Item 14.b.1
Engineering Department
June 20, 2024

To: **David Creery, Chief Administrative Officer**

From: **Bassel Agroam, Manager of Asset Management**

Re: **City of Woodstock 2024 Asset Management Plan**

AIM

To seek Council's approval of the City of Woodstock's 2024 Asset Management Plan.

BACKGROUND

On December 27, 2017, the Province of Ontario filed Regulation 588/17, Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17) under the Infrastructure for Jobs and Prosperity Act, 2015. This regulation provides the province's requirements for scope and content for a municipal asset management plan. Regulatory compliance is required for a successful application for a conditional grant for municipal infrastructure projects.

Along with creating better performing organizations, more livable 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 (LOS) and the lifecycle costs incurred in delivering them. At an absolute minimum, the objective of any Asset Management Plan (AMP), or strategy, should be to ensure that the overall condition of an asset group does not diminish over time. Asset management planning is intended to allow municipalities to make the best possible investment decisions for their infrastructure assets, while bringing consistency and standardization to help spread best practices throughout the sector. The AMP helps municipalities strategize their financial planning as to manage fluctuations and minimize overall risk, while ensuring levels of service do not suffer. Asset management should be the driving force in capital budget planning as well as being an effective and meaningful long-term policy.

In March 2021, the Province filed O. Reg. 193/21, amending O. Reg. 588/17 to extend each key date of the phase-in schedule by one year. This amendment was made in response to many municipalities who requested additional time as they navigated various challenges and uncertainties during the COVID-19 pandemic. Given these pressures, municipalities did not have the capacity to work on meeting the 2021 deadline in O. Reg. 588/17. With COVID-19 restrictions changing frequently, it was deemed unlikely that the current capacity of challenges would be resolved in the short-term.

The timelines and key reporting requirements are provided below.

DATE	MILESTONE	DESCRIPTION
July 1st, 2019	Asset Management Policy	Have a finalized strategic asset management policy that promotes best practices and links asset management planning within budgeting, operations, maintenance, and other municipal planning activities.
July 1st, 2022	Asset Management Plan for Core Assets	Have an approved asset management plan for core assets that identifies current LOS and the cost of maintaining those LOS. This includes current LOS, inventory analysis, lifecycle activities to sustain LOS, cost of lifecycle activities, population and employment forecasts, and discussion of growth impacts.
July 1st, 2024	Asset Management Plan for Core and Non-Core Assets	Have an approved asset management plan for all municipal infrastructure assets that identifies current LOS and the cost of maintaining those LOS.
July 1st, 2025	Asset Management Policy Update & Asset Management Plan for Core and Non-Core Assets	Have an approved asset management plan for all municipal infrastructure assets that builds upon the requirements set out in 2024. This includes an identification of proposed LOS, what activities will be required to meet proposed LOS, and a strategy to fund these activities.

City Staff have been working hard to ensure the City's compliance with the timelines and key reporting requirements and have taken the following steps throughout the process:

- Adoption of a Strategic Asset Management Policy, approved by Council on May 2, 2019,
- Creation and approval of the first in house iteration of the AMP in 2022 that covered core assets,
- Data gap analysis on all assets to ensure data confidence and to identify improvement strategies and introduce asset management processes where applicable,
- Formalizing the AMP, working with asset stewards and management to figure out the current LOS for non-core assets, and
- Build on the 2022 AMP to include all asset classes across the City.

COMMENTS

As dictated by the Canada Community-Building Fund Agreement (CCBF), formerly the Federal Gas Tax, and O. Reg. 588/17 under the Infrastructure for Jobs and Prosperity Act, 2015, municipalities must develop an AMP covering all major asset categories such as roads, bridges and culverts, facilities, storm network, water network, wastewater network, land improvements, vehicles, and machinery and equipment. This AMP analyzes seven of the nine categories listed as the City does not own the water network and wastewater network assets. These two asset categories are owned by Oxford County. After incorporating all asset classes applicable into this AMP, this plan fulfills the requirements for the July 1st, 2024, deadline for core and non-core infrastructure assets as outlined in O. Reg. 588/17 and O. Reg 193/21.

For an AMP to be effective and meaningful, continuous improvement and updates are necessary. It is an evolving document and requires participation of all departments to ensure the overall data confidence levels are accurate. The City has worked towards improving its data confidence. Although there was a high level of confidence in the inventory data in some service areas, additional work is required to fill in some gaps in the data as well as develop replacement costs and complete condition assessments for other service areas.

Next steps include the following as specified within the timelines below:

- Regularly monitor the progress of the AMP by providing annual status updates to Council that include how the asset management program has advanced and reflect on any factors impeding implementation,

- A thorough and comprehensive update and review of the AMP that occurs every five (5) years, or as required by O. Reg. 588/17, and

- A thorough and comprehensive update to the Strategic Asset Management Policy every five (5) years.

Moving forward, the Asset Management Program will investigate the following:

- Identify proposed LOS on all assets as specified by O. Reg. 588/17,

- Continue to engage the public on the perceived current levels of service involving core and non-core assets, and

- Processes to move any operation and maintenance from reactive into a preventative measure.

In conclusion, this iteration of the AMP presents overall information about the City of Woodstock’s asset management approach as related to the City’s core and non-core assets, which include transportation, stormwater, corporate facilities, recreation & culture, natural assets, and corporate fleet assets.

RECOMMENDATION

That City Council approves the proposed “2024 Asset Management Plan” attached as Appendix A,

And further that the “2024 Asset Management Plan” be posted on the City’s website to comply with O. Reg. 588/17.

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City of Woodstock

ASSET MANAGEMENT PLAN

JUNE 2024

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EXECUTIVE SUMMARY

The 2024 Asset Management Plan (AMP) was developed by The City of Woodstock (the City) and is in compliance with O. Reg. 588/17 and O. Reg. 193/21. It offers data-driven recommendations on managing the City's vast capital asset portfolio and addresses key areas such as levels of service (LOS), lifecycle management strategies, and data confidence. This AMP discusses all capital assets, core and none-core, with service areas being split into Transportation, Stormwater, Corporate Facilities, Recreation and Culture, Natural Assets, and Corporate Fleet.

This AMP intends to strike a balance between standardization and personalization. Standardization allows decision-makers and members of the public to understand and measure the state of this municipality against others. It allows senior levels of government to make tough funding allocation decisions using comparable information. Examples of standardization include:

- Using standard definitions of asset classes and frequently used terms
- Referencing industry standards like the Inventory Manual, Ontario Structure Inspection Manual (OSIM), and the National Association of Sewer Service Companies (NASSCO)
- Improving data quality to move away from age-based condition assessments
- The manner in which data is collected and reported
- Using standard Key Performance Indicators (KPIs)

Asset management is often mistaken for a data system when in reality it is a business model, a way of thinking, and making investment decisions about physical assets. It prevents (or reduces the risk of) assets becoming liabilities. As such, every municipality's AMP should be personalized to reflect its characteristics and needs. The City should be able to coordinate and approve every capital project through its AMP. Examples of personalization include:

- The inclusion of local examples of asset conditions for each asset class
- Recommendations that are based on a holistic view of the asset portfolio rather than as individual asset classes

This AMP focuses on discussing all capital assets within the City, as well as identifying LOS, infrastructure needs, and lifecycle strategies. Future iterations of the AMP will help capture the full lifecycle needs and the true cost to maintain and improve on LOS.

INTRODUCTION

The City of Woodstock (the City) is situated in the centre of southwestern Ontario. It is the largest of eight lower-tier municipalities within the County of Oxford. The City has experienced steady growth due to a solid blend of community amenities, attractive housing, a state-of-the-art regional health care facility, and its central location. Post-secondary opportunities in the community helps broaden its appeal to families and businesses. The City is carefully planning its growth to provide and preserve a welcoming environment for residents, businesses, and visitors.

What is Asset Management?

An organization's top management, employees, and stakeholders should implement planning, control activities (e.g., policies, processes, or monitoring actions), and monitoring activities, to exploit opportunities and reduce risks to an acceptable level.

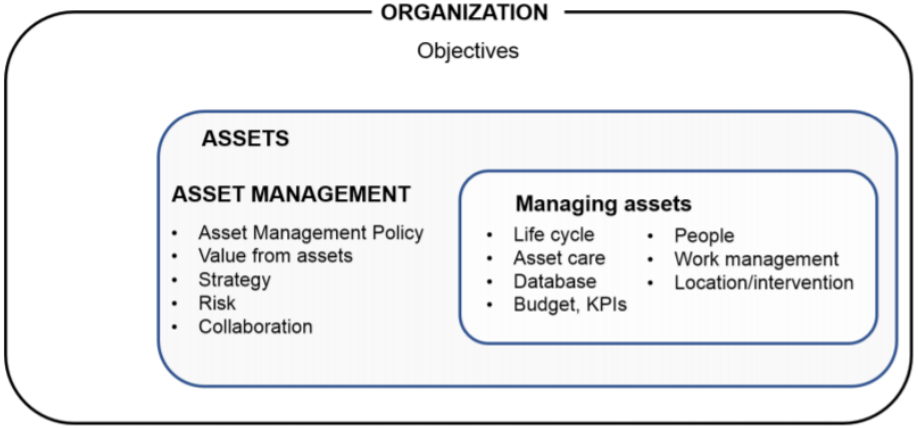
Asset management involves balancing costs, opportunities, and risks against the desired performance of assets to achieve the organizational objectives. This balancing needs to be considered over different timeframes.

Asset management enables an organization to examine the need for, and performance of, assets and asset systems at different levels. Additionally, it enables the application of analytical approaches towards managing an asset over the different stages of its lifecycle (which can start with the conception of the need for the asset, through to its disposal, and include the managing of any potential post disposal liabilities).[1]

Asset Management is the coordinated activity of an organization to help realize value from the assets it owns. It is the City's integrated business approach within an organization with the aim to minimize the lifecycle costs of owning, operating, and maintaining assets at an acceptable level of risk, while continuously delivering established levels of service for present and future customers. It includes the planning, design, construction, and operation and maintenance of infrastructure used to provide services. By implementing asset management processes, infrastructure needs can be prioritized over time, while ensuring timely investments to minimize repair and rehabilitation costs and maintain municipal assets.

It should be noted that asset management is not synonymous with managing assets. Managing assets pertains to the things done to assets, with or without a structured organizational strategy and context. Asset management encompasses many organizational levels and applies to all functions or departments.

Figure 1. Asset Management Chart



Asset management allows the City to realize value from its assets through the achievement of organizational objectives. What is considered value depends on these corporate

[1] ISO 55000:2014, p.2.

objectives, the nature and purpose of the organization, and the needs and expectations of its stakeholders. Sound asset management allows for value to be realized while balancing financial, environmental, and social costs, risk, quality of service, and performance related to assets.

Some benefits of asset management are:

- **Improved financial performance:** improving the return on investments and reducing costs can be achieved while preserving asset value and without sacrificing the short- or long-term realization of organizational objectives
- **Informed asset investment decisions:** enabling the organization to improve its decision making and effectively balance costs, risks, opportunities and performance
- **Managed risk:** reducing financial losses, improving health and safety, goodwill and reputation, and minimizing environmental and social impact, can result in reduced liabilities such as insurance premiums, fines, and penalties
- **Improved services and outputs:** assuring the performance of assets can lead to improved services or products that consistently meet or exceed the expectations of customers and stakeholders
- **Demonstrated social responsibility:** improving the organization's ability to, for example, reduce emissions, conserve resources, and adapt to climate change enables it to demonstrate socially responsible and ethical business practices and stewardship
- **Demonstrated compliance:** transparently conforming with legal, statutory and regulatory requirements, as well as adhering to asset management standards, policies and processes, can enable demonstration of compliance
- **Enhanced reputation:** through improved customer satisfaction, stakeholder awareness and confidence
- **Improved organizational sustainability:** effectively managing short- and long-term effects, expenditures and performance, can improve the sustainability of operations and the organization
- **Improved efficiency and effectiveness:** reviewing and improving processes, procedures and asset performance can improve efficiency and effectiveness, and the achievement of organizational objectives[2]

Asset management also allows municipal decision-makers to make well-informed decisions about the assets owned and maintained by the City. They require the following information to make informed decisions about the services:

Table 1. Objectives of Asset Management

Inventory	Capture all asset types, inventories, and historical data
Current Valuation	Calculate current condition ratings and replacement values
Life Cycle Analysis	Identify Maintenance and Renewal Strategies & Life Cycle Costs
Service Level Targets	Define measurable Levels of Service Targets
Risk & Prioritization	Integrates all asset categories through risk and prioritization strategies
Sustainable Financing	Identify sustainable Financing Strategies for all asset categories
Continuous Processes	Provide continuous processes to ensure asset information is kept current and accurate
Decision Making & Transparency	Integrate asset management information into all corporate purchases, acquisitions, and assumptions
Monitoring & Reporting	At defined intervals, assess the assets and report on progress and performance

[2] ISO 55000:2014, p.2.

Infrastructure Assets and When are They Acquired?

An asset is an item, thing or entity that holds potential or actual value to an organization. The value will vary between different organizations and their stakeholders, and can be tangible or intangible, financial or non-financial.

In a municipality, customers request services that require assets, or infrastructure, to help meet community expectations. Therefore, infrastructure is essential to maintaining the community's standard of living, safety, and prosperity. If the service it helps provide is deemed unnecessary, the infrastructure too becomes superfluous.

Before an infrastructure asset is acquired, decision-makers must be satisfied that the City requires it to achieve its objectives or provide a service. They must consider the factors listed below:

- The nature and purpose of the organization
- The organization's operating context
- The organization's financial constraints and regulatory requirements
- The needs and expectations of the organization and its stakeholders

The period from the creation of an asset to the end of its life is the asset life. An asset's life does not necessarily coincide with the period over which any one organization holds responsibility for it. Instead, an asset can provide potential or actual value to one or more organizations over its asset life, and the value of the asset to an organization can change over its asset life.

An organization may choose to manage its assets as a group, rather than individually, according to its needs, and to achieve additional benefits. Such groupings of assets may be by asset types, asset systems, or asset portfolios.[3]

The total cost of ownership accounts for both the initial acquisition as well as its operations and maintenance. The initial cost of acquisition only accounts for 10-20% of the total cost of ownership. The remaining 80-90% of the total cost is attributed to operations and maintenance. Prudent asset management practices help minimize the lifecycle costs of delivering infrastructure services and manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio.

The costs of ownership can span decades and therefore require planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is instrumental to the planning process. It also serves the broader municipal asset management program.

[3] ISO 55000:2014, p.2.

Key Concepts in Asset Management

Effective asset management integrates several vital components, including lifecycle management, risk management, and levels of service. These concepts are applied throughout this asset management plan.

Lifecycle Management Strategies

Adopting a lifecycle strategy will help determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest cost. There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation, and replacement. The following table describes each type of activity and the general difference in cost.

Table 2. Lifecycle Management Strategies

Event Type	Cost	Description	Example for Road Network
Maintenance	$	Activities that prevent defects or deteriorations from occurring	Crack Seal
Rehabilitation	$$	Activities that rectify defects or deficiencies that are already present and may be affecting asset performance	Mill & Surface
Replacement	$$$	Asset end-of-life activities that often involve the complete replacement of asset	Full Reconstruction

Risk Management Strategies

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. Assets should be prioritized based on their importance to service delivery and their criticality, not just their physical condition. These high-value assets should receive funding before others. Pursuing a 'worst-first' approach to infrastructure spending is not advisable.

Levels of Service

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

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

Table 3. Explanation of Levels of Service

	Community LOS	Technical LOS
Description	Provides a simple plain language description or measure of how the community receives or experiences the service that the municipality provides.	Provides a quantitative measure of key technical attributes of the service being provided to the community. These include mostly quantitative measures.
Core Assets	The Province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this asset management plan.	The Province, through O. Reg. 588/17, has provided technical metrics that are required to be included in this asset management plan.
Non-Core Assets	The City has developed qualitative descriptions	The City has developed technical metrics that are

	Community LOS	Technical LOS
	that are used to determine the community LOS provided and are included in this asset management plan.	used to determine the technical LOS provided and are included in this asset management plan.

Current and Proposed Levels of Service

This AMP focuses on measuring the current LOS provided to the community. Once current LOS have been measured, the City plans to establish the proposed LOS over a 10-year period, per O. Reg. 588/17. The proposed LOS should be realistic and achievable within the timeframe outlined by the City. They should also be determined with consideration of a variety of community expectations, fiscal capacity, regulatory requirements, corporate goals, and long-term sustainability. Once the proposed LOS have been established, the City must identify a lifecycle management and financial strategy which allows these targets to be achieved.

Along with creating better performing organizations, more livable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed LOS and the lifecycle costs incurred in delivering them. As an absolute minimum, the objective of any asset management plan, or strategy, should be to ensure that the overall condition of an asset group does not diminish over time.

The City of Woodstock's Asset Management Journey

Asset Management Policy

Have a finalized strategic asset management policy that promotes best practices and links asset management planning within budgeting, operations, maintenance, and other municipal planning activities.

Asset Management Plan for Core Assets

Have an approved asset management plan for core assets that identifies current LOS and the cost of maintaining those LOS. This includes current LOS, inventory analysis, lifecycle activities to sustain LOS, cost of lifecycle activities, population and employment forecasts, and discussion of growth impacts.

Asset Management Plan for Core and Non-Core Assets

Have an approved asset management plan for all municipal infrastructure assets that identifies current LOS and the cost of maintaining those LOS.

Asset Management Policy Update & Asset Management Plan for Core and Non-Core Assets

Have an approved asset management plan for all municipal infrastructure assets that builds upon the requirements set out in 2024. This includes an identification of proposed LOS, what activities will be required to meet proposed LOS, and a strategy to fund these activities.

On December 27, 2017, the Province of Ontario filed Regulation 588/17, Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17) under the Infrastructure for Jobs and Prosperity Act, 2015. This regulation provides the Province's requirements for scope and content for a municipal asset management plan. Regulatory compliance is required for a successful application for a conditional grant for municipal infrastructure projects.

Asset Management Plans

An asset management plan (AMP) is a strategic document that guides a municipality's management of infrastructure assets and other assets to deliver corporate objectives in the most cost-effective manner. It employs multi-disciplinary techniques, both technical and financial in nature, over the assets' life cycle to provide specific LOS. It details specific activities to be undertaken, resources required, responsibilities, timescales, and risks involved for the achievement of corporate objectives. The plan provides a clear line of sight for on-the-ground activities being undertaken back to the strategic plan of the organization.

Scope And Methodology

Infrastructure is inextricably linked to the economic, social, and environmental advancement of a community. In Canada, municipalities own and manage nearly 60% of the public infrastructure.

This AMP is one component of the City's overarching corporate strategy. It was developed to support the municipality's vision for its asset management practices and programs. It provides key asset attribute data, including current composition of the City's infrastructure portfolio, inventory, and useful life, summarizes the physical health of the capital assets, assesses the current capital spending framework, and outlines financial strategies to achieve sustainability in the long-term while reducing and eventually eliminating funding gaps.

Asset Classes Included in this AMP

As dictated by the Canada Community-Building Fund agreement and O. Reg. 588/17 under the Infrastructure for Jobs and Prosperity Act, 2015, municipalities must develop an asset management plan covering nine major asset categories: roads, bridges and culverts, facilities, storm network, water network, wastewater network, land improvements, vehicles, and machinery and equipment. This AMP analyzes seven of the nine categories listed as the City does not own water network and wastewater network assets. These two asset categories are owned by Oxford County.

Deriving Replacement Costs

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

- **User-Defined Cost:** based on costs provided by City staff which could include average costs from recent contracts; data from engineering reports and assessments; staff estimates based on knowledge and experience. When based on reliable sources, it can be a reasonably accurate and reliable way to determine asset replacement costs.
- **Cost Inflation:** historical cost of the asset is inflated based on the Consumer Price Index (CPI) or Non-Residential Building Construction Price Index (NBCPI). 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. As assets age and new products and technologies become available, cost inflation becomes a less reliable method. The City should aim to continuously improve the accuracy and reliability of replacement cost data based on the best available costing.

Deriving Asset Condition

Asset condition pertains to the measure of an asset's physical state. An incomplete or limited understanding of asset condition can hinder 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 details the condition rating system used to determine asset condition. When field condition data is not available, service life remaining is used to approximate asset condition.

Table 4. Asset Condition Rating System

Condition	Description	Criteria	Remaining Service Life
Very Good	Fit for the future	Well-maintained, in a state of good repair, 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 services	Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration.	20% - 40%
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable.	0% - 20%

The City favours the use of assessment-based condition rating data where possible. The value of assessed condition-based data cannot be overstated as it provides a more accurate representation of the state of infrastructure than does an age-based indicator. Age-based condition ratings tend to understate asset condition, leading to premature treatments.

Risk

Risk management can be the difference between an invisible threat that vanishes before we are even aware of it and one that causes a loss whose gravity can imperil a global corporation and its customers.

Today's risk management environment is animated by increasingly potent combinations of inexpensive data-gathering technology and predictive analytic techniques that can transform data into more certainty about risk management decisions than ever before. Founded in traditional risk management, these kinds of innovations represent the next step in the evolution from merely reacting to a loss after it occurs to preventing it from happening in the first place.

This transformation of the risk management environment has occurred in tandem with the evolution of how we think of risk and risk management itself. The traditional concept of risk, inherent in insurance, is that risk is a hazard posed to an individual or organization. For example, fire or wind could destroy a home or business. In this context, the homeowner or business owner views risk in a negative sense, a possibility of loss. Today's conception of risk also incorporates its potential positive consequences—the idea that taking risks is necessary for growth. In this context, a home or business could increase in value over time.

Recent risk management theory also includes the concept of a holistic approach to risk management. Organizations now realize the importance of managing all their risks, not just those that are familiar or easy to quantify. Risks that may seem relatively harmless or unlikely do have the potential to create significant damage or opportunity when they interact with other events. This holistic view of risk helps identify the risks that truly matter to an organization and provides a full perspective of the identified risks.

High-level categories of risk include hazard risks, operational risks, financial risks, and strategic risks. These categories can be broken down into subcategories, such as project risk, financial reporting risk, and process risk. Over time, all these risks become part of an organization's overall risk portfolio, which has its own individual risk profile.

Risk Management Benefits

Organizations have long recognized the benefits of risk management techniques related to hazard risks—primarily risk mitigation and risk transfer—that benefit not only the individual organization, but also the overall economy. For example, insurance can prevent a business failure and the resulting unemployment after a catastrophe. However, truly comprehensive risk management also should account for broader risks within the organizations and systemic risk in the economy.

A risk management strategy that looks beyond just hazard risk allows an organization to reduce the cost and deterrence effects of hazard risks while maximizing its profitability and ensuring its compliance with legal and regulatory risk management requirements. A holistic strategy also benefits the economy through waste reduction, the improved allocation of productive resources, and the reduction of systemic risk.

What is a Risk Matrix?

A risk matrix is a chart that plots the severity of an event occurring on one axis, and the probability of it occurring on the other. By visualizing existing and potential risks in this way, you can assess their impact, and also identify which ones are highest-priority. From there, you can create a plan for responding to the risks that need the most attention.

Severity: the impact of a risk and the negative consequences that would result.

- Insignificant: risks that bring no real negative consequences, or pose no significant threat to the organization or project
- Minor: risks that have a small potential for negative consequences, but will not significantly impact overall success
- Moderate: risks that could potentially bring negative consequences, posing a moderate threat to the project or organization
- Critical: risks with substantial negative consequences that will seriously impact the success of the organization or project
- Catastrophic: risks with extreme negative consequences that could cause the entire project to fail or severely impact daily operations of the organization. These are the highest-priority risks to address

Likelihood: the probability of the risk occurring.

- Unlikely: extremely rare risks, with almost no probability of occurring
- Seldom: risks that are relatively uncommon, but have a chance of manifesting
- Occasional: risks that are more typical, with about a 50/50 chance of taking place
- Likely: risks that are highly likely to occur
- Definite: risks that are almost certain to manifest. Address these risks first

Asset Portfolio

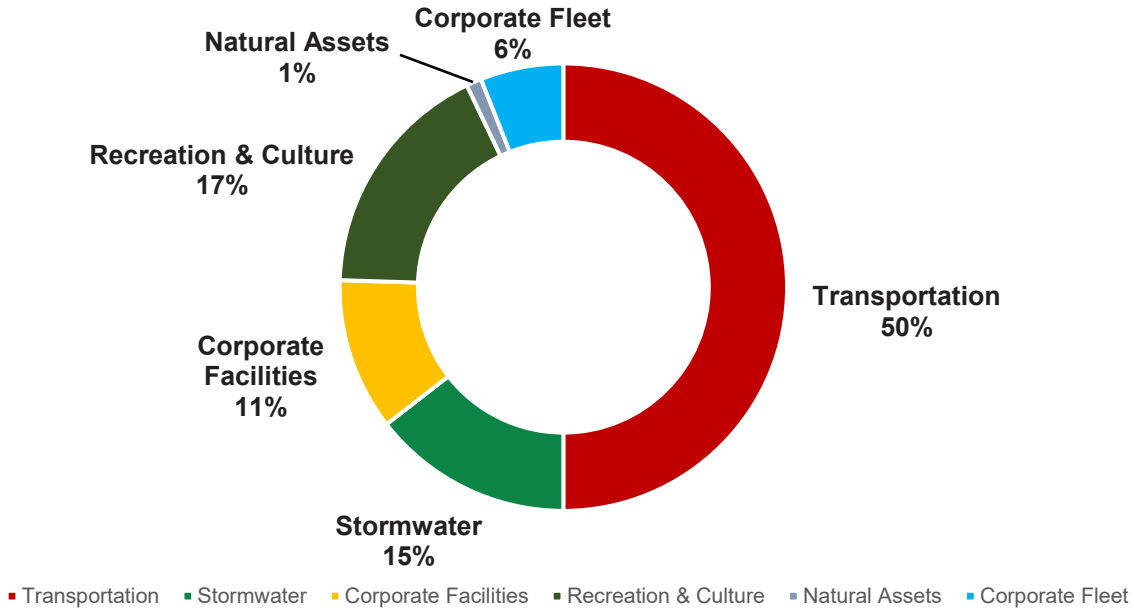
Introduction

This section provides a high-level summary of all asset classes before analyzing each asset class individually. Aggregate indicators are provided to summarize key elements of the municipality's seven asset classes in this AMP. Note that the City does not own any water or wastewater assets.

Current Value of Asset Portfolio

The service areas analyzed in this asset management plan have a total replacement cost of $679 million as of December 31, 2023. This total was determined based on a combination of user-defined costs and cost inflation. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today.

Within this portfolio, the Transportation and Stormwater service area makes up nearly 65%, with Recreation, Culture and Natural Assets making up 18% and Corporate Facilities and Corporate Fleet the remaining 17%. The cost per household totalled $33,951 based on 20,034 households from MPAC's 2024 Household Annual Report[4].



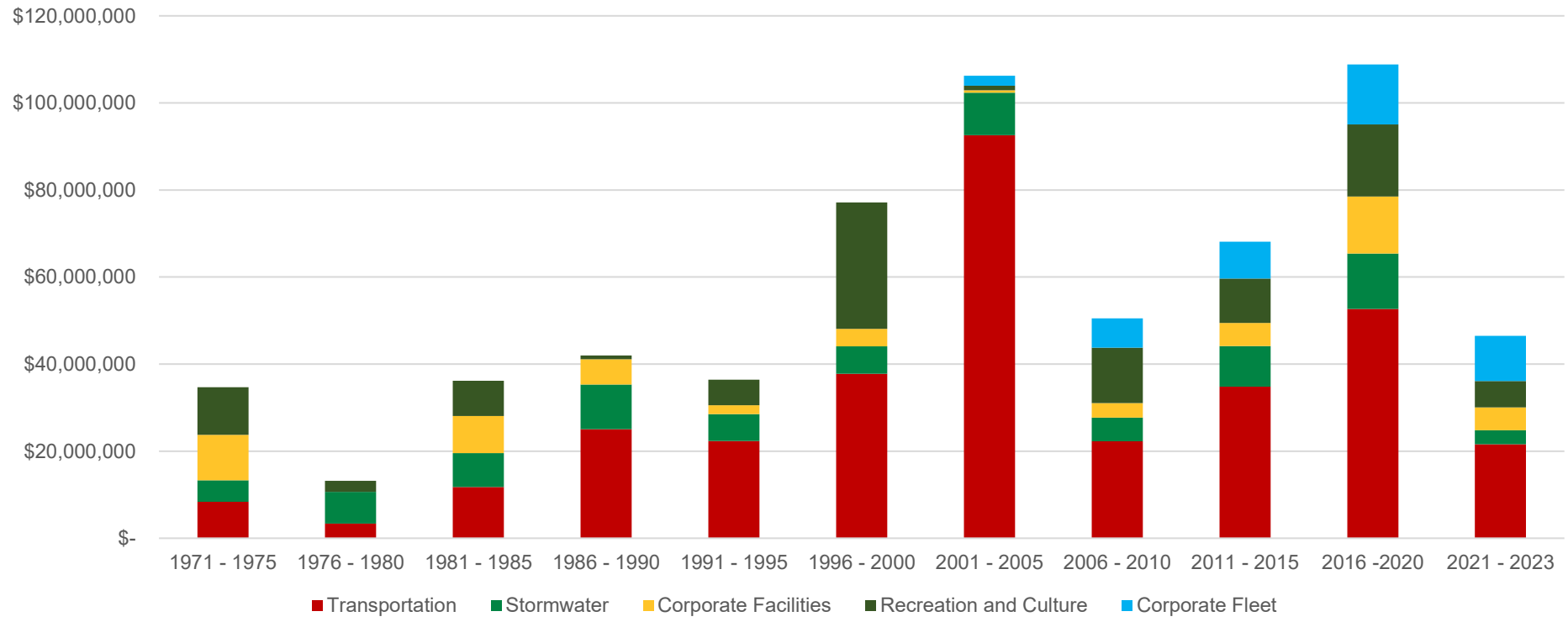
[4] MPAC 2024 Annual Report

Historical Investments in Infrastructure

In addition to current replacement costs, a better understanding of historical infrastructure spending can help identify previous investment gaps and potential short- and medium-term spikes.

In conjunction with condition data, two other measurements can augment staff understanding of the state of infrastructure and impending and long-term infrastructure needs: installation year profile, and useful life remaining. The installation year profile in the bar graph below illustrates the historical investments in infrastructure across key asset classes. Often, investment in critical infrastructure parallels population growth or other significant shifts in demographics.

Figure 2. Historical Investment in Infrastructure - All Service Areas, 2023



Like other municipalities in Ontario, the City of Woodstock experienced a period of increasing levels of investment beginning in the 1970s, with more rapid increases in the late-1980s and 1990s. The largest investments were made between 2001 and 2005, totalling nearly $110 million, where the majority of investment was made into roads and storm assets. Since 2010, the municipality's infrastructure expenditures have totalled over $220 million.

Target vs. Actual Reinvestment Rate

To meet the long-term replacement needs of its $679 million asset portfolio, the City should be allocating approximately $22.8 million annually for a target reinvestment rate of 3.39%. However, actual annual spending on infrastructure totals approximately $13.4 million, for an actual reinvestment rate of 1.99%.

Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. This estimate relies on both age-based and field condition data.

Field condition data is invaluable in asset management planning as it reflects the actual condition of the asset and its ability to perform its functions. In 2015, a study[5] of 93 municipalities determined that using only age-based data can understate the condition of roads, bridges, and culverts by as much as 30%--leading to an overstatement of financial needs.

Service Life Remaining

While age is not a precise indicator of an asset's health, it can serve as a meaningful approximation in the absence of condition data and can serve as a signal.

Approximately 69% of the municipality's assets, with a valuation of $451 million, have at least ten years of useful life remaining. However, 8% of assets valued at $51 million will reach the end of their useful life in the next five years.

Infrastructure Report Card

The asset management plan is a complex document, but one with direct implications on the public, a group with varying degrees of technical knowledge.

The following infrastructure report card is based on condition data (age and assessed) and the municipality's financial capacity to keeps its infrastructure in a state of good repair.

Table 5. Infrastructure Report Card 2023

Service Area	Asset Health Grade	Financial Capacity Grade
Transportation	C	D
Stormwater	C	C
Corporate Facilities	C	D
Recreation and Culture	C	D
Corporate Fleet	D	A

[5] Public Service Digest Study

TRANSPORTATION

Asset Information	Values
Total Replacement Cost	$337,099,072
Average Annual Infrastructure Gap	$5,102,000

Asset Information	Values
Overall Condition Rating	Good
Paved Road Network Condition Rating	74.9%
Bridges and Culverts Condition Rating (BCI)	74.47

TRANSPORTATION

State of the Infrastructure

The City's Transportation asset portfolio consists of Road Network, Bridges and Culverts assets. The following section contains information regarding the Transportation portfolios asset inventory, replacement costs, age, and overall condition ratings.

Asset Inventory and Replacement Cost

The table below illustrates key asset attributes for the City's Transportation portfolio. The overall value of the City's Transportation assets are valued at over $330 million.

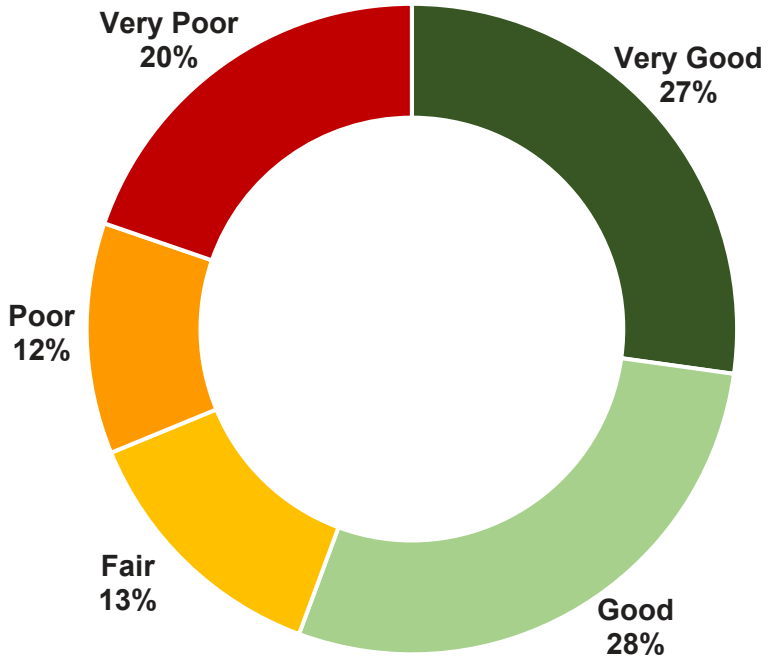
Table 6. Transportation Inventory Valuation

Asset Category	Asset Type	Quantity	Unit	Replacement Cost
Road Network	Paved Roads	217	Km	$249,893,465
	Parking Lots	15	Each	$2,201,608
	Retaining Walls	81	Each	$6,638,418
	Sidewalks	289	Km	$26,631,387
	Streetlights	5778	Each	$15,481,938
	Signalizations	17	Each	$5,314,961
Bridges and Culverts	Bridges	13	Each	$25,387,295
	Large Culverts	7	Each	$5,550,000
Overall Transportation Replacement Value				$337,099,072

Current Asset Condition

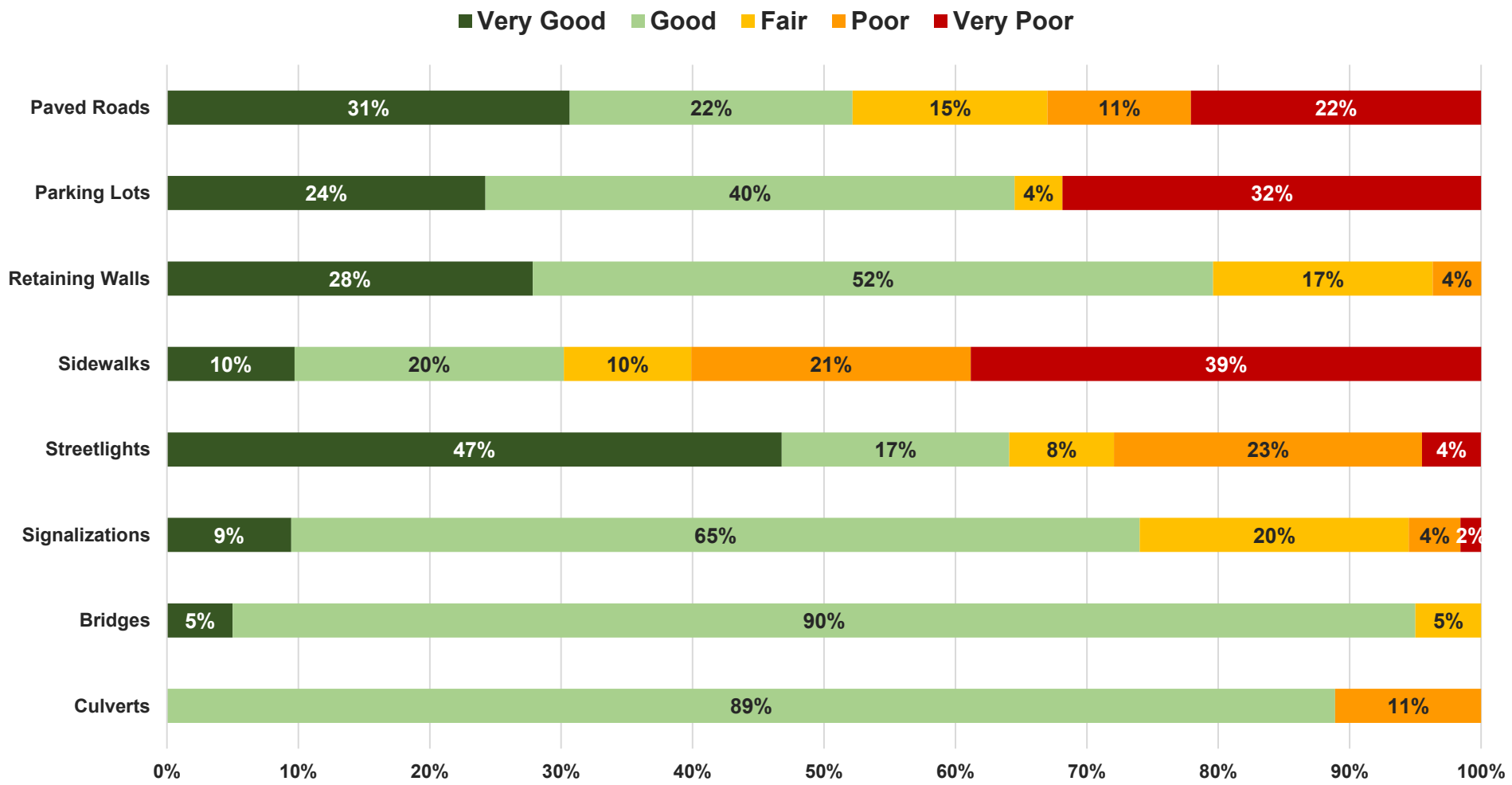
The following graph illustrates the overall conditions of the transportation service area. The average condition is a weighted value based on replacement cost.

Figure 3. Asset Condition – Transportation, 2024



Overall, 68% of the transportation assets are in the very good to fair rating categories (based on replacement value) with 32% in the poor and very poor categories.

Figure 4. Asset Condition Breakdown – Transportation, 2024



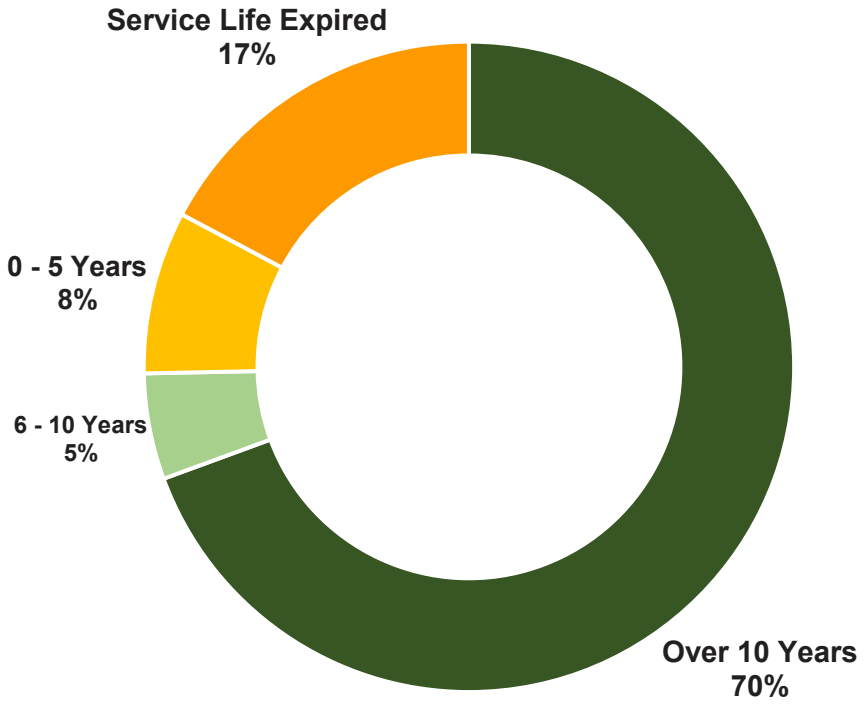
Estimated Useful Life and Average Life

The Estimated Useful Life for Transportation assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. 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. The assessed condition may increase or decrease the average service life remaining.

Table 7. Estimated Useful Life for Transportation Components, 2024

Asset Component	Useful Life (Years)
Paved Roads/Parking Lots	20 - 40
Sidewalks	60
Streetlights	20 - 40
Signalization	30 - 40
Retaining Walls	60
Bridges	75
Culverts	75

Figure 5. Useful Life Remaining – Transportation, 2024



Levels of Service

The following section includes performance measures that are included in the O.Reg. 588/17 requirements. They are not the only metrics used by the City to measure the quality being delivered by any asset category.

Table 8. O.Reg. 588/17 Levels of Service Metrics

Service Attribute	Corporate Description	LOS Measure	Current Performance	Proposed Performance
Scope	Providing a transportation network with a reasonable level of connectivity.	Number (#) of lane-kilometres of arterial roads (class 1 and 2) as a proportion of square kilometres of land area of the municipality.	0.80	TBD
		Number (#) of lane-kilometres of collector roads (class 3 and 4) as a proportion of square kilometres of land area of the municipality.	1.91	
		Number (#) of lane-kilometres of local roads (class 5 and 6) as a proportion of square kilometres of land area of the municipality.	5.80	
	Providing operational bridges with a reasonable level of connectivity.	Percentage (%) of bridges in the municipality with loading or dimensional restrictions.	Maintain	
Quality	Providing a transportation network that is in a state of good repair.	For unpaved roads in the municipality, the average surface condition (e.g., excellent, good, fair, or poor).	Fair	
		For paved roads in the municipality, the average pavement condition index (PCI) value.	74.9	
	Providing bridges and culverts in a state of good repair.	For bridges in the municipality, the average bridge condition index (BCI) value.	75.82	
		For structural culverts in the municipality, the average bridge condition index (BCI) value.	71.96	
		Percentage (%) of compliance with Bridge Inspection Standard.	100%	
Cost Efficiency	Providing a transportation network in a cost-efficient manner.	Road Network Reinvestment Rate	1.90%	
		Bridges and Culverts Reinvestment Rate	0.32%	

Table 9. Images of Pavement Condition Index Inspections

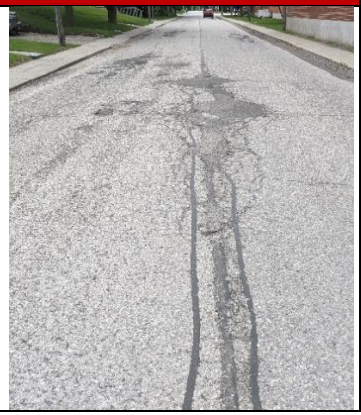
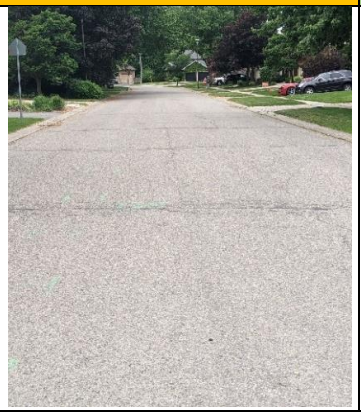
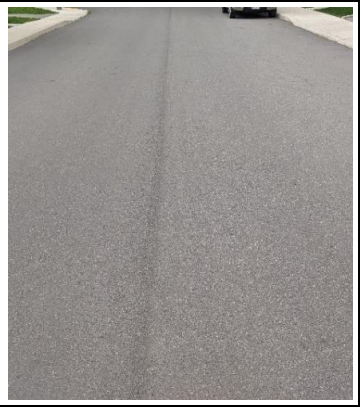
Asset	Very Poor Condition	Poor Condition	Fair Condition	Good Condition	Very Good Condition
Paved Road					

Table 10. Images of OSIM Bridge Inspections

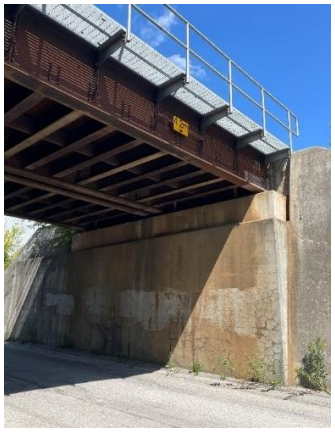
Asset	Very Poor Condition	Poor Condition	Fair Condition	Good Condition	Very Good Condition
Bridges	N/A				

Table 11. Images of OSIM Culvert Inspections

Asset	Very Poor Condition	Poor Condition	Fair Condition	Good Condition	Very Good Condition
Culverts	N/A				

Figure 6. Level of Connectivity - Road Network, 2024

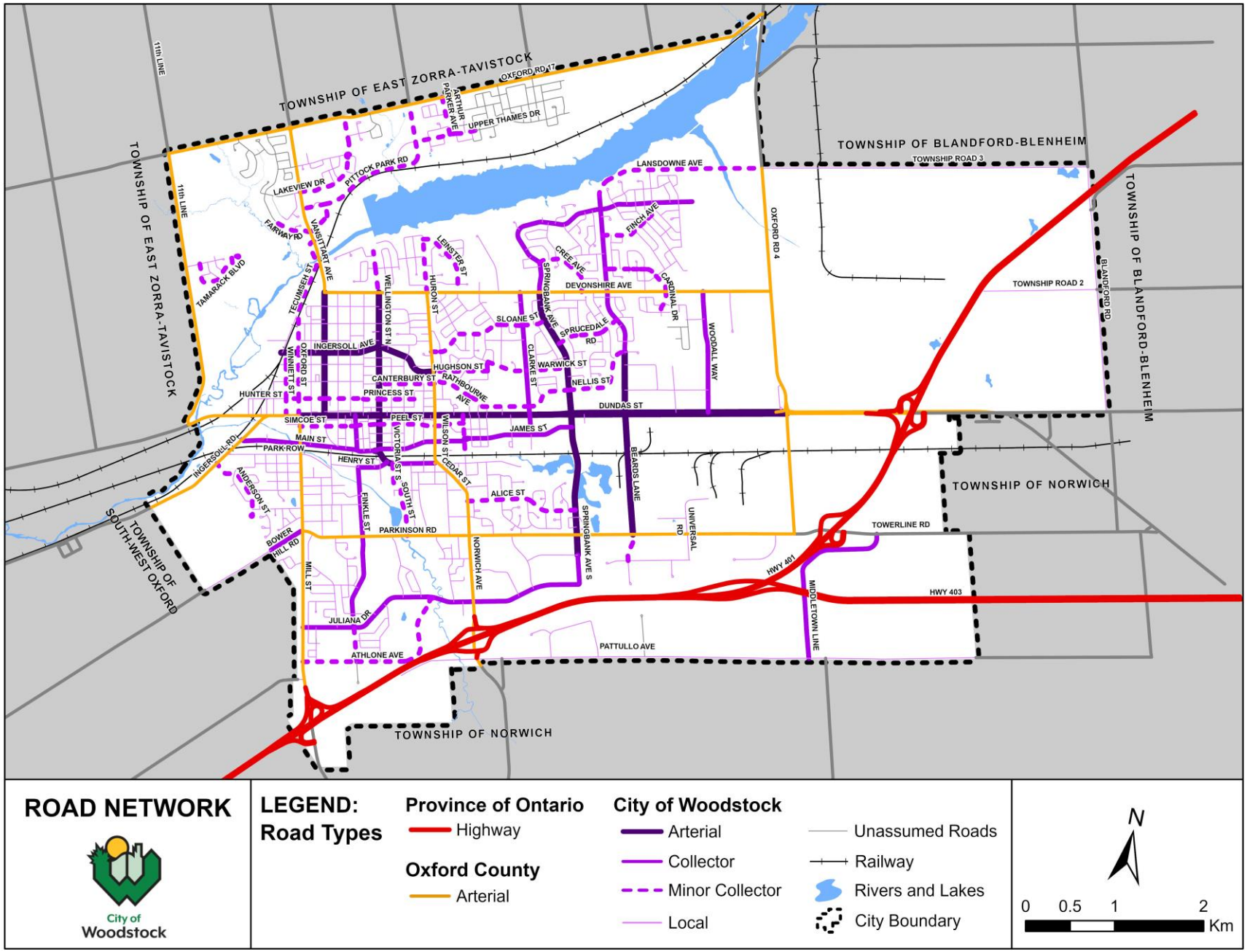


Figure 7. Pavement Condition - Road Network, 2024

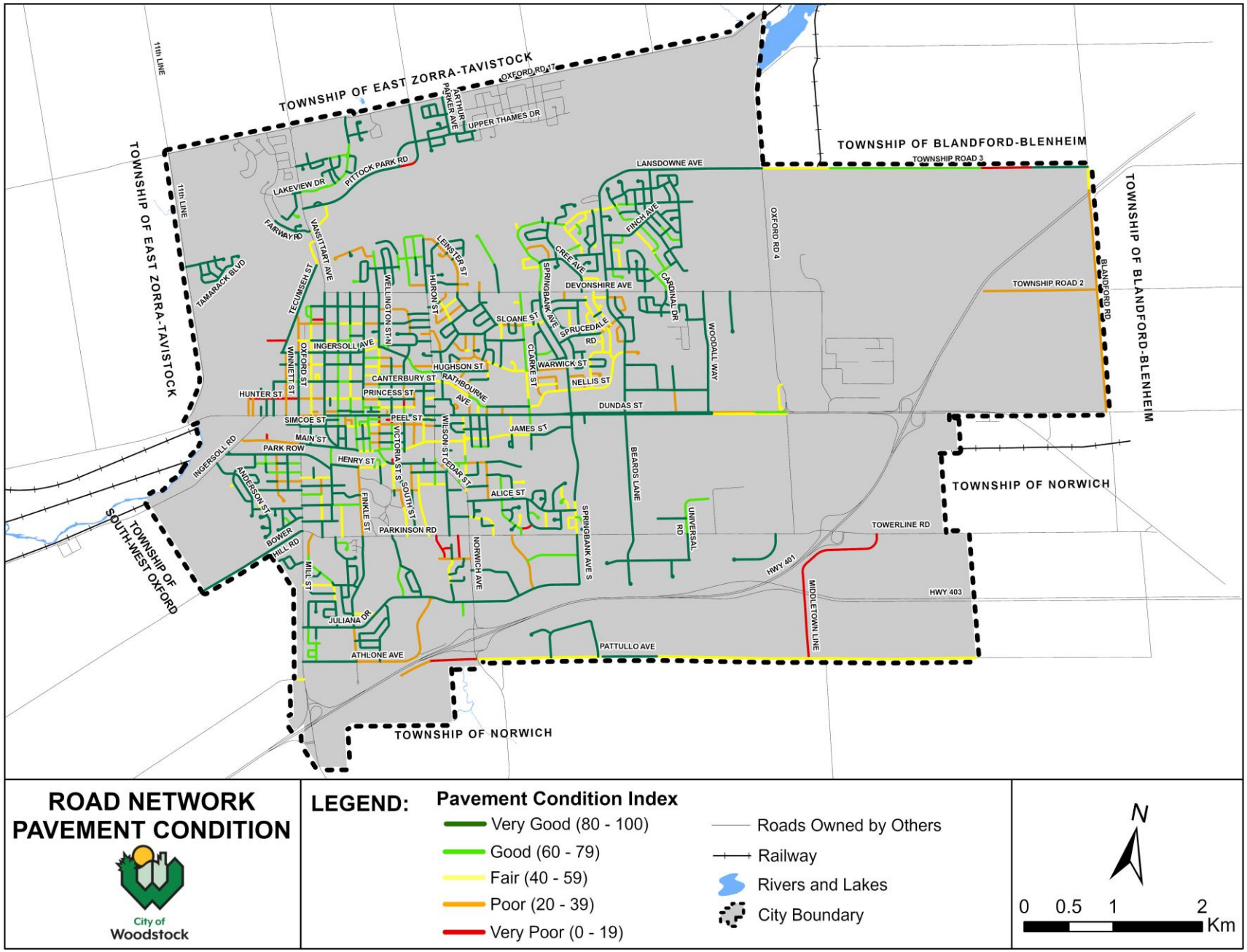


Figure 8. Level of Connectivity - Sidewalk Network, 2024

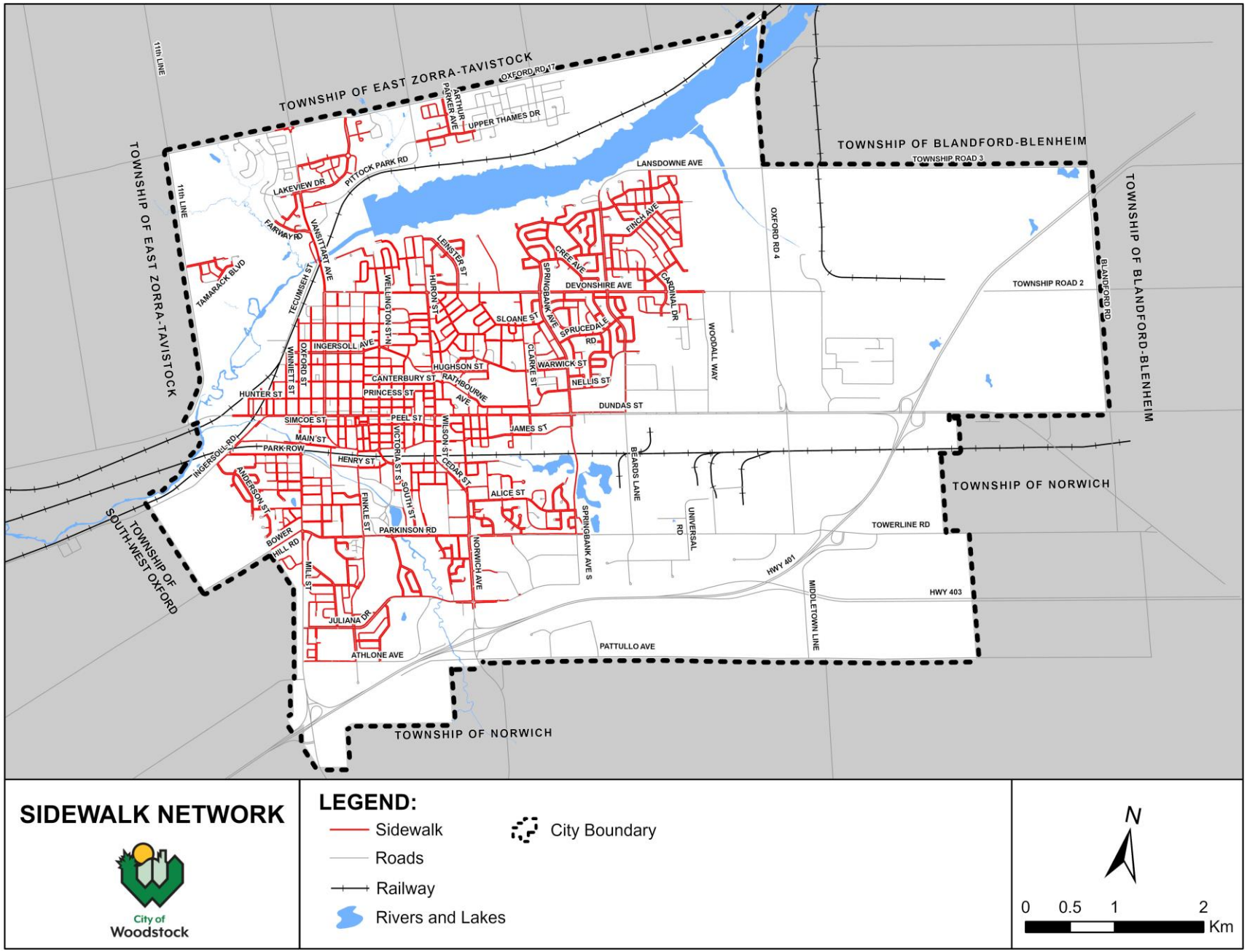
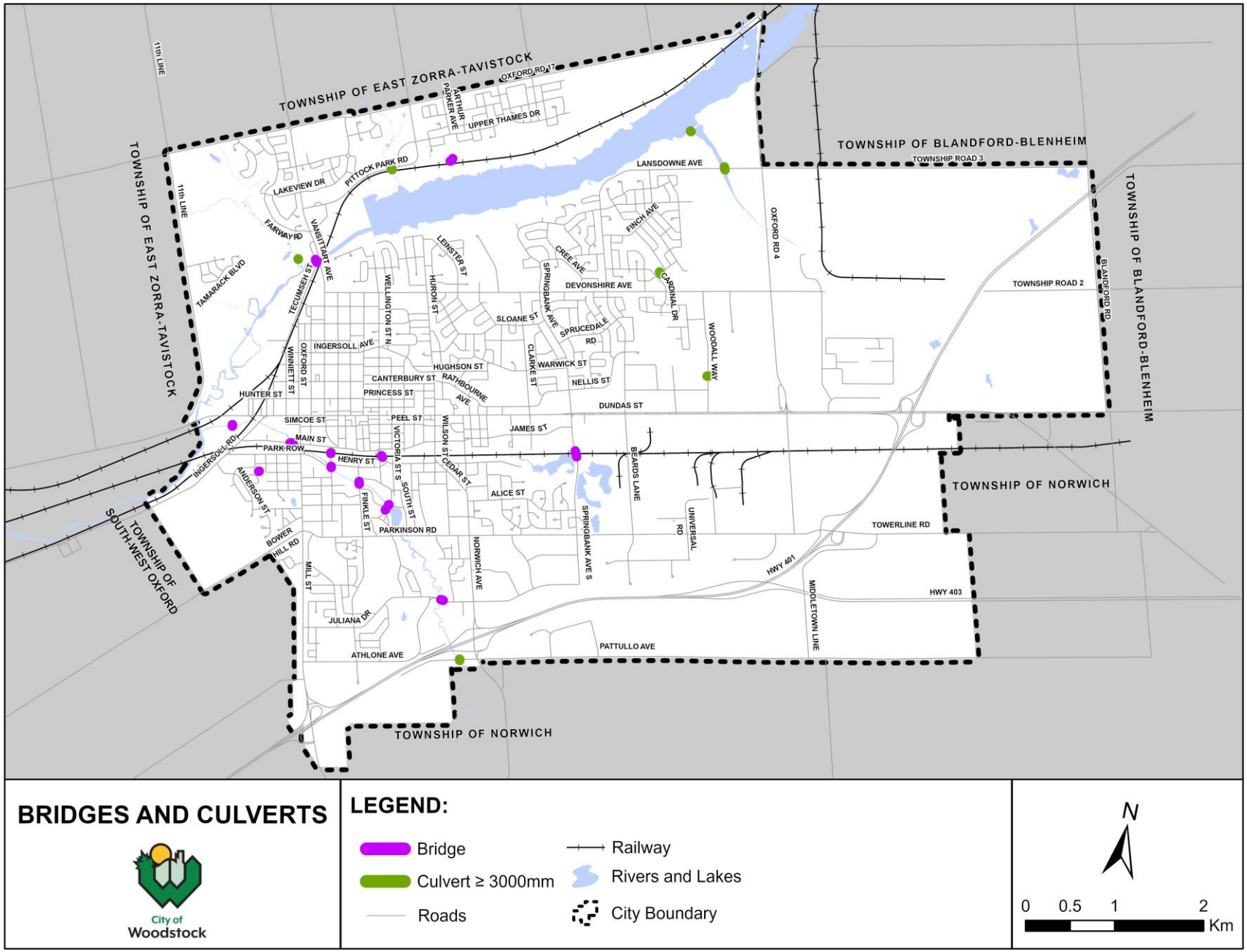


Figure 9. Level of Connectivity – Bridges and Culvert, 2024



Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. This process is affected by various factors, including an asset's characteristics, location, utilization, maintenance history and environment. The following lifecycle management strategies are currently being used/are recommended to ensure the Transportation portfolio remains in a state of good repair throughout its intended lifespan and to maintain current levels of service.

Table 12. Lifecycle Management Strategies, Transportation

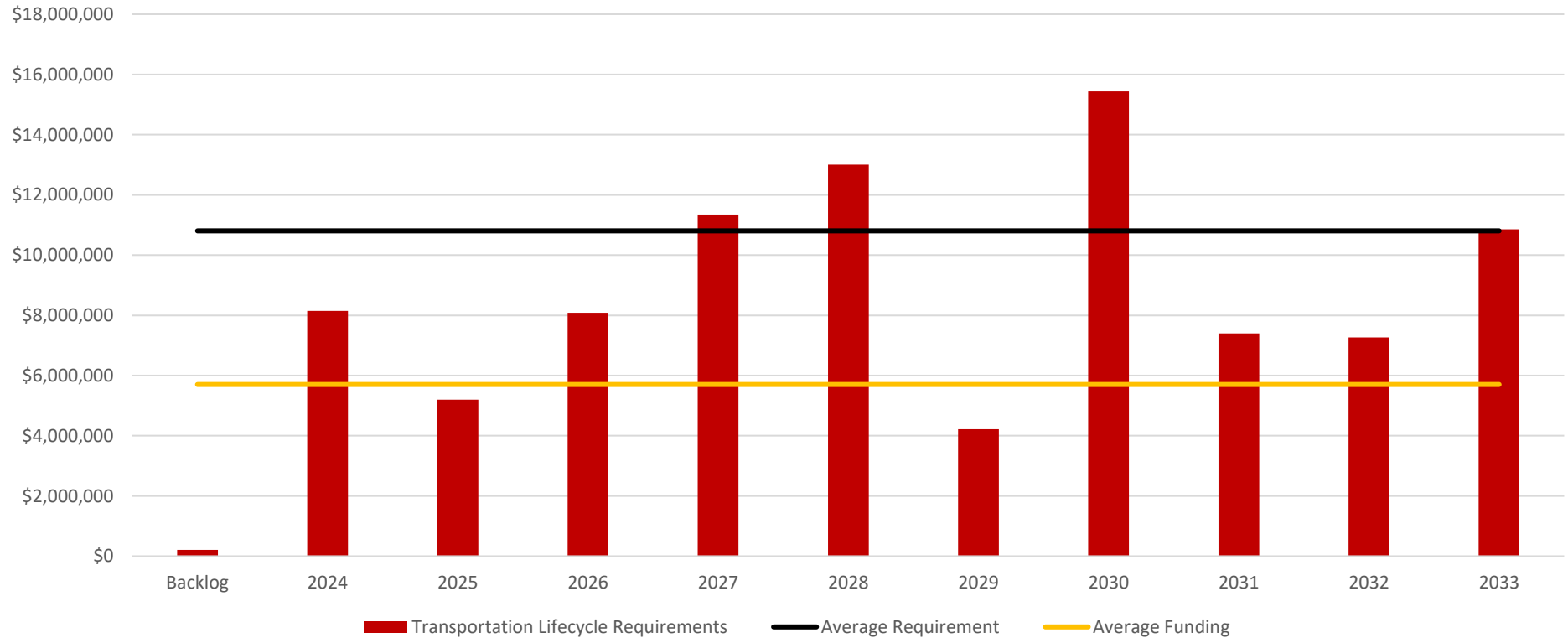
Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
Non-Infrastructure Solutions	• Condition assessment programs • Transportation Master Plan • Traffic count and studies • OSIM Reports • Climate change adaption and mitigation • Transit initiatives that decrease vehicle traffic and reliance	• Inadequate planning leading to inaccurate forecast estimates and short- and long-term plans • Regulatory requirement • Inability to understand potential impacts of climate change on infrastructure
Maintenance	• Routine maintenance such as street sweeping, shoulder grading, pothole patching, etc. • Snow and ice removal maintenance • Meet Minimum Maintenance Standards • Roads Needs Study – entire network is reviewed • Scheduled preventative maintenance programs such as the crack sealing program to reduce preemptive damage to the road network due to water penetration • Structures inspected biannually	• Deficiencies are not identified through patrols • Increased lifecycle costs if maintenance is not done as scheduled or incorrectly • Premature asset failure, service level drops, and health and safety risks • Customer dissatisfaction
Renewal (Rehabilitation and Replacement)	• Rehabilitation activities are determined based on both external expertise and internal expertise (knowledge of evolving road condition, organizational priorities, available budget, coordination with County and other City assets). • Tar and chip roads are managed proactively and are subject to regular resurfacing activities (single and double lift) to maintain a suitable driving surface. • Paved road rehabilitation and replacement are done proactively based on the work plan provided in the roads needs study. It is also influenced by the rehabilitation and replacement of the water assets that run under the road network.	• Rehabilitation/Renewal activities may not extend asset life as expected • Increased lifecycle costs if not done properly or as scheduled • Coordination with other asset classes might delay planning forecasts
Disposal	• Obsolete assets are decommissioned as needed • Road disposals are rare	• Environmental impacts and cost overruns

Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
	• Structure disposals are rare/infrequent	
Growth	• Transportation Master Plan identifies long term policy and programs for the City's transportation network • New development assumptions, industrial expansion, and local improvements • Growth projects related to expansion and traffic studies/warrants	• Activities delayed or cancelled resulting in inability to accommodate increased demands
Service Improvement	• Technologies that offer improved resistance to the elements and typical condition deterioration • Incorporate active transportation into the overall transportation network	• Increased levels of service expectations result in increased costs

Forecasted Lifecycle Requirements

The following graph illustrates the forecasted lifecycle requirements over a 10-year period for the Transportation service area. The cost required to maintain existing service levels was determined to be $10.8M annually to ensure asset performance in perpetuity. The average forecasted funding over the upcoming 10-year period was determined to be $5.7M annually, resulting in a funding gap of $5.1M annually.

Figure 10. Annual Requirements and Forecasted Budget - Transportation



Data Confidence

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets more confidently.

The City's overall Transportation data accuracy is considered to be high with condition assessments being completed on its road network and bridges and culvert inventory within the last two years. Data gap analysis continues to be a major project the City embarks on as it seeks to further understand its inventory and plan for the long term.

Figure 11. Data Accuracy – Transportation

Condition Assessments and Data Collection

The following describes the City's current condition assessment programs and practices within the Transportation service area:

- A Road Needs Study that included a detailed assessment of the condition of each road segment
- Dedicated annual crack sealing program
- Biennial inspection program for all bridges, culverts, and pedestrian bridges that have a span of three (3) metres or more, as mandated by the MTO.
- Rehabilitation is prioritized using structural adequacy, cost, and Average Daily Traffic (ADT). Pavement re-surfacing is applied to deteriorating road surfaces to extend the life of road assets and prevent the need for full road reconstruction

Typical industry pavement inspections are performed by consulting firms using specialized assessment vehicles equipped with various electronic sensors and data capture equipment. The vehicles will drive the entire road network and typically collect two different types of inspection data—surface distress data and roughness data.

Surface distress data involves the collection of multiple industry standard surface distress, which are captured either electronically, using sensing detection equipment mounted on a vehicle, or visually, by the inspection crew.

Roughness data capture involves the measurement of the roughness of the road, measured by lasers that are mounted on the inspection vehicle's bumper, calibrated to an international roughness index.

The biennial inspection program is a valuable source of information. Structures are a vital part of the transportation network in the City, and the goal of OSIM inspections is to ensure they are maintained to an acceptable standard to protect public safety and convenience. In addition, routine maintenance and inspections by City maintenance crews are essential in identifying changes to structure conditions. The report identifies current and future physical and financial needs with regards to the structures. It also includes timing recommendations for maintenance, repair, and rehabilitation work. These recommendations combined with continued biennial inspections are a tool to monitor and plan for the infrastructure needs in the City.

It is recommended that the City continue current strategic condition assessment programs and that a portion of capital funding continue to be dedicated to this.

Improvement Strategies

The City continues to advance the Asset Management Program and works towards ensuring line of sight when it comes to decision making and asset management practices. Increased quality of data and information and standardized operating procedures will improve data confidence levels and the quality of these decisions. The following recommendations will help ensure the City maintains its path and manage its growing $337 million Transportation portfolio in a sustainable manner.

1. Align the Asset Management Plan

a. Align the AMP with the City's budgetary processes and strategic plan
b. Identify paths of incorporating the AMP within the capital budget
c. Establish an Asset Management Steering Committee to ensure line of sight across the City

2. Address the Infrastructure Gap

a. Continue to search for funding from non-tax sources of financing to address infrastructure gaps
    i. Grant funding where applicable
b. Create infrastructure reserves that plan for the future and eliminate the risk of "peaks and valleys" in funding requirements
    i. Road Reconstruction and Bridge Reserves
c. Mitigate the risk of current LOS dropping
d. Improve and build 5- and 10-year capital plans that tackle the infrastructure gap

3. Improve the Asset Management Program

a. Ensure data inventories are accurate and condition data is recorded in a timely manner
    i. Roads Needs Study
    ii. OSIM Inspections
b. Standardize operating procedures where applicable
c. Build lifecycle strategies that are representative of asset performance and achieve proposed LOS
d. Explore opportunities for interoperability where available
    i. Asset Management Systems
e. Continue to pursue Risk Management strategies across the City

STORMWATER

Asset Information	Values
Total Replacement Cost	$98,732,655
Average Annual Infrastructure Gap	$590,000

Asset Information	Values
Overall Condition Rating	Good

STORMWATER

State of the Infrastructure

The City's Stormwater asset portfolio consists of Stormwater Network assets such as catch basins, manholes and gravity mains. The following section contains information regarding the Stormwater portfolios asset inventory, replacement costs, age, and overall condition ratings.

Asset Inventory and Replacement Cost

The table below illustrates key asset attributes for the City's Stormwater portfolio. The overall value of the City's Stormwater assets are valued at nearly $100 million.

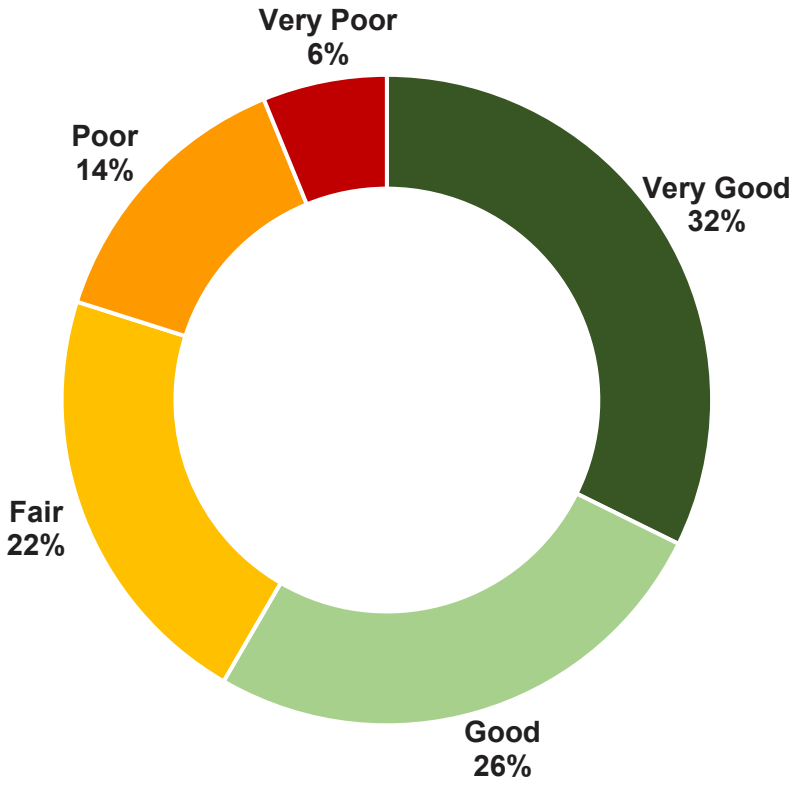
Table 13. Stormwater Inventory Valuation

Asset Category	Asset Type	Quantity	Unit	Replacement Cost
Stormwater Network	Catch Basins	4937	Each	$16,455,177
	Gravity Mains	222	Km	$57,476,248
	Manholes	2178	Each	$14,992,500
	Stormwater Management Facilities	28	Each	$9,808,730
Overall Stormwater Replacement Value				$98,732,655

Current Asset Condition

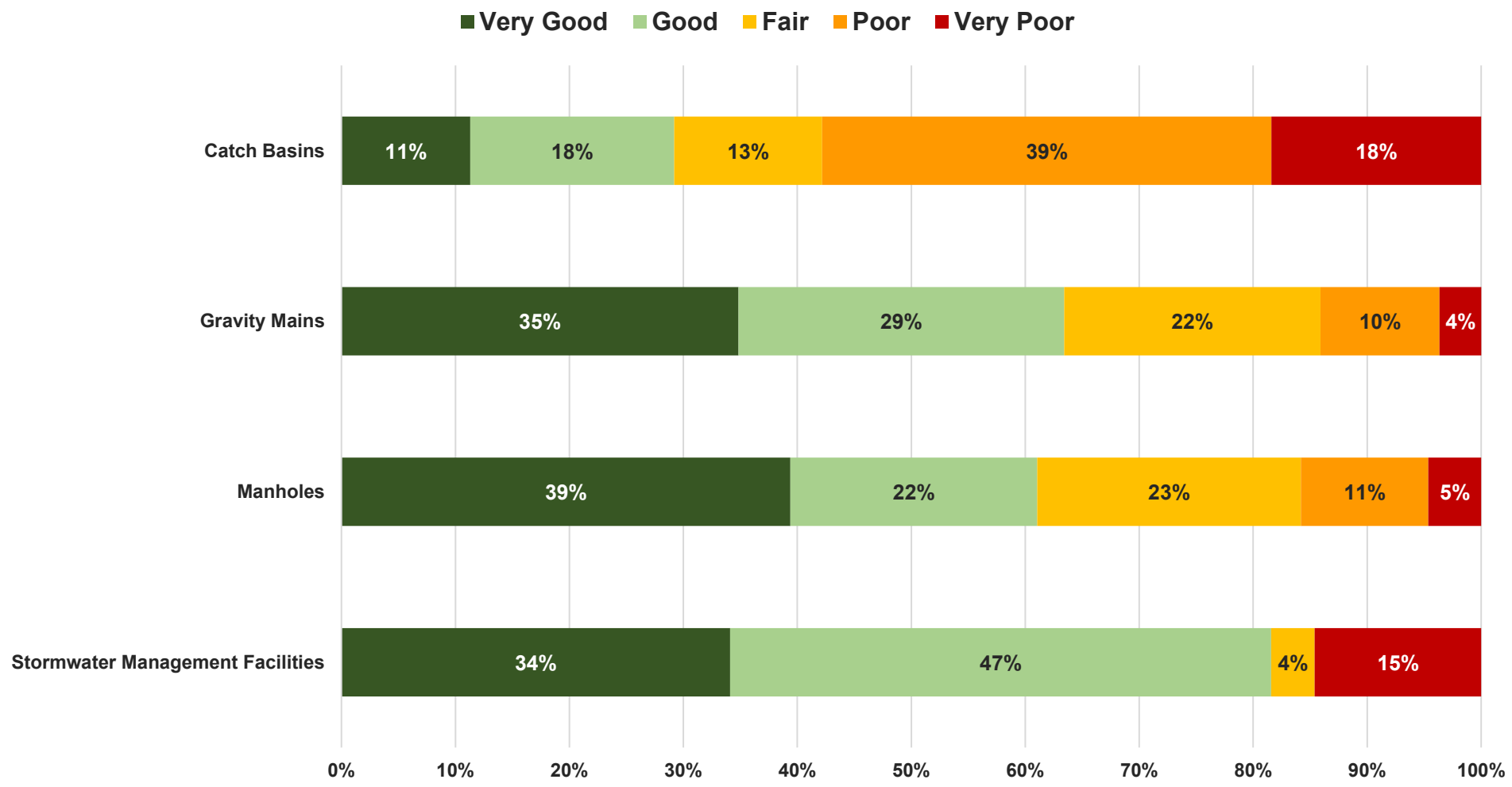
The following graph illustrates the overall conditions of the stormwater service area. The average condition is a weighted value based on replacement cost.

Figure 12. Asset Condition – Stormwater, 2024



Overall, 80% of the stormwater assets are in the very good to fair rating categories (based on replacement value) with 20% in the poor and very poor categories.

Figure 13. Asset Condition Breakdown – Stormwater, 2024



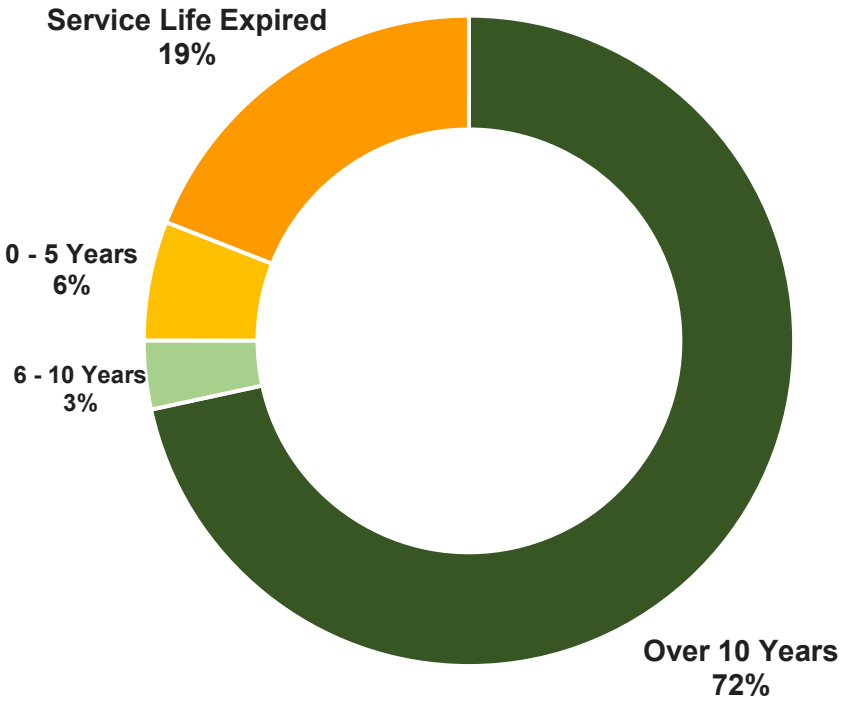
Estimated Useful Life and Average Life

The Estimated Useful Life for Stormwater assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. 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. The assessed condition may increase or decrease the average service life remaining.

Table 14. Estimated Useful Life for Stormwater Components, 2024

Asset Component	Useful Life (Years)
Catch Basins	40
Gravity Mains	50 - 100
Manholes	80
Stormwater Management Facilities	80

Figure 14. Useful Life Remaining – Stormwater, 2024



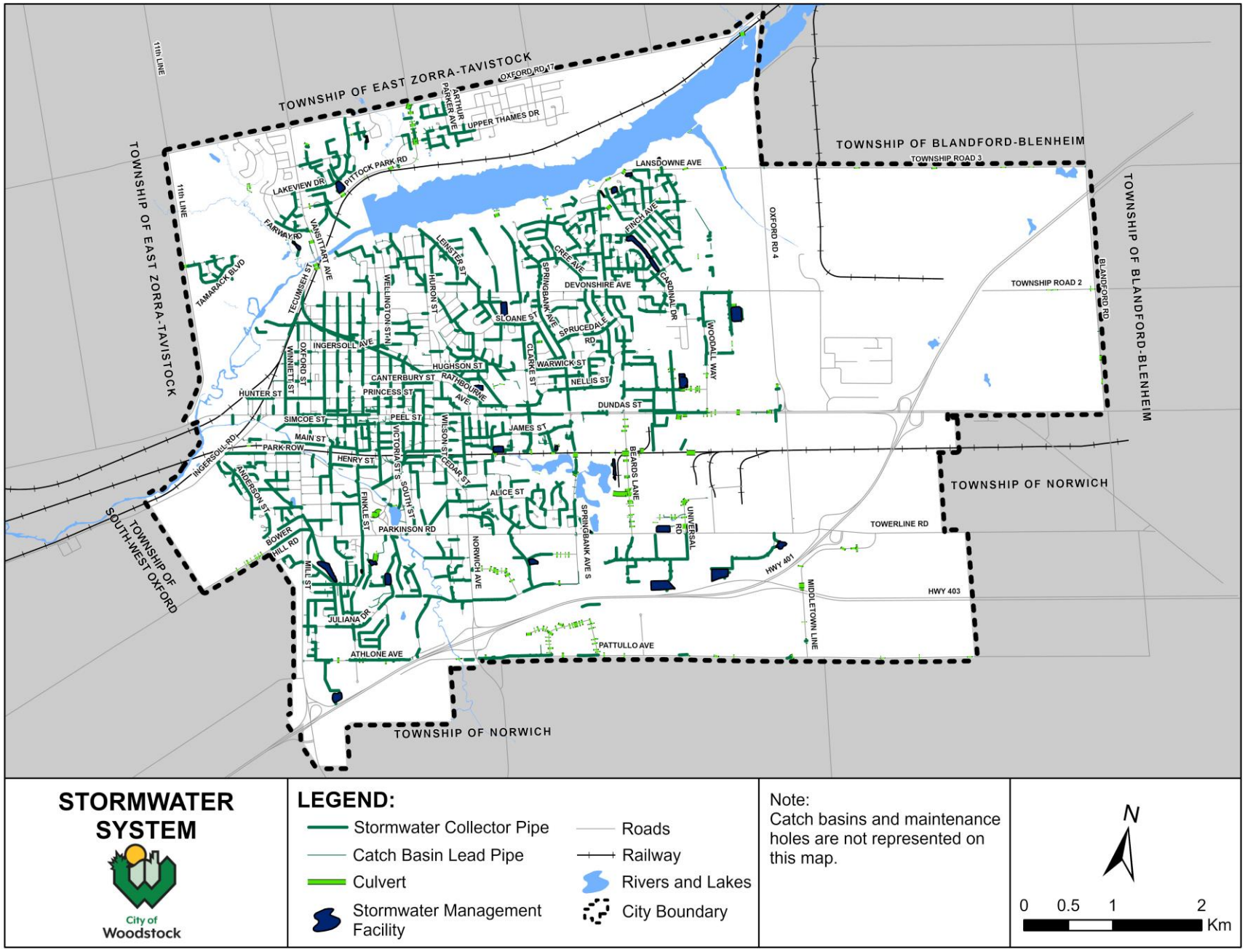
Levels of Service

The following section includes performance measures that are included in the O.Reg. 588/17 requirements. They are not the only metrics used by the City to measure the quality being delivered by any asset category.

Table 15. O.Reg. 588/17 Levels of Service Metrics

Service Attribute	Corporate Description	LOS Measure	Current Performance	Proposed Performance
Scope	Providing stormwater services that protect the community.	Percentage (%) of properties in municipality resilient to a 100-year storm.	99%	TBD
		Percentage (%) of the municipal stormwater management system resilient to a 5-year storm.	100%	
Reliability	Providing stormwater services with minimal impact to the community.	Percentage (%) of Stormwater assets in Fair or better condition.	80%	
		Percentage (%) of Stormwater Conveyance assets in Poor or Very Poor condition.	24.2%	
		Percentage (%) of Stormwater Management assets in Poor or Very Poor condition.	0%	

Figure 15. Stormwater Management System - Stormwater Network, 2024



Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. This process is affected by various factors, including an asset's characteristics, location, utilization, maintenance history and environment. The following lifecycle management strategies are currently being used/are recommended to ensure the Stormwater portfolio remains in a state of good repair throughout its intended lifespan and to maintain current levels of service.

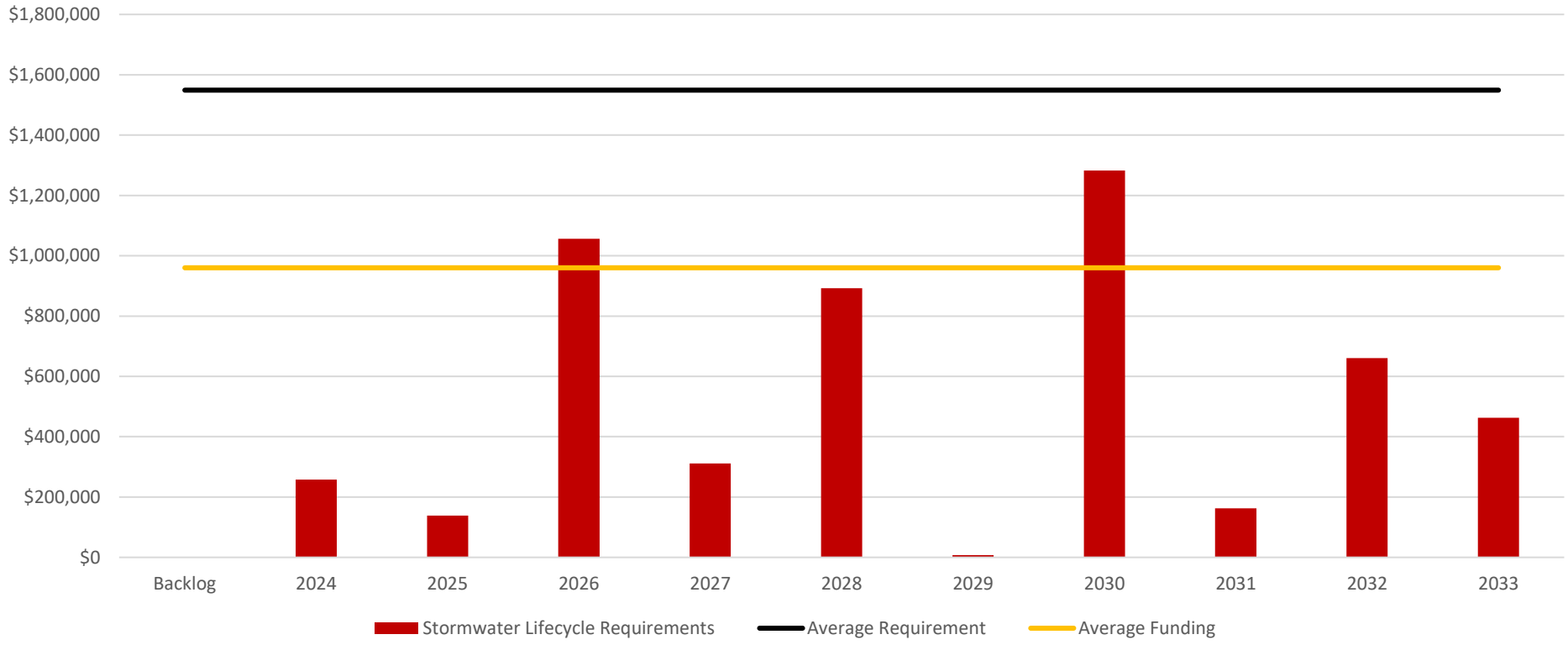
Table 16. Lifecycle Management Strategies, Stormwater

Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
Non-Infrastructure Solutions	• Condition assessment programs • Small Culvert Inspection Program • Climate change adaption and mitigation	• Inadequate planning leading to inaccurate forecast estimates and short- and long-term plans • Regulatory requirement • Inability to understand potential impacts of climate change on infrastructure
Maintenance	• Routine maintenance such as basic cleaning of catch basins, flushing of gravity mains, etc. • Meet Minimum Maintenance Standards • CCTV inspections • Scheduled preventative maintenance programs such as the flushing program to reduce backflow of stormwater onto roads • Small culvert inspection program should be developed	• Deficiencies are not identified through inspections • Increased lifecycle costs if maintenance is not done as scheduled or incorrectly • Premature asset failure, service level drops, and health and safety risks • Customer dissatisfaction
Renewal (Rehabilitation and Replacement)	• Rehabilitation activities are determined based on both external expertise and internal expertise (knowledge of evolving storm network condition, organizational priorities, available budget, coordination with County and other City assets). • Regular cleaning of stormwater pond systems	• Rehabilitation/Renewal activities may not extend asset life as expected • Increased lifecycle costs if not done properly or as scheduled • Coordination with other asset classes might delay planning forecasts
Disposal	• Obsolete assets are decommissioned as needed	• Environmental impacts and cost overruns
Growth	• New development assumptions, industrial expansion, and local improvements • Growth projects related to expansion and storm management needs	• Activities delayed or cancelled resulting in inability to accommodate increased demands
Service Improvement	• Technologies that offer improved resistance to the elements and typical condition deterioration	• Increased levels of service expectations result in increased costs

Forecasted Lifecycle Requirements

The following graph illustrates the forecasted lifecycle requirements over a 10-year period for the Stormwater service area. The cost required to maintain existing service levels was determined to be $1.55M annually to ensure asset performance in perpetuity. The average forecasted funding over the upcoming 10-year period was determined to be $0.96M annually, resulting in a funding gap of $0.59M annually.

Figure 16. Annual Requirements and Forecasted Budget - Stormwater



Data Confidence

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets more confidently.

The City's overall Stormwater data accuracy is considered to be medium to high with condition assessments being completed on the gravity main network within the last two years. Data gap analysis continues to be a major project the City embarks on as it seeks to further understand its inventory and plan for the long term. In the absence of assessed data, the City relies on age-based data as a proxy.

Figure 17. Data Accuracy – Stormwater

Condition Assessments and Data Collection

The following describes the City's current condition assessment programs and practices within the Stormwater service area:

- Closed Circuit Television Video (CCTV) inspection work for all gravity main assets. This includes flushing when necessary
- Storm pond cleanouts
- Catch basin cleaning

CCTV inspections are a valuable source of information. All sewer segment inspections records are collected, and a corresponding GIS database is created. Upon review of inspection reports, the observations and sewer grading results for each sewer segment are categorized and prioritized to provide a summary of potential action items for the City. This summary is used by the City to assist with its ongoing stormwater collection systems management program.

A sewer grading matrix and grading database have been developed to assist with prioritizing actions necessary to meet the desired level of service/maintenance for the stormwater collection system.

Sewer Grading Matrix

Operational and Maintenance (O&M) and Structural observations, sometimes referred to as defects, are divided into eight (8) general categories based on the rectifying action, severity, and likeliness to fail and/or cause an impact if not addressed. Initially, the categories of actions have been defined as follows:

- Emergency Rehabilitation
- Rehabilitation in next Capital Planning Cycle
- Rehabilitation in future Capital Planning Cycle
- Flushing
- Mechanical Cleaning
- Inspection Watchlist
- Re-inspection
- Special Review Cases

It is recommended that the City continue current strategic condition assessment programs and that a portion of capital funding continue to be dedicated to this. It is also recommended that the City develop formal KPI's regarding stormwater inspections.

Improvement Strategies

The City continues to advance the Asset Management Program and works towards ensuring line of sight when it comes to decision making and asset management practices. Increased quality of data and information and standardized operating procedures will improve data confidence levels and the quality of these decisions. The following recommendations will help ensure the City maintains its path and manage its nearly $100 million Stormwater portfolio in a sustainable manner.

1. Align the Asset Management Plan

a. Align the AMP with the City's budgetary processes and strategic plan
b. Identify paths of incorporating the AMP within the capital budget
c. Establish an Asset Management Steering Committee to ensure line of sight across the City

2. Address the Infrastructure Gap

a. Continue to search for funding from non-tax sources of financing to address infrastructure gaps
    i. Grant funding where applicable
b. Create infrastructure reserves that plan for the future and eliminate the risk of "peaks and valleys" in funding requirements
    i. Road Reconstruction Reserves
c. Mitigate the risk of current LOS dropping
d. Improve and build 5- and 10-year capital plans that tackle the infrastructure gap

3. Improve the Asset Management Program

a. Ensure data inventories are accurate and condition data is recorded in a timely manner
    i. Formal CCTV inspection program
    ii. Small culvert inspection program
b. Standardize operating procedures where applicable
c. Build lifecycle strategies that are representative of asset performance and achieve proposed LOS
d. Explore opportunities for interoperability where available
    i. Asset Management Systems
e. Continue to pursue Risk Management strategies across the City

CORPORATE FACILITIES

Asset Information	Values
Total Replacement Cost	$75,229,823
Average Annual Infrastructure Gap	$1,587,000

Asset Information	Values
Overall Condition Rating	Fair

CORPORATE FACILITIES

State of the Infrastructure

The City's Corporate Facilities asset portfolio consists of facility assets such as City Hall, Engineering Office, Public Works, and Transit. The following section contains information regarding the Corporate Facilities portfolios asset inventory, replacement costs, age, and overall condition ratings.

Asset Inventory and Replacement Cost

The table below illustrates key asset attributes for the City's Corporate Facilities portfolio. The overall value of the City's Corporate Facilities assets are valued at over $75 million.

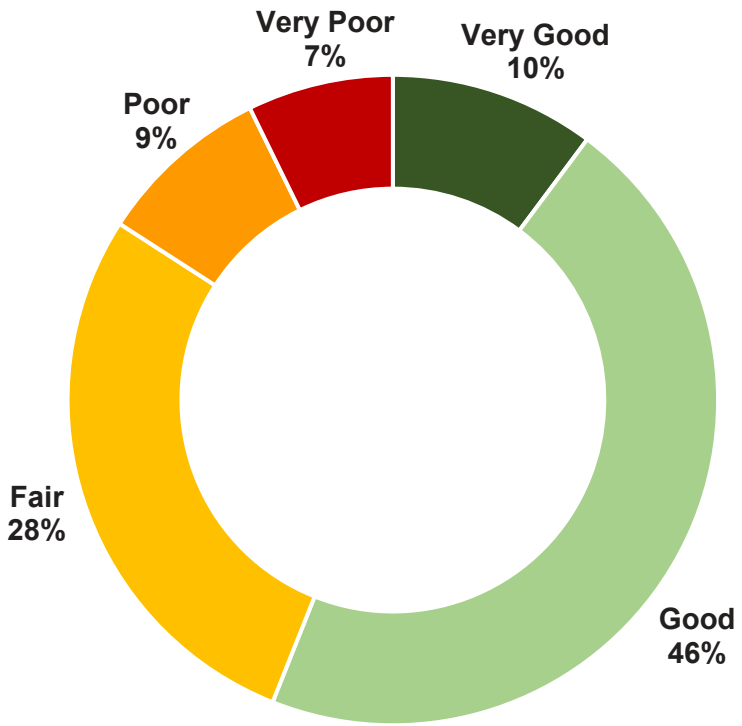
Table 17. Corporate Facilities Inventory Valuation

Asset Category	Asset Type	Quantity	Unit	Replacement Cost
Corporate Facilities	Administrative	6	Each	$26,440,770
	Engineering	1	Each	$8,457,800
	Information Technology	495	Pooled	$8,147,205
	Protection Services[6]	3	Each	$21,109,978
	Public Works	2	Each	$6,339,215
	Transit[7]	37	Each	$4,734,855
Overall Corporate Facilities Replacement Value				$75,229,823

Current Asset Condition

The following graph illustrates the overall conditions of the Corporate Facilities service area. The average condition is a weighted value based on replacement cost.

Figure 18. Asset Condition – Corporate Facilities, 2024

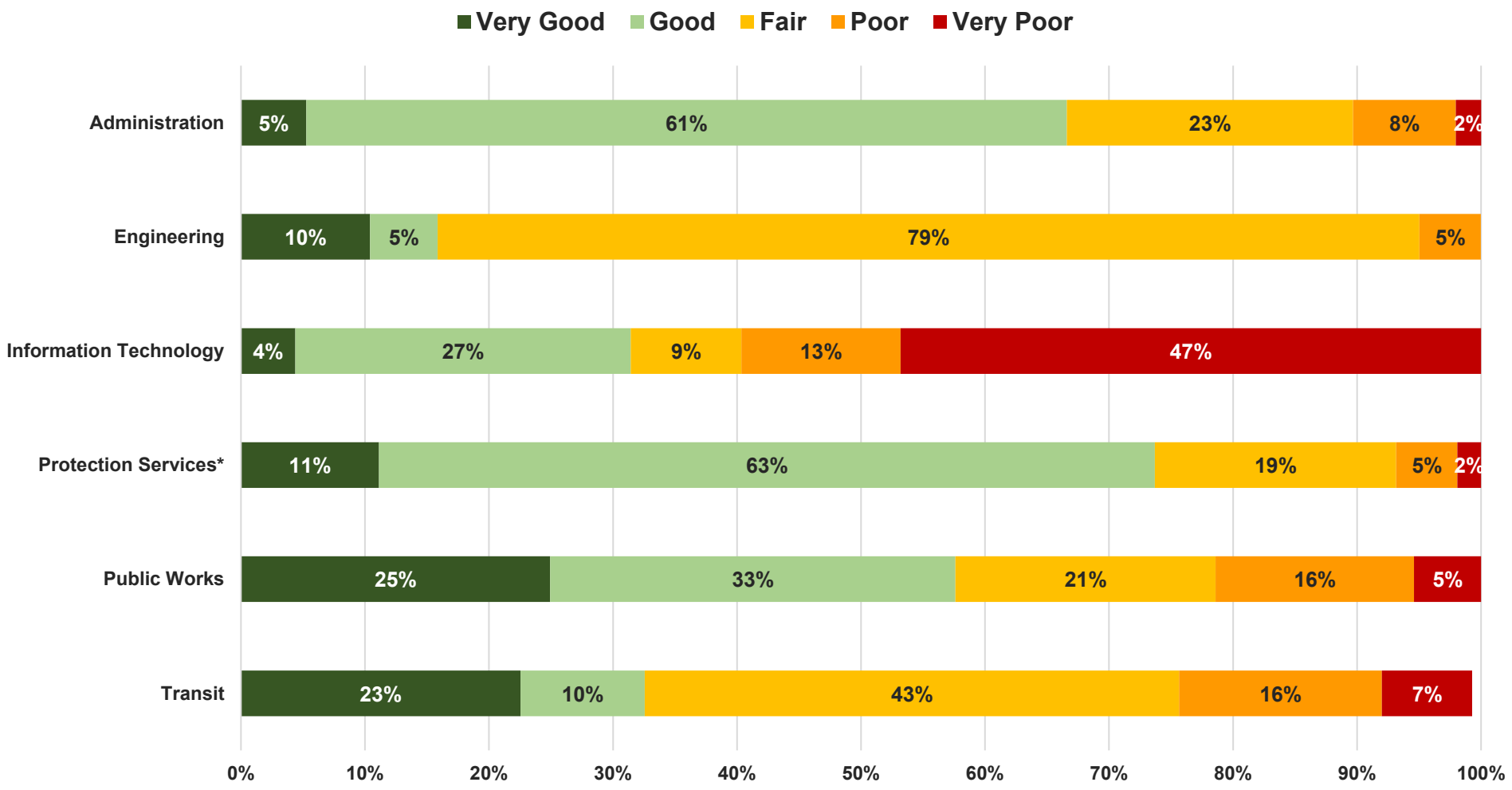


Overall, 84% of the Corporate Facilities assets are in the very good to fair rating categories (based on replacement value) with 16% in the poor and very poor categories.

[6] Woodstock Police Service assets are included but are not all managed by the City

[7] Transit Buses are categorized under Corporate Fleet

Figure 19. Asset Condition Breakdown – Corporate Facilities, 2024



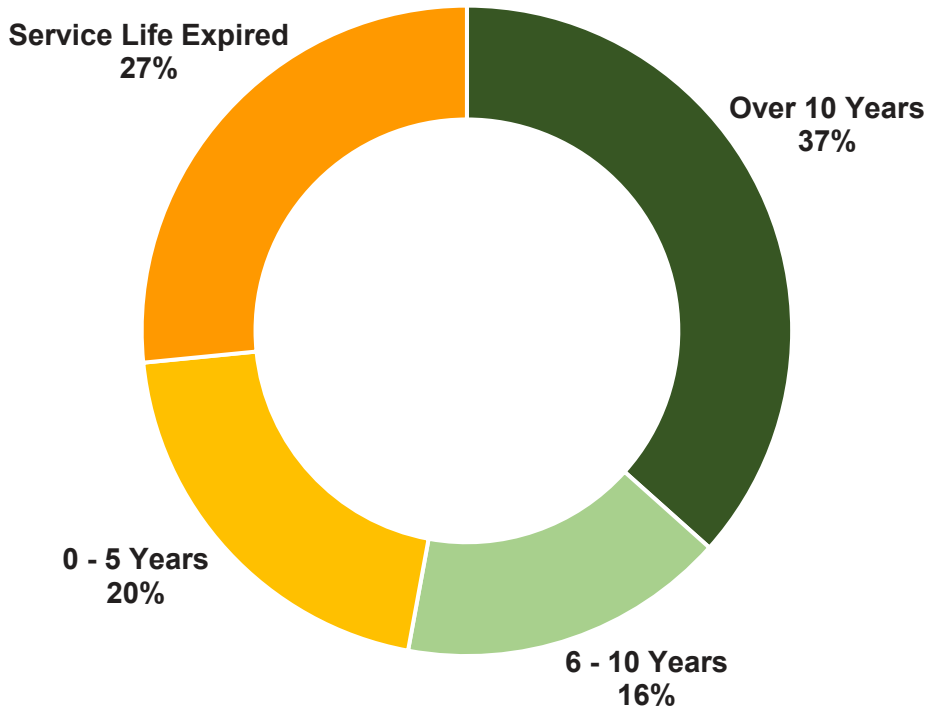
Estimated Useful Life and Average Life

The Estimated Useful Life for Corporate Facilities assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. 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. The assessed condition may increase or decrease the average service life remaining.

Table 18. Estimated Useful Life for Corporate Facilities Components, 2024

Asset Component	Useful Life (Years)
Electrical and Mechanical	15 - 25
Elevators	30
HVAC	15 - 30
Interior Finishes	15 - 25
Roof Cover	15 - 75
Structure	20 - 60
Security Equipment	10

Figure 20. Useful Life Remaining – Corporate Facilities, 2024



Levels of Service

The following section includes performance measures that help drive decision-making and spending on assets. They are not the only metrics used by the City to measure the quality being delivered by any asset category.

Table 19. Levels of Service Metrics

Service Attribute	Corporate Description	LOS Measure	Current Performance	Proposed Performance
Customer Service	Customer Satisfaction (via survey).	Percentage (%) of survey respondents satisfied with Corporate Facilities.	86%	TBD
Cost Effective	Providing facilities services in a cost-effective manner.	Cost to provide facilities services ($/serviced households).	$139.17	
Accessibility	Providing adequate accessibility to facilities.	Percentage (%) of occupied Corporate Facilities that are accessibility (FADS and AODA) compliant.	100%	
Quality	Providing facilities in a state of good repair.	Percentage (%) of Corporate Facilities assets in Fair or better condition.	87%	
Environmental Stewardship	Providing facilities that are energy efficient and environmentally conscious.	Annual electric energy consumption kilowatt-hour per square foot.	8.55 kWh/ft^2	
		Annual natural gas consumption cubic meters per square foot.	1.63 m^3/ft^2	

Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. This process is affected by various factors, including an asset's characteristics, location, utilization, maintenance history and environment. The following lifecycle management strategies are currently being used/are recommended to ensure the Corporate Facilities portfolio remains in a state of good repair throughout its intended lifespan and to maintain current levels of service.

Table 20. Lifecycle Management Strategies, Corporate Facilities

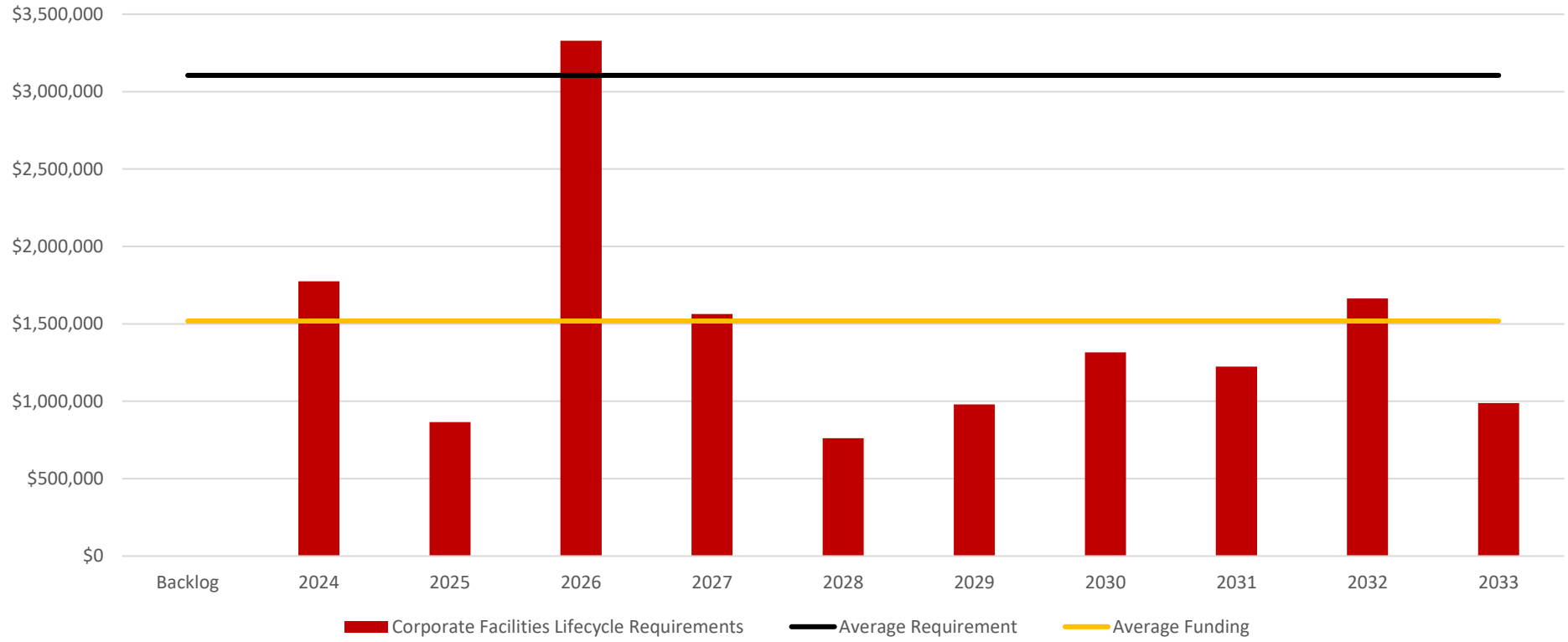
Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
Non-Infrastructure Solutions	• Condition assessment programs • Climate change adaption and mitigation • Accessibility Plan	• Inadequate planning leading to inaccurate forecast estimates and short- and long-term plans • Regulatory requirement • Inability to understand potential impacts of climate change on infrastructure
Maintenance	• Routine maintenance • Scheduled preventative maintenance programs • Structures inspected	• Deficiencies are not identified through inspections • Increased lifecycle costs if maintenance is not done as scheduled or incorrectly • Premature asset failure, service level drops, and health and safety risks • Customer dissatisfaction
Renewal (Rehabilitation and Replacement)	• Rehabilitation activities should be based on both external expertise and internal expertise (knowledge of structural requirements, organizational priorities, available budget, coordination with other City assets) • Comprehensive condition assessments, which provide industry-standard Facility Condition Index (FCI) scores that accurately reflect the overall condition of the facilities, should be conducted regularly to determine the cost and timing of renewal requirements	• Rehabilitation/Renewal activities may not extend asset life as expected • Increased lifecycle costs if not done properly or as scheduled • Coordination with other asset classes might delay planning forecasts
Disposal	• Obsolete assets are decommissioned as needed • Structure disposals are infrequent	• Environmental impacts and cost overruns
Growth	• Space requirements will continue to change as the City continues to grow and staffing requirements to maintain levels of service increase	• Activities delayed or cancelled resulting in inability to

Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
	• Expansion of new developments will further require the City to develop strategies to ensure all residents have access to City provided services	accommodate increased demands
Service Improvement	• Technologies that offer improved resistance to the elements and typical condition deterioration • Public input and users of facilities and services would help determine service improvement needs	• Increased levels of service expectations result in increased costs

Forecasted Lifecycle Requirements

The following graph illustrates the forecasted lifecycle requirements over a 10-year period for the Corporate Facilities service area. The cost required to maintain existing service levels was determined to be $3.10M annually to ensure asset performance in perpetuity. The average forecasted funding over the upcoming 10-year period was determined to be $1.52M annually, resulting in a funding gap of $1.58M annually.

Figure 21. Annual Requirements and Forecasted Budget – Corporate Facilities

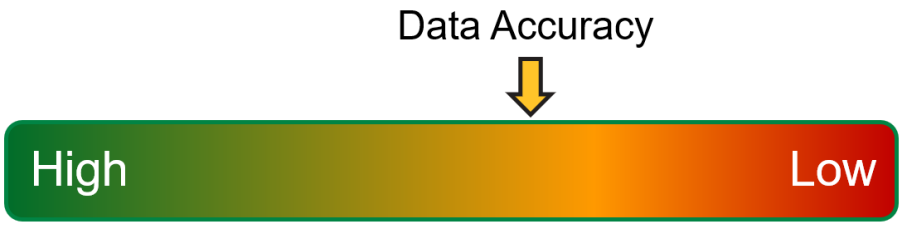


Data Confidence

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets more confidently.

The City's overall Corporate Facilities data accuracy is considered to be low to medium with the primary source of data being age-based condition ratings. Data gap analysis continues to be a major project the City embarks on as it seeks to further understand its inventory and plan for the long term.

Figure 22. Data Accuracy – Corporate Facilities



Condition Assessments and Data Collection

The following asset classifications are typically inspected within a facility:

- Site components: property around the facility and includes the outdoor components such as utilities, signs, stairways, walkways, parking lots, fencing, courtyards and landscaping
- Structural components: physical components such as the foundations, walls, doors, windows, roofs
- Electrical components: all components that use or conduct electricity such as wiring, lighting, electric heaters, and fire alarm systems
- Mechanical components: components that convey and utilize all non-electrical utilities within a facility such as gas pipes, furnaces, boilers, plumbing, ventilation, and fire extinguishing systems
- Vertical movement components used for moving people between floors of buildings such as elevators, escalators, and stair lifts

Once collected, this type of information can be uploaded into the City's asset management system for short- and long-term repair, rehabilitation, and replacement reports to be generated to assist with programming the short- and long-term maintenance and capital budgets.

The most popular and practical type of buildings and facility assessment involves qualified groups of trained industry professionals (engineers or architects) performing an analysis of the condition of a group of facilities, and their components, that may vary in terms of age, design, construction methods, and materials. This analysis can be done by walk-through inspection, mathematical modeling, or a combination of both. The most accurate way of determining the condition requires a walk-through to collect baseline data.

The City is currently progressing to improve data accuracy of its facilities by conducting building condition assessments on all City owned facilities. It is recommended that the City continue to set money aside and conduct building condition assessments on a regular basis.

Improvement Strategies

The City continues to advance the Asset Management Program and works towards ensuring line of sight when it comes to decision making and asset management practices. Increased quality of data and information and standardized operating procedures will improve data confidence levels and the quality of these decisions. The following recommendations will help ensure the City maintains its path and manage its growing $75 million Corporate Facilities portfolio in a sustainable manner.

1. Align the Asset Management Plan

a. Align the AMP with the City's budgetary processes and strategic plan
b. Identify paths of incorporating the AMP within the capital budget
c. Establish an Asset Management Steering Committee to ensure line of sight across the City

2. Address the Infrastructure Gap

a. Continue to search for funding from non-tax sources of financing to address infrastructure gaps
    i. Grant funding where applicable
b. Create infrastructure reserves that plan for the future and eliminate the risk of "peaks and valleys" in funding requirements
    i. Building Repair Reserves
c. Mitigate the risk of current LOS dropping
d. Improve and build 5- and 10-year capital plans that tackle the infrastructure gap

3. Improve the Asset Management Program

a. Ensure data inventories are accurate and condition data is recorded in a timely manner
    i. Building condition assessments
    ii. Lifecycle management events
b. Standardize operating procedures where applicable
c. Build lifecycle strategies that are representative of asset performance and achieve proposed LOS
d. Explore opportunities for interoperability where available
    i. Asset Management Systems
e. Continue to pursue Risk Management strategies across the City

RECREATION AND CULTURE

Asset Information	Values
Total Replacement Cost	$118,487,779
Average Annual Infrastructure Gap	$1,901,000

Asset Information	Values
Overall Condition Rating	Fair

RECREATION AND CULTURE

State of the Infrastructure

The City's Recreation and Culture asset portfolio consists of parks, trails, sports fields and facility assets such as Civic Centre, Reeves Community Complex, Woodstock Art Gallery, Woodstock Library and more. The following section contains information regarding the Recreation and Culture portfolios asset inventory, replacement costs, age, and overall condition ratings.

Asset Inventory and Replacement Cost

The table below illustrates key asset attributes for the City's Recreation and Culture portfolio. The overall value of the City's Recreation and Culture assets are valued at over $118 million.

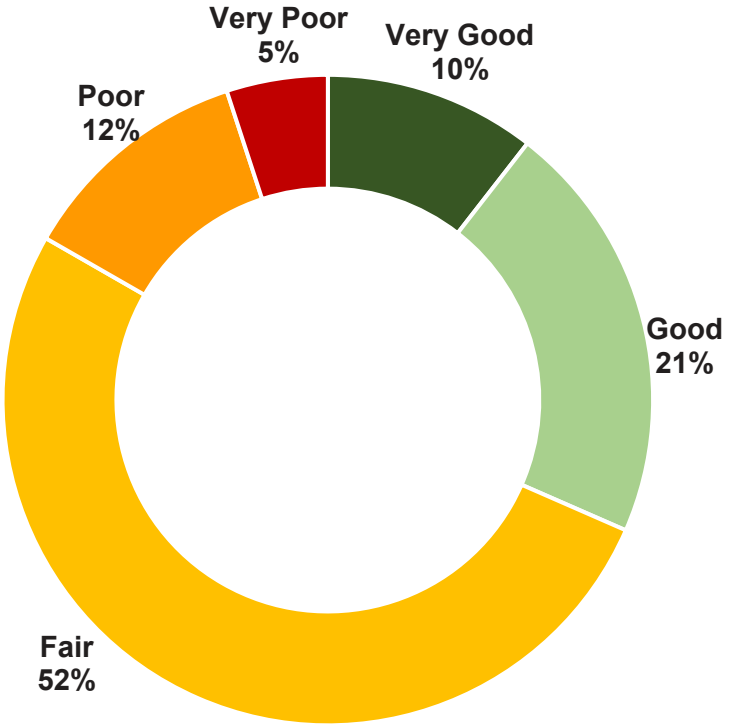
Table 21. Recreation and Culture Inventory Valuation

Asset Category	Asset Type	Quantity	Unit	Replacement Cost
Recreation	Parks	84	Each	$7,298,806
	Trails	43	Km	$807,426
	Sports Fields	71	Each	$4,228,469
	Playgrounds	38	Each	$4,254,755
	Facilities	46	Each	$81,886,344
Culture	Facilities	3	Each	$20,011,979
Overall Recreation and Culture Replacement Value				$118,487,779

Current Asset Condition

The following graph illustrates the overall conditions of the Recreation and Culture service area. The average condition is a weighted value based on replacement cost.

Figure 23. Asset Condition – Recreation and Culture, 2024



Overall, 83% of the Recreation and Culture assets are in the very good to fair rating categories (based on replacement value) with 17% in the poor and very poor categories.

Figure 24. Asset Condition Breakdown – Recreation and Culture, 2024

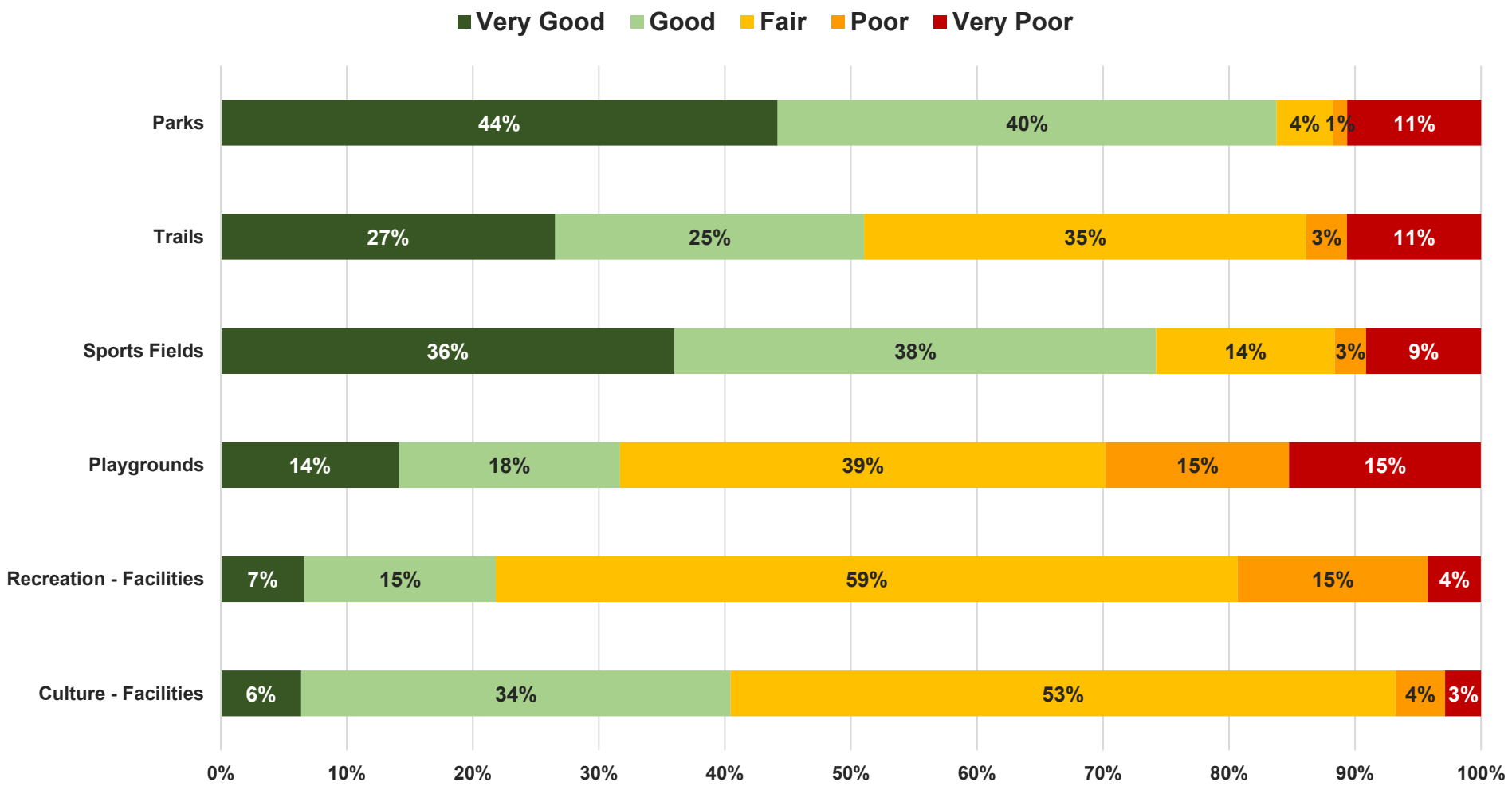
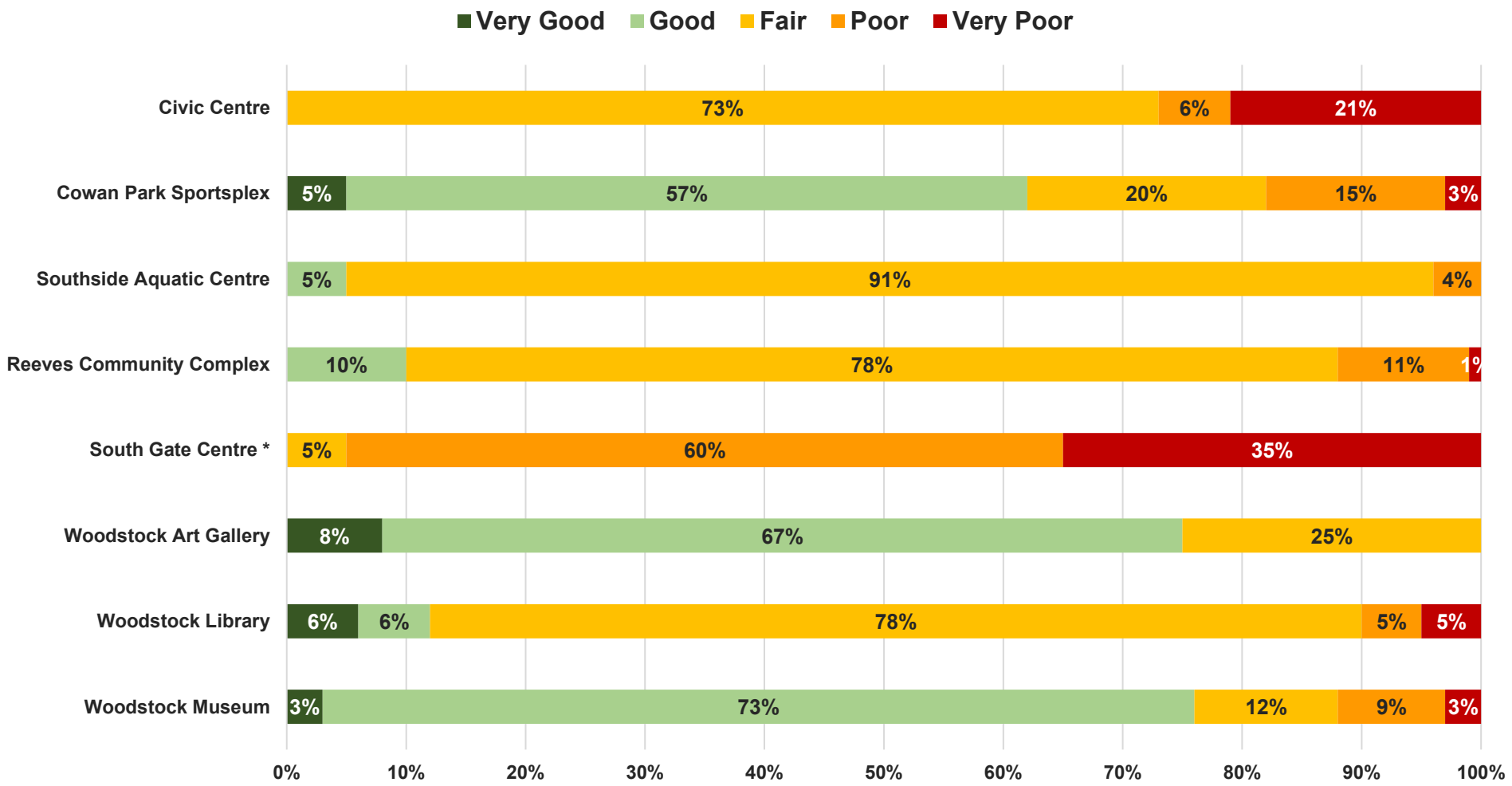


Figure 25. Facilities Condition Breakdown – Recreation and Culture, 2024



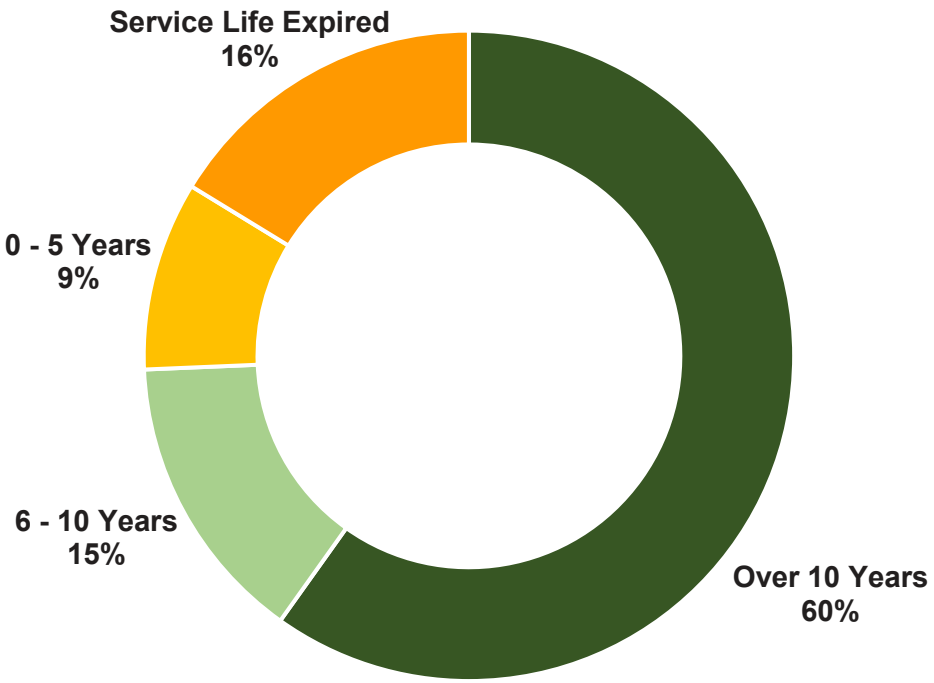
Estimated Useful Life and Average Life

The Estimated Useful Life for Recreation and Culture assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. 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. The assessed condition may increase or decrease the average service life remaining.

Table 22. Estimated Useful Life for Recreation and Culture Components, 2024

Asset Component	Useful Life (Years)
Playground Equipment	30 - 40
Fencing	20
Irrigation	15 - 20
Lighting	5
Trails	15 - 20
Structure	20 - 100

Figure 26. Useful Life Remaining – Recreation and Culture, 2024



Levels of Service

The following section includes performance measures that help drive decision-making and spending on assets. They are not the only metrics used by the City to measure the quality being delivered by any asset category.

Table 23. Levels of Service Metrics

Service Attribute	Corporate Description	LOS Measure	Current Performance	Proposed Performance
Accessibility	Providing adequate accessibility to services.	Percentage (%) of facilities that are accessibility (FADS and AODA) compliant.	100%	TBD
		Percentage (%) of properties within 300 metres of a park	89%	
Customer Service	Customer Satisfaction (via survey).	Percentage (%) of survey respondents satisfied with facilities.	88%	
Cost Effective	Providing services in a cost-effective manner.	Cost to provide facilities services ($/serviced households).	$145.62	
Quality	Providing facilities in a state of good repair.	Percentage (%) of Park assets in Fair or better condition.	86%	
		Percentage (%) of Facilities in Fair or better condition	83%	
		Percentage (%) of Playgrounds that meet regulated requirements	100%	
Environmental Stewardship	Providing facilities that are energy efficient and environmentally conscious.	Annual electric energy consumption kilowatt-hour per square foot.	11.7 kWh/ft^2	
		Annual natural gas consumption cubic meters per square foot.	1.49 m^3/ft^2	

Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. This process is affected by various factors, including an asset's characteristics, location, utilization, maintenance history and environment. The following lifecycle management strategies are currently being used/are recommended to ensure the recreation and culture portfolio remains in a state of good repair throughout its intended lifespan and to maintain current levels of service.

Table 24. Lifecycle Management Strategies, Recreation and Culture

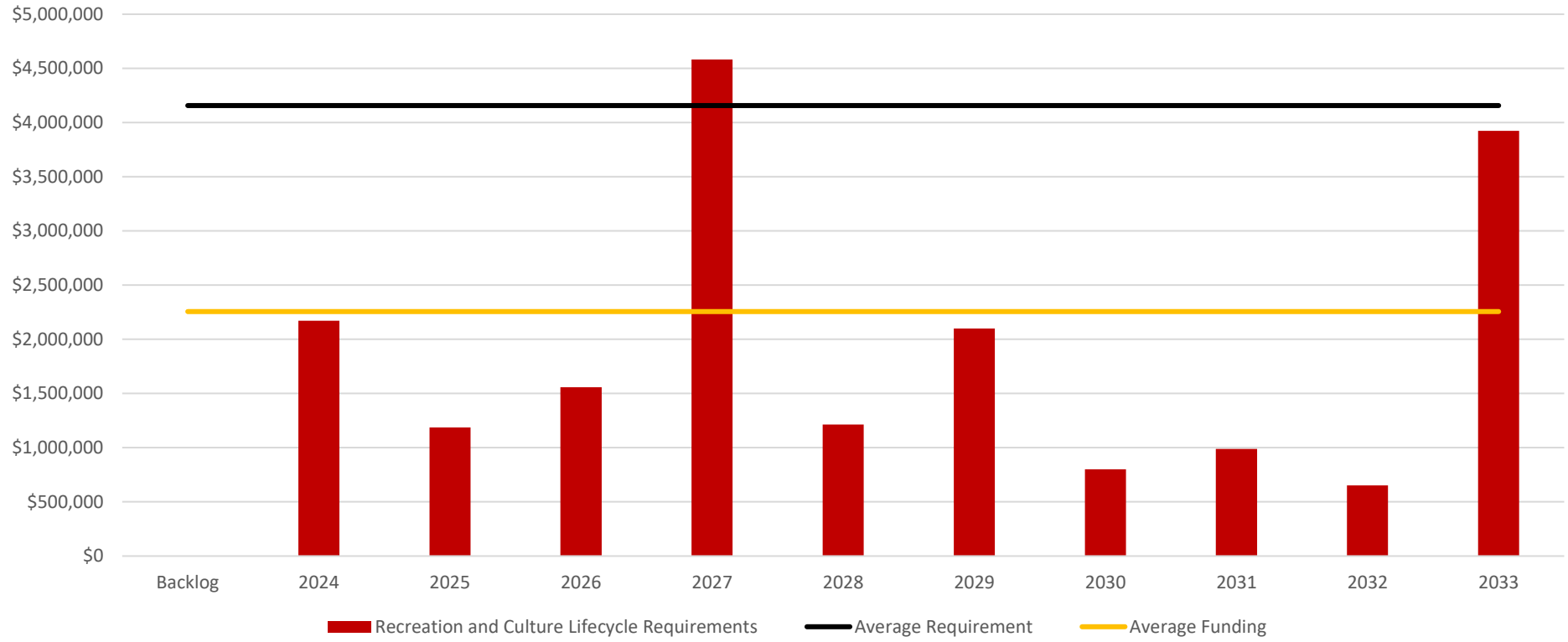
Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
Non-Infrastructure Solutions	• Condition assessment programs • Climate change adaption and mitigation • Accessibility Plan • Recreation Facility Needs Study • Downtown Development Plan	• Inadequate planning leading to inaccurate forecast estimates and short- and long-term plans • Regulatory requirement • Inability to understand potential impacts of climate change on infrastructure
Maintenance	• Routine maintenance • Snow and ice removal maintenance • Meet Minimum Maintenance Standards • Scheduled preventative maintenance programs • Structures inspected	• Deficiencies are not identified through inspections • Increased lifecycle costs if maintenance is not done as scheduled or incorrectly • Premature asset failure, service level drops, and health and safety risks • Customer dissatisfaction
Renewal (Rehabilitation and Replacement)	• Rehabilitation activities should be based on both external expertise and internal expertise (knowledge of structural requirements, organizational priorities, available budget, coordination with other City assets) • Comprehensive condition assessments, which provide industry-standard Facility Condition Index (FCI) scores that accurately reflect the overall condition of the facilities, should be conducted regularly to determine the cost and timing of renewal requirements	• Rehabilitation/Renewal activities may not extend asset life as expected • Increased lifecycle costs if not done properly or as scheduled • Coordination with other asset classes might delay planning forecasts
Disposal	• Obsolete assets are decommissioned as needed • Structure disposals are rare/infrequent	• Environmental impacts and cost overruns
Growth	• Space requirements will continue to change as the City continues to grow and staffing requirements to maintain levels of service increase	• Activities delayed or cancelled resulting in inability to

Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
	• Expansion of new developments will further require the City to develop strategies to ensure all residents have access to City provided services	accommodate increased demands
Service Improvement	• Technologies that offer improved resistance to the elements and typical condition deterioration • Public input and users of facilities and services would help determine service improvement needs	• Increased levels of service expectations result in increased costs

Forecasted Lifecycle Requirements

The following graph illustrates the forecasted lifecycle requirements over a 10-year period for the Recreation and Culture service area. The cost required to maintain existing service levels was determined to be $4.16M annually to ensure asset performance in perpetuity. The average forecasted funding over the upcoming 10-year period was determined to be $2.26M annually, resulting in a funding gap of $1.90M annually.

Figure 27. Annual Requirements and Forecasted Budget – Recreation and Culture

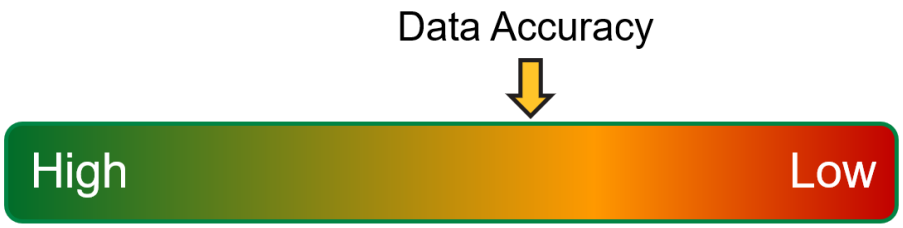


Data Confidence

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets more confidently.

The City's overall Recreation and Culture data accuracy is considered to be low to medium with the primary source of data being age-based condition ratings. Data gap analysis continues to be a major project the City embarks on as it seeks to further understand its inventory and plan for the long term.

Figure 28. Data Accuracy – Recreation and Culture



Condition Assessments and Data Collection

The following five asset classifications are typically inspected within a facility:

- Site components: property around the facility and includes the outdoor components such as utilities, signs, stairways, walkways, parking lots, fencing, courtyards and landscaping
- Structural components: physical components such as the foundations, walls, doors, windows, roofs
- Electrical components: all components that use or conduct electricity such as wiring, lighting, electric heaters, and fire alarm systems
- Mechanical components: components that convey and utilize all non-electrical utilities within a facility such as gas pipes, furnaces, boilers, plumbing, ventilation, and fire extinguishing systems

Once collected, this type of information can be uploaded into the City's asset management system for short- and long-term repair, rehabilitation, and replacement reports to be generated to assist with programming the short- and long-term maintenance and capital budgets.

The most popular and practical type of buildings and facility assessment involves qualified groups of trained industry professionals (engineers or architects) performing an analysis of the condition of a group of facilities, and their components, that may vary in terms of age, design, construction methods, and materials. This analysis can be done by walk-through inspection, mathematical modeling, or a combination of both. The most accurate way of determining the condition requires a walk-through to collect baseline data.

In addition to facility inspections, equipment such as playground equipment are inspected monthly and biannually by a third-party consultant to ensure the equipment meets safety standards. Small equipment such as those relating to sports fields are inspected less frequently.

The City is currently progressing to improve data accuracy of its facilities by conducting building condition assessments on all City owned facilities. It is recommended that the City continue to set money aside and conduct building condition assessments on a regular basis.

Improvement Strategies

The City continues to advance the Asset Management Program and works towards ensuring line of sight when it comes to decision making and asset management practices. Increased quality of data and information and standardized operating procedures will improve data confidence levels and the quality of these decisions. The following recommendations will help ensure the City maintains its path and manage its growing $118 million Recreation and Culture portfolio in a sustainable manner.

1. Align the Asset Management Plan

a. Align the AMP with the City's budgetary processes and strategic plan
b. Identify paths of incorporating the AMP within the capital budget
c. Establish an Asset Management Steering Committee to ensure line of sight across the City

2. Address the Infrastructure Gap

a. Continue to search for funding from non-tax sources of financing to address infrastructure gaps
    i. Grant funding where applicable
b. Create infrastructure reserves that plan for the future and eliminate the risk of "peaks and valleys" in funding requirements
    i. Building Repair Reserves
c. Mitigate the risk of current LOS dropping
d. Improve and build 5- and 10-year capital plans that tackle the infrastructure gap

3. Improve the Asset Management Program

a. Ensure data inventories are accurate and condition data is recorded in a timely manner
    i. Recreation Facility Needs Study
    ii. Building condition assessments
    iii. Lifecycle management events
b. Standardize operating procedures where applicable
c. Build lifecycle strategies that are representative of asset performance and achieve proposed LOS
d. Explore opportunities for interoperability where available
    i. Asset Management Systems
e. Continue to pursue Risk Management strategies across the City

NATURAL ASSETS

Asset Information	Values
Total Replacement Cost	$7,882,650

Asset Information	Values
Overall Condition Rating	Good

NATURAL ASSETS

State of the Infrastructure

The City's Natural Assets asset portfolio is a relatively new endeavour and work continues to further develop the City's inventory. The following section contains basic information regarding the Natural Assets portfolio asset inventory, replacement costs, age, and overall condition ratings.

As work continues in identifying Natural Assets and related asset management practices for this service area, this section will continue to be expanded. As such, lifecycle management strategies and data confidence sections are not included in this iteration of the AMP.

Asset Inventory and Replacement Cost

The table below illustrates key asset attributes for the City's Natural Assets portfolio. The overall value of the City's Natural Assets are valued at over $7 million.

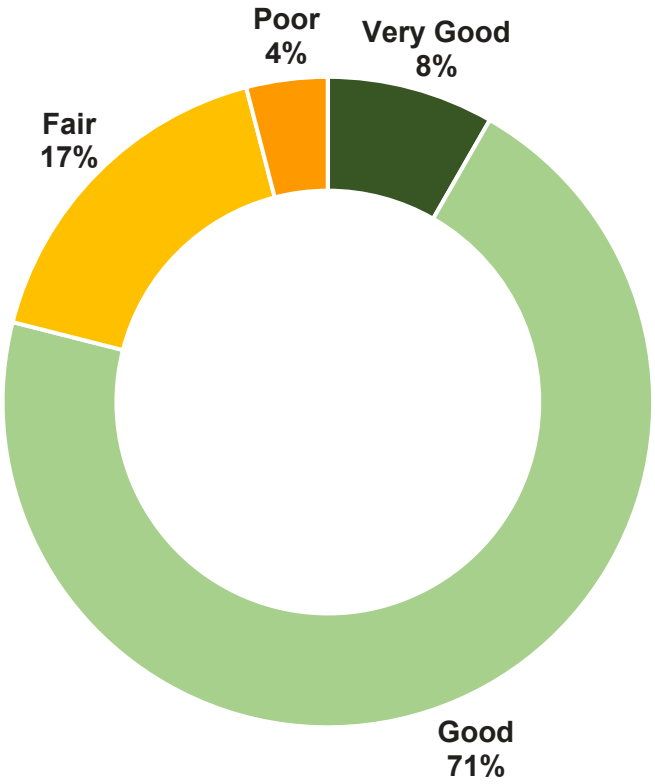
Table 25. Natural Assets Inventory Valuation

Asset Category	Asset Type	Quantity	Unit	Replacement Cost
Forestry	City Tree	17,517	Each	$7,882,650
Overall Natural Assets Replacement Value				$7,882,650

Current Asset Condition

The following graph illustrates the overall conditions of the Natural Assets service area. The average condition is a weighted value based on assessed in field ratings.

Figure 29. Asset Condition – Natural Assets, 2024



Overall, 96% of the Natural Assets are in the very good to fair rating categories (based on replacement value) with 4% in the poor and very poor categories.

Estimated Useful Life and Average Life

The Estimated Useful Life for Natural assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. 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. The assessed condition may increase or decrease the average service life remaining.

Table 26. Estimated Useful Life for Natural Assets Components, 2024

Asset Component	Useful Life (Years)
Street Tree	75, 100

Levels of Service

The following section includes performance measures that help drive decision-making and spending on assets. They are not the only metrics used by the City to measure the quality being delivered by any asset category.

Table 27. Levels of Service Metrics

Service Attribute	Corporate Description	LOS Measure	Current Performance	Proposed Performance
Quality	Providing Natural Assets at the appropriate quality.	Average Number (#) of City trees planted per year	631	TBD
		Percentage (%) of Natural Assets in fair or better condition	96%	

Improvement Strategies

The City continues to advance the Asset Management Program and works towards ensuring line of sight when it comes to decision making and asset management practices. Increased quality of data and information and standardized operating procedures will improve data confidence levels and the quality of these decisions. The following recommendations will help ensure the City maintains its path and manage its nearly $8 million Natural Assets portfolio in a sustainable manner. It is also noted that the City is continuing to build out its Natural Assets portfolio and this section is still in progress.

1. Align the Asset Management Plan

a. Align the AMP with the City's budgetary processes and strategic plan
b. Identify paths of incorporating the AMP within the capital budget
c. Establish an Asset Management Steering Committee to ensure line of sight across the City

2. Address the Infrastructure Gap

a. Continue to search for funding from non-tax sources of financing to address infrastructure gaps
    i. Grant funding where applicable
b. Create infrastructure reserves that plan for the future and eliminate the risk of "peaks and valleys" in funding requirements
c. Mitigate the risk of current LOS dropping
d. Improve and build 5- and 10-year capital plans that tackle the infrastructure gap

3. Improve the Asset Management Program

a. Ensure data inventories are accurate and condition data is recorded in a timely manner
    i. Tree Canopy Study
b. Standardize operating procedures where applicable
c. Build lifecycle strategies that are representative of asset performance and achieve proposed LOS
d. Explore opportunities for interoperability where available
    i. Asset Management Systems
e. Continue to pursue Risk Management strategies across the City

CORPORATE FLEET

Asset Information	Values
Total Replacement Cost	$41,952,148
Average Annual Infrastructure Gap	$260,000

Asset Information	Values
Overall Condition Rating	Poor

CORPORATE FLEET

State of the Infrastructure

The City's Corporate Fleet asset portfolio consists of fleet assets such as vehicles and equipment. The following section contains information regarding the Corporate Fleet portfolios asset inventory, replacement costs, age, and overall condition ratings.

Asset Inventory and Replacement Cost

The table below illustrates key asset attributes for the City's Corporate Fleet portfolio. The overall value of the City's Corporate Fleet assets are valued at over $40 million.

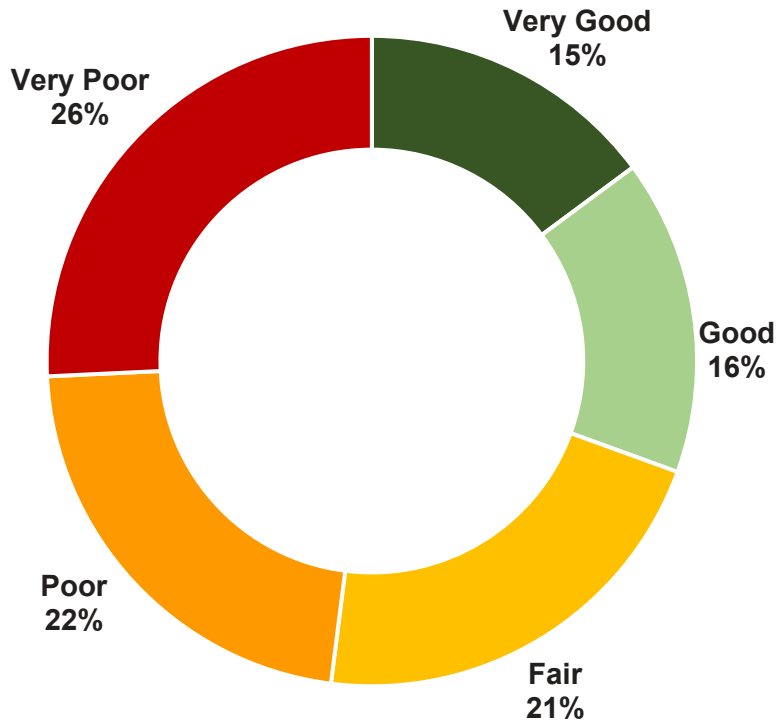
Table 28. Corporate Fleet Inventory Valuation

Asset Category	Asset Type	Quantity	Unit	Replacement Cost
Vehicles	Light (Cars, vans, pickups)	116	Each	$4,918,861
	Medium (1.5 Ton Pickups)	16	Each	$1,062,350
	Heavy (Buses, plow trucks, fire engines)	45	Each	$25,158,400
Equipment	Light (Tanks, trailers, attachments)	205	Each	$4,151,987
	Medium (Tractors, mowers, attachments)	49	Each	$2,398,639
	Heavy (Loaders, backhoes)	30	Each	$4,261,911
Overall Corporate Fleet Replacement Value				$41,952,148

Current Asset Condition

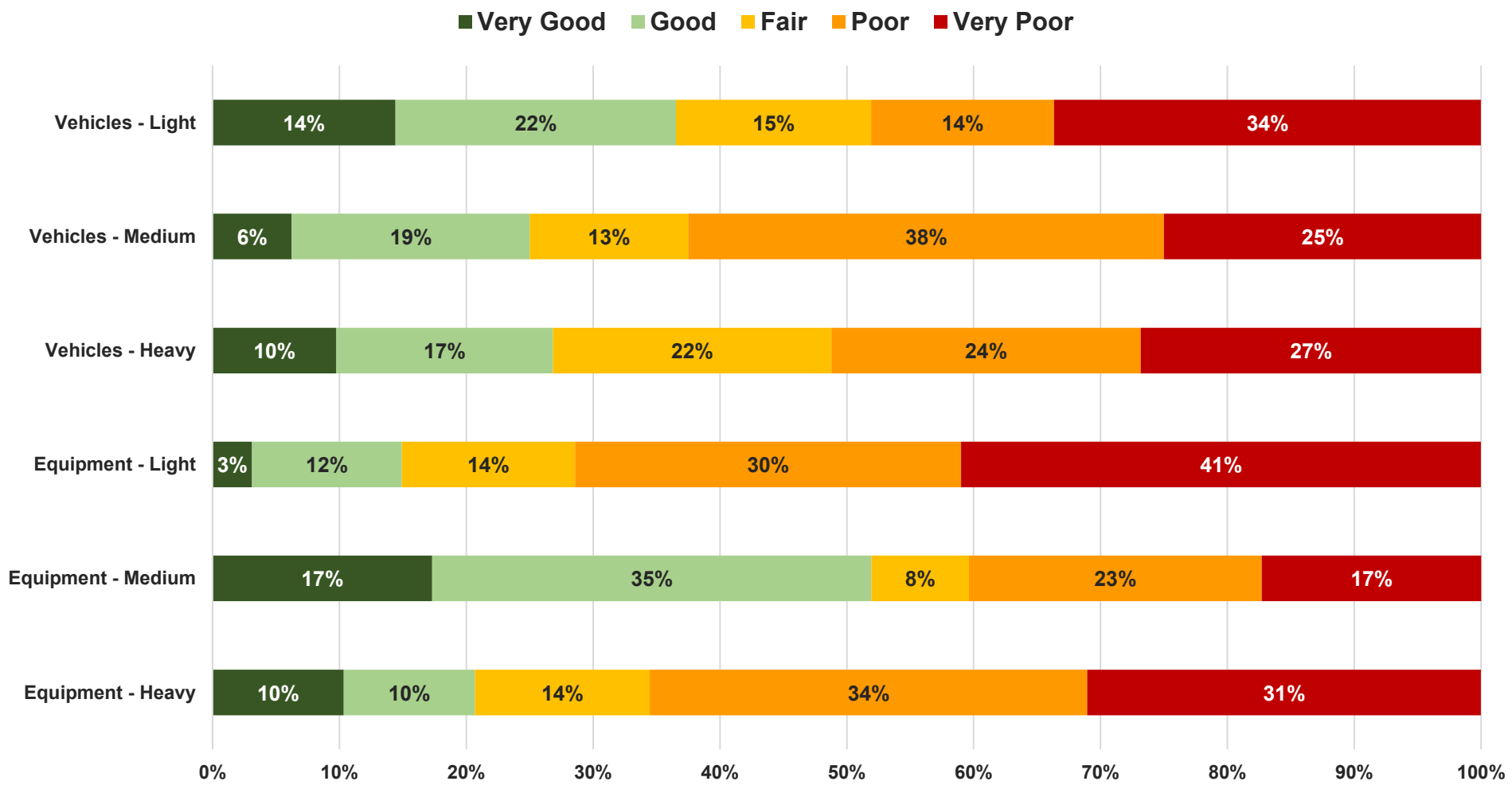
The following graph illustrates the overall conditions of the Corporate Fleet service area. The average condition is a weighted value based on replacement cost.

Figure 30. Asset Condition – Corporate Fleet, 2024



Overall, 52% of the Corporate Fleet assets are in the very good to fair rating categories (based on replacement value) with 48% in the poor and very poor categories.

Figure 31. Asset Condition Breakdown – Corporate Fleet, 2024



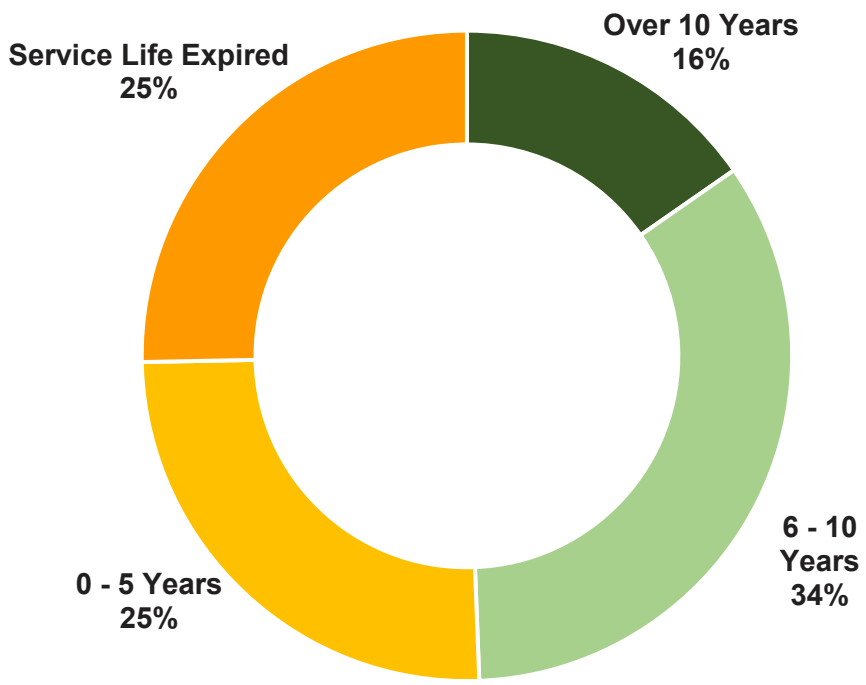
Estimated Useful Life and Average Life

The Estimated Useful Life for Corporate Fleet assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. 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. The assessed condition may increase or decrease the average service life remaining.

Table 29. Estimated Useful Life for Corporate Fleet Components, 2024

Asset Component	Useful Life (Years)
Light Vehicles	5 - 15
Medium Vehicles	10 - 15
Heavy Vehicles	8 - 20
Light Equipment	5 - 20
Medium Equipment	8 - 20
Heavy Equipment	8 - 25

Figure 32. Useful Life Remaining – Corporate Fleet, 2024



Levels of Service

The following section includes performance measures that help drive decision-making and spending on assets. They are not the only metrics used by the City to measure the quality being delivered by any asset category.

Table 30. Levels of Service Metrics

Service Attribute	Corporate Description	LOS Measure	Current Performance	Proposed Performance
Cost Effective	Providing fleet services in a cost-effective manner.	Cost to provide fleet services ($/serviced households)	$159.96	TBD
Quality	Providing fleet services in a state of good repair.	Percentage (%) of fleet assets in Fair or better condition	61%	
Reliability	Providing reliable fleet services.	Percentage (%) of fleet assets within optimum service life	95%	
		Percentage (%) of regulated MTO maintenance inspections completed	100%	
Environmental Stewardship	Providing fleet assets that are energy efficient and environmentally conscious.	Average greenhouse gas emissions emitted across previous 3 years	1,919 tons of CO_2	

Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. This process is affected by various factors, including an asset's characteristics, location, utilization, maintenance history and environment. The following lifecycle management strategies are currently being used/are recommended to ensure the Corporate Fleet portfolio remains in a state of good repair throughout its intended lifespan and to maintain current levels of service.

Table 31. Lifecycle Management Strategies, Corporate Fleet

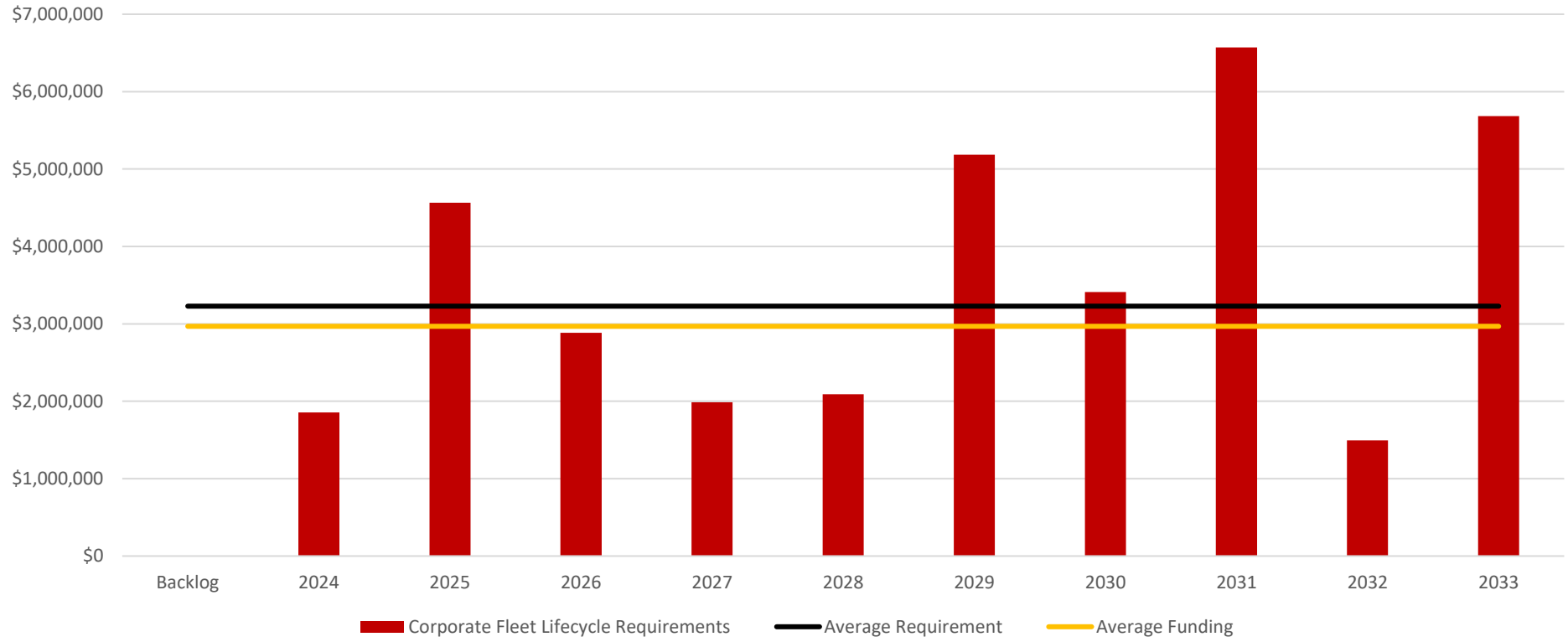
Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
Non-Infrastructure Solutions	• Condition assessment programs • Climate change adaption and mitigation	• Inadequate planning leading to inaccurate forecast estimates and short- and long-term plans • Regulatory requirement • Inability to understand potential impacts of climate change on infrastructure
Maintenance	• Routine preventative maintenance such as oil changes, rust protection, etc. • Meet Minimum Maintenance Standards	• Deficiencies are not identified through inspections • Increased lifecycle costs if maintenance is not done as scheduled or incorrectly • Premature asset failure, service level drops, and health and safety risks • Customer dissatisfaction
Renewal (Rehabilitation and Replacement)	• Rehabilitation activities are determined based on internal expertise (organizational priorities, available budget, etc). • Asset replacement	• Rehabilitation/Renewal activities may not extend asset life as expected • Increased lifecycle costs if not done properly or as scheduled • Coordination with other asset classes might delay planning forecasts
Disposal	• Obsolete assets are decommissioned as needed • End of life salvage value analysis • Structure disposals are rare/infrequent	• Environmental impacts and cost overruns

Lifecycle Activity Type	Asset Management Practices	Risks Associated with Not Completing the Activities
Growth	• Fleet size increasing as the number of City staff and responsibilities increase	• Activities delayed or cancelled resulting in inability to accommodate increased demands
Service Improvement	• Technologies that offer improved resistance to the elements and typical condition deterioration • Extended warranties and service agreements	• Increased levels of service expectations result in increased costs

Forecasted Lifecycle Requirements

The following graph illustrates the forecasted lifecycle requirements over a 10-year period for the Corporate Fleet service area. The cost required to maintain existing service levels was determined to be $3.23M annually to ensure asset performance in perpetuity. The average forecasted funding over the upcoming 10-year period was determined to be $2.97M annually, resulting in a funding gap of $0.26M annually.

Figure 33. Annual Requirements and Forecasted Budget – Corporate Fleet



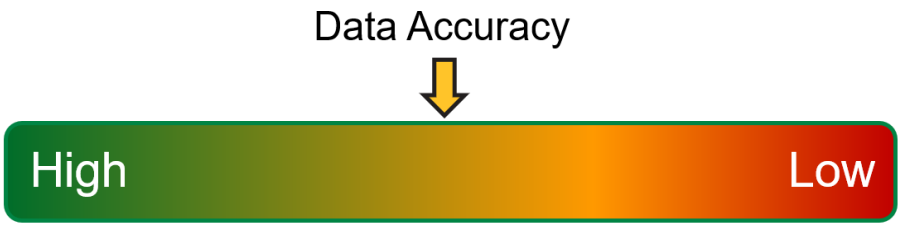
Data Confidence

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets more confidently.

The City's overall Corporate Fleet data accuracy is considered to be medium with the primary source of data being age-based condition ratings. Data gap analysis continues to be a major project the City embarks on as it seeks to further understand its inventory and plan for the long term.

The City relies on staff input of its fleet assets. In the absence of such information, age-based data is used as a proxy.

Figure 34. Data Accuracy – Corporate Fleet



Condition Assessments and Data Collection

The typical approach to optimizing the maintenance of a corporate fleet of vehicles is through routine vehicle inspections, routine vehicle servicing, and an established routine preventative maintenance program. Most, if not all, makes and models of vehicles are supplied with maintenance manuals that define the appropriate schedules and routine for typical maintenance and servicing and also more detailed restoration or rehabilitation protocols.

The primary goal of good vehicle maintenance is to avoid or mitigate the consequences of failure of equipment or parts. An established preventative maintenance program serves to ensure this, as it will consist of scheduled inspections and follow up repairs of vehicles and equipment in order to decrease breakdowns and excessive downtimes.

A good preventative maintenance program will include partial or complete overhauls of equipment at specific periods, including oil changes, lubrications, fluid changes and so on. In addition, workers can record equipment or part deterioration so they can schedule to replace or repair worn parts before they fail. The ideal preventative maintenance program would move further and further away from reactive repairs and instead towards the prevention of all equipment failure before it occurs.

It is recommended that the current preventative maintenance routine be continued for all fleet vehicles. It is also recommended that fleet services be centralized under Corporate Fleet so that appropriate lifecycle management strategies can occur, minimize risk and to prevent assets from being kept longer than their useful life.

Improvement Strategies

The City continues to advance the Asset Management Program and works towards ensuring line of sight when it comes to decision making and asset management practices. Increased quality of data and information and standardized operating procedures will improve data confidence levels and the quality of these decisions. The following recommendations will help ensure the City maintains its path and manage its growing $41 million Corporate Fleet portfolio in a sustainable manner.

1. Align the Asset Management Plan

a. Align the AMP with the City's budgetary processes and strategic plan
b. Identify paths of incorporating the AMP within the capital budget
c. Establish an Asset Management Steering Committee to ensure line of sight across the City

2. Address the Infrastructure Gap

a. Continue to search for funding from non-tax sources of financing to address infrastructure gaps
    i. Grant funding where applicable
b. Create infrastructure reserves that plan for the future and eliminate the risk of "peaks and valleys" in funding requirements
    i. Fleet Reserves
c. Mitigate the risk of current LOS dropping
d. Improve and build 5- and 10-year capital plans that tackle the infrastructure gap

3. Improve the Asset Management Program

a. Ensure data inventories are accurate and condition data is recorded in a timely manner
    i. Fleet condition assessments
b. Standardize operating procedures where applicable
c. Build lifecycle strategies that are representative of asset performance and achieve proposed LOS
d. Explore opportunities for interoperability where available
    i. Asset Management Systems
e. Continue to pursue Risk Management strategies across the City

FINANCIAL STRATEGY

The financing strategy sets out the approach to ensure that the appropriate funds are available to support the delivery of the current services.

The financing strategy is predicated on the City's current financial state – including revenues, operating and capital expenditures, debt, reserves, reserve funds, and forecasted future commitments. The financing strategy is meant to strengthen current budgeting processes by reinforcing a long-term perspective on the impact of providing higher/lower asset-related service levels and highlighting revenues required versus affordability to the community. The focus of this financing strategy is mainly on lifecycle budgets.

The City's budgets are developed to allocate the necessary funding to provide services and to maintain and replace current assets. The City allocates a portion of its revenues from property taxes to support current-year projects, contribute to reserves and reserve funds, and make debt repayments.

The City ensures continued financial sustainability through effective financial planning and risk management as part of the annual budget development.

This strategy summarizes the financing components, providing a financial overview as a precursor and context to the options for addressing the funding gap identified in each service area to achieve the specified current asset-related service levels. This financial strategy uses year-end 2023 as the analysis reference to achieve the determined level of service for each asset category. The financing gap analysis has been calculated based on the best available information for the next 10-year period (2024-2033).

Given the average annual capital requirement of $22.8 million, an estimated funding gap of $9.4 million annually is based on current, sustainable funding. Historically, the City has secured additional one-time funding for capital projects and usually allocates most of the operating surplus to the capital program the following year. These funds help offset some of the funding needs the City currently faces. However, since one-time funding is not guaranteed or consistent, it is not used to reduce the funding gap.

Financial Strategy Overview

City budgets have operating and capital components:

- The operating budget supports the day-to-day operations and maintenance that provide services to the community. Staff salaries, energy bills, and fuel for vehicles are some of the expenditures funded from the operating budget.
- The capital budget plans and funds large expenditures with multi-year life spans. Debt financing and reserve funds (accumulated savings) support capital needs and help manage fluctuations over the duration of the City's capital plan.

When preparing budgets, the City must consider all of its needs. The asset management plan is not isolated from these other important considerations. Financial management ensures the sustainable provision of services, which is one of the critical elements of the City's financial planning processes. Long-range financial planning is essential for ensuring future funds are available to meet anticipated needs.

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan allows the City to identify the financial resources required for sustainable asset management based on existing asset

inventories, desired levels of service, and projected growth requirements.

Integrating asset management with financial planning is as crucial as combining it with engineering. All are important when considering the value of all City assets and the reliance on them to deliver services to the community. These activities improve the link between financial planning and asset management by allowing for a data-driven decision process.

Capital Budget

The capital budget is used for significant investments like infrastructure and facilities construction, acquisition of fleet and major equipment, and supporting non-infrastructure solutions like technical studies and master plans. Long-term financial planning is essential for ensuring future funds are available to meet anticipated needs. Currently, staff prepare a one-year capital budget and a four-year capital forecast.

A current year capital budget and the following four-year capital forecast are prepared and presented to Council as part of the annual budget process. Council approves the current year's capital budget and sometimes adopts the budget for projects where construction will span multiple years. Council also approves, in principle, the following four years. However, the forecast is presented to ensure that Council is aware of anticipated projects, and there is no requirement to maintain the forecast as presented in any given year.

The approved capital budget represents a significant investment in the development and rehabilitation of capital infrastructure and associated studies to support the provision of services to the current and future citizens of the City. The budget considers the capital requirements of growth as well as the maintenance of existing infrastructure. In the preparation of the budget, consideration is given to actual costs incurred in the past for similar projects, adjusting for inflation and, more recently, supply chain issues, current priorities, the impact on future operating budgets, feedback gathered through the public input process, availability of staff resources to undertake and adequately manage the programs, and the available sources of revenue to fund the programs.

The most recent 2024 capital budget and financial plan implement objectives and goals in the various strategic, master and other plans already approved while maintaining fiscal sustainability and ensuring adherence to budgetary policies. For further information, please refer to the 2024 Capital Budget document.

The capital investment program is funded from a wide range of sources. There are five primary sources:

- Taxation levied in the financial year that is allocated to the capital program
- Debt – external borrowing within strict limits
- Reserves and Reserve Funds – The City maintains several reserves and reserve funds that are used to finance capital expenditures and offset peaks in expenditure
- Other levels of government – Provincial and Federal grants, subsidies and programs that may be ongoing or time-limited
- Additional third-party funds – such as developer contributions

The capital budget and forecast for each service are shown in the table below.

Table 32. Capital Budget by Service Area (000s)

Service Area	2024	2025	2026	2027	2028
Transportation	6,594	10,049	8,696	10,372	9,926
Stormwater	1,301	1,291	2,107	1,053	1,024
Corporate Facilities	4,845	5,610	4,887	6,854	4,721
Recreation and Culture	4,145	6,723	2,663	1,462	1,107
Natural Assets	110	110	110	110	110
Corporate Fleet	1,990	3,019	3,020	5,540	2,445

Operating Budget

The approved 2024 base operating budget totals approximately $130 million. The base operating budget includes the operational costs for new infrastructure and programs completed as part of the capital budget and infrastructure assumed by the City as new developments are completed. For further information, please refer to the 2024 Operating Budget document.

Taxation revenue provides approximately 70% of the operating funding. Other considerable funding sources are user fees, rentals, and multiple grants.

The net historical and current operating budget for the service areas included in this plan are shown in the table below.

Table 33. Operating Budget by Service Area (000s)

Service Area	2022	2023	2024
Transportation	4,443	4,631	4,994
Stormwater	277	256	273
Corporate Facilities	51,067	58,386	63,003
Recreation and Culture	13,910	14,948	15,979
Natural Assets	508	504	525
Corporate Fleet	3,058	3,458	3,826

Debenture Financing

In the appropriate circumstances, debt can be a valuable financial planning tool. For example, it can advance a project that could not be accommodated until later in the capital budget. It can be used to smooth the impact of a sizeable dollar-value project over several years that would otherwise immediately draw down a City reserve, or it can be used to expand an existing capital program.

The City has a debt policy to ensure it plans for and uses debt appropriately. The policy requires the City's debt repayments to stay within the provincial limit. The Municipal Act allows municipalities to issue debentures with a maximum term of 40 years; however, the duration of the debenture cannot exceed the life of the project for which it is used. Notwithstanding these allowances, the City's debt policy limits debenture amortization to 10 years in most cases. The City Treasurer may occasionally evaluate and recommend a longer term for larger projects. This policy ensures that debt charges are paid through the operating budget. Debt management is necessary to ensure the City maintains an appropriate debt level.

Capital Financing Policies and Assumptions

The 2024 capital budget and financing plan have been developed with the following financing policies and assumptions, which form the basis of the City's financial position. They are monitored to ensure the City's long-term financial situation is sustainable into the future:

- Debt issuance remains within the council-approved policy limits, and repayment levels remain within the City's annual repayment limit as prescribed by the Ministry of Municipal Affairs and Housing;
- Timing of growth projects aligns with anticipated residential and non-residential development;
- Capital reserves are maintained at sufficient levels to minimize risk, support future initiatives, and provide for unknown contingencies;

Projected Financing Strategies

For the analysis, the investment needs have been assessed against the projected revenues for the next ten (10) years. The required annual expenditures are based on the lifecycle costing analysis outlined for each asset group.

The City's approved 2024 Operating and Capital budgets include plans to support existing infrastructure, expansion activities, and various enhancements. Both budgets have been fully financed, as noted above. However, as work continues over the next few years to further refine Customer LOS and establish the associated costs to deliver Customer LOS, the financing strategy may require revision to address changes in priority. Alternative financing tools will also be explored as needed. These could include partnerships, alterations to procurement methods and new senior government announcements related to various municipal investments.

The average annual investment requirement represents funding the City should allocate into various reserves for capital activities to maintain current levels of service. These estimates assume that all work can be completed, as indicated, and do not consider future changes due to environmental factors, new maintenance methods, and unidentified growth. While calculating the requirement in this manner provides an estimate of the average future funding needs, it does not mean that the City will require or spend this amount each year. In some years, the City might spend more on capital projects; in other years, it would be less.

The following table shows the City's average annual asset investment requirements, current funding positions, and financing gap.

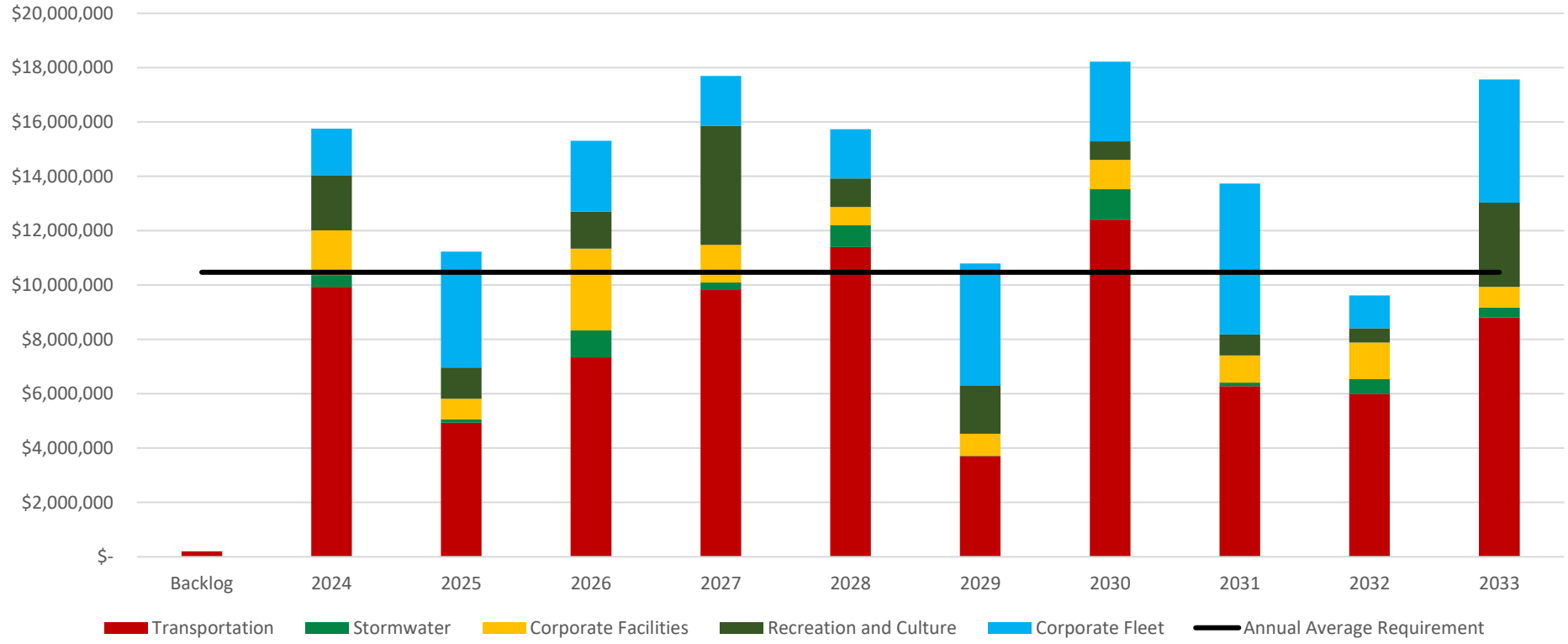
Table 34. Average Annual Investment Requirements by Service Area

Service Area	Investment Requirements	Available Funding	Financing Gap
Transportation	10,805,000	5,703,000	5,102,000
Stormwater	1,549,000	960,000	589,000
Corporate Facilities	3,105,000	1,518,000	1,587,000
Recreation and Culture	4,157,000	2,256,000	1,901,000
Corporate Fleet	3,228,000	2,968,000	260,000
Total	22,844,000	13,405,000	9,439,000

The $22.8 million annual investment requirement represents the average amount required to maintain the current level of service in perpetuity.

The following chart shows the City's anticipated annual capital requirements based on actual assets that require replacement over the next 10 years rather than the average requirement over the next 100+ years.

Figure 35. Forecasted Annual Capital Requirements – All Service Areas, 2024-2033



Using the identified 10-year capital investment requirements and the current capital investment level, the City can determine if there is a financing gap in the City's asset portfolio. Consideration is then given to the existing uncommitted reserve balances to assess the residual funding gap. Opportunities for reducing this residual gap could include increases in the tax rates, utilization of grant funding opportunities, and further review of lifecycle strategies and desired service levels.

Recommendations for Full Funding

The City recognizes that asset management is a continuously evolving process. The recommendations included in this plan are based on the review of current management practices, inventory, valuation, and condition analysis.

The total investment required for the next ten years totals roughly $145 million. The annual revenue currently allocated to these assets for capital purposes is $13,405,000. It is important to remember that the above graph is based only on the funding requirement for the next ten years. Moving into a longer time frame, the financing requirements increase considerably, so it is in the City's best interest to continue allocating as much funding as possible toward the overall capital program. Over the long term, the asset program is only about 60% funded. Putting additional funds into dedicated reserves will help the City achieve complete funding over the long term. Over the next ten years, this AMP recommends increasing reserve contributions to ensure the City can attain fiscal sustainability.

As in the past, periodic senior government funding will possibly be available. However, by Provincial AMP rules, this irregular funding cannot be incorporated into an AMP unless firm commitments exist.

Raising tax revenues for asset management purposes might be very difficult. However, considering a longer phase-in window may have even more significant consequences regarding asset failure. Although this option achieves total funding for the next ten years and provides financial sustainability, the recommendations require prioritizing capital projects to fit the resulting annual financing available. As the City grows and acquires additional new assets, the contributions to various reserves must be increased to account for additional assets and their future replacement and maintenance needs.

Prioritizing future projects will require collecting and using condition-based data for asset categories that currently rely on age-based data. Although the recommendations include limited use of debt, the results of the condition-based analysis may require otherwise. Debt is available as a tool to address high-priority or emergency capital projects while annual funding is being phased in. However, one-time or occasional debt should not be a long-term solution to an annual funding gap.

GROWTH STRATEGY

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

The demand for infrastructure and services will change based on internal and external factors. Increases or decreases in demand can affect what assets are needed and what level of service meets the community's needs.

A Development Charges Background Study is undertaken every five years, which outlines the infrastructure required to maintain service levels as the City's population and employment grow. Projects are included for the various asset classifications necessary to meet program needs for Police, Fire, Library, Recreation, Parks, Administration, Roads and Related Services, Public Works, Waste and Transit which have been identified through various Master Plan needs assessments. Project needs are re-evaluated based on actual population and employment growth development on an annual basis.

Planning for forecasted population growth may require expanding existing infrastructure and services. As growth-related assets are constructed or acquired, they should be integrated into the City's AMP. While the addition of residential units will add to the existing assessment base and offset some of the costs associated with growth, the City will need to review the lifecycle costs of growth-related infrastructure. These costs should be considered in long-term funding strategies that are designed to, at a minimum, maintain the current levels of service. The below table indicates the level of growth expected within the City over the next 2 decades.

Table 35. City of Woodstock Growth Projections

Type of Forecast	2026	2031	2036	2041	2046
Population[8]	50,480	54,470	58,480	62,250	65,950
Households[8]	20,750	22,330	23,870	25,220	26,510
Employment[8]	30,040	31,690	33,720	36,050	38,730

[8] Phase 1 Comprehensive Review – Oxford County

CLIMATE ADAPTATION STRATEGY

Developing visions to pave the way for socio-technical changes is critical to transition towards a more sustainable society. Once created, these visions need to be translated into local action. Municipalities have a strategic role in the operationalization of national policies. Municipal administrations are constant local institutions, meaning that they can develop long-term strategies and could be seen as anchor tenants of local sustainability efforts, particularly when it comes to efforts oriented towards a transition towards a more sustainable energy system. Many municipalities are large energy consumers (through their role as public property owners), which makes them key stakeholders in energy and climate policy discussions and gives them a significant opportunity to influence the local energy system. Compared with other actors (e.g. at the national and provincial levels), municipalities also have specific competencies for direct provision of services such as waste management and public transportation and autonomy regarding land-use planning and education. Finally, with the increased challenges associated with urbanization and the need for the modernization and extension of infrastructure systems, there is an opportunity for municipalities to develop new practices and to lead the way in re-thinking planning, decision-making and governance.

This, along with their local self-governance, means municipalities handle climate policy differently. Understanding how municipalities contribute to the transition to renewable energy sources and broader climate mitigation strategies is critical.

For decades, unsustainable attitudes toward investing, land use and land management have led to climate change, catastrophic declines in biodiversity, and the destruction of nature. Now, as the race to reverse this trend and philosophies shift from exploitation to sustainable regeneration, we expect a growing demand for investment in nature-based solutions. Nature-based investments should aim to address climate and biodiversity crises and diversify risk.

Climate change has put significant strains on municipal infrastructure. The road network experiences unplanned deterioration due to unseasonal weather events and requires more frequent repairs. The storm system is experiencing overcapacity events more frequently and at much higher rates due to more frequent “100-year” storms causing flooding to residential properties. Heavy rainfalls cause floods at the municipal parks as well. Flooding prevents the residents from using parks and increases maintenance costs for the municipality.

Alongside the County of Oxford, the City continues to recognize the importance of climate change mitigation, adaptation, sustainable energy use, related environmental issues, and the need for more sustainable and resilient cities.

The City of Woodstock Community Energy Plan (CEP), in conjunction with the Woodstock Environmental Advisory Committee (WEAC), has set a formative groundwork to promote further energy conservation, sustainable planning, and progressive environmental and economic development. This plan represents a conscious effort to understand better local energy use and greenhouse gas (GHG) emissions. The CEP has established a vision, goals and targets that align with the Oxford County 100% Renewable Energy Plan and Ontario’s Climate Change Action Plan objectives to move towards a low carbon future.

By implementing this plan, the City will reduce total energy use by 26% from the 2013 baseline by 2031 and reduce GHG emissions by 25% from the 2013 baseline by 2031.

It was assessed in 2013 that 4.8 million GJ of energy was used in the City, equating to 121 GJ per capita. More than 80% of this total was consumed in residential (37%) and non-residential (44%) buildings. It includes energy consumed in homes, businesses, industries, government buildings, offices, schools, etc. It was further determined that electricity and natural gas account for most energy consumption by source. Therefore, residential, and non-residential contributed the most when energy consumption was assessed by total contribution to GHG emissions. However, the transportation sector did not fall far behind (CEP, 2016).

To address some of these concerns, the City has implemented an RTU replacement program and installation of a building automation system (BAS). RTU replacements help conserve energy by using high-efficiency electric motors and variable frequency drives to improve the efficiency of the natural gas burners. These replacements have been completed or partially completed in several municipal buildings, in addition to window and HVAC replacements, as identified in The City of Woodstock's 2020-2024 Conservation and Demand Management Plan. The City has also supported the expansion of 12 solar photovoltaic installations.
These improvements are in addition to programs and projects that are part of regular operations, such as the recycling program, LED lighting conversion, and maintenance of ongoing energy efficiency equipment in facilities.

NEXT STEPS

The Asset Management Plan is intended to be a “living document” that is integral and relevant to the City’s infrastructure goals and financial future. The advancement of the Asset Management Program is dependent on the continuous improvement of processes, including improvements to asset information, decision-making and strategic planning.

At an absolute minimum, the objective of any AMP, or strategy, should be to ensure that the overall condition of an asset group does not diminish over time The AMP helps the City strategize it’s financial planning as to manage fluctuations and minimize overall risk while ensuring levels of service do not suffer. Asset Management should be the driving force in capital budget planning as well as being an effective and meaningful long-term policy.

For the AMP to be effective and meaningful, continuous improvement and updates are necessary as specified within the timelines below:

- Regularly monitor the progress of the AMP by providing annual status updates to Council that include how the Asset Management Program has advanced and reflect on any factors impeding implementation
- A thorough and comprehensive update and review of the AMP that occurs every five (5) years, or as required by O. Reg. 588/17
- A thorough and comprehensive update to the Strategic Asset Management Policy every five (5) years

Moving forward, the Asset Management Program will investigate the following:

- Identify proposed LOS on all assets as specified by O. Reg. 588/17
- Continue to engage the public on the current levels of service involving core and non-core assets
- Processes to move any operation and maintenance from reactive into a preventative measure

In conclusion, this iteration of the AMP presents overall information about the City of Woodstock’s asset management approach as related to the City’s core assets and non core assets.

APPENDICES

A. Glossary

Asset: An asset is an item, thing or entity that holds potential or actual value to an organization. The value will vary between different organizations and their stakeholders, and can be tangible or intangible, financial or non-financial.

Asset Management: Asset Management is the coordinated activity of an organization to help realize value from the assets it owns.

Asset Management Plan (AMP): An asset management plan (AMP) is a strategic document that guides a municipality's management of infrastructure assets and other assets to deliver corporate objectives in the most cost-effective manner.

Asset System: A set of assets that interact or are interrelated.

Average Daily Traffic (ADT): The volume of traffic passing a point or segment of a road, in both directions, during a period of time, divided by the number of days in the period.

Bituminous Surface Treatments (BST): Known as a seal coat or a chip seal, a thin protective wearing surface that is applied to a pavement or base course.

Bridge Condition Index (BCI): A system developed by the Ministry of Transportation to assist in the prioritizing of bridge maintenance.

City: The Corporation of the City of Woodstock.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage, supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Cost Inflation: Historical cost of the asset is inflated based on the Consumer Price Index (CPI) or Non-Residential Building Construction Price Index (NBCPI).

Level of Service (LOS): A level of service (LOS) is a measure of what the municipality is providing to the community and the nature and quality of that service.

Lifecycle: The various phases of an asset's life that are identified as planning & construction, operations, maintenance, and disposal. Each phase has its own opportunities, risks, impacts and costs.

Maintaining Level of Service: The activities that would need to be undertaken to maintain the current levels of service being provided or established by the City to meet legislation requirement.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Stakeholder: A person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or activity.

Pipeline Assessment Certification Program (PACP®): A program designed for consistent assessment coding of underground infrastructure.

Public: Residential, commercial, industrial, and institutional stakeholders, and any other stakeholders that rely on City owned municipal infrastructure assets.

Replacement Value: The cost the City would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector Accounting Board Handbook to identify asset inventories, additions, disposals and amortization on an annual basis.

B. List of Acronyms

ADT: Average Daily Traffic

BCI: Bridge Conditions Index

HCB: High Class Bituminous

LOS: Level of Service

NFPA: National Fire Protection Association

NASSCO: National Association of Sewer Service Companies

AMP: Asset Management Plan

CCTV: Closed Circuit Television Video

LCB: Low Class Bituminous

MTO: Ministry of Transportation Ontario

OSIM: Ontario Structure Inspection Manual