Dufferin County

Asset Management Plan

2025

Prepared in consultation with SLBC Inc.

Dufferin county

Executive Summary

Introduction

Dufferin County is committed to delivering high-quality services that support residents, businesses, and visitors. These services include Public Works, Facilities Management, Information Technology, Long-Term Care, Paramedic Services, Housing Services, and the Museum of Dufferin. To sustain these essential services, the County manages infrastructure assets valued at approximately $770.3 million, including roads, bridges, stormwater systems, municipal facilities, technology infrastructure, and a fleet of vehicles and equipment. The County also manages and maintains 14 County forests over 1,118 hectares.

As infrastructure ages and service demands evolve, the County must balance maintenance, upgrades, and new investments within financial and regulatory constraints. This Asset Management (AM) Plan provides a strategic framework to optimize asset performance, mitigate risks, and ensure long-term sustainability. In compliance with Ontario Regulation (O.Reg.) 588/17, the plan supports responsible fiscal planning while prioritizing efficient service delivery.

A key focus of this plan is defining and maintaining appropriate Levels of Service (LOS) to ensure infrastructure meets community needs effectively. By monitoring LOS, the County can make informed investment decisions, prioritize critical repairs, and maintain service reliability while balancing affordability and risk.

Additionally, this AM Plan aligns with Dufferin County's strategic priorities: climate & environment, community, economy, governance, and equity. Through proactive asset management, stakeholder collaboration, and the integration of modern technology, the County aims to maximize asset longevity and optimize investments for the benefit of current and future generations.

Table ES-1-1 summarizes the value of the County's assets by Service Area. Public Works assets account for 70% of the County's overall asset portfolio.

Table ES-1-1 Inventory of the County's Assets

Service Area	Asset Category	Replacement Value ($M)	% of Total
Public Works	Roads, Structures, Other Roads-Related Assets, Stormwater, Trails	$536.8	70%
Corporate Facilities	Facilities, Communication Towers, Emergency Management Equipment	$69.3	9%
Information Technology	End User Devices, IT Infrastructure, Communication Systems	$2.1	<1%
Fleet	Vehicles, Equipment, EV Charging Stations	$11.4	2%
Long Term Care	Facilities, Furnishing, Equipment	$67.0	9%
Paramedic Services	Facilities, Fleet, Equipment	$7.8	1%
Housing Services	Facilities	$65.4	8%
Museum of Dufferin	Facilities, Equipment	$10.5	1%
-	**Total**	**$770.3**	**100%**

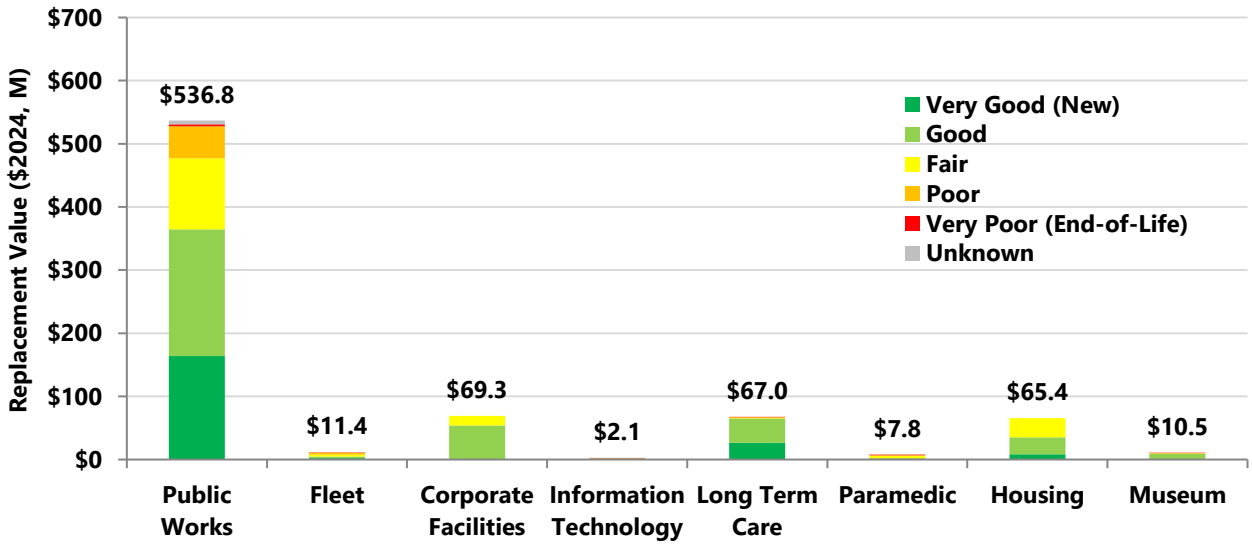
* *Natural Assets have not been included in the County's Asset Inventory*

The 2025 AM Plan forecasts the expenditures required over the 10-year period from 2025 to 2034. This document fulfils the requirements defined by O.Reg. 588/17 Asset Management Planning for Municipal Infrastructure.

State of the Infrastructure

Figure ES-1 summarizes current (2024) condition of the County's assets across the Service Areas by replacement value. 91% of the County's assets are in Fair condition or better based on currently available data. The condition for facilities is assessed for the building as a whole, and therefore individual building assets different than the overall facility rating are not represented in this summary. 1% ($6.3M) of assets were not assessed for condition, including those with undocumented installation dates.

Figure ES-1: Condition Overview – All Services



Assets in Very Poor condition, mainly roads and bridges within Public Works, are due or overdue for rehabilitation or replacement and represent the County's renewal backlog. This condition information is used in the AM Plan's risk assessment to identify the very high-risk assets that should be prioritized for renewal in the capital forecast.

Levels of Service

Levels of Service (LOS) and current performance on these various measures are tracked in each service area. Measures include those defined by O.Reg. 588/17 for roads, structures, and stormwater infrastructure, as well as measures defined by the County to reflect specific priorities and concerns related to service delivery across Public Works, Facilities Management, Information Technology, Long Term Care, Paramedic Services, Housing Services, and the Museum.

In general, the LOS measures can be categorized into three categories:

- **Capacity & Use LOS** demonstrate if services have enough capacity and are accessible to the customers. For example, Paramedic Services tracks the *increase in call volume per year* to ensure that the number of ambulances is sufficient to meet call volume demands.

- **Functional LOS** demonstrate if services meet the community's needs and meet their intended or required purpose. Typical functional LOS for the County include meeting legislative requirements and energy efficiency initiatives for facilities and fleet.
- **Quality and Reliability LOS** demonstrate if services are reliable and responsive to customers. These LOS measures focus on ensuring that assets are kept in a state of good repair and that maintenance work is being performed on time.

Risk Management Strategy

A key asset management principle is to meet target service levels while managing risk and minimizing lifecycle costs. The County's risk strategy is a framework for quantifying the risk exposure of assets to enable prioritization of activities across asset classes and service areas. The relative importance of the assets to support service delivery, referred to as asset criticality, is a key driver in selection of the most appropriate asset management strategy for each asset. Criticality is evaluated on an asset's failure impact to service delivery, health and safety, the environment, the County's financial position, and the County's reputation. Risk exposure is the multiplication of the criticality or consequence of failure by the probability of failure, which is the likelihood or chance that an asset failure may occur.

Based on a risk analysis of those assets with known condition, Figure ES-2 shows that 0.6% or $4.8 million of the County's assets are in the Very High-risk category related to provision of reliable services. These assets include three bridge structures ($3.7M), multiple IT assets ($0.2M), and four ambulances ($0.9M). The mitigation strategy for these asset risks is provided in the detail in the document.

Figure ES-2: Reliability Risk Exposure of the County's Core Assets

	5	$0.4	$0.0	$3.0	$1.1	$0.0
	4	$2.9	$29.4	$19.6	$3.1	$3.7
PoF	**3**	$2.2	$42.2	$73.3	$36.2	$10.8
	2	$6.8	$95.7	$85.7	$39.9	$105.9
	1	$0.4	$95.0	$69.9	$10.7	$26.1
		1	**2**	**3**	**4**	**5**
				CoF		

Risk Exposure	CRV($)	CRV(%)
Very High	$4.8	0.6%
High	$16.9	2.2%
Medium	$161.6	21.2%
Low	$297.0	38.9%
Very Low	$283.6	37.1%
Total	**$763.9**	**100.0%**

Lifecycle Management Strategy

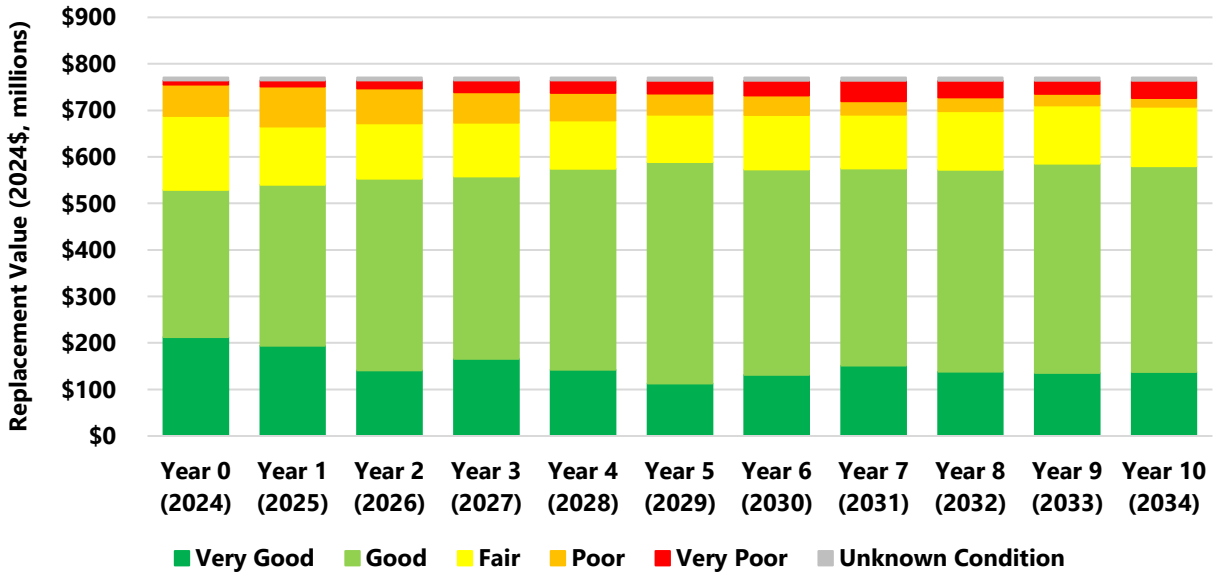
Lifecycle management strategies are the planned lifecycle-based actions that the County needs to undertake to manage its service levels and the risk of asset failure. The County performs hundreds of inspections, maintenance actions, and repair responses to ensure that infrastructure performs reliably. These activities are funded through the County's Operating Budget.

Lifecycle activities also include rehabilitation and replacement activities funded through the Capital Budget, such as the renewal activities mentioned in the risk strategy that mitigate risks to acceptable levels. Rehabilitation strategies also extend asset service lives and lower overall lifecycle costs. In addition to meeting reliability service levels through renewals, the County also plans for expansion and upgrade strategies to support capacity and functional service levels through the Capital Budget.

The County's total forecasted growth and upgrade to meet proposed service levels is $4.7 million per year averaged from 2025-2034. This includes road widening projects, a new operations centre, facility renovations, and various other asset additions.

The County's forecasted renewal capital needs to maintain asset condition from 2025-2034 is estimated to be an average of $15.3 million per year. Planned renewal funding from 2025-2034 is estimated to be an average of $13.6 million per year resulting in the condition forecast presented in Figure ES-3 where the percentage of assets in Very Poor condition increases from 1% to 5% over the forecast period.

Figure ES-3: Forecast Asset Portfolio Condition Based on Planned Funding



Financial Strategy

The financial strategy is informed by the preceding sections of the AM Plan: the state or condition of the assets, the current levels of service, the risks to service delivery, and the lifecycle activities needed to reduce the risks to acceptable levels. The financial strategy considers how the County will fund the recommended asset management actions. The County's main sources of revenue include property tax, debt (which per County policy is for new assets only), Canada Community Building Fund (CCBF) (formerly Federal Gas Tax), Ontario Community Infrastructure Fund (OCIF), Development Charges (DCs), Grants, and User Fees.

The following table provides a summary of the total asset management needs, available funding, and resulting infrastructure gap across the three core categories of investment: Growth, Renewal, and O&M. This breakdown is intended to clearly illustrate where funding shortfalls exist and to support evidence-based planning and prioritization decisions. Renewal needs reflect the investment required to maintain existing assets in a state of good repair; Operations and Maintenance (O&M) needs represent the costs necessary to operate and maintain infrastructure at desired service levels; and growth needs account for the capital investment needed to support new development or increased demand. The investment gap is presented as the difference between the forecasted 10-year needs and the available funding in each category.

Table ES-1-2: Summary of Needs, Funding, and Investment Gap from 2025-2034

Category	10-Year Avg. Annual Need ($Millions)	10-Year Avg. Annual Funding ($Millions)	10-Year Avg. Annual Investment Gap ($Millions)	Ratio of Funding to Needs
1. Growth	$4.7	$3.2	$1.5	68%
2. Renewal	$15.3	$13.6	$1.7	89%
3. O&M	$22.3	$22.3	$0	100%
Total	**$42.3**	**$39.1**	**$3.2**	**92%**

The $3.2 million per year investment gap highlights the financial challenges faced in sustaining current and future service levels and reinforces the importance of long-term financial planning and funding strategy development. If the investment gap is not funded sufficiently, the County can expect the following impacts.

- Increased unplanned maintenance and repairs.
- Increase of renewal backlog over future planning horizons, increasing the long-term cost to the County.
- Safety, compliance, reputation, and financial (insurance) risks.
- Potential impact on the provision of services.

The County plans to manage the investment gap using multiple methods including deferring non-critical asset renewals, increasing use of available grant funds, extending asset lifecycles based on better estimates of service lives, and finding cost efficiencies by coordinating project work.

Monitoring and Improvement

Development of an AM Plan is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time, and the County will continue to work on improvement initiatives to its asset management practices to best realize value from its infrastructure. Specific improvements recommended for the next AM Plan include:

- Review LOS measures and update to align with priorities (i.e., Average wait time for a housing unit/LTC bed).
- Incorporate internal resource needs (operational and renewal impacts) to deliver recommended AM Plan capital growth projects.
- Refine AM Plan growth projections and asset needs based on updated Master Servicing Plans.
- Develop an asset hierarchy including all County assets and agreed upon by all service areas.
- Gain further understanding of property resiliency to 100-year and 5-year storms through flood plain mapping.
- Continue to enhance asset inventories to a more detailed level.
- Update O&M forecast to reflect updated road classifications resulting in greater minimum maintenance standards (MMS) and greater O&M costs to the County.
- Incorporate natural assets outside facilities into asset inventory.

Table of Contents

1 Introduction

Dufferin County provides a range of services to its residents, businesses, and visitors, including Tourism, Public Works, Facilities Management, Information Technology, Long Term Care, Paramedic Services, Housing Services, and the Museum of Dufferin. To deliver these services, the County relies on $770.3 million of infrastructure assets, including roadways, bridges and structural culverts, stormwater infrastructure, information technology, facilities, vehicles, and equipment.

As infrastructure ages and demands increase, the County manages the challenge of ensuring the needs of the community are effectively met with the limited resources available. This Asset Management Plan (AM Plan) seeks to address that concern by providing a framework for prioritizing Asset Management (AM) efforts and providing direction for effective management of the County's infrastructure to best achieve established goals and objectives. As an integrated plan, it considers the lifecycles and needs of all infrastructure assets and classes within the AM Plan's scope, providing a sustainable and holistic view of the asset portfolios.

1.1 Purpose of the Plan

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

1.2 Alignment with Regulatory Requirements

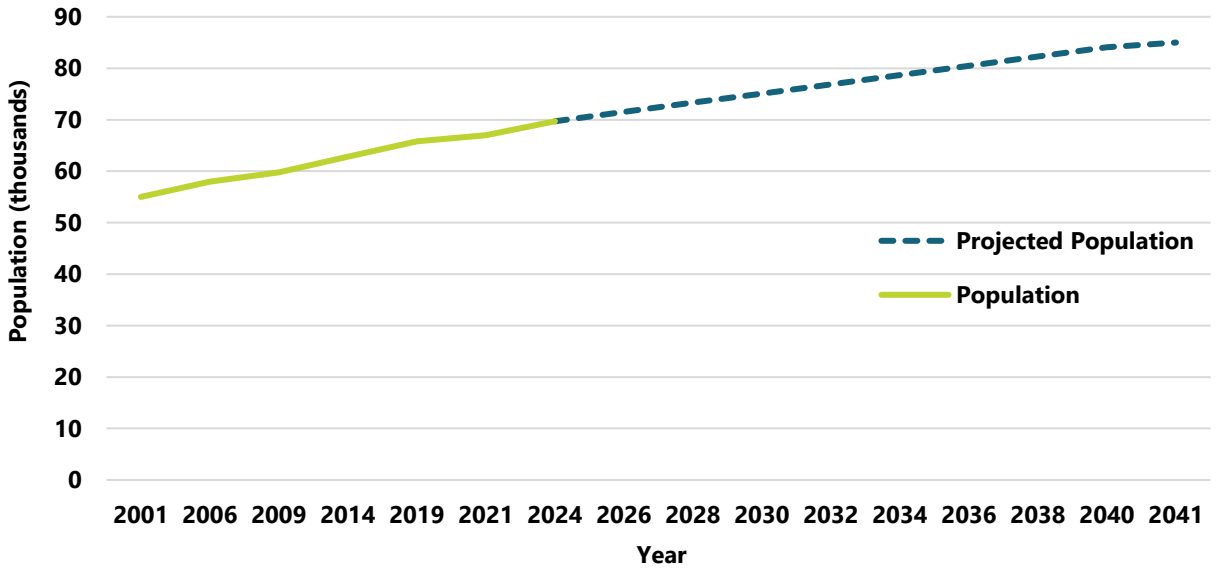
This AM Plan fulfils the requirements of the Ontario Regulation (O.Reg.) 588/17 Asset Management Planning for Municipal Infrastructure for 2025. Specifically, this AM Plan establishes proposed Levels of Service (LOS) and recommends actions and financial strategies to meet the proposed service levels within a manageable level of risk over the next 10 years.

In accordance with the requirements of O.Reg. 588/17, this AM Plan is posted on the County's website. Going forward, O.Reg. 588/17 requires that progress implementing the AM Plan be reported to Council by July 1 each year, and that the AM Plan be updated every 5 years or more frequently. Background information and reports for the State of Infrastructure section may be provided by the County upon request.

1.3 Growth at the County

The County monitors trends in its population to ensure that its impacts on service levels are well understood and strategies are developed to address additional demands due to growth and changes in demographics. In accordance with the 2017 Dufferin County Official Plan, the County's population is expected to be 85,000 persons in 2041, with employment at 32,000 jobs, as shown in Figure 1-1.

Figure 1-1: County Population History and Forecast to 2041



1.4 Relationship with Other Municipal Documents

AM planning is a key tactical (medium term) planning activity that relies on input from strategic planning activities and informs shorter-term decision making. The AM Plan provides a framework to validate the County's budgeting processes and assists in prioritizing work activities, including capital projects, based on risk while supporting the County's strategic priorities.

The AM Plan is intended to be read with other County planning documents, including the most recent of the following:

- County Official Plan
- Strategic Plan
- Road Needs Study
- Bridge and Culvert Inspections (OSIM)
- Climate Adaptation Strategy
- Climate Action Plan
- Transportation Master Plan
- Operating and Capital Budgets

1.5 Scope

This AM Plan includes all assets owned by the County for which asset data was currently available, and provides recommendations for the period 2025-2034, inclusive. Where data gaps were encountered, recommendations for closing data gaps are provided. This will enable the County to continually improve its AM planning capabilities.

1.6 Asset Hierarchy and Data Sources

The AM Plan discusses the County's assets which support the various service areas as shown in Table 1-1. The table also summarizes the main data sources used for the master inventory, replacement cost, and condition data. It should be noted that the values are based on the most current data on hand and may not be reflective of actual replacement costs, particularly for those assets using insurance valuation.

Table 1-1: Service Area and Asset Hierarchy

Service Area	Asset Type	Inventory	Replacement Cost	Condition
Public Works	Roads	Capital Plan	Unit Construction Costs	PCI based on Road Needs Study
	Structures	OSIM Report	Adjusted OSIM Report values	BCI based on OSIM Report
	Signals	Capital Plan	Unit Costs	Age-based
	Entrances, Guiderails, Flashing Beacons	GIS	Unit Costs	Age-based
	Signs	GIS	Unit Costs	GIS condition attribute
	Storm sewers, Catch Basins, Culverts	GIS	Unit Costs	Age-based
	Heavy and Light Vehicles, Equipment, & EV Charging Stations	Capital Plan	Unit Costs	Age-based
	Trails	GIS	Unit Costs	Age-based
Corporate Facilities	Facilities	Capital Plan	Insurance valuation	Facility Condition Index
	Communication Towers	Capital Plan	N/A	Age-based
	Emergency Management	Capital Plan	Unit Costs	Age-based
IT	End User Devices	Capital Plan	Unit Costs	Age-based
	IT Infrastructure	Capital Plan	Unit Costs	Age-based
	Communication Systems	Capital Plan	Unit Costs	Age-based
Long Term Care	Facilities	Capital Plan	Insurance valuation	Facility Condition Index
	Furnishings	Capital Plan	Unit Costs	Age-based
	Equipment	Capital Plan	Unit Costs	Age-based
Paramedic Services	Facilities	Capital Plan	Insurance valuation	Facility Condition Index
	Fleet	Capital Plan	Unit Costs	Age-based
	Equipment	Capital Plan	Unit Costs	Age-based
Housing Services	Facilities	Capital Plan	Insurance valuation	Facility Condition Index
Museum	Facilities	Capital Plan	Insurance valuation	Facility Condition Index
	Equipment	Capital Plan	Unit Costs	Age-based

1.7 Assets Not Included

This AM Plan does not include natural assets near County facilities. The County plans on including these assets in the next update to this AM Plan as the data and understanding of costs is improved.

1.8 Organization of the Document

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

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

2 State of the Infrastructure

2.1 Overview

Dufferin County relies on a diverse portfolio of infrastructure assets to deliver essential services. Effective asset management begins with understanding the inventory, including valuation, age, and condition. The State of Infrastructure section of the AM Plan provides a snapshot of these assets, supporting strategic planning and investment. The replacement value reflects the cost to replace assets under current market conditions, assuming planned and bundled capital projects to minimize costs. Table 2-1 details the asset inventory by service area. To maintain high-quality infrastructure, ongoing data collection and monitoring are essential. The AM Plan Improvement and Monitoring section outlines recommendations to enhance data accuracy, optimize asset performance, and support long-term sustainability.

The County's portfolio of assets has an estimated replacement value of $770.3 million (2024$). Public Works assets account for 70% of the County's overall asset portfolio.

Table 2-1: Replacement Value of County's Assets

Service Area	Replacement Value (2024$, million)	% of Assets
Public Works	$536.8	70%
Corporate Facilities	$69.3	9%
IT	$2.1	<1%
Corporate Fleet	$11.4	2%
Long Term Care	$67.0	9%
Paramedic Services	$7.8	1%
Housing Services	$65.4	8%
Museum	$10.5	1%
Total	**$770.3**	**100%**

Understanding an asset's remaining life and condition informs the County on the timing for required lifecycle activities to maintain service levels. The remaining life is determined by estimating a useful life for each asset and comparing this value to its age. Observed condition provides more confidence in the state of the assets than the age-based analysis and is used in this AM Plan where condition data is available. The condition ratings are defined in Table 2-2 and are aligned with the International Infrastructure Management Manual's (IIMM) 5-point condition scale.

Table 2-2: Condition Grading Criteria

Description	Condition Criteria
Very Good	Asset is physically sound and is performing its function as originally intended. Required maintenance costs are well within standards and norms. Typically, asset is new or recently rehabilitated.
Good	Asset is physically sound and is performing its function as originally intended. Required maintenance costs are within acceptable standards and norms but are increasing. Typically, asset has been used for some time but is within mid-stage of its expected life.

Description	Condition Criteria
Fair	Asset is showing signs of deterioration and is performing at a lower level than originally intended. Some components of the asset are becoming physically deficient. Required maintenance costs exceed acceptable standards and norms and are increasing. Typically, asset has been used for a long time and is within the later stage of its expected life.
Poor	Asset is showing significant signs of deterioration and is performing to a much lower level than originally intended. A major portion of the asset is physically deficient. Required maintenance costs significantly exceed acceptable standards and norms. Typically, asset is approaching the end of its expected life.
Very Poor	Asset is physically unsound and/or not performing as originally intended. Asset has higher probability of failure or failure is imminent. Maintenance costs are unacceptable, and rehabilitation is not cost effective. Replacement / major refurbishment is required.

For this AM plan, condition assessment data was incorporated where available, specifically for:

- Roads (2024 Road Needs Study)
- Bridges and structural culverts (2024 Bridge & Culvert Inspections)
- Facilities (2024 Building Condition Assessment)

For the remaining assets, condition was estimated based on age and estimated service life.

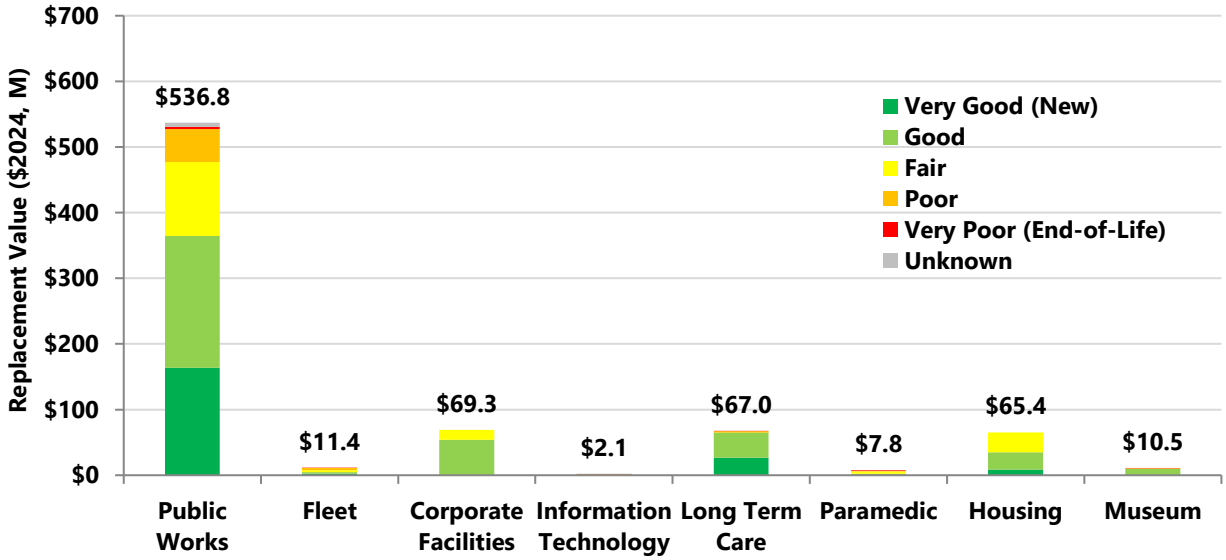
Table 2-3 shows how the five-point scores from Very Good to Very Poor were determined from the available asset data, including remaining useful life and the other condition scoring systems, such as Pavement Condition Index (PCI), Bridge Condition Index (BCI), and Facility Condition Index (FCI). The BCI scale was developed to align with the County's most recent OSIM report. Condition scores were adjusted based on staff input, as required. Adjustments were made primarily to reflect renewals and repairs completed since the time of the condition assessments.

Table 2-3: Conversion Table for Condition Grades

Condition Grade	% Remaining Useful Life (All Other Assets)	Pavement Condition Index (Roads)	Bridge Condition Index (Bridges & Culverts)	Facility Condition Index (Facilities)
Very Good	>75 – 100%	85.0 – 100.0		0% to 5%
Good	>50 – 75%	70.0 – 84.9	70 – 100	>5 to 10%
Fair	>25 – 50%	55.0 – 69.9	60 – 69.9	>10% to 30%
Poor	>0 – 25%	40.0 – 54.9	< 60	>30% to 60%
Very Poor	<= 0%	< 40		> 60%

The condition distribution of the County's assets is presented in Figure 2-1. Approximately 91% of the assets are assessed to be in fair condition or better, while 9% are categorized as being in poor, very poor, or unknown condition. Assets in Very Poor condition are overdue for rehabilitation or replacement and represent the County's Renewal Backlog. 0.8% ($6.3M) of assets were in Unknown condition due to missing installation dates or condition assessment information. The condition for facilities is assessed based on the condition of the building, and therefore individual building elements that are in Poor or Very Poor condition do not show up in this assessment. Refer to Section 2.4.2 for a more detailed discussion. Due to a range of asset portfolio replacement values in Figure 2-1, condition profiles are not easily visible for some services. Sections 2.2 to 2.9 provide more detail on asset condition by service.

Figure 2-1: Condition Overview by Services



2.2 Public Works

Public Works assets encompass roads, structures, transportation-related infrastructure, stormwater systems, and trails. Roads constitute the largest portion of these assets by replacement value, accounting for $366.7 million (68%) of the total estimated value of $536.8 million for Public Works assets. A detailed breakdown of the quantity and estimated replacement value of each asset category within the County's Public Works portfolio is presented in Table 2-4.

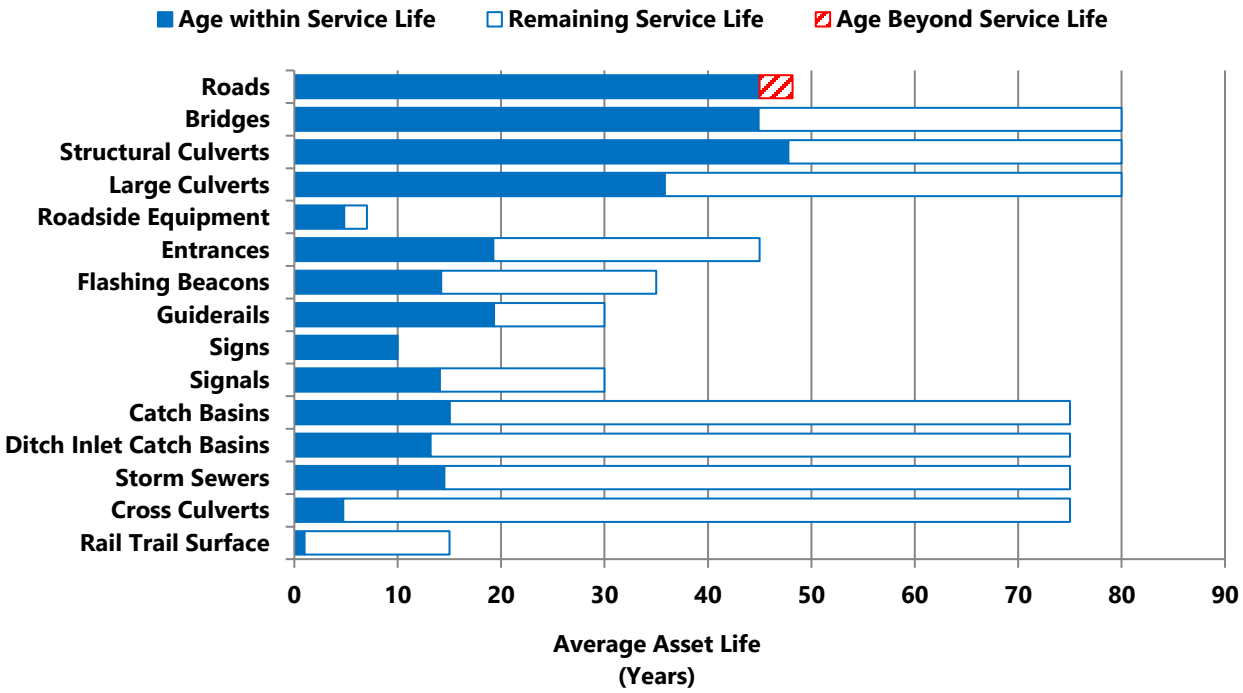
Table 2-4: Inventory of Public Work Assets

Asset Class	Asset Type	Quantity	Unit	Replacement Value ($M)
Roads	-	315.9	centre-line km	$366.7
Structures	Bridges	37	assets	$76.8
	Structural Culverts	46	assets	$35.0
	Large Culverts	24	assets	$14.7
Roadside	Equipment	8	assets	$0.5
	Entrances	2,650	assets	$10.9
	Flashing Beacons	10	assets	$0.1
	Guiderails	342	assets	$9.5
	Signs	4,811	assets	$0.7
	Signals	12	assets	$3.6
Stormwater Infrastructure	Catch Basins	148	assets	$0.6
	Ditch Inlet Catch Basins	23	assets	$0.2
	Storm Sewers	123	assets	$3.3
	Cross Culverts	603	assets	$9.6
	Rail Trail Culverts	11	assets	$3.5
Trails	Rail Trail Surface	38.1	km	$1.1
Total				$536.8

2.2.1 Asset Age

The average age and estimated service life of the County's Public Work assets, weighted by replacement value, is summarized in Figure 2-2. Only those assets with installation date information are shown. On average, the County's assets are in the first half of their service lives except for roads, bridges, culverts, and guiderails. The average road age is shown as being beyond its expected service life but actual road condition is assessed in alignment with industry standard inspection protocols through regularly updated Roads Need Studies using Pavement Condition Index (PCI) ratings. The age of rail trail culverts was not known which is why they are excluded from Figure 2-2 but their condition is assessed every two years through OSIM inspections.

Figure 2-2: Average Age and Estimated Service Life – Public Works



2.2.2 Asset Condition

A 2024 Road Needs Study was conducted to identify deficiencies in the network and prepare rehabilitation strategies to maintain the road network. An overall PCI is calculated for each road segment to represent the road condition based on a survey of the number and types of distresses on the pavement. Descriptions for each of the PCI rating categories is provided in Table 2-5.

Table 2-5: Condition Rating System for Roads

Condition Grade	PCI	Road Condition Description
Very Good	85.0 – 100	The road segment is relatively new, or recently reconstructed. There are no visible cracks and no structural issues. The ride is smooth.
Good	70.0 – 84.9	The road segment is starting to exhibit few, if any, signs of surface deterioration, random cracks, and rutting. The ride is relatively smooth.
Fair	55.0 – 69.9	The road segment is exhibiting signs of surface deterioration, random cracks, rutting, and some patching of surface defects. The ride is becoming rough.
Poor	40.0 – 54.9	The road segment shows signs of deterioration, cracks, rutting, and patching of surface defects that occurs over 50 percent of the surface. Some structural issues are starting to show. The ride is uncomfortable.
Very Poor	< 40	The road segment is reaching the end of its useful life. There are significant structural issues with large visible cracks, rutting and patching surface defects that occurs over 75 percent of the surface. The road is difficult to drive at the posted speed limit.

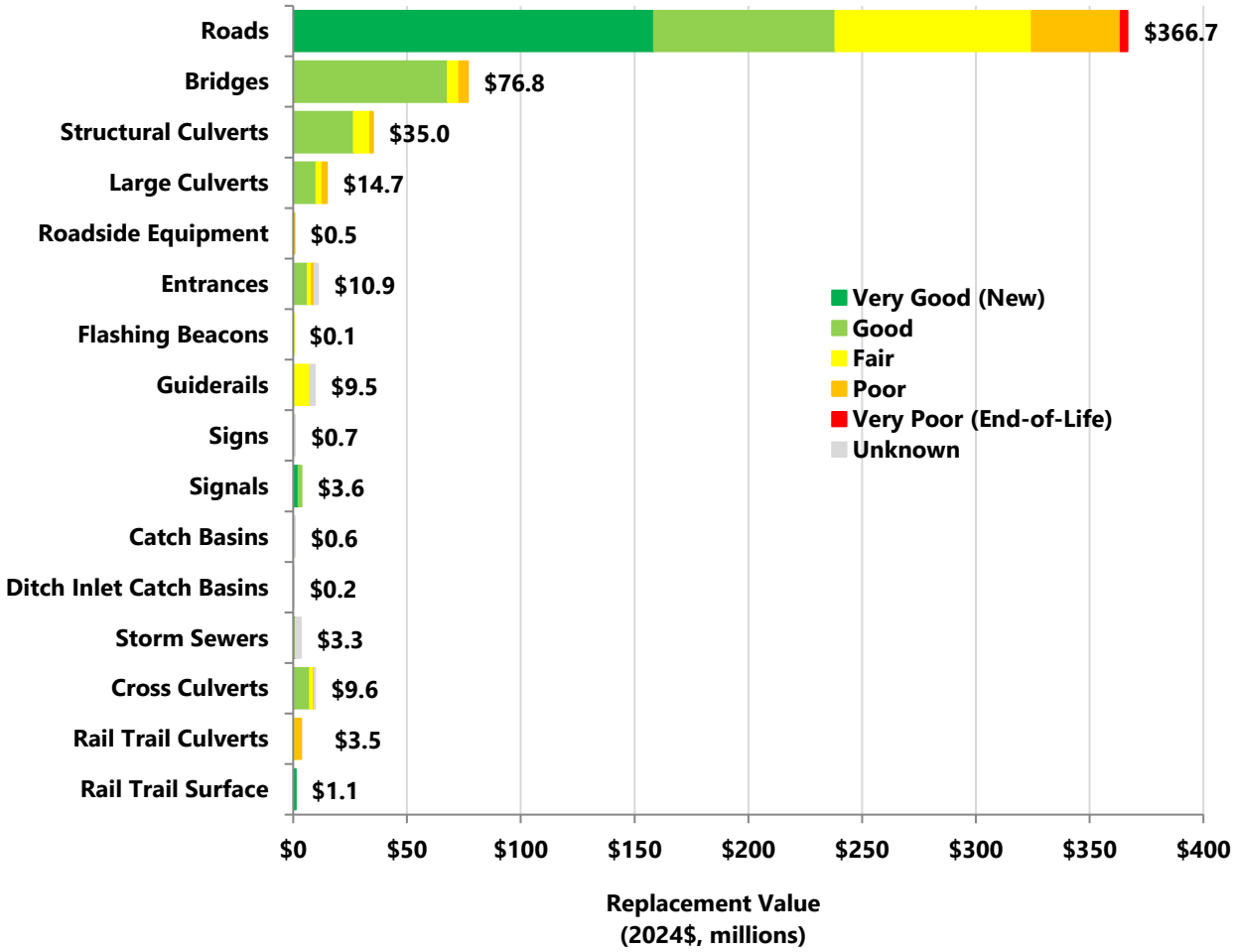
The County retains a consultant to conduct structural inspections in accordance with current legislation. The most recent inspections were completed in 2024. A Bridge Condition Index (BCI) is calculated for each bridge and structural culvert based on a detailed assessment of individual structural elements. Similar to the PCI, the BCI ranges from 100 to 0, with a rating of 100 representing a newly constructed or rehabilitated structure with no deficiencies.

Table 2-6: Condition Rating System for Structures

Condition Grade	BCI	Bridge / Culvert Condition Description
Very Good	-	Not used in County's OSIM report.
Good	70 – 100	Minor defects are visible, but these do not affect overall performance and would not normally trigger remedial action. E.g. Light corrosion, light scaling, narrow cracks in concrete.
Fair	60 – 69.9	Medium defects are visible and may trigger preventive maintenance and remedial action. E.g. Medium corrosion with up to 5% section loss, medium cracks in concrete.
Poor	< 60	Medium defects are visible, requiring. E.g. Medium corrosion with up to 10% section loss, medium cracks in concrete.
Very Poor	-	Not used in County's OSIM report.

The condition of all other Public Works assets is estimated based on age and expected service life. Figure 2-3 illustrates the condition distribution of the County's non-fleet Public Works assets, showing the relative replacement value by asset category and the proportion of assets by condition grade. Overall, roads are in good condition, with 89% of road assets classified as fair or better. 15% of peripheral transportation assets—such as guiderails, signs, and entrances—are missing installation date records, along with 15% of stormwater assets.

Figure 2-3: Condition Overview – Public Works



2.3 Corporate Fleet

The County of Dufferin's Corporate Fleet assets play a crucial role in supporting essential services. The inventory includes the County's vehicles, equipment, and Electric Vehicle (EV) charging stations. Corporate Fleet assets are categorized into Light Vehicles, Heavy Vehicles, Equipment, and EV charging stations. Light Vehicles comprise pickups and vans. Heavy Vehicles include high-value and critical assets, such as snow plows and graders. Equipment includes excavators, backhoes, and front-end loaders and smaller-scale assets like tractors, trailers, lifts, and attachments. The criticality of these assets is further discussed in Section 4. By focusing on efficient management, the County aims to ensure that its fleet remains reliable, cost-effective, and capable of supporting daily operations. A breakdown of the quantity and estimated replacement value of each asset category is presented in Table 2-7.

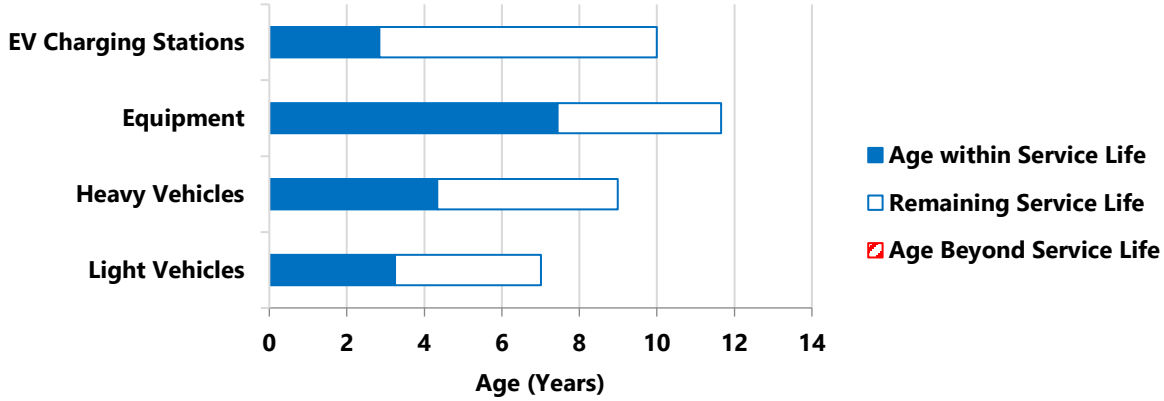
Table 2-7: Inventory of Corporate Fleet

Asset Class	Quantity	Unit	Replacement Value ($M)
Light Vehicles	**28**	**assets**	**$2.5**
Heavy Vehicles	**16**	**assets**	**$6.4**
Equipment	**25**	**assets**	**$2.1**
EV Charging Stations	**32**	**assets**	**$0.5**
Total			**$11.4**

2.3.1 Asset Age

The average age and estimated service life of the County's Corporate Fleet assets, weighted by replacement value, is summarized in Figure 2-4. Fleet assets generally have a short expected life and are replaced on a regular interval. On average, fleet assets are at or less than mid-life.

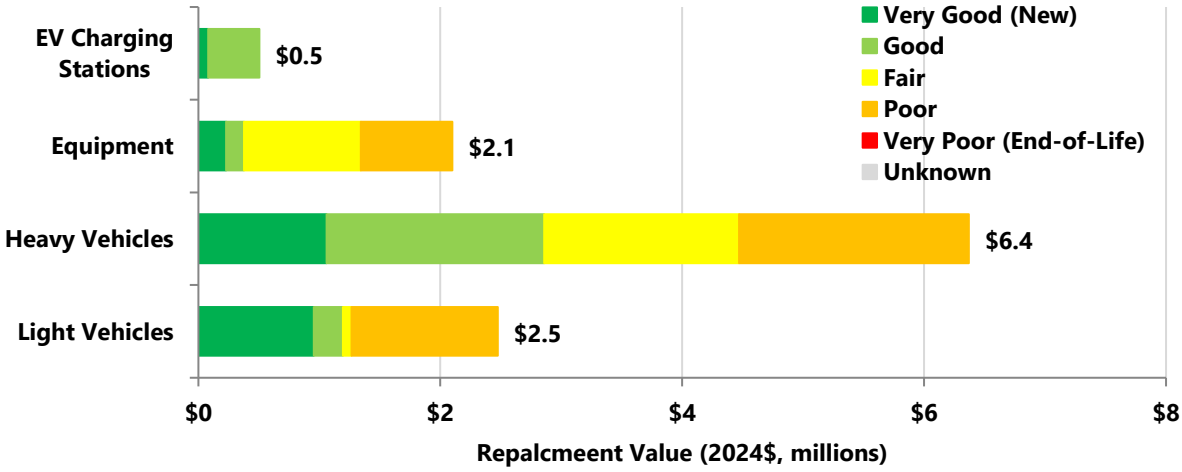
Figure 2-4: Average Age and Estimated Service Life – Corporate Fleet



2.3.2 Asset Condition

Figure 2-5 summarizes the condition distribution of the County's Fleet assets. Notably, 33% of the assets are in poor condition and will require replacement in the next few years.

Figure 2-5: Condition Overview – Corporate Fleet



2.4 Corporate Facilities

Corporate Facilities assets include three primary facilities—the Courthouse, Edelbrock Centre, and Primrose Operations Centre—as well as two communication towers with associated equipment and small buildings, and emergency management equipment. The three facilities account for $69.2 million (99%) of the total estimated value of $69.3 million for Corporate Facilities assets. Table 2-8

provides a breakdown of the quantity and estimated replacement value of each asset type within the County's Corporate Facilities asset portfolio.

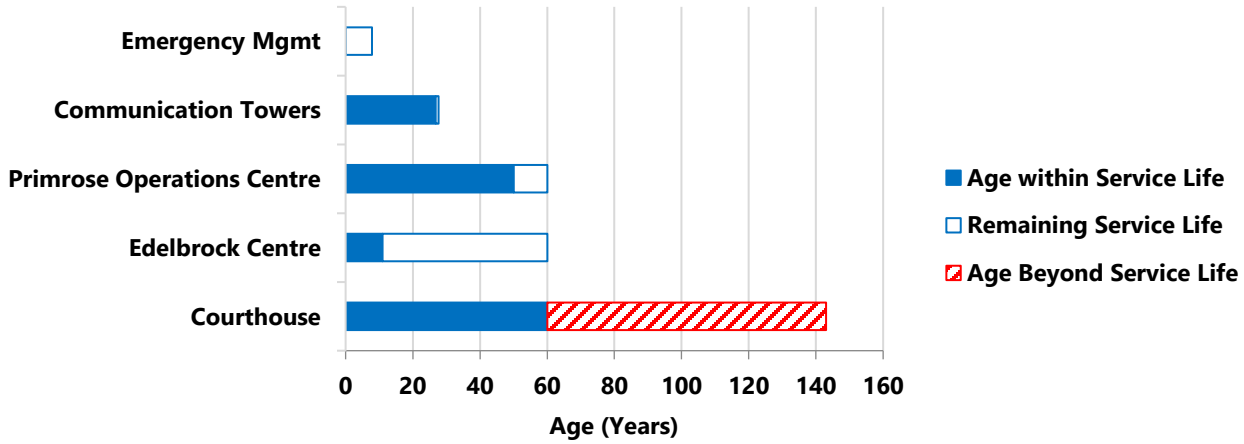
Table 2-8: Inventory of Corporate Facilities Assets

Asset Class	Quantity	Unit	Replacement Value ($M)
Facilities (Courthouse, Edelbrock, Primrose)	3	facilities	$69.2
Communication Towers	5	towers & equipment	N/A[1]
Emergency Management Equipment	2	assets	$0.1
Total			$69.3

2.4.1 Asset Age

The average age and estimated service life of the Corporate Facilities assets, weighted by replacement value, is summarized in Figure 2-6. The Courthouse facility was originally constructed in the 1880s and has undergone expansions and renovations in 1973, 1988, and 2011 which have allowed it to continue providing service well beyond its expected service life. The communication towers are at their expected life as they were installed in the 1990s.

Figure 2-6: Average Age and Estimated Service Life – Corporate Facilities



2.4.2 Asset Condition

The County completed building condition assessments on all its facilities, including the Courthouse, Edelbrock Centre, and Primrose Operations Centre in 2024. The condition assessments indicated the condition by building element, organized per Uniformat II standard. The condition rating was supplemented with a 20-year forecast of recommended repairs,

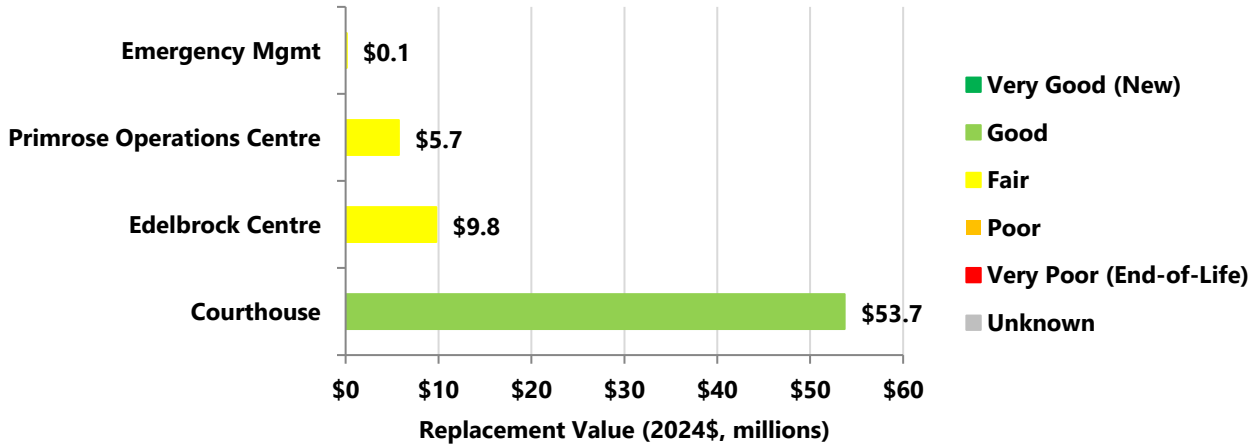
[1] The County owns 2 communication towers and various equipment but there is no plan to replace these assets once they cease to be functional. The County has assigned these assets a zero dollar replacement value to reflect this plan.

rehabilitations, and replacements. The County updated the forecast based on more recent staff information where applicable. The condition data is not maintained at the same Uniformat II standard detail provided in the condition assessment, and therefore, each building is assessed an overall condition rating based on Facility Condition Index (FCI), which estimates condition by the extent of work required on the facility over the current and following four years, and is calculated as:

$$\textbf{\textit{Facility Condition Index}} = \frac{\textbf{\textit{Current Need + Planning Years 1 to 4 Needs}}}{\textbf{\textit{Current Replacement Value}}}$$

The FCI, therefore, provides an overall facility condition rating but is not a detailed element by element condition analysis, as individual building components may still be in any of the five condition states from Very Good to Very Poor. The FCI also focuses on the building itself and does not consider site works such as landscaping needs. The condition distribution of the County's Facilities Management assets is shown in Figure 2-7. The three main facilities are in Fair to Good condition based on FCI. The towers are excluded from the following figure as they are not assigned a replacement value as directed by the County.

Figure 2-7: Condition Overview – Corporate Facilities



2.5 Information Technology

Information Technology (IT) plays a critical role in ensuring efficient operations, effective service delivery, and strong governance across the County. It supports various municipal functions, enhances communication, and optimizes workflows. The County's IT asset portfolio includes end-user devices, IT infrastructure, and communication systems. Table 2-9 provides a breakdown of IT assets, which have a total estimated value of $2.1 million.

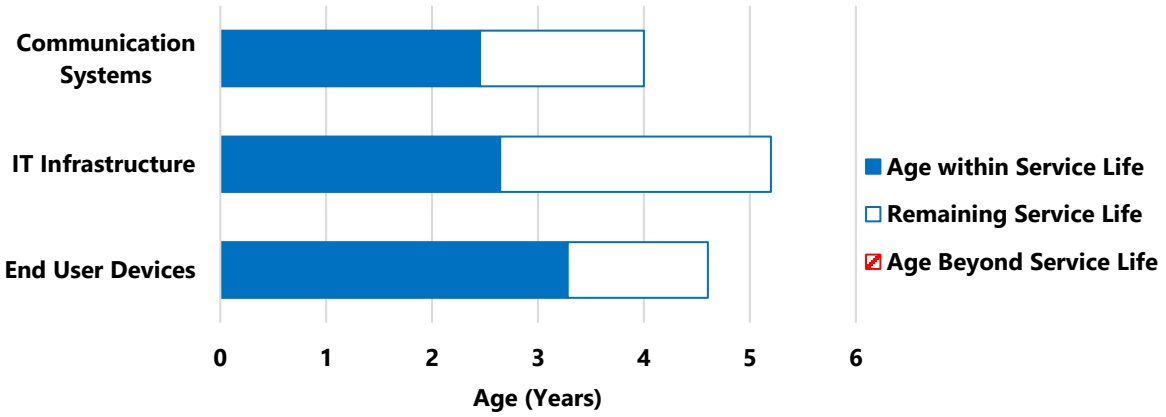
Table 2-9: Inventory of IT Assets

Asset Class	Quantity	Unit	Replacement Value ($M)
End User Devices	928	assets	$0.6
IT Infrastructure	192	assets	$1.0
Communication Systems	255	assets	$0.4
Total			$2.1

2.5.1 Asset Age

The average age and estimated service life of the County's IT assets, weighted by replacement value, is summarized in Figure 2-8. Due to their relatively short lifecycle, IT assets are replaced at regular intervals. On average, these assets are at or beyond their mid-life stage.

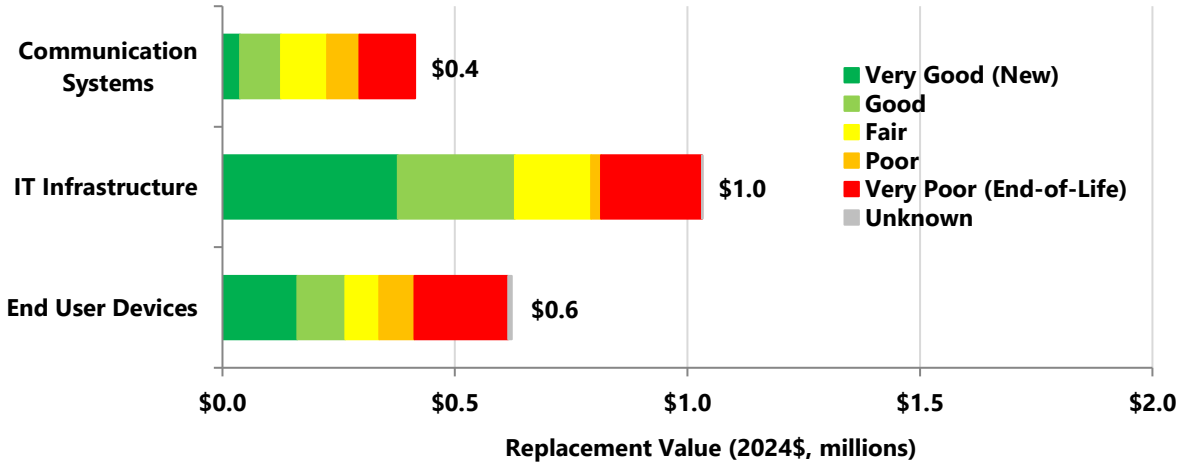
Figure 2-8: Average Age and Estimated Service Life – Information Technology



2.5.2 Asset Condition

The condition distribution for IT assets is summarized in Figure 2-9, highlighting the relative replacement value by asset category and the proportion of assets by condition grade. Assets classified as Poor are nearing the end of their service life and are largely scheduled for replacement within the next one to two years. Additionally, assets approaching the later stages of their lifecycle or beyond will require either replacement or increased maintenance to ensure continued performance and reliability.

Figure 2-9: Condition Overview – Information Technology



2.6 Long Term Care

The County owns and operates Dufferin Oaks, a non-profit long-term care (LTC) home, which is connected to the Mel Lloyd Centre. The Long Term Care asset portfolio includes facilities,

furnishing and operational equipment. Table 2-10 provides a summary of these assets, with a total estimated value of $67.0 million.

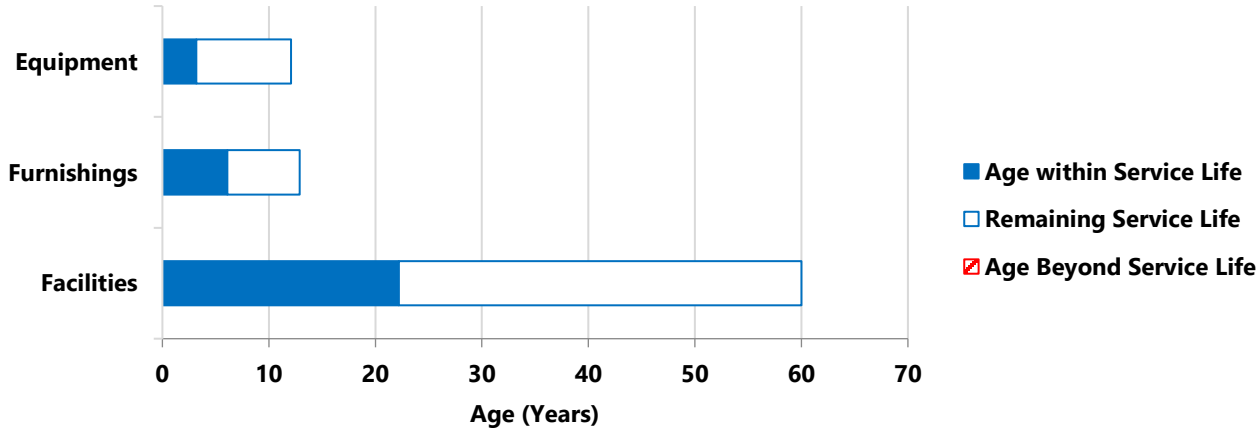
Table 2-10: Inventory of Long Term Care Assets

Asset Class	Quantity	Unit	Replacement Value ($M)
Facilities	**2**	**facilities**	**$64.0**
Furnishings	**309**	**assets**	**$0.6**
Equipment	**128**	**assets**	**$2.3**
Total			**$67.0**

2.6.1 Asset Age

Figure 2-10 provides a summary of the average age and estimated service life of Long Term Care assets, weighted by replacement value. Overall, both facility and equipment assets are still within the first half of their expected lifespan, indicating that they remain in a generally good state. However, ongoing maintenance and strategic planning will be essential to ensure their continued functionality and to address future replacement needs as assets approach the later stages of their lifecycle.

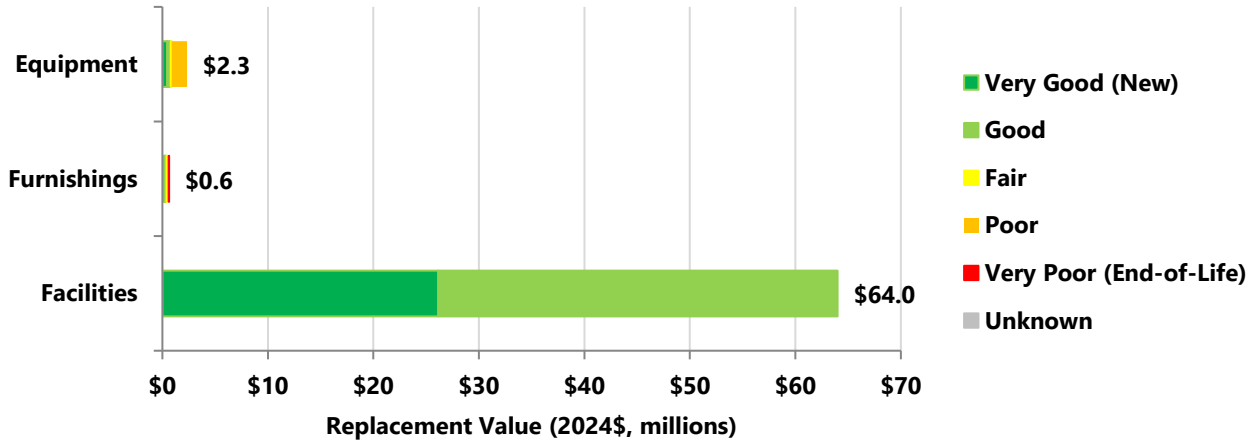
Figure 2-10: Average Age and Estimated Service Life – Long Term Care



2.6.2 Asset Condition

As indicated in Section 2.4.2, the County conducted comprehensive building condition assessments for all its facilities, including Dufferin Oaks and the Mel Lloyd Centre, in 2024. The condition distribution of Dufferin Oaks assets is summarized in Figure 2-11. Based on the FCI, both the Dufferin Oaks and Mel Lloyd Centre facilities are in overall Very Good to Good condition, reflecting well-maintained structures. A small portion of the long-term care equipment (2.4%) is categorized as Poor to Very Poor. The County recognizes the need for ongoing investment in both infrastructure and equipment to maintain high standards of care and service delivery. To ensure continued service excellence, the County is prioritizing replacement planning for key assets in the coming years.

Figure 2-11: Condition Overview – Long Term Care



2.7 Paramedic Services

Paramedic Services operates with 3 stations: headquarters located in Orangeville and satellite stations in Shelburne and Grand Valley. In addition to the three facilities, the County owns nine ambulances and four emergency response units, as well as supporting equipment including defibrillators and power loaders and stretchers. Table 2-11 summarizes the $7.8 million inventory for Paramedic Services.

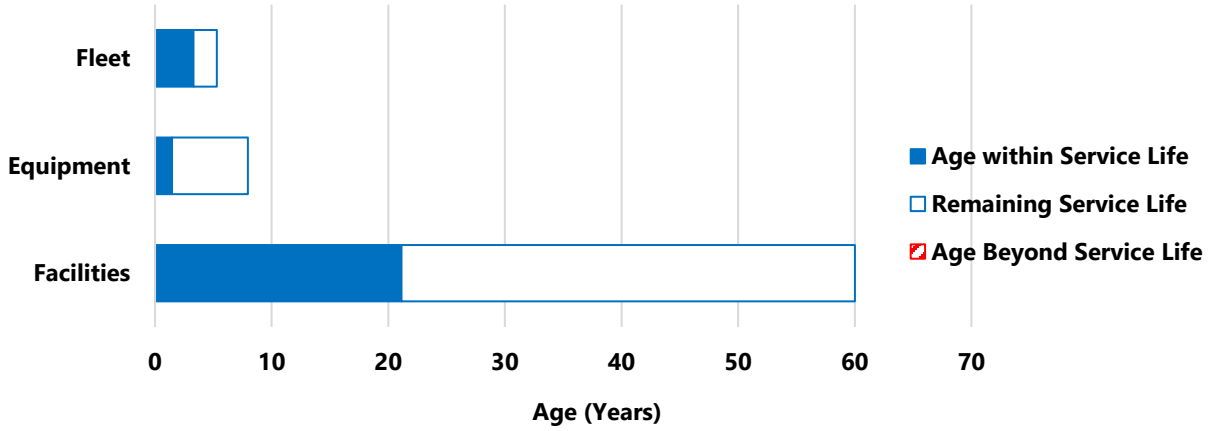
Table 2-11: Inventory of Paramedic Services Assets

Asset Class	Asset Type	Quantity	Unit	Replacement Value ($M)
Facilities	-	3	facilities	$4.0
Fleet	Ambulance	9	assets	$2.0
	Emergency Response Unit	4	assets	$0.4
Equipment	-	74	assets	$1.4
Total				$7.8

2.7.1 Asset Age

The average age and estimated service life of the assets for Paramedic Services, weighted by replacement value, is summarized in Figure 2-12. The average age of the facilities is still in the first half of the expected life, as are fleet and equipment assets.

Figure 2-12: Average Age and Estimated Service Life – Paramedic Services

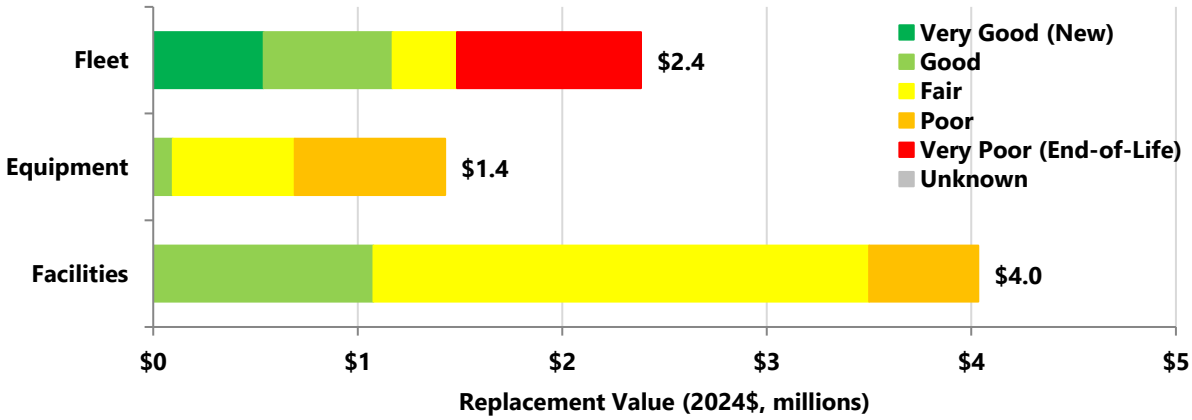


2.7.2 Asset Condition

As detailed in Section 2.4.2, the County conducted building condition assessments for all its facilities, including the three Paramedic facilities, in 2024. Similar to other County buildings, the FCI is used to determine the overall condition rating. As mentioned in Section 2.4.2, individual building elements may be assessed across a range of five condition states, from Very Good to Very Poor. The condition of fleet and equipment assets is evaluated based on their age and remaining useful life, providing a comprehensive understanding of asset performance and aiding in future maintenance and replacement planning.

The condition distribution of the County's Paramedic Services assets is summarized in Figure 2-13. Based on the FCI, the three paramedic facilities are generally in Fair to Good condition. Four ambulances have been assessed as Very Poor and are scheduled for replacement within the next three years to maintain service reliability and operational efficiency.

Figure 2-13: Condition Overview – Paramedic Services



2.8 Housing Services

Dufferin County Housing offers housing units across 11 facilities in Shelburne, Grand Valley, and Orangeville. Fleet used by Housing services are covered in Section 2.2 for Public Works. Table 2-12 summarizes the Housing Services inventory which is valued at $65.4 million.

Table 2-12: Inventory of Housing Services Assets

Asset Class	Quantity	Unit	Replacement Value ($M)
Facilities	**11**	**facilities**	**$65.4**

2.8.1 Asset Age & Condition

The average age and estimated service life of Housing facilities, weighted by replacement value, is summarized in Figure 2-14 . The average age of the facilities is approximately 63.3% of the expected service life. The County completed building condition assessments on all its facilities in 2024. Similar to other County facilities, for this AM plan, FCI provides an overall facility condition rating for each housing facility but does not represent a detailed condition analysis, as individual building elements may still be in any of the five condition states from Very Good to Very Poor. The condition distribution of the County's Housing facilities is shown in Figure 2-15.

Figure 2-14: Average Age and Estimated Service Life – Housing Services

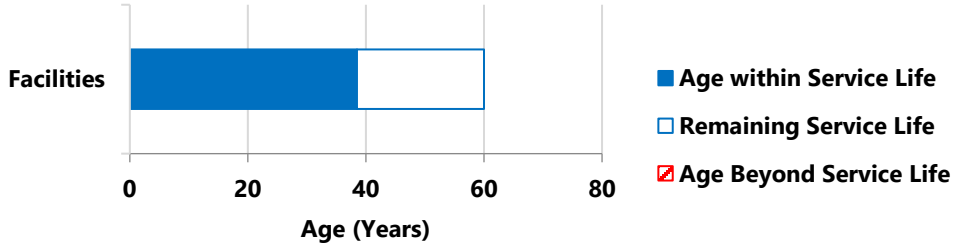
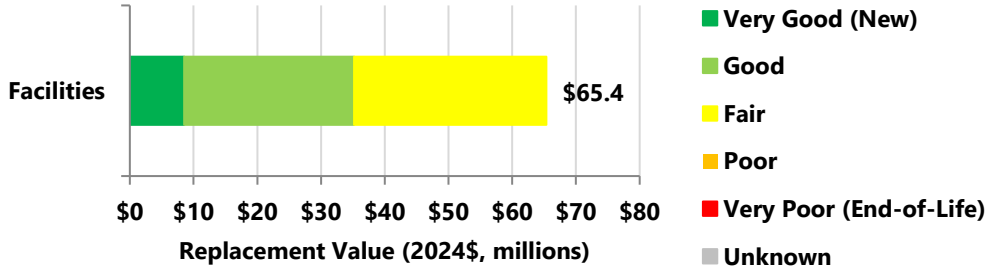


Figure 2-15: Condition Overview – Housing Services



2.9 Museum of Dufferin

The Museum of Dufferin serves as a cultural and historical centre, preserving and showcasing the rich heritage of the region. Its primary asset is a barn-style facility, which opened in 1994 and supports museum operations. In addition to the main building and Corbetton Church, the museum's asset portfolio includes equipment such as scanners, appliances, and shelving. Table 2-13 provides a detailed summary of the museum's asset inventory, with a total estimated value of $10.5 million.

Table 2-13: Inventory of Museum Assets

Asset Class	Quantity	Unit	Replacement Value ($M)
Facilities	**2**	**facilities**	**$9.4**
Equipment	**8**	**assets**	**$1.1**
Total			**$10.5**

2.9.1 Asset Age & Condition

The average age and estimated service life of Museum assets, weighted by replacement value, are summarized in Figure 2-16. The Museum of Dufferin, now 31 years old, remains a key cultural facility within the County. Many of its equipment assets, including the rolling shelves, have been in place since the building's original construction. In 2024, the County conducted a comprehensive building condition assessment of the Museum alongside other County facilities. Based on the FCI, the Museum facility is rated in overall Good condition. The condition distribution of Museum assets is further detailed in Figure 2-17.

Figure 2-16: Average Age and Estimated Service Life – Museum

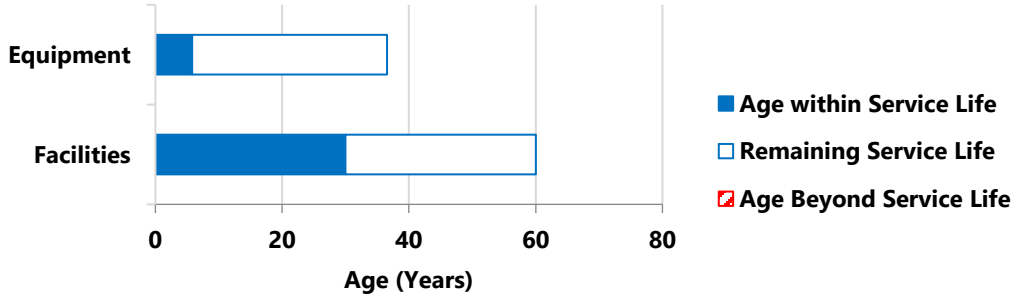
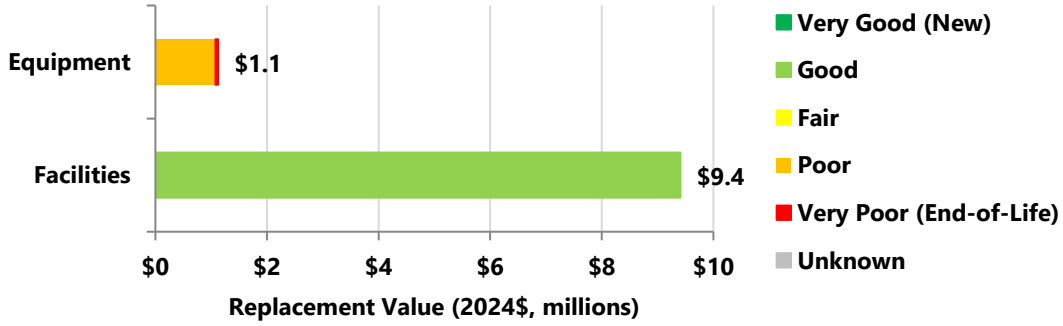


Figure 2-17: Condition Overview – Museum



2.10 Natural Assets

The natural assets discussed in this section include only the County forests. The other natural assets (i.e., natural assets near facilities.) will be included in future AM Plans.

The County forests, their associated size, and assessed condition is provided in Table 2-14. The condition was assessed by County staff according to the condition rating scale in Section 2.1. Additional detail on the condition of each forest tract is provided in Appendix A. Replacement values are not included in this AM Plan as the County plans to manage their existing portfolio and not conduct a full reforestation of a specific area.

Table 2-14. County Forests

Forest Tract	Size (ha)	Condition Grade
Leening Tract	**8**	**Good**
Simmons Tract	**40**	**Good**
Randwick Tract	**177**	**Good**
Little Tract	**44**	**Very Good**
Thomson Tract	**12**	**Good**
Main Tract	**607**	**Good**
Mono Tract	**71**	**Good**
Levitt Tract	**4**	**Good**
Hockley Tract	**20**	**Fair**
Amaranth Tract (North & South)	**24**	**Fair**
Gara Gore Tract	**15**	**Good**
River Road Tract	**5**	**Good**
Riverview Tract	**40**	**Very Good**
Melancthon Tract	**59**	**Good**
Total	**1,118**	**-**

In addition to the forests listed above, the County manages a series of trails throughout their forests totalling 94.6 kilometres. These trails are managed by the County Forest division through their operating budget and there is limited capital investment required as they are mainly dirt paths through the forests.

The County Forest division manages their own inventory as they conduct selective timber harvesting to support the regeneration health and long-term sustainability of the County forests.

3 Levels of Service

3.1 Understanding Levels of Service

The State of Infrastructure section outlined the value, age, and condition of the County's assets. Building on this, the Levels of Service (LOS) chapter defines the performance expectations for the County's assets throughout their service life. For example, the County's Dufferin Oaks facility is expected to be maintained to ensure that residents can use the facility while experiencing a reasonable level of comfort and performance.

LOS statements articulate the service standards the County aims to deliver to its residents, businesses, and other stakeholders. The development, monitoring, and reporting of LOS are integral components of a comprehensive performance management framework, which seeks to enhance service delivery and ensure accountability to the County's residents, businesses, and other stakeholders.

In general, LOS are shaped by customer expectations, legislative requirements, internal policies and guidelines, and financial considerations. Effective asset management necessitates that LOS be formalized within a framework that includes performance measures, targets, and timelines for achieving those targets. Additionally, it is essential to understand the costs associated with delivering the specified LOS, ensuring the County's ability to sustainably manage its assets over time.

3.2 Levels of Service Framework

Figure 3-1 shows the LOS framework and line of sight from high-level corporate initiatives to detailed asset-specific Technical LOS. Corporate commitments, along with legislated LOS, drive the definition of Community LOS (description of the services that the assets need to deliver to the County's residents) which drive the Technical LOS (measuring asset performance levels). As shown in Figure 3-1, LOS can be grouped into the following categories:

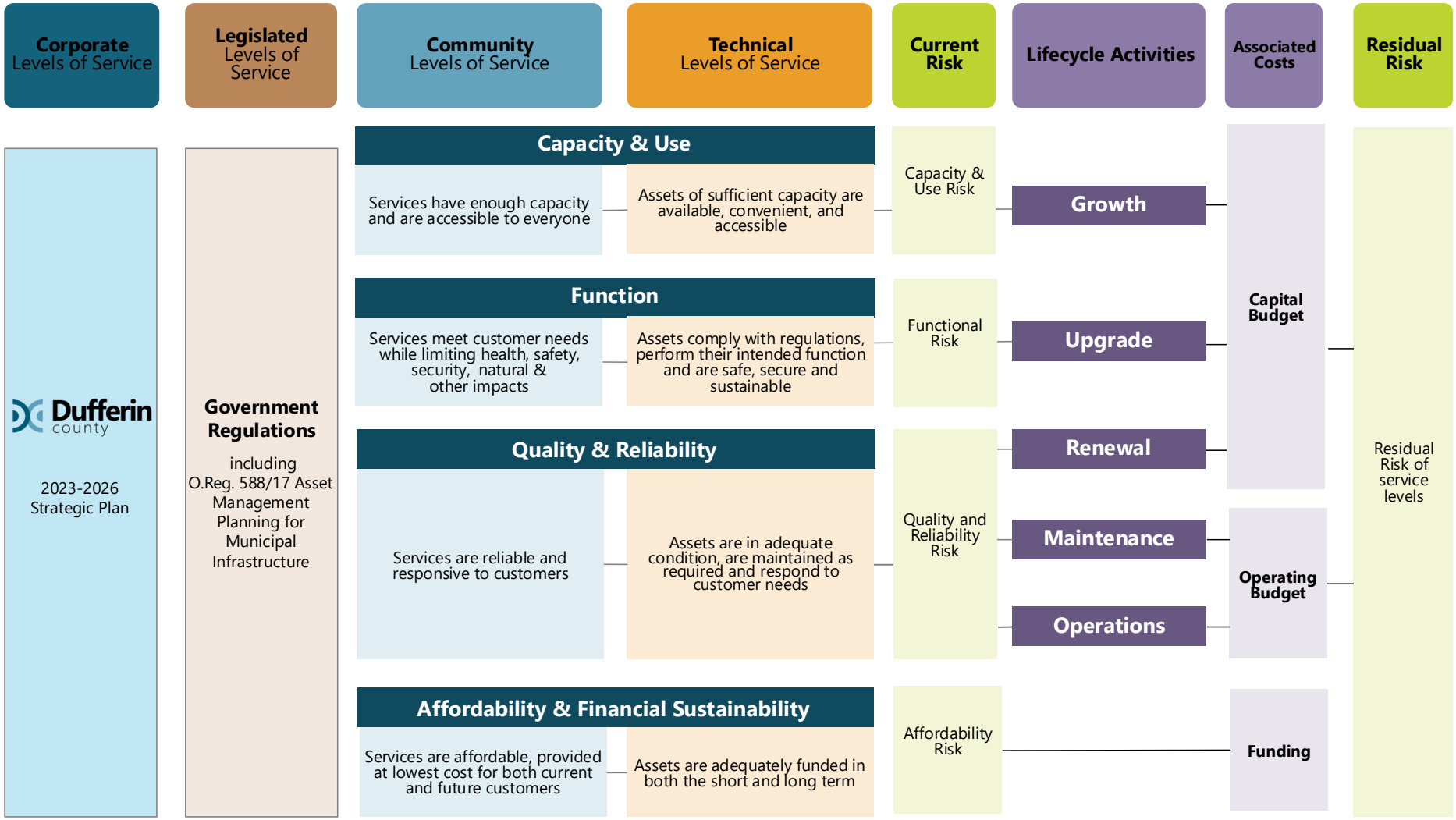
- **Capacity and Use**: Services have enough capacity and are accessible to the customers.
- **Function**: Services meet customer needs while limiting health, safety, security, natural, and heritage impacts.
- **Quality and Reliability**: Services are reliable and responsive to customers.
- **Financial Sustainability**: Services are affordable and provided at the lowest cost for both current and future customers.

Community LOS measure services from a resident/business perspective, and Technical LOS define asset performance levels. These LOS define asset needs and drive the required lifecycle activities and associated funding to mitigate risks, as follows:

- *Capacity & Use* LOS inform **Growth** needs
- *Function* LOS inform **Upgrade** needs.
- *Quality & Reliability* LOS inform **Renewal, Operations and Maintenance** needs.
- *Financial Sustainability* LOS inform **Funding** needs.

This Line of Sight establishes the connection of how the day-to day management of the County assets contribute to the success of achieving corporate strategic goals.

Figure 3-1: Levels of Service Framework



3.3 Corporate Strategic Goals

The Corporate Levels of Service (LOS) define the service levels that align with the County's overarching vision and objectives for service delivery. The County's Corporate Strategic Plan from 2023-2026, outlines five key strategic priorities. These priorities provide a framework for the objectives and actions required to maintain and enhance Dufferin County as a thriving, equitable, and resilient community, ensuring that decisions are made to guide the County toward a desired and sustainable future:

- **Climate & Environment** – Enhance and conserve both natural and built environment assets.
- **Community** – Support initiatives that address current and future needs, fostering a liveable community.
- **Economy** – Promote an environment conducive to economic growth and development.
- **Governance** – Ensure transparency, clear communication, and prudent financial management.
- **Equity** – Align services with changing needs and ensure the County is an employer of choice.

These priorities foster an environment that enables the provision of relevant and high-quality services that contribute to a connected and thriving community. In particular, the priorities for Governance, Climate & Environment, and Economy play a direct role in advancing efficient resource management and transparent AM processes within the County.

3.4 Legislated Levels of Service

Legislated requirements define the standards according to which the County is legally obligated to provide services to the community, and these standards (or Legislated LOS) typically relate to asset safety, reliability, or function. Examples of legislated requirements impacting the service levels provided to the community in relation to the County's assets are provided in Table 3-1.

Table 3-1: Legislative Requirements

Legislation	Requirement
Municipal Act, 2001	The main statute governing the creation, administration and government of municipalities in Ontario, other than the City of Toronto.
Ontario Regulation 588/17 The Infrastructure for Jobs and Prosperity Act, 2015	Sets out the principles for the provincial government to regulate asset management planning for municipalities.
Accessibility for Ontarians with Disabilities Act (AODA)	Develops, implements, and enforces accessibility standards to achieve accessibility for Ontarians with disabilities with respect to goods, services, facilities, accommodation, employment, buildings, structures, and premises on or before January 1, 2025.
Public Sector Accounting Board Standard 3150	Standards on how to account for and report on tangible capital assets in government financial statements.
O.Reg. 104/97, Standards for Bridges	Requires municipalities to undertake an inspection, under the direction of a Professional Engineer, for every bridge and major

Legislation	Requirement
	culvert at least once every two years in accordance with the Ontario Structure Inspection Manual.
Minimum Maintenance Standards for Municipal Highways (MMS) Regulation 239/02 Routine Patrol	Sets out the standard for the frequency of patrolling of highways to check for conditions described such as snow, ice, potholes, cracks, etc.
Highway Traffic Act R.R.O. 1990 **Reg. 615: Signs**	Sets out the standard for the erection and maintenance of signs.
Highway Traffic Act R.R.O. 1990 **Reg. 626: Traffic Control Signal Systems**	Sets out the standard for the erection and maintenance of traffic control signal systems.
Highway Traffic Act R.R.O. 1990	Sets out fleet and equipment inspection requirements Reg. 174/22: Classes of Vehicles Requiring Annual and Semi-Annual Inspections Reg. 611: Safety Inspections Reg. 199/07: Commercial Motor Vehicle Inspections Reg. 587: Equipment
Ontario Traffic Manual Book 18: Cycling Facilities	Provides guidelines for developing municipal cycling facilities.
Ministry of Transportation: Transit-Supportive Guidelines	Provides guidelines based on transit-friendly land-use planning and operational best practices.
Technical Standards and Safety Act, 2000	Sets out the technical standards and safety regulations to enhance public safety by providing for the efficient and flexible administration of various industries or equipment.
Ontario Building Code Act, 1992	The legislative framework governing the construction, renovation and change-of-use of a building in Ontario. The Ontario Building Code, a regulation under the Act, establishes detailed technical and administrative requirements and minimum standards for building construction in public health and safety, fire protection, structural sufficiency, construction materials, plumbing and mechanical systems.
Environmental Protection Act	The primary pollution control legislation in Ontario. Prohibits discharge of any contaminants to the environment that cause or are likely to cause adverse effects. Amounts of approved contaminants must not exceed limits prescribed by the regulations. Requires that spills of pollutants are reported and cleaned up promptly. Has the authority to establish liability on the party at fault.
Standards for Community Museums in Ontario (Ontario Museum Standards)	Outlines the minimum requirements for the operation of a professional community museum.

3.5 Community and Technical Levels of Service

The LOS outlined in this AM Plan are focused on metrics developed to support the achievement of the County's broader strategic priorities and key investment areas.

This AM Plan presents the performance of these measures based on the most current data available. The County has established targets and proposed service levels in compliance with O.Reg. 588/17 requirements for Proposed LOS, ensuring alignment with information found in other relevant planning documents.

As detailed in Section 3.0, service levels are defined across two categories: Community LOS and Technical LOS. Community LOS are qualitative statements that highlight service values and attributes, and Technical LOS are performance measures that show historical change over time.

3.5.1 Public Works

Table 3-2 provides a summary of the Community and Technical LOS for roads and structures, with a particular focus on condition-related quality measures. Overall, these assets are performing well and are generally in a state of good repair.

Table 3-2: Levels of Service – Roads and Structures

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current	Proposed
Capacity and Use LOS			
Road services have enough capacity and are accessible to everyone. (Description/maps of the road network and its level of connectivity)	Number of centreline road kms as a proportion of square kms of land area of the municipality. O.Reg. 588/17	Arterial Roads: 121.9 km / 1486.3 sq.km	Increase in alignment with Transportation Master Plan.
		Collector Roads: 124.0 km / 1486.3 sq.km.	Increase in alignment with Transportation Master Plan.
		Local Roads: 70.0 km / 1486.3 sq.km	Recategorize in alignment with Transportation Master Plan.
Bridge services have enough capacity and are accessible to everyone. (Description of the traffic that is supported by municipal bridges (e.g. heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Percentage of bridges in the municipality with loading or dimensional restrictions. O.Reg. 588/17	2.7% (1/37)	Maintain LOS

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current	Proposed
Quality / Reliability LOS			
Road services are reliable and responsive to customers. (Description/images that illustrate the different levels of road class pavement condition)	For paved roads in the municipality, the average pavement condition index value. O.Reg. 588/17	76	75
	For unpaved roads in the municipality, the average pavement condition index. O.Reg. 588/17	75	Maintain
Bridge/culvert services are reliable and responsive to customers. (Description/images that illustrate the different levels of bridge/culvert condition)	For bridges in the municipality, the average bridge condition index value. O.Reg. 588/17	75	Maintain LOS
	For structural culverts in the municipality, the average bridge condition index value. O.Reg. 588/17	73	Maintain LOS

On the following page is Figure 3-2, which shows Dufferin County boundary lines and the roads, structures, and trails within those boundaries. This map was retrieved from the 2024 OSIM report Appendix B.

Figure 3-2: County Network – Roads and Structures

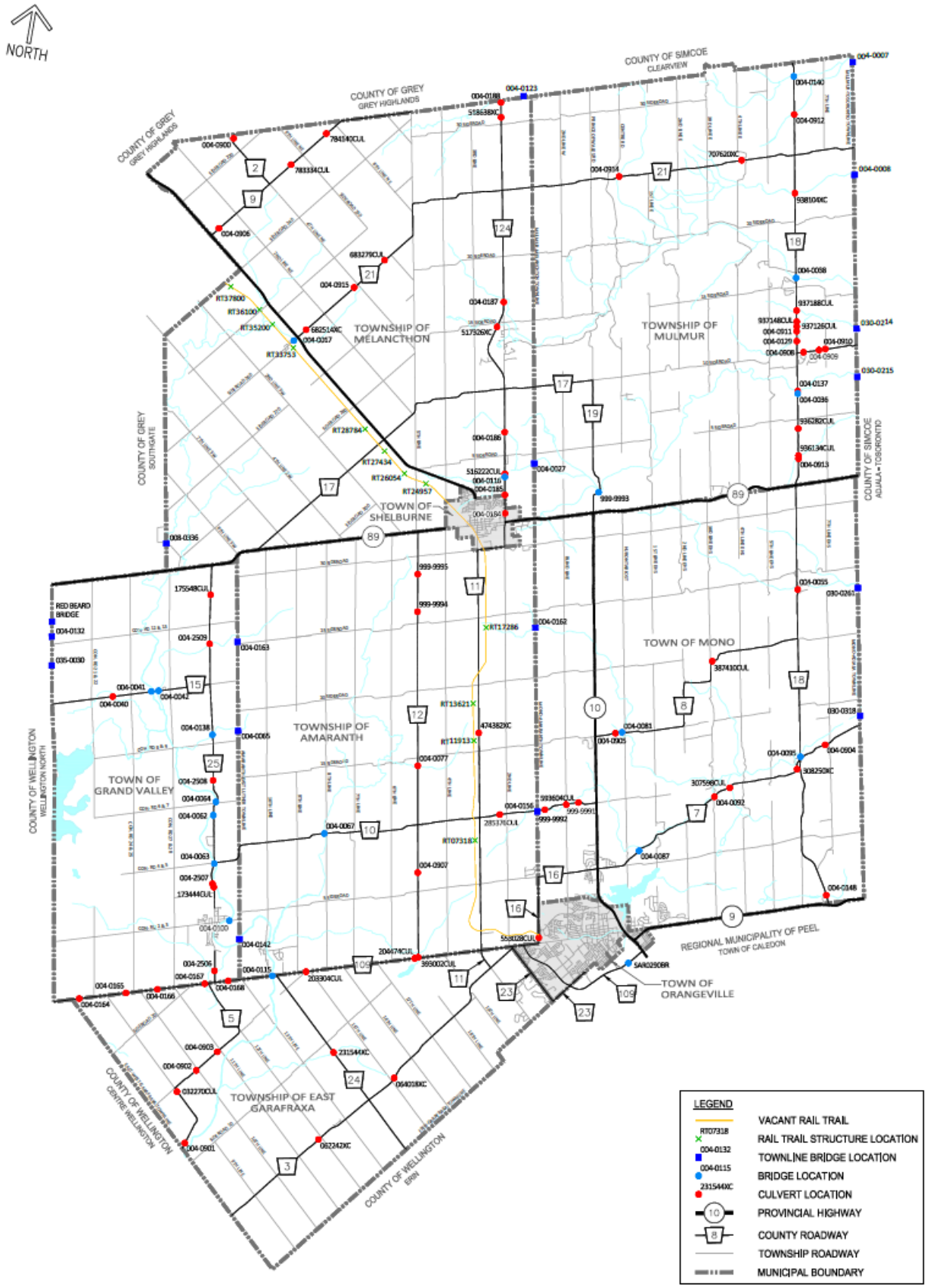


Table 3-3 provides a summary of the Community and Technical Levels of Service (LOS) for other transportation and stormwater assets. The County's stormwater network is relatively small, as most stormwater management infrastructure is owned and maintained by local area municipalities. This infrastructure is generally designed to accommodate a 5-year storm event and is expected to be fully resilient under these conditions.

To enhance understanding of the resiliency of County properties and stormwater systems against both 5-year and 100-year storm events, the County is updating its floodplain mapping through consultation with local conservation authorities and developing a climate risk assessment for public infrastructure that includes stormwater assets. These efforts, aligned with the County's Climate Action Plan, aim to mitigate future risks and prevent increased vulnerability.

Table 3-3: Levels of Service – Other Transportation and Stormwater Assets

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current	Proposed
Capacity and Use LOS			
Stormwater services have enough capacity and are accessible to everyone. (Description/maps of the user groups or areas of the municipality that are protected from flooding, including the extent of protection provided by the municipal stormwater management system)	Percentage of properties in municipality resilient to a 100-year storm. O.Reg. 588/17	N/A as this service is not provided by the County.	-
	Percentage of the municipal stormwater management systems resilient to a 5-year storm. O.Reg. 588/17	N/A as this service is not provided by the County.	-
Quality / Reliability LOS			
Stormwater services are reliable and responsive to customers.	% of assets in fair or better condition	Catch Basins: Future Ditch Inlet Catch Basins: Future Storm Sewers: Future Cross Culverts: Future	-
Public works services are reliable and responsive to customers.	% of assets within expected life	Signals: 100% Flashing Beacons: 100% Entrances: Future Guiderails: Future Signs: Future	Signals: 100% Flashing Beacons: Run to failure and then replaced

3.5.2 Corporate Fleet

In alignment with the County's Climate Action Plan, efforts are underway to transition to low-emission and electric vehicles. Additionally, regular operations and maintenance activities are closely monitored to minimize unexpected downtime and ensure uninterrupted service delivery. Table 3-4 provides a summary of the general Community and Technical Levels of Service (LOS) associated with fleet management.

Table 3-4: Levels of Service – Fleet (Corporate Perspective)

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current (2024)	Proposed
Capacity and Use LOS			
Fleet assets have sufficient capacity and are readily available.	Pooled vehicle usage (%)	Future	-
	# of EV County vehicles per # of EV County charging stations	6:8	2:1[2]
Function LOS			
Fleet assets are suitable for intended function & minimize health, safety, security, natural & heritage impacts.	% with Dash Cameras (vehicles)	13/50 (26%)	100%
	% with Telematics/GPS (vehicles)	50/50 (100%)	100%
	% with Dash Cameras (equipment)	0/19 (0%)	100%
	% with Telematics/GPS (equipment)	4/19 (21%)	100%
	% with Telematics/GPS (trailers & attachments)	1/22 (5%)	100%
	# of green fleet / total licensed fleet	10/50 (20%)	Increase this ratio to 100% based on vehicle availability
Quality / Reliability LOS			
Fleet assets are safe and reliable.	% of licensed vehicles within the parameters of their useful life	100%	100%
	% of equipment within the parameters of their useful life	100%	100%

3.5.3 Facilities (Corporate Perspective)

Facilities are managed corporately across several County service areas: Public Works, Long Term Care, Paramedic Services, Housing Services, and the Museum. As indicated in Section 2.4.2, the County completes regular building condition assessments to help maintain these facilities in a state of good repair. In addition to this quality service level, the County complies with building legislative requirements and tracks energy usage as part of its organizational goals to support a corporate culture of conservation and improvements in energy efficiency.

Table 3-5 summarizes the general Community and Technical LOS related to facilities. For Community and Technical LOS specific to the service area, refer to Sections 3.5.1 to 3.5.8.

[2] There is not a formalized plan to meet this proposed target, the County applies for funding when available to expand the EV service.

Table 3-5: Levels of Service – Facilities (Corporate Perspective)

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current (2024)	Proposed
Function LOS			
Facility services meet customer needs while limiting impacts to health, safety, security, nature and heritage.	% Facilities in compliance with AODA	Future (County currently conducting a study for this measure)	100%
	% Facilities in compliance with Air Quality	Future (County currently conducting a study for this measure)	100%
Facility services meet customer needs while limiting impacts to health, safety, security, nature and heritage.	GHG Emissions (tCO2e)	Corporate Facilities: 262 Dufferin Oaks: 684 Paramedic Services: 41 Housing Services:376 Museum of Dufferin:92	Decrease in alignment with Climate Action Plan (Organization goal to be net-zero GHG emissions by 2050)
Quality / Reliability LOS			
Facilities are reliable and safe for users.	Average facility condition index (FCI)	19.6% (Fair)	30% or lower

3.5.4 Information Technology

The Information Technology Division services all County service areas with IT infrastructure, end user devices, and communication systems. These assets are maintained to minimize service downtime and are regularly updated with security patches, manufacturer updates, and repaired or replaced on set lifecycles or as necessary. Table 3-6 summarizes Community and Technical LOS for IT assets. IT Services is currently developing Service Level Agreements which will provide additional measures related to response times to customers.

Table 3-6: Levels of Service – Information Technology

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current	Proposed
Quality / Reliability LOS			
IT assets are safe and reliable.	% of IT equipment within expected life (age-based)	74%	Maintain LOS

3.5.5 Long Term Care

Dufferin County's long term care homes strive to be a leader in non-profit, long term care programs and community services, committed to delivering high-quality, cost-effective, and client-centered care. The facilities are dedicated to maintaining a safe, comfortable, and home-like environment for its residents by ensuring that all assets are managed efficiently and responsibly. To uphold these values, the County adheres to provincial regulations and prioritizes proactive

maintenance to keep equipment in a state of good repair. These efforts align with the County's LOS framework, which defines performance expectations and ensures that long term care continues to meet the needs of its residents effectively. Table 3-7 provides a summary of the Community and Technical LOS for long term care assets.

Table 3-7: Levels of Service – Long Term Care

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current	Proposed
Capacity and Use			
LTC assets are sufficient to provide the required services to its residents	# of residents in need of lifts/ total number of ceiling lifts	34/80 = 43%	50%
Quality / Reliability LOS			
Facilities and equipment are reliable and safe for users / residents.	Average Facility Condition Index	7.6% (Good)	30% or lower
	% of LTC Equipment within expected life (age-based)	100%	Maintain LOS

3.5.6 Paramedic Services

Dufferin County Paramedic Services delivers emergency medical care to a population exceeding 60,000 residents across an area of 1,482 square kilometres. The service operates continuously, 24 hours a day, 7 days a week, ensuring timely and effective medical assistance. To maintain high standards of care, the County diligently monitors call volumes and response times, adhering to all relevant legislative requirements. Table 3-8 presents the Community and Technical LOS for Paramedic Service assets.

Table 3-8: Levels of Service – Paramedic Services

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current	Proposed
Capacity and Use			
Paramedic assets have sufficient capacity and are readily available.	Increase in call volume per year (%) (Increase in calls / Total Calls)	2.4%	5% per year
Quality / Reliability LOS			
Facilities and equipment are reliable and safe for users.	Average Facility Condition Index	12.9% (Fair)	30% or lower
	% of paramedic equipment within expected service life	100%	100%
	% of paramedic vehicles within expected service life	62%	100%

3.5.7 Housing Services

Housing Services collaborates with housing cooperatives, non-profit organizations, and private landlords to provide safe and affordable housing for seniors, individuals, and families. The County offers a range of rent-geared-to-income and market rent options, ensuring that housing remains accessible to those in need. In addition to direct housing services, the County also supports programs aimed at preventing homelessness and improving housing stability. To maintain high-quality living conditions, the County conducts regular building condition assessments, as referenced in Section 2.4.2. These assessments support proactive asset management and ensure facilities remain in a state of good repair. The FCI for Housing Services is detailed in Table 3-9. Housing Services also closely monitors unit turnover times to optimize availability and meet community demand efficiently.

There might be growth in the Housing portfolio in the future, but the County does not anticipate an ownership role. They assume their role will be as a financing partner. If the County does increase its housing portfolio, the additional renewal and O&M expenses will need to be added to the long-term financial forecast.

Table 3-9: Levels of Service – Housing Services

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current	Proposed
Quality / Reliability LOS			
Facilities are reliable and safe for users.	Average Facility Condition Index	9.9% (Good)	30% or lower

3.5.8 Museum of Dufferin

The Museum of Dufferin is dedicated to providing an engaging and immersive cultural experience that connects people with the rich history and heritage of Dufferin County. Serving as a vibrant hub for the community, the Museum celebrates the County's rural and agricultural roots through its thoughtfully designed facility, which reflects the area's historic character. The Museum features four galleries and four historic buildings that showcase a dynamic range of permanent, long-term, and short-term exhibitions, including art shows and historical displays. It is also home to the Dufferin County Archives, preserving invaluable records and artifacts that contribute to the collective memory of the region.

To uphold the integrity of its facilities, the County conducts regular building condition assessments, as referenced in Section 2.4.2. These assessments support the proactive maintenance of Museum infrastructure and ensure a state of good repair.

Table 3-10: Levels of Service – Museum

Community Levels of Service	Technical Levels of Service		
	Description	Performance	
		Current	Proposed
Quality / Reliability LOS			
Facilities are reliable and safe for users.	Average Facility Condition Index	5.0% (Good)	30% or lower

4 Risk Management Strategy

4.1 Overview

A fundamental principle of Dufferin County's asset management approach is to ensure service levels are met and risks are effectively managed while minimizing lifecycle costs. A key factor in this approach is asset criticality, which refers to the relative importance of an asset in supporting service delivery. Critical assets are those that have the greatest impact on performance and the highest consequences of failure, particularly in their ability to maintain essential services and public safety.

Risk events, such as inadequate asset capacity, functional deficiencies, or reduced reliability, can directly impact the County's ability to achieve its strategic objectives. To mitigate these risks, the County employs lifecycle management strategies that proactively reduce the likelihood of asset failure to acceptable levels. The timing and nature of these interventions are determined based on the potential consequences of failure and the County's ability to maintain service commitments.

Dufferin County's risk management framework provides a structured methodology for quantifying risk exposure across its asset portfolio, enabling data-driven decision-making and prioritization of projects across asset classes and service areas. Risk exposure is determined by multiplying the consequence of failure (CoF) (the direct and indirect impact of asset failure) by the probability of failure (PoF), or the likelihood of failure occurring:

Risk Exposure = Consequence of Failure x Probability of Failure

By integrating this risk assessment methodology into asset management planning, the County enhances resilience, optimizes investment strategies, and ensures the sustainability of critical infrastructure and services for the community.

4.2 Consequence of Failure Matrix

This section focuses on asset criticality, or the CoF, which reflects the significance of an asset in the County's ability to deliver services effectively. Understanding asset criticality is essential for prioritizing maintenance, rehabilitation, and replacement activities to minimize service disruptions and manage risk effectively.

When assessing asset criticality, the following potential impacts of asset failure are considered:

- **Service Delivery Impact**: Evaluates the extent to which an asset failure disrupts operations, ranging from minor inconveniences in non-essential services to widespread and prolonged interruptions of critical public services.
- **Health and Safety Impact**: Considers the County's ability to meet regulatory health and safety requirements and assesses the severity of potential injuries, ranging from minor incidents to life-threatening situations or loss of life.
- **Environmental Impact**: Assesses the extent, duration, and severity of environmental damage resulting from asset failure, including contamination, habitat destruction, and long-term ecological effects.

- **Financial Impact**: Includes direct and indirect costs such as damages to County or private property and infrastructure, emergency repairs, loss of revenue, increased operational costs, and regulatory fines.
- **Reputational Impact**: Considers the potential erosion of public trust and confidence in the County's ability to provide reliable services, particularly in the event of high-profile or repeated failures.

The County utilizes a structured methodology to evaluate asset criticality, ensuring that resources are allocated efficiently, and risk is effectively managed. Table 4-1 presents a criticality rating scale from 1 to 5, where a higher score represents a greater consequence of failure. By integrating asset criticality into its asset management framework, the County can:

- Prioritize investments in infrastructure renewal and maintenance.
- Ensure critical assets receive proactive attention to minimize the likelihood of failure.
- Align asset management strategies with long-term service delivery goals.
- Optimize the allocation of financial and operational resources.
- Incorporate risk into the development of asset management strategies by prioritizing more critical assets for expansion, inspection, cleaning, maintenance, and renewal based on their current and forecasted performance (condition).

This structured approach strengthens the County's ability to provide sustainable, safe, and reliable services to residents while minimizing risks and lifecycle costs. A detailed summary of the CoF ratings is presented in Appendix B: Consequence of Failure Ratings.

4.3 Risk to Levels of Service – Approach

Asset criticality is determined based on the degree to which the failure of the asset would impact the following three community levels of service attributes:

Capacity and Use: Assets of sufficient capacity are available, convenient, and accessible.

Function: Assets comply with regulations, perform their intended function and are safe, secure, and sustainable.

Quality/Reliability: Assets are in adequate condition and are maintained as required.

Table 4-1: Asset Criticality (Consequence of Failure) Ratings

Consequence Categories (Triple Bottom Line)		1	2	3	4	5
		Insignificant	Minor	Moderate	Major	Catastrophic
Economic	**Financial**	Damages, losses (including 3rd party) or fines from $1k to $10k	Damages, losses (including 3rd party) or fines $10k to $100k	Damages, losses (including 3rd party) or fines $100k to $500k	Damages, losses (including 3rd party) or fines $500k to $5M	Damages, losses (including 3rd party) or fines > $5M
Social	**Health & Safety**	No obvious potential for injury or affects to health.	Potential for minor injury or affects to health of an individual. Full recovery is expected; or minor medical attention may be required	Potential for serious injury or affects to health. May affect many individuals and / or result in short term disability; or Hospitalization may be required for a short period of time.	Potential for serious injury or affects to health of one or more individuals with a possibility of loss of a life and the certainty of long-term disability; or Emergency hospitalization required for one or more individuals.	Potential for death or multiple deaths with probable permanent damage; or Emergency and long-term hospitalization required for several individuals.
	Service Delivery	Small number of customers experiencing disruption / impact (less than 100 people or up to a few hours)	Localized service disruption / impact (100 to 500 people or up to 1 day)	Significant localized disruption / impact (500 to 5,000 people or less than 1 week)	Major or Critical service disruption / impact (5,000 to 20,000 people or for more than a week)	County wide or Critical service disruption / impact (greater than 20,000 people or permanent loss of services)
	Reputational	No Media Exposure	Minor or no media exposure	Moderate local media exposure lasting for several days	Intense local media exposure lasting several days and/or Municipality wide exposure	Significant Provincial exposure lasting several days or weeks
Environmental	**Environment**	Very negligible impact or can be restored within 1 week	Minor (within 1 month) very isolated damage / impact to the environment, local importance	Significant short-term impact (up to 2 months), local importance	Significant long-term impact (up to 1 year), Provincial importance.	Major long-term impact (greater than 1 year), Federal importance.

4.3.1 Risk to Capacity LOS

As indicated in Section 1.3, the County has experienced some growth in the past few years and will continue to grow, as per the population projections. Table 4-2 describes the capacity risks to service delivery and the County's mitigation approach.

Table 4-2: Capacity Risks and Mitigation Strategies

No.	Risk	Mitigation Strategy
1	Traffic Overload	The 2024 Transportation Master Plan was designed to manage increased capacity, and new pavements are being used to accommodate increased industrial and construction loading.
2	Cost Escalations	The County annually updates it project forecasts and maintains a database to best predict project costs.
3	Electric Vehicle Infrastructure	The County is working to assess the challenges with providing sufficient power to charge an EV fleet.
4	Staffing	The County relies on third party support for non-operations fleet maintenance and fuel. They are exploring the opportunity to bring these services in house, with the new operations centre, to enable more reliable and cost-effective service delivery.

4.3.2 Risk to Function LOS

In general, the County is keeping to status quo service levels. New services or service enhancements proposed in this AM Plan are based on critical needs outlined by the Service Areas. Risks to the functional services and the County's mitigation strategies are described in Table 4-3.

Table 4-3: Functional Risks and Mitigation Strategies

No.	Risk	Mitigation Strategy
1	Climate Change	The County is conducting the following activities to manage this risk: • Regular training with staff to use a climate tool that assesses climate and equity in project decision making. • An ongoing climate risk assessment on road infrastructure. • All new infrastructure is designed according to the latest standards. • Studying erosion for future infrastructure projects. • 24/7 road patrol during winter freeze/thaw cycles to manage road conditions. • New operation centre to improve the response times of operational support, safety, and maintenance. • New pavement mixes to account for higher temperatures and temperature fluctuations. • Planning studies in the coming years to assess the resilience of County facilities.

No.	Risk	Mitigation Strategy
2	Road Classification	The County is updating its road classifications which will better align the maintenance, road patrol, and snow plow route provision with the volume of traffic.
3	Design Inefficiencies	The County is conducting the following activities to manage this risk: • American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level 2 audit for facilities in 2024 to address energy inefficiency. • Completing accessibility audits for all County facilities. • Developed an Energy Demand Management Plan to support upgrades in facilities. • Investing in upgrades at the Long Term Care facilities to meet increasing acuity needs of patients (i.e., ceiling lifts). • Applicable capital projects are reviewed by Access Dufferin for an independent accessibility assessment.
4	System Failures	The County has installed generators at key facilities to mitigate the impact of power failures to service delivery.
5	Security Threats	The County is conducting the following activities to manage this risk: • IT systems are always current with the latest software updates. • All new products are assessed for privacy. • All staff are trained and tested annually on cyber security. • Penetration testing is conducted annually for County systems. • All IT systems have layered security.
6	Supply Chain Disruptions	The County maintains a spare inventory for critical parts and equipment, and they use multiple vendors to procure their inventory. Additionally, the County is building capacity within Operations staff to support snow plow repairs.
7	Technological Obsolescence	Staff are trained annually on the latest technology, and they attend conferences to learn about the latest technology available. Additionally, staff follow the latest alerts and attend workshops from vendors showcasing new technologies and capabilities.

4.3.3 Risk to Service Reliability

The Reliability LOS refers to the County's aim to ensure that its assets are kept in a state of good repair to reduce the incidence of unplanned service interruptions due to poor asset condition. Depending on the asset, unplanned failures can have wide-ranging consequences including service disruption, damage to surrounding infrastructure and property, risks to public safety, and environmental impacts. PoF is estimated based on the condition of the asset from Section 2 (State of Infrastructure), as shown in Table 4-4.

Table 4-4: Probability of Failure Ratings for Reliability

PoF Rating	PoF Description	Corresponding Asset Condition
1	Rare	Very Good
2	Unlikely	Good
3	Moderate	Fair
4	Probably	Poor
5	Almost Certain	Very Poor

CoF is estimated based on the expected impact of an asset failure. Each asset's criticality is assessed based on the rating scale provided in Table 4-1. For this AM Plan, a high-level assessment was completed by assigning CoF ratings to groups of assets, categorized based on attributes such as road class (Specific CoF ratings are presented in Appendix B: Consequence of Failure Ratings).

After assessing the criticality and probability of each asset's risk, the results are plotted on a risk map (a graphic representation of probability and consequence of failure). Colours on the map denote different levels of risk and help to prioritize the County's resources, time, and effort for renewal activities.

- Risks that appear in the red (very high) zone are significant to the County and therefore need to be actively prioritized, managed, and monitored in a more comprehensive manner than other risks.
- Risks that appear in the orange (high) or green (medium) zones will also be actively managed depending on their nature.
- Risks that appear in the light blue (low) or grey (very low) zones are generally acceptable without significant mitigation strategies being implemented, although monitoring may still occur in some form.

Current Risk: As shown in Figure 4-1, $4.8 million (0.6%) of County assets are currently in the Very High-risk category. These assets have been identified through a risk assessment process, considering factors such as their age, condition, criticality, and potential impact on service delivery. A summary of the very high-risk assets and their mitigation strategy is presented in Table 4-5.

Assets that are not assessed for risk include those without a condition rating.

Figure 4-1: Current Reliability Risk – All Assets (by Asset Replacement Value in 2024 $M)

PoF	5	$0.4	$0.0	$3.0	$1.1	$0.0
	4	$2.9	$29.4	$19.6	$3.1	$3.7
	3	$2.2	$42.2	$73.3	$36.2	$10.8
	2	$6.8	$95.7	$85.7	$39.9	$105.9
	1	$0.4	$95.0	$69.9	$10.7	$26.1
		1	2	3	4	5
		CoF				

Risk Exposure	CRV($)	CRV(%)
Very High	$4.8	0.6%
High	$16.9	2.2%
Medium	$161.6	21.2%
Low	$297.0	38.9%
Very Low	$283.6	37.1%
Total	**$763.9**	**100.0%**

Table 4-5: Mitigation Strategy of Very High-Risk Assets

Service Area	Asset	Mitigation Strategy to align with LOS
Public Works[3]	Bridge (Mono – Amaranth Townline)	To be replaced in 2029 as per OSIM study.
	Rail Trail Structure	To be replaced in 2034 as per OSIM study.
	Shared Bridge (Melancthon-Proton Townline)	This bridge is currently closed and there are no plans to re-open in the future.
Paramedics	Four ambulances	To be replaced within the next 2 years.
Information Technology	Access Points, Analog Voice Gateway, SAN, Servers, Switches, Turbo Hubs, UPS	To be replaced within the next 2 years.

The mitigation plan for the very high-risk assets includes targeted strategies such as prioritized maintenance, timely replacements, and necessary upgrades to ensure continued reliability and performance. Additionally, the County will allocate resources to proactive monitoring and risk management measures to reduce the likelihood of asset failure and minimize its potential consequences. It should be noted that facilities are rated for risk at an overall facility level rather than for the individual assets within each building, and therefore individual elements that may be in very poor condition and high criticality do not show up in this assessment. Forecasting of facility renewal is still performed at the building element level and account for very poor components needed work even if the overall facility is in good condition. The higher level risk analysis shows that several housing facilities are in moderate risk due to their overall condition (based on FCI) and therefore will need significant renewal work over the coming years.

4.4 Climate Change Risk Considerations

Climate change risks such as more intense and frequent rainfalls, rain or snow events, heat waves, and ice-storms can have significant implications on County infrastructure. An increase in extreme weather events will likely lead to increased investment in maintenance and system improvements. Understanding the severity and frequency of these climate change events and incorporation of climate change considerations into the County's asset management planning approach is critical to maintaining service levels and managing risk.

The County has several initiatives aiming to adapt to and mitigate climate change risks. These initiatives include a Climate Action Plan that outlines a strategy to achieve net-zero greenhouse gas emissions by 2050 and build resilience to the impacts of climate change. Additional activities are described in Table 4-3.

[3] Bridges were assessed at the asset class level for consequence of failure (5). Individual bridge criticality analysis was not completed as part of this AM Plan but could be explored in the future for more accurate risk-based analysis.

4.5 County Forest

The County Forest division has an operating budget of $364,000 which is used to support staff salaries that manage and maintain the County forests and forest trails (excluding the Rail Trail). A key component of the forestry management is invasive species control which is managed through the County's Invasive Species Management Plan. Another key component of forestry management is maintaining a healthy and resilient forest through timber harvesting based on good forest management practices. This process of timber harvesting has enabled the forests to remain relatively unscathed through recent ice storms.

Invasive species, defined as non-native organisms that cause harm to the environment, economy, or human health, pose a significant threat to forest ecosystems. These species can outcompete native flora and fauna, degrade soil quality, hinder forest regeneration, and disrupt natural succession processes. The ecological impact also translates into economic consequences, particularly in terms of reduced timber productivity and potential spread to adjacent agricultural lands, resulting in increased management costs and diminished crop yields.

To address these risks, Dufferin County employs a proactive and structured invasive species management strategy, guided by the County's Invasive Species Management Plan and Invasive Plant Management document. Key elements of the strategy include:

- **Monitoring and Inventory**: Ongoing monitoring of invasive plant species is conducted throughout the County Forest, particularly in high conservation value areas and along recreational trails. Formal inventories are completed periodically to assess the presence and extent of priority species.
- **Control Measures**: Management actions are prioritized based on species threat level, likelihood of effective control, and ecological value of the affected area. Best management practices are applied, with pesticide use limited to situations where alternative methods are ineffective and management is deemed essential. The County follows Integrated Pest Management (IPM) principles, including pre- and post-control monitoring and adaptive management.
- **Cross-Departmental Coordination**: County Forest staff work in collaboration with County operations and maintenance teams to identify and respond to invasive species on all County-maintained assets, including roads, trails, public buildings, and open spaces.
- **Stakeholder Engagement**: Recognizing that invasive species spread across jurisdictional boundaries, the County promotes collaboration with neighbouring landowners, regional partners, and contractors. Preventative measures are communicated and enforced, including equipment sanitation and avoidance of material transfer during forest operations.
- **Public Education and Outreach**: Public-facing initiatives include informational signage, website resources, and community event participation. Messaging focuses on the importance of preventing spread through personal gear cleaning, proper disposal of yard waste, and avoidance of firewood movement.
- **Species of Concern**: A range of invasive plants and pests have already been identified within the County Forest, including garlic mustard, dog-strangling vine, common

buckthorn, and emerald ash borer. Additional species are tracked through a watch list to allow for early detection and rapid response.

This integrated approach minimizes the detrimental impacts of invasive species, while supporting long-term sustainability, biodiversity, and the continued provision of recreational, ecological, and economic benefits from Dufferin County's forests and recreational trails.

5 Lifecycle Management Strategy

5.1 Overview

To achieve its program objectives and maintain service levels, the County builds new infrastructure assets to meet capacity needs, upgrades assets to meet functional needs, and manages existing assets to meet reliability needs – all with limited funds. Asset lifecycle management strategies are planned activities that enable assets to provide the service levels in a sustainable way, while managing risk at the lowest lifecycle cost. Asset lifecycle management strategies are typically organized into the categories listed in Table 5-1, and are driven by the levels of services defined in Section 3.

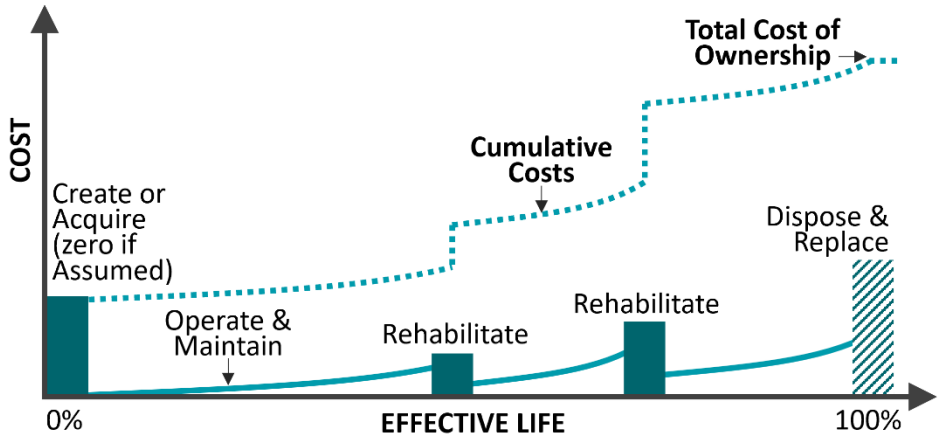
Table 5-1: Asset Lifecycle Management Categories

Lifecycle Management Category	Description	Examples of Associated Activities
Operate	Regular activities to provide services	Inspect, clean, energy usage
Maintain	Activities to retain asset condition to enable it to provide service for its planned life	Repair, replace component
Renew	Activities that return the original service capability of an asset	Rehabilitate (minor), rehabilitate (major), replace asset
Upgrade	Activities to provide a higher level of service capability from an existing asset to achieve better fit for purpose or meet regulatory requirements	Update system to be more energy efficient, improve environmental sustainability
Grow	Activities to provide a new asset that did not exist previously or an expansion to an existing asset	Acquire new asset, expand existing asset

In addition to the above asset strategies, non-asset solutions are also considered which are actions or policies that can lower costs, lower demands, or also extend asset life (e.g. better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, and education of the public).

The County assesses the costs of potential lifecycle activities to determine the lowest lifecycle cost strategy to manage each asset type while still meeting service levels. The total cost of ownership is the sum of lifecycle activity costs to sustain each asset type over the asset lifecycle. (See Figure 5-1 for a conceptual lifecycle cost model.) Sufficient investment of the right type and at the right time minimizes the total cost of ownership for each asset and mitigates other potential risks such as interruption to service delivery or damage to other nearby infrastructure. Operations, maintenance, and renewal activities are timed to reduce the risk of service failure from deterioration in asset condition and are part of the total cost of ownership.

Figure 5-1: Conceptual Lifecycle Cost Model



5.2 Lifecycle Management Needs

The County uses its understanding of risks associated with different service levels to inform the timing and level of investments needed in infrastructure assets. The County aims to provide sufficient service capacity to meet demand and manages the upgrade, operations, maintenance, and renewal of assets to meet defined service levels, including legislated and other corporate requirements. This section of the AM Plan outlines the County's expansion and upgrade strategies to support capacity and functional service levels, and the County's operations, maintenance, and renewal activities to support reliability service levels.

5.2.1 Operations and Maintenance Needs

Along with timely renewal of assets, operations, and maintenance (O&M) work directly enables the County to meet state of good repair service levels (percentage of assets in fair or better condition) to support the reliable/quality service delivery objective. The distinction between renewals (capital programs) and operations and maintenance (operating expenses) is defined by the County's accounting policies and standard operating procedures.

Operations and maintenance activities ensure the asset continues to deliver defined levels of services, while renewal activities discussed in Section 0 extend the useful life of the asset.

Renewals, operations, and maintenance are strongly linked; operations and maintenance strategies can accelerate or delay the need for renewals, and if renewals are deferred, operations and maintenance needs will often have to increase to ensure that assets are kept in a state of good repair.

Table 5-2 summarizes the County's main asset-related operations and maintenance activities. Facilities and Fleet activities cover the buildings, vehicles, and equipment across the various service areas: Public Works, Facilities Management, Long Term Care, Paramedic Services, Housing Services, and the Museum.

Table 5-2: Main Operations and Maintenance Activities

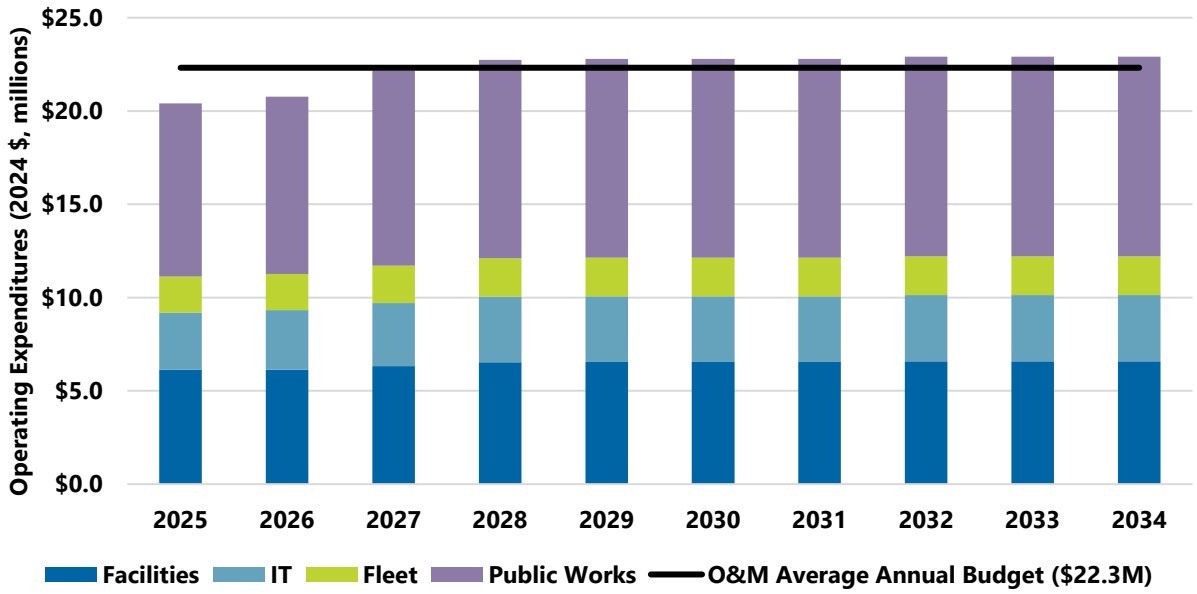
Asset Type	Operations	Maintenance
Public Works		
Roads	• Winter control– per MMS • Road Patrol – per MMS • Sweeping • Roadside mowing • Brushing – remove trees & branches	• Pot-hole filling as-needed/complaint • Ditching (not associated with a re-surface) • Washout repairs • Condition assessment (Road Needs Study)
Roads – Gravel	• Winter control • Dust control • Roadside mowing • Brushing – remove trees & branches	• Grading - Add maintenance gravel • Ditching (not associated with a re-gravel)
Bridges	• Brushing • Sweep	• Inspection every 2 years • Maintenance/repair as needed
Structural Culverts	• Brushing • Sweep • Clear inlet & outlet	• Inspection every 2 years • Maintenance/repair as needed
Other Public Works Assets	-	• Maintenance/repair/replacement as needed (signs, signal components, guiderails, flashing beacons, entrances)
Trails	• Weed control, grass cutting	• Repair/replacing signs
Stormwater Infrastructure	• Catch basin cleaning • Debris pickup	• Maintenance/repair as needed -
Facilities (Corporate Perspective)		
Overall Facility	• Utilities: Gas, hydro, water • Cleaning	• Building Condition Assessments
Elevators, Life Safety Devices	• Inspections and testing per regulations	• Maintenance/repair as needed
HVAC, Plumbing, Electrical	-	• Maintenance/repair as needed
Site	• Snow clearing	• General grounds and parking lot maintenance
Fleet - Vehicles & Equipment (Corporate Perspective)		
Vehicles	• Fuel, licensing	• Vehicle GPS installations • Inspections and PM activities • Maintenance/repairs as needed
Equipment	• Testing of equipment per applicable regulations	• Repair as needed • Replacements of some equipment such as battery chargers for Paramedic Services
Information Technology		
End User Devices, IT Infrastructure, Communication Systems	• Software licences, annual fees, subscriptions	• Replacement of some IT equipment such as cell phones • Security updates • Software updates • Maintenance contracts • Firewall renewals

Figure 5-2 summarizes the forecasted operations and maintenance expenditures related to asset activities for the period 2025-2034, at an annual average of $22.3 million. The forecast from 2025-2028 was calculated by the County based on expected increases in spending and a nominal growth rate of 1.3% is forecasted from 2029-2034 reflecting increasing needs as the County's asset portfolio grows. This forecast does not consider inflation.

If the County proceeds with adding active transportation infrastructure, there will need to be an increase to the forecast to support the O&M of those assets.

Additionally, the County is in the process of updating their road classifications which will result in greater minimum maintenance standards (MMS) resulting in greater O&M costs to the County. This work is not completed at this time but will need to be considered in future AM Plans and O&M forecasts.

Figure 5-2: Operations and Maintenance Needs Forecast



5.2.2 Capital Growth and Upgrade Forecast

The County has critical initiatives planned over the next 10 years totalling $47.2M. A summary of the growth projects, including their estimated cost and timing, is provided in the following table.

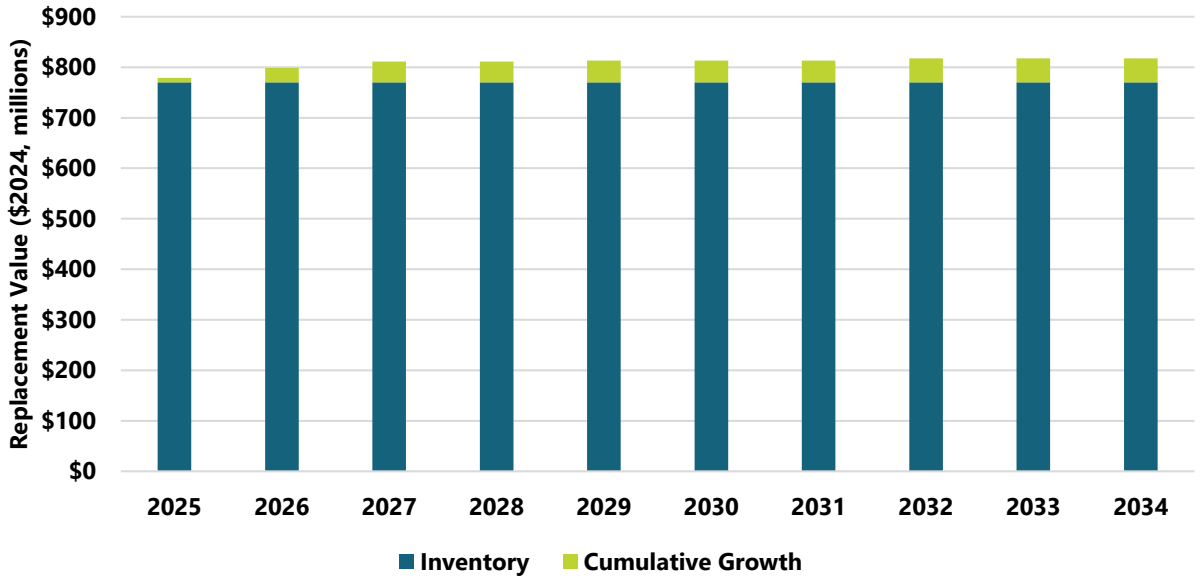
Table 5-3: Growth & Upgrade Projects from 2025 to 2034

Service Area	Growth / Upgrade Project	Project Cost	Timing
Public Works	RD 109 Widening Townline to Hwy 10	$6,050,000	2026
	RD 109 Widening 2nd Line to Riddell	$6,000,000	2027
	RD 109 Widening DR11 to 2nd Line	$1,987,906	2029
	RD 109 Widening DR12 to DR11	$4,498,286	2032
	Operations Centre	$20,500,000	2025-2027
	Primrose Generator	$150,000	2025-2026
	EV Charging Stations	$625,000	2025

Service Area	Growth / Upgrade Project	Project Cost	Timing
Paramedics	New Ambulance	$225,000	2025-2026
	Paramedic Command Vehicle	$80,000	2025
Facility (Corporate Perspective)	HHS Hub & Courthouse Renovations	$6,750,000	2025-2026
	Edelbrock Generator	$250,000	2026
	Resiliency Hub	$100,000	2025
Total		**$47,216,192**	**-**

The forecasted impact to total replacement value of the County's portfolio of assets is shown in Figure 5-3 from 2025-2034. Of note is that the future replacement costs for these growth assets are not included in the long-term forecast but should be considered in the long-term financial plan for the County.

Figure 5-3: Growth & Upgrade Forecast – 2025 to 2034



5.2.3 Capital Renewal Needs

Renewal efforts focus on rehabilitation and replacement activities to enable the County to meet its quality and reliability objectives. The County has been refining its asset management strategies since the last AM Plan to better track condition, costs, and benefits of the strategies, but there are still areas where the County can improve its understanding of the deterioration rates and the lowest lifecycle cost for each asset type (see list of improvement opportunities in Section 7). For renewal projects, the County considers coordinating multiple activities through project bundling where possible to reduce total costs.

Rehabilitation activities extend the life of an asset and reduce its risk of failure. These activities and associated benefits are deemed more cost effective than allowing the asset to reach its end of life. An example of a rehabilitation activity is concrete repair work on a bridge or culvert, which will improve the condition of the structure and extend its life such that the overall lifecycle cost is minimized.

At a certain point in an asset's lifecycle, it is no longer cost-effective to rehabilitate the asset, and replacement is required. The County has identified estimated service lives for each of its assets. These replacement intervals are developed to minimize lifecycle costs while considering service levels and the associated risk. The renewal forecast considers the asset's current condition or age, the County's planned rehabilitation and replacement activities, as well as the recommended strategies from the following specific studies:

2024 Road Needs Study – This study identified the need and recommended timing for road improvements, rehabilitation, reconstruction, and associated costs. The recommendations have been updated by County staff to reflect work and updated information since the 2022 assessment. Of note is that this AM Plan does not consider the road rationalization content included in this report. The road rationalization projects were not confirmed at the time of the publication of this AM Plan.

2024 Bridge and Culvert Inspections (OSIM Report) – As indicated in Section 2.2.2, structure inspections are completed every two years. In addition to determining a BCI for each asset, the report provides timing for bridge and structural culvert rehabilitations and replacements, as well as associated costs over the next 10 years.

2024 Building Condition Assessments – The building condition assessments provided a 25-year outlook on recommended repairs, rehabilitations, and replacements of building elements including associated costs. The timing was based on the consultant's estimate of the condition, remaining service life, and priority of the building element. As work has been completed on these buildings since the assessment, the County has updated the planned schedule of work and also updated costs as necessary in the County's Capital Plan.

Table 5-4 outlines the average annual renewal investment for each of the service areas to maintain the condition over the next 10 years. In total, the County needs to spend at least an average of $15.3 million per year to maintain the asset portfolio condition from 2025-2034. This would mean that approximately 91% of assets would be in Fair or better condition and 3% of asset would be in Very Poor condition (end of service life).

Table 5-4: Average Annual Renewal Investment to Maintain Asset Portfolio Condition

Service Area	Average Annual Renewal Investment (millions)
Public Works	$9.5
Corporate Fleet	$1.3
Corporate Facilities	$1.4
IT	$0.3
Long Term Care	$0.8
Paramedic Services	$0.7
Housing Services	$1.2
Museum	$0.1
Total	**$15.3**

5.3 Climate Change Strategies

As indicated in Section 4.4, climate change risks can have significant implications on County infrastructure. The County is currently pursuing various initiatives through its Climate Action Plan related to planning as well as mitigation and adaptation strategies to address climate change risks. The Climate Action Plan outlines 34 primary actions and 99 sub actions that the County will take to build a net-zero and resilient community. While many of the initiatives focus on building community engagement and education, some key actions related to County infrastructure and assets include:

- **Electrification of County fleet**: The County will partner with municipalities to develop a regional Electric Vehicle Strategy to achieve network connectivity. An EV policy at the County level has been developed to ensure consistency throughout the development of a County charging network and additional EV charging stations are already planned for installation in 2025. The current policy reviews each fleet replacement and only replaces a vehicle with a like-for-like combustion engine if there is sufficient justification for why a vehicle cannot be an EV, otherwise all vehicle replacements are with an equivalent EV.
- **Climate risk assessment for road infrastructure:** This project is reviewing all road infrastructure to assess the climate risks to understand areas for improving the climate resiliency.
- **Improve energy efficiency of County facilities:** In addition to educating residents and landlords on energy retrofit programs, the County plans to evaluate its housing stock and energy upgrade potential to determine the cost benefit of different types of retrofits related to reducing energy usage through a Climate Ready Infrastructure Readiness assessment.
- **Improving community resilience:** A future action is to update floodplain mapping and to develop natural stormwater management plans to ensure there is no increase in vulnerability to climate change impacts such as flooding. Other future actions related to improving infrastructure resiliency include enhancing the amount of green space/permeable surfaces and increasing the uptake of low impact development technologies on private and public properties.

The County recognizes that though these actions will require additional costs that will need to be incorporated into future forecasts, the long-term cost of not acting is greater than the investments being planned today.

6 Financial Strategy

6.1 Overview

The financial strategy is informed by the preceding sections of the AM Plan: the value and condition of the assets, the current levels of service, the risks to service delivery, and the lifecycle activities needed to maintain existing asset portfolio condition. The financing strategy considers how the County will fund the planned asset management actions to meet the target service levels.

A municipality is in a financially sustainable position if it:

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

The key challenges to financial sustainability are:

- A discrepancy between level of service decisions and fiscal capacity
- Possible future changes in the cost of infrastructure investments
- Unforeseen impacts to funding

Per O.Reg. 588/17, this section of the AM Plan identifies the annual funding projected to be available to undertake the recommended lifecycle activities and discusses strategies to address potential funding shortfalls.

6.2 Available Funding Amounts and Sources

Through the County's annual budget process, capital project and operating activity expenditure information is gathered from service areas, including investment needs, trends, and priorities to enable preparation of the capital and operating plans. Once the expenditure plans are finalized, a financing plan is developed which includes several key sources of funding as outlined in the table below.

Table 6-1: Key Sources of Funding and Financing

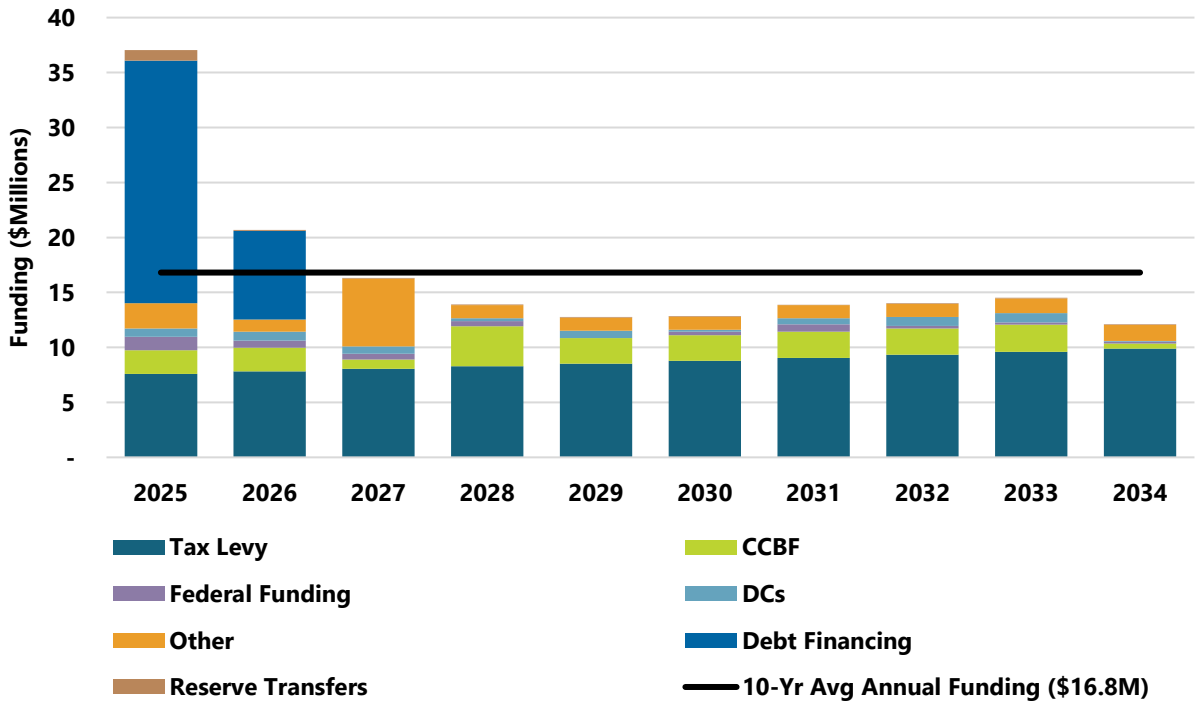
Funding Source	Description
Tax Levy	• County property owners pay an annual tax to the County
Debt	• Long term borrowing, to be paid for by future taxpayers. The County only uses debt for new assets, not renewals
Canada Community Building Fund (CCBF) (formerly Federal Gas Tax)	• A long-term grant agreement with the Association of Municipalities of Ontario (AMO), that provides a portion of the Federal gas tax revenues to municipalities for revitalization of infrastructure that achieves positive environmental results
Ontario Community Infrastructure Fund (OCIF)	• Available for core assets (primarily bridges) for municipalities with populations less than 100,000

Funding Source	Description
Development Charges (DCs)	• Fund projects to the degree eligible in the DC Background study
Grants	• Project specific grants / subsidies
User Fees	• Funds collected for the use of County services or infrastructure (i.e., building permit fees)

In addition to the above sources, capital reserves are established as a source of pay-as-you-go funding for the County's capital program. Funding for these reserves is obtained through annual contributions. These annual reserve contributions sustain reserve balances at appropriate levels to address infrastructure replacement costs in the future and inherent uncertainties in capital funding needs. Reserve contributions are evaluated annually to ensure adequate funds are raised to meet future capital requirements and to smooth out the impact on the annual operating budget. Additionally, the County tries to minimize impacts on residents through maximizing other revenue sources such as grants.

The projected 10-year contributions to the Capital Budget are shown in Figure 6-1. The average annual contributions from 2025 to 2034 are estimated to be $16.8 million per year. This average includes $30.1 million in debt financing in 2025 and 2026 for new growth assets. Without the debt portion in this calculation, the average annual contributions would be $13.8 million per year.

Figure 6-1: 10-Year Capital Contributions Funding Forecast, 2025 to 2034



6.3 Financial Sustainability

6.3.1 Financial Sustainability for Operations and Maintenance

As indicated in Section 5.2.1, this AM Plan estimates an average spend of $22.6 million per year on O&M activities from 2025-2034 which would be within the budget for the County as long as the O&M budget in increased annually in accordance with the growth in the asset portfolio. The forecast accounts for growth in the asset portfolio but not inflation.

6.3.2 Financial Sustainability for Capital Growth and Upgrade

As indicated in Section 5.2.2, this AM Plan estimated a total 10-year spend of $47.2M. The current capital plan includes $32.4 million in debt financing and developer contributions for new growth assets. This results in a funding gap of $14.8 million from 2025-2034, or approximately $1.5 million per year.

To manage this gap, the County will need to evaluate if they want to secure alterative funding for the road widening projects. Without this additional financing, it is unlikely these growth projects will be able to occur in the manner to which they are currently designed. If the projects are not able to proceed, the level of service will need to be adjusted to reflect these changes.

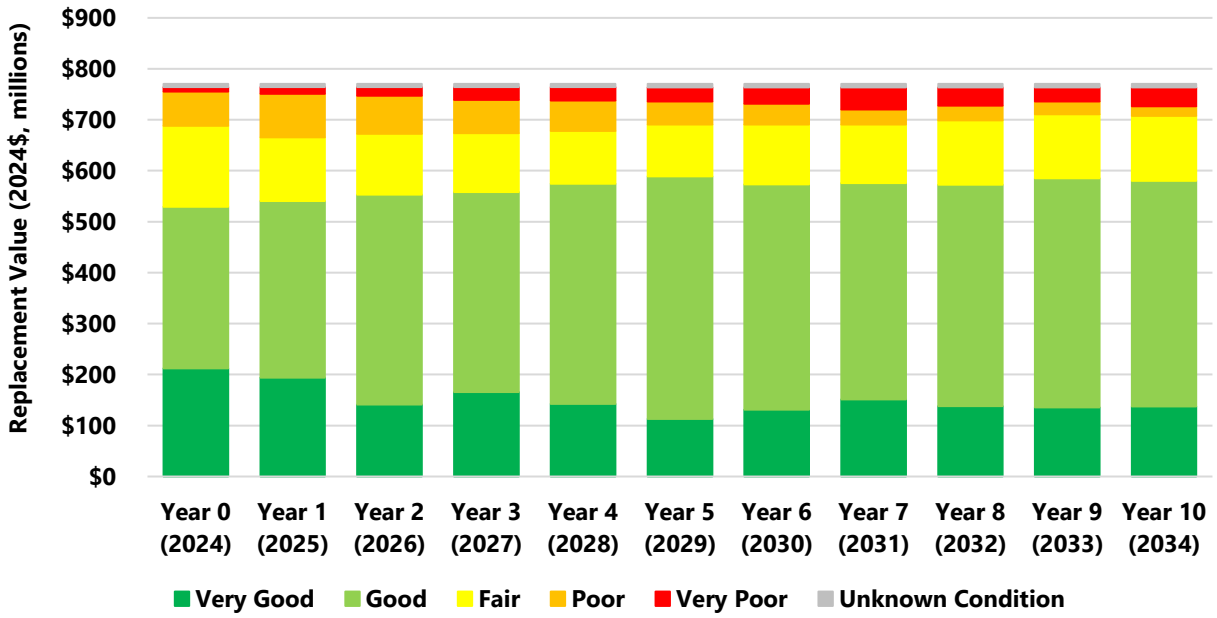
6.3.3 Financial Sustainability for Renewal

This section compares the planned renewal capital funding against the forecast needs for the recommended capital lifecycle activities (Section 5.2.3) to determine if there is a funding shortfall in the Capital Budget to maintain current condition. All values are in 2024 dollars. Of the $16.8 million average annual funding available (Section 6.2), there is an average of $13.6 million per year allocated to renewal investment (including the 3% annual increase in capital contribution). This available funding results in an average funding gap of $1.7 million per year compared to maintaining the current condition of the asset portfolio.

The resulting condition forecast based on available funding is shown in Figure 6-2 where the percentage of assets in Very Poor condition (end of service life) increases from 1% in 2024 to 5% in 2034.

Of note is this condition forecast does not consider the road rationalization project results and associated renewal investments that are still to be determined by the County.

Figure 6-2: Forecasted Condition of Asset Portfolio Based on Planned Funding



6.3.4 Overall County Asset Investment Gap

The following table provides a summary of the total asset management needs, available funding, and resulting infrastructure gap across the three core categories of investment: Growth, Renewal, and O&M. This breakdown is intended to clearly illustrate where funding shortfalls exist and to support evidence-based planning and prioritization decisions. Renewal needs reflect the investment required to maintain existing assets in a state of good repair; O&M needs represent the costs necessary to operate and maintain infrastructure at desired service levels; and growth needs account for the capital investment needed to support new development or increased demand. The investment gap is presented as the difference between the forecasted 10-year needs and the available funding in each category.

Table 6-2: Summary of Needs, Funding, and Investment Gap from 2025-2034

Category	10-Year Avg. Annual Need ($Millions)	10-Year Avg. Annual Funding ($Millions)	10-Year Avg. Annual Investment Gap ($Millions)	Ratio of Funding to Needs
1. Growth	$4.7	$3.2	$1.5	68%
2. Renewal	$15.3	$13.6	$1.7	89%
3. O&M	$22.3	$22.3	$0	100%
Total	**$42.3**	**$39.1**	**$3.2**	**92%**

In total, the analysis identifies that the County is investing 92% of the needs required for growth, renewal, and O&M over the over the 10-year planning horizon. This investment gap highlights the

financial challenges faced in sustaining current and future service levels and reinforces the importance of long-term financial planning and funding strategy development.

6.3.5 Strategies to Manage Funding Gap

With the planned increase in Very Poor condition assets, the County can expect that there will be:

- An increase in unplanned repairs and maintenance work resulting in greater O&M expenses.
- An increase in the renewal backlog over future planning horizons which will increase the long-term costs to the County.
- The potential for an increase in safety, compliance reputation, and financial (insurance) risks.
- Future renewal needs that are not considered in this forecast from growth assets.
- Economic uncertainty (tariffs) and inflation risks to project costs that may alter how much work can be completed with available funding.

The County plans to manage the funding gap and increase in Very Poor condition assets by:

- **Reduce near term renewal needs:** Defer capital renewal projects on lower risk assets, thereby reducing service levels by allowing assets to deteriorate to lower standards before renewal.
- **Increase other available funding sources:** Leveraging third party grants where available.
- **Further extend asset life and reduce lifecycle costs:** Consider additional rehabilitation strategies to defer more expensive renewals and review services lives for assets that are still functional at their current estimated service life.
- **Finding cost efficiencies from other projects:** Some projects may cost less than anticipated, freeing up budget for other planned projects. For example, housing unit upgrades are dependent on resident turnover and may occur less frequently than anticipated.

One of the associated factors to managing the Capital Budget is the County's current capacity and resource constraints in being able to carry out capital projects. These constrains have inevitably led to deferral of some projects into subsequent years. The County has approved several new positions in the last few years to help address these ongoing capacity constraints.

7 AM Plan Improvement & Monitoring

7.1 Improvements

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. This section provides a list of recommended improvements to the County's asset management practices.

Table 7-1: Improvements for the Next Asset Management Plan Update

No.	Service Area	Description
1	All	Review LOS measures and update to align with priorities (i.e., Average wait time for a housing unit/LTC bed).
2	All	Incorporate internal resource needs (operational and renewal impacts) to deliver recommended AM Plan capital growth projects.
3	All	Refine AM Plan growth projections and asset needs based on updated Master Servicing Plans.
4	All	Develop an asset hierarchy that includes all County assets and is agreed upon by all service areas.
5	Public Works	Gain further understanding of property resiliency to 100-year and 5-year storms through flood plain mapping.
6	Public Works	Enhance asset inventory to incorporate all assets where aggregate ones are currently captured (i.e., guiderails, signs, streetlights, etc.).
7	Public Works	Update O&M forecast to reflect updated road classifications resulting in greater minimum maintenance standards (MMS) and greater O&M costs to the County.
8	Corporate Facilities	Incorporate natural assets outside facilities into asset inventory.

Table 7-2: General Asset Management Planning Process Improvements

No.	Service Area	Description
9	All	Monitor current LOS and establish annual report to present current LOS performance against the LOS targets.
10	All	Continue to develop and formalize Asset Management governance structure.
11	All	Continue improving work order management system and processes to support improved: - tracking of refurbishment and replacement intervals for assets - more accurate forecasting of maintenance and operating costs
12	All	Develop a centralized repository of asset data (including a consistent Asset ID system) and continue collecting and refining data on public works

No.	Service Area	Description
		assets (i.e., signs, guiderails, culverts, equipment, stormwater assets, and entrances).
13	All	Continue to update and algin the work being done through the Climate Action Plan with the AM Planning process

7.2 Monitoring and Review Procedures

The AM Plan will be updated every five years to ensure it reports an updated snapshot of the County's asset portfolio and its associated value, age, and condition. It will ensure that the County has an updated 10-year outlook including target service levels, the associated lifecycle costs, and an assessment of funding shortfalls, if applicable.

Per O.Reg. 588/17, the County will present an annual report to Council that includes:

- A review of its asset management progress in implementing this AM Plan.
- Discussion around strategies to address any factors impeding the AM Plan implementation.
- A summary of the current levels of service performance.
- Reasonings for any shortfalls in meeting the target service levels.

Appendix A: Forest Tract Summaries

Forest Tract	Description	Deterioration		Performance				Maintenance
		Disease	Invasive Plants	Timber Quality	Regeneration	Ecological Traits	Recreation	Trend
Leening Tract	• A hardwood forest with a healthy wetland and a dense conifer plantation. • Intensively managing the invasive plant populations in the SW corner of the tract. • Within mid-range of expected service life (40 yrs)	**Unknown**	**Good:** DSV and Daylily are an issue in the SW corner, plus some scattered multiflora rose, but it's being managed.	**N/A** No harvests as per Forest Management Plan (FMP).	**Fair:** Good in the hardwoods, poor in conifer plantation due to stem density.	**Good:** Healthy wetland community, little understory vegetation in the conifer plantation.	**Fair:** Minimal Use (No Hunting)	**Acceptable / Improving:** Intensive management is controlling invasive plants.
Simmons Tract	• Combination of conifer plantation and maple-dominated hardwoods, with conifer stands transitioning into native hardwood or mixed wood forest. • Connected to larger area of forest cover on the landscape, which is beneficial for wildlife and other ecological components of forest health. • Scattered invasive plants are present, but the species are of low concern or are under management. Within mid-range of expected service life: (Hw 100 yrs, Conifer: 50 yrs).	**Good:** Likely Emerald Ash Borer and Beech Bark Disease in the hardwoods.	**Good:** Scattered invasive shrubs under management, weedy species of low concern.	**Good:** Mostly conifer plantation plus smaller Sugar Maple dominated stand.	**Poor/Fair:** Regeneration understocked in much of conifer plantation.	**Fair:** Relatively little understory development in conifer plantation, continuity with large area of forest cover.	**Good:** Minimal use (Hunting Permitted).	**Acceptable / Improving:** Management addressing invasive species, recent thinning expected to improve understory development (as it has in nearby Randwick)

Forest Tract	Description	Deterioration		Performance				Maintenance
		Disease	Invasive Plants	Timber Quality	Regeneration	Ecological Traits	Recreation	Trend
Randwick Tract	• Locally significant wetland of high ecological value. Contains species and habitat types uncommon to the Dufferin County Forest. • Connected to a larger area of forest cover on the landscape, which is beneficial for wildlife and other ecological components of forest health. • Invasive plants are a challenge in some stands. Recreation value for hunting and snowmobiling. Within mid-range of expected service life: (Hw 130 yrs, Conifer: 90 yrs).	**Fair:** Red Pine pocket mortality growing in some areas, ash mostly dead, abundant Beech Bark Disease (but Beech and Ash are minor components).	**Fair:** Garlic mustard extensive in some stands and present in most/all, Black Locust spreading from corners with Airport Rd., a few others in small numbers.	**Good:** Mostly Red and White Pine, many medium-large, some Sugar Maple, Red Oak, Hemlock, White Spruce.	**Fair/Good:** Understocked in some areas.	**Fair/Good:** High variability between and within stands, some species and habitat types uncommon to DCF, locally significant wetland, continuity with large area of forest cover	**Good:** Light use including hunting and snowmobiling	**Acceptable / improving:** Steadily increasing regeneration and understory development, although garlic mustard may be an impediment.
Little Tract	• Healthy forest maturing to develop old growth characteristics. • Diversity in composition and structure, with mixed forest types a stream, and some wetland. • Connected with a large area of forest cover on the landscape, which is beneficial for wildlife and other components of ecological health. • Recreational value for hikers.	**Good:** No known issues (presumably widespread issues present).	**Very Good:** The only detected species is Scots Pine (not a concern).	**N/A** No harvests as per FMP.	**Very good:** Appears to have desirable uneven age structure	**Very Good:** "Developing old growth", wetland, variety of habitat features and types for small area, healthy canopy and understory communities, continuity with large area of forest cover.	**Very Good:** Some use for hiking.	**Later Stage of Expected Service Life / Improving:** Developing old growth with healthy diversity in composition and structure.

Forest Tract	Description	Deterioration		Performance				Maintenance
		Disease	Invasive Plants	Timber Quality	Regeneration	Ecological Traits	Recreation	Trend
	• Within mid-range of expected service life: 110 yrs							
Thomson Tract	• Small area with a variety of habitat types, including conifer and hardwood stands, a creek, and wetland. No known invasive species of concern. Within mid-range of expected service life.	**Good:** No known issues (widespread ones presumably present)	**Very Good:** Only detected species is Ps (not a concern)	**Fair:** No inventory, conifer plantation overdue for thinning, Scots Pine.	**Unknown**	**Good:** Creek / wetland, continuity with large area of forest cover.	**N/A** (No Access and No Hunting)	**Acceptable / Improving:** Stable - no known issues.
Main Tract	• Large area of diverse forest, including a life science ANSI (Oak Ridges South Slope Forest) and locally significant wetland. • Most conifer plantation transitioning to healthy, native hardwood or mixed wood forest. • Many invasive plant populations, but all are being managed and most of the tract is minimally invaded. • High recreational value for mountain biking, hiking, horseback riding, snowmobiling, cross county skiing, and other permitted used. • Within mid-range of expected service life: (Hw 130 yrs, Conifer: 90 yrs).	**Good:** Scattered Red Pine pocket mortality, Beech Bark Disease, Eutypella, Emerald Ash Borer, etc., but at expected / normal levels.	**Fair/Good:** Large tract with high use = many invasive populations (garlic mustard, Dog Strangling Vine, buckthorn, autumn olive, others), but all are being managed and most of the tract is minimally invaded.	**Good:** Conifer plantation, mixed wood, and hardwood stands, variable size class distributions.	**Good:** Well-stocked in most areas.	**Good:** Many stand types, oak slope ANSI (Area of Natural Scientific Interest), locally significant wetland, continuity with large area of forest cover.	**Very Good:** Moderate / heavy use (high numbers but concentrated to busy times and spread over large tract) including mountain biking, hiking, horseback riding, snowmobiling, cross country skiing.	**Acceptable / Improving:** Almost all conifer plantation developing into native hardwood/mixed wood, efforts to contain invasive species are making a positive impact.

Forest Tract	Description	Deterioration		Performance				Maintenance
		Disease	Invasive Plants	Timber Quality	Regeneration	Ecological Traits	Recreation	Trend
Mono Tract	• Combination of lowland maple forest and conifer plantation developing into healthy native mixed wood. • Connected with a large area of forest cover on the landscape (including the adjacent Mono Cliffs Provincial Park), which is beneficial for wildlife and other components of ecological health. • Extensive invasive species presence, but intensive management is containing most populations. • High recreational value for mountain biking, hiking, and horseback riding. • Within mid-range of expected service life: Conifer 75 years, Hardwood 105 years.	**Fair/Good:** Some Pr pocket mortality, Eutypella, eastern spruce gall adelgid.	**Fair:** Extensive invasive presence (buckthorn, garlic mustard, DSV, goutweed, others) but addressed with management.	**Good**: Mostly conifer plantation (Pr, Pw, Sn), plus smaller Mh-dominated stands.	**Very Good:** Abundant throughout.	**Good:** Developing understory diversity, continuity with large area of forest cover (incl adjacent Mono Cliffs Provincial Park).	**Good:** Moderate use including mountain biking, horseback riding, hiking.	**Improving:** Intensive invasive species management is containing most populations, red pine plantations are developing into mixed wood with healthy understories.
Levitt Tract	• Many habitat features including thermal cover in cedars, more open hardwoods, a stream, and a seep. • Invasive plants are present, but management is on track to achieve containment/eradication of these populations. • Within mid-range of expected service life (80	**Unknown** Large ash component in hardwoods presumably dead	**Good:** several species present but management is achieving containment/eradication (buckthorn, Japanese knotweed, periwinkle, goutweed, others)	**Good:** Mostly cedar plus small hardwood stands.	**Good:** Abundant in hardwoods, not a concern in cedars.	**Good:** Stream, seep, many habitat features.	**N/A** (no access)	**Improving:** Invasive species issues mostly resolved with some ongoing management.

Forest Tract	Description	Deterioration		Performance				Maintenance
		Disease	Invasive Plants	Timber Quality	Regeneration	Ecological Traits	Recreation	Trend
	yrs), Eastern White Cedar can live for centuries.							
Hockley Tract	• Contains provincially significant wetland of high ecological value. • Extensive buckthorn invasion is degrading ecological quality. • High recreational value with accessible walking trails connected to Island Lake Conservation Area. Within mid-range of expected service life (50 yrs)	**Unknown**	**Poor:** Extensive buckthorn invasion, likely other species prevalent at Island Lake CA.	**N/A** (mostly cedar but not suitable for harvest due to size/location/recreational use)	**Good:** Eastern White Cedar likely to keep itself going	**Fair:** Provincially significant wetland, buckthorn severely impacting biodiversity.	**Good:** Moderate / heavy use for hiking.	**Declining:** Heavily invaded
Amaranth Tract (North & South)	• Contains both provincially and locally significant wetlands, which are of high ecological value. • Invasive species population is increasing, including some wild parsnip and abundant common buckthorn. • Within mid-range of expected service life(100yrs)	Emerald Ash Borer (43b formerly 40% ash)	**Poor:** Extensive buckthorn invasion, wild parsnip along Rail Trail.	**Unknown** No recent thinning, only 43a is managed	**Unknown**	**Fair:** Provincially and locally significant wetland (buckthorn taking over).	**Good:** Minimal use (Hunting permitted in south portion)	**Declining:** Advanced buckthorn infestation, but forest growing with wetland intact.
Gara Gore Tract	• Provides forest cover in an area with very little. • Ecosystem in flux due to ash mortality and the introduction of invasive plants, but management is underway to address the invasive species.	Emerald Ash Borer (formerly 30% ash)	**Fair:** Buckthorn spreading, patch of garlic mustard, black locust	**Poor/Fair:** Tender cancelled in 2021 due to ash mortality.	**Unknown** Possibly low due to shrub layer density	**Fair:** A dense wooded area in a part of the County with not a lot of forest cover.	**Good:** Minimal use (Hunting Permitted).	**Improving:** EAB and early invasive plant establishment, management is underway for invasives.

Forest Tract	Description	Deterioration		Performance				Maintenance
		Disease	Invasive Plants	Timber Quality	Regeneration	Ecological Traits	Recreation	Trend
	• Within mid-range of expected service life (80 yrs)							
River Road Tract	• Small forest containing important riparian habitat. • No known issues. • Within mid-range of expected service life(100yrs)	**Poor** High proportion of dead trees	**Unknown**	No recent thinning, small size and location not ideal for harvesting	**Unknown**	**Fair/Good**	**Unknown**	**Improving:** Developing forest, no known issues
Riverview Tract	• Contains locally significant wetland of high ecological value. • Healthy developing understory. • Invasive plants present are of low concern or have been eradicated. • Within mid-range of expected service life (70 yrs)	**Unknown**	**Very Good:** Minimal, buckthorn detected but possibly eradicated	Overstocked, no recent thinning due to difficulty harvesting on wet terrain	**Unknown**	**Good:** Locally significant wetland	**Good:** Minimal use (Hunting Permitted).	**Improving:** Buckthorn invasion under control, healthy wetland.
Melancthon Tract	• Contains provincially significant wetland of high ecological value. • Wet forest with well-developed understory. • Some invasive plants populations with management underway. • Within mid-range of expected service life (70 yrs)	**Unknown**	**Fair/Good:** Scattered garlic mustard dense in some areas, patch of Japanese knotweed, no others detected	Overstocked, no recent thinning due to difficulty harvesting on wet terrain	**Unknown** Possibly low due to shrub layer density.	**Good:** Provincially significant wetland	**Good:** Minimal use (Hunting Permitted).	**Within normal level:** Access trail could be re-opened, but not currently a priority.

Appendix B: Consequence of Failure Ratings

The following table summarized the consequence of failure ratings validated with County staff during workshops.

Asset Type	CoF	Primary Driver
Edelbrock Centre	2	Service Delivery
Courthouse	2	Service Delivery
Primrose Operations Centre	5	Service Delivery, Health & Safety
Communication Towers	5	Service Delivery
Emergency Management	2	Health & Safety
LTC: Facilities	5	Health & Safety, Reputational
LTC: Equipment	2	Service Delivery
LTC Furnishings	1	Service Delivery
Paramedic: Facilities	3	Service Delivery
Paramedic: Equipment	4	Service Delivery
Paramedic: Fleet	4	Service Delivery
Housing: Facilities	4	Financial, Reputational
Museum: Facilities	2	Financial, Service Delivery
Museum: Equipment	1	Service Delivery
Arterial	4	Health & Safety, Service Delivery
Collector	3	Service Delivery
Local	2	Service Delivery
Bridge	5	Health & Safety
Culvert	3	Health & Safety, Service Delivery
Roadside Equipment	1	Service Delivery
Entrance	1	Service Delivery
Flashing Beacon	2	Health & Safety
Guiderail	3	Health & Safety
Sign	Regulatory: 3 Warning: 2 Tourism: 1	Health & Safety

Asset Type	CoF	Primary Driver
Signal	3	Service Delivery
Rail Trail Culverts	2	Service Delivery
Cross Culverts	3	Service Delivery
Storm Sewers	2	Service Delivery
Ditch Inlet Catch Basins	2	Service Delivery
Catch Basins	2	Service Delivery
Rail Trail	2	Service Delivery
Heavy Duty Vehicles	4	Service Delivery
Light Duty Vehicles	2 Patrol Vehicle: 3	Service Delivery
Equipment	2	Service Delivery
EV Charging Stations	2	Service Delivery
IT Infrastructure: (Switch, Server, Access Point, Firewall)	4	Service Delivery
Monitors	1	Service Delivery
Phones	1	Service Delivery
Printers/Scanners	1	Service Delivery
Tablet	1	Service Delivery
Workstations	1	Service Delivery