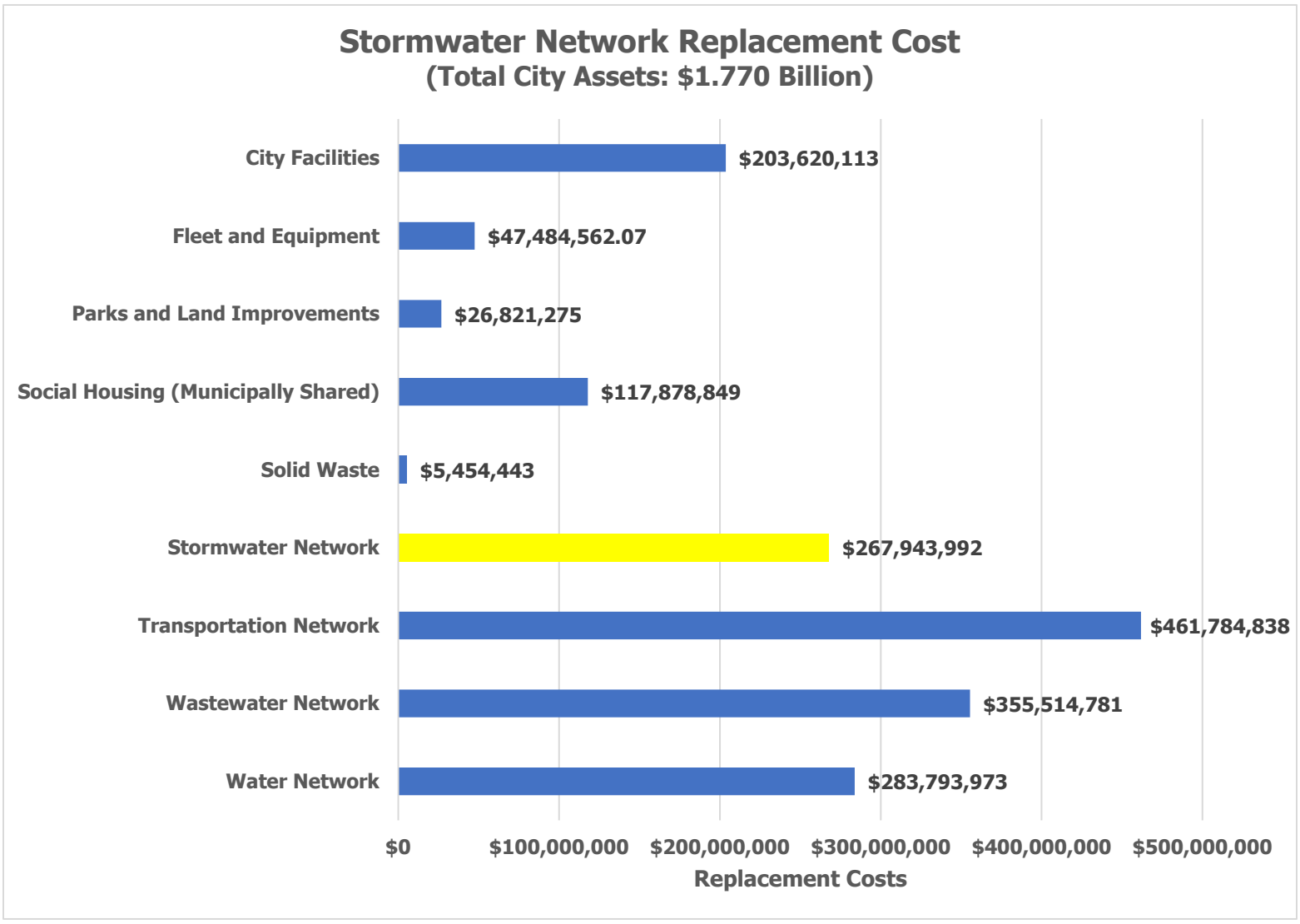
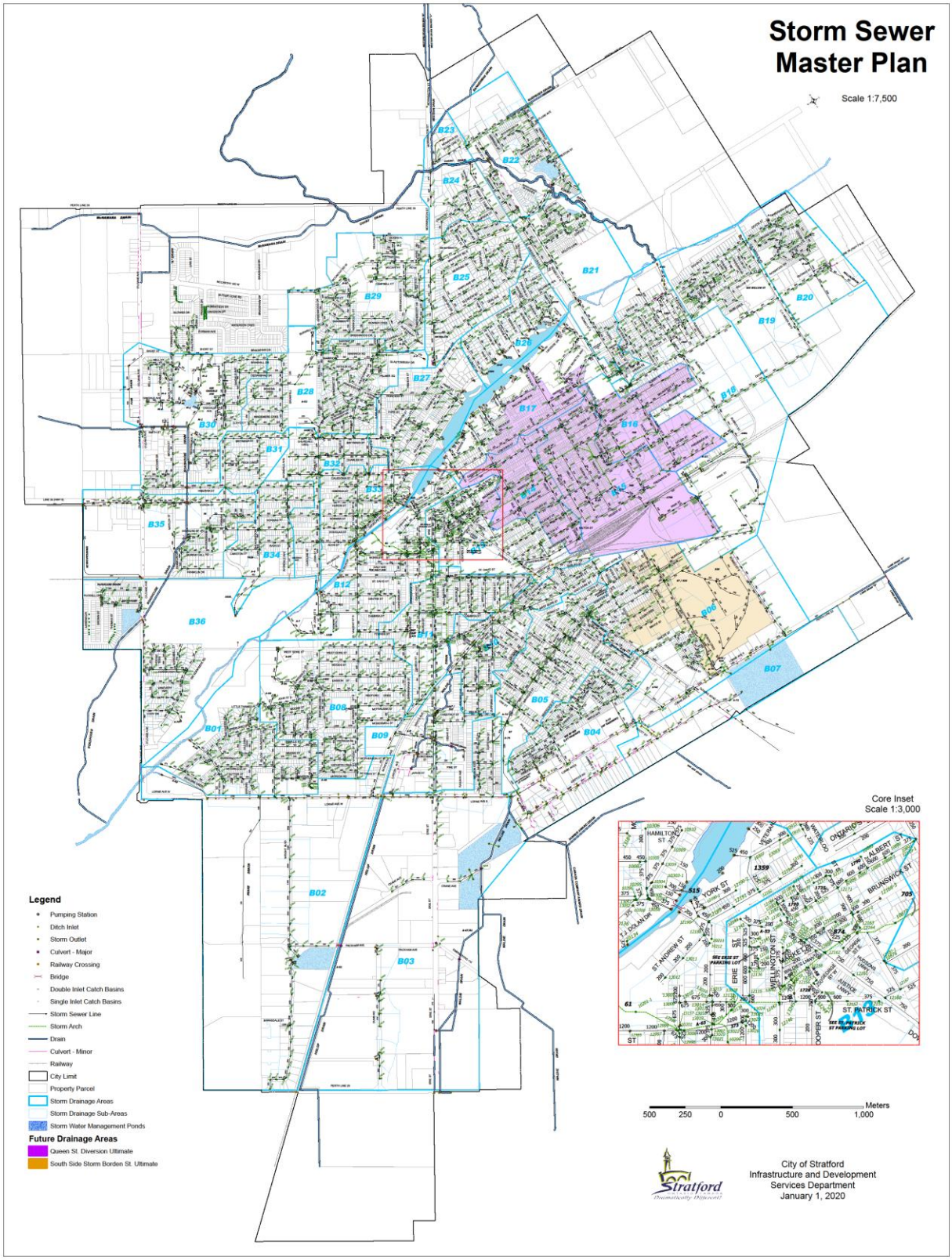


Figure 46: Stormwater Network Master Map



F.2 Asset Inventory & Replacement Cost

The table and pie chart below includes the segment list and total replacement cost of each asset segment in the City's Stormwater Network inventory.

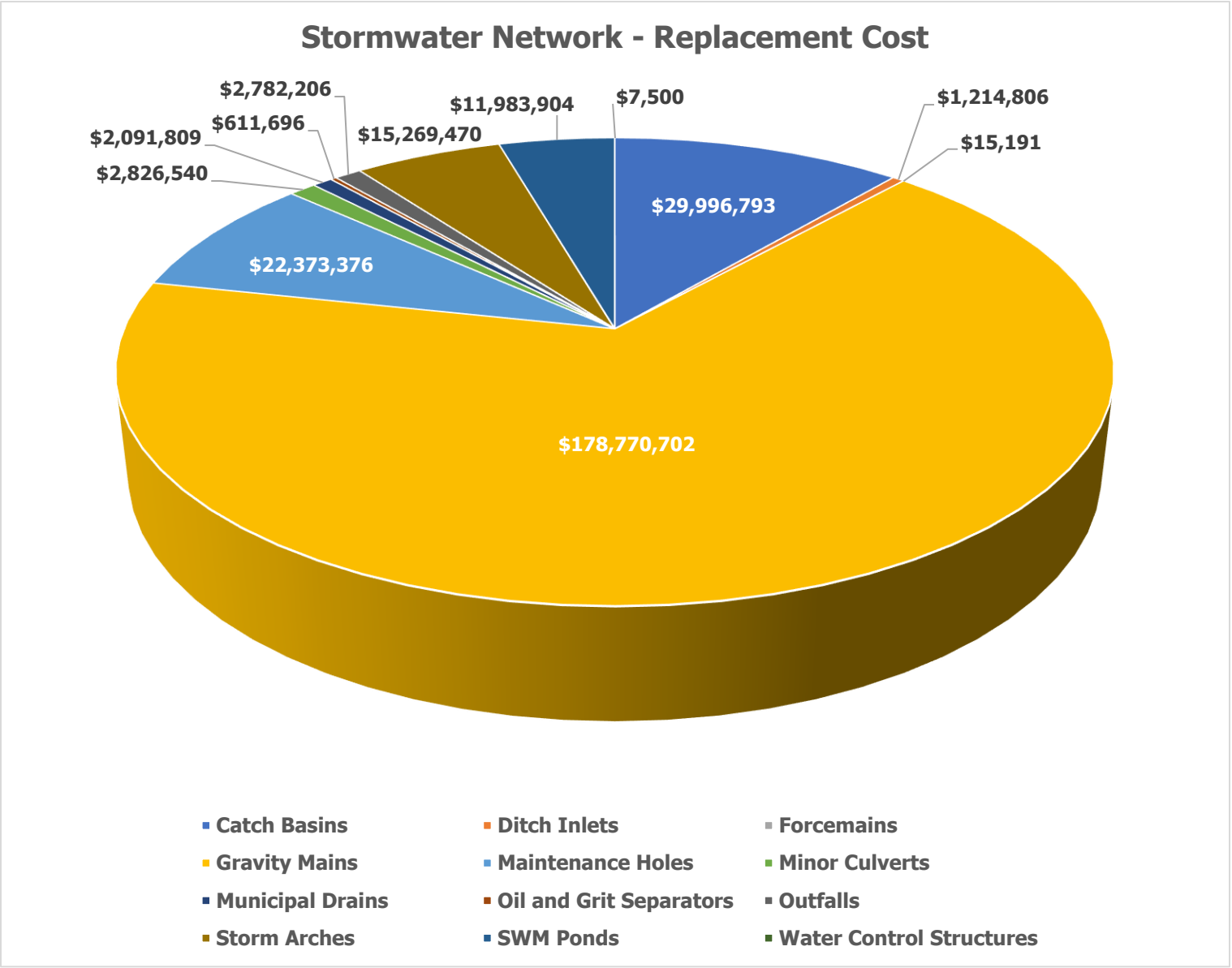
The stormwater network is one of the largest asset categories and comprises mostly of linear assets which are not normally visible at the surface. A current data gap worth noting are the water control structures which comprise of the Thomas Orr Dam and the John St. Weir. These are assets believed to be owned by the City but operated by the Upper Thames River Conservation Authority (UTRCA). These assets are currently under review and any updates to the data or costs will be reflected in a subsequent AMP annual update.

Table 49: Stormwater Network Inventory and Replacement Costs

Asset Segment	Total Replacement Cost
Catch Basins	$29,996,793
Ditch Inlets	$1,214,806
Force Mains	$15,191
Gravity Mains	$178,770,702
Maintenance Holes	$22,373,376
Minor Culverts	$2,826,540
Municipal Drains	$2,091,809
Oil and Grit Separators	$611,696
Outfalls	$2,782,206
Storm Arches	$15,269,470
SWM Ponds	$11,983,904
Water Control Structures[5]	$7,500
Total	**$267,943,992**

[5] Replacement costs are under review as these assets and their funding are linked to the URTCA.

Figure 47: Stormwater Replacement Costs by Segment



F.3 Estimated Useful Life (EUL) & Average Age

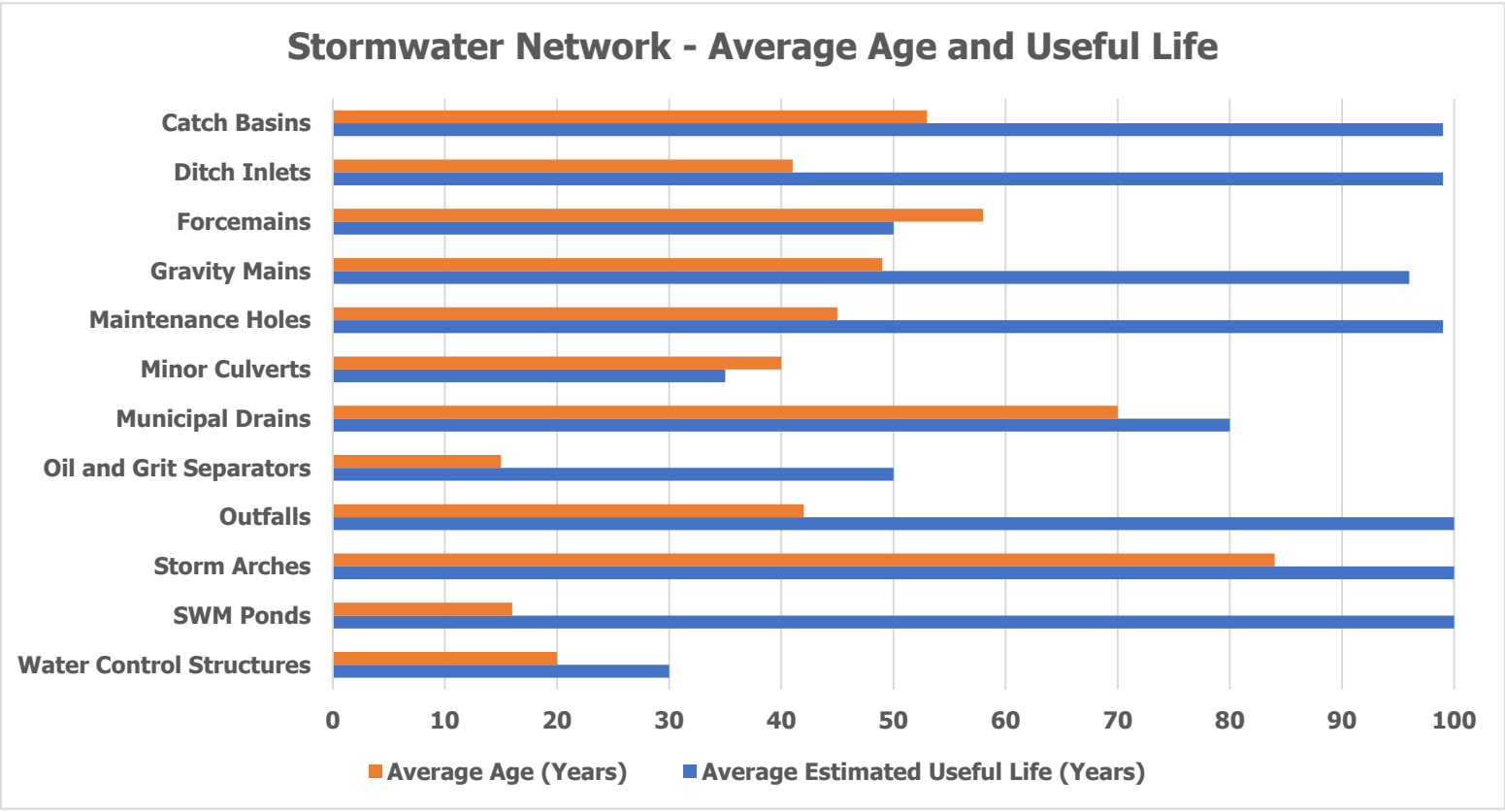
The Estimated Useful Life for Stormwater Network assets have been assigned according to a combination of established industry standards and professional staff judgment. Please note that the EULs for this category are under review in 2026 with the TCA policy update. The average age of each asset is based on the number of years each asset has been in service. The average service life remaining represents the difference between the estimated useful life and the average age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Table 50: Stormwater Network Averages

Asset Segment	Average Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Catch Basins	99	53	46
Ditch Inlets	99	41	58
Force Mains	50	58	-8
Gravity Mains	96	49	47
Maintenance Holes	99	45	54
Minor Culverts	35	40	-5
Municipal Drains	80	70	10
Oil and Grit Separators	50	15	35
Outfalls	100	42	58
Storm Arches	100	84	16
SWM Ponds	100	16	84
Water Control Structures	30	20	10

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies may be required. The figure below displays average asset age alongside the estimated useful life for each asset segment.

Figure 48: Stormwater Network Average Age and Useful Life



F.4 Asset Condition

The following section and table present the condition breakdown for each asset segment and describe the City's approach to assessing asset condition. Where feasible, the City applies industry standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

Table 51: Stormwater Network Asset Condition Strategy

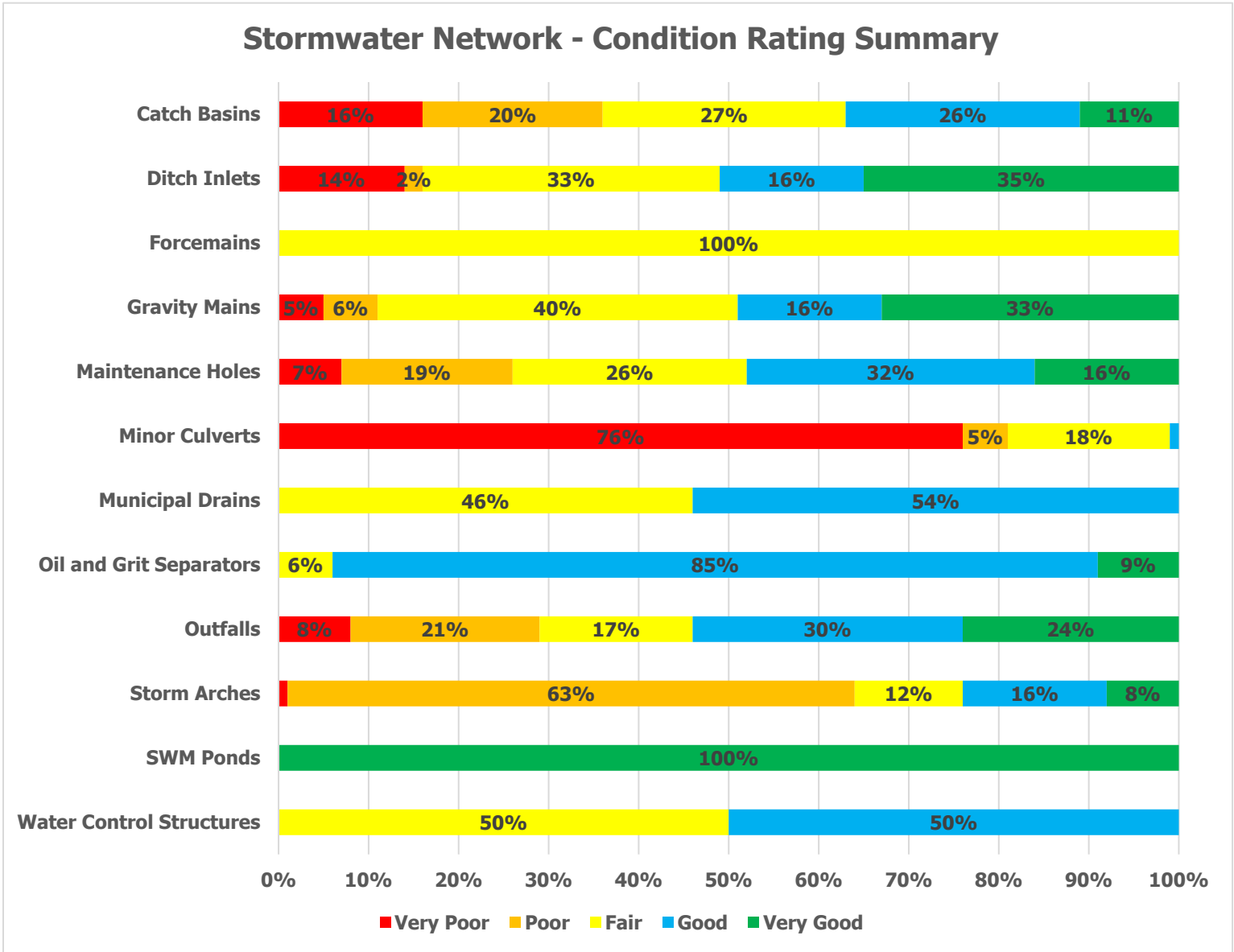
Asset Segment	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
Catch Basins	Condition assessments by staff and consultants	Every 2 Years	2024/2024
Ditch Inlets	Visual condition assessments to be done by staff	As required as per the CLI-ECA	2025
Force Mains	Condition assessments by staff and consultants	As required as per the CLI-ECA	TBD
Gravity Mains	CCTV is the preferred approach for condition assessment	As required as per the CLI-ECA	Ongoing
Maintenance Holes	Visual condition assessments to be done by staff	Every 3 - 5 Years	Ongoing
Minor Culverts	Visual condition assessments to be done by staff	Every 3 - 5 Years	TBD
Municipal Drains	Condition assessments by consultants who oversee the drains	As required as per the CLI-ECA	TBD
Oil and Grit Separators	Visual condition assessments to be done by staff	As required as per the CLI-ECA	2025
Outfalls	Visual condition assessments to be done by staff	As required as per the CLI-ECA	2024
Storm Arches	Condition assessments by staff and consultants	Every 3 - 5 Years	TBD
SWM Ponds	Visual condition assessments to be done by staff	As required as per the CLI-ECA	TBD
Water Control Structures	Completed by UTRCA consultants	Every 3 - 5 Years	2021

In 2023, the City received its Stormwater Consolidated Linear Infrastructure – Environmental Compliance Approval (CLI-ECA), which is the driver of the Stormwater Management requirements for the City including condition assessment. More details of the CLI-ECA will be covered in the Lifecycle Management Strategy section.

The percentage of Stormwater assets that are in "fair" or better condition is 80% which is a slight increase from the last AMP which showed 79% in "fair" or better condition. This example, although minor, highlights the importance of scheduled condition assessments because proper data will often reflect in less of an infrastructure backlog which improved financing strategies. Storm water along with the other linear infrastructure asset categories, are the ones with the biggest condition data gaps. Internal condition ratings were used based on available metrics in the absence of CCTV assessments which is the only true way to rating stormwater gravity mains.

The full condition data can be found on the following figure.

Figure 49: Stormwater Network Condition Rating Summary



F.5 Levels of Service

The following tables identify the City's current and proposed levels of service for the Stormwater Network assets. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17 (these are identified by an asterisk *), as well as any additional metrics developed by staff.

Community Levels of Service

The following table outlines current qualitative descriptions that determine the community levels of service provided by the Stormwater Network.

Table 52: Stormwater Network Community Levels of Service

Service Attribute	Community Levels of Service	Related Assets
Efficiency*	The City maintains a stormwater network to support reliable, safe, and efficient collection, treatment, and discharge of surface water within the community to the receiving water bodies. The extent of the City's stormwater network, including the locations of stormwater vertical assets, can be found in the introduction section of this appendix.	All
Reliability	The stormwater system operates as intended to convey surface water runoff to the subsurface storm infrastructure.	All
Quality	The City inspects and maintains the stormwater system at a condition level to operate as designed.	All

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided by Solid Waste. Some measures are identified but the required data is not available for 2025 and as a result, they will be calculated in a future AMP revision.

Table 53: Stormwater Network Technical Levels of Service

Technical Metric(s)				Proposed LOS Justification and Notes
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	
Reliability				
Percentage of the municipal stormwater management system resilient to a 5-year storm *	80%	TBD	N/A	This data will become available as a benchmark with the completion of the 2026 Stormwater Master Plan.
Percentage of the municipal stormwater management system resilient to a 100-year storm *	70%	TBD	$10,000,000	This data will become available as a benchmark with the completion of the 2026 Stormwater Master Plan. There is approx. $10 million forecasted for the next ten years for stormwater capital.
Sustainability				
Percentage of total storm main length flushed annually	7.3 % (12.4 km)	Improved Performance (increasing value)	TBD	This is an extremely time-consuming activity. There is potential to have some of the flushing contracted out to improve this level of service.
Percentage of catch basins cleaned and inspected annually	50%	Maintain Current Performance	$450,000	All catch basins are cleanout out and inspected every 2 years by a contractor. The main collector and arterial road basins are done annually.

Percentage of oil grit separator inspections performed as required as per CLI-ECA	100%	Maintain Current Performance	N/A	These are inspected as required under the CLI-ECA and costs are covered under the operating budget.
Percentage of Stormwater management pond inspections and maintenance completed as per CLI-ECA)	100%	Maintain Current Performance	N/A	These are inspected as required under the CLI-ECA and costs are covered under the operating budget.

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for City stormwater network assets.

Risks of Reducing Current Service Levels

- Potential for increased basement flooding
- increased risk of not meeting regulations of the CLI-ECA
- Increased risk of litigation
- Inability to keep up with growth or to meet capacity needs
- Reputational risks to the City
- Higher than anticipated costs for reactionary maintenance.
- Increased risk of higher operational costs to keep assets operational as conditions decrease

Risks of Maintaining Current Levels of Service

- Gradual deterioration of pipes, culverts, and stormwater facilities, increasing long-term replacement costs
- Reduced resilience to extreme weather events, even if current service levels are nominally maintained
- Limited ability to meet evolving regulatory or environmental requirements, potentially creating compliance risk over time
- Inefficiencies in system operation, such as ponding or localized flooding, which persist without upgrades
- Missed opportunities for environmental improvements, such as low-impact development (LID) or green infrastructure
- Higher risk of operational disruptions during storm events due to aging assets

Risks of Increasing Current Levels of Service

- Significant increases in capital and operating costs, including staffing, new infrastructure, pumps, and monitoring
- Greater lifecycle obligations, as enhanced stormwater systems require more intensive ongoing maintenance
- Increased staffing and resource requirements, potentially exceeding current operational capacity
- Higher expectations from residents and Council, creating commitments that may be difficult to scale back
- Potential overbuilding relative to actual stormwater demand, leading to underutilized or costly assets

Different service level approaches offer distinct benefits for stormwater assets. Reducing service levels can lower short-term costs but may increase flood risk and

reactive maintenance. Maintaining current service levels supports system functionality and risk management under existing conditions. Increasing service levels can improve flood resilience, climate adaptability, and system performance, potentially reducing long-term damage and repair costs.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally target maintaining current performance across most Stormwater Network metrics, reflecting that the category assets are operating at satisfactory and sustainable levels. The completion of the master plan in 2026 will highlight the priority capital locations in the system and may change proposed service levels for future AMP iterations.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned initiatives. Maintaining existing condition, and reliability metrics is realistic given the City's strong replacement practices, adequate staffing and environmental compliance, and the absence of unplanned major repairs or equipment replacements.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

The municipality's ability to afford the proposed levels of service is consistent with current financial planning and operational practices. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity.

F.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its Stormwater Network assets to maintain the assets in a state of good repair and provide the appropriate levels of service. The different lifecycle activities are shown below in the following table.

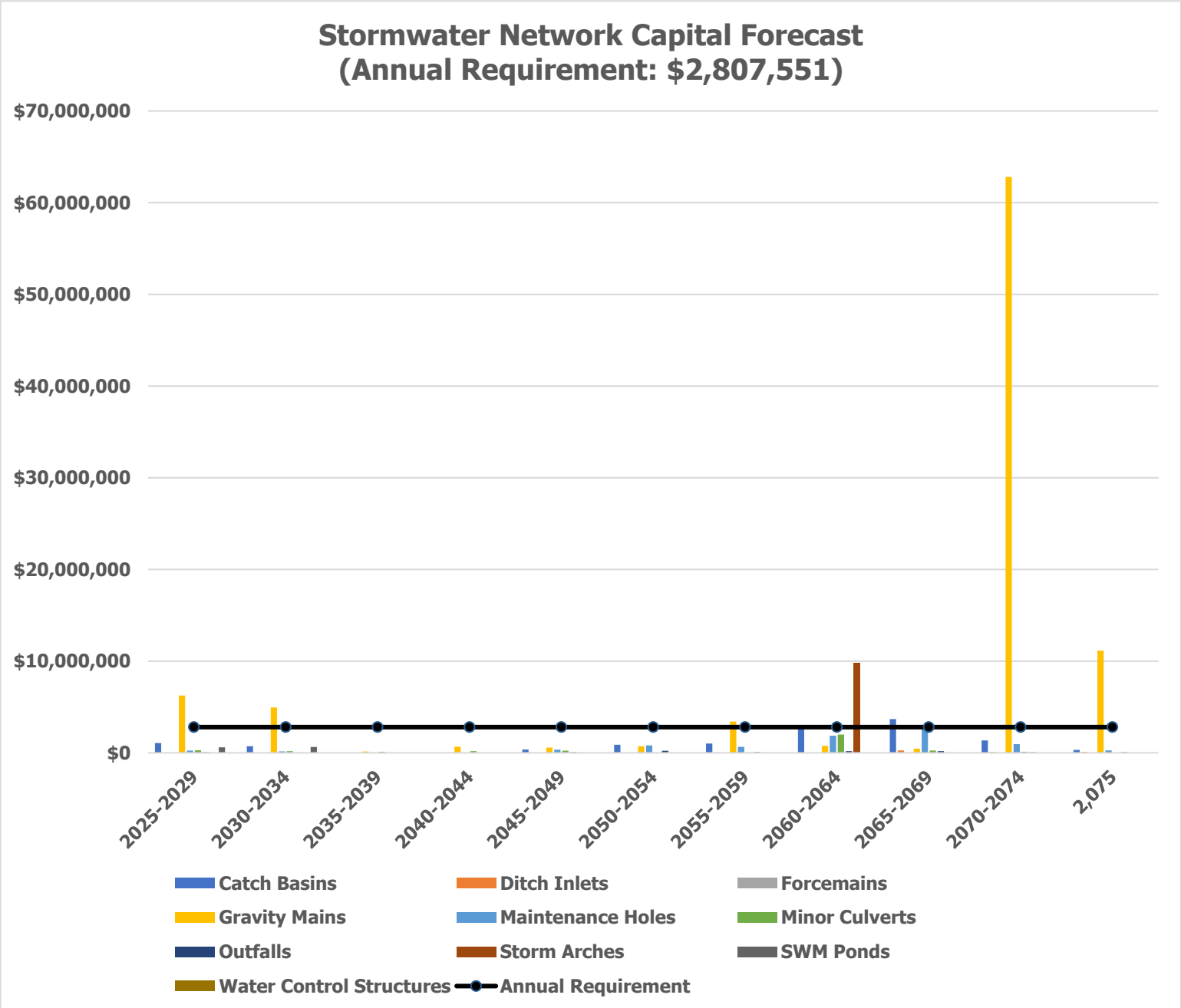
Table 54: Lifecycle Management Strategies

Activity Type	Description of Current Strategy
Maintenance	Maintenance activities are completed to a lesser degree compared to other underground linear infrastructure. This is because gravity mains are less critical than pressurized mains and valves (water).
Maintenance	Primary activities include catch basin cleaning and storm main flushing, but only a small percentage of the entire network is completed per year due to the size of the system.
Maintenance	CCTV inspections and cleaning are completed as needed and this information is used to drive forward rehabilitation and replacement plans.
Maintenance	Major maintenance and cleanouts will be undertaken in the next few years to improve the service life of their stormwater pond systems based on sediment surveys.
Rehabilitation	Trenchless re-lining reduces total lifecycle costs but requires a formal condition assessment program to determine viability in each specific case.
Replacement	Without the availability of up-to-date condition assessment information replacement activities are purely reactive in nature.

F.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should allocate towards funding rehabilitation and replacement needs. The following figure identifies capital requirements over the next 50 years. This projection timeline is used as it ensures that most assets have gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $2.8 million.

Figure 50: Stormwater Network Capital Forecast



F.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the Stormwater Network asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of assets within each range. See Appendix K for the criteria behind this risk rating matrix.

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limits the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 55: Risk and Criticality Summary

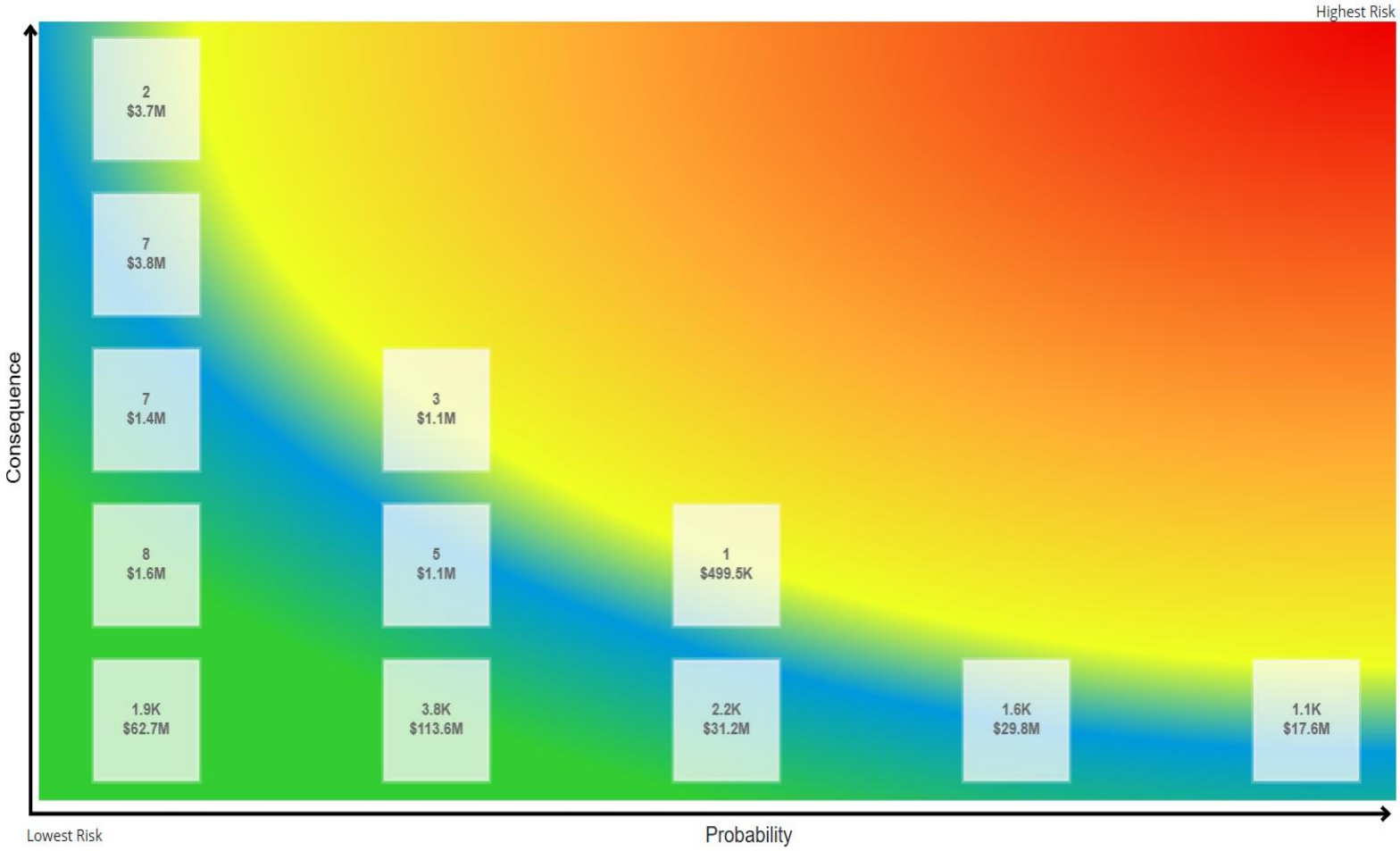
1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
9,522 Assets	1,103 Assets	0 Assets	0 Assets	0 Assets
328,268.00 unit(s), m, m2	53,436.14 unit(s), m, m2	-	-	-
$245,089,808.53	$22,854,183.54	$0.00	$0.00	$0.00

Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another tool to illustrate the critical asset rating system and which assets (by quantity) are included in each part of the matrix.

Figure 51: Stormwater Network Risk Matrix Heatmap



E.9 Recommendations

Asset Data

- There is a lack of data confidence in the existing inventory data. With this and considering future plans, ensure that data collection and refinement will continue to be prioritized to increase confidence and the accuracy of the stormwater data.
- Integrate current maintenance tracking done by e.Ris into the City's asset management software to improve data.
- Move the Underpass Pumping Station asset profile to the SWM category. It currently resides with the wastewater collection group who oversee the maintenance and operation of the site.

Funding

- Review transitioning stormwater from the general tax levy to a rate based, user pay system as outlined in the financial strategy section of this AMP.

Condition Assessment Strategies – AI Considerations

- An emerging utilization is the use of AI for CCTV inspections. Conventional storm and sanitary sewer inspections consist of physically inserting the camera into the sewer which then requires a review of the video for deficiencies, documentation, and reporting. New AI technology allows for an automated review and report after the CCTV is completed. This is a significant reduction in staff time, which takes the longest and is the most expensive part of the conventional process. Review costing options to use these solutions.
- Ensure that a stormwater main CCTV review will be completed on a 10-year cycle. AI may be able to speed up the process or at least, potentially reduce the cost of the service.

Lifecycle Management Strategies

- Document and review lifecycle management strategies for the Stormwater Network on a regular basis to achieve the lowest total cost of ownership while maintaining adequate service levels.
- Review requirements of the stormwater network Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA) to ensure maintenance practices align with the ECA requirements.

Levels of Service

- Review staffing levels and allocations within the department. A minor restructuring of unionized staff within CUPE 197 may lead to improved stormwater and wastewater collection maintenance.

Appendix G: Transportation Network

G.1 Introduction

The Transportation Network assets ensure the provision of safe and efficient transportation services and represents the highest value asset category in the City's asset portfolio. It includes all municipally owned and maintained roadways and bridges in addition to supporting roadside infrastructure.

The City's transportation assets encompass a range of components that enable the functionality of the network. In addition to Roads, this asset category has several segments including:

- Bridges and Structural Culverts
- Sidewalks
- Traffic Systems
- Streetlights

Figure 52: Transportation Network Replacement Cost

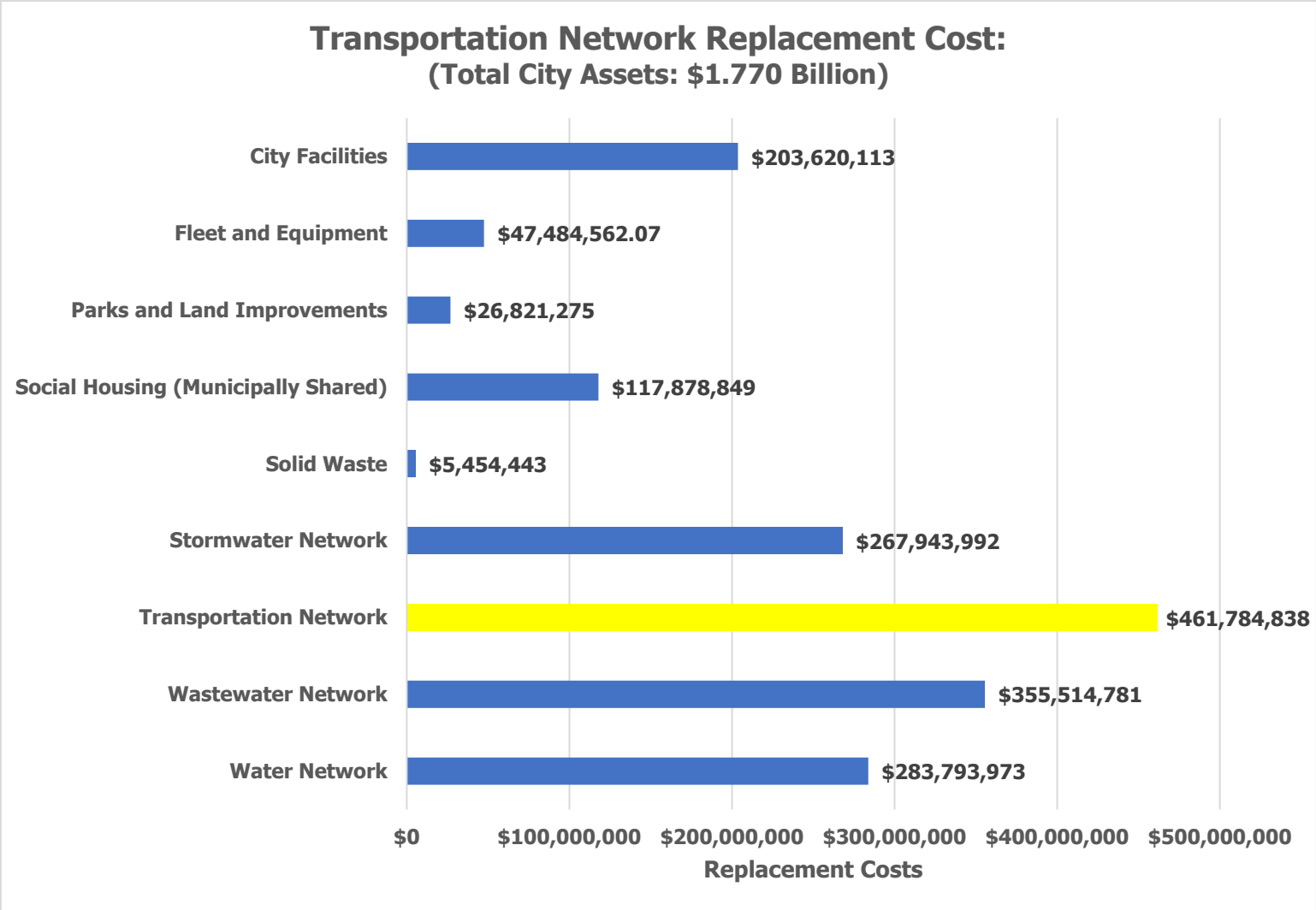
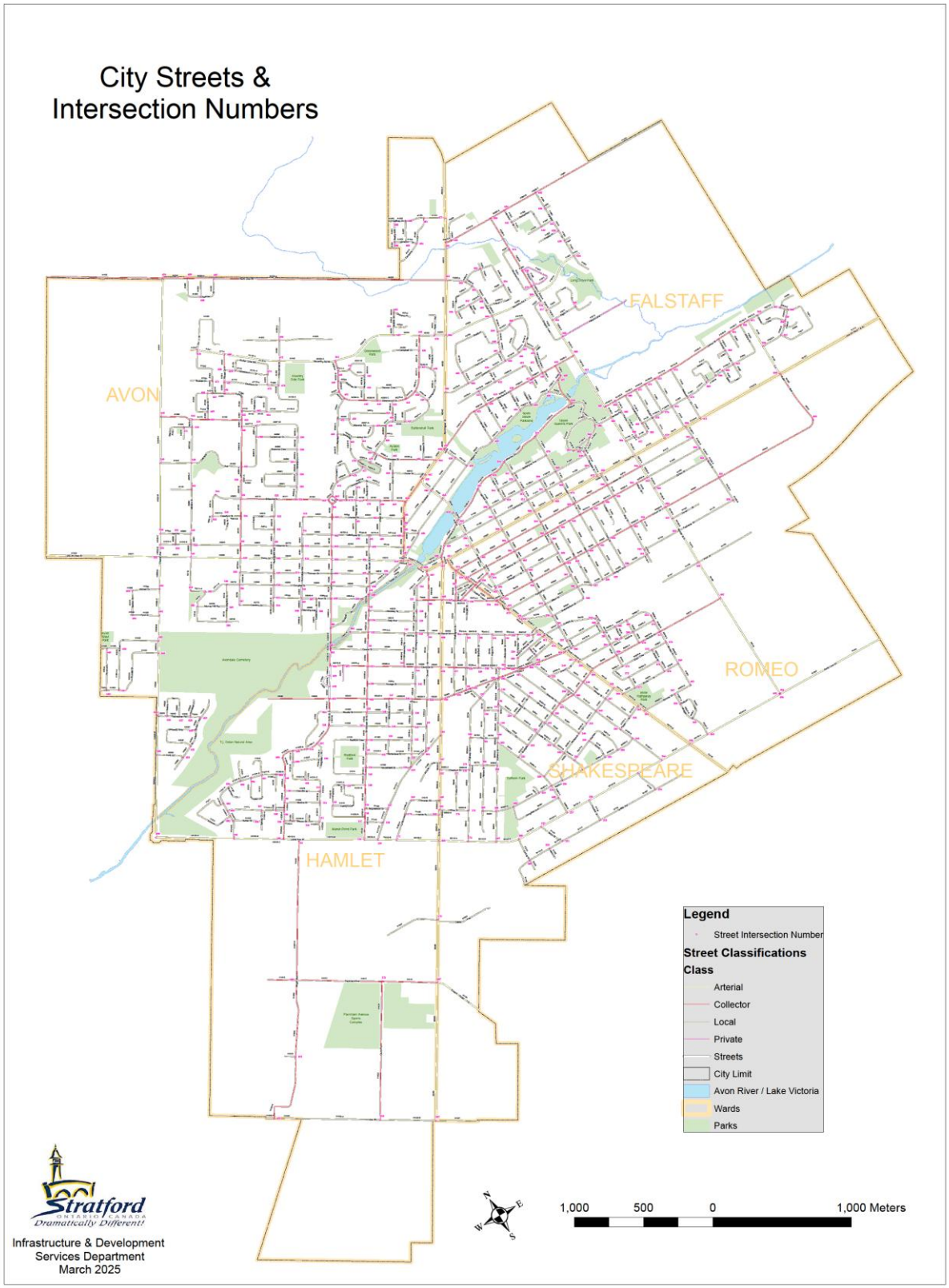


Figure 53: Transportation Network Master Map



G.2 Asset Inventory & Replacement Cost

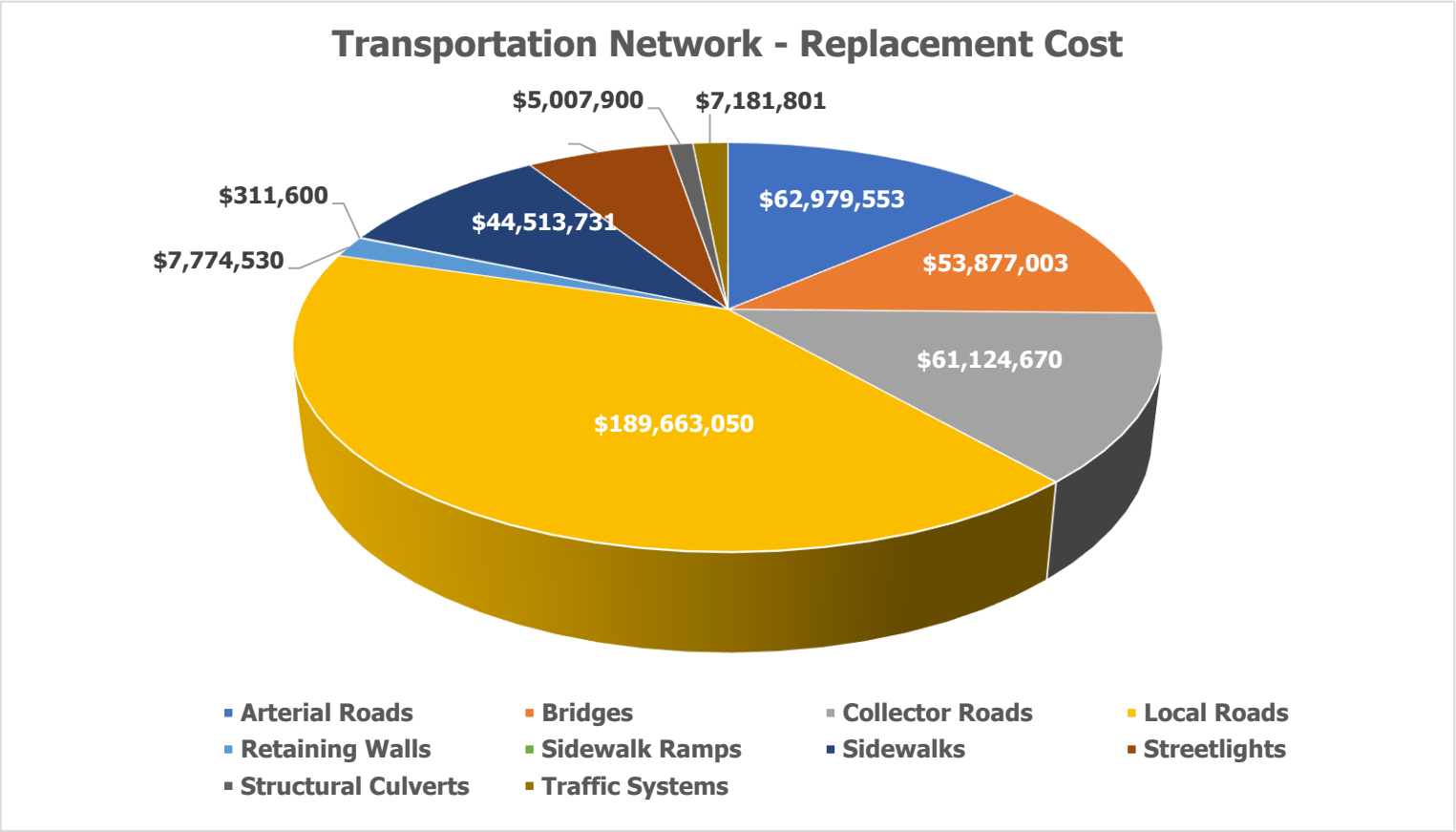
The table and pie chart below includes the segment list and total replacement cost of each asset segment in the City's Transportation Network inventory.

The transportation network is not only the highest replacement cost category, but it is also the most heavily relied upon and therefore, most visible by residents and visitors. This is a critical category to consider in this AMP because of its usage by the public and it is often the most discussed category in terms of public satisfaction.

Table 56: Transportation Network Inventory and Replacement Costs

Asset Segment	Total Replacement Cost
Arterial Roads	$62,979,553
Bridges	$53,877,003
Collector Roads	$61,124,670
Local Roads	$189,663,050
Retaining Walls	$7,774,530
Sidewalk Ramps	$311,600
Sidewalks	$44,513,731
Streetlights	$29,351,000
Structural Culverts	$5,007,900
Traffic Systems	$7,181,801
Total	**$461,784,838**

Figure 54: Transportation Network Replacement Costs by Segment



G.3 Estimated Useful Life (EUL) & Average Age

The Estimated Useful Life for Transportation Network assets has been assigned according to a combination of established industry standards and professional staff judgment. Please note that the EULs for this category are under review in 2026 with the TCA policy update. The average age of each asset is based on the number of years each asset has been in-service. The average service life remaining represents the difference between the estimated useful life and the average age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

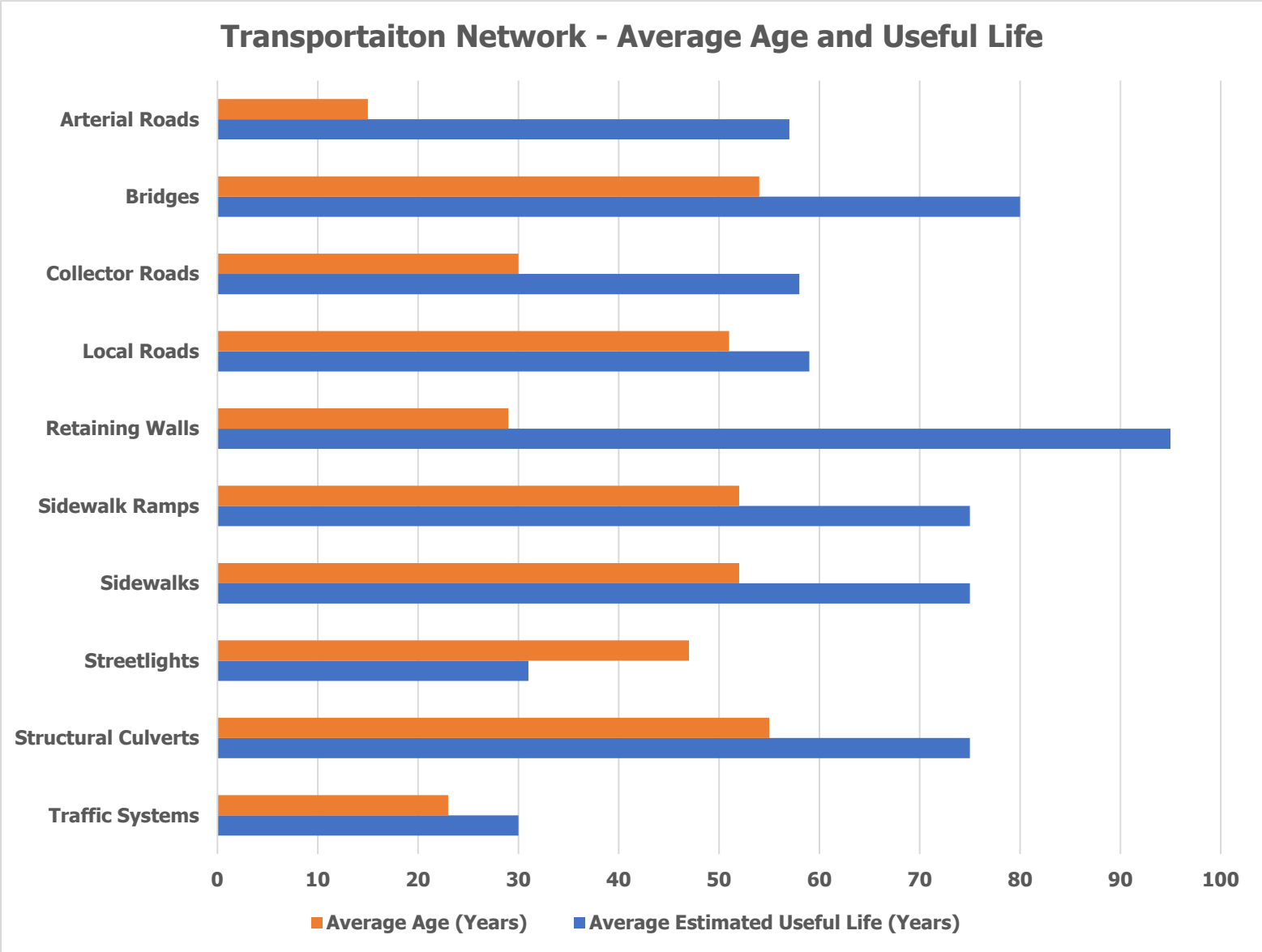
Table 57: Transportation Network Averages

Asset Segment	Average Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Arterial Roads	57	15	42
Bridges	80	54	26
Collector Roads	58	30	28

Local Roads	59	51	8
Retaining Walls	95	29	66
Sidewalk Ramps	75	52	23
Sidewalks	75	52	23
Streetlights	31	47	-16
Structural Culverts	75	55	20
Traffic Systems	30	23	7

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies may be required. The figure below displays average asset age alongside the estimated useful life for each asset segment.

Figure 55: Transportation Network Average Age and Useful Life



G.4 Asset Condition

The following sections and tables present the condition breakdown for each asset segment and describe the City's approach to assessing asset condition. Where feasible, the City applies industry-standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

Table 58: Transportation Network Asset Condition Strategy

Asset Segment	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
Arterial Roads	Condition assessments by external consultants	Every 3 Years	2025
Bridges	Condition assessments by external consultants (OSIM Report)	Every 2 Years	2025
Collector Roads	Condition assessments by external consultants	Every 3 Years	2025
Local Roads	Condition assessments by external consultants	Every 3 Years	2025
Retaining Walls	Condition assessments by external consultants (OSIM Report)	Every 2 Years	2025
Sidewalk Ramps	Annual inspections completed by seasonal engineering staff	Every Year	2025
Sidewalks	Annual inspections completed by seasonal engineering staff	Every Year	2025
Streetlights	Under review as this segment involves Festival Hydro considerations	TBD	TBD
Structural Culverts	Condition assessments by external consultants (OSIM Report)	Every 2 Years	2025
Traffic Systems	Condition assessments by external consultants	Every 2 Years	2024

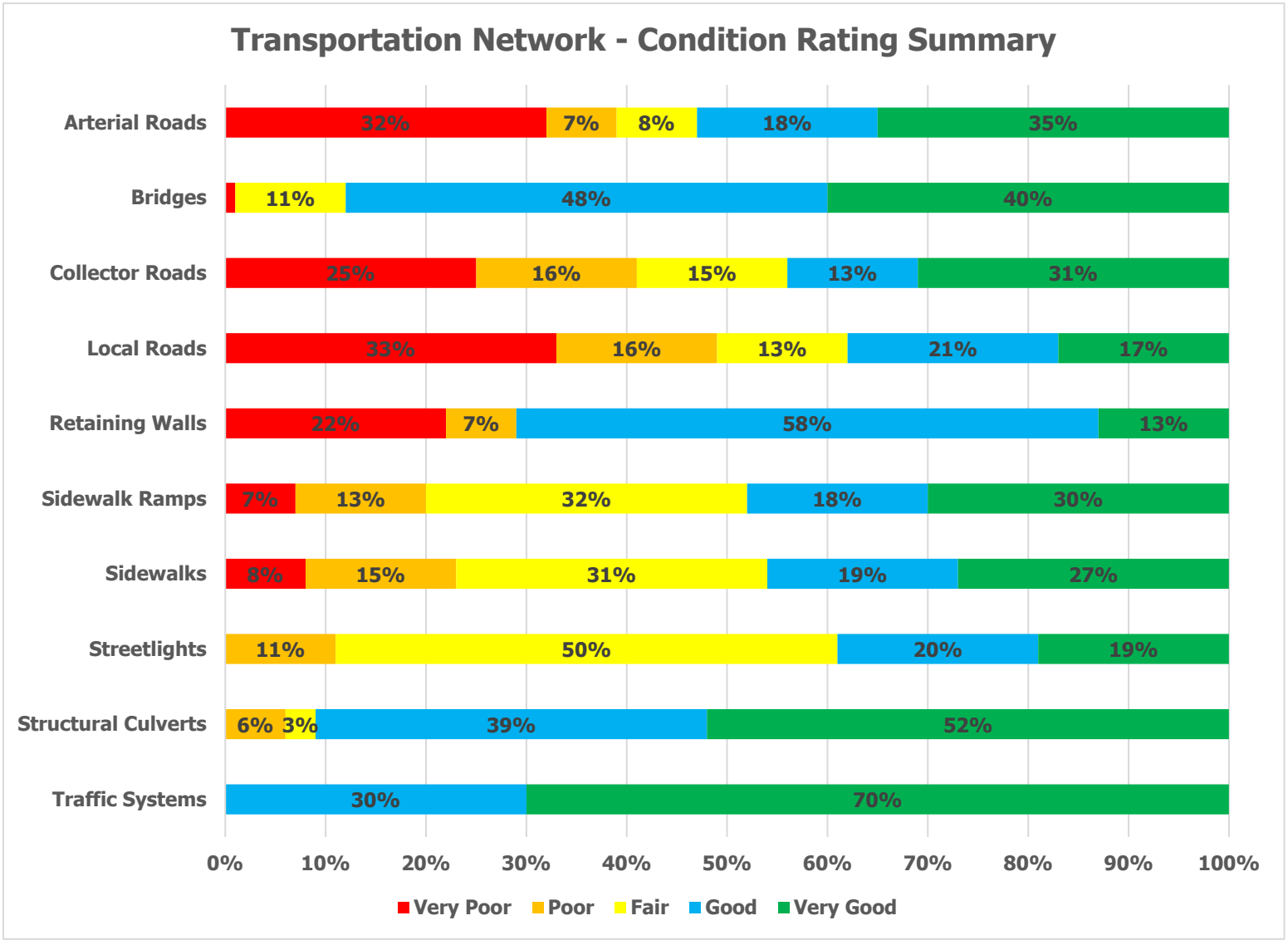
It should be noted when reviewing the road condition ratings that the rating system is very different than that of conventional scoring (0-20, 20-40, 40-60 etc.). In the case of industry-standard road condition scoring, any road segment with a rating of 40 or less out of 100, is considered "very poor". This differs from standard asset condition scoring which gives 0 to 20 a rating of "very poor".

The percentage of the Transportation Network that is in "fair" or better condition is 65% which is a significant increase from the last AMP which showed 47% in "fair" or

better condition. The two key reasons for this improvement are the significant investment into capital roadwork over the last council term which has improved the overall condition of the road category, and the improved condition data of the other transportation network asset segments.

The full condition data can be found in the image on the following figure.

Figure 56: Transportation Network Condition Rating Summary



G.5 Levels of Service

The following tables identify the City's current and proposed levels of service for the Transportation Network assets. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17 (these are identified by an asterisk *), as well as any additional metrics developed by staff. provided by the City.

This is an important category in this AMP because the road network is the most discussed service level by council and the public. These service levels should be reviewed with consideration for the resident feedback, staff recommendations and provincial regulatory requirements.

Community Levels of Service

The following table outlines current qualitative descriptions that determine the community levels of service provided by the Transportation Network.

Table 59: Transportation Network Community Levels of Service

Service Attribute	Community Levels of Service	Related Assets
Scope*	The City's roads enable the movement of people and goods throughout the City and to provincial highways using a variety of transportation options. In addition to passenger vehicles, road assets support the movement of commercial vehicles, pedestrians, cyclists, and trailered vehicles, and provide reliable emergency vehicle response access. The extent of the City's transportation network is outlined in the introduction section of this appendix.	Roads, Sidewalks, Streetlights, Traffic Systems
Quality*	The City inspects and maintains the transportation network at a condition level to operate as designed. Descriptions and images that illustrate the different condition ratings of roads and sidewalks are provided in this section of the appendix.	Roads, Sidewalks, Streetlights, Traffic Systems
Scope	The City's bridges and structural culvert enable the continuous movement of people and goods throughout the City and to provincial highways using a variety of transportation options. In addition to passenger vehicles, these assets support the movement of commercial vehicles, pedestrians, cyclists, trailered vehicles, and provide reliable emergency vehicle response access.	Bridges, Retaining Walls, Structural Culverts

Quality*	If the condition of a bridge or structural culvert were to fall into a state of disrepair, width or load restrictions may be required. If the condition degradation is severe, the structure may become unusable or fail. Regular inspections inform the City of when potential restrictions or closure may need to be put in place. One bridge (Avondale Avenue Cemetery Entrance Bridge) has a loading or dimension restriction. The City inspects and maintains the transportation network at a condition level to operate as designed. Descriptions and images that illustrate the different condition ratings of bridges and structural culverts are provided in Appendix B.	Bridges, Retaining Walls, Structural Culverts

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided by the Transportation Network. Some measures are identified but the required data is not available for 2025 and as a result, they will be calculated in a future AMP revision.

Table 60: Transportation Network Technical Levels of Service

Technical Metric(s)				Proposed LOS Justification and Notes
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	
Roads - Accessibility and Reliability				
Number of lane-km of Arterial roads as a proportion of City land area in square kilometers * [6]	2.91	TBD	N/A	Subject to change as development continues
Number of lane-km of Collector roads as a proportion of City land area in square kilometers *	2.42	TBD	N/A	Subject to change as development continues
Number of lane-km of Local roads as a proportion of City land area in square kilometers *	7.92	TBD	N/A	Subject to change as development continues
For all paved roads, the average Pavement Quality Index (PQI) value *	63% (2025)	Improved Performance (increasing value)	$50,697,594	Increase - overall to 64.1% - This is the overall result of the changes to the three metrics below for arterial, collector and local roads
For arterial roads, the average Pavement Quality Index (PQI) value	69.2%	Improved Performance (increasing value)	$16,201,850	Increase to 70%. Proposed costs provided by the consultant who completed the 2025 road condition assessment

[6] An asterisk (*) indicates a service metric required under O. Reg 588/17

For collector roads, the average Pavement Quality Index (PQI) value	62.3%	Improved Performance (increasing value)	$10,859,049	Increase to 65%. Proposed costs provided by the consultant who completed the 2025 road condition assessment
For local roads, the average Pavement Quality Index (PQI) value	57.5%	Maintain Current Performance	$23,636,965	Maintain at 57.5%. Proposed costs provided by the consultant who completed the 2025 road condition assessment
Road maintenance completed as required after MMS route patrols are completed	100%	Maintain Current Performance	N/A	Maintain at 100% as this also related to liability and insurance. Repairs are captured under current operational budget
Percentage of municipal road kilometres meeting Ontario Minimum Maintenance Standards (MMS) for snow accumulation and ice control.	100%	Maintain Current Performance	N/A	If the City wants to increase service levels for road and sidewalk snow removal and ice control, a review will need to be completed to determine the required staff and equipment resources to meet a new service expectation
Percentage of roads with a PQI of 70% or higher that have crack sealing applied every 3 years	TBD	TBD	TBD	Once staff receive the final version of the 2025 road assessment report, recommendations will be determined for the 2027 operating budget and 10-year capital plan
Percentage of sidewalks in "Fair" or better condition.	77%	Improved Performance (increasing value)	$3,000,000	$300,000 annually is identified in the capital plan for sidewalk replacements. This increase in 2025 to $300,000 from $125,000, will allow the City to get ahead of the backlog of sidewalk deficiencies

Roads - Safety				
Percentage of downtown core that is deficient in lighting	TBD	TBD	TBD	The 2026 workplan includes a study intended as a pilot project of the downtown lighting to assign "visibility numbers" to the downtown core
Percentage of streetlights luminaires and street signs inspected annually for illumination and reflectivity	100%	Maintain Current Performance	N/A	Annual inspections are completed by Public Works staff during night shifts.
The proportion of sections of the entire road network that receive line painting annually	Local Road Lines/Turn Arrows/Crosswalks/: Annually Parking Lots: Biennial Bike Lanes/RR Crossings: Biennial Arterial/Collectors: Semi-annually	Maintain Current Performance	$1,793,200	Most paintings are completed internally except for arterial and collector roads which are contracted out.
Bridges and Culverts				
Percentage of bridges in the City with loading or dimensional restrictions *	3% (Avondale Cemetery Bridge)	Maintain Current Performance	N/A	There are no plans to replace the bridge, and no others have been identified as requiring restriction.
Average Bridge Condition Index Value for bridges *	75%	Maintain Current Performance	$7,075,000	This average has been consistent with previous OSIM reports. It is a financial challenge to ensure sufficient resources are committed for all recommended work. To increase this LOS would take a significant increase to the capital plan and forecast to complete 10+ years recommended works by 2035.

Average Bridge Condition Index value for culverts *	77%	Maintain Current Performance	N/A - Included as part of the $7,075,000 listed above.	This average has been consistent with previous OSIM reports. It is a financial challenge to ensure sufficient resources are committed for all recommended work. To increase this LOS would take a significant increase to the budget to complete 10+ years recommended works by 2035.

Figure 57: Road and Bridge/Culvert Condition Rating Examples

Player Street | Very Poor Road Condition

Brett Street | Very Good Road Condition

Cobourg Street | Poor Road Condition

Delemere Ave. Culvert | Culvert in Good Condition

OSIM Report: 2023 Inspection

Douro Street | Fair Road Condition

Romeo St. Bridge | Bridge in Good Condition

OSIM Report: 2023 Inspection

McNab Street | Good Road Condition

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for City Transportation Network assets.

Risks of Reducing Current Service Levels

- Increased service disruptions due to higher rate of reactionary maintenance as asset conditions decrease
- Increased environmental impacts due to increased traffic congestion
- Increased risk of litigation
- Increased risk to the safety of residents using roads as conditions decrease
- Reputational risks to the City
- Inability to keep up with growth or to meet capacity needs
- Increased risk of higher operational costs to keep assets operational as conditions decrease

Risks of Maintaining Current Levels of Service

- Limited ability to meet evolving safety, accessibility, or regulatory standards, potentially creating compliance risks
- Persistent operational inefficiencies, including congestion and longer travel times, even if service levels are nominally maintained
- Missed opportunities for sustainable or multimodal improvements, such as cycling infrastructure, transit priority, or emissions reduction
- Increased probability of minor incidents or localized disruptions, reducing reliability over time
- Reduced resiliency to extreme weather or climate events, limiting the network's ability to handle peak demands
- Stagnation in technology adoption, such as traffic management systems or smart transportation solutions

Risks of Increasing Current Levels of Service

- Significant increases in capital and operating costs, including road widening, new bridges, signals, and maintenance requirements
- Greater lifecycle obligations, as expanded or enhanced assets will require more intensive ongoing maintenance
- Increased staffing and resource needs, potentially exceeding current operational capacity
- Higher expectations from residents and Council, creating commitments that may be difficult to scale back
- Risk of overbuilding or over-servicing relative to actual traffic or usage, resulting in underutilized or inefficient assets

Different service level approaches offer distinct benefits for transportation assets. Reducing service levels can provide short-term financial relief but may accelerate asset deterioration and increase safety risk. Maintaining current service levels supports network reliability, safety, and predictable performance. Increasing service levels can improve asset condition, safety, and mobility, potentially reducing long-term renewal and maintenance costs.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally maintain current performance across most of the Transportation Network metrics, reflecting that the category assets are operating at satisfactory and sustainable levels. The main difference between the current and proposed LOS is the increased service level targets for road condition.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned initiatives. Improving existing condition, and reliability metrics is realistic given the City's strong replacement practices, adequate staffing and environmental compliance, and the absence of unplanned major road rehabilitation or traffic system replacements.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

The municipality's ability to afford the proposed levels of service has been sustainable in recent years because of financial investments by the City and operational practices. These investment rates may not be sustainable over time without a change in reserve fund allocation. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity.

Although proposed service levels for the road networks are an increase to the current service levels, this represents only a modest service level increase to try and mitigate any significant increases to the tax base. Any funding streams outside of the tax base in the form of grants will continue to be a focus. Further recommendations to reallocate tax-based reserve funds to ensure road work is maintained as a priority may also follow.

G.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its Transportation Network assets to maintain the assets in a state of good repair and provide the appropriate levels of service. The different lifecycle activities are shown below in the following table.

Table 61: Lifecycle Management Strategies

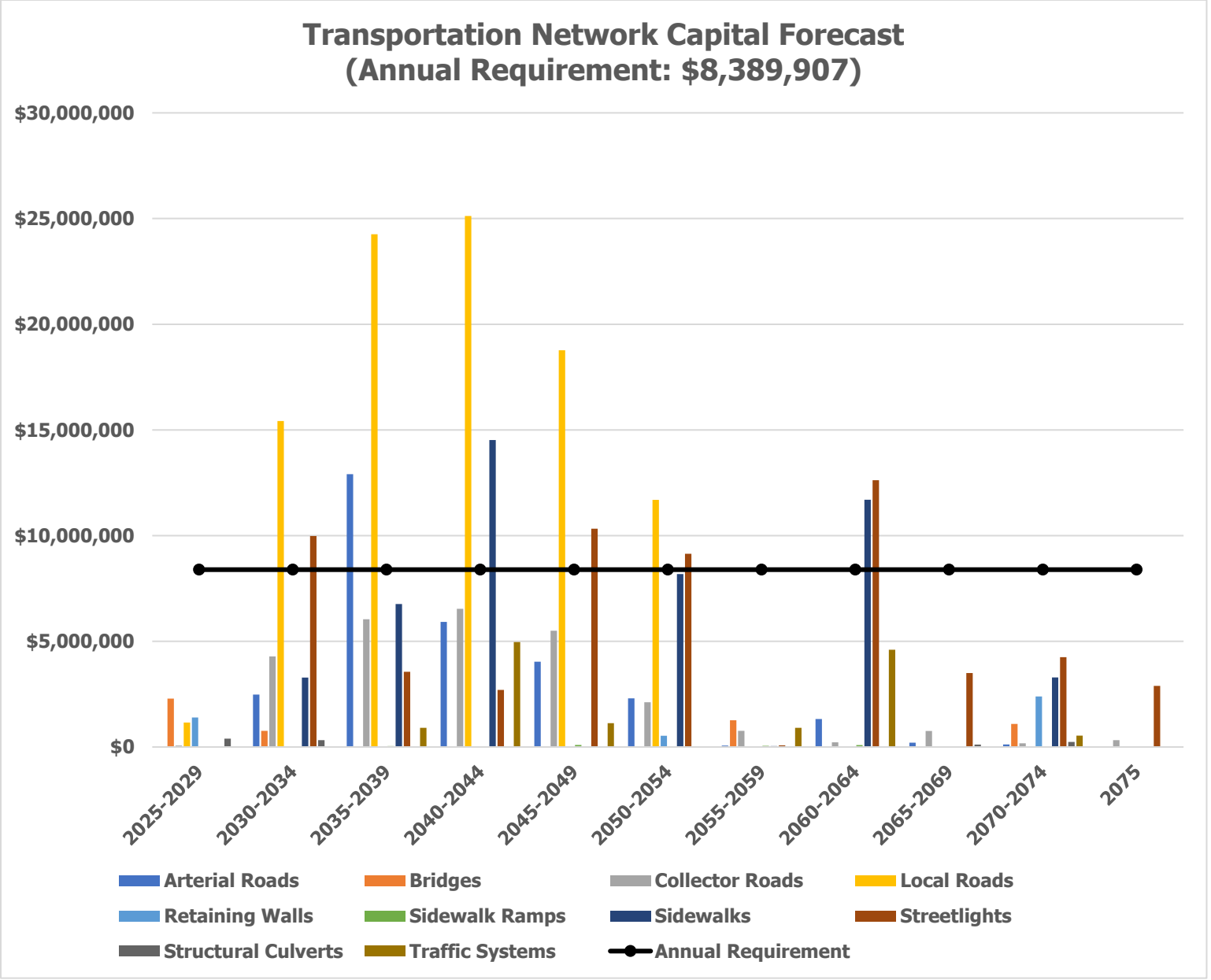
Activity Type	Description of Current Strategy
Operations and Maintenance (Roads)	Inspections of roads are completed at or above and beyond the Ontario Minimum Maintenance Standards (MMS) under O. Reg. 239/02. Winter road maintenance services are delivered in accordance with Ontario's MMS, with performance measured based on compliance with legislated response times and roadway condition requirements by road classification. Sidewalk inspection and small spot repairs are completed as per MMS.
Operations and Maintenance (Bridges)	Bridges, retaining walls and structural culverts (more than 3m span) are inspected every 2 years and 10-year capital maintenance is based on recommendations taken from the OSIM report.
Renewal and Rehabilitation (Roads)	Minor and major capital activities are localized resurfacing, lane section repairs and full depth reclamation and base repair Crack sealing is planned to be applied on a 3-year cycle for all roads with a PQI rating of 70 or higher. This program is currently being developed by an internal working group. Sidewalk grinding and panel raising is completed as needed to address uplifts and misalignment. Spot repairs, single panel and partial segment replacement occur as well.
Renewal and Rehabilitation (Bridges)	Minor capital repairs include deck resurfacing, crack sealing and waterproofing and major repairs include structural repairs and deck replacements occur as recommended by the OSIM reports.

Growth Related (Roads)	The Official Plan, Active Transportation Plan and Transportation Master Plan establish growth and network expansion targets. Adjustments to these master plans and planning strategies may be made due to capacity requirements which are often based on traffic counts. The City must also react to changes to MTO infrastructure requirements such as changes to design standards or structural load requirements.

G.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should allocate towards funding rehabilitation and replacement needs. The following figure identifies capital requirements over the next 50 years. This projection timeline is used as it ensures that most assets have gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $8.3 million. For clarity of the Roads PLOS, approximately $5 million annually should be invested into road resurfacing.

Figure 58: Transportation Network Capital Forecast



G.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the Transportation Network asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limits the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 62: Risk and Criticality Summary

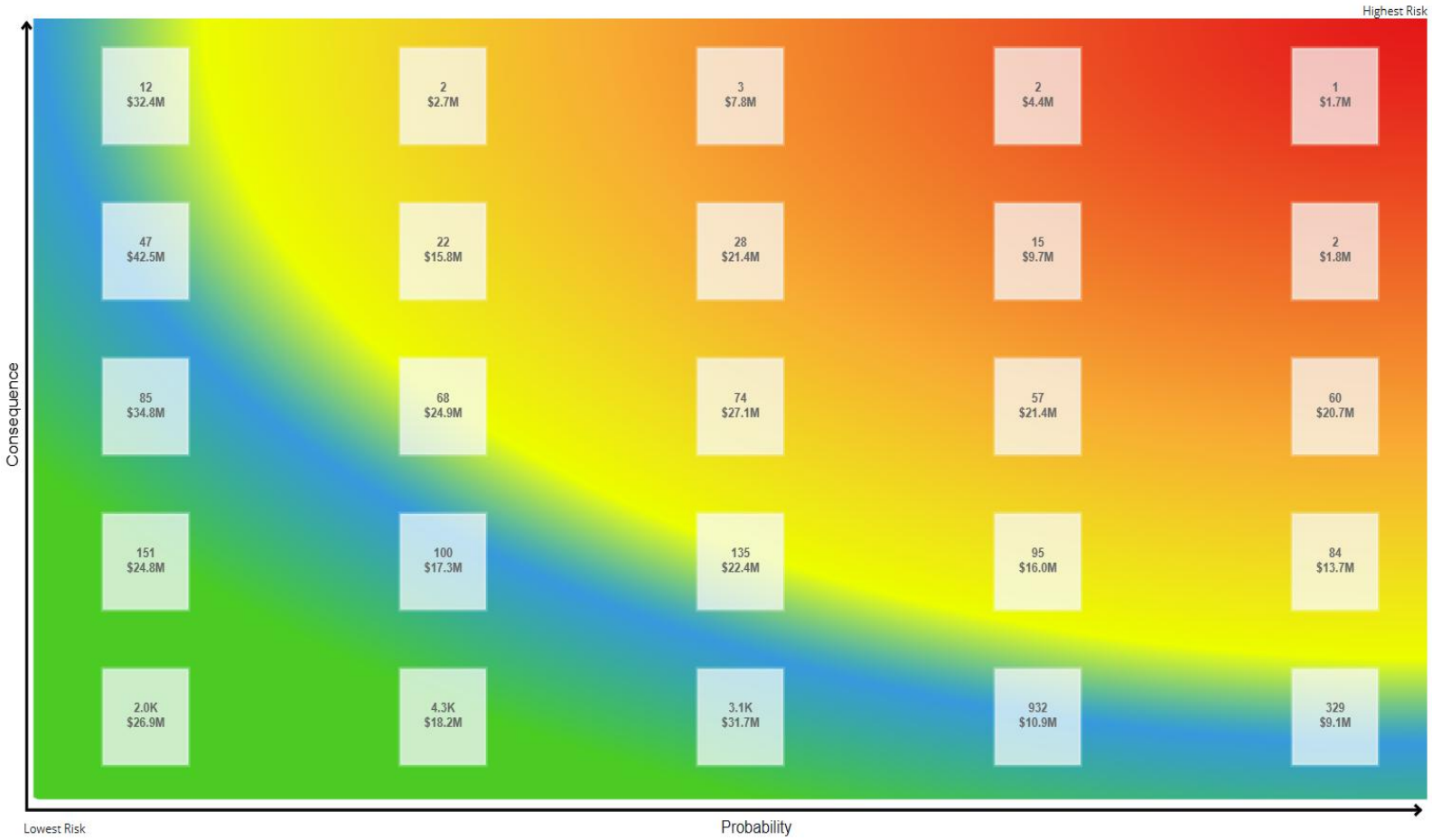
1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
10,522 Assets	618 Assets	138 Assets	313 Assets	86 Assets
40,677.61 unit(s), km, m2, m	13,556.28 unit(s), km, m2, m	1,172.07 unit(s), km, m2	94.27 unit(s), km	33.30 unit(s), km
$169,505,147.92	$106,730,105.87	$40,620,773.63	$95,311,448.23	$47,765,817.76

Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another tool to illustrate the critical asset rating system and which assets (by quantity) are included in each part of the matrix.

Figure 59: Transportation Network Risk Matrix Heatmap



G.9 Recommendations

Asset Data

- Complete the risk profile review for all transportation assets. Bridge and culvert risk profiles are accurate, but the road and traffic systems are based on historical profiling and should be updated and reevaluated with the next AMP.
- Continue to ensure that all transportation assets in GIS are reflected correctly in the asset management software. Explore the option of an API to link GIS and Citywide data.
- Link the Burnside Mobile road inspection app with Citywide. The data transfer will help build the asset operational cost data and help assess how much is spent annually on MMS reactive maintenance.

Condition and AI Considerations

- Investigate piloting AI vehicle mounted, smartphone-based technology on City route patrol vehicles (ex. CityROVER AI.). Other municipalities across the province have piloted this, and the results show efficiencies in tracking and logging deficiencies like potholes and cracks. This would also ensure data integrity to support insurance claims against the City.
- Continue to update the asset management software with OSIM and road assessment report condition data.
- Complete a comprehensive inventory and condition review of the streetlight and pole assets in the City in coordination with Festival Hydro.

Lifecycle Management Strategies

- Use the approximate $2 million unallocated proceeds from property sales in 2024 towards road network replacement and rehabilitation
- Continue to have the internal working group develop the 3-year crack sealing program based on the 2025 road assessment report. Once the road assessment report is finalized, determine 10-year capital costs for crack sealing work and update this data in the next AMP.
- Review standard inspection and snow routes, beats, staffing and equipment utilization to maximize operational efficiency.
- Explore using GPS data to optimize routing for road and sidewalk snow removal. Sidewalk snow removal is a consistent resident complaint. Reviewing the process may increase efficiency without adding costs to the tax base to expand staff and equipment.

Levels of Service

- In spring or summer 2026, conduct an internal review of winter maintenance practices to assess operational performance, identify areas for optimization

within existing resources, and determine whether additional staffing or equipment may be required to meet the City's road network and winter maintenance service objectives.

- Prioritize renewal projects based on newly proposed levels of service. Consider focusing on arterial and collector roads as a priority since they are the most used road assets.
- Continue to incorporate pedestrian, cyclist, and accessibility considerations into capital projects.
- Continue to incorporate underground utility coordination (water, wastewater, etc.) into road reconstruction planning to minimize repeat disruptions and cost inefficiencies.

Appendix H: Wastewater Network

H.1 Introduction

The Wastewater Network ensures the provision of safe and compliant collection and treatment of wastewater and includes the single highest valued asset(s) in the City's asset portfolio, the Water Pollution Control Plant.

The City's wastewater assets encompass a range of components that enable the functionality of the network. This asset category has several segments including:

- Sewer mains
- Maintenance Holes
- Pumping Stations
- Wastewater Fleet and Equipment
- Water Pollution Control Plant (WPCP)

Figure 60: Wastewater Network Replacement Cost

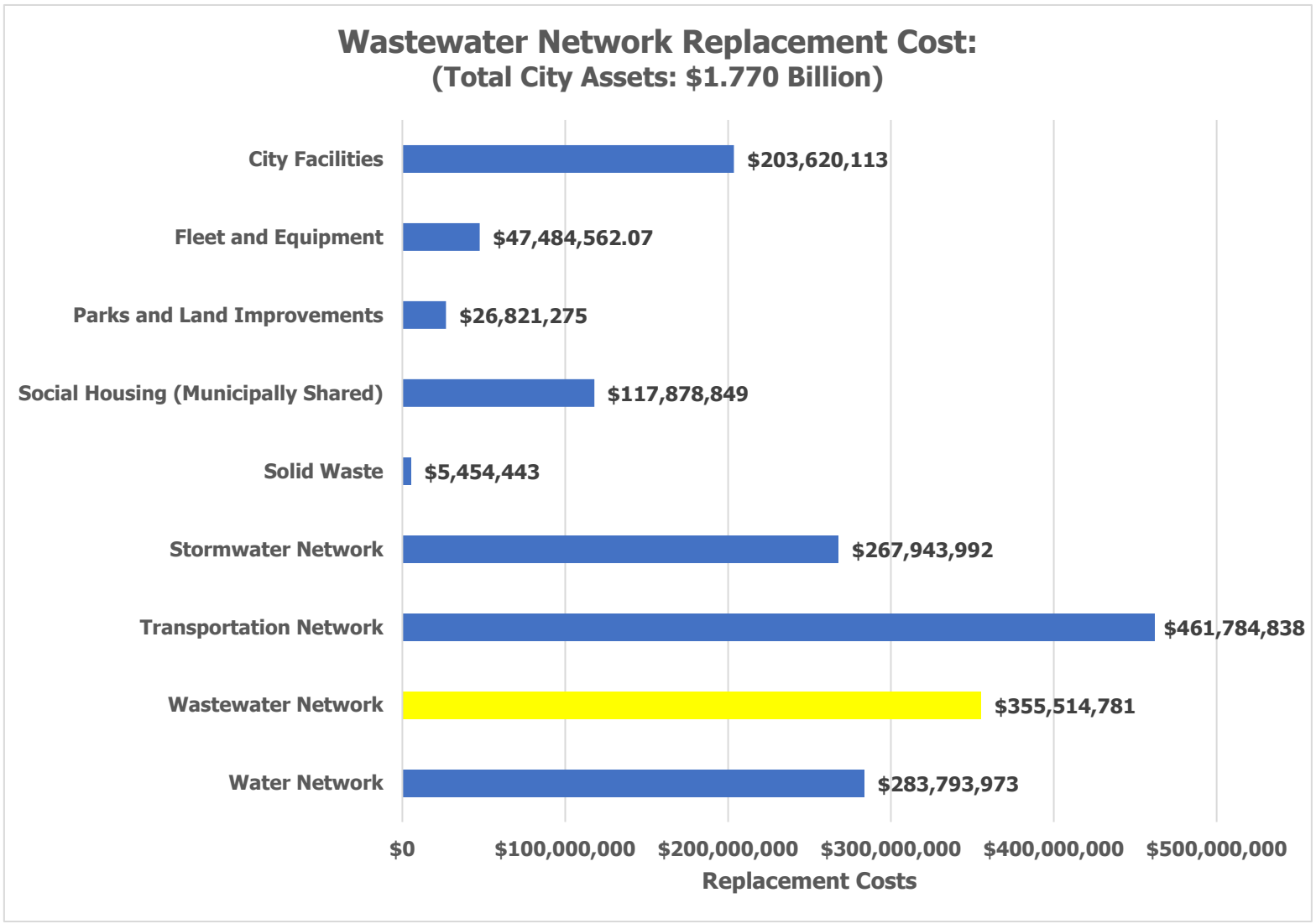
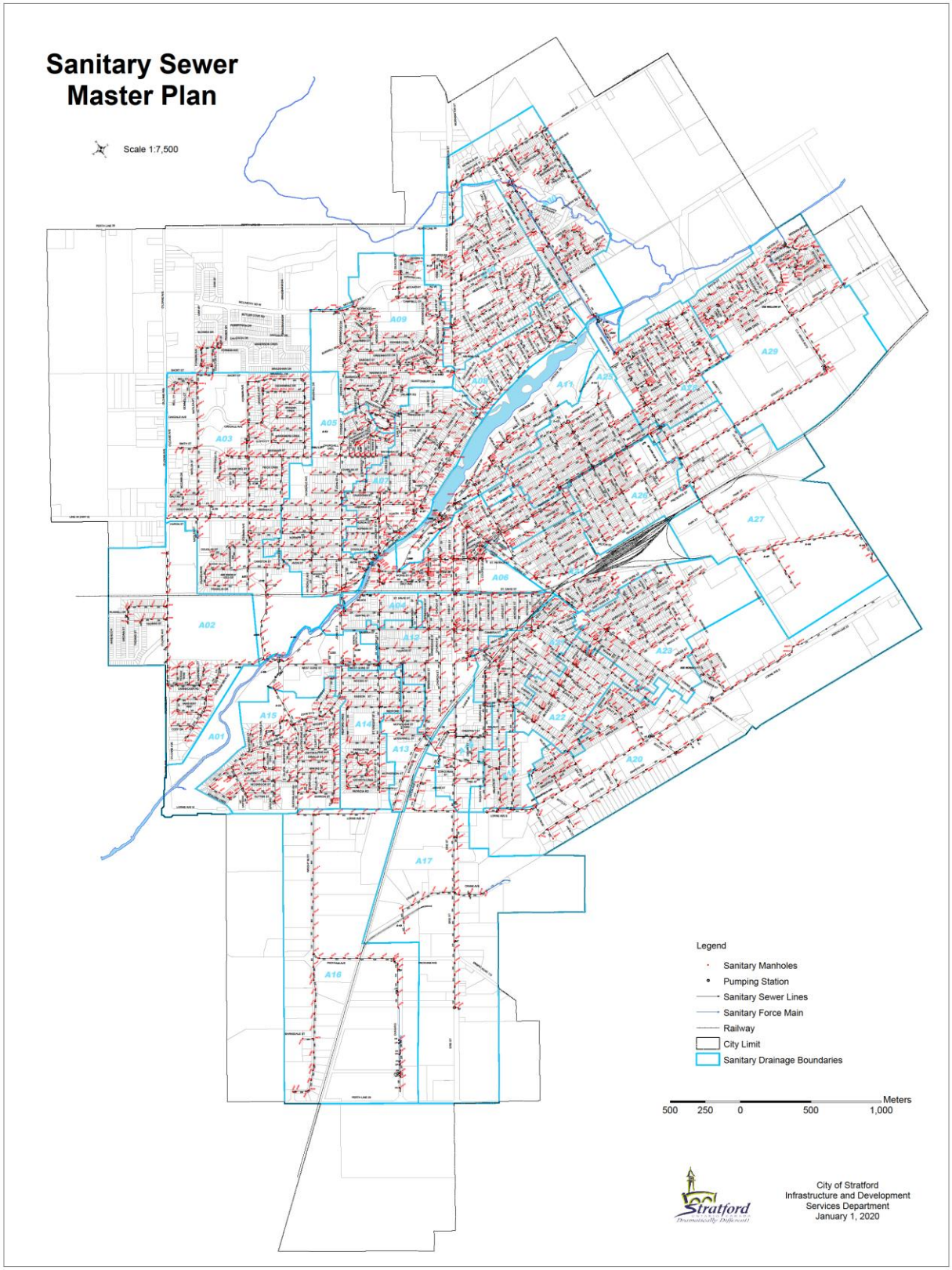


Figure 61: Wastewater Network Master Map



H.2 Asset Inventory & Replacement Cost

The table and pie chart below includes the segment list and total replacement cost of each asset segment in the City's Wastewater Network inventory.

The WPCP is owned by the City and currently operated by the Ontario Clean Water Agency (OCWA). As a site, it is the largest City asset in terms of replacement value. In the asset management software however, it is categorized into the different individual buildings that exist within the property. In a future AMP, the WPCP may be broken out into its own asset category based on its size and scale.

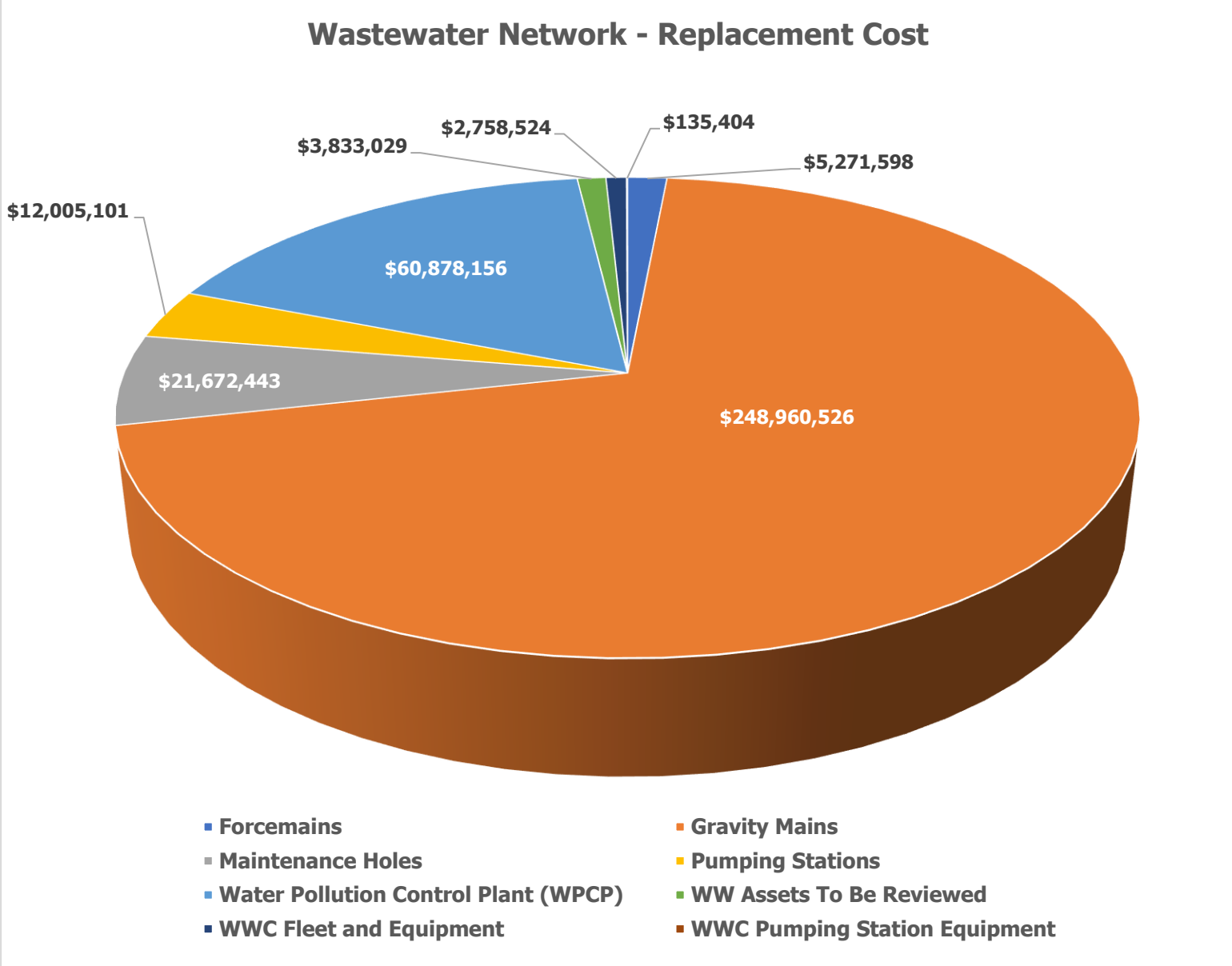
Table 63: Wastewater Network Inventory and Replacement Costs

Asset Segment	Total Replacement Cost
Force Mains	$5,271,598
Gravity Mains	$248,960,526
Maintenance Holes	$21,672,443
Pumping Stations	$12,005,101
Water Pollution Control Plant (WPCP)	$60,878,156
WW Assets To Be Reviewed[7]	$3,833,029
WWC Fleet and Equipment	$2,758,524
WWC Pumping Station Equipment[8]	$135,404
Total	**$355,514,781**

[7] These are assets that are wastewater capital but need to be reviewed and categorized

[8] This inventory count is undervalued as WWC pumping station equipment inventory review is currently being completed and will be updated in a subsequent AMP

Figure 62: Wastewater Network Replacement Costs by Segment



H.3 Estimated Useful Life (EUL) & Average Age

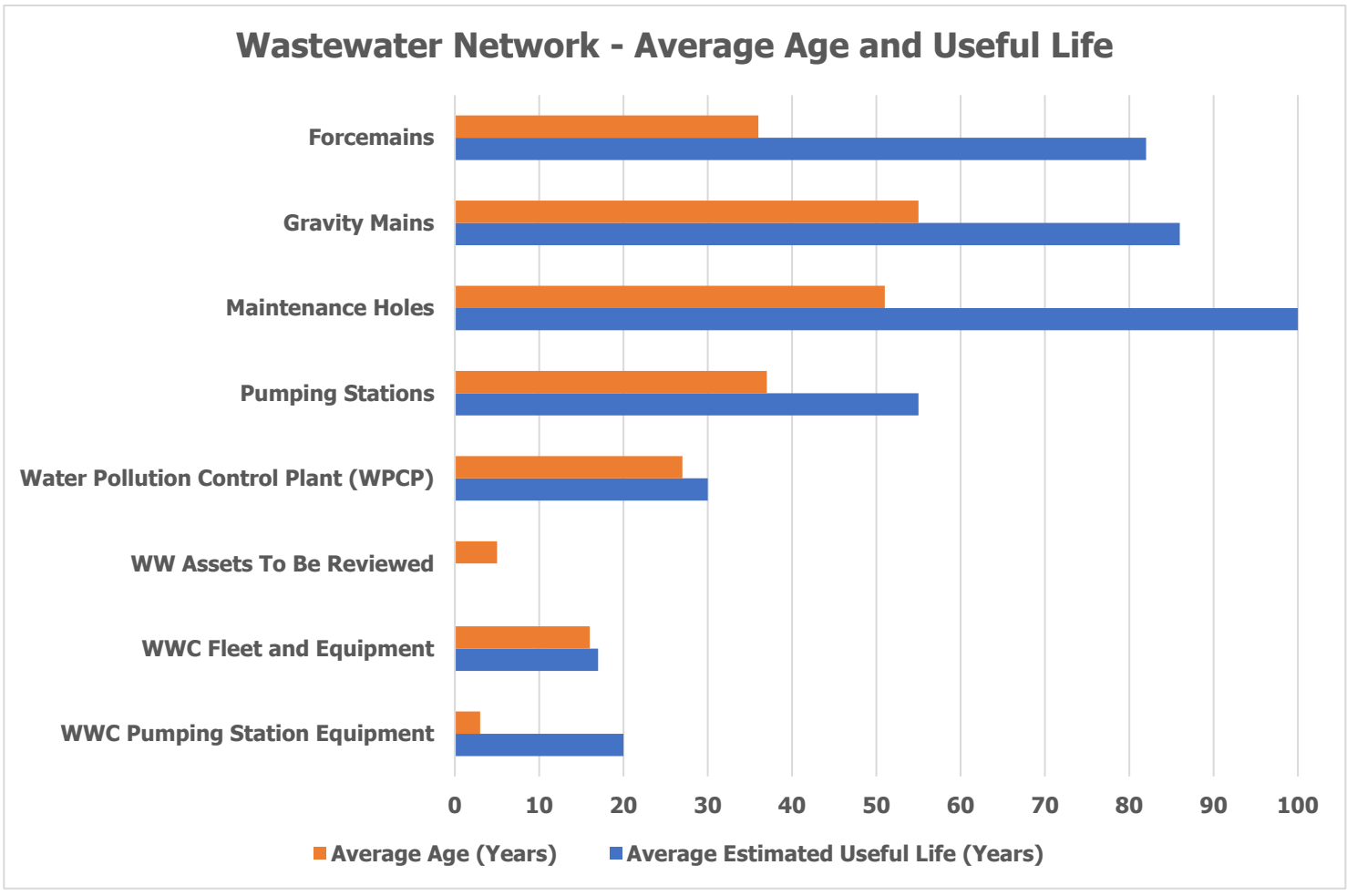
The Estimated Useful Life for Wastewater Network assets have been assigned according to a combination of established industry standards and professional staff judgment. Please note that the EULs for this category are under review in 2026 with the TCA policy update. The average age of each asset is based on the number of years each asset has been in-service. Finally, the average service life remaining represents the difference between the estimated useful life and the average age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Table 64: Wastewater Network Averages

Asset Segment	Average Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Force Mains	82	36	46
Gravity Mains	86	55	31
Maintenance Holes	100	51	49
Pumping Stations	55	37	18
Water Pollution Control Plant (WPCP)	30	27	3
WW Assets To Be Reviewed	TBD	5	TBD
WWC Fleet and Equipment	17	16	1
WWC Pumping Station Equipment	20	3	17

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies may be required. The figure below displays average asset age alongside the estimated useful life for each asset segment.

Figure 63: Wastewater Network Average Age and Useful Life



H.4 Asset Condition

The following section and table present the condition breakdown for each asset segment and describe the City's approach to assessing asset condition. Where feasible, the City applies industry-standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

Table 65: Wastewater Network Asset Condition Strategy

Asset Segment	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
Force Mains	Condition assessments by staff and consultants	As required as per the CLI-ECA	TBD
Gravity Mains	CCTV is the preferred approach. Also use Sewer Audio Inspection Technology	As required as per the CLI-ECA	Ongoing
Maintenance Holes	Condition assessments by staff and consultants	As required as per the CLI-ECA	Ongoing
Pumping Stations	Condition assessments by staff and consultants	Every 5-7 Years	2026 (BCAs)
Water Pollution Control Plant (WPCP)	Condition assessments by OCWA (contractors) and consultants	Every 5-7 Years	Ongoing
WW Assets To Be Reviewed	N/A	N/A	N/A
WWC Fleet and Equipment	Visual condition assessments to be done by staff	Every 1-3 Years	TBD
WWC Pumping Station Equipment	Visual condition assessments to be done by staff	Every 1-3 Years	2026

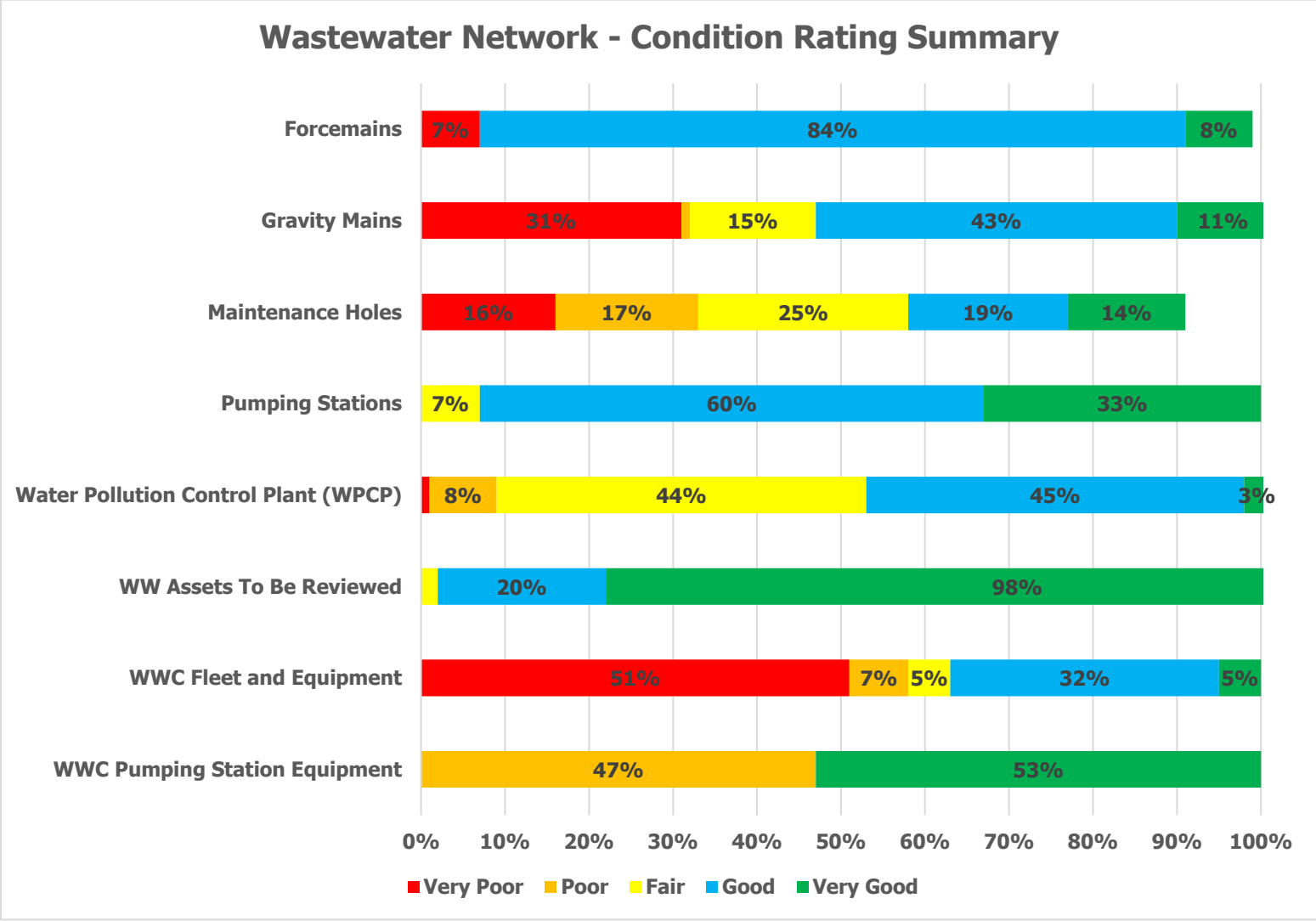
In 2023, the City received its Stormwater Consolidated Linear Infrastructure – Environmental Compliance Approval (CLI-ECA), which is the driver of the Wastewater Network maintenance requirements in the City including condition assessment. More details of the CLI-ECA will be covered in the Lifecycle Management Strategy section.

The percentage of wastewater assets that are in "fair" or better condition is 84% which is a slight increase from the last AMP which showed 74% in "fair" or better condition. This example, although minor, highlights the importance of scheduled condition assessments because proper data will often reflect in less of an infrastructure backlog which improves financing strategies. Wastewater along with the other linear

infrastructure asset categories, are the ones with the biggest condition data gaps. Internal condition scoring was used based on available metrics in the absence of CCTV assessments which is the only true way to rating stormwater gravity mains.

The full condition data can be found on the following figure.

Figure 64: Wastewater Network Condition Rating Summary



H.5 Levels of Service

The following tables identify the City's current and proposed levels of service for the Wastewater Network assets. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17 (these are identified by an asterisk *), as well as any additional metrics developed by staff.

Community Levels of Service

The following table outlines current qualitative descriptions that determine the community levels of service provided by the Wastewater Network.

Table 66: Wastewater Network Community Levels of Service

Service Attribute	Community Levels of Service	Related Assets
Scope*	The City maintains a wastewater network to support reliable, safe, cost effective and efficient collection, treatment, and discharge of wastewater within the community to the receiving body of water (Avon River). The extent of the City's wastewater network, including the locations of the wastewater vertical assets, is illustrated in the introduction of this appendix.	All
Reliability*	Combined sewers are when wastewater and stormwater gravity sewers connect to one another. This is an old design standard that is no longer a practice due to the negative effects on the stormwater network. The City does not have combined sewers in the wastewater collection system.	Sewer mains
Reliability*	Stormwater can enter the municipal wastewater system through improperly connected roof drains, damaged or deteriorated maintenance hole lids, frame, and chimneys, and pick holes in depressed maintenance holes. Groundwater can enter the system through deficiencies in the underground pipes such as cracks, breaks, root intrusion, and misaligned pipes taking up available capacity of the collection and treatment infrastructure.	Sewer mains

Reliability*	The wastewater system is designed to be resilient against water inflow and infiltration. Maintenance holes are typically installed to be at grade and not in depressed areas. Repairs to maintenance holes are completed when issues are identified and the necessary resources are available. Relining sewer mains to repair cracks, breaks, and misaligned pipes can reduce the quantity of groundwater entering the wastewater system through these pipe defects. The wastewater system is designed with capacity to manage peak flows significantly higher than typical daily flows. If a pumping station or the WPCP is overwhelmed with higher-than-normal flows or bypasses, overflow procedures could be used to manage the flow overwhelming the infrastructure.	All
Quality*	The City inspects and maintains the wastewater system at a condition level that is satisfactory to operate as designed.	All

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided by the Wastewater Network. Some measures are identified but the required data is not available for 2025 and as a result, they will be calculated in a future AMP revision.

Table 67: Wastewater Network Technical Levels of Service

Technical Metric(s)				Proposed LOS Justification and Notes
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	
Accessibility and Reliability				
Percentage of properties connected to the municipal wastewater system *	95%	Maintain Current Performance	TBD	As the City grows and currently, there are properties, formerly located in rural municipalities, that are not connected, and there are others that also must adhere to frontage agreements. This LOS is dependent on development and location.
Volume of annual overflows caused by plant flow rate exceedances	1,000,323 m3 (2024)	Improved Performance (decreasing value)	$11,881,900	With capital programs for sewer relining and sewer main replacement, this should result in reduced I&I which may reduce overflow volumes/improve the LOS.
Number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system *	0	Maintain Current Performance	N/A	The goal is to maintain 0 effluent violations annually.
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	The City does not have combined sewers.

Number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system *	0.007%	Improved Performance (decreasing value)	$100,000 for 2026 - 2027	Investment in the SL-Rat program in 2026 and 2027 will identify problem areas in the system which will be used to identify those that can be remediated before a backup occurs.
Sustainability				
Percentage of total sewer main length inspected per year using in-pipe technologies or audible inspections	4% (6,858m of Acoustic Inspections - 2024) - 2025 numbers are being finalized	Improved Performance (increasing value)	Same as above	Same as above.
Number of maintenance holes inspected annually	46 (2024)	Improved Performance (increasing value)	TBD	Currently reviewing staff inspections and use of inspectors during winter season or contracted services.
Percentage of backflow prevention valve inspections completed on schedule	100%	Maintain Current Performance	N/A	These are completed as per the CLI-ECA.
Percentage of generator inspections completed monthly	100%	Maintain Current Performance	N/A	These are completed as per the CLI-ECA.

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for City Wastewater Network assets.

Risks of Reducing Current Service Levels

- Potential for increased basement flooding for property owners
- Higher treatment costs due to increased inflow and infiltration to the sewers
- Increased environmental impacts due to inefficient infrastructure can have adverse environmental impacts such as increased emissions from older assets or sewage reaching the environment through leaks in pipes
- Increased risk of not meeting regulations
- Reputational risks to the City
- Inability to keep up with growth or to meet capacity needs
- Increased risk of higher operational costs to keep assets operational as conditions decrease

Risks of Maintaining Current Levels of Service

- Limited ability to meet evolving regulatory, effluent, or environmental standards, creating long-term compliance exposure
- Persistent operational inefficiencies, including energy-intensive processes or aging mechanical systems
- Increased likelihood of minor service interruptions, such as localized blockages or backups, even though overall service levels remain unchanged
- Missed opportunities to reduce inflow and infiltration, resulting in avoidable strain on the system
- Reduced resilience during heavy rainfall or extreme weather events, limiting capacity to manage peak flows
- Stagnation in technology upgrades, such as monitoring, automation, or predictive maintenance systems, reducing optimization potential

Risks of Increasing Current Levels of Service

- Significant increases in capital and operating costs, including treatment plant upgrades, larger pipes, new pumping systems, and expanded monitoring
- Greater long-term lifecycle obligations, with enhanced infrastructure requiring more intensive maintenance and specialized repairs
- Increased staffing requirements, both for operations and technical support, potentially exceeding current capacity
- Higher expectations from regulators, residents, and Council, leading to service commitments that may be difficult to scale back
- Potential overbuilding relative to actual flow or population growth, creating underutilized or inefficient investments

- Potential inequities across different catchment areas, where enhancements may create perceived gaps in service between neighbourhoods

Different service level approaches offer distinct benefits for wastewater assets. Reducing service levels can ease short-term financial pressures but may increase the risk of service disruptions or compliance issues. Maintaining current service levels supports reliable operation and environmental protection while managing asset condition and risk. Increasing service levels can improve system performance, reduce failure risk, and enhance environmental outcomes through timely reinvestment.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally target maintaining current performance across most of the Wastewater Network metrics, reflecting that the category assets are operating at satisfactory and sustainable levels.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned initiatives. Improving existing condition, and reliability metrics is realistic given the City's strong replacement practices, adequate staffing and environmental compliance, and the absence of unplanned repairs or major equipment replacements.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

The municipality's ability to afford the proposed levels of service is consistent with current financial planning and operational practices. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity.

H.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its Wastewater Network assets to maintain the assets in a state of good repair and provide the appropriate levels of service. The different lifecycle activities are shown below in the following table.

Table 68: Lifecycle Management Strategies

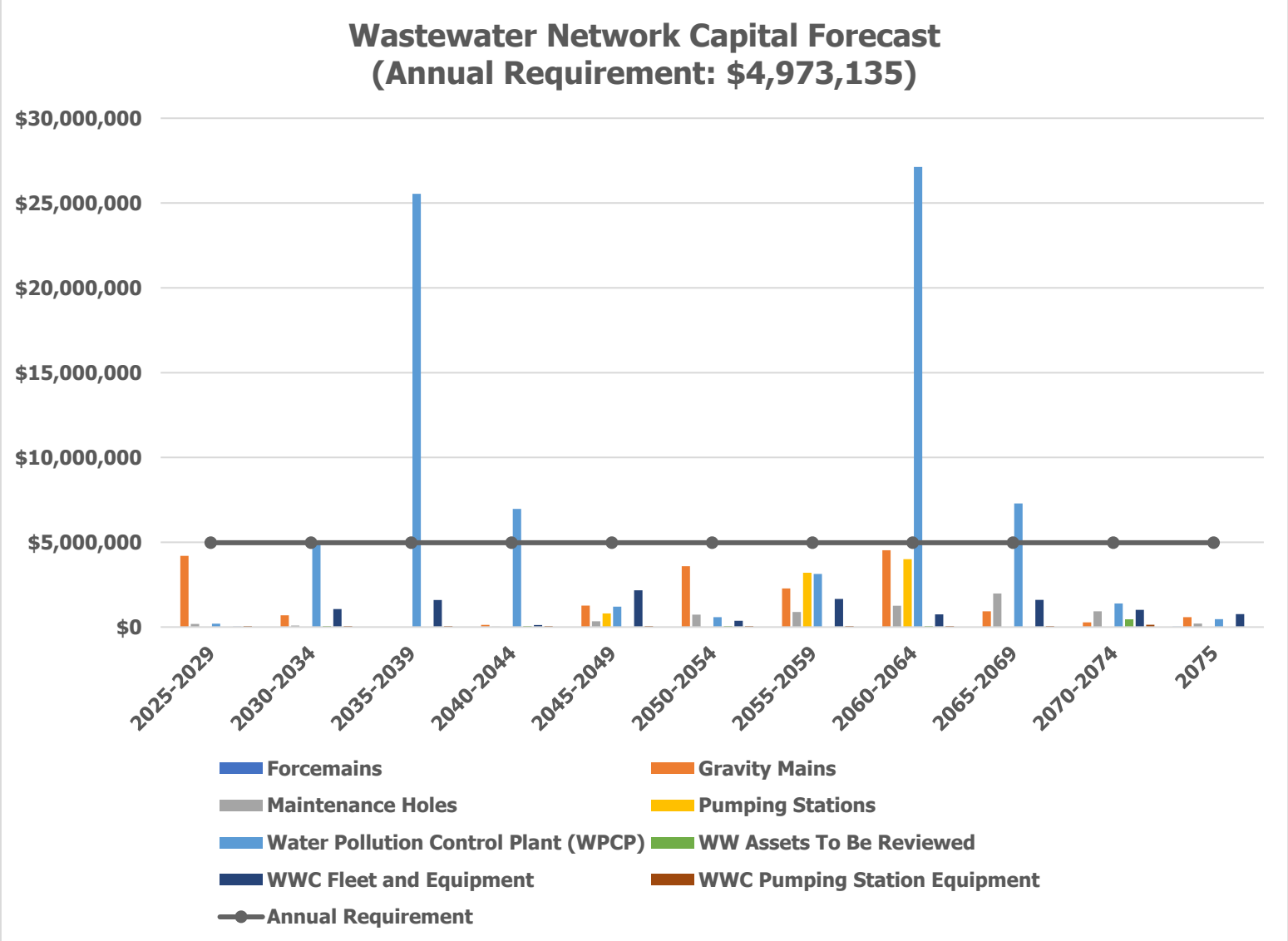
Activity Type	Description of Current Strategy
Operations and Maintenance	Sewer mains and Force Mains consist of acoustic and CCTV inspections, flushing, repairing breaks and leaks and the City has comprehensive maintenance plans in accordance with the CLI-ECA. Most maintenance and operations activities are completed by City staff with external contractors brought in as needed for activities that are beyond the capacity of internal resources.
Renewal and Rehabilitation	Minor capital activities include: short partial pipe segment replacements and maintenance hole leak repairs and major capital activities include trenchless re-lining as a feasible option when there is a high priority replacement that does not align with a reconstruction project End of life replacement is the primary strategy for equipment but renewal options are considered for more difficult to replace assets such as pumps, control systems and components with long lead times for replacements.
Growth Related	Adjustments are made due to capacity requirements or availability of alternative materials. Also, with changes to MECP requirements the City considers data taken from capacity studies and network modeling as needed.

H.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should allocate towards funding rehabilitation and replacement needs. The following figure identifies capital requirements over the next 50 years. This projection timeline is used as it ensures that most assets have gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $4.9 million.

Please note the backlog of gravity wastewater mains in this category. This is primarily due to a lack of accurate condition data which is historically CCTV inspections. This will be addressed with an inspection program to be developed in 2026 and a possible review into AI capabilities to improve managing the data backlog.

Figure 65: Wastewater Network Capital Forecast



H.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the Wastewater Network asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of assets within each range. See Appendix K for the criteria behind this risk rating matrix.

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limits the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 69: Risk and Criticality Summary

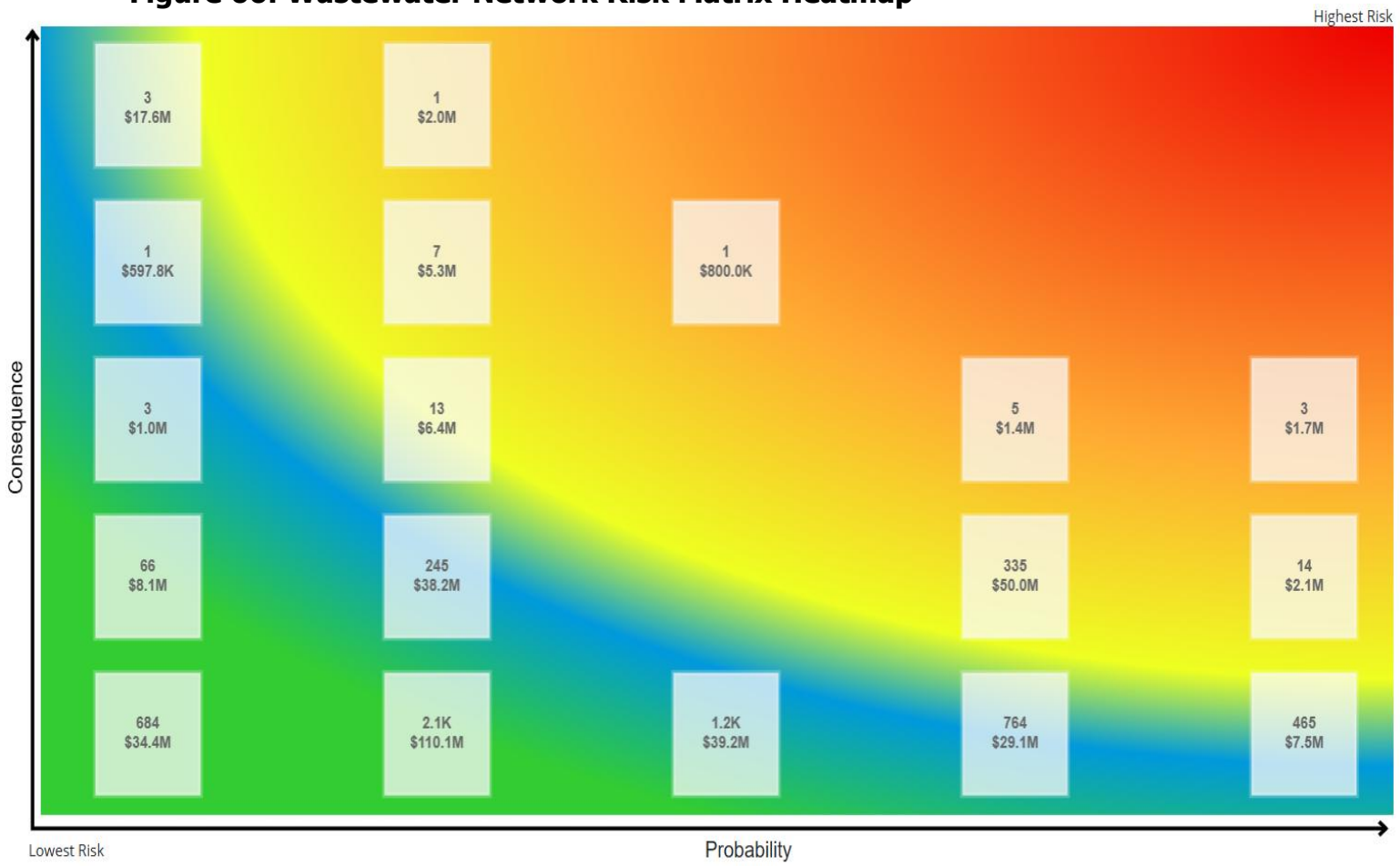
1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
4,910 Assets	660 Assets	340 Assets	34 Assets	5 Assets
115,417.32 unit(s), m	21,060.59 unit(s), m	32,890.73 m, unit(s)	3,624.85 m, unit(s)	609.19 unit(s), m
$236,111,922.14	$54,241,751.90	$54,651,279.00	$8,274,829.50	$2,234,998.70

Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another tool to illustrate the critical asset rating system.

Figure 66: Wastewater Network Risk Matrix Heatmap



H.9 Recommendations

Asset Data

- There is a lack of data confidence in the available inventory. Ensure that data collection and refinement is prioritized to increase confidence and the accuracy of the data.
- Integrate current maintenance tracking done by e.Ris into the City's asset management software to improve data.
- Integrate SL-Rat inspection data with Citywide software.
- Explore separating out the WPCP as its own asset category within the AMP due to its size and complexity.

Condition Assessment Strategies and AI Considerations

- An emerging utilization is the use of AI for CCTV inspections. Conventional sanitary sewer inspections consist of physically inserting the camera into the sewer then requiring a staff member to review the video and for deficiencies, documentation and reporting. New AI technology allows for an automated review and report after the CCTV is completed. This has a significant reduction in staff time, which is the longest and most expensive part of the conventional process. Review costing options.
- Evaluate the City Construction Inspector off season capacity to complete maintenance hole inspections which is an existing large data gap.

Lifecycle Management Strategies

- Focus on inflow and infiltration (I&I) problem areas using Sanitary Master Plan data which will be available in 2026. Use the data to set up flow monitoring and smoke testing in specific sewer catchment areas rather than city wide I&I, which is not realistic nor feasible.
- Review existing wastewater subsidy programs to determine if cost sharing would encourage residential stormwater disconnects from sanitary lines.
- Ensure the stormwater network maintenance practices align with the Consolidated Linear Infrastructure ECA requirements.

Levels of Service

- Complete a full review of OCWA as the operating authority for the WPCP. The contract expires in 2028 and given the size and scale of the WPCP as an asset, compare costs and benefits between using OCWA and bringing this service in-house.
- Consider staffing levels and staff allocation within the department. A minor restructuring of staff dedicated to Environmental Services may lead to improved stormwater management and wastewater collection maintenance.

Appendix I: Water Network

I.1 Introduction

The Water Network ensures the provision of safe and compliant distribution and treatment of potable water and includes some of the highest valued assets in the City's asset portfolio.

The City's water assets encompass a range of components that enable the functionality of the network. This asset category has several segments including:

- Watermains
- Valves
- Wells and Pump Stations
- Water Fleet and Equipment
- Water Storage Facilities (Towers)

Figure 67: Water Network Replacement Cost

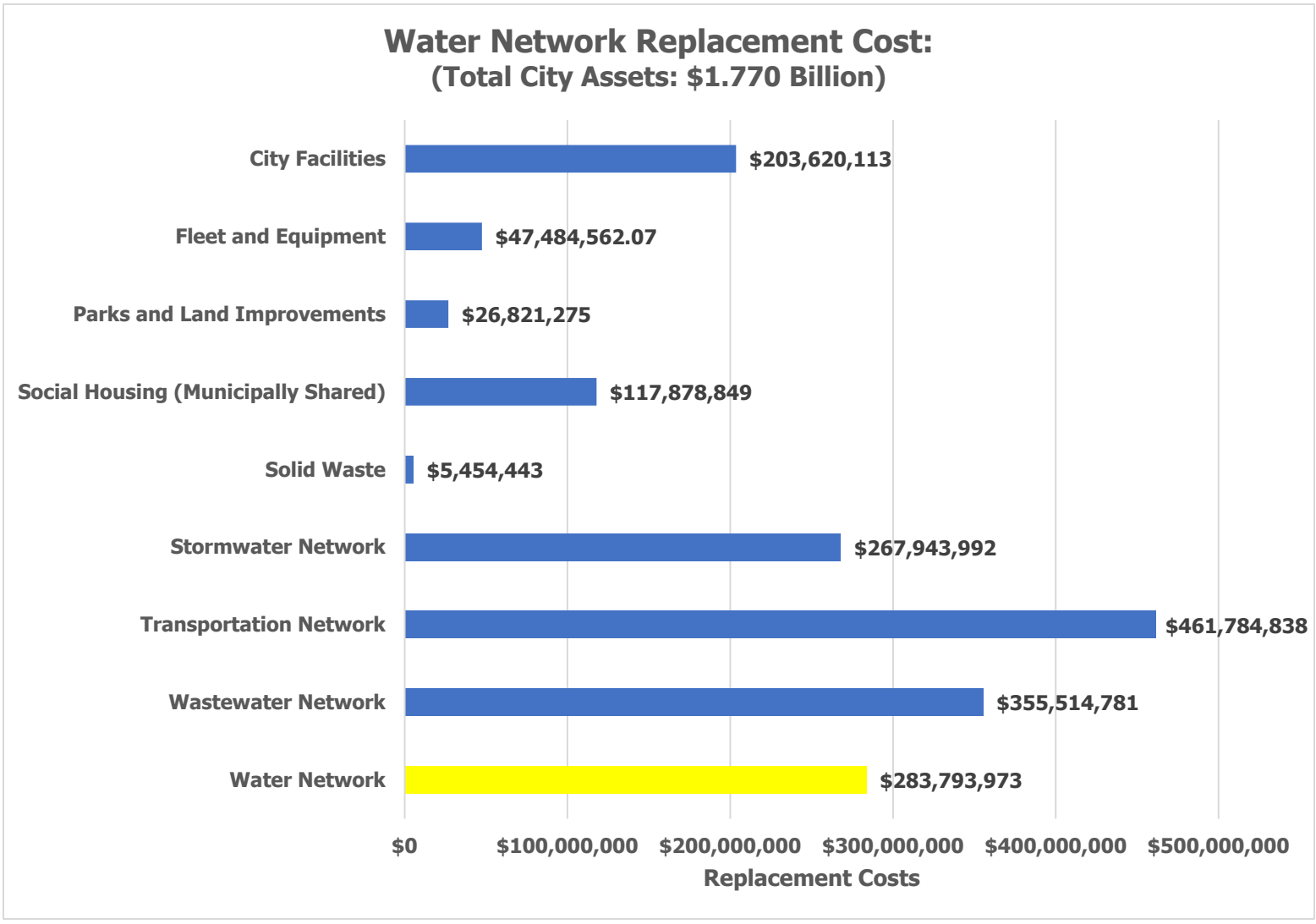
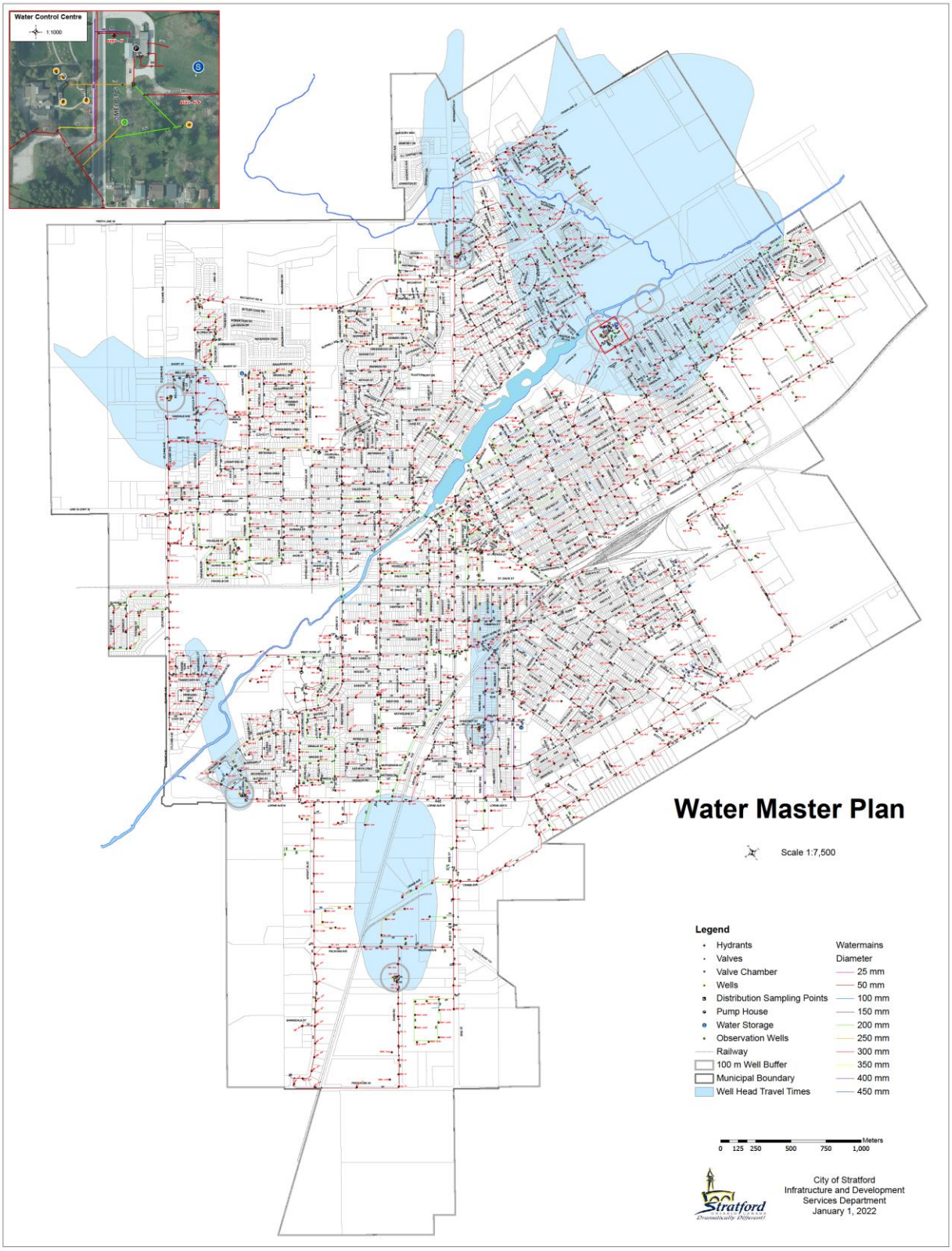


Figure 68: Water Network Master Map



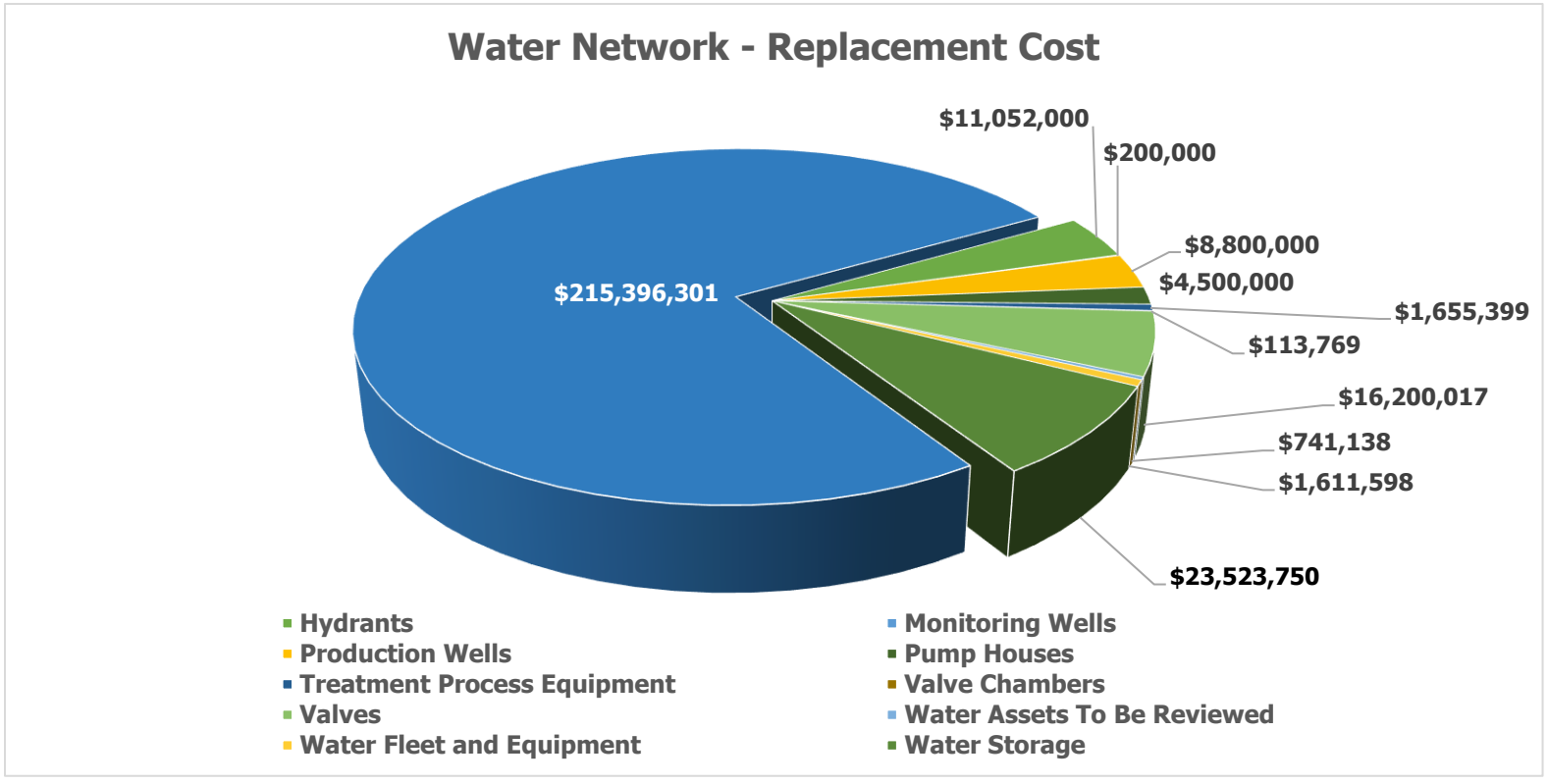
I.2 Asset Inventory & Replacement Cost

The table and pie chart below includes the segment list and total replacement cost of each asset segment in the City's Water Network inventory.

Table 70: Water Network Inventory and Replacement Costs

Asset Segment	Total Replacement Cost
Hydrants	$11,052,000
Monitoring Wells	$200,000
Production Wells	$8,800,000
Pump Houses	$4,500,000
Treatment Process Equipment	$1,655,399
Valve Chambers	$113,769
Valves	$16,200,017
Water Assets To Be Reviewed	$741,138
Water Fleet and Equipment	$1,611,598
Water Storage	$23,523,750
Watermains	$215,396,301
Total	**$283,793,973**

Figure 69: Water Network Replacement Costs by Segment



I.3 Estimated Useful Life (EUL) & Average Age

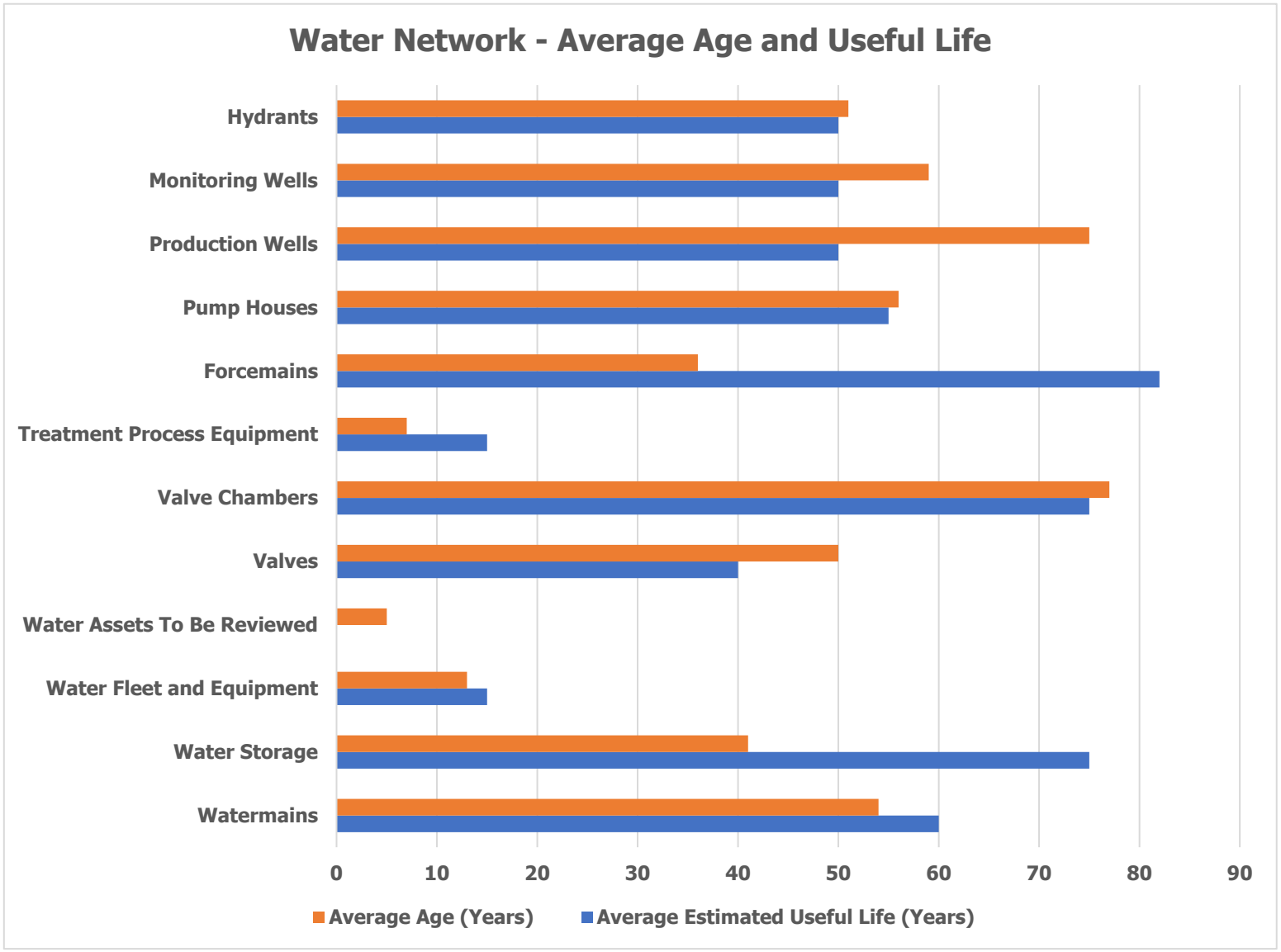
The Estimated Useful Life for Water Network assets have been assigned according to a combination of established industry standards and professional staff judgment. Please note that the EULs for this category are under review in 2026 with the TCA policy update. The average age of each asset is based on the number of years each asset has been in-service. The average service life remaining represents the difference between the estimated useful life and the average age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

Table 71: Water Network Averages

Asset Segment	Average Estimated Useful Life (Years)	Average Age (Years)	Average Service Life Remaining (Years)
Hydrants	50	51	-1
Monitoring Wells	50	59	-9
Production Wells	50	75	-25
Pump Houses	55	56	-1
Treatment Process Equipment	15	7	8
Valve Chambers	75	77	-2
Valves	40	50	-10
Water Assets To Be Reviewed	N/A	5	N/A
Water Fleet and Equipment	15	13	2
Water Storage	75	41	34
Watermains	60	54	6

The age of an asset gives an indication of how close it is to the end of its estimated useful life and what lifecycle management strategies may be required. The figure below displays average asset age alongside the estimated useful life for each asset segment.

Figure 70: Water Network Average Age and Useful Life



I.4 Asset Condition

The following sections and tables present the condition breakdown for each asset segment and describe the City's approach to assessing asset condition. Where feasible, the City applies industry-standard methodologies and sound engineering practices to evaluate asset condition. In cases where direct condition assessments are not available, age-based ratings are used, comparing the asset's age to its estimated useful life.

Table 72: Water Network Asset Condition Strategy

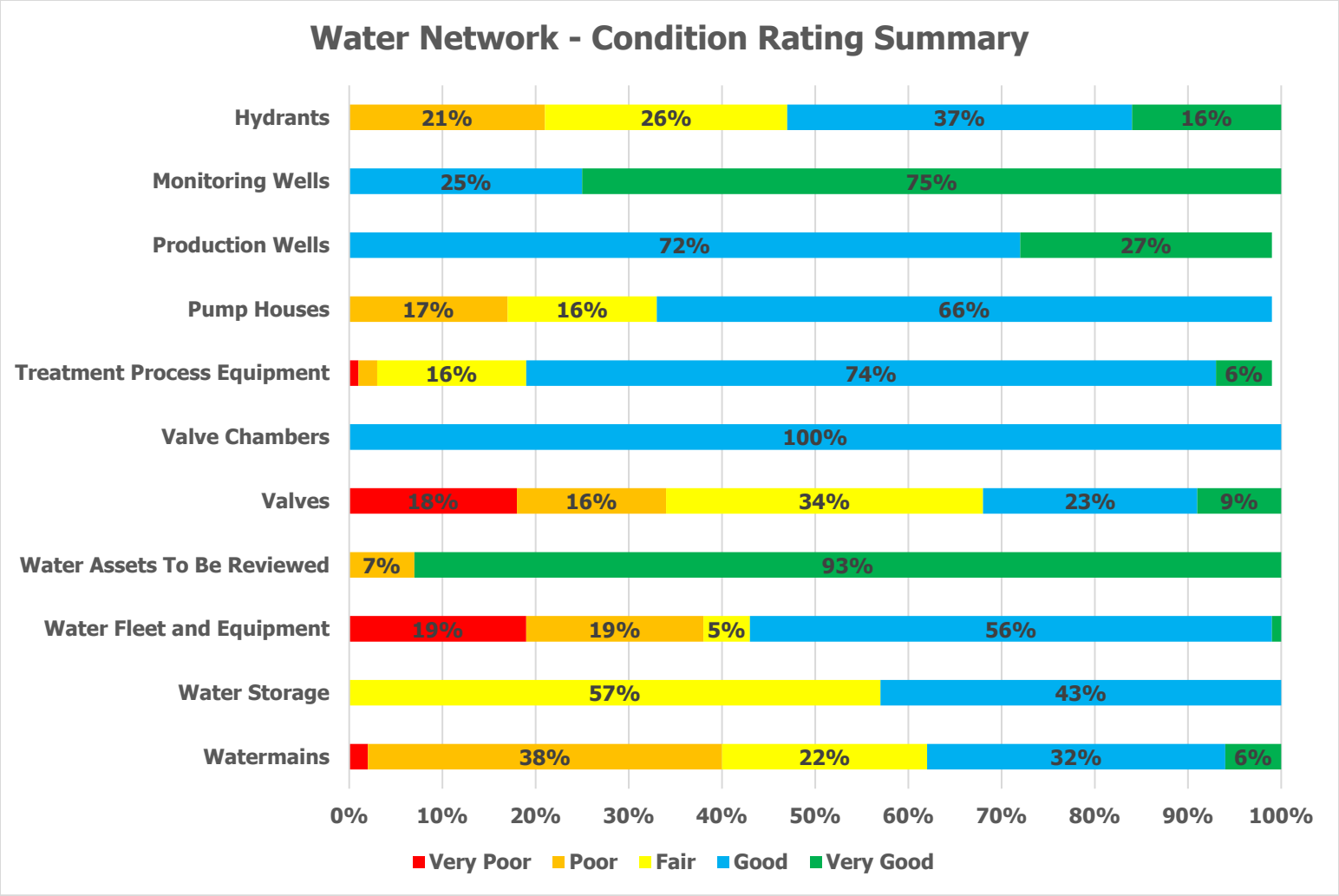
Asset Segment	Condition Data Collection Source	Frequency of Data Collection	Year of Last Assessment
Hydrants	Condition assessments by staff	Annually	2025
Monitoring Wells	Condition assessments by consultants	Every 5-7 Years	Ongoing
Production Wells	Condition assessments by consultants	Every 5-10 Years	Varies
Pump Houses	Condition assessments by consultants	Every 5-7 Years	2026 (BCAs)
Treatment Process Equipment	Condition assessments by staff	Every 1-3 Years	2025
Valve Chambers	Condition assessments by staff	TBD	TBD
Valves	Operational condition assessments done by staff – non-visual	Every 1-5 Years	Varies
Water Assets To Be Reviewed	N/A	N/A	N/A
Water Fleet and Equipment	Condition assessments by staff	Every 1-3 Years	2025
Water Storage	Condition assessments by consultants	Every 5-10 years	Varies
Watermains	Condition assessments by staff	TBD	TBD

The percentage of water assets that are in "fair" or better condition is 66% which is a significant increase from the last AMP which showed 39% in "fair" or better condition. This example highlights the importance of scheduled condition assessments because proper data may translate into a reduced infrastructure backlog.

A condition scoring matrix was created based on watermain break history, pipe material, pipe size and location (soil condition). This data although a desktop exercise, is far more accurate than aged-based condition scoring for an asset that is historically difficult to assess because it is underground, pressurized infrastructure.

The full condition data can be found in the image on the following figure.

Figure 71: Water Network Condition Rating Summary



I.5 Levels of Service

The following tables identify the City's current and proposed levels of service for the Water Network assets. These metrics include any technical and community levels of service metrics that are required to comply with Ontario Regulation 588/17 (these are identified by an asterisk *), as well as any additional metrics developed by staff.

Community Levels of Service

The following table outlines current qualitative descriptions that determine the community levels of service provided by the Water Network.

Table 71: Community Levels of Service – Water Network

Service Attribute	Community Levels of Service	Related Assets
Scope*	The City maintains a drinking water network to ensure reliable, safe, and efficient distribution of potable water for the community. The water network services provided by the City include waster treatment and distribution, water meter installation, cross-connection and backflow prevention, service connections, fire hydrants, and repair of watermain breaks. The extent of the City's waster network, including the locations of the water vertical assets, is illustrated in the introduction section of this appendix.	All
Scope*	The extent of the area within 150m of a fire hydrant is illustrated in the water master map in the introduction section of this appendix.	Hydrants
Reliability*	Boil water advisories are triggered because of adverse water quality reports from routine water quality testing or localized spot testing after events that have the potential to allow contaminants to enter the system. Watermain breaks are one such type of event where this testing takes place. The City has a standard operating procedure for managing these events and the issuance of boil water advisories.	All
Reliability*	Watermain breaks result from various reasoning including soil conditions, weather, installation practices, and strikes during excavations. Extreme weather changes can cause the ground to swell and contract, placing excessive pressure on the watermain, causing the pipe to break. Also, as the water temperature starts to get colder in the fall, contraction of the pipes may cause pipe connections and joints to fail. If this happens, the water usually finds a path to the surface. Due to the watermain being under pressure, water will continue to flow until the break is repaired. Service interruptions can be caused by	Watermains

	routine municipal projects including watermain replacement, distribution system repairs or pipe breaks, service connection repairs or replacements, and maintenance of vertical infrastructure. When feasible, users are informed in advance of any interruption, including details regarding location, duration, and any actions required by the user with instructions. If the duration is prolonged, a temporary water service may be installed to minimize the impact on users.	
Quality	The City inspects and maintains the drinking water system at a condition level adequate to ensure it operates as designed.	All
Capacity	The City strives to align capacity of infrastructure to service demand.	All

Technical Levels of Service

The table on the following page outlines the quantitative metrics that determine the technical level of service provided by the Water Network. Some measures are identified but the required data is not available for 2025 and as a result, they will be calculated in a future AMP revision.

Table 73: Water Network Technical Levels of Service

Technical Metric(s)				Proposed LOS Justification and Notes
Technical Metric(s)	**Current LOS (2024)**	**Proposed LOS (2035)**	**Proposed LOS Cost (2025-2035)**	
Accessibility and Reliability				
Percentage of properties connected to the municipal water system *	95% (2024)	Maintain Current Performance	TBD	Currently, there are properties formerly located in rural areas that are not connected, and there are others that also must adhere to frontage agreements. This LOS is dependent on development and location.
Average daily water demand as a percentage of existing MECP Permit to Take Water allowable daily limit (32,000m3)	26.3% (2024)	Maintain Current Performance	N/A	Resident consumption habits and improved leak detection and leak repair programs continue to trend to water conservation which in turn, offsets the increased water usage from the City's moderate growth. More data will be available in 2026 to support this.
Number of Adverse Water Quality Incidents (AWQIs) in the past year *	1 (2024)	Improved Performance (decreasing value)	N/A	The goal for this metric is 0. Decreasing the number of AWQI's from 2024 will result in an increase in performance.
Percentage of properties where fire flow is available *	100%	Maintain Current Performance	N/A	This will only change if there is any land acquired that extends the City limits and creates distance from existing hydrants.

Number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system *	0	Maintain Current Performance	N/A	The goal for this metric is 0.
Number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system *	0.0017%	Maintain Current Performance	0	Mainbreaks are unpredictable and can happen for many reasons however, a City should always strive for no mainbreaks in a year even though it is highly unlikely.
Sustainability				
Percentage of dead-end hydrants flushed and monitored at the appropriate frequency	100%	Maintain Current Performance	N/A	This program was established in 2021 and remains operationally cost-effective.
Percentage of annual hydrant inspections completed	100%	Maintain Current Performance	N/A	Completed as per the Ontario Fire Code, included in the operational work plans and budgets.
Percentage of total watermain length (180km) inspected annually using leak detection technology	1% (2024)	Improved Performance (increasing value)	7%	The target is 7% for 2026. This will be achieved by reallocating some operational funding as equipment is already purchased.
Percentage of large valves (300mm and larger) inspected and operated annually	TBD	Improved Performance (increasing value)	N/A	The American Water and Wastewater Association (AWWA) standard and industry best practice is that this gets completed annually (operational cost).
Percentage of small valves (250mm and smaller) inspected and operated annually	TBD	Improved Performance (increasing value)	N/A	AWWA standard and industry best practice is that this gets completed bi-annually (operational cost).

Overall water system annual inspection rating from the Ministry of the Environment Conservation and Parks (MECP)	98.35% (2024)	Improved Performance (increasing value)	N/A	The target is 100% inspection ratings. Results are typically based on operational practices like sampling and water appurtenance connections.
Percentage of annual water loss in the system	13%	Improved Performance (decreasing value)	TBD	The Ontario benchmark is 12%. This may be achieved by a proper leak detection program.

Assessing Risks Associated with Levels of Service: O. Reg. 588/17 S.6(1) 2(i)

The summary below outlines the risks associated with the different level of service scenarios for City Water Network assets.

Risks of Reducing Current Service Levels

- Potential for increased watermain and service leaks which will lead to service disruptions
- Higher treatment costs and raw water treatment due to increased water loss
- Increased risk of not meeting provincial and federal regulations
- Reputational risks to the City
- Inability to keep up with growth or to meet capacity needs
- Increased risk of higher operational costs to keep assets operational as conditions decrease

Risks of Maintaining Current Levels of Service

- Limited ability to meet evolving drinking water quality, safety, and reporting requirements, creating long-term compliance risk
- Persistent operational inefficiencies, such as higher energy consumption for pumping or aging mechanical systems
- Increasing frequency of minor service interruptions, even if overall service levels appear stable
- Missed opportunities to reduce non-revenue water through proactive leak detection and system optimization
- Reduced resilience in extreme weather or drought conditions, limiting the system's capacity to adapt to changing demands
- Stagnation in monitoring and automation technologies, such as SCADA upgrades or smart metering, reducing system optimization potential

Risks of Increasing Current Levels of Service

- Significant increases in capital and operating costs, including system expansions, booster stations, larger mains, and treatment enhancements
- Greater long-term lifecycle obligations, as expanded or modernized infrastructure requires more intensive maintenance
- Increased staffing or certification needs, particularly for advanced treatment processes or distribution system monitoring
- Higher expectations from residents and regulatory bodies, creating service commitments that may be difficult to scale back
- Risk of overbuilding relative to actual consumption or growth, leading to underutilized assets or inefficient investments

Different service level approaches offer distinct benefits for water assets. Reducing service levels can provide short-term financial flexibility but may increase operational and regulatory risk. Maintaining current service levels supports reliable service delivery and regulatory compliance while managing asset risk. Increasing service levels can improve system reliability, water quality, and resilience, and may reduce long-term lifecycle costs through proactive investment.

How Proposed LOS Differ from Current Service Levels: O. Reg. 588/17 S.6(1) 2(ii)

The proposed levels of service generally maintain current performance across most of the water Network metrics, reflecting that the category assets are operating at satisfactory and sustainable levels. Any of the increases to service levels are minor target adjustments.

Are Proposed LOS Achievable?: O. Reg. 588/17 S.6(1) 2(iii)

Based on the City's current metric performance, the proposed levels of service are generally achievable based on the City's current performance, resource allocation, and planned initiatives. Improving existing condition, and reliability metrics is realistic given the City's strong replacement practices, adequate staffing and environmental compliance, and the absence of unplanned repairs or major equipment replacements.

The Affordability of the Proposed LOS: O. Reg. 588/17 S.6(1) 2(iv)

The municipality's ability to afford the proposed levels of service is consistent with current financial planning and operational practices. Most metrics aim to maintain existing performance, which minimizes new cost pressures and leverages the City's established maintenance and staffing capacity.

I.6 Lifecycle Management Strategy

The City performs the following lifecycle activities on its Water Network assets to maintain the assets in a state of good repair and provide the appropriate levels of service. The different lifecycle activities are shown below in the following table.

Table 74: Lifecycle Management Strategies

Activity Type	Description of Current Strategy
Operations and Maintenance	Watermains consist of flushing, valve exercising and air relief valve and chamber inspections. Fire hydrants require annual inspections, painting, lubrication and replacement of seals, gaskets and caps as needed. of seals, gaskets and caps as needed. Reservoirs, towers, and wells are inspected as prescribed by the province and internal standards. Pumps and treatment equipment are maintained as per manufacturers' recommendations. Most maintenance and operations activities are completed by City staff with external contractors brought in as needed for activities that are beyond the capacity of internal resources.
Renewal and Rehabilitation	Minor capital activities consist of valves replacements, short pipe segment replacements and repairs and service replacement and repairs. Major capital activities are trenchless re-lining is a feasible option when there is a high priority replacement that does not align with a reconstruction project Hydrant internal components are rebuilt to extend life as needed.
Growth Related	Adjustments are made due to capacity requirements or availability of alternative materials. Also, changes to MECP requirements Capacity studies and system modeling are used as required to better understand growth projections.

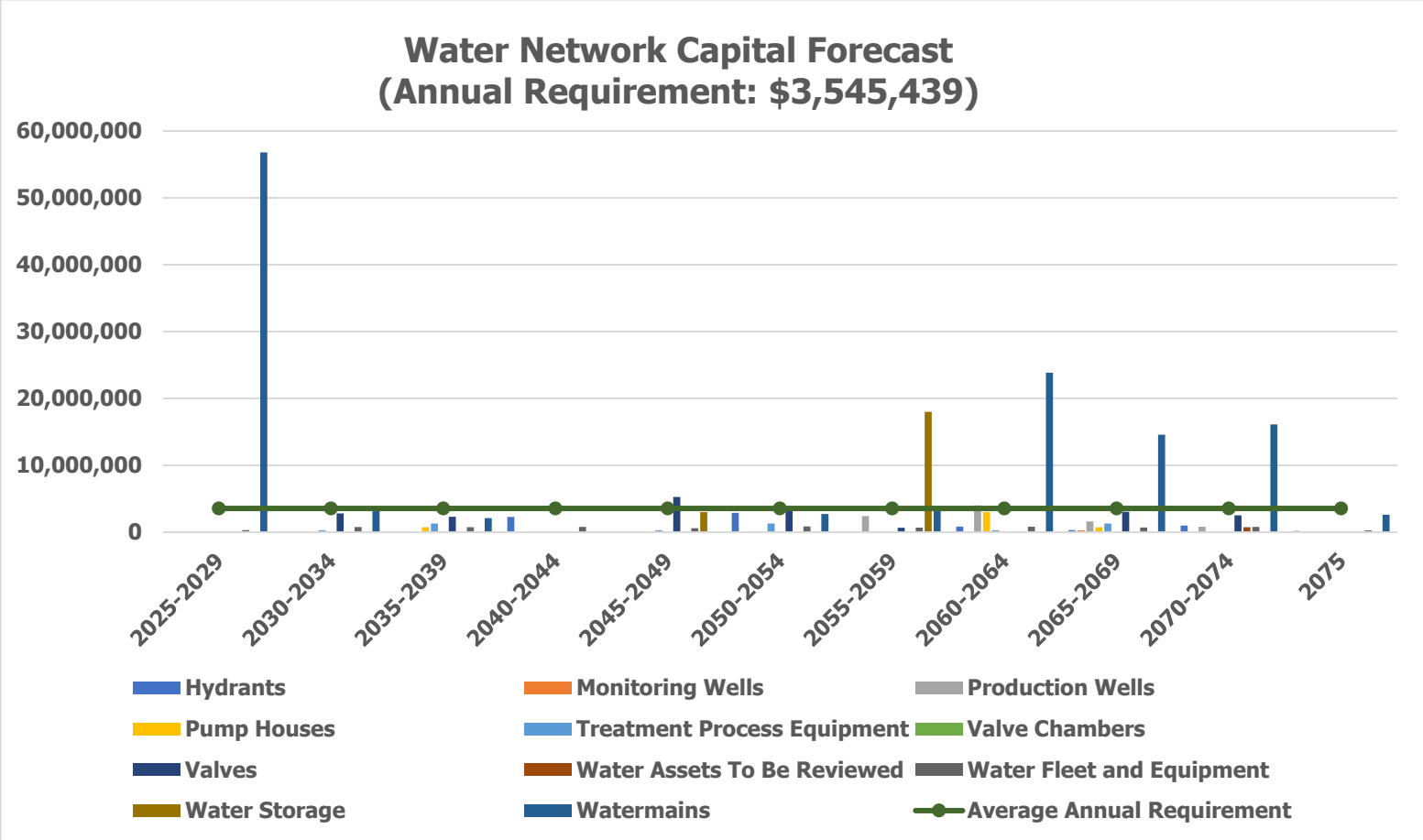
I.7 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the City should allocate towards funding rehabilitation and replacement needs. The following figure identifies capital requirements over the next 50 years. This projection timeline is used as it ensures that most assets have gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins, and the trend line represents the average capital requirements at $3.5 million.

Please note the lack of backlog of in this category. This is primarily due to mostly complete and accurate condition data. Each category has either been visually inspected in 2025 or condition assessments based on data-based metrics in place of physical inspections were used.

Hydrant replacement years are significant in the next 10. This is due to an EUL of 50 years which will be reviewed with the asset profiles in 2026. This will likely be changed to 75 years when the TCA policy is updated which in turn, will alter the cost requirements over time. This change will be reflected in a future AMP revision.

Figure 72: Water Network Capital Forecast



I.8 Risk and Criticality

The following risk matrix illustrates the relationship between the probability of failure and the consequence of failure for the assets within the Water Network asset category based on 2025 inventory data. The risk rating ranges include asset count, quantity, and replacement cost of assets within each range. See Appendix K for the criteria behind this risk rating matrix.

The City's current risk rating and profiling approach requires further refinement to better support asset prioritization. Differences in data quality and assessment methods across each asset category limits the ability to consistently compare risk and fully integrate it into capital decision-making. Improving risk definitions, scoring, and asset-level data in the next AMP update period will strengthen the City's ability to prioritize investments based on service impacts, public safety, and financial risk.

Table 75: Risk and Criticality Summary

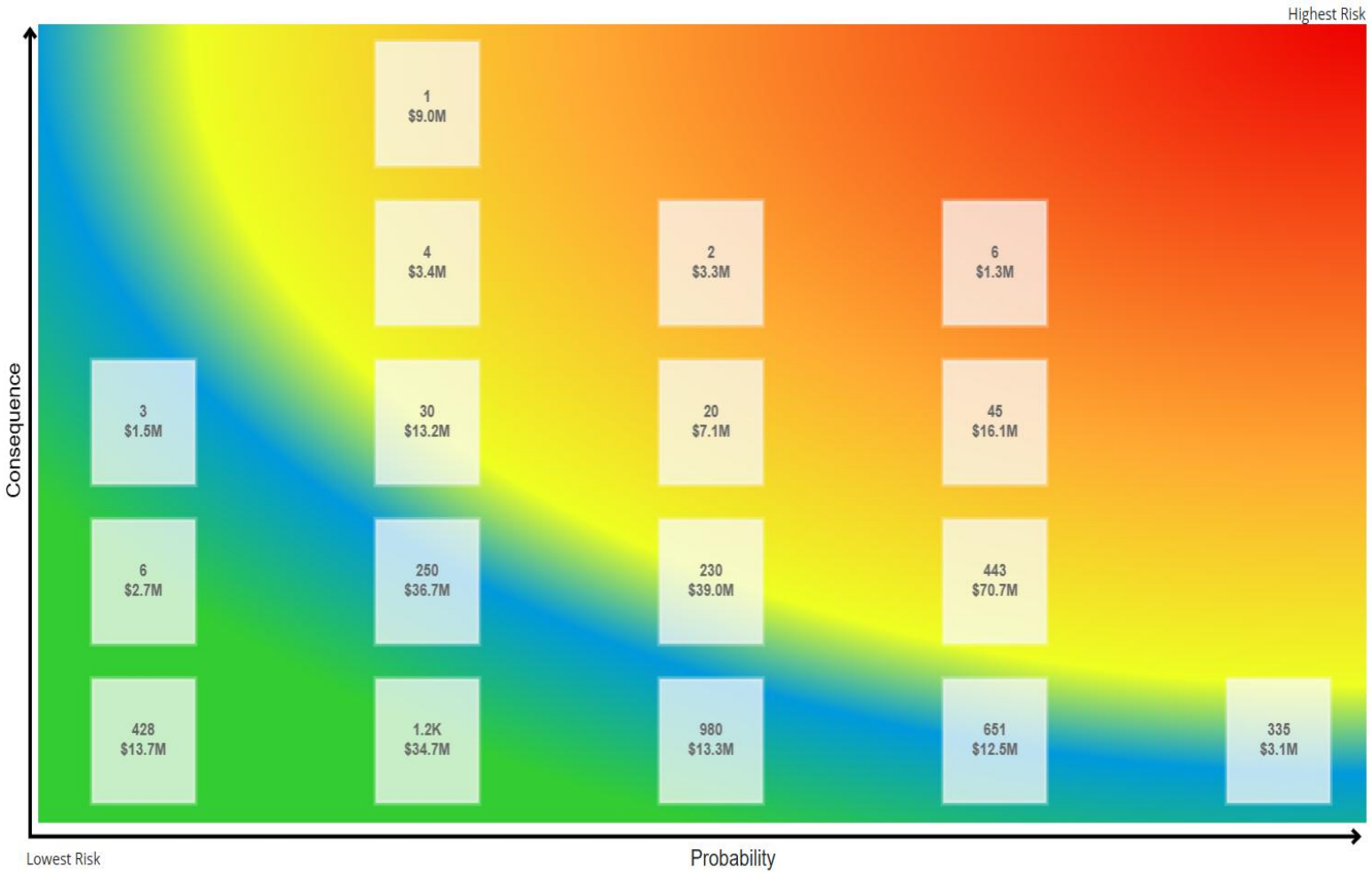
1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
3,144 Assets	895 Assets	402 Assets	220 Assets	7 Assets
31,875.96 unit(s), m	47,155.27 unit(s), m	55,028.05 unit(s), m	46,702.91 unit(s), m	1,346.28 m
$75,451,320.55	$68,306,714.00	$67,106,760.00	$68,789,892.00	$1,615,536.00

Critical Assets

The identification of critical assets allows the City to determine appropriate risk mitigation strategies and treatment options. These may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

The heatmap on the following page is another tool to illustrate the critical asset rating system and which assets (by quantity) are included in each part of the matrix.

Figure 73: Water Network Risk Matrix Heatmap



I.9 Recommendations

Asset Data

- Integrate current maintenance and customer service tracking done by e.Ris into the City's asset management software to improve data.
- Integrate GIS data into Citywide to backfill any possible data gaps in infrastructure.
- Refine the risk assessments for the water network by reviewing fire flow data, proximity to critical properties, and watermain break location history.

Condition Assessment

- Review industry practices to see if there are alternatives to condition assessments for pressurized watermains. The City has created its own scoring matrix but there may be others that would be better suited for the City's applications.

Lifecycle Management Strategies

- Establish a firm leak detection program to help mitigate water loss. This data can also be used as a watermain condition metric if the entire distribution network can be surveyed over the next 5-10 years.
- Review the AWWA standards and compare recommended valve maintenance programs to ensure they align with industry best practices. There will likely need to be a complete valve PM program update.
- Formalize preventive maintenance programs (valves, hydrants, uni-directional and dead-end flushing). This would be best achieved by utilizing a proper work order system.
- Continue to re-line watermains when possible as an alternative to conventional main replacement.
- Focus on undersized, 4" watermains as reconstruction candidates due to the lack of fireflow on those watermains.
- Create a long-term SCADA strategy for the water and wastewater networks. This should include redundancy, communication networks, and the possible upgrade to Allan Bradley PLCs (Programmable Logic Controllers) to conform with industry standards.

Levels of Service

- Continue to review iron removal treatment processes and the associated costs. This would help resolve "dirty water" complaints that arise during annual flushing and watermain break events.
- Update the water meter program to ensure replacement and meter reading practices are brought into current industry standards.

- Review the lead service data in the City and consider implementing a lead service replacement subsidy for the public.
- Continue measuring current levels of service in accordance with the metrics that the City has established in this AMP.

Appendix J: 10-Year Capital Requirements

The following tables identify the capital replacement cost requirements for each of the next 10 years. The data was compiled from reporting modules in the CityWide software. This is live data and will change with each asset management plan update as more data becomes available and the plan is modified.

The main figures used earlier in this AMP are the required average annual capital investments taken over a 50-year capital lifecycle. The tables below reflect only 10 years which is a snapshot of the data and may not appear to reflect the average values. The 10-year tables are a regulatory requirement, but the average annuals are the figures that should be used as the financial driver as they are more comprehensive.

Please note that this data reflects only projected replacement years based on the asset management software data. Asset replacements are not driven solely by the projected year and may occur outside these estimates.

City Facilities

These figures for City Facilities do not reflect the current state as the City is awaiting the BCA results from the 2026 report. These figures will be updated in a future version of the AMP.

Table 76: City Facilities 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
City Facilities	$984,109	-	-	$1,323,000	$3,611	$129,478	$1,116,810	$466,022	$126,346	$87,744	$309,236	$1,202,976

Fleet and Equipment

Table 77: Fleet and Equipment 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Fleet and Equipment	$6,432,952	$165,978	$523,482	$644,799	$1,041,171	$3,351,544	$4,502,868	$961,713	$12,864,168	$3,185,978	$6,361,950	$4,481,756

Parks and Land Improvements

Table 78: Parks and Land Improvements 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Parks and Land Improvements	$105,000	-	-	-	$85,509	$12,674	$118,166	-	$439,735	$672,238	$304,294	$82,471

Social Housing (Municipally Shared)

These figures for Social Housing (Municipally Shared) do not reflect the current state as the City is awaiting the BCA results from the 2026 report. Figures will be updated in a future version of the AMP.

Table 79: Social Housing (Municipally Shared) 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Social Housing (Municipally Shared)	$45,242	$3,777	-	$9,979	$33,785	$26,287	$53,493	$290,447	$353,714	$629,077	$898,594	$85,749

Solid Waste

Table 80: Solid Waste 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Solid Waste	-	-	-	-	-	-	-	-	-	-	-	-

Stormwater Network

Table 81: Stormwater Network 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Stormwater Network	$9,289,198	$837,310	$940,962	$1,101,796	$5,941,176	$176,000	$746,543	$670,235	$5,105,288	$186,407	$19,012	-

Transportation Network

Table 82: Transportation Network 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Transportation Network	$3,173,476	$946,449	$2,399,470	$575,604	$457,467	$934,185	$6,943,441	$1,927,293	$7,052,822	$14,472,961	$6,184,291	$6,084,725

Wastewater Network

Table 83: Wastewater Network 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Wastewater Network	$62,355,030	$1,496,626	$42,588	$329,788	$750,355	$2,049,453	$824,241	$769,708	$3,424,073	$750,000	$1,243,586	$800,921

Water Network

Table 84: Water Network 10-Year Capital Requirements

Asset Category	Backlog	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Water Network	$303,490	-	$1,084,664	$18,117,222	$31,483,800	$6,611,857	$3,331,784	$2,968,952	$1,091,078	$77,646	$253,188	$2,805,515

Appendix K: Risk Rating Criteria

Probability of Failure

Table 85: Probability of Failure Scoring

Very Low Probability of Failure = 1 Very High Probability of Failure = 5

Asset Category	Risk Criteria	Value/Range	Probability of Failure Rating
Roads	Condition	80-100	1
Roads	Condition	60-79	2
Roads	Condition	40-59	3
Roads	Condition	0-39	5
Roads	ADT	0-400	1
Roads	ADT	400-1000	2
Roads	ADT	1000-2000	3
Roads	ADT	2000-8000	4
Roads	ADT	8000+	5
Bridges & Culverts	Condition	80-100	1
Bridges & Culverts	Condition	60-79	2
Bridges & Culverts	Condition	40-59	3
Bridges & Culverts	Condition	20-39	4
Bridges & Culverts	Condition	0-19	5
Bridges & Culverts	Material	Steel	1
Bridges & Culverts	Material	Precast Concrete	3
Bridges & Culverts	Material	Corrugated Steel Pipe	4
Bridges & Culverts	Material	Wood	5
Wastewater Mains	Condition	5	1
Wastewater Mains	Condition	4	2
Wastewater Mains	Condition	3	3
Wastewater Mains	Condition	2	4
Wastewater Mains	Condition	1	5
Wastewater Mains	Pipe Material	PVC, Precast Concrete after 1970	1
Wastewater Mains	Pipe Material	CIPP	2
Wastewater Mains	Pipe Material	Asbestos Cement, Transite	3

Wastewater Mains	Pipe Material	CT, VT, GT, Brick, Precast Concrete prior to 1970	4
Wastewater Mains	Slope Percentage	2.0+	1
Wastewater Mains	Slope Percentage	1.0-2.0	2
Wastewater Mains	Slope Percentage	0.4-1.0	3
Wastewater Mains	Slope Percentage	0.2-0.4	4
Wastewater Mains	Slope Percentage	<0.2	5
Watermains	Breaks/Segment	0-2	1
Watermains	Breaks/Segment	4-5	2
Watermains	Breaks/Segment	6-7	3
Watermains	Breaks/Segment	8-9	4
Watermains	Breaks/Segment	8+	5
Watermains	Pipe Material	HDPE, PVC	4
Watermains	Pipe Material	Steel	4
Watermains	Pipe Material	Ductile Iron	3
Watermains	Pipe Material	Cast Iron	3
Watermains	Pipe Material	Riveted Steel	3
Stormwater Mains	Condition	5	1
Stormwater Mains	Condition	4	2
Stormwater Mains	Condition	3	3
Stormwater Mains	Condition	2	4
Stormwater Mains	Condition	1	5
Stormwater Mains	Pipe Material	PVC, Ribbed PVC, HDPE, Concrete after 1970, PIP	1
Stormwater Mains	Pipe Material	CIPP	2
Stormwater Mains	Pipe Material	Asbestos Cement, Transite, CSP	3
Stormwater Mains	Pipe Material	Precast Concrete prior to 1970, CT,	4

		GT, Vitrified Clay	
Buildings & Facilities	Condition	80-100	1
Machinery & Equipment			
Fleet			
Land Improvements			
Buildings & Facilities	Condition	60-79	2
Machinery & Equipment			
Fleet			
Land Improvements			
Buildings & Facilities	Condition	40-59	3
Machinery & Equipment			
Fleet			
Land Improvements			
Buildings & Facilities	Condition	20-39	4
Machinery & Equipment			
Fleet			
Land Improvements			
Buildings & Facilities	Condition	0-19	5
Machinery & Equipment			
Fleet			
Land Improvements			

Consequence of Failure

Table 86: Consequence of Failure Scoring

Asset Category	Risk Criteria	Value/Range	Consequence of Failure Rating
Roads	Replacement Cost	$0-$10,000	1
Roads	Replacement Cost	$10,000-$20,000	2
Roads	Replacement Cost	$20,000-$50,000	3
Roads	Replacement Cost	$50,000-$100,000	4
Roads	Replacement Cost	$500,000+	5
Roads	Design Class	Rural Road	1
Roads	Design Class	Local Residential	2
Roads	Design Class	Collector Residential	3
Roads	Design Class	Local Commercial Industrial	3
Roads	Design Class	Collector Commercial Industrial	4
Roads	Design Class	Arterial	5
Roads	Critical Path	Low	2
Roads	Critical Path	Medium (Bus Route)	3
Roads	Critical Path	High (Truck Route, Connecting Link)	5
Roads	No# Lanes	5-Apr	3
Roads	No# Lanes	3-Feb	4
Roads	No# Lanes	1	5
Bridges & Culverts	Replacement Cost	$0-$50,000	1
Bridges & Culverts	Replacement Cost	$50,000-$350,000	2
Bridges & Culverts	Replacement Cost	$350,000-$1,000,000	3
Bridges & Culverts	Replacement Cost	$1,000,000-$2,000,000	4
Bridges & Culverts	Replacement Cost	$2,000,000+	5
Bridges & Culverts	Detour Distance (km)	2-Jan	1
Bridges & Culverts	Detour Distance (km)	5-Feb	2
Bridges & Culverts	Detour Distance (km)	8-May	3
Bridges & Culverts	Detour Distance (km)	10-Aug	4
Bridges & Culverts	Detour Distance (km)	10+	5
Stormwater Mains	Replacement Cost	$0-$50,000	1
Stormwater Mains	Replacement Cost	$50,000-$150,000	2

Stormwater Mains	Replacement Cost	$150,000-$250,000	3
Stormwater Mains	Replacement Cost	$250,000-$500,000	4
Stormwater Mains	Replacement Cost	$500,000+	5
Stormwater Mains	Pipe Diameter (mm)	50-100	1
Stormwater Mains	Pipe Diameter (mm)	100-250	2
Stormwater Mains	Pipe Diameter (mm)	250-450	3
Stormwater Mains	Pipe Diameter (mm)	500-700	4
Stormwater Mains	Pipe Diameter (mm)	700+	5
Stormwater Mains	Population Affected	0-5 persons	1
Stormwater Mains	Population Affected	5-20 persons	2
Stormwater Mains	Population Affected	20-50 persons	3
Stormwater Mains	Population Affected	50-100 persons	4
Stormwater Mains	Population Affected	100+ persons	5
Stormwater Mains	Proximity to Critical Services	Rural	1
Stormwater Mains	Proximity to Critical Services	Commercial/Residential	2
Stormwater Mains	Proximity to Critical Services	Schools	3
Stormwater Mains	Proximity to Critical Services	Pump Stations	4
Stormwater Mains	Proximity to Critical Services	Hospitals/Care Facilities	5
City Facilities and Social Housing (Municipally Shared)	Replacement Cost	$0 - $100,000	1
City Facilities and Social Housing (Municipally Shared)	Replacement Cost	$100,000 - $500,000	2
City Facilities and Social Housing (Municipally Shared)	Replacement Cost	$500,000 - $2,000,000	3
City Facilities and Social Housing (Municipally Shared)	Replacement Cost	$2,000,000 - $10,000,000	4
City Facilities and Social Housing (Municipally Shared)	Replacement Cost	$10,000,000+	5
City Facilities and Social Housing (Municipally Shared)	Facility Type	Cemetery	1

City Facilities and Social Housing (Municipally Shared)	Facility Type	Storage	1
City Facilities and Social Housing (Municipally Shared)	Facility Type	Art Gallery	1
City Facilities and Social Housing (Municipally Shared)	Facility Type	Market Square	1
City Facilities and Social Housing (Municipally Shared)	Facility Type	Library	3
City Facilities and Social Housing (Municipally Shared)	Facility Type	Day Care	3
City Facilities and Social Housing (Municipally Shared)	Facility Type	Municipal Office/Admin of Justice	3
City Facilities and Social Housing (Municipally Shared)	Facility Type	Community Halls/Complex	3
City Facilities and Social Housing (Municipally Shared)	Facility Type	Recreation Arenas	4
City Facilities and Social Housing (Municipally Shared)	Facility Type	Housing	4
City Facilities and Social Housing (Municipally Shared)	Facility Type	Roads/Operations	4
City Facilities and Social Housing (Municipally Shared)	Facility Type	Fire/Police Station	5
City Facilities and Social Housing (Municipally Shared)	Population Affected	0-5 persons	1
City Facilities and Social Housing (Municipally Shared)	Population Affected	5-20 persons	2
City Facilities and Social Housing (Municipally Shared)	Population Affected	20-50 persons	3

City Facilities and Social Housing (Municipally Shared)	Population Affected	50-100 persons	4
City Facilities and Social Housing (Municipally Shared)	Population Affected	100+ persons	5
Fleet and Equipment	Equipment Type	Cemetery	1
Fleet and Equipment	Equipment Type	Administration & Finance	1
Fleet and Equipment	Equipment Type	Airport	2
Fleet and Equipment	Equipment Type	Social Services	2
Fleet and Equipment	Equipment Type	Maintenance	3
Fleet and Equipment	Equipment Type	Transit	3
Fleet and Equipment	Equipment Type	Recreation	3
Fleet and Equipment	Equipment Type	IT	4
Fleet and Equipment	Equipment Type	Library	4
Fleet and Equipment	Equipment Type	Operations	4
Fleet and Equipment	Equipment Type	Fire & Rescue, Police	5
Fleet and Equipment	Replacement Cost	$0-$25,000	1
Fleet and Equipment	Replacement Cost	$25,000-$50,000	2
Fleet and Equipment	Replacement Cost	$50,000-$150,000	3
Fleet and Equipment	Replacement Cost	$150,000-$300,000	4
Fleet and Equipment	Replacement Cost	$300,000+	5
Fleet and Equipment	Vehicles Type	Off Road (ATV)	1
Fleet and Equipment	Vehicles Type	Small Equipment	1
Fleet and Equipment	Vehicles Type	Light Duty Vehicle	1
Fleet and Equipment	Vehicles Type	Medium Duty Vehicle	2
Fleet and Equipment	Vehicles Type	Light Duty Machinery	2
Fleet and Equipment	Vehicles Type	Heavy Duty Vehicle	3
Fleet and Equipment	Vehicles Type	Attachment	3
Fleet and Equipment	Vehicles Type	Medium Duty Machinery	4
Fleet and Equipment	Vehicles Type	Heavy Machinery	5
Land Improvements	Replacement Cost	$0-$25,000	1
Land Improvements	Replacement Cost	$25,000-$50,000	2
Land Improvements	Replacement Cost	$50,000-$100,000	3
Land Improvements	Replacement Cost	$100,000-$150,000	4
Land Improvements	Replacement Cost	$150,000+	5
Land Improvements	Land Improvement Type	Naturalized	1
Land Improvements	Land Improvement Type	Trails	2
Land Improvements	Land Improvement Type	Parkette	2

Land Improvements	Land Improvement Type	Parking Lots	2
Land Improvements	Land Improvement Type	Airport	3
Land Improvements	Land Improvement Type	Municipal Golf Course	3
Land Improvements	Land Improvement Type	Neighborhood Park	3
Land Improvements	Land Improvement Type	Special Use Park	4
Land Improvements	Land Improvement Type	Community Park	5
Watermains	Pipe Diameter (mm)	25-50	1
Watermains	Pipe Diameter (mm)	100-150	2
Watermains	Pipe Diameter (mm)	200-300	3
Watermains	Pipe Diameter (mm)	300+	5
Watermains	Replacement Cost	$0-$25,000	1
Watermains	Replacement Cost	$25,000-$50,000	2
Watermains	Replacement Cost	$50,000-$100,000	3
Watermains	Replacement Cost	$100,000-$150,000	4
Watermains	Replacement Cost	$150,000+	5
Watermains	Proximity to Critical Services	Rural	1
Watermains	Proximity to Critical Services	Commercial/Residential	2
Watermains	Proximity to Critical Services	Schools	3
Watermains	Proximity to Critical Services	Major Commercial/Industrial	4
Watermains	Proximity to Critical Services	Hospitals/Care Facilities	5
Watermains	Proximity to Critical Services	Railway	5
Watermains	Proximity to Critical Services	Towers/Wells	5
Wastewater Network (Sanitary Mains)	Replacement Cost	$0-$25,000	1
Wastewater Network (Sanitary Mains)	Replacement Cost	$25,000-$50,000	2
Wastewater Network (Sanitary Mains)	Replacement Cost	$50,000-$100,000	3
Wastewater Network	Replacement Cost	$100,000-$150,000	4

(Sanitary Mains)			
Wastewater Network (Sanitary Mains)	Replacement Cost	$150,000+	5
Wastewater Network (Sanitary Mains)	Pipe Diameter (mm)	50-100	1
Wastewater Network (Sanitary Mains)	Pipe Diameter (mm)	100-250	2
Wastewater Network (Sanitary Mains)	Pipe Diameter (mm)	250-450	3
Wastewater Network (Sanitary Mains)	Pipe Diameter (mm)	500-700	4
Wastewater Network (Sanitary Mains)	Pipe Diameter (mm)	700+	5
Wastewater Network (Sanitary Mains)	Population Affected	0-5 persons	1
Wastewater Network (Sanitary Mains)	Population Affected	5-20 persons	2
Wastewater Network (Sanitary Mains)	Population Affected	20-50 persons	3
Wastewater Network (Sanitary Mains)	Population Affected	50-100 persons	4
Wastewater Network (Sanitary Mains)	Population Affected	100+ persons	5
Wastewater Network (Sanitary Mains)	Proximity to Critical Services	Rural	1
Wastewater Network (Sanitary Mains)	Proximity to Critical Services	Commercial/Residential	2
Wastewater Network (Sanitary Mains)	Proximity to Critical Services	Schools	3
Wastewater Network (Sanitary Mains)	Proximity to Critical Services	Pump Stations	4
Wastewater Network (Sanitary Mains)	Proximity to Critical Services	Hospitals/Care Facilities	5
Wastewater Network (Sanitary Mains)	Easement	No Easement Required	1
Wastewater Network (Sanitary Mains)	Easement	Private Property with Easement	3

Appendix L: Glossary of Terms and Acronyms

AA: Accessibility Audit

AODA: Accessibility for Ontarians with Disabilities Act

AMP: Asset Management Plan

Asset: A physical component of infrastructure that provides a service to the community, such as roads, bridges, watermains, sewers, buildings, parks, or facilities.

Asset Management: A systematic process of making informed decisions about the planning, acquisition, operation, maintenance, renewal, and disposal of infrastructure assets to maximize service delivery while managing risk and cost over the asset lifecycle.

Asset Management Plan (AMP): A strategic document that outlines how infrastructure assets will be managed over time to deliver defined levels of service in a sustainable, cost-effective manner, in accordance with provincial requirements.

Backlog (Deferred Renewal): The value of infrastructure renewal work that should have been completed based on condition, risk, or service needs but has been deferred due to funding or resource constraints.

BCA: Building Condition Assessment

Canada Community Building Fund (CCBF): *Formerly known as the "Gas Tax"*. A federal infrastructure funding program that provides municipalities with stable, predictable, long-term funding to support the construction, renewal, and rehabilitation of local infrastructure. Eligible investments typically include roads, bridges, public transit, water, wastewater, stormwater, and other core municipal assets, helping municipalities plan and manage infrastructure sustainably over the long term.

CCTV: Closed Circuit Television

CityWide: The City's current asset management data software.

CMMS: Computerized Maintenance Management System

Condition Rating: A qualitative or quantitative assessment of an asset's physical state, commonly categorized as Very Good, Good, Fair, Poor, or Very Poor.

Criticality: A measure of the consequence of asset failure, considering impacts to public safety, service delivery, regulatory compliance, environment, and financial or reputational risk.

Current Replacement Value (CRV): The cost of replacing an existing asset at today's prices, often used interchangeably with Asset Replacement Value.

Development Charges (DCs): Fees collected from new development to fund growth-related capital infrastructure, in accordance with the Development Charges Act.

Expected Useful Life (EUL): The typical length of time an asset is expected to perform its intended function under normal operating conditions.

EV: Electric Vehicle

Failure: The inability of an asset to perform its intended function or meet required levels of service.

Funding Gap: The difference between the projected cost of maintaining assets at target levels of service and the reliable funding available.

GIS: Geographic information System

Growth-Related Infrastructure: New or expanded infrastructure required to accommodate population and employment growth.

Infrastructure Gap (or Deficit): Represents the estimated annual funding requirement under the designated scenario, based on the defined lifecycle activities

Intergenerational Equity: The principle that the cost of providing municipal infrastructure and services should be shared equitably across current and future generations, ensuring that today's residents do not underfund asset maintenance and replacement in a way that transfers undue financial or service burdens to future taxpayers.

Lifecycle Management: The stages an asset goes through from planning and design to construction, operation, maintenance, rehabilitation, and eventual replacement or disposal.

Lifecycle Costing: The evaluation of total costs associated with an asset over its entire lifecycle, including capital, operating, maintenance, rehabilitation, and disposal costs.

Levels of Service (LOS): Defined performance targets for infrastructure that reflect community expectations, regulatory requirements, and operational standards. Levels of service typically include technical and customer-focused measures.

Maintenance: Planned or reactive activities undertaken to keep assets in a functional condition and extend their service life.

Ontario Community Infrastructure Fund (OCIF): A provincial funding program provided by the Government of Ontario that supports municipalities in maintaining and renewing core infrastructure such as roads, bridges, water, wastewater, and stormwater systems. OCIF funding is intended to help address infrastructure backlogs, improve asset condition, and support long-term financial sustainability, particularly for smaller and rural municipalities.

Operating Costs: Ongoing expenses required to operate and maintain assets, including labour, materials, energy, and contracted services.

O. Reg. 588/17: Ontario Regulation 588/17 under the Infrastructure for Jobs and Prosperity Act, which establishes asset management planning requirements for municipalities.

Proposed Levels of Service (PLOS): Parameters and statements that reflect the desired or expected levels of service that the organization intends to deliver to its customers.

PSHC: Perth Stratford Housing Corporation

Rehabilitation: Work to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification.

Renewal: Capital work that restores or extends the useful life of an existing asset without increasing capacity, such as rehabilitation, refurbishment, or replacement-in-kind.

Risk: The likelihood and consequence of an asset failing to perform as intended.

Risk-Based Decision Making: An approach that prioritizes investments by considering both the probability of failure and the consequences associated with that failure.

Service Area: A grouping of similar assets that provide a specific municipal service, such as transportation, water, wastewater, stormwater, or facilities.

Social Housing (Municipally Owned) – Social housing assets that are part of the Perth Stratford Housing Corporation (PSHC) portfolio. City owned affordable housing buildings are reported separately.

State of Good Repair: A condition in which assets can perform their required function at an acceptable level of service without significant risk of failure.

Sustainability: The ability to provide infrastructure services over the long term in a way that balances financial, environmental, and social considerations.

Tangible Capital Assets: Non-financial assets having physical substances that:

(a) are used in the production or supply of goods and services, for rental to others, for administrative purposes or for the development, construction, maintenance, or repair of other tangible capital assets.
(b) have useful economic lives extending beyond an accounting period.
(c) are to be used on a continuing basis.
(d) are not for sale in the ordinary course of operations.

Total Annual Requirement: The estimated annual funding needed to maintain assets at target levels of service, including capital renewal, operations, and maintenance.