Asset Management Plan

Perth County

Cultivating Opportunity

2025

This Asset Management Plan was prepared by:

Empowering your organization through advanced asset management, budgeting & GIS solutions

Key Statistics

Replacement cost of asset portfolio
$260.8 million

Replacement cost of infrastructure per household
$7,656

Percentage of assets in fair or better condition
71%

Percentage of assets with assessed condition data
92%

Annual capital infrastructure deficit
$1.41million

Recommended timeframe for eliminating annual infrastructure deficit
5 Years

Target reinvestment rate
3.2%

Actual reinvestment rate
2.7%

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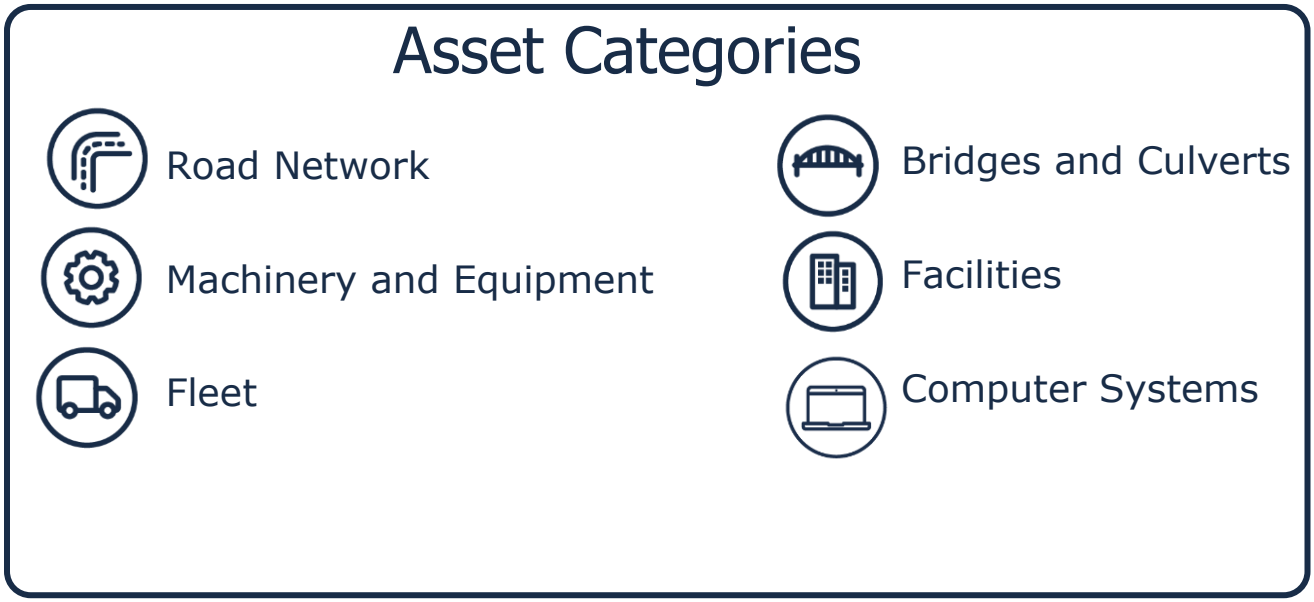
Executive Summary

County infrastructure provides the foundation for the economic, social, and environmental health and growth of Perth County through the delivery of critical services. The goal of asset management is to deliver an adequate level of service in the most cost-effective manner. This involves the development and implementation of asset management strategies and long-term financial planning.

All municipalities in Ontario are required to complete an asset management plan (AMP) in accordance with Ontario Regulation 588/17 (O. Reg. 588/17). This AMP outlines the current state of asset management planning at Perth County. It identifies the current practices and strategies that are in place to manage public infrastructure and makes recommendations where they can be further refined. Through the implementation of sound asset management strategies, the County can ensure that public infrastructure is managed to support the sustainable delivery of infrastructure services.

This AMP includes the following asset categories:



The overall replacement cost of the asset categories included in this AMP totals $261 million. 71% of all assets analysed in this AMP are in fair or better condition and assessed condition data was available for 92% of assets. For the remaining assets, assessed condition data was unavailable, and asset age was used to approximate condition. This is a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.

The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP uses a combination of proactive lifecycle strategies (Roads, and Bridges and Culverts) and replacement only strategies (all other assets) to determine the lowest cost option to maintain the current level of service.

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the County's average annual capital requirement totals $8.4 million. Based on a historical analysis of sustainable capital funding sources, the County is committing approximately $7 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $1.4 million.

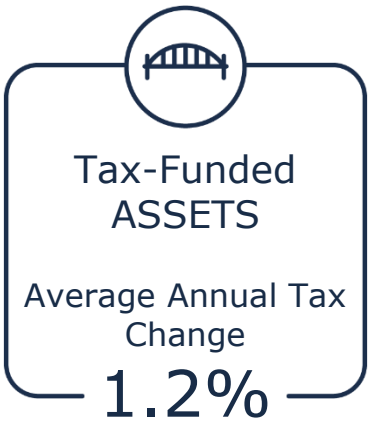
It is important to note that this AMP represents a snapshot in time and is based on the best available processes, data, and information at the County. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.

This AMP identifies the current practices and strategies that are in place to manage public infrastructure and makes recommendations where they can be further refined. Through the implementation of sound asset management strategies, the County can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

With the development of this AMP Perth County has achieved compliance with O. Reg. 588/17 to the extent of the requirements that must be completed by July 1, 2024. There are additional requirements concerning proposed levels of service and growth that must be met by July 1, 2025.

Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax change required to eliminate the County's infrastructure deficit based on a 5-year plan:



Recommendations to guide continuous refinement of the County's asset management program include:

- Reviewing data to update and maintain a complete and accurate dataset
- Further developing condition assessment strategies with a regular schedule
- Reviewing and update lifecycle management strategies
- Developing and regularly reviewing short- and long-term plans to meet capital requirements
- Measuring current levels of service and identifying sustainable proposed levels of service

1 Introduction & Context

Key Insights

- The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, and manage the associated risks, while maximizing the value rate payers receive from the asset portfolio

- The County's asset management policy provides clear direction to staff on their roles and responsibilities regarding asset management

- An asset management plan is a living document that should be updated regularly to inform long-term planning

- Ontario Regulation 588/17 outlines several key milestones and requirements for asset management plans in Ontario between July 1, 2022, and 2025

1.1 Perth County Community Profile

Census Characteristic	Perth County	Ontario
Population 2021	82,565	14,223,942
Population Change 2016-2021	6.2%	5.8
Total Private Dwellings	34,062	5,929,250
Population Density	36.8/km^2	15.9/km^2
Land Area	2,218.24 km^2	892,411.76 km^2

The County of Perth is an upper-tier county in Southwestern Ontario, renowned for its picturesque landscapes and rich history. Comprising four lower-tier municipalities—North Perth, Perth East, West Perth, and Perth South—Perth County was originally settled in the 1820s. Over the decades, it became a hub for farming and livestock production, particularly in dairy and hog farming, a tradition that thrives to this day.

Perth County offers a unique blend of rural tranquility, agricultural prosperity, and cultural vibrancy, making it a highly appealing destination in southwestern Ontario. The County is famous for its vibrant cultural scene, headlined by the internationally acclaimed Stratford Festival, which attracts theatre enthusiasts from around the globe. The county also takes pride in preserving its rich heritage through various historic sites and museums that offer a glimpse into its storied past.

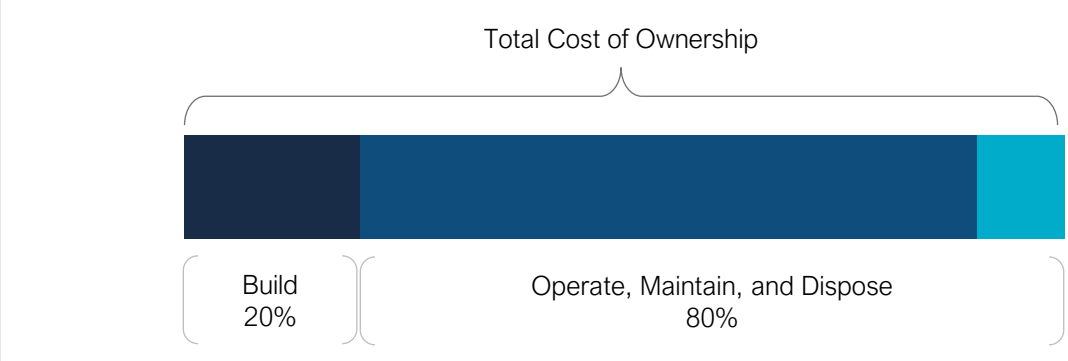
Residents and visitors alike can enjoy a plethora of recreational activities, from hiking and fishing to exploring the scenic parks and trails that dot the region. Perth County’s strong sense of community is complemented by excellent educational institutions and comprehensive healthcare services, ensuring a high quality of life for its inhabitants. This harmonious blend of rich history, natural beauty, and modern amenities makes Perth County an ideal place to live and visit.

The County has experienced consistent population growth, reflecting its desirability. Over the past two census periods (2016 to 2021), Perth County saw a 6.2% increase in population. However, the demographic trend shows a skew towards an aging population, with 21.1% of residents being 65 years or older, higher than the provincial average of approximately 19%. This demographic shift underscores the county's appeal to retirees and highlights the importance of services catering to an older population.

1.2 Asset Management Overview

Municipalities are responsible for managing and maintaining a broad portfolio of infrastructure assets to deliver services to the community. The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, and manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio.

The acquisition of capital assets accounts for only 10-20% of their total cost of ownership. The remaining 80-90% derives from operations and maintenance. This AMP focuses its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.



These costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of a broader asset management program. The industry-standard approach and sequence to developing a practical asset management program begins with a Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

This industry standard, defined by the Institute of Asset Management (IAM), emphasizes the alignment between the corporate strategic plan and various asset management documents. The strategic plan has a direct, and cascading impact on asset management planning and reporting.

1.2.1 Asset Management Policy

The County's Asset Management Policy establishes a framework to guide the sustainable management of municipal infrastructure assets, ensuring they meet service needs while aligning with Ontario Regulation 588/17. The policy emphasizes minimizing lifecycle costs, maintaining desired service levels, and incorporating climate resilience and sustainability into infrastructure planning. By adopting best practices in asset management, it supports effective service delivery and long-term infrastructure stewardship.

A cornerstone of the policy is the Asset Management Plan (AMP), which consolidates data on all infrastructure assets and integrates financial strategies to ensure efficient operations, maintenance, and capital investments. The AMP includes performance metrics and reporting tools to promote transparency and accountability, providing a clear basis for data-driven decisions. Collaboration is prioritized, with engagement opportunities for residents and partnerships with neighbouring municipalities and other stakeholders to improve service delivery and resource efficiency.

The policy aligns infrastructure management with broader land-use and economic planning goals, fostering innovation and exploring alternative funding options, such as grants and public-private partnerships. With a structured governance model and regular reviews, the policy ensures adaptability to emerging challenges, enabling the County to sustainably manage its assets, enhance public services, and support long-term community well-being.

1.2.2 Asset Management Strategy

An asset management strategy translates organizational objectives into specific asset management goals and outlines the activities required to meet these objectives. Perth County's Asset Management Strategy provides a structured framework to align the County's goals with asset management objectives, taking a proactive lifecycle approach to ensure that infrastructure assets support both current service needs and future demands. Emphasizing sustainability, the strategy includes initiatives to reduce environmental impacts, enhance climate resilience, and support sustainable regional growth.

Key priorities include maintaining safe, efficient service delivery and balancing fiscal responsibility with resource allocation to achieve high-quality outcomes. The strategy fosters collaboration with member municipalities, using technology and data-driven tools to improve decision-making, assess asset performance, and prioritize investments. Regular reviews ensure the strategy adapts to evolving needs, helping Perth County's infrastructure investments drive long-term value, economic growth, and an enhanced quality of life for its residents.

1.2.3 Asset Management Plan

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

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

The AMP is a living document that should be updated regularly as additional asset and financial data becomes available. This will allow the County to re-evaluate the state of infrastructure and identify how the organization's asset management and financial strategies are progressing.

1.3 Key Concepts in Asset Management

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

1.3.1 Lifecycle Management Strategies

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

To ensure that assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation, or replacement. The following table provides a description of each type of activity and the general difference in cost.

Lifecycle Activity	Description	Example (Roads)	Cost
Preventative Maintenance	Activities that prevent defects or deteriorations from occurring	Crack Seal	$
General Maintenance	Activities that focus on current defects or inhibit deterioration	Pothole Repairs	$
Rehabilitation/ Renewal	Activities that rectify defects or deficiencies that are already present and may be affecting asset performance	Mill & Re-surface	$$
Replacement/ Reconstruction	Asset end-of-life activities that often involve the complete replacement of assets	Full Reconstruction	$$$
Replacement Upgrade	Asset end-of-life activities that involve the replacement of an asset to an 'upgraded' asset	Gravel Road to a Surface Treated Road	$$$$

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

The County's approach to lifecycle management is described within each asset category outlined in this AMP. Developing and implementing a proactive lifecycle strategy will help staff to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

1.3.2 Risk Management Strategies

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

By identifying the various impacts of asset failure and the likelihood that it will fail, risk management strategies can identify critical assets, and determine where maintenance efforts, and spending, should be focused.

This AMP includes a high-level evaluation of asset risk and criticality. Each asset has been assigned a probability of failure score and consequence of failure score based on available asset data. These risk scores can be used to prioritize maintenance, rehabilitation, and replacement strategies for critical assets.

1.3.3 Levels of Service

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

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

Community Levels of Service

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

Technical Levels of Service

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

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

Current and Proposed Levels of Service

This AMP focuses on measuring the current level of service provided to the community. Once current levels of service have been measured, the County plans to establish proposed levels of service over a 10-year period, in accordance with O. Reg. 588/17.

Proposed levels of service should be realistic and achievable within the timeframe outlined by the County. They should also be determined with consideration of a variety of community expectations, fiscal capacity, regulatory requirements, corporate goals, and long-term sustainability. Once proposed levels of service have been established, and prior to July 2025, the County must identify a lifecycle management and financial strategy which allows these targets to be achieved.

1.4 Climate Change

Climate change can cause severe impacts on human and natural systems around the world. The effects of climate change include increasing temperatures, higher levels of precipitation, droughts, and extreme weather events. In 2019, Canada's Changing Climate Report (CCCR 2019) was released by Environment and Climate Change Canada (ECCC).

The report revealed that between 1948 and 2016, the average temperature increase across Canada was 1.7°C; moreover, during this period, Northern Canada experienced a 2.3°C increase. The temperature increase in Canada has doubled that of the global average. If emissions are not significantly reduced, the temperature could increase by 6.3°C in Canada by the year 2100 compared to 2005 levels. Observed precipitation changes in Canada include an increase of approximately 20% between 1948 and 2012. By the late 21st century, the projected increase could reach an additional 24%. During the summer months, some regions in Southern Canada are expected to experience periods of drought at a higher rate. Extreme weather events and climate conditions are more common across Canada. Recorded events include droughts, flooding, cold extremes, warm extremes, wildfires, and record minimum arctic sea ice extent.

The changing climate poses a significant risk to the Canadian economy, society, environment, and infrastructure. The impacts on infrastructure are often a result of climate-related extremes such as droughts, floods, higher frequency of freeze-thaw cycles, extended periods of high temperatures, high winds, and wildfires. Physical infrastructure is vulnerable to damage and increased wear when exposed to these extreme events and climate variabilities. Canadian Municipalities are faced with the responsibility to protect their local economy, citizens, environment, and physical assets.

1.4.1 Perth County Climate Profile

Perth County is situated in Southwestern Ontario, nestled between Lake Huron and Lake Ontario. The county is expected to experience notable effects of climate change, which include higher average annual temperatures, an increase in total annual precipitation, and a rise in the frequency and severity of extreme weather events. According to ClimateData.ca – a collaboration supported by Environment and Climate Change Canada (ECCC) – Perth County may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 6.8 ºC
- Under a high emissions scenario, the annual average temperatures are projected to increase to 9.3 ºC by the year 2050 and over 13.2 ºC by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Perth County is projected to experience a 12% increase in precipitation by the year 2050 and a 16% increase by the end of the century.

Increase in Frequency of Extreme Weather Events:

- In some areas, extreme weather events will occur with greater frequency and severity than others.

1.4.2 Integration of Climate Change and Asset Management

Asset management practices aim to deliver sustainable service delivery - the delivery of services to residents today without compromising the services and well-being of future residents. Climate change threatens sustainable service delivery by reducing the useful life of an asset and increasing the risk of asset failure. Desired levels of service can be more difficult to achieve due to climate change impacts such as flooding, high heat, drought, and more frequent and intense storms.

To achieve the sustainable delivery of services, climate change considerations should be incorporated into asset management practices. The integration of asset management and climate change adaptation observes industry best practices and enables the development of a holistic approach to risk management

1.5 Ontario Regulation 588/17

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

The diagram below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

2019

Strategic Asset Management Policy

2022

Asset Management Plan for Core Assets with the following components:

1. Current levels of service
2. Inventory analysis
3. Lifecycle activities to sustain LOS
4. Cost of lifecycle activities
5. Population and employment forecasts
6. Discussion of growth impacts

2024

Asset Management Plan for Core and Non-Core Assets

2025

Asset Management Policy Update and an
Asset Management Plan for All Assets with the following additional components:

1. Proposed levels of service for next 10 years
2. Updated inventory analysis
3. Lifecycle management strategy
4. Financial strategy and addressing shortfalls
5. Discussion of how growth assumptions impact lifecycle and financial strategies

1.5.1 O. Reg. 588/17 Compliance Review

The following table identifies the requirements outlined in Ontario Regulation 588/17 for municipalities to meet by July 1, 2024. Next to each requirement a page or section reference is included in addition to any necessary commentary.

Requirement	O. Reg. Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	4.1.1 - 5.4.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	4.1.1 - 5.4.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	4.1.3 - 5.4.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	4.1.2 – 5.4.2	Complete
Description of County's approach to assessing the condition of assets in each category	S.5(2), 3(v)	4.1.2 – 5.4.2	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	4.1.7 - 5.4.7	Complete
Current performance measures in each category	S.5(2), 2	4.1.7 - 5.4.7	Complete
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	4.1.4 - 5.2.4	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	Appendix A	Complete
Growth assumptions	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	6.1-6.2	Complete

2 Scope and Methodology

Key Insights

- This asset management plan includes 6 tax funded asset categories
- The source and recency of replacement costs impacts the accuracy and reliability of asset portfolio valuation
- Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life

2.1 Asset categories included in this AMP

This asset management plan for Perth County is produced in compliance with Ontario Regulation 588/17. The July 2024 deadline under the regulation requires analysis of both core and non-core assets.

This AMP summarizes the state of the infrastructure for the County's asset portfolio, establishes current levels of service and the associated technical and customer oriented key performance indicators (KPIs), outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to reach sustainability for the asset categories listed below.

Asset Category	Source of Funding
Bridges and Culverts	Tax Levy & Sustainable Funding Sources From Other Levels of Government
Computer Systems	
Facilities	
Fleet	
Machinery and Equipment	
Road Network	

2.2 Deriving Replacement Costs

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

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

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the County incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.3 Estimated Useful Life

The estimated useful life (EUL) of an asset is the period over which the County expects the asset to be available for use and remain in service before requiring replacement or disposal. The EUL for each asset in this AMP was assigned according to the knowledge and expertise of County staff and supplemented by existing industry standards when necessary.

2.4 Reinvestment Rate

As assets age and deteriorate, they require additional investment to maintain a state of good repair. The reinvestment of capital funds, through asset renewal or replacement, is necessary to sustain an adequate level of service. The reinvestment rate is a measurement of available or required funding relative to the total replacement cost.

By comparing the actual vs. target reinvestment rate the County can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

$$Target\ Reinvestment\ Rate = \frac{Annual\ Capital\ Requirement}{Total\ Replacement\ Cost}$$

$$Actual\ Reinvestment\ Rate = \frac{Annual\ Capital\ Funding}{Total\ Replacement\ Cost}$$

2.5 Deriving Asset Condition

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

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the County's asset portfolio. The table below illustrates a typical condition rating system applied to determine asset condition. This rating system is aligned with the Canadian Core Public Infrastructure Survey which is used to develop the Canadian Infrastructure Report Card. When assessed condition data is not available, service life remaining is used to approximate asset condition.

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

The analysis in this AMP is based on assessed condition data only as available. In the absence of assessed condition data, asset age is used as a proxy to determine asset condition. Appendix B includes additional information on the role of asset condition data and provides basic guidelines for the development of a condition assessment program.

3 Portfolio Overview

Key Insights

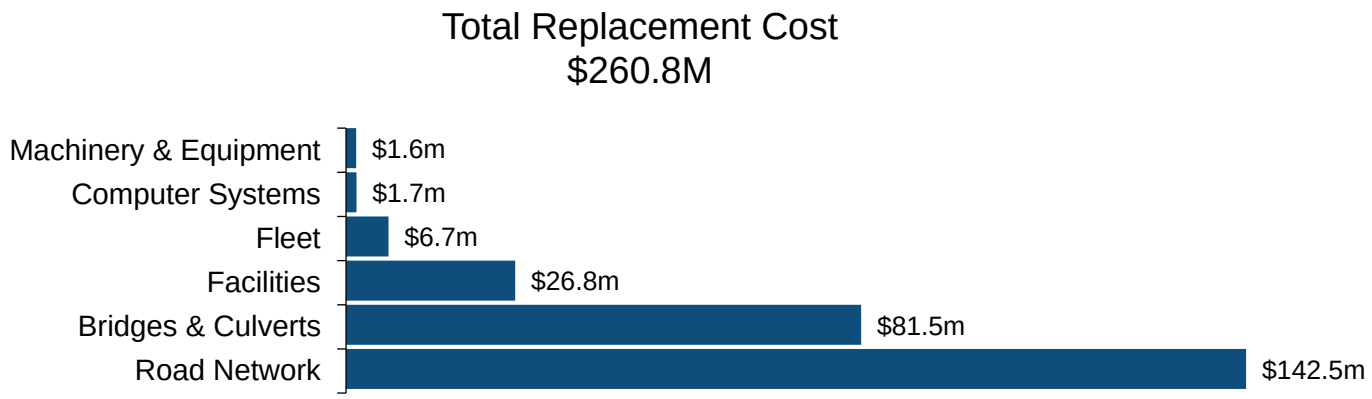
- The total replacement cost of the County's asset portfolio is $261 million
- The County's target re-investment rate is 3.2%, and the actual re-investment rate is 2.7%, contributing to an expanding infrastructure deficit
- 71% of all assets are in fair or better condition
- Average annual capital requirements total $8.4 million per year across all assets

3.1 State of the Infrastructure Summary

Asset Category	Replacement Cost	Average Condition	Financial Capacity	
Road Network	$142.5 M	64%	Annual Requirement:	$5,138,000
			Funding Available:	$4,642,000
			Annual Deficit:	**$496,000**
Bridges and Culverts	$81.5 M	66%	Annual Requirement:	$1,487,000
			Funding Available:	$840,000
			Annual Deficit:	**$647,000**
Facilities	$26.8 M	54%	Annual Requirement:	$754,000
			Funding Available:	$494,000
			Annual Deficit:	**$260,000**
Machinery and Equipment	$1.6 M	47%	Annual Requirement:	$80,000
			Funding Available:	$155,000
			Annual Deficit:	**($75,000)**
Computer Systems	$1.7 M	51%	Annual Requirement:	$196,000
			Funding Available:	$170,000
			Annual Deficit:	**$26,000**
Fleet	$6.7 M	70%	Annual Requirement:	$709,000
			Funding Available:	$654,000
			Annual Deficit:	**$55,000**
Overall	$ 260.8 M	**63%**	Annual Requirement:	$8,364,000
			Funding Available:	$6,955,000
			Annual Deficit:	**$1,409,000**

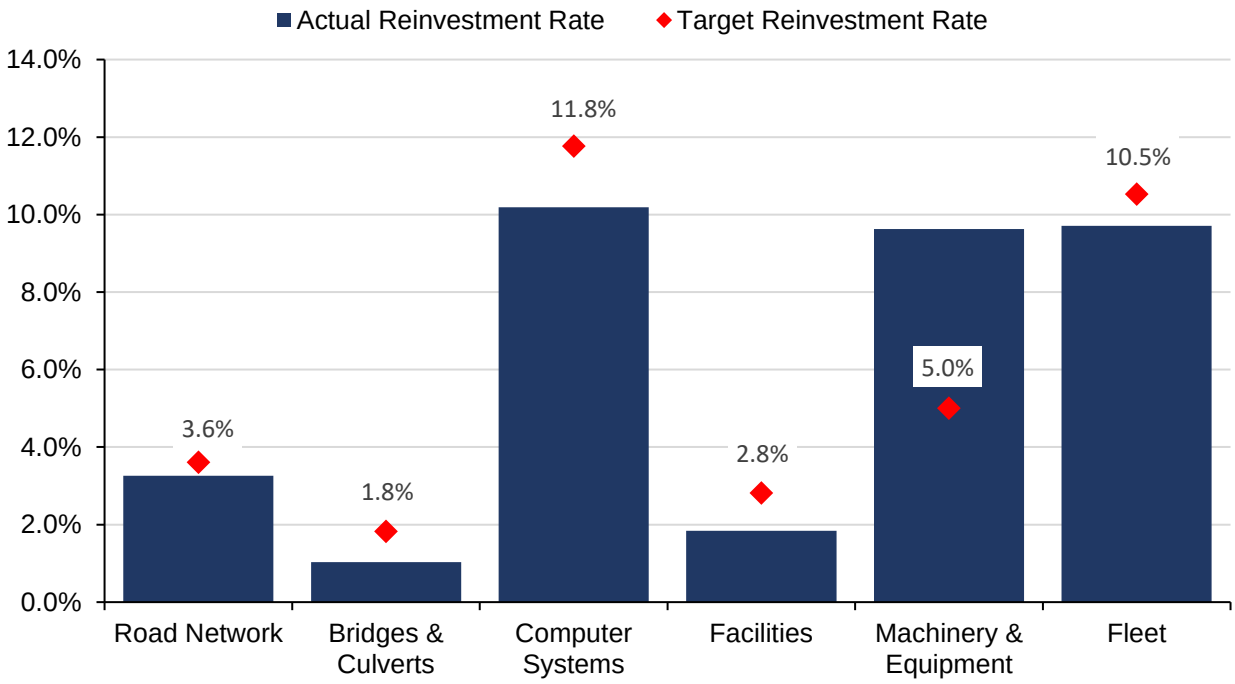
3.2 Total Replacement Cost of Asset Portfolio

The asset categories analyzed in this AMP have a total replacement cost of $260.8 million based on inventory data from 2023. This total was determined based on a combination of user-defined costs and historical cost inflation. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today.



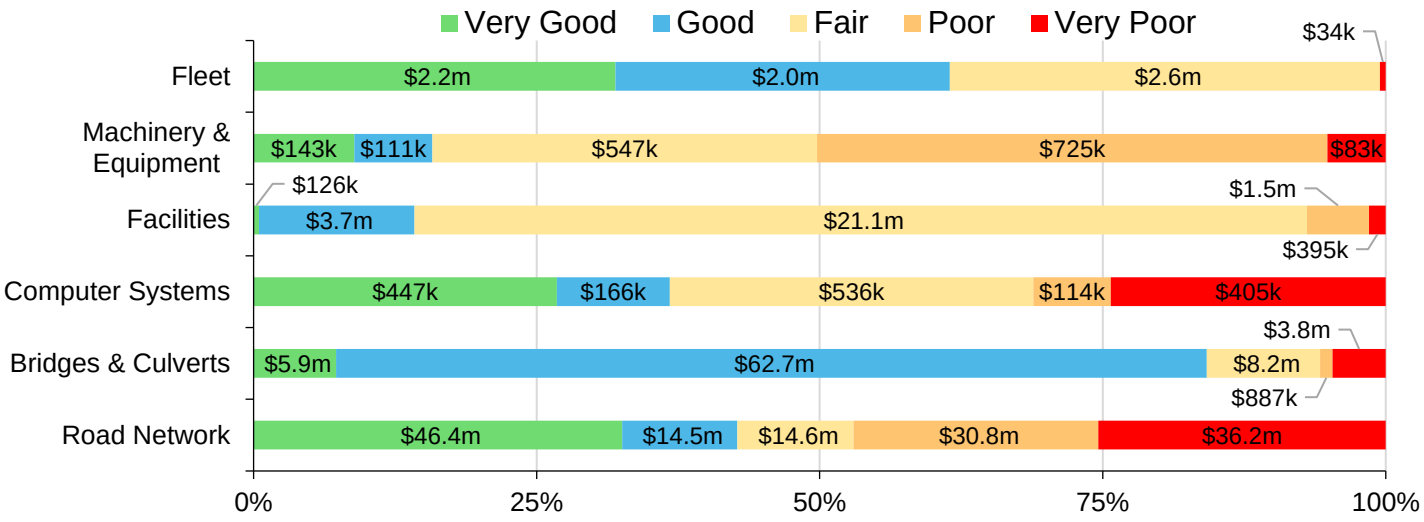
3.3 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. To meet the long-term replacement needs, the County should be allocating approximately $8.4 million annually, for a target reinvestment rate of 3.2%. Actual annual spending on infrastructure totals approximately $7.0 million, for an actual reinvestment rate of 2.7%.



3.4 Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 71% of assets in Perth County are in fair or better condition. This estimate relies on both age-based and field condition data.



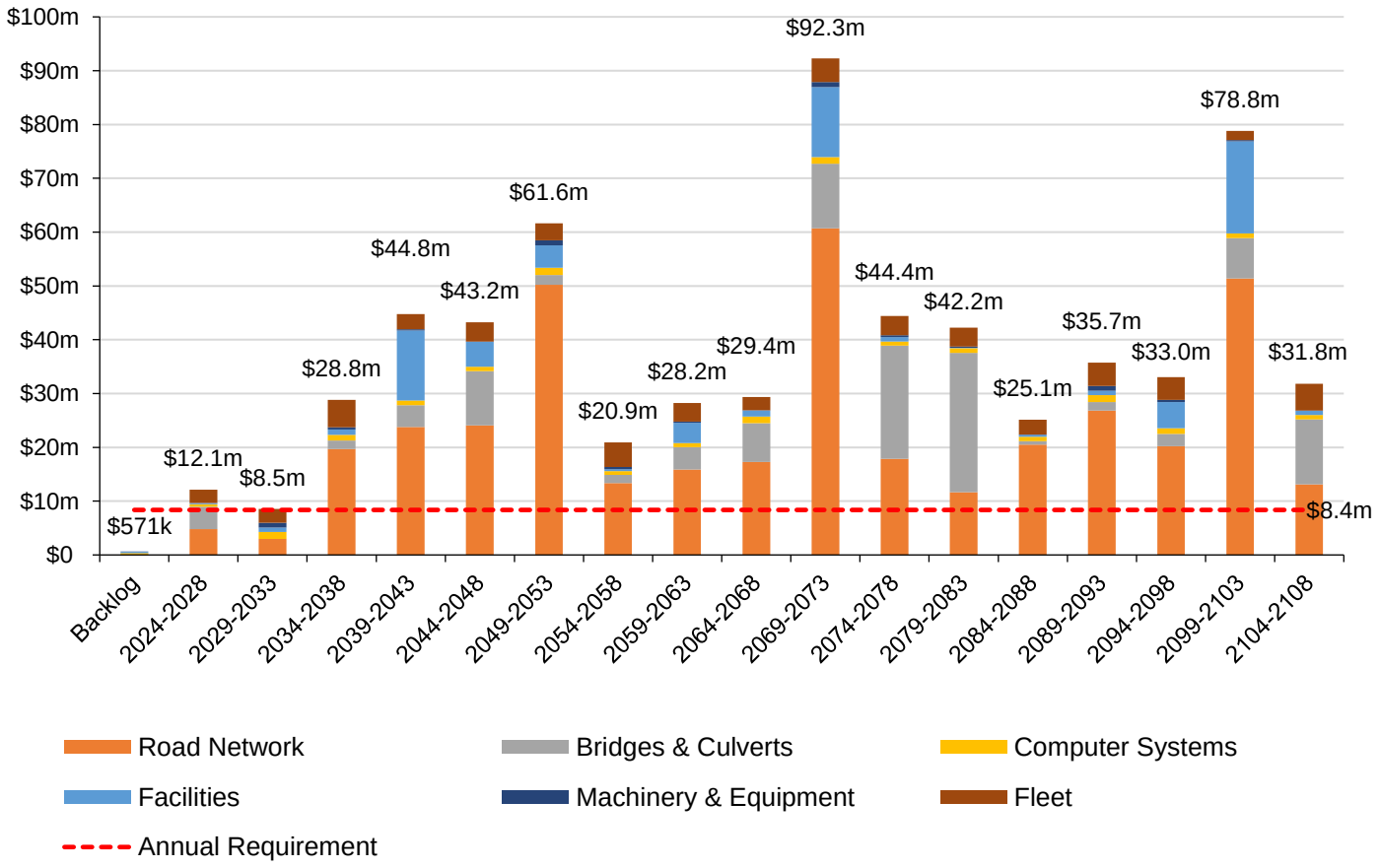
This AMP relies on assessed condition data for 92% of assets; for the remaining portfolio, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. The table below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment	% Of Assets with Assessed Condition	Source of Condition Data
Road Network	All	88%	Road Needs Study
Bridges and Culvets	All	100%	OSIM Report
Facilities	All	97%	Internal Assessments
Machinery and Equipment	All	79%	Internal Assessments
Computer Systems	All	29%	Internal Assessments
Fleet	All	97%	Internal Assessments
		92%	

3.5 Forecasted Capital Requirements

The development of a long-term capital forecast should include both asset rehabilitation and replacement requirements. With the development of asset-specific lifecycle strategies that include the timing and cost of future capital events, the County can produce an accurate long-term capital forecast.

The annual capital requirement represents the average amount per year that the County should allocate towards funding rehabilitation and replacement needs to meet future capital needs. The following graph identifies capital requirements over the next 80 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments.



4 State of Local Infrastructure Core Assets

Key Insights

- Core infrastructure categories represented in this AMP include the road network, and bridges and culverts
- Core infrastructure assets are valued at $224 million
- 68% of core infrastructure assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for core infrastructure assets is approximately $6.6 million

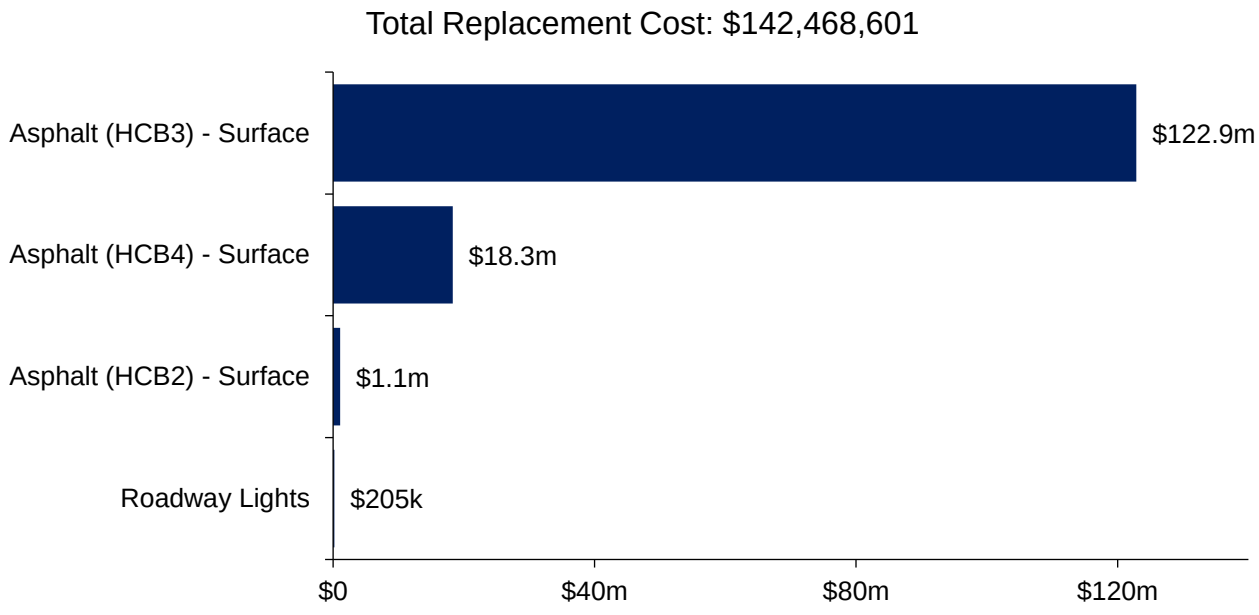
4.1 Road Network

The Road Network is a critical component of the provision of safe and efficient transportation services and represents the highest value asset category in the County's asset portfolio. It includes all County owned and maintained roadways in addition to supporting roadside infrastructure including roadway lighting.

4.1.1 Asset Inventory & Replacement Cost

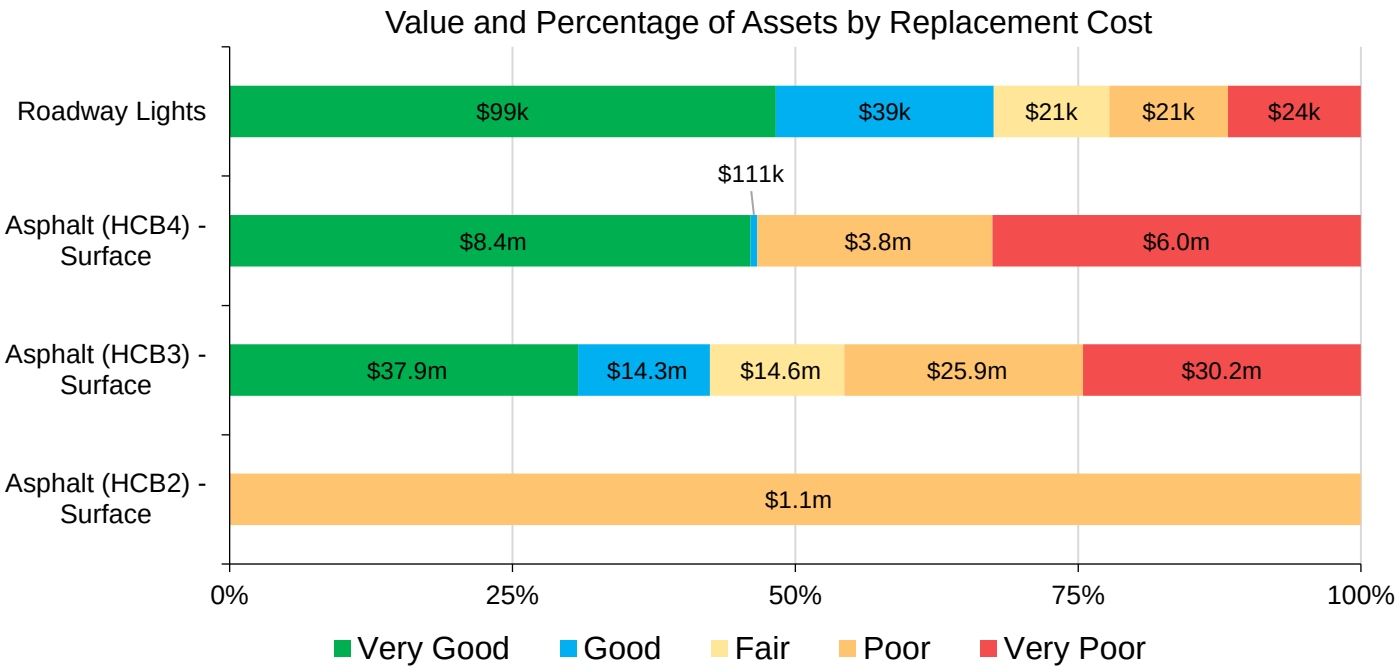
The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the County's road network inventory.

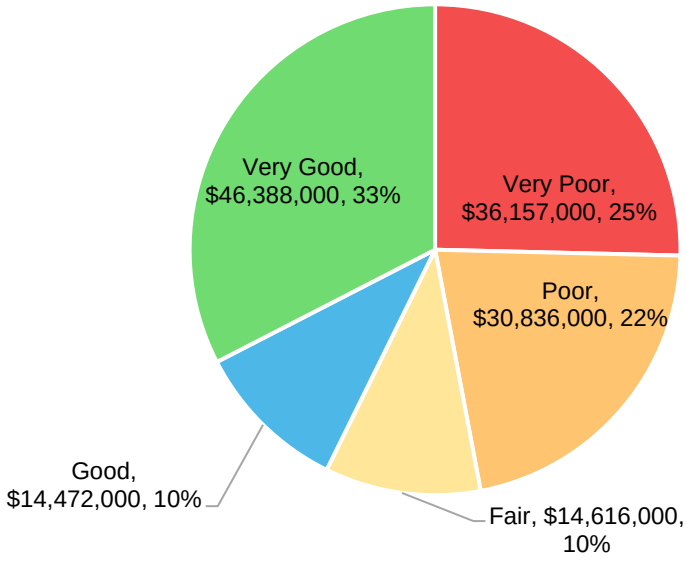
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Asphalt (HCB2) – Surface	3.68 kms	CPI Tables	$1,077,000
Asphalt (HCB3) – Surface	421.60 kms	CPI Tables	$122,867,000
Asphalt (HCB4) – Surface	63.27 kms	CPI Tables	$18,320,000
Roadway Lights	27	CPI Tables	$205,000
			$142,469,000



4.1.2 Asset Condition

The graphs below visually illustrate the average condition for each asset segment on a very good to very poor scale.





Current Approach to Condition Assessment

The following describes the County's current approach:

- The most recent Road Needs Study was completed in April of 2022 by 4 Roads Management Services. The study includes pertinent details on road

assets including assessed condition, AADT, MMS service class, surface material, replacement cost, etc.
- External studies are conducted on a biennial basis

The following rating criteria, is used to determine the current condition of HCB2 and HCB3 road segments and forecast future capital requirements:

Condition	Rating
Very Good	95 – 100
Good	75 – 94
Fair	60 – 74
Poor	40 – 59
Very Poor	0 – 39

The following rating criteria, is used to determine the current condition of HCB4 road segments and forecast future capital requirements:

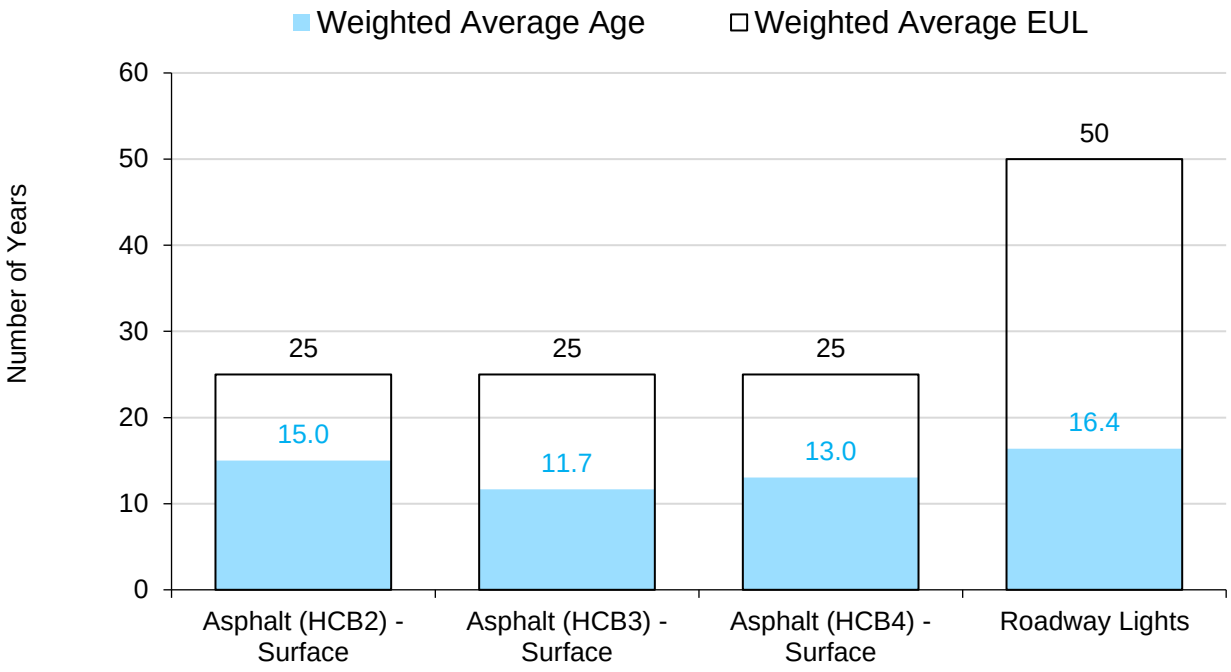
Condition	Rating
Very Good	90 – 100
Good	75 – 89
Fair	60 – 74
Poor	40 – 59
Very Poor	0 – 39

The following rating criteria, is used to determine the current condition of roadway lighting and forecast future capital requirements:

Condition	Rating
Very Good	80 – 100
Good	60 – 79
Fair	40 – 59
Poor	20 – 39
Very Poor	0 – 19

4.1.3 Estimated Useful Life & Average Age

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



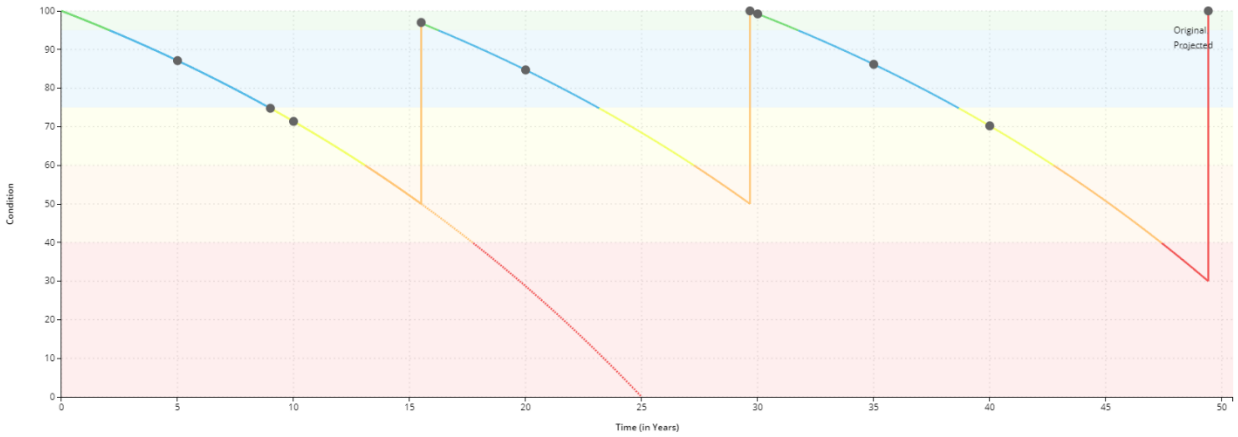
Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.1.4 Lifecycle Management Strategy

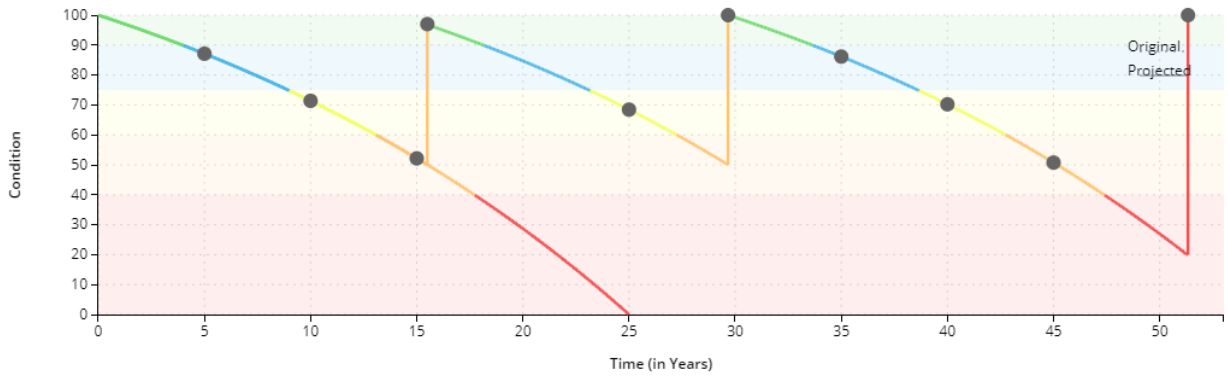
The following lifecycle strategies in the tables below have been documented to illustrate the maintenance and rehabilitation required to keep roads in a good state of repair.

HCB2 & HCB3 Roads		
Event Name	**Event Class**	**Event Trigger**
Crack Sealing	Preventative Maintenance	5 Years
Crack Sealing	Preventative Maintenance	9 Years
Microsurfacing	Maintenance	10 Years

Resurfacing – Single Lift	Rehabilitation	PCI 50
Crack Sealing	Preventative Maintenance	20 Years
Mill & Resurfacing – Double Lift	Rehabilitation	PCI 50
Crack Sealing	Preventative Maintenance	30 Years
Crack Sealing	Preventative Maintenance	35 Years
Crack Sealing	Preventative Maintenance	40 Years
Asset Replacement	Replacement	PCI 30

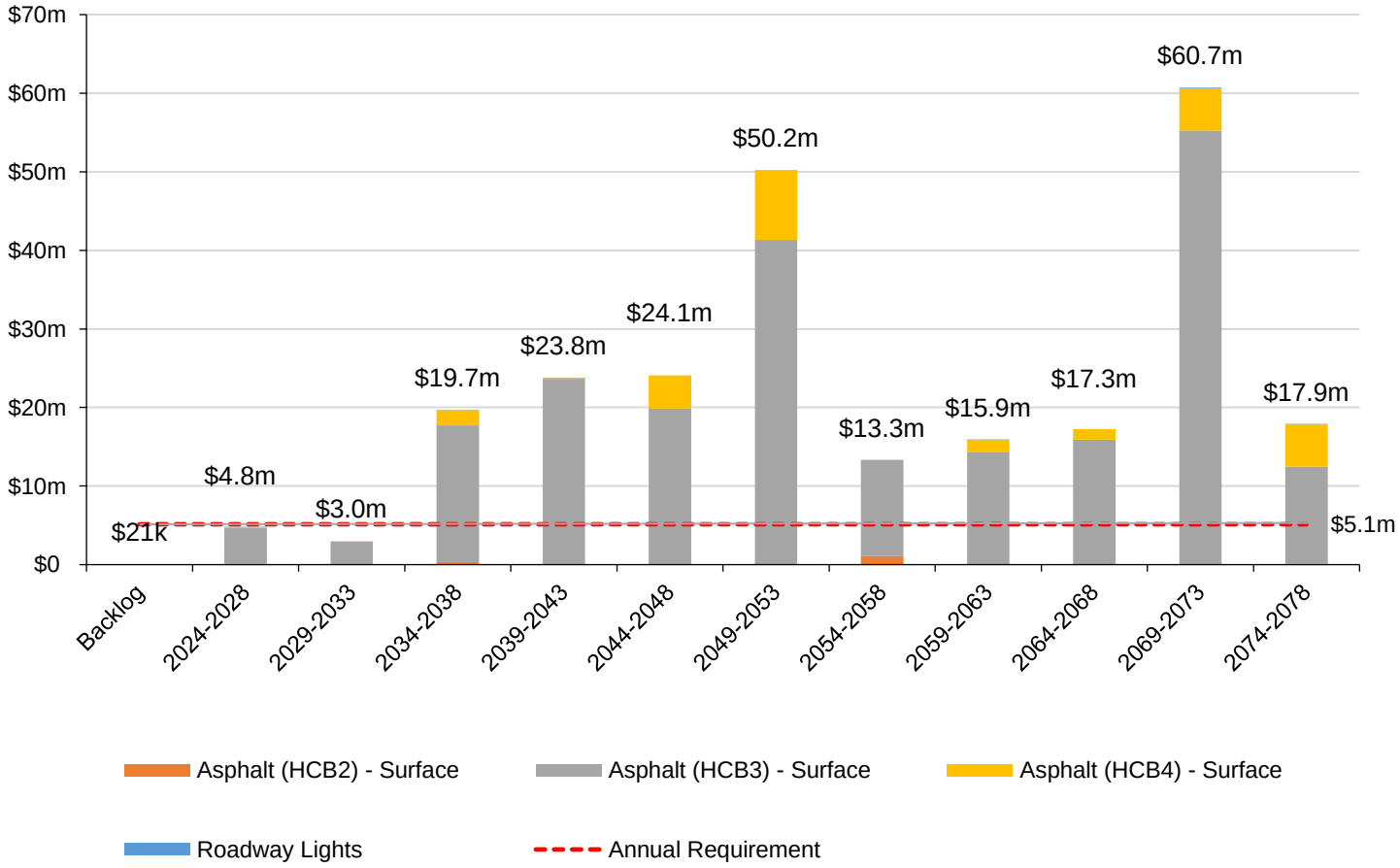


HCB4 Roads		
Event Name	**Event Class**	**Event Trigger**
Crack Sealing	Preventative Maintenance	5 Years
Crack Sealing	Preventative Maintenance	10 Years
Microsurfacing	Maintenance	15 Years
Resurfacing – Single Lift	Rehabilitation	PCI 50
Crack Sealing	Preventative Maintenance	25 Years
Mill & Resurfacing – Double Lift	Rehabilitation	PCI 50
Crack Sealing	Preventative Maintenance	35 Years
Crack Sealing	Preventative Maintenance	40 Years
Crack Sealing	Preventative Maintenance	45 Years
Asset Replacement	Replacement	PCI 20-30



4.1.5 Forecasted Capital Requirements

Based on the lifecycle strategies identified previously for the County's road network the graphs below, illustrates capital requirements over the next 55 years. This projection is used as it ensures that every asset has gone through at least one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments and the trend line represents the average annual capital requirement.

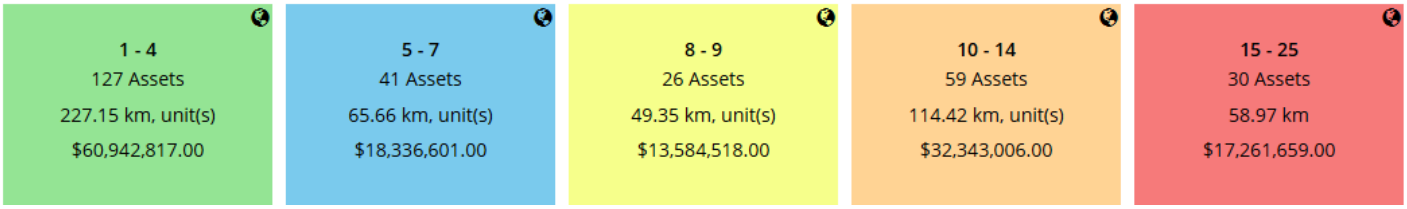


The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.1.6 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in the table below, to determine the risk rating of each road asset.



Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Road Surface Material (Economic)
	MMS Service Class (Operational)
	AADT Range (Social)
	Roadside Environment (Social)
	Road Speed Range (Health and Safety)

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the County is currently facing:

Climate Change & Extreme Weather Events

An increase in the frequency and intensity of precipitation events can result in flooding of sections of the road network. Further issues can arise because of flooding and poor drainage including accelerated deterioration caused by freeze/thaw cycles. To improve asset resiliency, staff should identify problem areas and improve drainage through enhanced lifecycle strategies.

Organizational Capacity and Community Expectations

Staff find it a continuous challenge to dedicate staff resource time towards data collection and ongoing maintenance activities while maintaining public expectations. Striking an appropriate balance of various community expectations for road services at an acceptable cost poses an ongoing challenge for staff.

Capital Funding

Funding continues to be an ongoing challenge regarding the overall maintenance of the road network. Internal staff have identified the increase of construction and labour costs having a negative impact. With higher community expectations, increased traffic volume, and overall growth, the County should look to review and streamline lifecycle strategies as a means ensure that the lack of capital funding does not greatly impact its level of service.

4.1.7 Levels of Service

The following tables identify the County's current level of service for the road network. These metrics include the community and technical level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the County has selected for this AMP.

Community Levels of Service

The table below outlines the qualitative descriptions that determine the community levels of service provided by the Road Network.

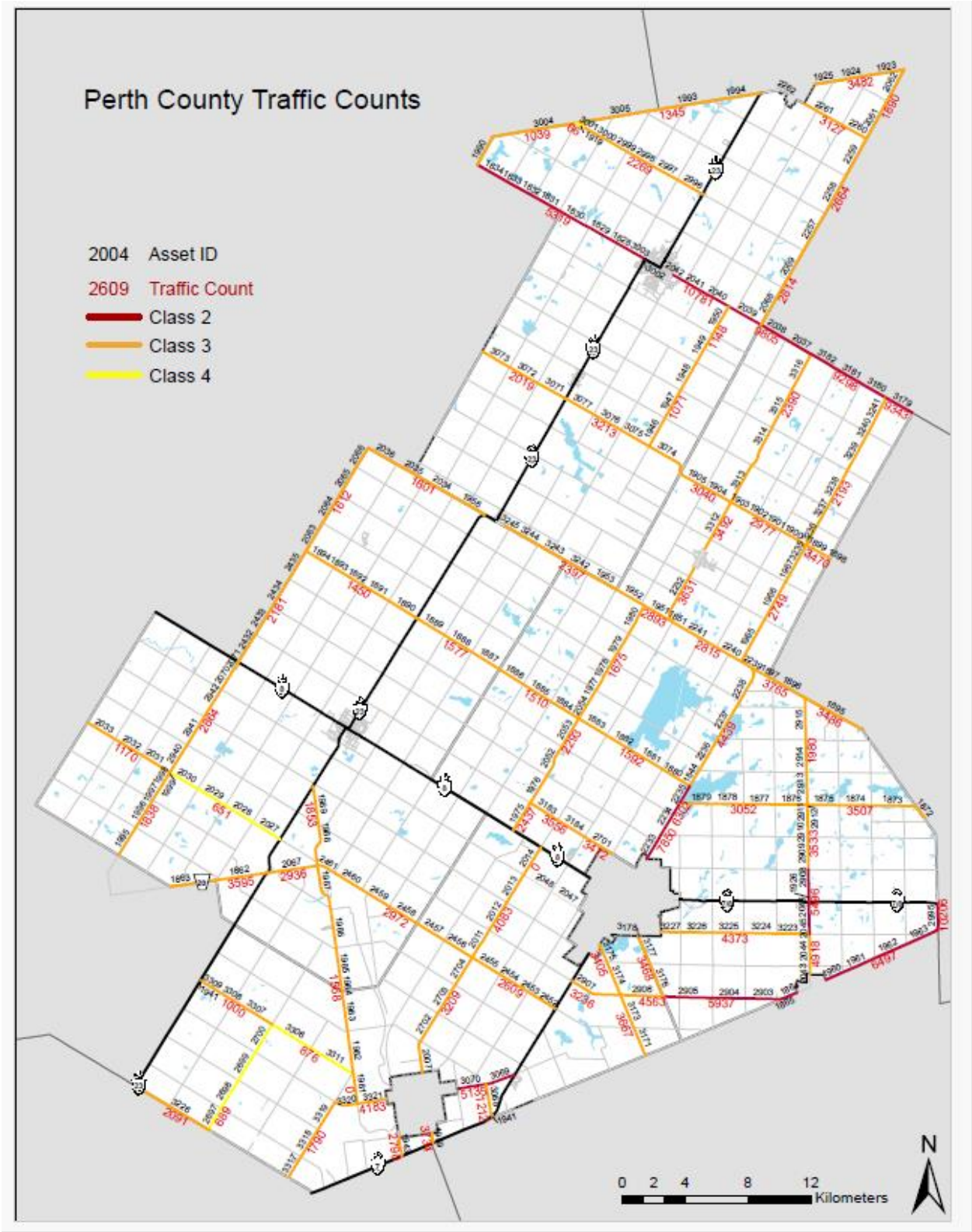
Service Attribute	Qualitative Description	Current LOS (2023)
Availability	Description, which may include maps, of the road network in the County and its level of connectivity	The County's road network is critical infrastructure that supports multi-model transporation including commercial and personal transportation, emergency vehicles, agricultural machinery, and cyclists.
Performance	Description, images, or map that illustrate the different levels of road class pavement condition	A Road Needs Study was conducted in 2022 by 4 Roads Management Services Inc. that provides pertinent details on each road

	owned and maintained by the County, including road classes. Perth County's road network can be seen below.

Technical Levels of Service

The table below outlines the quantitative metrics that determine the technical level of service provided by the Road Network.

Service Attribute	Technical Metric	Current LOS (2023)
Availability	Lane-km of MMS classes 1 and 2 per land area (km/km^2)	0.051
	Lane-km of MMS classes 3 and 4 per land area (km/km^2)	0.402
	Lane-km of MMS classes 5 and 6 per land area (km/km^2)	0.003
Reliability	Average pavement condition index for paved roads in the County	64%
	Average surface condition for unpaved roads in the County (e.g., excellent, good, fair, poor)	N/A
Sustainability	Capital reinvestment rate	3.3%


Perth County Traffic Counts
2004 Asset ID
2609 Traffic Count
Class 2
Class 3
Class 4
0 2 4 8 12
Kilometers
N

4.1.8 Recommendations

Asset Inventory

- The County should continue updating its asset inventory to ensure it is as accurate and up to date as possible

Condition Assessment Strategies

- As scheduled condition assessments are conducted, the County should allocate resources to updating and maintaining its asset data

Lifecycle Management Strategies

- Continuously refine the identified lifecycle management strategies to realize potential cost avoidance and maintain a high quality of road pavement condition.
- Evaluate the efficacy of the County's lifecycle management strategies at regular intervals to determine the impact cost, condition, and risk. This could be done by updating the condition assessment data whenever new data becomes available and rerunning the capital projections and risk reports.

Risk Management Strategies

- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that the County believes to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

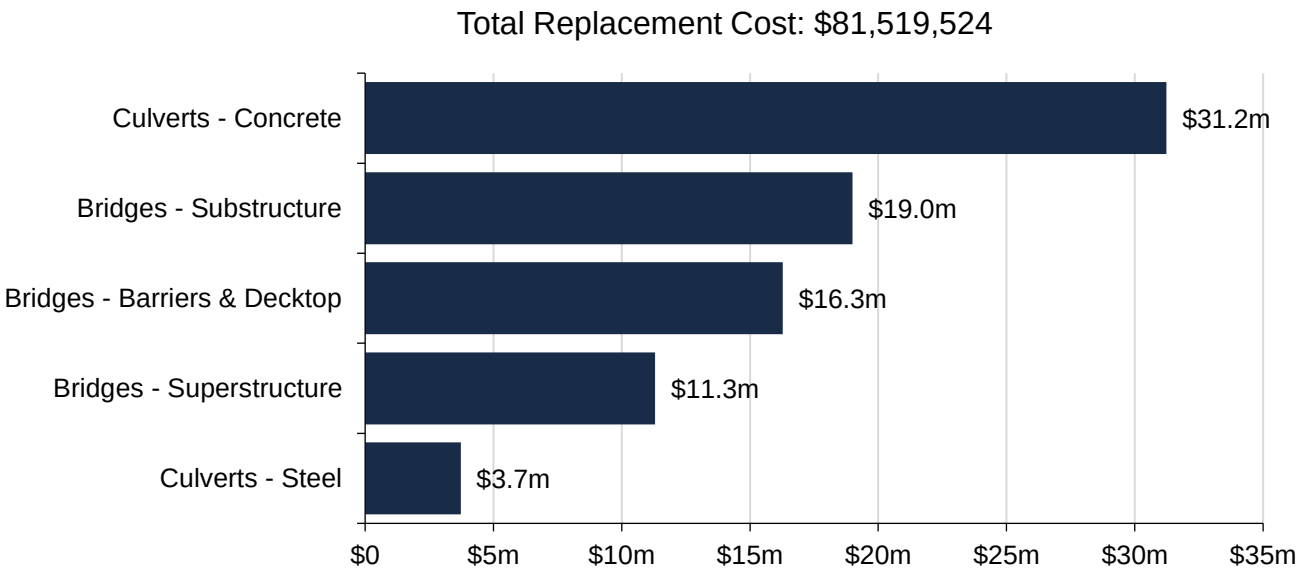
4.2 Bridges and Culverts

Bridges and Culverts (over 3m) represent a critical portion of the transportation services provided to the community. Perth County is responsible for the maintenance of all bridges and culverts located across county roads, with the goal of keeping structures in an adequate state of repair and minimizing service disruptions.

4.2.1 Asset Inventory & Replacement Cost

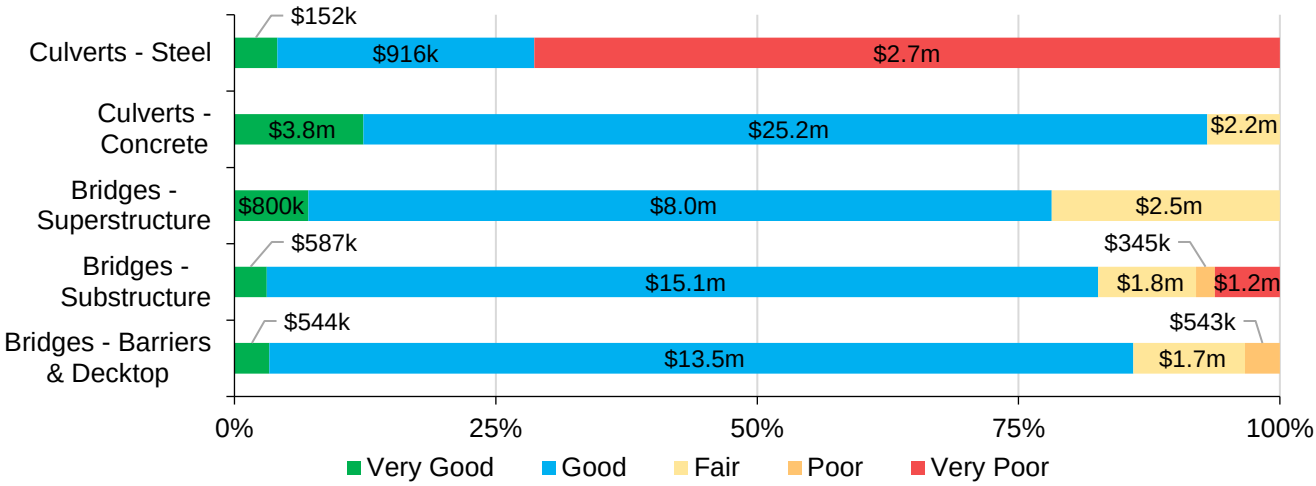
The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the County's bridges and culverts inventory.

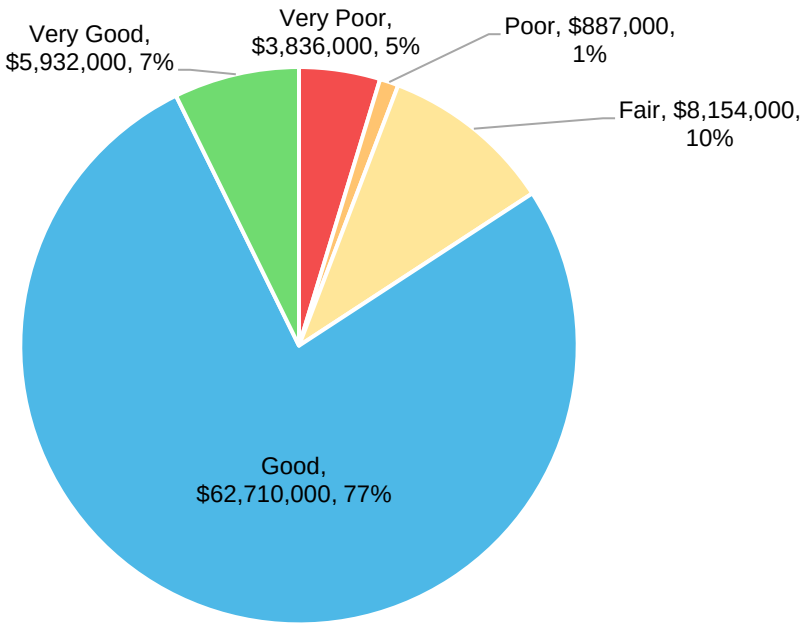
Asset Segment	Quantity (Components)	Replacement Cost Method	Total Replacement Cost
Bridges – Barriers & Decktop	43	CPI Tables	$16,276,000
Bridges – Substructure	43	CPI Tables	$18,992,000
Bridges – Superstructure	43	CPI Tables	$11,298,000
Culverts – Concrete	68	CPI Tables	$31,227,000
Culverts – Steel	11	CPI Tables	$3,726,000
			$81,520,000



4.2.2 Asset Condition

The graphs below visually illustrate the average condition for each asset segment on a very good to very poor scale.





Current Approach to Condition Assessment

The following describes the County's current approach:

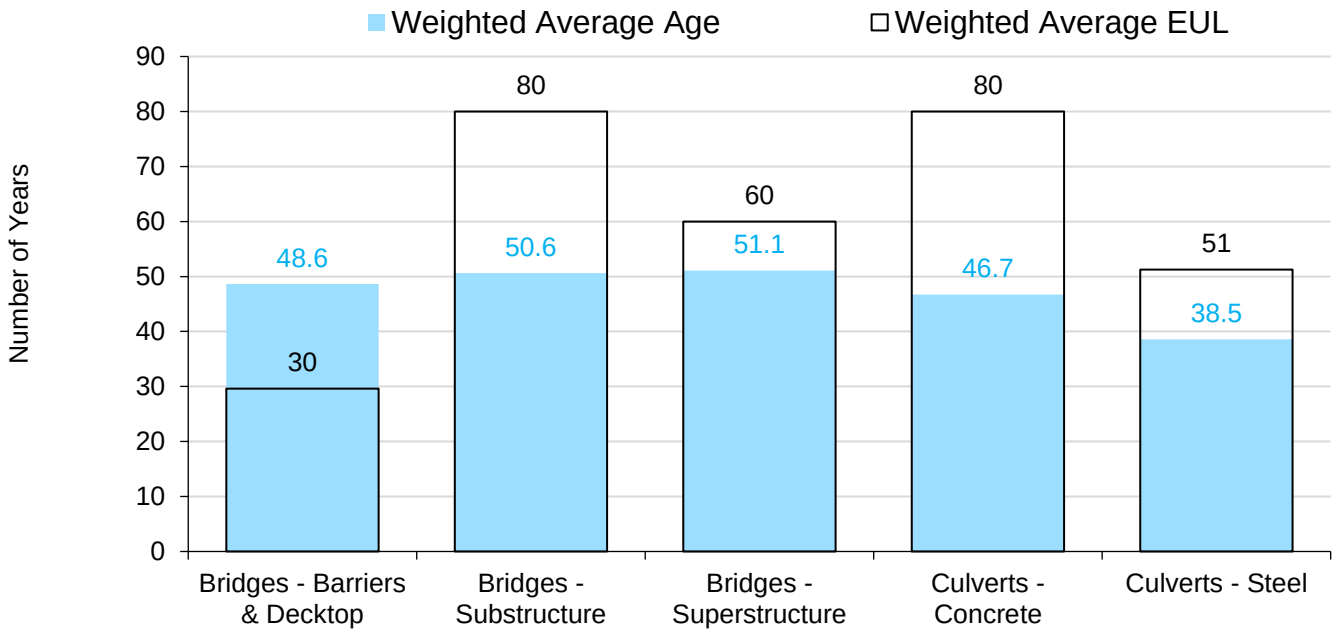
- Condition assessments of all bridges and culverts with a span greater than or equal to 3 meters are completed every 2 years in accordance with the Ontario Structure Inspection Manual (OSIM)
- Culverts with a span less than 3 meters are subject to internal condition assessments every 4 years

In this AMP, the following rating criteria is used to determine the current condition of bridges and culverts and forecast future capital requirements:

Condition	Rating
Very Good	80 – 100
Good	60 – 79
Fair	40 – 59
Poor	20 – 39
Very Poor	0 – 19

4.2.3 Estimated Useful Life & Average Age

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



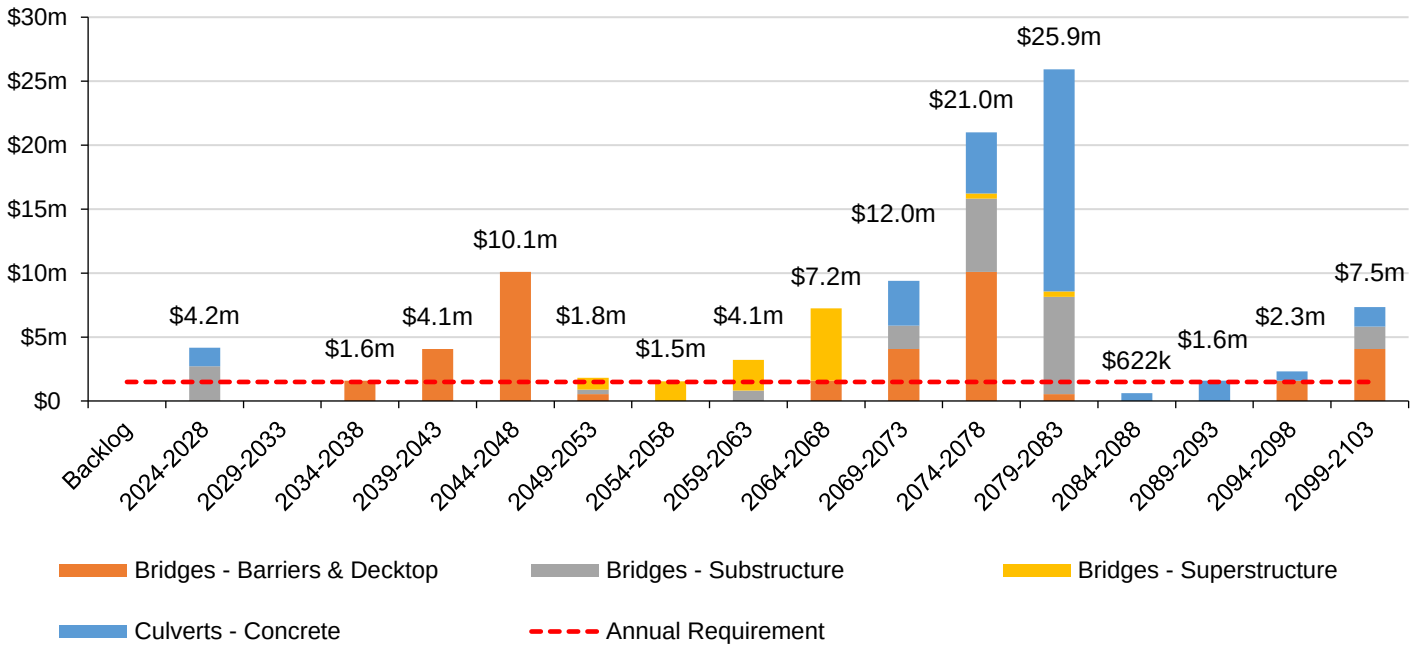
4.2.4 Lifecycle Management Strategy

The table below outlines the County's current lifecycle management strategy for bridges and culverts.

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation and Replacement	All lifecycle activities are driven by the results of mandated structural inspections competed according to the Ontario Structure Inspection Manual (OSIM)
Inspection	The most recent inspection report was completed in 2024 by GM BluePlan Engineering Limited

4.2.5 Forecasted Capital Requirements

The graph below illustrates capital requirements over the next 80 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments and the trend line represents the average annual capital requirement.

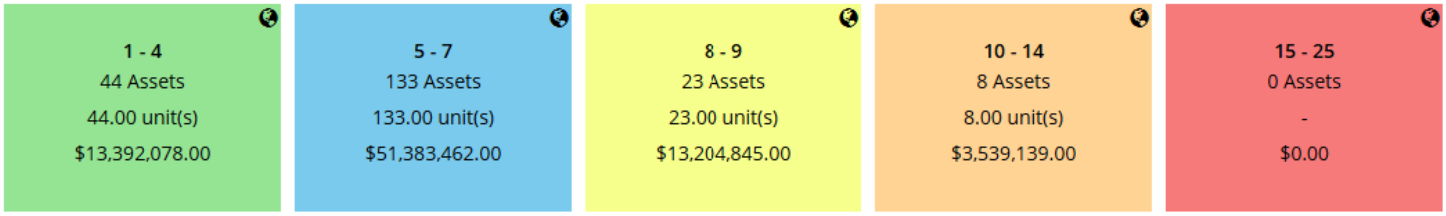


The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

4.2.6 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in the table below, to determine the risk rating of each bridge & culvert asset.



Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Service Life Remaining (Years)	AADT (Social)

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the County is currently facing:

Aging Infrastructure
As County bridges and culverts continue to age, there are a handful of structures that are approaching their original useful life. While scheduled biennial inspections ensure that structures are safe and operable, there may be the need to complete major rehabilitation projects at the same time.

Climate Change & Extreme Weather Events
Flooding and extreme weather causes damage to multiple components of the County's bridges including the deck, superstructure, substructure, and approaches. The rising levels of freshwater and the increased frequency and intensity of precipitation events are likely to increase the deterioration of bridge components. Staff should identify and monitor effected bridges and culverts.

4.2.7 Levels of Service

The following tables identify the County's current level of service for bridges and culverts. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the County has selected for this AMP.

Community Levels of Service

The table below outlines the qualitative descriptions that determine the community levels of service provided by bridges and culverts.

Service Attribute	Qualitative Description	Current LOS (2023)
Availability	Description of the traffic that is supported by County bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Bridges and structural culverts are a key component of the County's transportation network. There are no loading or dimensional restrictions on any structure, meaning that all types of vehicles, including heavy transport, motor vehicles, emergency vehicles, agricultural machinery, and cyclists can cross them without restriction.
Performance	Description or images of the condition of bridges and culverts and how this would affect use of the bridges and culverts	Every structure is given a condition rating from 0-100. Refer to sections 2.5 & 4.2.2.

Technical Levels of Service

The table below outlines the quantitative metrics that determine the technical level of service provided by bridges and culverts.

Service Attribute	Technical Metric	Current LOS (2023)
Availability	% Of bridges in the County with loading or dimensional restrictions	0%
Reliability	Average bridge condition index value for bridges in the County	66
	Average bridge condition index value for structural culverts in the County	66

4.2.8 Recommendations

Asset Inventory

- Continue to review and validate inventory data, assessed condition data and replacement costs for all assets upon the completion of OSIM inspections every 2 years.

Risk Management Strategies

- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Lifecycle Management Strategies

- This AMP only includes capital costs associated with the reconstruction of culverts. The Municipality should work towards identifying projected capital rehabilitation and renewal costs for culverts and integrating these costs into long-term planning.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that the Municipality believe to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

5 State of Local Infrastructure Non-core Assets

Key Insights

- Non-core asset categories represented in this AMP include facilities, machinery and equipment, computer systems and fleet
- Non-core infrastructure assets are valued at $36.8 million
- 91% of non-core assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for non-core infrastructure assets is approximately $1.7 million

5.1 Facilities

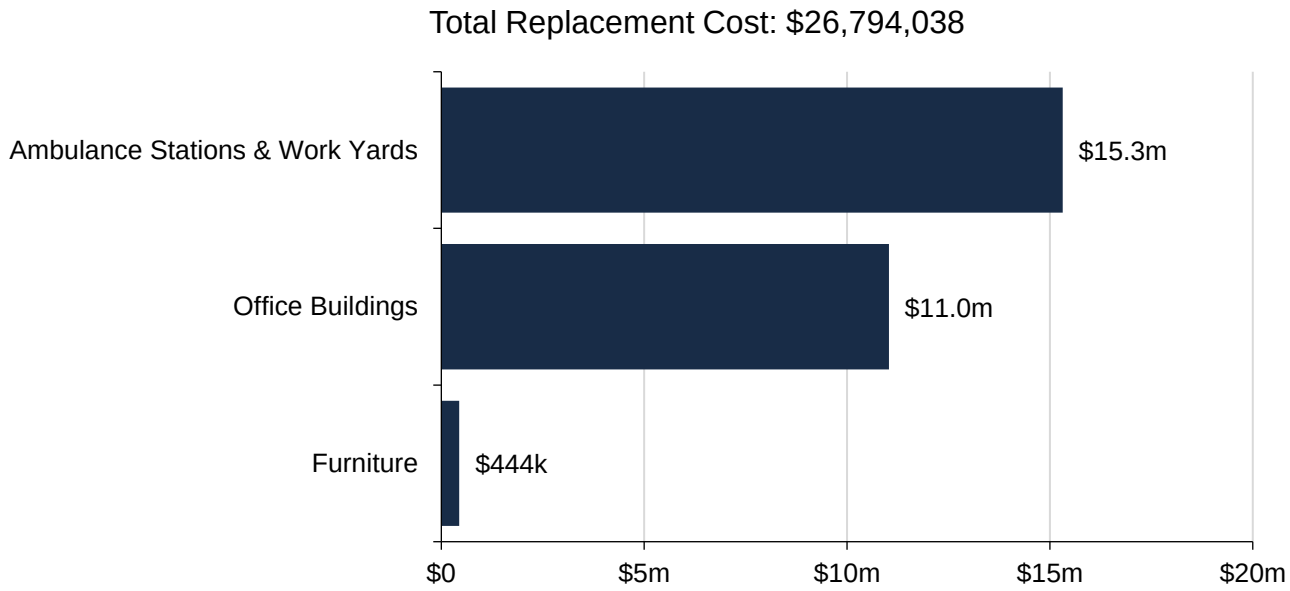
Perth County owns and maintains numerous buildings that provide key services to the community. These service area facilities include:

- paramedic services
- courthouse
- archives building
- registry office

5.1.1 Asset Inventory & Replacement Cost

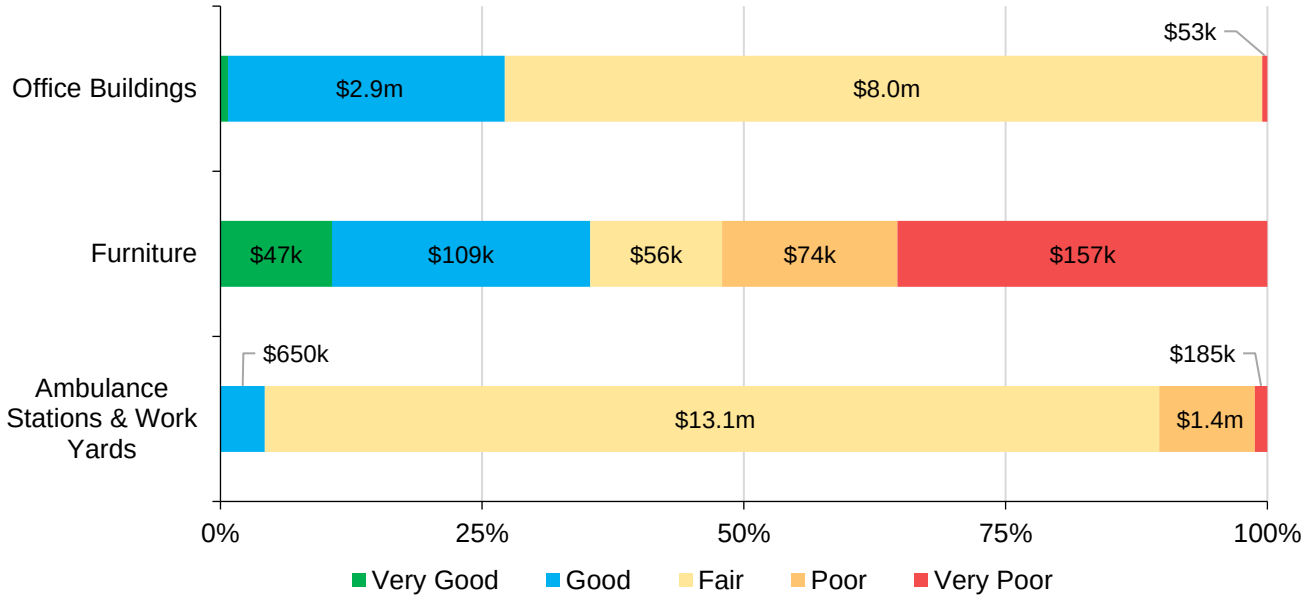
The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the County's facility inventory.

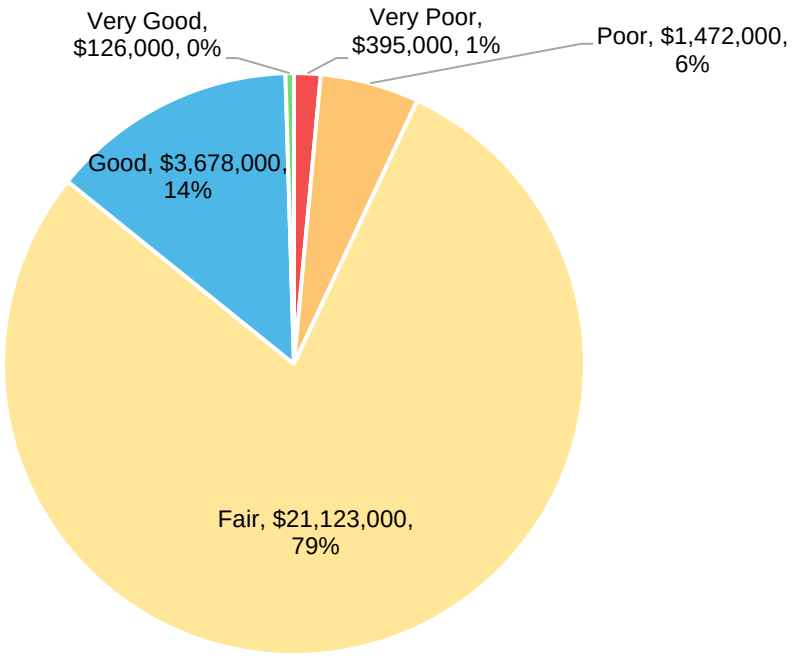
Asset Segment	Quantity (components)	Replacement Cost Method	Total Replacement Cost
Ambulance Stations & Work Yards	20	CPI Tables	$12,319,000
Furniture	303	CPI Tables	$444,000
Office Buildings	7	CPI Tables	$11,032,000
	330		**$23,892,929**



5.1.2 Asset Condition

The graphs below visually illustrate the average condition for each asset segment on a very good to very poor scale.





5.1.3 Current Approach to Condition Assessment

The following describes the County's current approach:

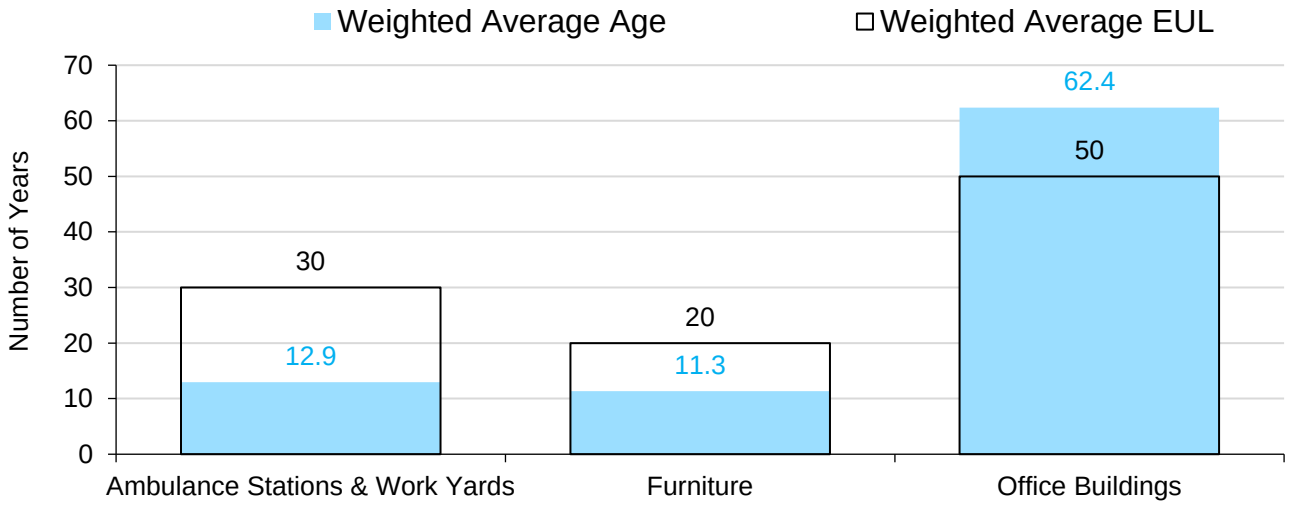
- While there is no official policy regarding the County's facilities, the most recent facility condition assessment was completed in 2017
- The County plans on conducting a portfolio-wide condition assessment of all facilities in 2025, with the intention of utilizing external resources on a 5-year cycle

In this AMP, the following rating criteria is used to determine the current condition facilities and forecast future capital requirements:

Condition	Rating
Very Good	80 – 100
Good	60 – 79
Fair	40 – 59
Poor	20 – 39
Very Poor	0 – 19

5.1.4 Estimated Useful Life & Average Age

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



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

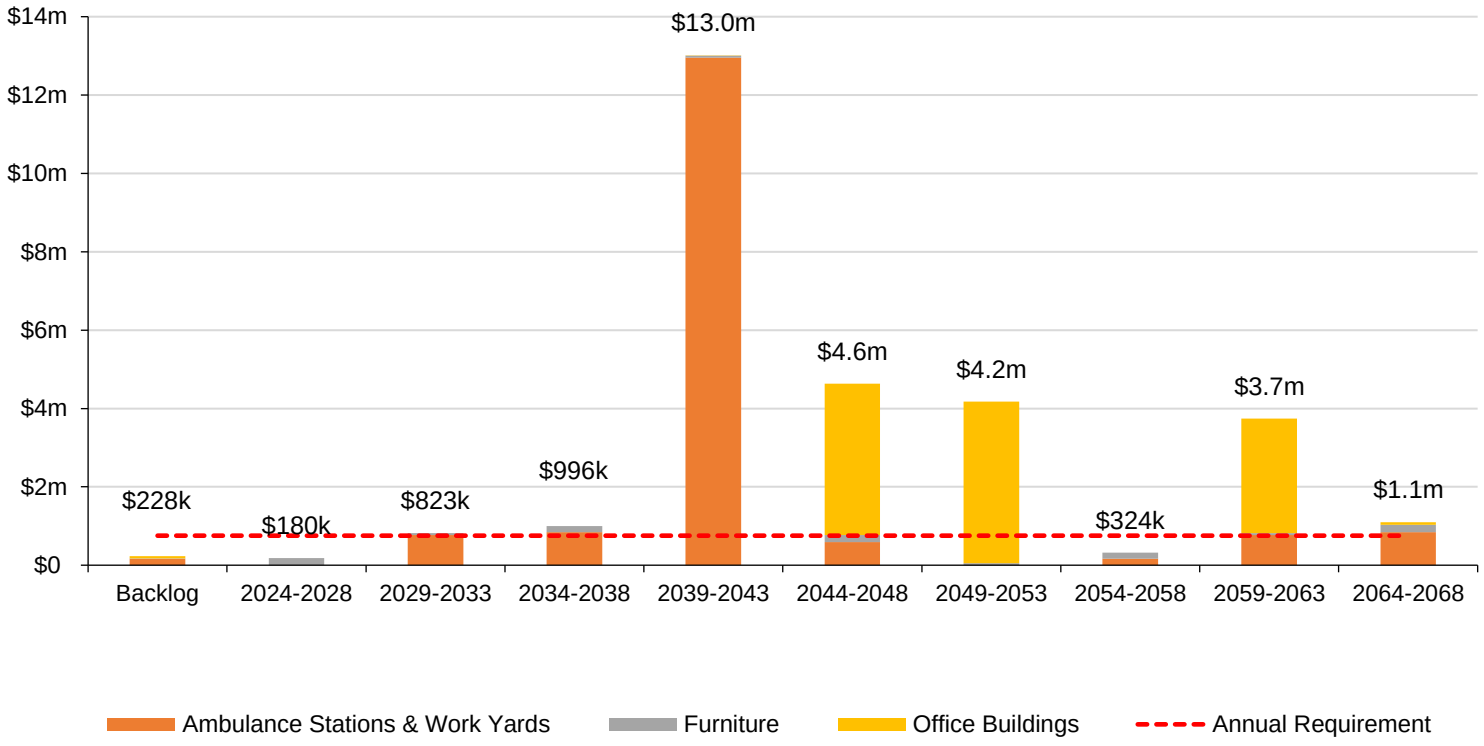
5.1.5 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration. The following table outlines the County's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation	Maintenance activities for buildings include HVAC systems, fire safety equipment, refrigeration needs, boilers, water heaters, and general upkeep. Routine maintenance is performed weekly for buildings where municipal staff work.
	Maintenance is initiated by identifying staff-reported issues, including safety or structural concerns, and promptly addressing public concerns.
	Rehabilitation efforts include replacements of roofs, windows, doors, etc., as needed based on lifecycle considerations or unexpected requirements arising from condition assessments.
Replacement	Decisions regarding building replacements hinge on factors such as cost, ongoing maintenance needs, and budget approval. The usage of the building also plays a pivotal role, with priority given to facilities that are crucial to the community and those with high utilization rates. This ensures that resources are allocated effectively to maintain essential community infrastructure.

5.1.6 Forecasted Capital Requirements

The graph below illustrates capital requirements over the next 50 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments and the trend line represents the average annual capital requirement.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

5.1.7 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in the table below, to determine the risk rating of each facility asset.

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
48 Assets	15 Assets	6 Assets	9 Assets	10 Assets
125.00 unit(s)	53.00 unit(s)	7.00 unit(s)	12.00 unit(s)	29.00 unit(s)
$286,235.00	$133,016.00	$3,678,959.00	$13,133,351.00	$9,562,477.38

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Service Life Remaining (Years)	

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the County is currently facing:

Capital Funding Strategies
Major capital rehabilitation projects for municipal buildings are partially dependant on the availability of grant funding opportunities. When grants are not available, building rehabilitation projects may be deferred. An annual capital funding strategy can reduce dependency on grant funding and help prevent deferral of capital works.

5.1.8 Levels of Service

The following tables identify the County's current level of service for facilities. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the County has selected for this AMP.

Community Levels of Service

The table below outlines the qualitative descriptions that determine the community levels of service provided by facilities.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description of the types of facility assets that the Municipality operates and maintains	Refer to section 5.1.1
Quality	Description of criteria for rehabilitation and replacement decisions and any related long-term forecasts	Refer to sections 5.1.5 & 5.1.6

Technical Levels of Service

The table below outlines the quantitative metrics that determine the technical level of service provided by facilities.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	Average Condition Rating	54 (Fair)
	Average Risk Rating	13.85[1]
Performance	Capital reinvestment Rate	1.8%

5.1.9 Recommendations

Asset Inventory

- Continue to update its condition scores and other pertinent asset details, on a scheduled basis, when new data becomes available.

Condition Assessment Strategies

- The County should implement regular condition assessments for all facilities to better inform short- and long-term capital requirements.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the County has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

[1] Refer to section 5.1.7

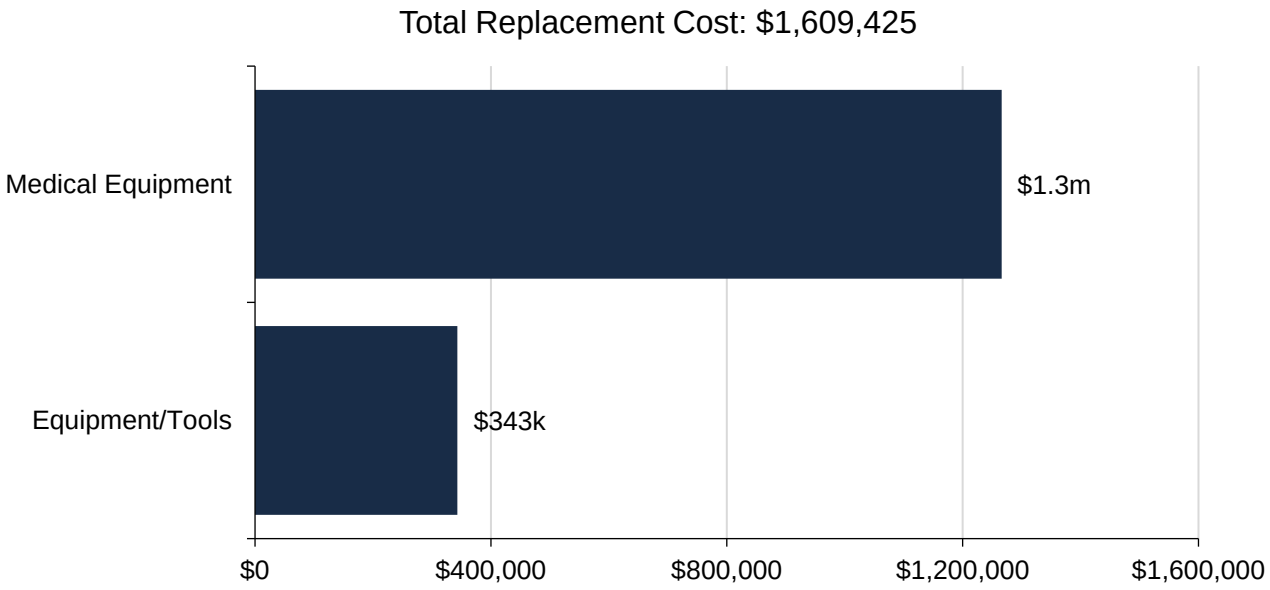
5.2 Machinery and Equipment

To maintain the high quality of public infrastructure and support the delivery of core services, the County owns and employs various types of machinery, tools, and equipment.

5.2.1 Asset Inventory & Replacement Cost

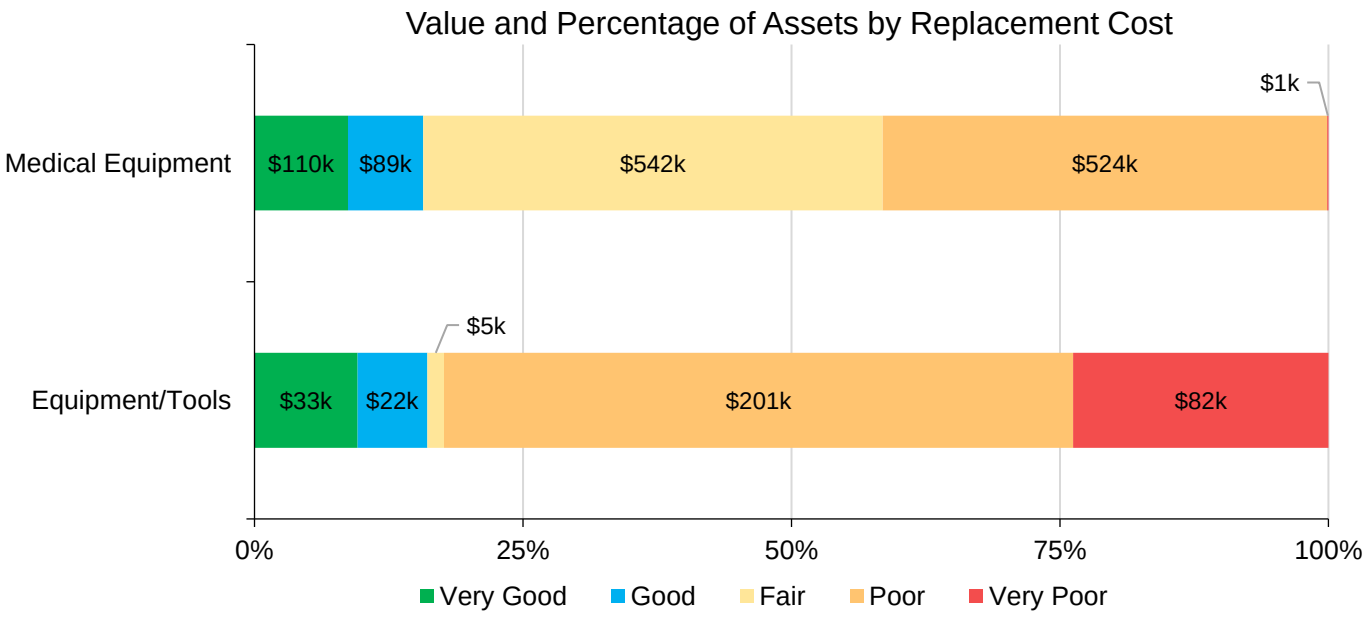
The table below includes the quantity, replacement cost method and total replacement cost of each machinery and equipment asset segment in Perth County.

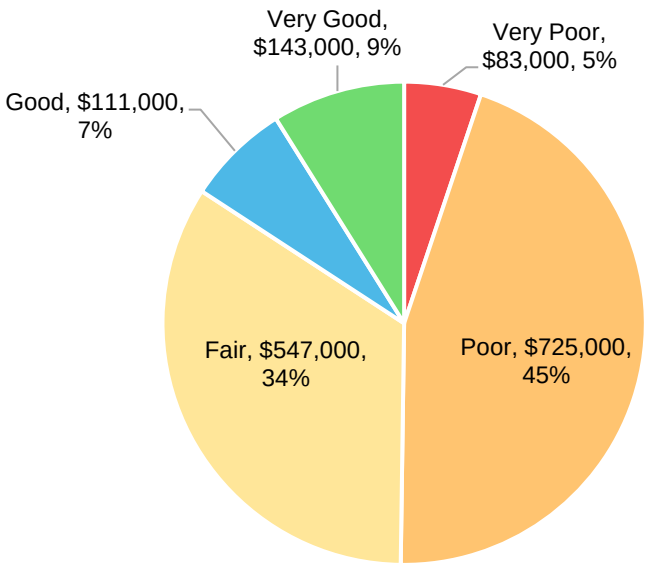
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Equipment/Tools	8	CPI Tables	$343,000
Medical Equipment	149	CPI Tables	$1,266,000
	157		**$1,609,000**



5.2.2 Asset Condition

The table below identifies the current average condition, average age, and estimated useful life for each asset segment.





5.2.3 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets more confidently. The following describes the Municipality's current approach:

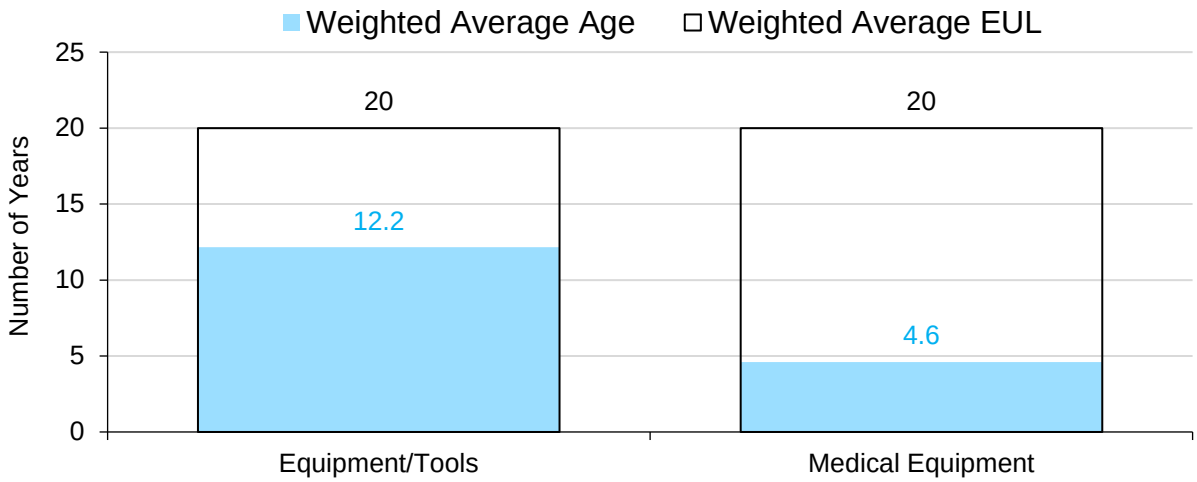
- Daily pre-trip inspections are conducted as part of regular operations. Otherwise, assessments/inspections occur annually or at 500 hours depending on the type of equipment.
- While a formal condition rating system is not currently in place, it is under consideration for future implementation.

In this AMP, the following rating criteria is used to determine the current condition of machinery & equipment assets and forecast future capital requirements:

Condition	Rating
Very Good	80 – 100
Good	60 – 79
Fair	40 – 59
Poor	20 – 39
Very Poor	0 – 19

5.2.4 Estimated Useful Life & Average Age

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



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

5.2.5 Lifecycle Management Strategy

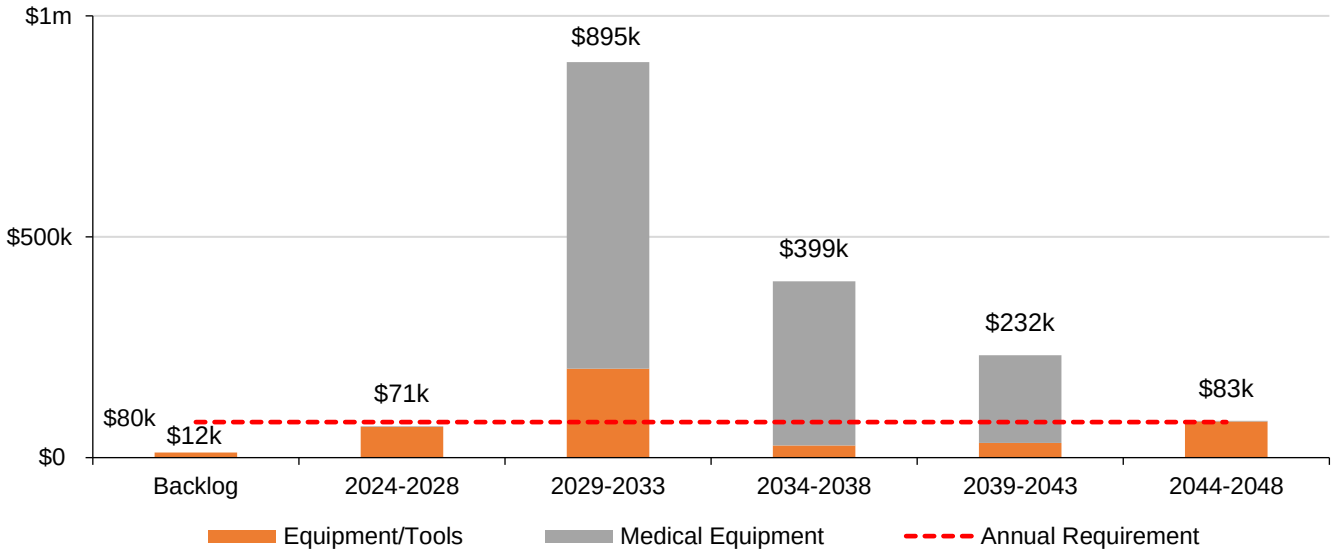
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	While asset specific, there are typically no rehabilitation activities undertaken. Activities to repair or rehabilitate may occur to certain components depending on the condition and remaining life of the assets i.e. body repair, engine or transmission repair, etc.
Replacement	Asset replacement decisions are guided by reaching the defined useful life in years. Assets nearing their expected service life or experiencing frequent and costly repairs are prioritized for replacement. This approach ensures efficient operational performance and minimizes downtime associated with aging equipment.

5.2.6 Forecasted Capital Requirements

The graph below identifies capital requirements over the next 25 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments and the trend line represents the average annual capital requirement.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

5.2.7 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in the table below, to determine the risk rating of each machinery & equipment asset.

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Service Life Remaining (Years)	

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the County is currently facing:

Lifecycle Management Strategies
There is some concern that the lack of defined lifecycle management strategy for machinery & equipment in the past resulted in failure to adhere to scheduled replacements. Addressing these challenges is crucial to maintaining optimal asset performance and minimizing lifecycle costs

Growth
The County is expected to experience growth in the coming years. Population and employment growth will increase the demand on municipal services and potentially decrease the lifecycle of certain assets. Capacity currently satisfies current service level requirements but with a growing population or a change in roadway maintenance class (MMS) due to increased traffic volumes resulting from growth will impact the ability to meet minimum standards.

5.2.8 Levels of Service

The following tables identify the County's current level of service for machinery & equipment. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the County has selected for this AMP.

Community Levels of Service

The table below outlines the qualitative descriptions that determine the community levels of service provided by machinery & equipment.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description of the types of machinery & equipment assets that the County operates and maintains	Refer to section 5.2.1
Quality	Description of criteria for rehabilitation and replacement decisions and any related long-term forecasts	Refer to sections 5.2.5 & 5.2.6

Technical Levels of Service

The table below outlines the quantitative metrics that determine the technical level of service provided by machinery and equipment.

Service Attribute	Technical Metric	Current LOS (2022)
Scope	Average Condition Rating	47 (Fair)
	Average Risk Rating	10.51[2]
Performance	Capital reinvestment Rate	9.6%

5.2.9 Recommendations

Asset Inventory

- Continue to gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the County has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

[2] Refer to section 5.2.7

5.3 Computer Systems

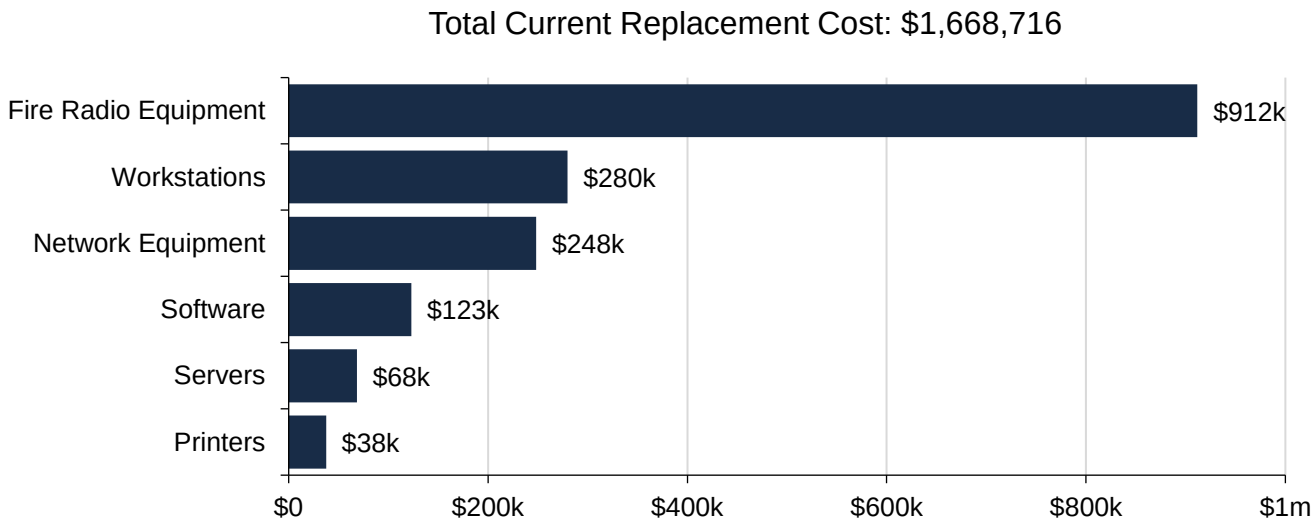
To maintain the high quality of public infrastructure and support the delivery of core services, County staff own and employ various types of computer systems. This includes:

- Fire Radio Equipment
- Network Equipment
- Printers
- Servers
- Software
- Workstations

5.3.1 Asset Inventory & Replacement Cost

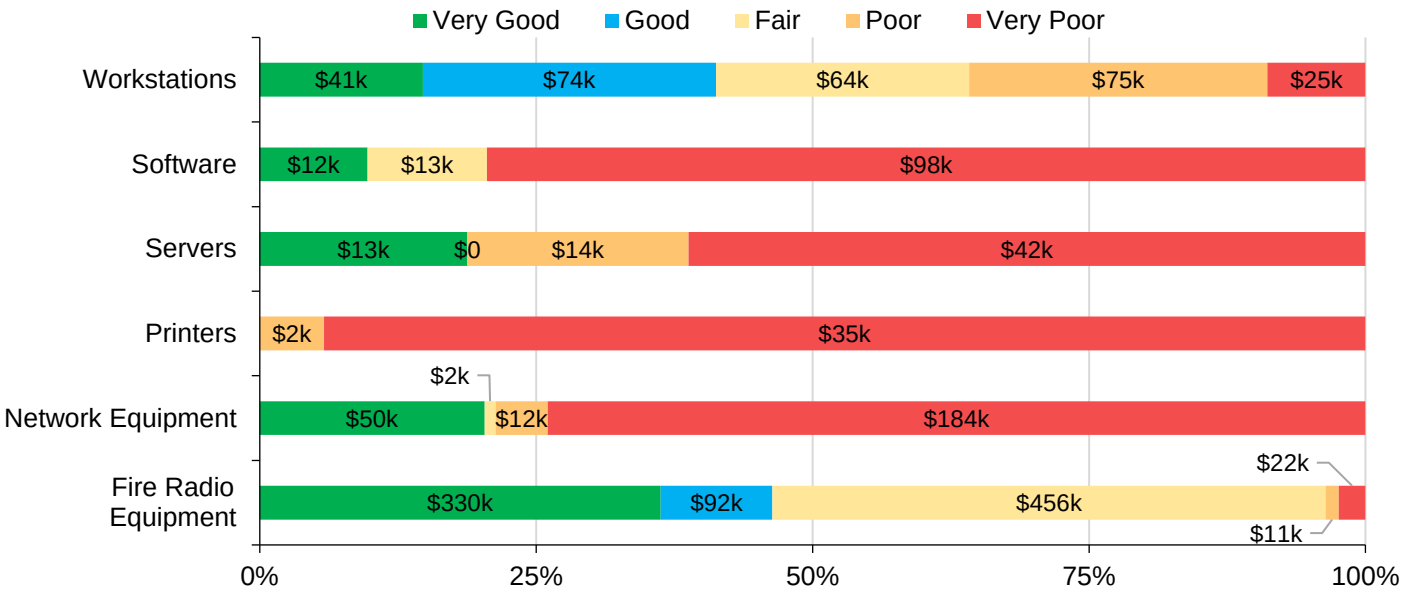
The table below includes the quantity, replacement cost method and total replacement cost of each asset segment by service area in the County's computer systems inventory.

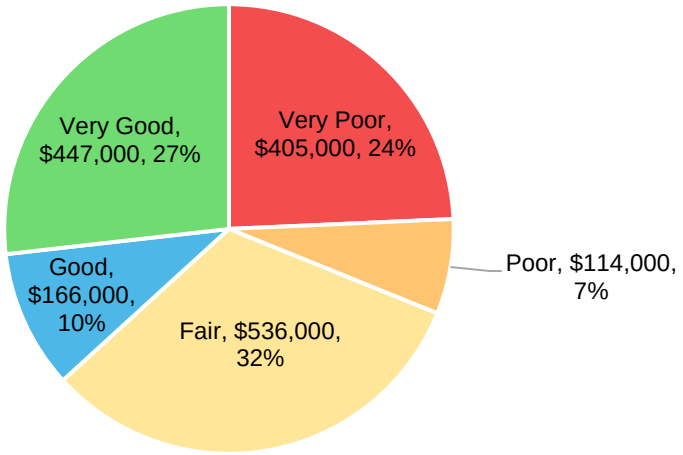
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Fire Radio Equipment	173	CPI Tables	$912,000
Network Equipment	144	CPI Tables	$248,000
Printers	4	CPI Tables	$38,000
Servers	6	CPI Tables	$68,000
Software	9	CPI Tables	$123,000
Workstations	127	CPI Tables	$280,000
	463		**$1,669,000**



5.3.2 Asset Condition

The graphs below visually illustrate the average condition for each asset segment on a very good to very poor scale.





5.3.3 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets more confidently. The following describes the County's current approach:

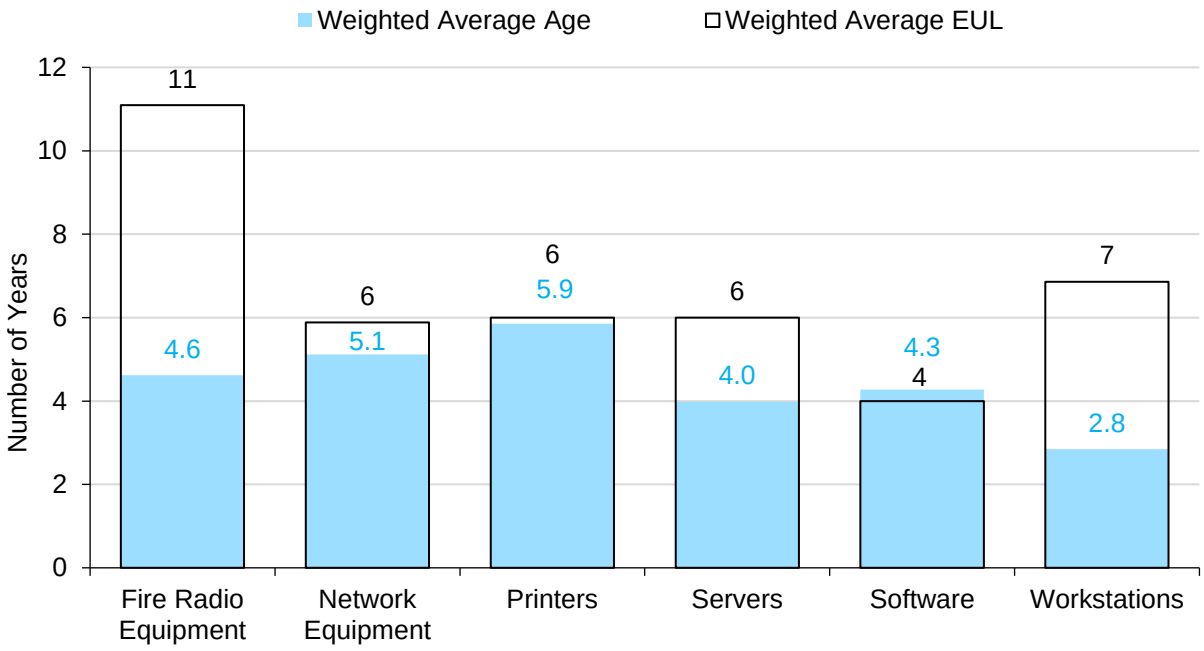
- County staff complaints are used to identify acute asset failures
- Assets receive ad hoc inspections and updates as required, to ensure that they are in good working order
- Assets are replaced as per 5/10-year planning in step with available warranties

In this AMP, the following rating criteria is used to determine the current condition of computer systems and forecast future capital requirements:

Condition	Rating
Very Good	80 – 100
Good	60 – 79
Fair	40 – 59
Poor	20 – 39
Very Poor	0 – 19

5.3.4 Estimated Useful Life & Average Age

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



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

5.3.5 Lifecycle Management Strategy

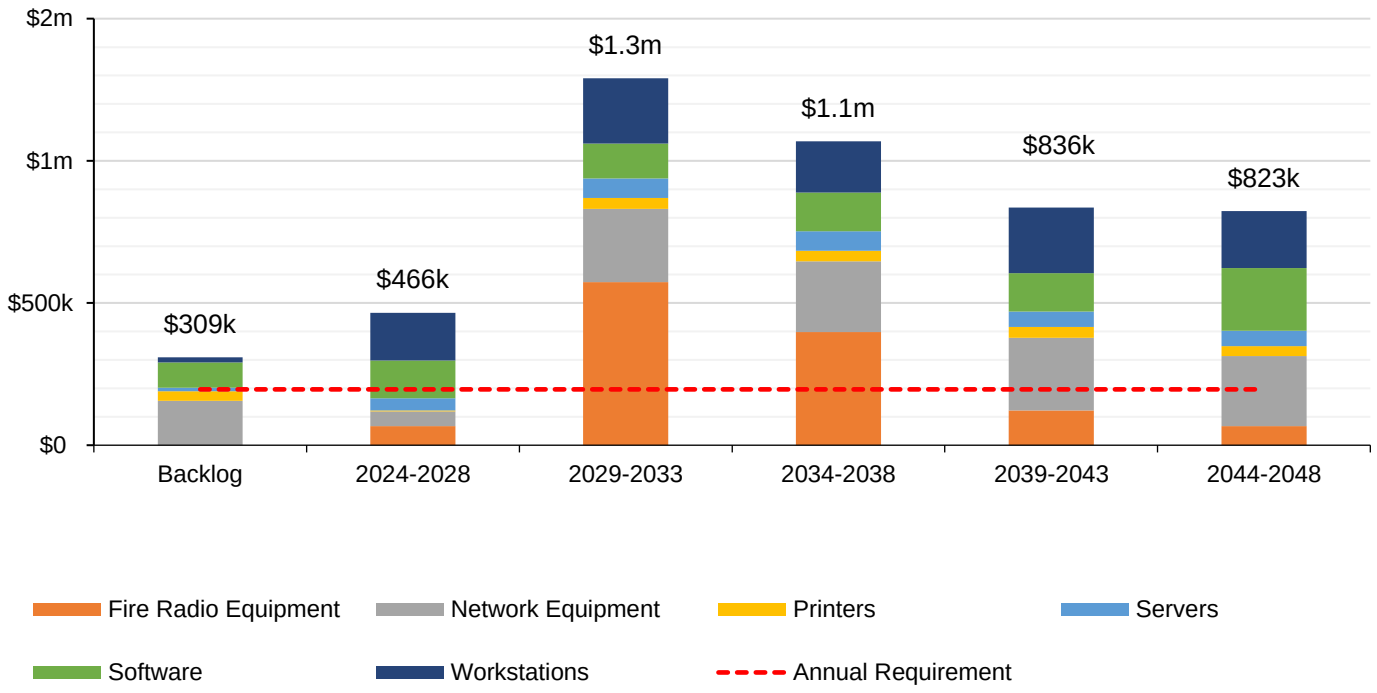
The condition or performance of most assets will deteriorate over time. To ensure that County assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines the County's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	Routine maintenance for computer systems includes inspections, updates, small repairs and/or upgrades as well as replacement of consumables. Daily inspections ensure immediate operational checks, while regular inspections are conducted at defined intervals as part of ongoing maintenance protocols.
Replacement	Asset replacement decisions are guided by reaching the defined useful life in years. Assets nearing their expected service life or experiencing frequent and costly repairs are prioritized for replacement. This approach ensures efficient operational performance and minimizes downtime associated with aging equipment.

5.3.6 Forecasted Capital Requirements

The following graph identifies capital requirements over the next 25 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments and the trend line represents the average annual capital requirement.

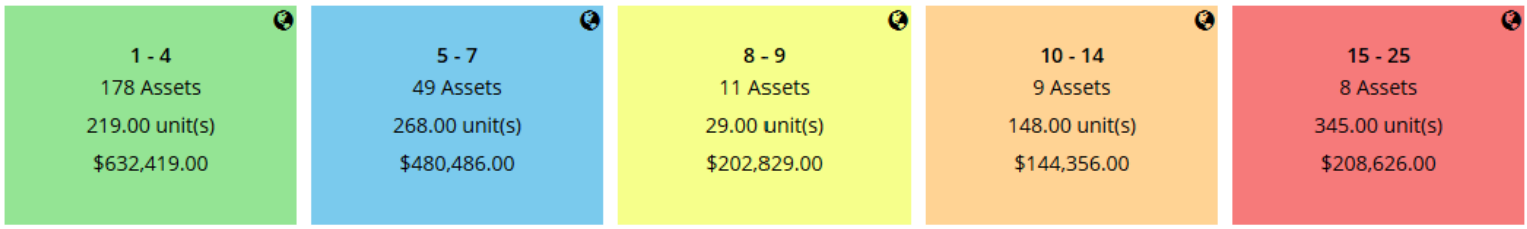


The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

5.3.7 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in the table below, to determine the risk rating of each computer system asset.



Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the County is currently facing:

Lifecycle Management Strategies
There is some concern that the lack of defined lifecycle management strategy for computer systems equipment in the past resulted in failure to adhere to scheduled replacements. Addressing these challenges is crucial to maintaining optimal asset performance and minimizing lifecycle costs

Growth

The County is expected to experience growth. Population and employment growth will increase the demand on municipal services and potentially decrease the lifecycle of certain assets. Capacity currently satisfies current service level requirements but with a growing population, more systems and components will be required to keep with service demand.

5.3.8 Levels of Service

The following tables identify the County's current level of service for computer systems. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the County has selected for this AMP.

Community Levels of Service

The table below outlines the qualitative descriptions that determine the community levels of service provided by computer systems.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description of the types of computer systems assets that the County operates and maintains	Refer to section 5.3.1
Quality	Description of criteria for rehabilitation and replacement decisions and any related long-term forecasts	Refer to sections 5.3.5 & 5.3.6

Technical Levels of Service

The table below outlines the quantitative metrics that determine the technical level of service provided by computer systems.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	Average Condition Rating	51 (Fair)
	Average Risk Rating	7.07[3]
Performance	Capital reinvestment Rate	10.2%

5.3.9 Recommendations

Asset Inventory

- Continue to gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the County has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

[3] Refer to section 5.3.7

5.4 Fleet

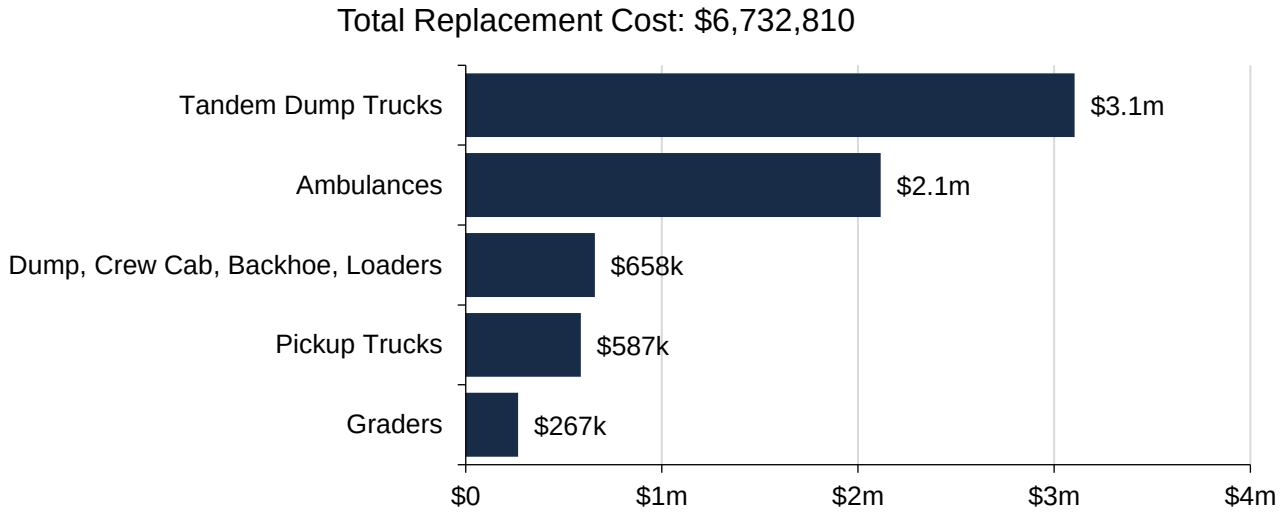
Vehicles allow staff to efficiently deliver County services and personnel. Perth County own and maintain a variety of vehicles including:

- Ambulances
- Dump, Crew Cab, Backhoe, & Loaders
- Graders
- Pickup Trucks
- Tandem Dump Trucks

5.4.1 Asset Inventory & Replacement Cost

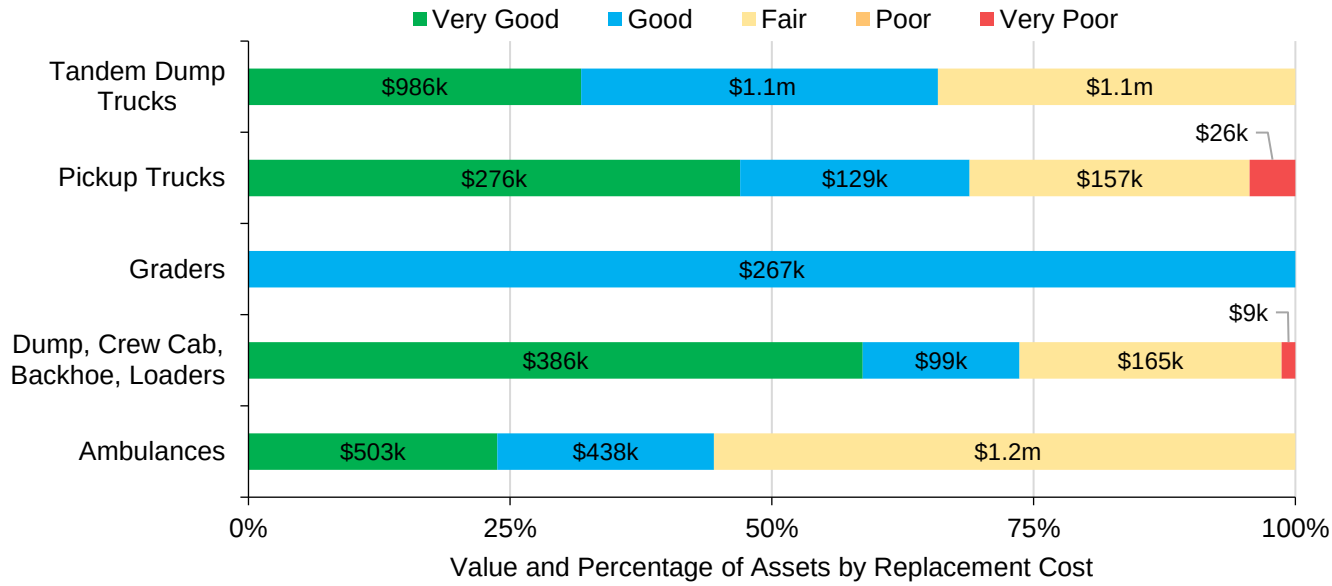
The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the County's fleet portfolio.

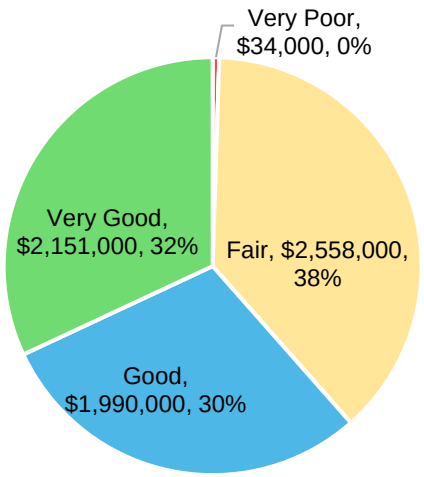
Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Ambulances	11	CPI Tables	$2,116,000
Dump, Crew Cab, Backhoe, Loaders	6	CPI Tables	$658,000
Graders	1	CPI Tables	$267,000
Pickup Trucks	13	CPI Tables	$587,000
Tandem Dump Trucks	17	CPI Tables	$3,104,000
	48		**$6,733,000**



5.4.2 Asset Condition

The graphs below visually illustrate the average condition for each asset segment on a very good to very poor scale.





5.4.3 Current Approach to Condition Assessment

The following describes the County's current approach:

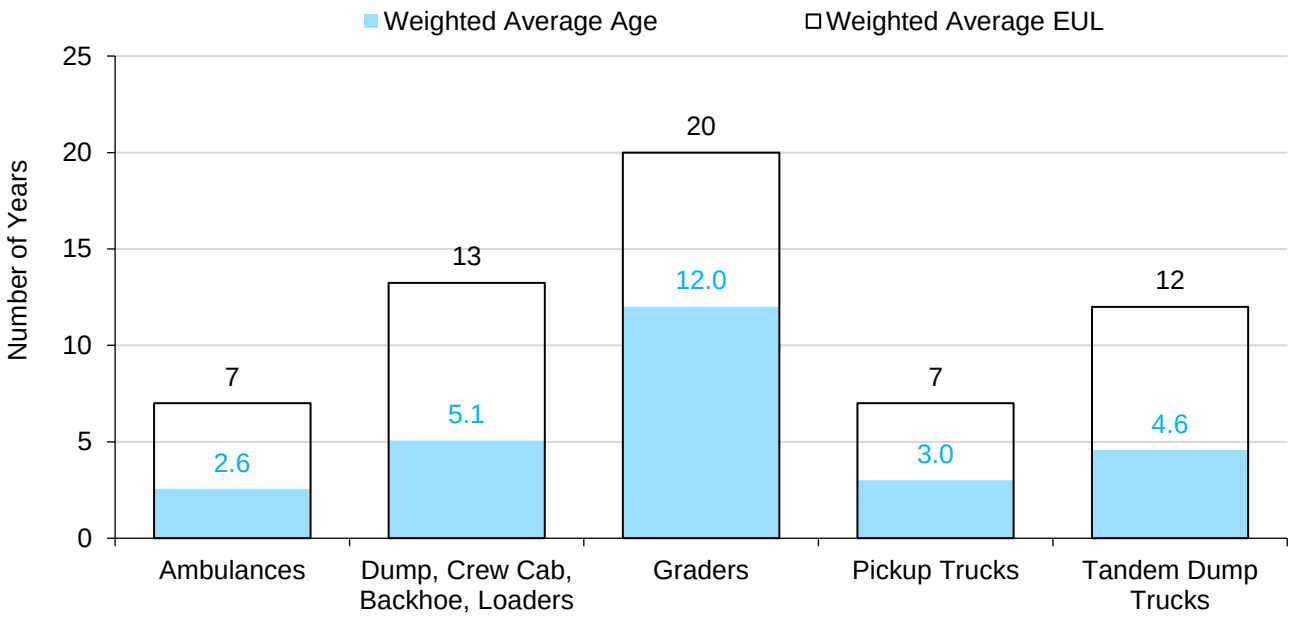
- While there are no formal condition assessment protocols, the County does conduct ad hoc assessments
- Considerations are being made to move away from age-based an age-based approach

In this AMP, the following rating criteria is used to determine the current condition of fleet assets and forecast future capital requirements:

Condition	Rating
Very Good	80 – 100
Good	60 – 79
Fair	40 – 59
Poor	20 – 39
Very Poor	0 – 19

5.4.4 Estimated Useful Life & Average Age

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



Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

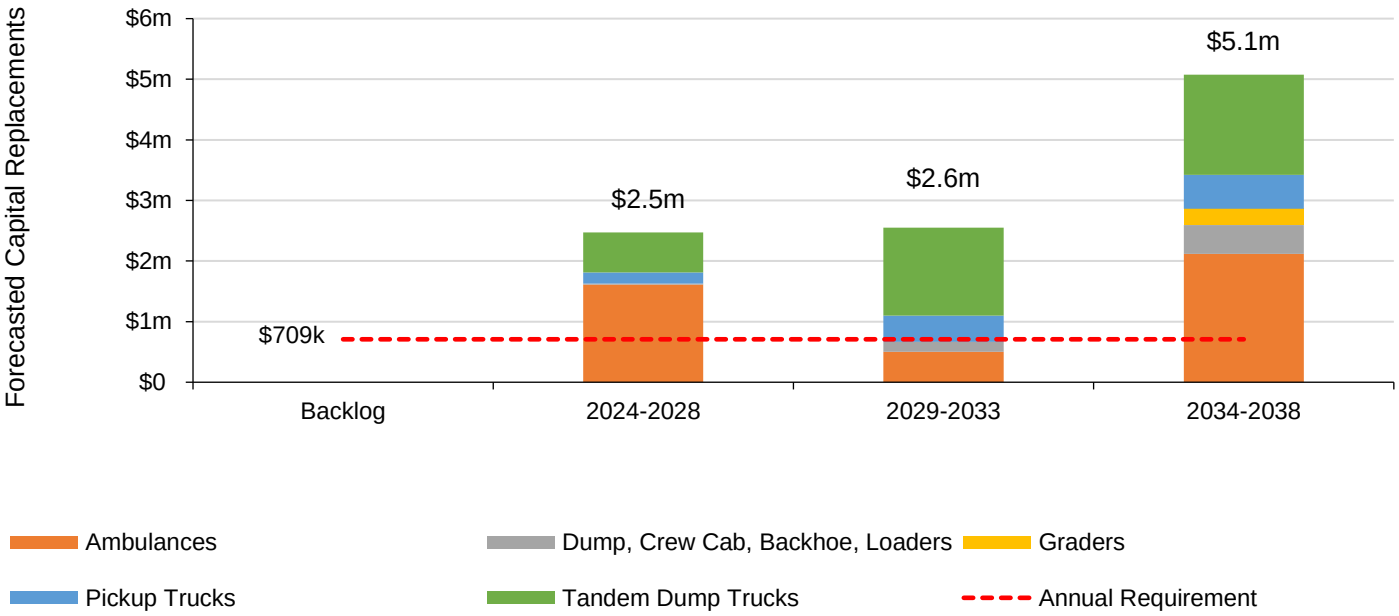
5.4.5 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration. The following table outlines the Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation	Routine maintenance for fleet includes inspections, tire rotations, minor repairs, and oil changes. Other necessary maintenance tasks are promptly addressed upon identification during inspections or reported concerns from operators regarding safety or mechanical issues. Maintenance for fleet depends on class type, kilometers driven, time between oil changes, frequency of calls, and the annual safety inspection.
Replacement	Replacement schedules for fleet are determined based on condition data and the defined asset lifecycle. This information directly informs budget considerations for fleet asset replacement. Fleet nearing the end of their expected service life or requiring frequent and costly repairs are prioritized for replacement to ensure continued operational efficiency and safety.

5.4.6 Forecasted Capital Requirements

The graph below illustrates capital requirements over the next 15 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year increments and the trend line represents the average annual capital requirement.

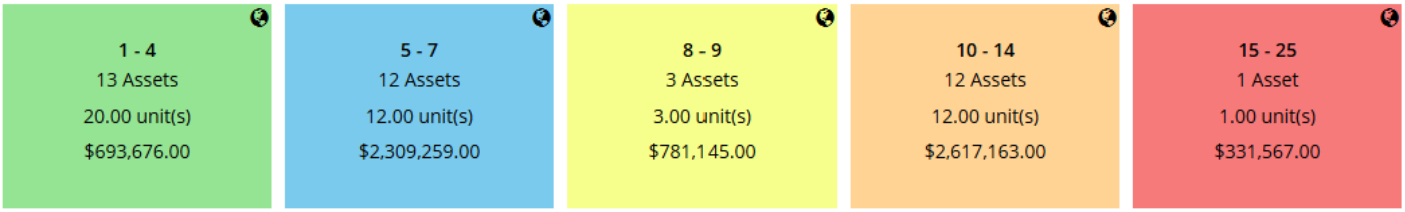


The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix A.

5.4.7 Risk Analysis

Risk Matrix

The following risk matrix provides a visual representation of the criteria used in the table below, to determine the risk rating of each fleet asset.



Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)
Service Life Remaining (Years)	

Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the County is currently facing:

Lifecycle Management Strategies
There is some concern that the lack of defined lifecycle management strategy for fleet in the past resulted in failure to adhere to scheduled replacements. Addressing these challenges is crucial to maintaining optimal asset performance and minimizing lifecycle costs.

Climate Change & Extreme Weather Events
While there have been discussions to adopt lower emission vehicles, County staff have indicated that it must ensure adequate back-up/standby vehicles for peak or emergency conditions.

5.4.8 Levels of Service

The following tables identify the County's current level of service for fleet assets. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the County has selected for this AMP.

Community Levels of Service

The table below outlines the qualitative descriptions that determine the community levels of service provided by fleet assets.

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description of the types of fleet assets that the Municipality operates and maintains	Refer to section 5.4.1
Quality	Description of criteria for rehabilitation and replacement decisions and any related long-term forecasts	Refer to sections 5.4.5 & 5.4.6

Technical Levels of Service

The table below outlines the quantitative metrics that determine the technical level of service provided by fleet assets.

Service Attribute	Technical Metric	Current LOS (2023)
Scope	Average Condition Rating	70 (Good)
	Average Risk Rating	8.64[4]
Performance	Capital reinvestment Rate	9.7%

5.4.9 Recommendations

Asset Inventory

- Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue measuring current levels of service in accordance with the metrics that the County has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

[4] Refer to section 5.4.7

6 Impacts of Growth

Key Insights

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

6.1 Description of Growth Assumptions

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

6.1.1 County of Perth Official Plan (2024)

Perth County is poised for significant growth in population, employment, and housing over the next 25 years. The Official Plan provides a structured approach to managing this expansion sustainably, with policies that support a balanced community framework. By concentrating growth within designated areas and encouraging diverse housing and economic opportunities, the County aims to enhance quality of life, sustain economic resilience, and preserve its unique rural and agricultural character.

Population Growth
Perth County's population is projected to increase from approximately 42,100 in 2021 to 62,900 by 2051. This growth will primarily result from net migration, with a significant portion of new residents expected to migrate from urban centers, such as Kitchener/Waterloo, and the Greater Toronto Area. The new residents are anticipated to be a mix of working-age individuals (ages 25–54) and retirees (ages 55–74), with both demographics drawn to the county's appealing lifestyle and community-focused environment. However, with the county's aging population expected to increase and natural population growth to decline, migration will be crucial in maintaining demographic stability.

In response, Perth County's Official Plan directs most of this population growth to existing urban and village centers, including Listowel, Milverton, Mitchell, Atwood, and Shakespeare. Concentrating growth in these hubs will leverage existing infrastructure and services, creating more efficient land use and preserving rural and agricultural lands. This approach aligns with the County's goals to maintain compact, well-serviced communities that provide both economic opportunities and community-oriented living environments.

Employment Growth
The employment landscape in Perth County is also expected to grow substantially, with projections indicating an increase from 18,790 jobs in 2021 to about 29,700 by 2051. Economic diversification is a priority within the Official Plan, as the County seeks to build on its traditional manufacturing and agricultural base by promoting

knowledge-based industries, healthcare services, professional and scientific services, and information technology. This shift will not only enhance the local economy's resilience but also align with broader trends in regional and national labor markets.

To support this employment growth, the County emphasizes the importance of maintaining designated employment lands, particularly in urban and serviced areas where industries can benefit from infrastructure support. By protecting these lands, Perth County aims to provide a foundation for industrial and commercial activities while facilitating the development of mixed-use zones that combine residential, retail, and office spaces in strategic locations. This mixed-use approach will support a vibrant local economy, promote job creation, and ensure that economic development remains responsive to both traditional and emerging industries.

Housing and Dwelling Projections

To accommodate the projected increase in population, the Official Plan projects a need for approximately 8,600 new residential units by 2051. The housing strategy outlined in the plan focuses on offering a diverse mix of housing types and densities to cater to various income levels and family structures. The breakdown of housing types includes:

- Low-Density: Single-detached, semi-detached, duplex, triplex, and fourplex homes, designed for families and individuals seeking traditional housing options.
- Medium-Density: Townhouses and row houses that provide a balance between space and affordability.
- High-Density: Apartment-style developments, typically more than three stories, aimed at supporting housing affordability and catering to younger residents, single individuals, and downsizing seniors.

To make efficient use of land, the county has set a target for 15% of new housing to come from intensification within existing built-up areas. This approach prioritizes infill development, such as additional units on existing properties and redevelopment of underutilized sites, reducing the need for sprawling expansion. Additionally, Perth County supports policies for affordable housing, including the development of secondary and accessory units, to ensure that housing is accessible to residents across all income levels.

Infrastructure and Community Services

The anticipated growth in population and housing will necessitate investments in infrastructure and community services. The Official Plan incorporates policies to ensure that essential services can support new developments. Emphasis is placed on:

- Active Transportation and Connectivity: Promoting active transportation options, such as pedestrian and cycling paths, to enhance connectivity within urban centers and foster sustainable travel options.
- Public Services: Ensuring the availability of schools, libraries, recreational centers, and healthcare facilities to accommodate a growing population.
- Sustainable Infrastructure Development: Upgrading existing infrastructure and incorporating sustainable practices, such as green stormwater management and energy-efficient facilities, to minimize environmental impacts and enhance community resilience.

Perth County's Official Plan is a strategic guide for managing growth in a way that balances development with preservation. By concentrating population and housing growth in urban centers, promoting economic diversification, and investing in sustainable infrastructure, the County aims to create a community that is both livable and resilient. The plan underscores Perth County's commitment to fostering complete communities that meet residents' needs while preserving the natural and agricultural heritage that defines the county. Through a structured and integrated approach to planning, Perth County can anticipate and accommodate growth while ensuring a high quality of life for both current and future residents.

6.2 Impact of Growth on Lifecycle Activities

By July 1, 2025, Perth County's asset management plan must include levels of service that the County's proposes to provide for each of the 10 years following the year in which all information required.

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

7 Financial Strategy

Key Insights

- Perth County is committing approximately $7.0 million towards capital projects per year from sustainable revenue sources
- Given the annual capital requirement of $8.4 million, there is currently a funding gap of $1.4 million annually
- Recommendation: increasing tax revenues by 1.2% each year for the next 5 years to achieve a sustainable level of funding

7.1 Financial Strategy Overview

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the Perth County to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

This report develops such a financial plan by presenting several scenarios for consideration and culminating with final recommendations. As outlined below, the scenarios presented model different combinations of the following components:

1. The financial requirements for:
    a. Existing assets
    b. Existing service levels
    c. Requirements of contemplated changes in service levels (none identified for this plan)
    d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Debt
    d. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. CCBF
    b. Annual grants

Note: Periodic grants are normally not included due to Provincial requirements for firm commitments. However, if moving a specific project forward is wholly dependent on receiving a one-time grant, the replacement cost included in the financial strategy is the net of such grant being received.

If the financial plan component results in a funding shortfall, the province requires the inclusion of a specific plan as to how the impact of the shortfall will be managed. In determining the legitimacy of a funding shortfall, the province may evaluate a Municipality's approach to the following:

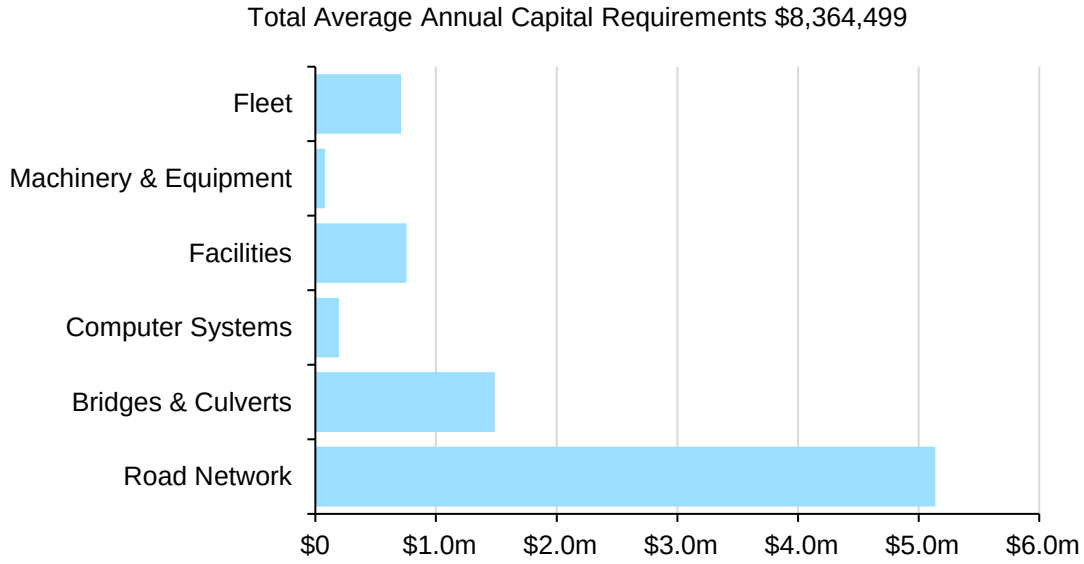
1. To reduce financial requirements, consideration has been given to revising service levels downward.

2. All asset management and financial strategies have been considered. For example:
    a. If a zero-debt policy is in place, is it warranted? If not the use of debt should be considered.
    b. Do user fees reflect the cost of the applicable service? If not, increased user fees should be considered.

7.1.1 Annual Requirements & Capital Funding

Annual Requirements

The annual requirements represent the amount Perth County should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs, and achieve long-term sustainability. In total, Perth County must allocate approximately $8.4 million annually to address capital requirements for the assets included in this AMP.



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

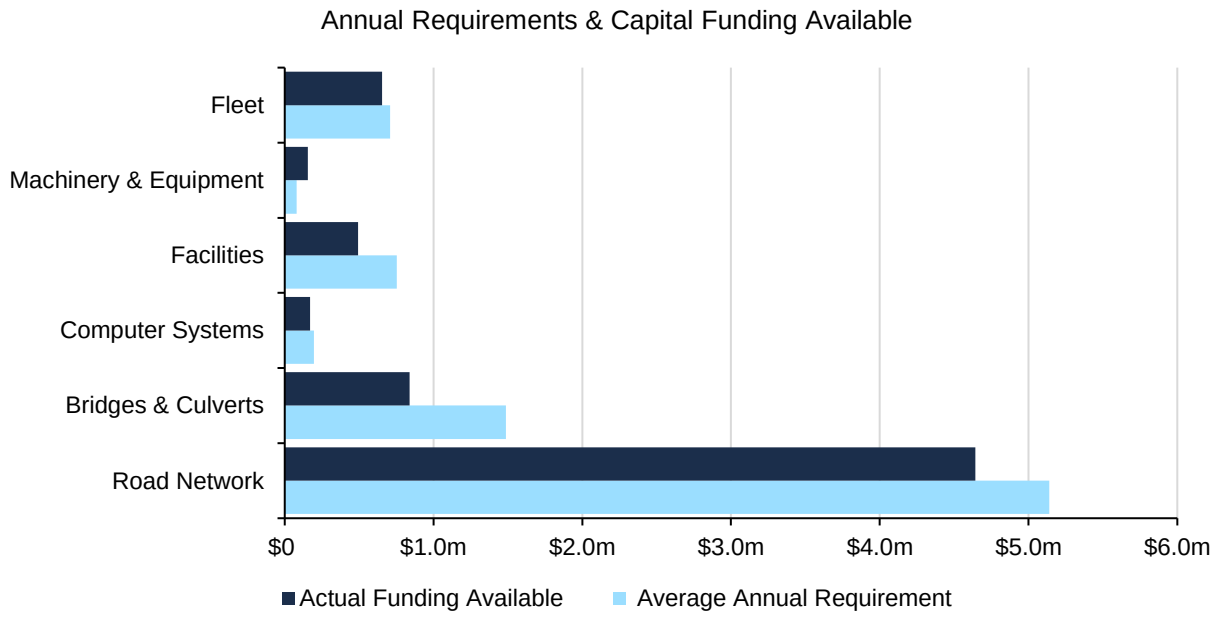
However, for the Road Network, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of Perth County's roads. The development of these strategies allows for a comparison of potential cost avoidance if the strategies were to be implemented. The following table compares two scenarios for the categories:

1. **Replacement Only Scenario**: Based on the assumption that assets deteriorate and – without regularly scheduled maintenance and rehabilitation – are replaced at the end of their service life.
2. **Lifecycle Strategy Scenario**: Based on the assumption that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required.

The implementation of a proactive lifecycle strategies for various asset categories leads to a potential annual cost avoidance of $501,000. As the lifecycle strategy scenario represents the lowest cost option available to Perth County, we have used these annual requirements in the development of the financial strategy.

Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, Perth County is committing approximately $7.0 million towards capital projects per year. Given the annual capital requirement of $8.4 million, there is currently a funding gap of $1.4 million annually.



7.2 Funding Objective

We have developed a scenario that would enable Perth County to achieve full funding within 1 to 20 years for the following assets:

- **Tax Funded Assets:** Road Network, Bridges & Culverts, Facilities, Fleet, Machinery & Equipment, and Computer Systems

For each scenario developed we have included strategies, where applicable, regarding the use of cost containment and funding opportunities.

7.3 Financial Profile: Tax Funded Assets

7.3.1 Current Funding Position

The following tables show, by asset category, Perth County's average annual asset investment requirements, current funding positions, and funding increases required to achieve full funding on assets funded by taxes.

Asset Category	Avg. Annual Requirement	Annual Funding Available				Annual Deficit
		Taxes to Reserves	CCBF	OCIF	Total Available	
Bridges & Culverts	$1,487,000	$840,000			$840,000	$647,000
Computer Systems	$196,000	$170,000			$170,000	$26,000
Facilities	$754,000	$494,000			$494,000	$260,000
Fleet	$709,000	$654,000			$654,000	$55,000
Machinery & Equipment	$80,000	$155,000			$155,000	($75,000)
Road Network	$5,138,000	$2,550,000	$1,259,000	$833,000	$4,642,000	$496,000
	$8,364,000	**$4,863,000**	**$1,259,000**	**$833,000**	**$6,955,000**	**$1,409,000**

The average annual investment requirement for the above categories is $8.4 million. Annual revenue currently allocated to these assets for capital purposes is $7.0 million leaving an annual deficit of $1.4 million. Put differently, these infrastructure categories are currently funded at 83% of their long-term requirements.

7.3.2 Full Funding Requirements

In 2023, Perth County has budgeted annual tax revenues of $19,939,000. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Bridges & Culverts	3.2%
Computer Systems	0.1%
Facilities	1.3%
Fleet	0.3%
Machinery & Equipment	-0.4%
Road Network	2.5%
	7.0%

The following changes in costs and/or revenues over the next number of years should also be considered in the financial strategy:

a) Perth County's debt payments for these asset categories will be decreasing by
    a. $173,000 over the next 5 years
    b. $318,000 over the next 10 years
    c. $827,000 over the next 15 years
    d. $827,000 over the next 20 years

Our recommendations include capturing the above changes and allocating them to the infrastructure deficit outlined above. The table below outlines this concept and presents several options:

	Without Capturing Changes				With Capturing Changes			
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	$1,409,000	$1,409,000	$1,409,000	$1,409,000	$1,409,000	$1,409,000	$1,409,000	$1,409,000
Change in Debt Costs	N/A	N/A	N/A	N/A	-$173,000	-$318,000	-$827,000	-$827,000
Change in OCIF Grants	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Resulting Infrastructure Deficit:	$1,409,000	$1,409,000	$1,409,000	$1,409,000	$1,236,000	$1,091,000	$582,000	$582,000
Tax Increase Required	7.1%	7.1%	7.1%	7.1%	6.2%	5.5%	2.9%	2.9%
Annually:	**1.4%**	**0.7%**	**0.5%**	**04%**	**1.2%**	**0.6%**	**0.2%**	**0.1%**

7.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 5-year option. This involves full funding being achieved over 5 years by:

a) when realized, reallocating the debt cost reductions of $173,000 to the infrastructure deficit as outlined above.
b) increasing tax revenues by 1.2% each year for the next 5 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
c) allocating the current CCBF and OCIF revenue as outlined previously.
d) reallocating appropriate revenue from categories in a surplus position to those in a deficit position.

e) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

- As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment[5].
- We realize that raising tax revenues by the amounts recommended above for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.

Although this option achieves full funding on an annual basis in 5 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of 571,000 across all asset categories.

Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

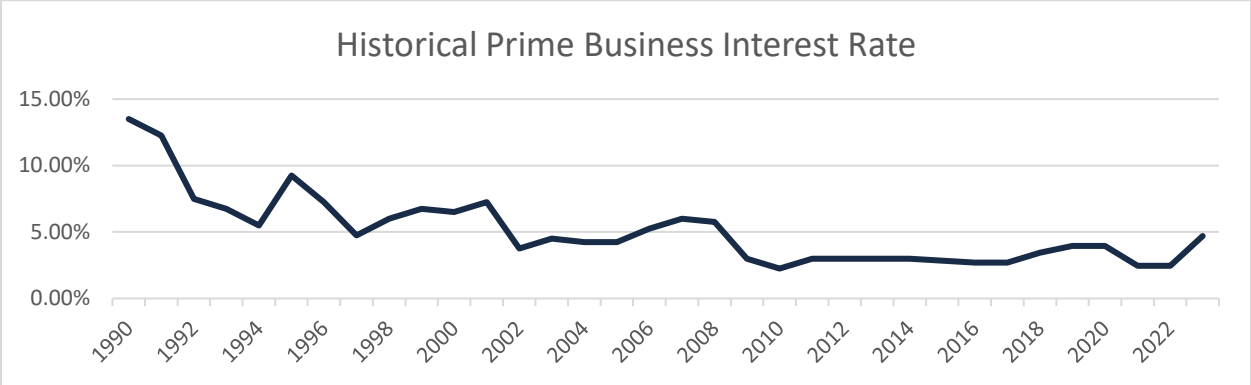
[5] The County should take advantage of all available grant funding programs and transfers from other levels of government. While OCIF has historically been considered a sustainable source of funding, the program is currently undergoing review by the provincial government. Depending on the outcome of this review, there may be changes that impact its availability.

7.4 Use of Debt

Debt can be strategically utilized as a funding source with in the long-term financial plan. The benefits of leveraging debt for infrastructure planning include:

a) the ability to stabilize tax & user rates when dealing with variable and sometimes uncontrollable factors
b) equitable distribution of the cost/benefits of infrastructure over its useful life
c) a secure source of funding
d) flexibility in cash flow management

Debt management policies and procedures with limitations and monitoring practices should be considered when reviewing debt as a funding option. In efforts to mitigate increasing commodity prices and inflation, interest rates have been rising. Sustainable funding models that include debt need to incorporate the now current realized risk of rising interest rates. The following graph shows the historical changes to the lending rates:



A change in 15-year rates from 5% to 7% would change the premium from 45% to 65%. Such a change would have a significant impact on a financial plan.

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a $1 million project financed at 3.0%[6] over 15 years would result in a 26% premium or $260 thousand of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

[6] Current municipal Infrastructure Ontario rates for 15-year money is 4.03%.

Table 1: Premiums Paid

Interest Rate	Number of Years Financed					
	5	10	15	20	25	30
7.0%	22%	42%	65%	89%	115%	142%
6.5%	20%	39%	60%	82%	105%	130%
6.0%	19%	36%	54%	74%	96%	118%
5.5%	17%	33%	49%	67%	86%	106%
5.0%	15%	30%	45%	60%	77%	95%
4.5%	14%	26%	40%	54%	69%	84%
4.0%	12%	23%	35%	47%	60%	73%
3.5%	11%	20%	30%	41%	52%	63%
3.0%	9%	17%	26%	34%	44%	53%
2.5%	8%	14%	21%	28%	36%	43%
2.0%	6%	11%	17%	22%	28%	34%
1.5%	5%	8%	12%	16%	21%	25%
1.0%	3%	6%	8%	11%	14%	16%
0.5%	2%	3%	4%	5%	7%	8%
0.0%	0%	0%	0%	0%	0%	0%

The following tables outline how Perth County has historically used debt for investing in the asset categories as listed. There is currently $11,706,000 of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of $1,227,000 (2025), well within its provincially prescribed maximum of $5,001,000.

Asset Category	Current Debt Outstanding (2024)	Use of Debt in the Last Five Years				
		2019	2020	2021	2022	2023
Bridges & Culverts						
Computer Systems						
Facilities	$11,706,000				$1,285,000	
Fleet						
Machinery & Equipment						
Road Network						
Total Tax Funded:	$11,706,000				$1,285,000	

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	2026	2027	2028	2029	2030	2035
Bridges & Culverts							
Computer Systems							
Facilities	$1,227,000	$1,227,000	$1,141,000	$1,054,000	$1,054,000	$1,054,000	$909,000
Fleet							
Machinery & Equipment							
Road Network							
Total Tax Funded:	**$1,227,000**	**$1,227,000**	**$1,141,000**	**$1,054,000**	**$1,054,000**	**$1,054,000**	**$909,000**

The revenue options outlined in this plan allow Perth County to fully fund its long-term infrastructure requirements without further use of debt.

7.5 Use of Reserves

7.5.1 Available Reserves

Reserves play a critical role in long-term financial planning. The benefits of having reserves available for infrastructure planning include:

- the ability to stabilize tax rates when dealing with variable and sometimes uncontrollable factors
- financing one-time or short-term investments
- accumulating the funding for significant future infrastructure investments
- managing the use of debt
- normalizing infrastructure funding requirement

By asset category, the table below outlines the details of the reserves currently available to Perth County.

Asset Category	Balance at December 31, 2023
Bridges & Culverts	$1,868,000
Computer Systems	$96,000
Facilities	$2,173,000
Fleet	-$504,000
Machinery & Equipment	$329,000
Road Network	$2,446,000
Total	**$6,378,000**

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Municipality should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should consider when determining their capital reserve requirements include:

a) breadth of services provided
b) age and condition of infrastructure
c) use and level of debt
d) economic conditions and outlook
e) internal reserve and debt policies.

These reserves are available for use by applicable asset categories during the phase-in period to full funding. This coupled with Perth County's judicious use of debt in the past, allows the scenarios to assume that, if required, available reserves and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term.

7.5.2 Recommendation

In 2025, Ontario Regulation 588/17 will require Perth County to integrate proposed levels of service for all asset categories in its asset management plan update. We recommend that future planning should reflect adjustments to service levels and their impacts on reserve balances.

8 Appendices

Key Insights

- Appendix A identifies projected 10-year capital requirements for each asset category
- Appendix B provides additional guidance on the development of a condition assessment program

Appendix A: 10-Year Capital Requirements

The following tables identify the capital cost requirements for each of the next 10 years to meet projected capital requirements and maintain the current level of service.

Segment	**Total**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Asphalt (HCB2) - Surface	$145k	$145k	$0	$0	$0	$0	$0	$0	$0	$0	$0
Asphalt (HCB3) - Surface	$7.5m	$1.7m	$470k	$0	$1.1m	$1.3m	$0	$1.4m	$0	$1.1m	$400k
Asphalt (HCB4) - Surface	$108k	$0	$78k	$0	$0	$0	$0	$0	$0	$30k	$0
Roadway Lights	$3k	$0	$0	$0	$0	$3k	$0	$0	$0	$0	$0
Total:	**$7.8m**	**$1.8m**	**$548k**	**$0**	**$1.1m**	**$1.3m**	**$0**	**$1.4m**	**$0**	**$1.1m**	**$400k**

Bridges and Culverts											
Segment	**Total**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Bridges - Barriers & Decktop	$25k	$0	$25k	$0	$0	$0	$0	$0	$0	$0	$0
Bridges - Substructure	$2.7m	$329k	$2.4m	$0	$0	$0	$0	$0	$0	$0	$0
Bridges - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Culverts - Concrete	$1.5m	$0	$1.5m	$0	$0	$0	$0	$0	$0	$0	$0
Culverts - Steel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total:	**$4.2m**	**$329k**	**$3.8m**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Facilities											
Segment	**Total**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Ambulance Stations & Work Yards	$768k	$0	$0	$0	$0	$0	$0	$0	$0	$0	$768k
Furniture	$234k	$2k	$5k	$89k	$53k	$30k	$27k	$7k	$11k	$8k	$2k
Office Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total:	**$1m**	**$2k**	**$5k**	**$89k**	**$53k**	**$30k**	**$27k**	**$7k**	**$11k**	**$8k**	**$771k**

Machinery and Equipment											
Segment	**Total**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Equipment/Tools	$271k	$0	$0	$70k	$0	$0	$65k	$0	$137k	$0	$0
Medical Equipment	$696k	$0	$1k	$0	$0	$0	$524k	$0	$0	$20k	149k
Total:	**$0**	**$0**	**$1k**	**$70k**	**$0**	**$0**	**$589k**	**$0**	**$137k**	**$20k**	**$149k**

Computer Systems											
Segment	**Total**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Fire Radio Equipment	$641k	$22k	$6k	$0	40k	$0	$22k	$66k	$0	32k	$454k
Network Equipment	$310k	$28k	$12k	$2k	$10k	$0	$50k	$184k	$12k	$2k	$10k
Printers	$41k	$1k	$2k	$0	$0	$0	$0	$35k	$2k	$0	$0
Servers	$112k	$14k	$15k	$14k	$0	$0	$13k	$27k	$15k	$14k	$0
Software	$255k	$9k	$0	$13k	$12k	$98k	$0	$13k	$12k	$98k	$0
Workstations	$398k	$7k	$48k	$51k	$27k	$36k	$69k	$37k	$12k	$61k	$51k
Total:	**$1.8m**	**$81k**	**$84k**	**$80k**	**$88k**	**$134k**	**$154k**	**$1362k**	**$53k**	**$207k**	**$514k**

Fleet											
Segment	**Total**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Ambulances	$2.1m	$0	$0	$0	$530k	$1.1m	$0	$503k	$0	$0	$0
Dump, Crew Cab, Backhoe, Loaders	$180k	$0	$6k	$9k	$0	$0	$0	$0	$89k	$76k	$0
Graders	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pickup Trucks	$613k	$0	$26k	$0	$113k	$44k	$294k	$111k	$0	$26k	$0
Tandem Dump Trucks	$2.1m	$0	$332k	$332k	$0	$0	$372k	$355k	$0	$726k	$0
Total:	**$5m**	**$0**	**$363k**	**$340k**	**$643k**	**$1.1m**	**$667k**	**$969k**	**$89k**	**$828k**	**$0**

Appendix B: Condition Assessment Guidelines

The foundation of good asset management practice is accurate and reliable data on the current condition of infrastructure. Assessing the condition of an asset at a single point in time allows staff to have a better understanding of the probability of asset failure due to deteriorating condition.

Condition data is vital to the development of data-driven asset management strategies. Without accurate and reliable asset data, there may be little confidence in asset management decision-making which can lead to premature asset failure, service disruption and suboptimal investment strategies. To prevent these outcomes, the County's condition assessment strategy should outline several key considerations, including:

- The role of asset condition data in decision-making
- Guidelines for the collection of asset condition data
- A schedule for how regularly asset condition data should be collected

Role of Asset Condition Data

The goal of collecting asset condition data is to ensure that data is available to inform maintenance and renewal programs required to meet the desired level of service. Accurate and reliable condition data allows County staff to determine the remaining service life of assets, and identify the most cost-effective approach to deterioration, whether it involves extending the life of the asset through remedial efforts or determining that replacement is required to avoid asset failure.

In addition to the optimization of lifecycle management strategies, asset condition data also impacts the County's risk management and financial strategies. Assessed condition is a key variable in the determination of an asset's probability of failure. With a strong understanding of the probability of failure across the entire asset portfolio, the County can develop strategies to mitigate both the probability and consequences of asset failure and service disruption. Furthermore, with condition-based determinations of future capital expenditures, the County can develop long-term financial strategies with higher accuracy and reliability.

Guidelines for Condition Assessment

Whether completed by external consultants or internal staff, condition assessments should be completed in a structured and repeatable fashion, according to consistent and objective assessment criteria. Without proper guidelines for the completion of condition assessments there can be little confidence in the validity of condition data and asset management strategies based on this data.

Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating criteria, in a format that can be used for asset management decision-making. As a result, it is important that staff adequately define the condition rating criteria that should be used and the assets that require a discrete condition rating. When engaging with external consultants to complete condition assessments, it is critical that these details are communicated as part of the contractual terms of the project. There are many options available to the County to complete condition assessments. In some cases, external consultants may need to be engaged to complete detailed technical assessments of infrastructure. In other cases, internal staff may have sufficient expertise or training to complete condition assessments.

Developing a Condition Assessment Schedule

Condition assessments and general data collection can be both time-consuming and resource intensive. It is not necessarily an effective strategy to collect assessed condition data across the entire asset inventory. Instead, the County should prioritize the collection of assessed condition data based on the anticipated value of this data in decision-making. The International Infrastructure Management Manual (IIMM) identifies four key criteria to consider when making this determination:

1. **Relevance**: every data item must have a direct influence on the output that is required
2. **Appropriateness**: the volume of data and the frequency of updating should align with the stage in the assets life and the service being provided
3. **Reliability**: the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current
4. **Affordability**: the data should be affordable to collect and maintain