



COUNTY OF LAMBTON

2025 CORPORATE ASSET MANAGEMENT PLAN





**The Corporation of the County of Lambton
2025 Corporate Asset Management Plan**

**Presented to Lambton County Council
November 26, 2025**



Table of Contents

Glossary.....	4
Asset Summary	6
Executive Summary.....	7
1. Introduction	13
1.1. County of Lambton Overview	13
1.2. Asset Management Regulation.....	13
1.3. Background	14
1.4. Asset Management Plan	15
1.5. Next Steps	17
2. State of Infrastructure.....	20
2.1. Overview	20
3. Level of Service.....	25
3.1. Current Level of Service	25
3.2. Proposed Level of Service	30
4. Lifecycle Management Strategy.....	31
5. Risk Management.....	32
6. Financial Strategy	33
7. Continuous Improvement	42
Appendix A – Service Summary: Information Technology	43
Appendix B – Service Summary: Procurement & Project Management	47
Appendix C – Service Summary: Public Works	54
Appendix D – Service Summary: Public Works Core Assets Roads.....	64
Appendix E – Service Summary: Public Works Core Assets Structures	84
Appendix F – Service Summary: Waste Management.....	102
Appendix G – Service Summary: Planning and Development Services (Natural Assets).....	106
Appendix H – Service Summary: Lambton Public Health	110
Appendix I – Service Summary: Emergency Medical Services.....	114
Appendix J – Service Summary: Child Care and Children’s Services.....	122
Appendix K – Service Summary: Housing Services	125
Appendix L – Service Summary: Long Term Care	132
Appendix M – Service Summary: Cultural Services	139

Glossary

Asset – The County provides a wide range of services to the public and these services rely on physical assets such as roads, bridges, and buildings. Each of these assets helps to provide a service that the public values and has come to expect as part of their everyday lives.

Asset Class – A group of assets with similar characteristics or functions.

Asset Management Plan (AMP) – A strategic document that states how a group of assets are to be managed over a period of time. The plan describes the characteristics and condition of municipal infrastructure assets, the levels of service expected from them, planned actions to ensure the assets are providing the proposed level of service, and financial strategies to implement the planned actions.

Asset Management Policy – A policy which guides the overall direction of the County's asset management program. Specific requirements of an Asset Management Policy are prescribed in Ontario Regulation 588/17.

Bridge Condition Index (BCI) – A condition rating system based on the Ontario Structure Inspection Manual published by the Ministry of Transportation (MTO). The BCI rating is on a scale from 0 to 100, with 0 representing the worst possible condition and 100 representing the best possible condition.

Building Condition Assessment (BCA) – An assessment completed by an external consultant which helps determine the facility condition, identify issues before they become severe problems, and guide the allocation of capital for major repairs.

Core Municipal Infrastructure Assets – As defined by O. Reg. 588/17, any municipal infrastructure asset that is associated with water, wastewater, stormwater management, roads and bridges or culverts.

Current Replacement Value – The current cost, at the time of publishing the report, that would be incurred to replace an asset with a new equivalent asset using current construction methods and meeting current standards.

Estimated Useful Life (EUL) – An estimate of the number of years an asset is expected to be in service until it should be disposed of or replaced. The EUL considers the age and current condition of an asset as well as the lifecycle events that have been completed on the asset and the resulting effects on extending the asset's service life.

Facility Condition Index (FCI) – The total capital requirements of needed building maintenance, rehabilitation and replacement over a selected period of time divided by the current replacement value. Determined by completing a Building Condition Assessment. The County AMP uses a five-year FCI which calculates the five year capital requirements divided by the current replacement value.

Financial Useful Life – An accounting estimate of the number of years an asset is expected to remain in service for the purpose of financial planning and amortization. This measure may not accurately reflect the length of time an asset may be in service.

Lane Kilometres – Lane kilometres take into consideration the number of lanes on the road, which factors in the size of the road and better reflects the maintenance, rehabilitation, and replacement costs. Travelling 1 kilometre on a 2-lane road is equivalent to 2 lane kilometres. Travelling 1 kilometre on a 4-lane road is equivalent to 4 lane kilometres.

Level of Service – The parameters which reflect social, political, environmental, and economic outcomes that the organization delivers. Parameters can include but are not necessarily limited to safety, customer satisfaction, condition, capacity, reliability, responsiveness, environmental acceptability, cost, and availability.

Lifecycle Activity – Activities undertaken with respect to an asset over its service life, including maintenance, rehabilitation, and replacement.

Lifecycle Costs – The total cost of ownership over the life of an asset.

Lifecycle Management Strategy – The set of planned actions that enables the assets to provide a proposed level of service in a sustainable way, while managing risk, at the lowest lifecycle cost.

Ontario Regulation (O.Reg.) 588/17: Asset Management Planning for Municipal Infrastructure – The Provincial regulation made under the Infrastructure for Jobs and Prosperity Act, 2015, that sets out requirements for municipal asset management planning to help municipalities better understand their infrastructure needs and inform infrastructure planning and investment decisions.

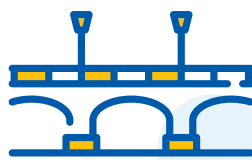
Pavement Condition Index (PCI) – A condition rating system based on the Ministry of Transportation Guide SP-022 Flexible Pavement Condition Rating, Guidelines for Municipalities. The guide provides a consistent standard for rating the roadway by establishing an overall rideability value and the pavement's structural condition on a scale from 0 to 100, with 0 representing the worst possible condition and 100 representing the best possible condition.

Sustainable Funding Target – The funding level required for an asset class to provide and maintain proposed levels of service without resorting to unplanned increases in rates or cuts to service.

County of Lambton Asset Summary



1,376 lane km
Arterial Roads
\$727.1 M



186
Structures
\$185.3 M



49
Facilities
\$651.9 M



72
Fleet Vehicles
\$14.5 M



**Equipment
and Machinery**
\$4.9 M



**Medical
Equipment**
\$2.1 M



IT
\$4.1 M



**Natural
Assets**
665.5 ha



1 active
5 closed
Landfills
\$12.9 M



**\$1.6
BILLION**
Current Replacement Value

Executive Summary

Asset management is a long-term approach for managing and investing in assets owned by the County. The County provides a wide range of services to the public and these services rely on physical assets such as roads, bridges, and buildings. Each of these assets helps to provide a service that the public values and has come to expect as part of their everyday lives.

The asset management plan outlines the process of actively managing all the County owned assets in a way that ensures they will continue to contribute to the quality of life of the community now and in the future. The asset management plan provides information the County uses to make strategic decisions. The main goal of asset management is to provide safe and sustainable services delivered to the community in a predictable and cost-effective manner.

The County's Asset Management Plan is being implemented in three phases:

- Phase One (2023) – Core Infrastructure Asset Management Plan.
- Phase Two (2024) – Asset Management Plan including the current state of all County owned municipal infrastructure assets.
- Phase Three (2025) – Asset Management Plan including proposed levels of service, lifecycle management strategy, risk management strategy, and financial strategy

This update completes Phase Three of the implementation.

This report is a living document that presents the County of Lambton's Asset Management Plan, in accordance with Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure. The County is responsible for the following assets by asset class:

- Core Assets including Roads and Structures
- Facilities
- Fleet
- Landfills
- Equipment and Machinery
- Information Technology (IT)
- Medical Equipment
- Natural Assets

The County's assets are also organized into the divisions and departments which they support. The Asset Management Plan follows this asset hierarchy which organizes assets by department. The County's asset portfolio has an estimated replacement value of **\$1.6 billion** (in 2025 dollars). Table 1 provides a summary of the County owned assets by department including current replacement values.

Table 1: Asset Inventory by Department

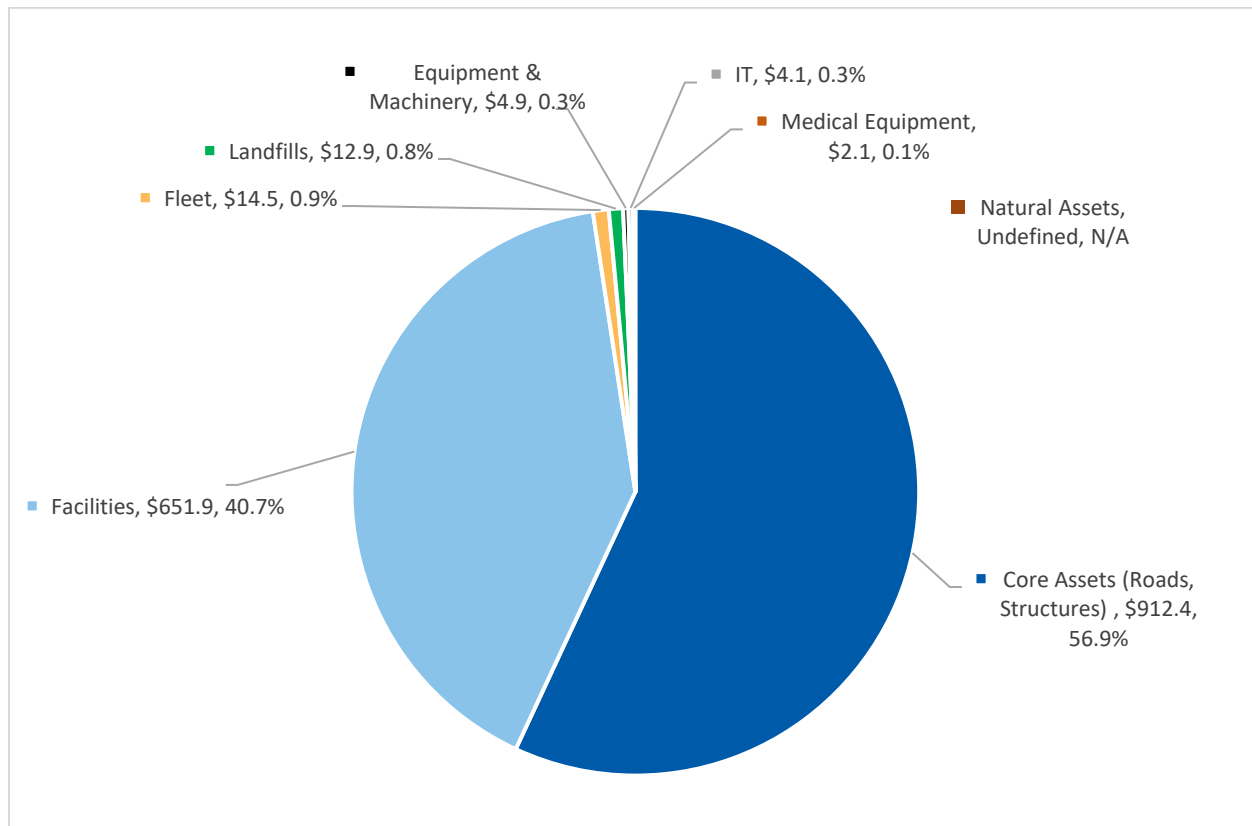
County Division	County Department	Asset Class	Replacement Value (\$Millions)	% of total
Corporate Services	Information Technology	IT	\$4.1	0.26%
Finance, Facilities and Acquisitions	Procurement & Project Management	Facilities, Fleet	\$52.4	3.27%
Infrastructure & Development Services	Public Works	Core Assets (Roads, Structures)	\$912.4	56.93%
		Facilities, Fleet, Equipment & Machinery	\$28.3	1.77%
	Waste Management	Landfills	\$12.9	0.81%
	Planning and Development Services	Natural Assets	Undefined	N/A
Public Health Services	Lambton Public Health	Facilities	\$7.8	0.49%
	Emergency Medical Services	Facilities, Fleet, Medical Equipment	\$20.5	1.28%
Social Services	Child Care and Children's Services	Facilities	\$3.8	0.24%
	Housing Services	Facilities, Fleet	\$285.6	17.82%
Long-Term Care	Long Term Care	Facilities, Fleet, Medical Equipment	\$230.7	14.39%
Cultural Services	Library	Library Contents, Fleet	\$10.0	0.62%
	Museums, Gallery & Archives	Facilities	\$34.2	2.13%
Total =			\$1,602.8	100.0%

Table 2 and Figure 3 provides a summary of the County's assets by asset class with the corresponding current replacement value.

Table 2: Asset Inventory by Asset Class

Asset Class	Current Replacement Value (\$Million)	% of total
Core Assets (Roads, Structures)	\$912.4	56.9%
Facilities	\$651.9	40.7%
Fleet	\$14.5	0.9%
Landfills	\$12.9	0.8%
Equipment & Machinery	\$4.9	0.3%
IT	\$4.1	0.3%
Medical Equipment	\$2.1	0.1%
Natural Assets	Undefined	N/A
Total =	\$1,602.8	100.0%

Figure 3: Current Replacement Value (\$Millions) by Asset Class

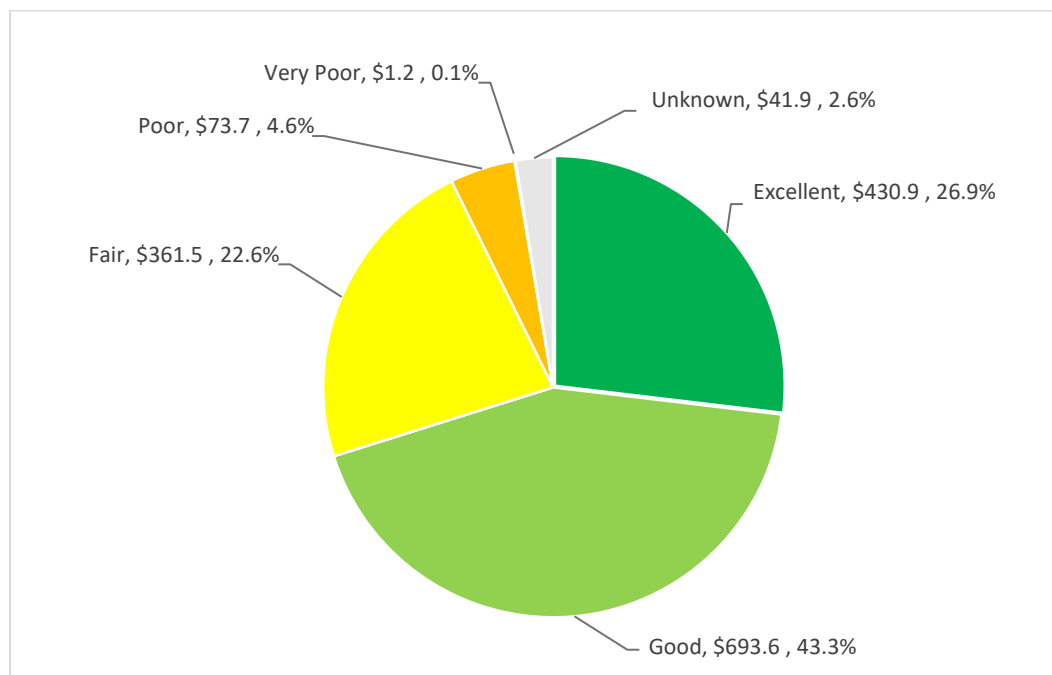


Understanding an asset's condition, age and estimated useful life informs the County on the timing for required lifecycle activities to maintain levels of service. Observed conditions provide an understanding of the current state of assets across the County. Inspections are routinely performed based on technical standards for each asset class. For consistency amongst all asset classes, a 5-point rating scale is used where conditions range from excellent to very poor. Using this rating scale the County has determine the condition distribution of all assets. The condition of the County's assets is shown relative to the current replacement value of each asset, which includes:

- \$430.9 million or 26.9% in excellent condition
- \$693.6 million or 43.3% in good condition
- \$361.5 million or 22.6% in fair condition
- \$73.7 million or 4.6% in poor condition
- \$1.2 million or 0.1% in very poor condition
- \$41.9 million or 2.6% in unknown condition

Based on the condition analysis over 70% of County assets are in good or better condition. A pie chart summarizing the County's assets condition and the associated current replacement value is shown in Figure 4.

Figure 4: Overall Condition by Current Replacement Value



The Level of Service (LOS) builds on the current state of infrastructure by defining the performance that the County's assets are intended to deliver over their service lives. Developing, monitoring, and reporting on current and proposed LOS measures as part of an overall performance management program supports effective governance demonstrated through financial sustainability, openness, and transparency. The County's LOS framework is presented as two types of measures: Customer Level of Service and Technical Level of Service. The County is currently meeting the proposed level of service targets set for the core assets. Proposed LOS measures for all other service areas are currently under development and will be included in future revisions of the Asset Management Plan.

The County is in the process of developing a framework that assesses the potential likelihood and consequences of asset failures to estimate risk exposure using a series of specific qualitative and quantitative metrics. This risk management framework will be built into the County's next iteration of the asset management plan.

The effective financial management of County owned assets will enable the County to sustain an appropriate level of service to the community well into the future. Without funding asset lifecycle activities properly, the County will have difficult choices to make in the future which may include higher cost reactive maintenance and operational repairs, reduction in service levels, and potential reputational damage.

In 2025, the County's funding capacity for existing asset renewal was **\$25.7 million** and the sustainable funding target is **\$31.1 million**. While **83%** of the infrastructure needs are currently funded, the County faces an annual funding gap of **\$5.4 million**. If left unaddressed, this gap will continue to increase due to inflation over the next ten years and the County's ability to maintain and replace existing assets will become increasingly impaired with each passing year.

The County currently has a total annual funding gap of

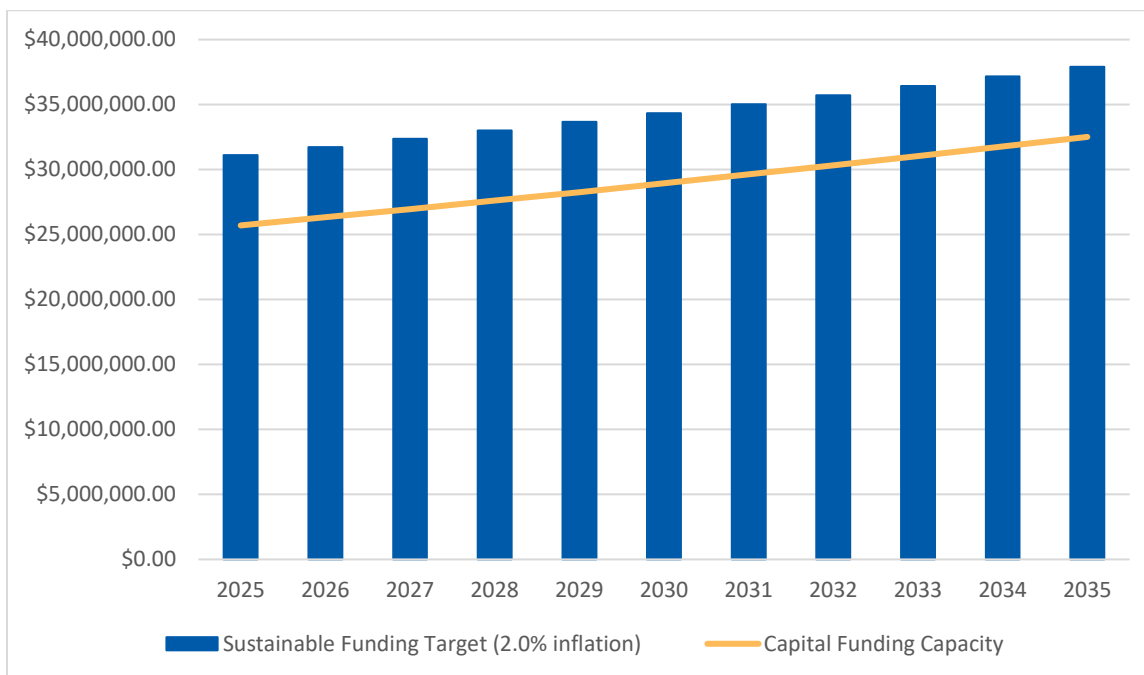
\$5.4 Million

Historically, the County has used a general County Council reserve to provide sustainable funding for the purpose of maintaining existing assets. In 2011, Council approved a funding strategy to gradually increase funding to this reserve over a ten-year period. From 2012 to 2022 funding levels increased annually to \$6.1 million in the 2022 budget year. However, funding for the reserve fell in 2023 to \$4.2 million and now sits at \$5.0 million in the 2025 budget year. It is recommended that the County reestablish a funding strategy and create a new "Life Cycle Maintenance – Capital Investment" Reserve as a mechanism to fund future lifecycle costs of existing assets.

The recommended financial strategy is to maintain the existing funding gap at \$5.4 million over a ten-year period by increasing annual funding to match a 2.0% inflation rate. Under this scenario, the initial

funding required in 2026, year one, would be \$622,000 which represents a 0.6% increase in tax rates. Figure 5 summarizes this option.

Figure 5: Recommended Funding Strategy – Maintain the funding gap and keep pace with inflation



One issue with this approach relates to the construction or acquisition of new assets. The funding strategy above does not account for the lifecycle costs of new assets. As part of the planning process for new assets the County should consider the annual sustainable funding required as a percentage of the overall replacement value. As new assets come online the County's current replacement value and annual sustainable funding requirement will need to be adjusted accordingly.

In addition to the funding strategy above, another way to reduce the funding gap is to direct a portion of any annual budget surplus to the County Council Reserves.

As part of the regulation annual reports to Council are required on the progress of the County's asset management program. These updates will provide an opportunity to review and adjust the funding strategy to reflect the actual inflation rate and any new growth assets acquired or built by the County.

This report completes Phase Three of the County's Asset Management Plan and brings the County into compliance with Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure.

The County is committed to continuous improvement and is working towards implementing an Enterprise-Wide Asset Management Program. Moving forward, the County will provide annual reports to Council on the progress of the County's asset management program and complete a five-year comprehensive review and update of the AMP in 2030.

Future updates will be presented for approval through a resolution at County Council.

1. Introduction

1.1. County of Lambton Overview

The County of Lambton, referred to as the County, is an upper-tier municipality in Southwestern Ontario, nestled along Lake Huron and the St. Clair River, next to the state of Michigan. The County covers a total land area of approximately 3,000 square kilometres that feature many natural attributes including beautiful blue waters, sandy beaches, fertile farmlands, and rare and unusual wildlife habitats. The County is home to eleven local municipalities. Also, located within the County census division are three independent First Nation communities.

Lambton County is home to a diverse and welcoming population of approximately 128,000 residents. Along with its strong roots in the agriculture, chemical and oil and gas industries, Lambton counts bio-chemicals, education, fabricating, health services, manufacturing, research, and tourism amongst its economic sectors.

Lambton County is one of the area's largest employers. It employs over 1,300 employees within the following divisions:

- Office of the CAO
- Corporate Services
- Cultural Services
- Infrastructure and Development Services
- Finance, Facilities and Acquisitions
- Long-Term Care
- Public Health Services
- Social Services

Each County division has a unique set of municipal infrastructure assets that it relies on to deliver services and programs to residents, allowing the community to flourish. The purpose of the Asset Management Plan is to drive future investment in these assets in accordance with the Strategic Plan's Mission Statement:

Working with municipal and community partners and stakeholders, the County provides efficient, responsive and sustainable services and programs to enhance the quality of life of its citizens. In doing so, the County is committed to sustainability, economic growth, and environmental stewardship.

1.2. Asset Management Regulation

In 2017, the Province of Ontario enacted Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure, under the Infrastructure and Prosperity Act, to support improvements in municipal asset management.

The Regulation provides the authority for the Province to regulate municipal asset management planning. It reflects the province's commitment to guide investments in public infrastructure that was

first initiated in 2011 when the province released the Building Together Guide for Municipal Asset Management Plans as its long-term infrastructure plan and strategic framework.

The intent of the Regulation is to facilitate asset management best practices throughout the municipal sector, provide a degree of consistency to asset management plans, and leverage asset management planning to optimize infrastructure investment decisions. The requirements of the regulation are phased in, as follows:

- July 1, 2019: Every municipality shall prepare its first strategic asset management policy.
- July 1, 2022: Every municipality shall prepare an asset management plan in respect to its core municipal infrastructure assets.
- July 1, 2024: Every municipality shall prepare an asset management plan in respect to all of its municipal infrastructure assets.
- July 1, 2025: Every municipality shall prepare an asset management plan that includes proposed levels of service, lifecycle management strategy, risk management strategy and financial strategy for the following 10 years.

Additionally, the regulation requires the continued evaluation and improvement of the asset management plan, as follows:

- Every municipal council shall conduct an annual review of its asset management progress on or before July 1 in each year, starting the year after the municipality's asset management plan is completed.
- Every municipality shall review and, if necessary, update its strategic asset management policy at least every five years.
- Every municipality shall review and update its asset management plan at least every five years.

Finally, the regulation requires that the asset management plan be publicly available, as follows:

- Every municipality shall post its current strategic asset management policy and asset management plan on a website that is available to the public and shall provide a copy of the policy and plan to any person who requests it.

1.3. Background

Asset management at the County of Lambton has been an evolving process. Significant milestones that have been achieved to date are summarized below:

- 2014 – The first Asset Management Plan was approved by County Council which included roads, structures, and social housing.
- 2019 – The Asset Management Plan was updated to include buildings, fleet, machinery, and medical equipment.
- 2021 – The Strategic Asset Management Policy was approved by County Council.
- 2023 – The Core Infrastructure Asset Management Plan was approved by County Council.
- 2024 – The updated Asset Management Plan including the current state of all County owned municipal infrastructure assets was approved by County Council.

In 2021, the County initiated a review of the current Asset Management Plan and processes and established a plan to move forward to ensure compliance with new and updated provincial regulations, specifically, O. Reg. 588/17. Following the review, a Corporate Asset Management Team was created to meet legislative requirements and to have a professionally prepared and monitored Asset Management Plan. The County is taking a phased approach to update the Asset Management Plan to meet current regulations. The Plan is being updated according to the following three phases:

- Phase One (2023) – Core Infrastructure Asset Management Plan
- Phase Two (2024) – Updated Asset Management Plan including the current state of all County owned municipal infrastructure assets.
- Phase Three (2025) – Updated Asset Management Plan including proposed levels of service, lifecycle management strategy, risk management strategy, and financial strategy

This update completes Phase Three of the implementation.

1.4. Asset Management Plan

This update focuses on the current state of all County owned municipal infrastructure assets. The County is responsible for the following assets organized by asset class:

- Core Assets including Roads and Structures
- Facilities
- Fleet
- Landfills
- Equipment and Machinery
- Information Technology (IT)
- Medical Equipment
- Natural Assets

The County's assets are also organized into the divisions and departments which they support. The Asset Management Plan follows this asset hierarchy which organizes assets by department. Table 1-1 summarizes the County's asset hierarchy.

Table 1-1: Asset Hierarchy

County Division	County Department	Asset Class
Corporate Services	Information Technology	IT
Finance, Facilities and Acquisitions	Procurement & Project Management	Facilities, Fleet
Infrastructure & Development Services	Public Works	Core Assets (Roads, Structures)
		Facilities, Fleet, Equipment & Machinery
	Waste Management	Landfills
	Planning and Development Services	Natural Assets
Public Health Services	Lambton Public Health	Facilities
	Emergency Medical Services	Facilities, Fleet, Medical Equipment
Social Services	Child Care and Children's Services	Facilities
	Housing Services	Facilities, Fleet
Long-Term Care	Long Term Care	Facilities, Fleet, Medical Equipment
Cultural Services	Library	Library Contents, Fleet
	Museums, Gallery & Archives	Facilities

The Asset Management Plan is organized to meet the requirements of Ontario Regulation 588/17. The contents of the plan follow the recommended elements of a detailed Asset Management Plan as follows:

- State of Infrastructure: An overview of the current state of infrastructure within each service area including inventory, value, age, estimated useful life and condition.
- Level of Service: Information on current and proposed levels of service as determined by the regulation.
- Lifecycle Management Strategy: A summary of the proposed maintenance, rehabilitation and reconstruction techniques.
- Risk Management Strategy: A framework for assessing risk of individual assets and prioritizing investments to minimize risk.
- Financial Strategy: A long-term financial plan to execute the proposed lifecycle strategy including sustainable funding targets.
- Continuous Improvement: A review of lessons learned and future opportunities.

The goal of the Asset Management Plan is to provide an accurate assessment of assets within each service area. This information should be used by decision-makers in making sound and consistent

investment decisions. The Asset Management Plan does not bind the County to specific expenditures but instead sets a framework for consistent decision making and planning.

1.5. Next Steps

This report completes Phase Three of the County's Asset Management Plan and brings the County into compliance with Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure.

The County is committed to continuous improvement and is working towards implementing an Enterprise-Wide Asset Management Program. Moving forward, the County will provide annual reports to Council on the progress of the County's asset management program and complete a five-year comprehensive review and update of the AMP in 2030.

Future updates will be presented for approval through a resolution at County Council.



Municipal Assets



Municipal Assets Gallery

2. State of Infrastructure

2.1. Overview

The County of Lambton's range of services depends on a wide portfolio of municipal infrastructure assets. Understanding the assets owned by the County is the starting point to developing a plan to best manage them. To better understand the current state of infrastructure of all County owned assets the County reviews current replacement values, condition, age and estimated service life.

The current replacement value of an asset represents the current cost to replace an existing asset with a new equivalent using current construction methods and meeting current standards. The County's asset portfolio has an estimated replacement value of **\$1.6 billion** (in 2023 dollars). Table 2-1 provides a summary of the County owned assets by department including current replacement values.

Table 2-1: Asset Inventory by Department

County Division	County Department	Asset Class	Replacement Value (\$Millions)	% of total
Corporate Services	Information Technology	IT	\$4.1	0.3%
Finance, Facilities and Acquisitions	Procurement & Project Management	Facilities, Fleet	\$52.4	3.3%
Infrastructure & Development Services	Public Works	Core Assets (Roads, Structures)	\$912.4	56.9%
		Facilities, Fleet, Equipment & Machinery	\$28.3	1.8%
	Waste Management	Landfills	\$12.9	0.8%
	Planning and Development Services	Natural Assets	Undefined	N/A
Public Health Services	Lambton Public Health	Facilities	\$7.8	0.5%
	Emergency Medical Services	Facilities, Fleet, Medical Equipment	\$20.5	1.3%
Social Services	Child Care and Children's Services	Facilities	\$3.8	0.2%
	Housing Services	Facilities, Fleet	\$285.6	17.8%
Long-Term Care	Long Term Care	Facilities, Fleet, Medical Equipment	\$230.7	14.3%
Cultural Services	Library	Library Contents, Fleet	\$10.0	0.6%
	Museums, Gallery & Archives	Facilities	\$34.2	2.1%
Total =			\$1,602.8	100.0%

Another way to organize the County's assets is by grouping them with other assets that have similar characteristics and functions, known as an asset class. County owned assets are grouped into the following asset classes:

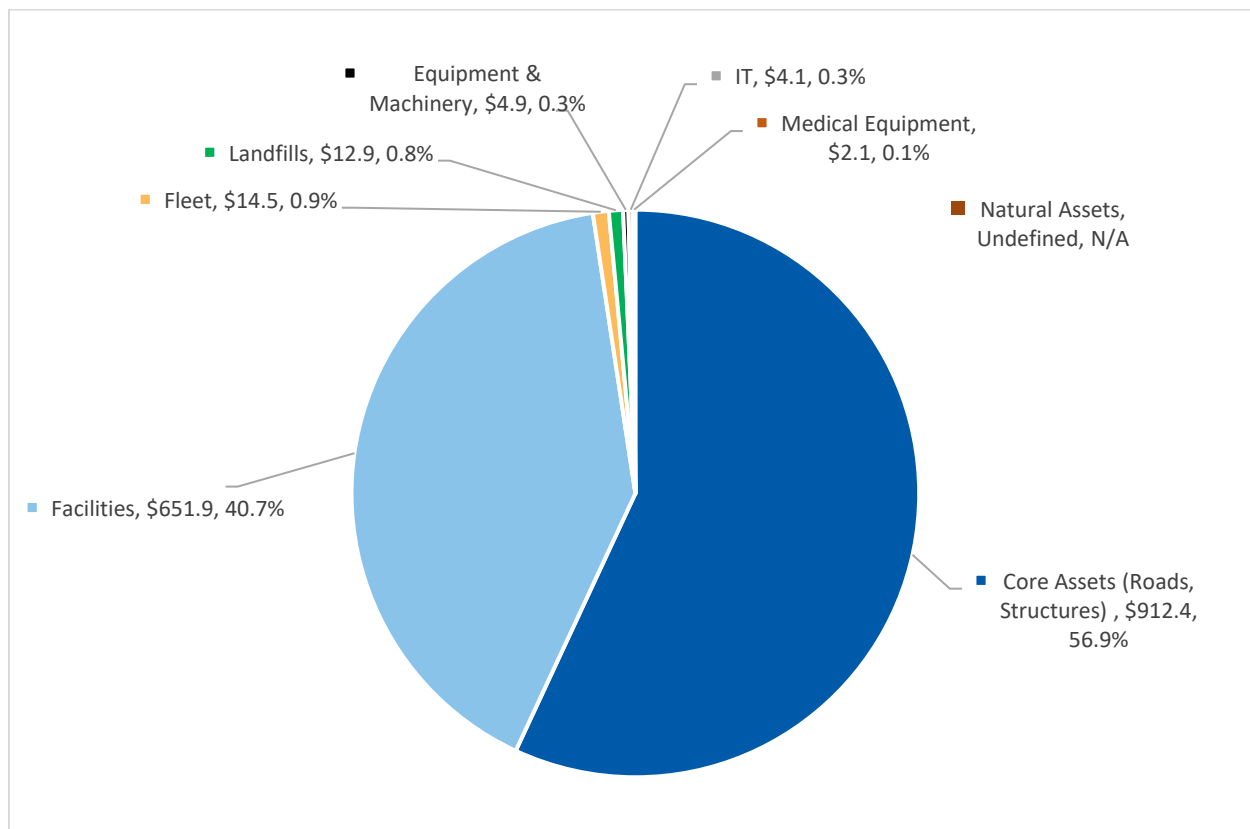
- Core Assets including Roads and Structures
- Facilities
- Fleet
- Landfills
- Equipment and Machinery
- Information Technology (IT)
- Medical Equipment
- Natural Assets

Table 2-2 and Figure 2-3 provides a summary of the County's assets by asset class with the corresponding current replacement value.

Table 2-2: Asset Inventory by Asset Class

Asset Class	Current Replacement Value (\$Million)	% of total
Core Assets (Roads, Structures)	\$912.4	56.9%
Facilities	\$651.9	40.7%
Fleet	\$14.5	0.9%
Landfills	\$12.9	0.8%
Equipment & Machinery	\$4.9	0.3%
IT	\$4.1	0.3%
Medical Equipment	\$2.1	0.1%
Natural Assets	Undefined	N/A
Total =	\$1,602.8	100.0%

Figure 2-3: Current Replacement Value (\$Millions) by Asset Class



Understanding an asset's condition, age and estimated useful life informs the County on the timing for required lifecycle activities to maintain levels of service. Observed conditions provide an understanding of the current state of assets across the County. Conditions and their corresponding service level are summarized using the five-point condition scale defined in Table 2-4. The five conditions used are: excellent, good, fair, poor and very poor. This scale is aligned with the International Infrastructure Management Manuals (IIMM) five-point condition scale.

Table 2-4: Asset Condition Scale

Condition Scale	Service Level
Excellent	Asset is physically sound and is performing its function as originally intended. Required maintenance costs are well within standards and norms. Typically, asset is new or recently rehabilitated.
Good	Asset is physically sound and is performing its function as originally intended. Required maintenance costs are within the acceptable standards and norms but are increasing. Typically, asset has been used for some time but is within the middle stage of its expected life.
Fair	Asset is showing signs of deterioration and is performing at a lower level than originally intended. Some components of the asset are becoming physically deficient. Required maintenance costs exceed acceptable standards and norms and are increasing. Typically, asset has been used for a long time and is within the later stage of its expected life.

Poor	Asset is showing significant signs of deterioration and is performing to a much lower level than originally intended. A major portion of the asset is physically deficient. Required maintenance costs significantly exceed acceptable standards and norms. Typically, asset is at the end of its expected life.
Very Poor	Asset is physically unsound and or not performing as originally intended. Asset has a higher probability of failure or failure is imminent. Maintenance costs are unacceptable, and rehabilitation is not cost effective. Replacement or major refurbishment is required.

Conditions are determined using unique assessment techniques for each asset class. For this Asset Management Plan, condition assessment data was incorporated where available for the following asset classes:

- Roads – 2022 Pavement Condition Index based on staff assessments
- Structures – 2022 Bridge Condition Index based on external OSIM inspections
- Facilities – 2023 Facility Condition Index based on external BCA inspections or staff assessments
- Fleet, Equipment and Machinery, Medical Equipment and IT – age based (percentage of EUL remaining)
- Natural Assets – staff assessments

Each assessment technique is translated into the five-point condition scale shown in Table 2-5.

Table 2-5: Conversion Table for Condition Scale

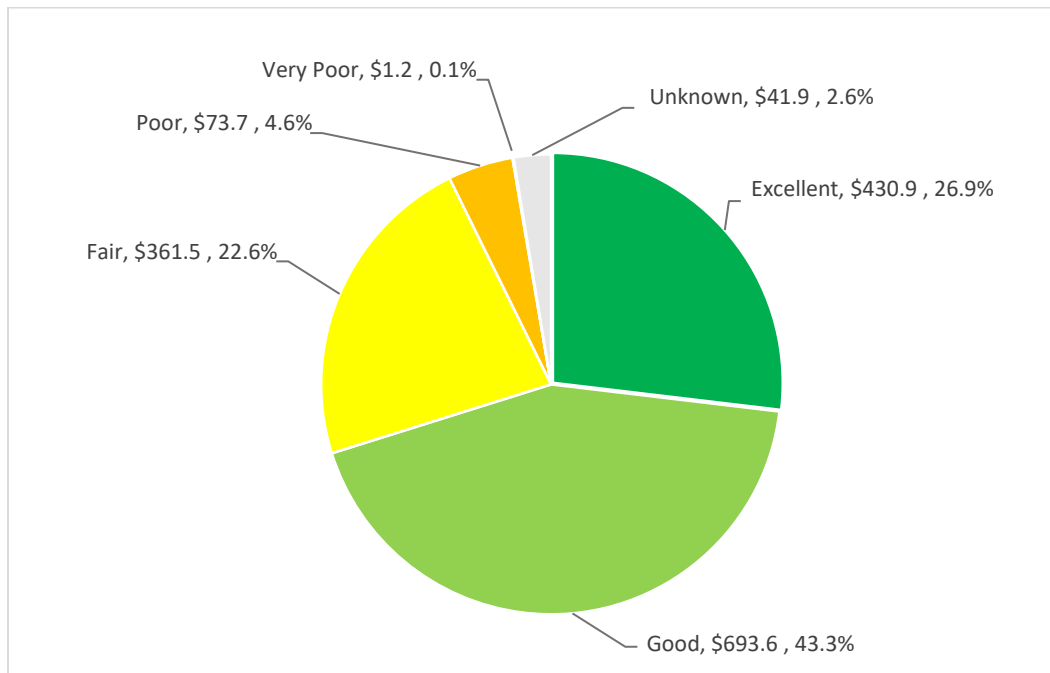
Condition Scale	Roads (PCI)	Bridges and Culverts (BCI)	Facilities (FCI _{5year})	Age Based (% EUL Remaining)
Excellent	> 90 – 100%	> 85 – 100%	0 – 5%	> 66 – 100%
Good	> 75 – 90%	> 70 – 85%	> 5 – 15%	> 33 – 66%
Fair	> 60 – 75%	> 60 – 70%	> 15 – 28%	> 0 – 33%
Poor	> 40 – 60%	> 30 – 60%	> 28 – 70%	> -33 – 0%
Very Poor	0 – 40%	0 – 30%	> 70%	< -33%

Using these translations the County has determined the condition distribution of all assets. The condition of the County's assets is shown relative to the current replacement value of each asset, which includes:

- \$430.9 million or 26.9% in excellent condition
- \$693.6 million or 43.3% in good condition
- \$361.5 million or 22.6% in fair condition
- \$73.7 million or 4.6% in poor condition
- \$1.2 million or 0.1% in very poor condition
- \$41.9 million or 2.6% in unknown condition

Based on the condition analysis, over 70% of County assets are in good or better condition. A pie chart summarizing the County's assets condition and the associated current replacement value is shown in Figure 2-6.

Figure 2-6: Overall Condition by Current Replacement Value



Appendix A through M provides a detailed review of assets in each County Department.

3. Level of Service

In the State of the Infrastructure section, the current replacement value, condition, age and estimated useful life were discussed. The Level of Service builds on the previous chapter by defining the performance that the County's assets are intended to deliver over their service lives. Developing, monitoring, and reporting on current and proposed Level of Service measures as part of an overall performance management program supports effective governance demonstrated through financial sustainability, openness, and transparency.

Levels of Service (LOS) are statements that describe the outputs and objectives the County intends to deliver to its residents, businesses and other stakeholders. In general, LOS measures are guided by a combination of customer expectations, legislative requirements, internal guidelines, policies and procedures, and affordability. Effective asset management requires that LOS be formalized and supported through a framework of performance measures, targets, and timeframes and that the costs to deliver the level of service are understood.

The County's LOS framework is presented as two types of measures: Customer Level of Service and Technical Level of Service. Customer LOS are statements that articulate the customer's expectations from the service area. Technical LOS are statements that identify the technical measures that support the service delivery. These technical LOS are typically quantitative and express numerical measures of performance that can be evaluated and compared year-to-year.

3.1. Current Level of Service

The following summarizes the current LOS measures established for each department in the County's asset hierarchy. Customer LOS statements for core assets are provided in accordance with Ontario Regulation 588/17. Customer LOS statements for all other service areas are currently under development and will be included in future revisions of the Asset Management Plan. Technical LOS are provided through one key measure that is consistent across all service areas, which is the percentage of assets in good or better condition. The LOS for each department is summarized below:

Information Technology

The Information Technology (IT) Department supports the centralized strategic and operational technology needs of the County of Lambton and is responsible for the management and support of information technology-based services to all County Departments. Technical LOS for the IT department are summarized in Table 3-1.

Table 3-1: Technical Level of Service – IT

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	IT	55%

Procurement & Project Management

The Procurement & Project Management Department coordinates the construction, demolition, and maintenance of County-owned and leased facilities. Technical LOS for the department are summarized in Table 3-2.

Table 3-2: Technical Level of Service – Procurement & Project Management

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Facilities	93%
	Fleet	43%

Public Works

The Public Works department is responsible to maintain and upgrade the County Road Network which includes 1,376 lane kilometres of roads and 186 structures (bridges and major culverts). Customer LOS for the department's core assets are summarized in Table 3-3 and Table 3-4. Technical LOS for the department are summarized in Table 3-5.

Table 3-3: Customer Level of Service – Roads

Customer Level of Service	Current Performance
Description, which may include maps, of the road network in the municipality and its level of connectivity.	The County's road network is classified as arterial roads and as such the type of traffic supported by the structures includes motor vehicles, heavy transport vehicles, emergency response vehicles, school buses, cyclists and pedestrians. The County also supports the Lambton County Regional Trail System which is an on-road, shared access route for motorists, cyclists and pedestrians. A map showing the County road network is included at the end of Appendix D.
Description or images that illustrate the different levels of road class pavement condition.	Images of the condition of roads are shown in Appendix D.

Table 3-4: Customer Level of Service – Structures

Qualitative Description	Current Level of Service
Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	The County's road network is classified as arterial roads, which support the following type of traffic: motor vehicles, heavy transport vehicles, emergency response vehicles, school buses, cyclists, and pedestrians. The County also supports the Lambton County Regional Trail System which is an on-road, shared access route for motorists, cyclists and pedestrians. A map showing the location of County structures is included at the end of Appendix E.
1. Description or images of the condition of bridges and how this would affect use of the bridges. 2. Description or images of the condition of culverts and how this would affect use of the culverts.	Images of the condition of bridges and culverts are shown in Appendix E. A map showing the location of structures and their condition is included at the end of Appendix E.

Table 3-5: Technical Level of Service – Public Works

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Core Assets – Roads	68%
	Core Assets – Structures	91%
	Facilities	53%
	Fleet	35%
	Equipment & Machinery	37%

Waste Management

The Waste Management department is responsible for providing waste disposal facilities to receive and dispose of municipal solid waste generated by the local municipalities. Technical LOS for the department are summarized in Table 3-6.

Table 3-6: Technical Level of Service – Waste Management

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Landfill	16%

Natural Assets

The Planning and Development Services Department is responsible for managing the County's natural assets. These assets are natural areas that include forests, wetlands, grasslands, etc. on County owned parcels of land. Technical LOS for Natural Assets are summarized in Table 3-7.

Table 3-7: Technical Level of Service – Natural Assets

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Natural Assets	100%

Lambton Public Health

Lambton Public Health is mandated to provide specialized public health programs and services throughout Lambton County. Technical LOS for the department are summarized in Table 3-8.

Table 3-8: Technical Level of Service – Lambton Public Health

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Facilities	45%

Emergency Medical Services

The Emergency Medical Services (EMS) Department is mandated by Provincial legislation, to provide land ambulance services to the residents of Lambton County. Technical LOS for the EMS department are summarized in Table 3-9.

Table 3-9: Technical Level of Service – Emergency Medical Services

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Facilities	87%
	Fleet	32%
	Medical Equipment	N/A

Childcare and Children's Services

The Childcare and Children's Services department is responsible for oversight for the childcare and early years' system in the County of Lambton. As part of this service the County owns one facility at 295 Essex Street in Sarnia which is leased to a not-for-profit childcare provider. Technical LOS for the department are summarized in Table 3-10.

Table 3-10: Technical Level of Service – Childcare and Children’s Services

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Facilities	100%

Housing Services

The Housing Services department manages 3 high-rise apartments, 13 low-rise apartments and 8 family sites for a total of 832 housing units owned by the County. Technical LOS for the department are summarized in Table 3-11.

Table 3-11: Technical Level of Service – Housing Services

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Facilities	74%
	Fleet	0%

Long-Term Care

The Long-Term Care department manages three not-for-profit long-term care homes with a total of 339 beds. Technical LOS for the department are summarized in Table 3-12.

Table 3-12: Technical Level of Service – Long-Term Care

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Facilities	62%
	Fleet	0%

Cultural Services

The Cultural Services Division manages Lambton Heritage Museum, the Oil Museum of Canada, the Judith & Norman Art Gallery, the Library Headquarters / Lambton County Archives and the operation of 25 Libraries. Technical LOS for the department are summarized in Table 3-13.

Table 3-13: Technical Level of Service – Cultural Services

Technical Level of Service	Asset Class	Current Performance
Percentage of assets in 'Good' or better condition	Facilities	73%
	Fleet	100%

3.2. Proposed Level of Service

The following summarizes the proposed LOS measures established for each department in the County's asset hierarchy. Proposed LOS for core assets focuses on the physical condition of the overall asset class and sets the minimum LOS that the County aims to provide. Proposed LOS measures for all other service areas are currently under development and will be included in future revisions of the Asset Management Plan. The proposed LOS for core assets are summarized below:

Core Assets - Roads

The proposed LOS for roads focuses on the physical condition of the overall road network and sets the minimum level of service that the County aims to provide. Pavement condition is the main factor used to determine lifecycle events and is also the most noticeable by the residents and visitors of the County. Proposed levels of service are summarized in Table 3-14.

Table 3-14: Road Network Proposed Level of Service

Proposed Level of Service	Target	Performance
Maintain an average condition of 'Good' or better (PCI greater than 75)	Good (PCI>75)	Good (PCI=83.9)
Maintain 100% of roads above 'Very Poor' condition	100%	100%

Roads identified for replacement are allowed to decline to 'poor' condition. Poor condition roadways are considered acceptable in the short term, except for any roads that have concerns with safety or performance. The County is currently meeting the proposed level of service targets set for the road network.

Core Assets - Structures

Proposed LOS for structures focuses on the physical condition of the overall network as this provides the best indication of how a structure will perform in the short to medium term. The proposed level of service sets the minimum level of service that the County aims to provide. Proposed levels of service are summarized in Table E-7.

Table E-7: Structures Proposed Level of Service

Proposed Level of Service	Target	Performance
Maintain an average condition of 'Good' or better (BCI greater than 70)	Good (BCI>70)	Good (BCI=79.2)
Maintain 100% of bridges and major culverts above 'Very Poor' condition	100%	100%

Bridges identified for replacement are allowed to decline to 'poor' condition. Bridges rated as poor are considered acceptable in the short term except for any structures that have concerns with safety or performance. The County is currently meeting the proposed level of service targets set for structures.

4. Lifecycle Management Strategy

The County's Lifecycle Management Strategy is a set of planned activities that enable assets to provide levels of service in a sustainable way, while managing risk at the lowest lifecycle cost. Lifecycle activities detail the actions that are executed as part of the strategy. They document the activities that the County is undertaking to provide services through assets to the community. The County's lifecycle activities are organized into six (6) categories summarized in Table 4-1.

Table 4-1: Summary of Lifecycle Management Strategy

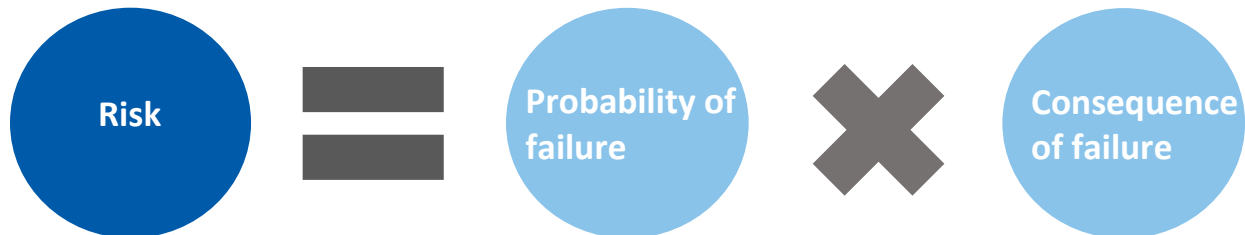
Lifecycle Activity Category	Description	Examples
Non-Infrastructure	Actions or policies that are not capital in nature, which result in lower lifecycle costs and/or extended useful life of an asset.	Demand management plans, managed failures, procurement policies, etc.
Operations and Maintenance	Regularly scheduled costs to inspect or maintain assets, or in some cases, one time repair costs that don't meet the definition of rehabilitation. Also, maintenance activities associated with unexpected events.	Annual inspections, regular cleaning, unplanned repairs, etc.
Rehabilitation	Significant repairs designed to extend the service life of an asset at a fraction of the cost of replacement.	Repair or replacement of asset components (ie. repair / replacement of HVAC system components, pavement recycling, etc.)
Replacement	Activities that involve the removal of an existing asset or major component of an asset and replacement with a new one. Replacements are planned to occur once an asset has reached the end of its useful life and rehabilitation is no longer an option.	Replacement of major components (ie. replace entire HVAC system, replace roof, etc.) Replacement of entire asset (new building, new bridge, etc.)
Disposal	Activities associated with disposing of an asset when it is no longer needed by the County and will not be replaced.	Building demolition, vehicle sale, etc.
Growth / Expansion	Planned activities to provide a new asset that did not exist previously or an expansion to an existing asset to meet an increase in demand, either through population growth or other factors.	Building addition, new building, road widening, roundabout construction, etc.

The County assesses the costs of potential lifecycle management activities to determine the lowest lifecycle strategy to manage each asset type while still meeting service levels. The total cost of ownership is the sum of lifecycle activity costs over the service life of the asset. A well-planned lifecycle management strategy can minimize the total cost of ownership of each asset and also mitigate other potential risks such as interruption to service delivery.

5. Risk Management

The County is in the process of developing a framework that assesses the potential likelihood and consequences of asset failures to estimate risk exposure using a series of specific qualitative and quantitative metrics.

The asset management risk framework will follow the following formula:



Probability of failure is a measure of how likely it is that an asset will fail at a given time and cease to provide service. The current physical condition and service life remaining are two commonly used risk parameters in determining the likelihood of failure.

Consequence of failure describes the overall effect that an assets failure will have on an organization's asset management goals. Consequence of failure can range from non-eventful to impactful. Many assets depend on other infrastructure systems to function so a single failure may have cascading effects. The consequence of failure parameters are organized by the type of consequences they pertain to; these include economic, social, environmental, operational and health and safety.

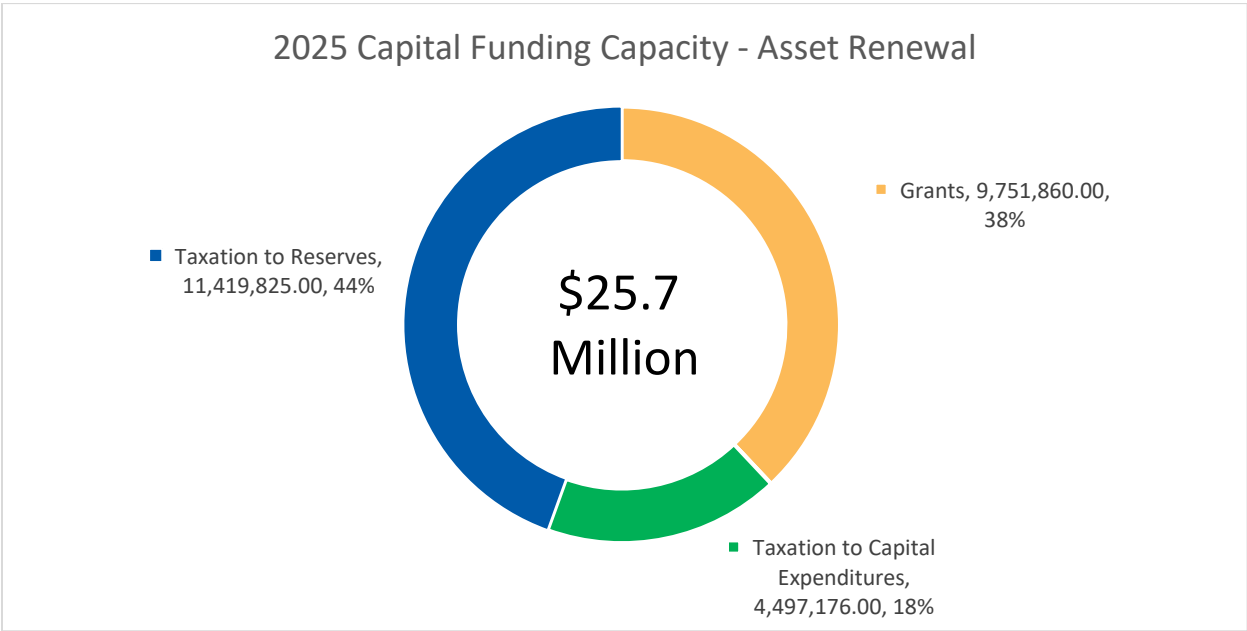
The risk management framework will be built into the County's next iteration of the asset management plan.

6. Financial Strategy

The effective financial management of County owned assets will enable the County to sustain an appropriate level of service to the community well into the future. Without properly funding asset lifecycle activities, the County will have difficult choices to make in the future which may include higher cost reactive maintenance and operational repairs, reduction in service levels, and potential reputational damage.

The County has limited avenues to generate revenue, relying primarily on property taxes, grants from upper levels of government, reserve funds and long-term financing to fund the lifecycle costs of maintaining existing infrastructure. The County’s annual funding capacity is composed of taxation transferred to reserves, taxation applied directly to capital expenditures and grant funding. The County’s funding capacity does not include long-term financing or transfers from existing reserves. In 2025, the County’s funding capacity for existing asset renewal was **\$25.7 million**. The County’s funding capacity is summarized in Figure 6-1.

Figure 6-1: 2025 Capital Funding Capacity



The County uses a sustainable funding target as an indicator of the asset portfolio’s long-term financial health. The sustainable funding target is determined by establishing target reinvestment rates for each asset class. The reinvestment rate is defined as the annual funding capacity for capital renewal projects as a share of the total replacement value of the asset portfolio. The current funding capacity is compared to the sustainable funding target and if it is lower a funding gap exists.

The County uses target reinvestment rates that have been established in the Canadian Infrastructure Report Card. This report is produced by the Federation of Canadian Municipalities (FCM) and seven partner organizations to examine the state of Canada’s public infrastructure and is considered the industry standard for establishing target reinvestment rates. The lower and upper reinvestment rates recommended in the report for applicable County owned asset classes are summarized in Table 6-1.

Table 6-1: Canadian Infrastructure Report Card: Target Reinvestment Rates

Asset Class	Lower Target Reinvestment Rate	Upper Target Reinvestment Rate
Roads	2.0%	3.0%
Bridges	1.0%	1.5%
Buildings	1.7%	2.5%

For asset classes that have a relatively short estimated useful life such as fleet, equipment and machinery, IT, and medical equipment the County determines a target reinvestment rate using the Sinking Fund Method. This method is a simple approach to determining a target reinvestment rate and is calculated by dividing the current replacement cost by the estimated useful life. It assumes that the interest earned on reserve fund balances will match or exceed the capital inflation rate, meaning replacement of the asset will be fully funded.

Based on these methods and using the lower target reinvestment rates, The County's sustainable funding target for existing asset renewal is **\$31.1 million**. The sustainable funding target compared to funding capacity is summarized in Table 6-2.

Table 6-2: Financial Summary

Asset Class	Current Replacement Value (\$million)	Target Reinvestment Rate	Sustainable Funding Target (\$million)	2025 Funding Capacity (\$million)
General ¹				\$7.85
Core Assets (Roads)	\$727.1	2.0%	\$14.54	\$6.46
Core Assets (Structures)	\$185.3	1.0%	\$1.85	\$1.85
Facilities	\$651.9	1.7%	\$11.08	\$7.33
Fleet	\$14.5	13.1%	\$1.90	\$0.64
Landfills	\$12.9	1.7%	\$0.22	\$0.00
Equipment & Machinery	\$4.9	8.0%	\$0.39	\$0.98
IT	\$4.1	20.0%	\$0.82	\$0.40
Medical Equipment	\$2.1	15.0%	\$0.32	\$0.16
Natural Assets	\$0.0	0.0%	\$0.00	\$0.00
Total =	\$1,602.8	1.9%	\$31.1	\$25.7

¹ The County TCA Budget has a general County Council line item which transfers taxation into general reserve funds. These reserve funds are then distributed to respective departments for annual capital expenditures.

In 2025, the County’s funding capacity for existing asset renewal was **\$25.7 million** and the sustainable funding target is **\$31.1 million**. While **83%** of the infrastructure needs are currently funded, the County faces an annual funding gap of **\$5.4 million**. If left unaddressed, this gap will continue to increase due to inflation over the next ten years and the County’s ability to maintain and replace existing assets will become increasingly impaired with each passing year.

The County currently has a total annual funding gap of

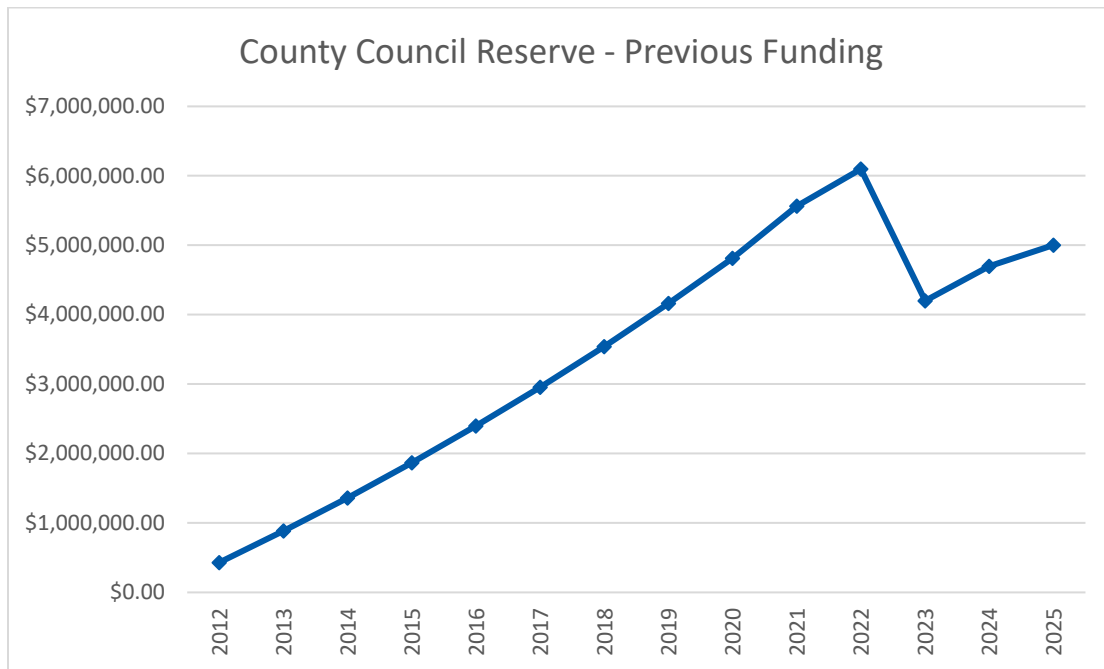
\$5.4 Million

Historically, the County has used a general County Council reserve to provide sustainable funding for the purpose of maintaining existing assets. In 2011, Council approved a funding strategy for this reserve to gradually increase funding over a ten-year period. From 2012 to 2022 funding levels increased annually to \$6.1 million in the 2022 budget year. However, funding for the reserve fell in 2023 to \$4.2 million and now sits at \$5.0 million in the 2025 budget year. This reduction in funding from 2022 levels has had a significant impact on the County’s annual funding gap. Contributions to the reserve are summarized in Table 6-3 and Figure 6-2.

Table 6-3: County Council Reserve – Previous Funding

Budget Year	County Council Reserve Previous Funding
2012	\$431,000.00
2013	\$885,000.00
2014	\$1,363,000.00
2015	\$1,866,000.00
2016	\$2,396,000.00
2017	\$2,955,000.00
2018	\$3,543,000.00
2019	\$4,162,000.00
2020	\$4,814,000.00
2021	\$5,565,000.00
2022	\$6,097,111.00
2023	\$4,200,000.00
2024	\$4,700,000.00
2025	\$5,000,000.00

Figure 6-2: County Council Reserve – Previous Funding



It is recommended that the County reestablish a funding strategy and create a new “Life Cycle Maintenance – Capital Investment” Reserve as a mechanism to fund future lifecycle costs of existing assets. This report looked at several options to fund the reserve, including:

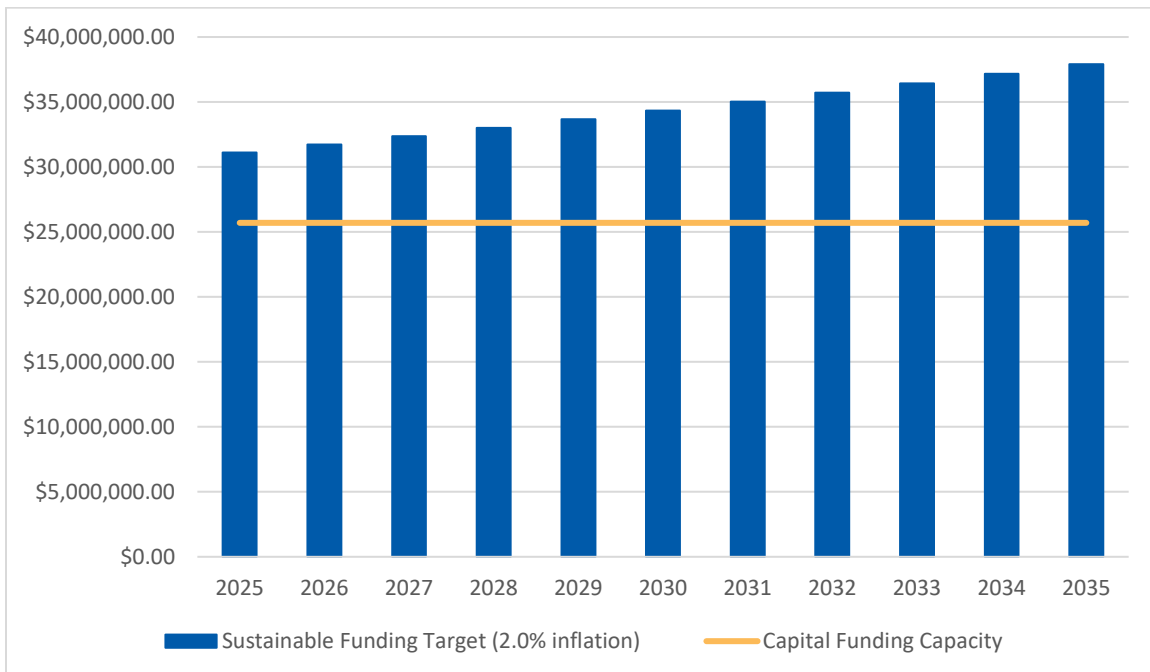
- 1) Maintain existing funding levels
- 2) Eliminate the funding gap in 2026
- 3) Eliminate the funding gap over a ten-year period
- 4) Maintain the funding gap and keep pace with inflation

These options are summarized in detail below.

Option 1 – Maintain existing funding levels

If the County's funding capacity for existing assets stays at current levels the funding gap will continue to increase due to inflation. Assuming that inflation will be at 2.0% over the next ten years, the funding gap will grow to over \$12.2 million by 2035. With this option the County's ability to maintain and replace existing assets will become increasingly impaired with each passing year. In the absence of sufficient reserves to fund lifecycle events the County would have no choice but to defer these projects or incur debt to pay for them. Figure 6-3 summarizes this option.

Figure 6-3: Option 1 – Maintain existing funding levels

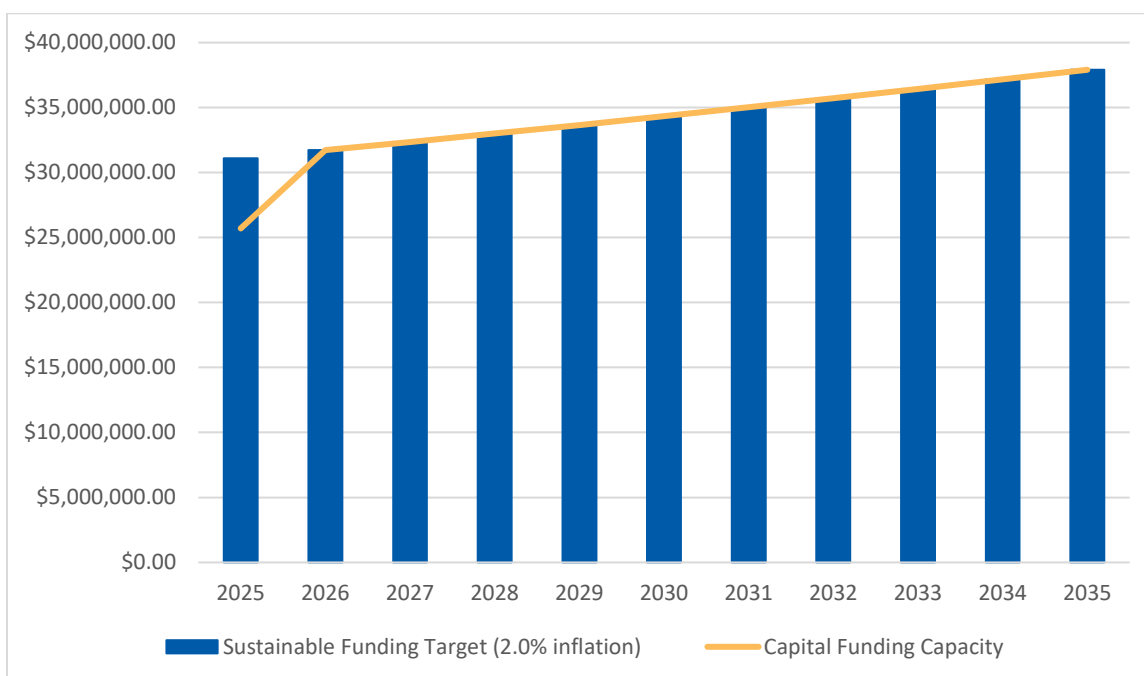


Option 2 – Eliminate the funding gap in 2026

This option would immediately eliminate the funding gap. The positive impact to this is that lifecycle events of existing assets would be fully funded by the existing ratepayer instead of passing on costs to future ratepayers. It would also grow the reserve which could be invested to generate income, thus mitigating the impact of inflation on future lifecycle costs.

However, to eliminate the funding gap, the County would need to increase the amount of taxes drawn from the tax base in 2026 by \$5.4 million. This would require a 5.31% increase to the County's tax rates in 2026. Such an increase would create a significant financial burden for ratepayers and therefore it is both impractical and unfeasible. Figure 6-4 summarizes this option.

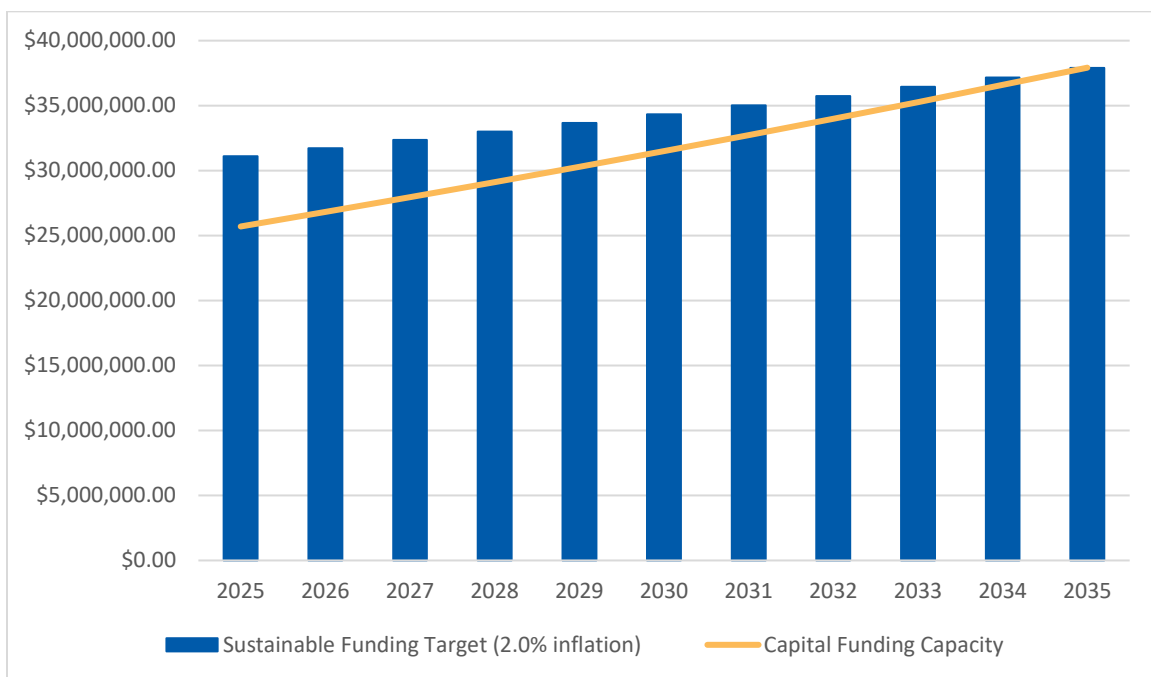
Figure 6-4: Option 2 – Eliminate the funding gap in 2026



Option 3 – Eliminate the funding gap over a ten-year period

Another option is to phase in the required amount of funding over a period of ten years. The initial funding required would be \$1.12 million in 2026 which represents a 1.10% increase in tax rates. The amount required in 2027, year two, would be \$2.25 million. The amount required in 2028, year three, would be \$3.42 million. This would continue until year 10 when the funding capacity would reach the sustainable funding target, assuming that the sustainable funding target grows at a 2.0% inflation rate. While this option eliminates the funding gap after ten years, it would still create a heavy financial burden for ratepayers. Figure 6-5 summarizes this option.

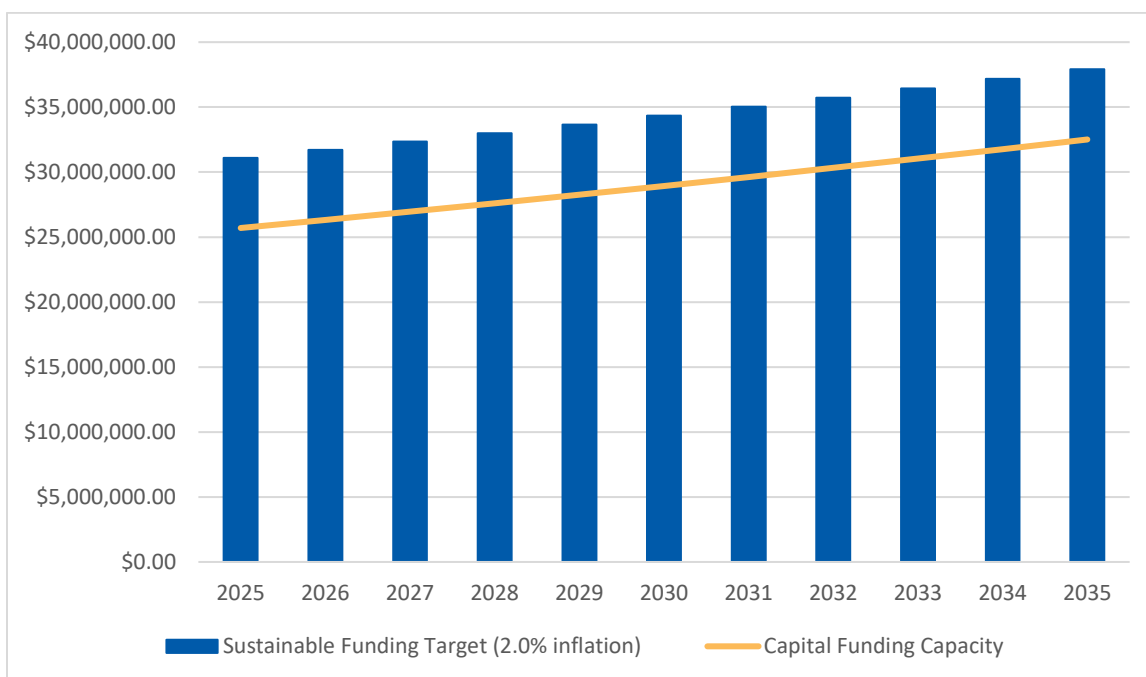
Figure 6-5: Option 3 – Eliminate the funding gap over a ten-year period



Option 4 – Maintain the funding gap and keep pace with inflation

The final option is to maintain the existing gap at \$5.4 million over a ten-year period by increasing annual funding to match a 2.0% inflation rate. Under this scenario, the initial funding required in 2026, year one, would be \$622,000 which represents a 0.61% increase in tax rates. The amount required in 2027, year two, would be \$1,256,000 (an increase of \$634,000). The amount required in 2028, year three, would be \$1,904,000 (an increase of \$648,000). This will continue until year ten. Assuming the rate of inflation is approximately 2.0%, the funding gap will remain at \$5.4 million. Figure 6-6 summarizes this option.

Figure 6-6: Option 4 – Maintain the funding gap and keep pace with inflation



Option 4 is the recommended funding strategy. This option balances the need to properly fund asset lifecycle activities with the financial burden increasing tax rates has on ratepayers. The funding gap is maintained at current levels by keeping pace with an inflation rate of 2.0%. Table 6-4 shows the proposed funding schedule of the general County Council reserves beginning in the County's 2026 Budget.

Table 6-4: County Council Reserves – Funding Schedule

Budget Year	Total Reserve Funding	Increase over previous year
2025	\$5,000,000.00	
2026	\$5,622,000.00	\$622,000.00
2027	\$6,256,000.00	\$634,000.00
2028	\$6,904,000.00	\$648,000.00
2029	\$7,564,000.00	\$660,000.00
2030	\$8,237,000.00	\$673,000.00
2031	\$8,924,000.00	\$687,000.00
2032	\$9,624,000.00	\$700,000.00
2033	\$10,339,000.00	\$715,000.00
2034	\$11,067,000.00	\$728,000.00
2035	\$11,811,000.00	\$744,000.00

One issue with this approach relates to the construction or acquisition of any new assets. The funding strategy above does not account for the lifecycle costs of new assets. As part of the planning process for new assets the County should consider the annual sustainable funding required as a percentage of the overall replacement value. As new assets come online the County's current replacement value and annual sustainable funding requirement will be adjusted accordingly.

In addition to the funding strategy above, another way to reduce the funding gap is to direct a portion of any annual surplus to the County Council Reserves.

As part of the regulation annual reports to Council are required on the progress of the County's asset management program. These updates will provide an opportunity to review and adjust the funding strategy to reflect the actual inflation rate and any new growth assets acquired or built by the County.

7. Continuous Improvement

The County is committed to continuous improvement and is working towards implementing an Enterprise-Wide Asset Management Program (EAM). The County has identified several lessons learned and future opportunities. Many of the improvements that have been implemented to date have helped the County meet current regulatory requirements. Moving forward the County is committed to exploring future enhancement opportunities to improve the quality of data, strengthen asset management processes, and allow for ease of annual monitoring and reporting. Table 7-1 summarizes the County's recommended continuous improvement actions.

Table 7-1: Continuous Improvement Actions

Actions	Timeline
Data Management & Processes	
Implement PSD Citywide enterprise asset management (EAM) system	2026
Review Asset Management Policy and update if necessary	2026
Review and improve data quality of existing asset registry	2026
Create a data governance framework for movement of data into the EAM	2026-2027
Where duplication or multiple systems/data sets are necessary, ensure the datasets are the same and that each asset has a unique ID that ties together all attribute information	2026-2030
Improve understanding of operating and maintenance needs through analysis of available data to refine lifecycle strategies and forecasting of future operating and maintenance costs for new assets.	2026-2030
Refresh lifecycle strategies and costs for all assets using the latest technical studies, tender contract pricing, and other available data.	2026-2030
Implement a risk management framework within Citywide for managing and assigning risk scores.	2026-2030
Improve corporate asset management condition assessment approaches, methodologies and ratings for all assets to enhance accuracy and confidence of asset condition results	2026-2030
Financing	
Review tangible capital assets policy and update if necessary	2026
Continue to annually review and implement a County reserve fund recovery strategy	2026-2030
Reporting	
Improve the asset management programs reporting capabilities and visualization of outputs	2026-2030
Annual reports to Council on the progress of the County's asset management program as per the regulation	2026-2030
Complete a 5-year comprehensive review and update of the AMP as per the regulation	2030

Appendix A – Service Summary: Information Technology

Information Technology

The Information Technology (IT) department supports the centralized strategic and operational technology needs of the County of Lambton and is responsible for the management and support of information technology-based services to all County Departments. The IT departments assets are pooled together through the County's financial reporting system. IT assets include items such as end user devices, IT infrastructure and communication systems.

The County's IT asset portfolio has an estimated replacement value of **\$4.1 million** (in 2023 dollars). Table A-1 shows a detailed breakdown of the IT asset inventory.

Table A-1: Asset Inventory – Information Technology

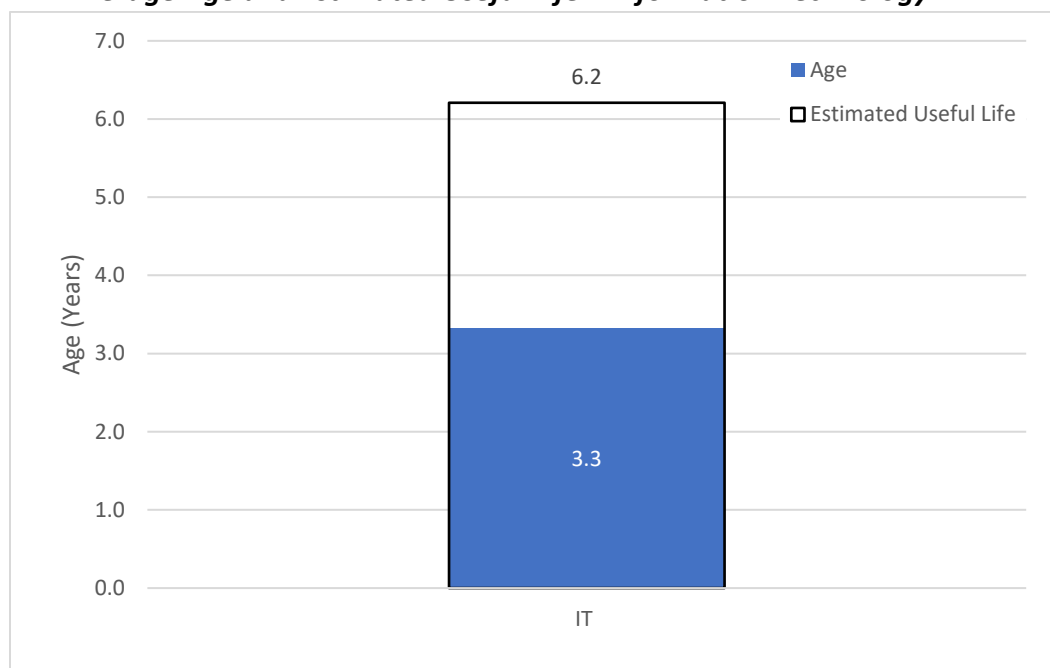
Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
IT	End User Devices, IT Infrastructure and Communication Systems	Pooled Assets		\$4,091,146
Total				\$4,091,146

¹ Current Replacement Value for IT assets is based on inflating the purchase price of assets using the Consumer Price Index (CPI) published by Statistics Canada.

Age and Estimated Useful Life

IT assets generally have a short service life and are replaced on a regular interval. The IT assets have an average age of 3.3 years old. The estimated useful life ranges from 4 to 10 years with an average of 6.2 years. The average age and estimated service life of the County's IT assets weighted by current replacement value is summarized in Figure A-1.

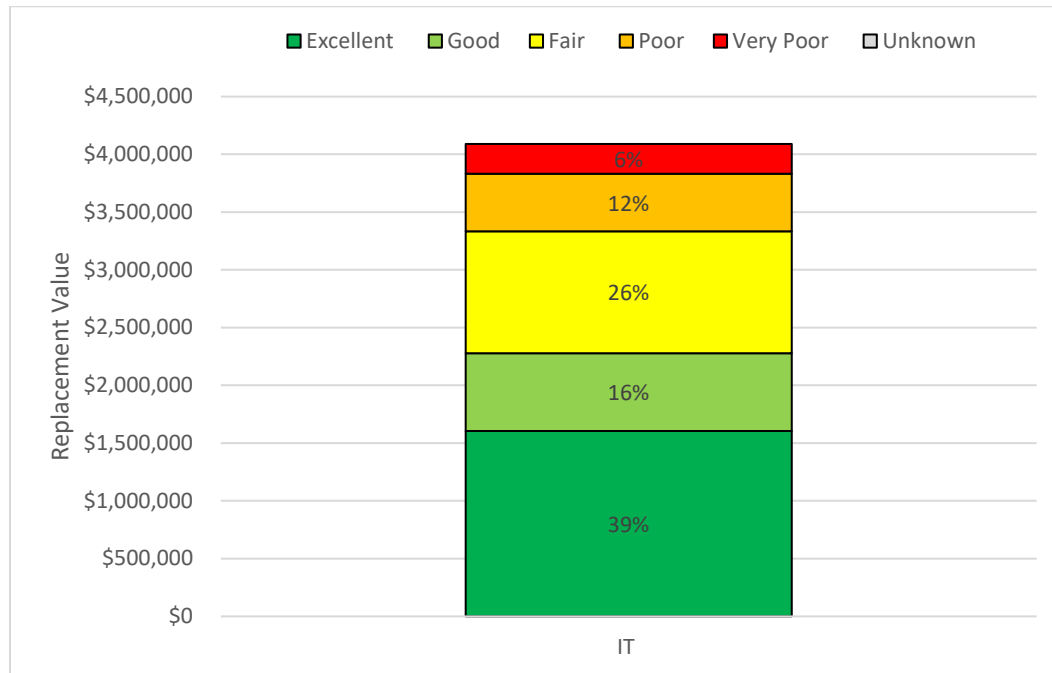
Figure A-1: Average Age and Estimated Useful Life – Information Technology



Condition

The condition of IT assets is estimated based on the age and percentage of useful life remaining. The IT assets are in Good overall condition. The condition distribution of the County's IT assets is shown in Figure A-2.

Figure A-2: Condition Summary – Information Technology



IT Summary											
County Division:		Corporate Services									
County Department:		Information Technology									
General Data											
Asset ID (from Maximo)	Asset Class	Asset Type	Quantity	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition
Varies	IT	End User Devices, IT Infrastructure, and Communication Systems	N/A	Pooled Assets	N/A	Varies				\$4,091,146	Good
										Total	
										\$4,091,146	

Current Replacement Value for IT assets is based on inflating the purchase price of assets using the Consumer Price Index (CPI) published by Statistics Canada.

Appendix B – Service Summary: Procurement & Project Management

Procurement & Project Management

The Procurement & Project Management department coordinates the construction, demolition, and maintenance of County-owned and leased facilities. The department is directly responsible for the administration facilities including the County Administration Building in Wyoming, 190 Front Street in Sarnia, Lambton Shared Services Centre in Sarnia and 218 Christina St. N. in Sarnia.

The Procurement & Project Management department's asset portfolio has an estimated replacement value of **\$52.4 million** (in 2023 dollars). Table B-1 shows a detailed breakdown of the asset inventory.

Table B-1: Asset Inventory – Procurement & Project Management

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Facilities	Administration Building, Wyoming	N/A	N/A	\$10,998,650
	190 Front Street, Sarnia	N/A	N/A	\$3,997,500
	Lambton Shared Services Centre	N/A	N/A	\$36,518,414
	218 Christina Street North, Sarnia	N/A	N/A	\$780,000
Fleet	Light-Duty Fleet	2	Each	\$115,000
Total				\$52,409,564

¹ Current Replacement Value for Facilities is based on inflating previous estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada. Current Replacement Value for Fleet is based on recent fleet purchase prices.



IMAGE: The County Administration Building

Age and Estimated Useful Life

The Procurement & Project Management department's four facilities have an average age weighted by replacement value of 44 years old. The department's assets are summarized below:

Administration Building

The County Administration Building was constructed in 1981 and has served as the main administrative hub for the County since opening. The facility has undergone a significant renewal with renovations to major building components completed in the last 10 years including: parking lot and sitework reconstruction, HVAC system upgrades, flat roof replacement, exterior window replacements and elevator upgrades. The facility is 43 years old with many major components in good or better condition.

190 Front Street, Sarnia

190 Front Street is the former CIBC building in downtown Sarnia that was purchased by the County in 2018. The facility has undergone an extensive interior renovation and reopened in the spring of 2023. The lower level of the building is currently leased to Youth Wellness Hub of Ontario, and the upper floor is used as office space for the Judith and Norman Alix Art Gallery. Although the facility is 71 years old, due to the recent renovations many major components are in good or better condition.

Lambton Shared Services Centre

The Lambton Shared Services Centre (LSSC) was originally constructed in 1982. The building was formerly used as an Eaton's department store and formed part of the downtown mall. The facility recently underwent an extensive renovation, and reopened to the public in 2022, as part of the redevelopment of the former mall site and the County's previous lease agreement. The County purchased the facility in 2024. The facility also includes four commercial retail units along the east wall of the building which are currently under renovation for future leased space. The facility is 42 years old with many major components in excellent condition.

218 Christina Street North, Sarnia

218 Christina Street North was renovated in 2022 as part of the LSSC project and was purchased in 2024. The building is currently leased to the Ministry of Children, Community and Social Services.

Fleet

The two fleet vehicles have an average age of 7 years old and an estimated useful life of 10 years. The two fleet vehicles are approaching the end of their estimated useful life.

The average age and estimated service life of the Procurement & Project Management Departments assets are summarized in Figure B-1.

Figure B-1: Average Age and Estimated Useful Life – Procurement & Project Management

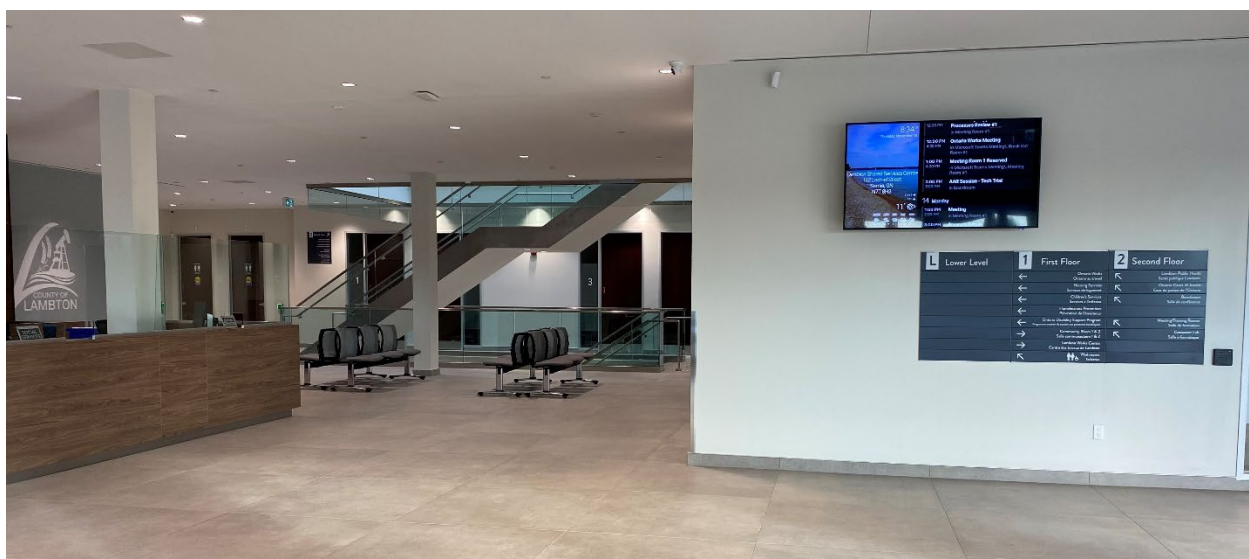
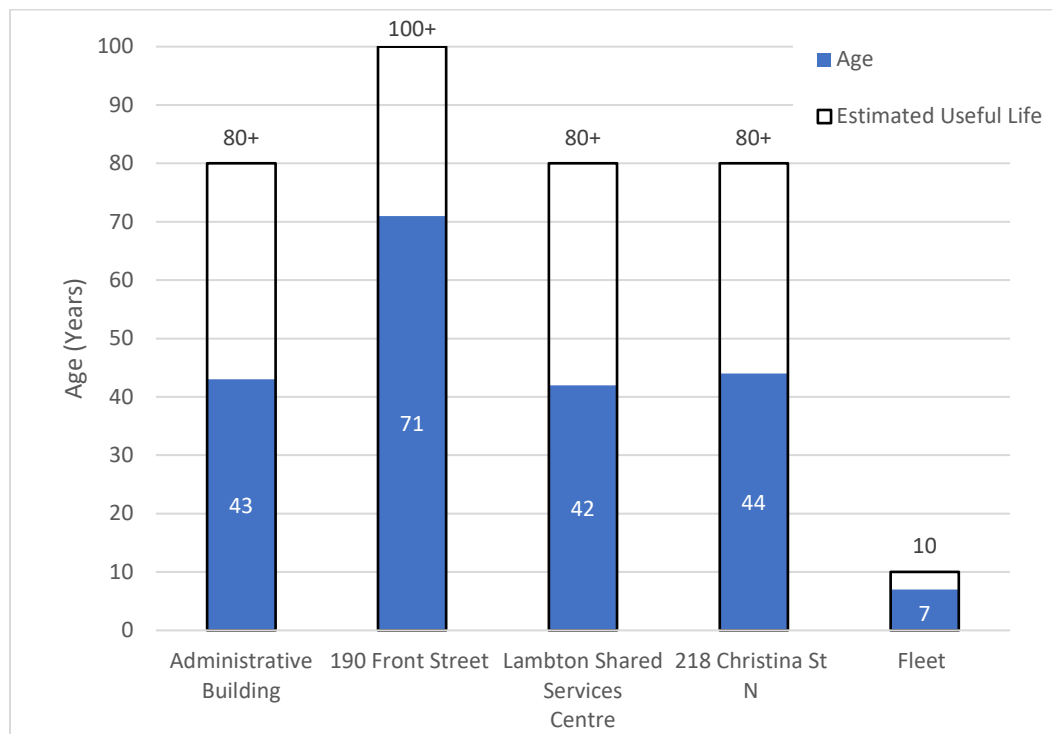
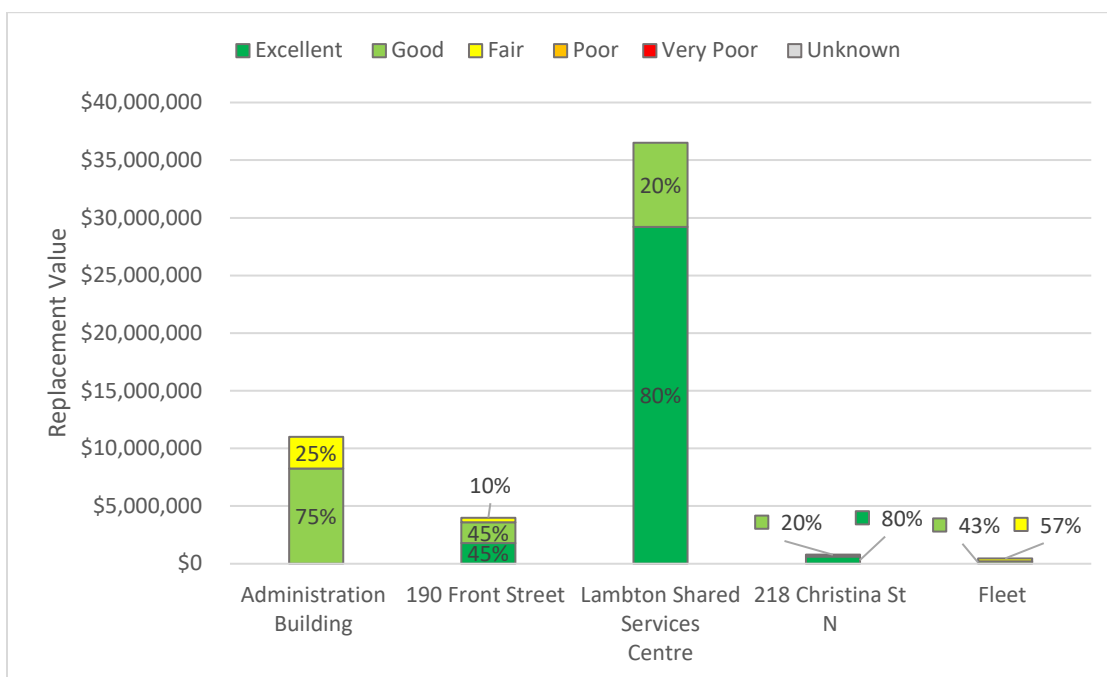


IMAGE: The Lobby of the Lambton Shared Services Centre

Condition

The condition of Procurement & Project Management facility assets is estimated based on completing a facility staff assessment which evaluates the condition of each major building component. The Administrative Building and 190 Front Street are in Good overall condition and the Lambton Shared Services Centre and 218 Christina St N are in Excellent overall condition. The condition of fleet vehicles is estimated based on the age and percentage of useful life remaining and they are in Fair overall condition. The condition distribution of the department's assets is shown in Figure B-2.

Figure B-2: Condition Summary – Procurement & Project Management



Facility Summary															
County Division:		Finance, Facilities and Court Services													
County Department:		Procurement & Project Management													
General Data															
Asset ID (from Maximo)	Facility Name	Location	Asset Class	Asset Type	Description	Year Constructed	Age	Gross Floor Area		Floors Below Grade	Floors Above Grade	Current Replacement Value Unit Rate (\$/sq.ft)	Current Replacement Value	Condition	Condition Method
								sq.ft	sq.m						
CFS-ADMWYO	Administrative Building	789 Broadway Street, Wyoming, ON	Facility	Office	The main administrative hub for the County of Lambton including office space and County Council Chambers.	1981	43	33842	3144	0	2	\$325	\$10,998,650	Good	Staff Assessment
CFS-CIBC	190 Front St, Sarnia, ON	190 Front St, Sarnia, ON	Facility	Office	Office space and meeting rooms connected directly to the main JNAAG building on the upper level. Space leased to Youth Wellness Hub of Ontario on the lower level.	1953	71	12300	1143	1	3	\$325	\$3,997,500	Good	Staff Assessment
LSS-LSSC	Lambton Shared Services Centre (LSSC)	162 Lochiel St, Sarnia	Facility	Office	Office space and meeting rooms. Departments Homelessness Prevention & Children’s Services, Court Services, Housing Services, Ontario Works, and some program areas from Lambton Public Health and Procurement and Project Management.	1982	42	112364	10439	1	2	\$325	\$36,518,414	Excellent	Staff Assessment
N/A	218 Chrstina St. N	218 Chrstina St. N, Sarnia	Facility	Office / Commercial	Commercial space fronting onto Christina St N. Currently leased to Ministry of Children, Community and Social Services.	1980	44	2400	223	0	1	\$325	\$780,000	Excellent	Staff Assessment
							Average	Total	Total				Total		
							44	158506	14726				\$52,294,564		

Current Replacement Value for Facilities is based on inflating previous estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.

Fleet Summary													
County Division:		Finance, Facilities and Court Services											
County Department:		Procurement & Project Management											
General Data													
Asset ID (from Maximo)	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition Score (% EUL Remaining)	Condition	Condition Assessment Method
8129	Fleet	Light Duty Fleet	Hybrid Sedan		Ford Fusion (Hybrid)	2018	6	10	\$50,000	\$50,000	40%	Good	Age Based
7830	Fleet	Light Duty Fleet	Pickup 2x4		Ford F-150	2016	8	10	\$65,000	\$65,000	20%	Fair	Age Based
							Average			Total	Average	Average	
							7			\$115,000	30%	Fair	

Current Replacement Value for Fleet is based on recent fleet purchase prices.

Appendix C – Service Summary: Public Works

Public Works

It is the responsibility of the Public Works department to maintain and upgrade the County Road Network which includes 1,376 lane kilometres of roads and 186 structures (bridges and major culverts). Roads and Structures are considered Core Municipal Infrastructure Assets under Ontario Regulation 588/17 and are reviewed in detail in Appendix D and Appendix E. In addition to the core assets, the department is responsible for four operation depots, sixteen pick-up trucks, fourteen snowplows, four dump trucks and various pieces of equipment and machinery.

The County's Public Works asset portfolio has an estimated replacement value of **\$940.7 million** (in 2023 dollars) which includes \$912.4 million worth of core assets and \$28.3 million worth of the other municipal assets. Table C-1 shows a detailed breakdown of the asset inventory.

Table C-1: Asset Inventory – Public Works

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Core Assets	Roads	1,376	Lane-km	\$727,102,128
	Structures	187	Each	\$185,323,602
Facilities	Depots	4	Each	\$15,806,525
Fleet	Light-Duty Fleet	16	Each	\$1,010,000
	Heavy-Duty Fleet	18	Each	\$6,620,000
Equipment and Machinery	Varies	46	Each	\$4,859,500
Total				\$940,721,755

¹ Current Replacement Value for Core Assets see 2023 Core Infrastructure Asset Management Plan. Current Replacement Value for Facilities is based on inflating previous estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada. Current Replacement Value for Fleet and Equipment and Machinery is based on recent purchase prices or current supplier estimates.



IMAGE: County of Lambton Snowplow during Winter Operations

The following reports support the Public Works Department's asset management initiatives:

- 5-Year Roads Construction Program, updated annually to Council.

Age and Estimated Useful Life

The average age of the Public Works department's four facilities weighted by replacement value is 48 years old. The assets are summarized below:

Forest Depot

The Forest Depot was originally built in 1975 by the County. A building addition was constructed in 1986 and again in 2011. Each building addition included major renovations to the existing building. A sand and salt storage dome was constructed in 2006 and the fuel centre at the site was reconstructed in 2023.

Oil City Depot

The Oil City Depot was previously owned by the Ministry of Transportation (MTO). Records show the original building on the site was constructed in 1967 and the sand and salt storage dome was constructed in the early 1980s. The facility was transferred to the County in 2001. A building addition and renewal of the existing building was completed in 2006. The fuel centre was constructed in 2006 as part of the building addition.

Petrolia Depot

The Petrolia Depot was constructed by the County in 1981, and the sand and salt storage dome was constructed in 1983. The fuel centre was reconstructed in 2024.

Warwick Depot

The Warwick Depot was previously owned by the MTO. Records show the building and the sand and salt storage dome were constructed in the early 1980s. The facility was transferred to the County in 2001.

Fleet

Public Works fleet vehicles include 16 pickup trucks, 14 snowplows and 4 dump trucks. The fleet vehicles have the following average age:

- Light-duty fleet (pickups): 5.6 years
- Heavy-duty fleet (snowplows and dump trucks): 7.6 years

Light-duty fleet vehicles have an estimated useful life of 5 years. Heavy-duty fleet vehicles have an estimated useful life of 10 years.

Equipment and Machinery

Public Works equipment and machinery includes a variety of asset types including: linestriper, grader, excavator, loader, brush chipper, mower, compactor, attachment, trailer, lifting equipment, remote weather information system (RWIS), brine tank and tools. The equipment and machinery has an average age of 10.2 years old. The estimated useful life ranges from 5 to 25 years with an average of 13.6 years.

The average age and estimated service life of the Public Works assets are summarized in Figure C-1.

Figure C-1: Average Age and Estimated Useful Life – Public Works

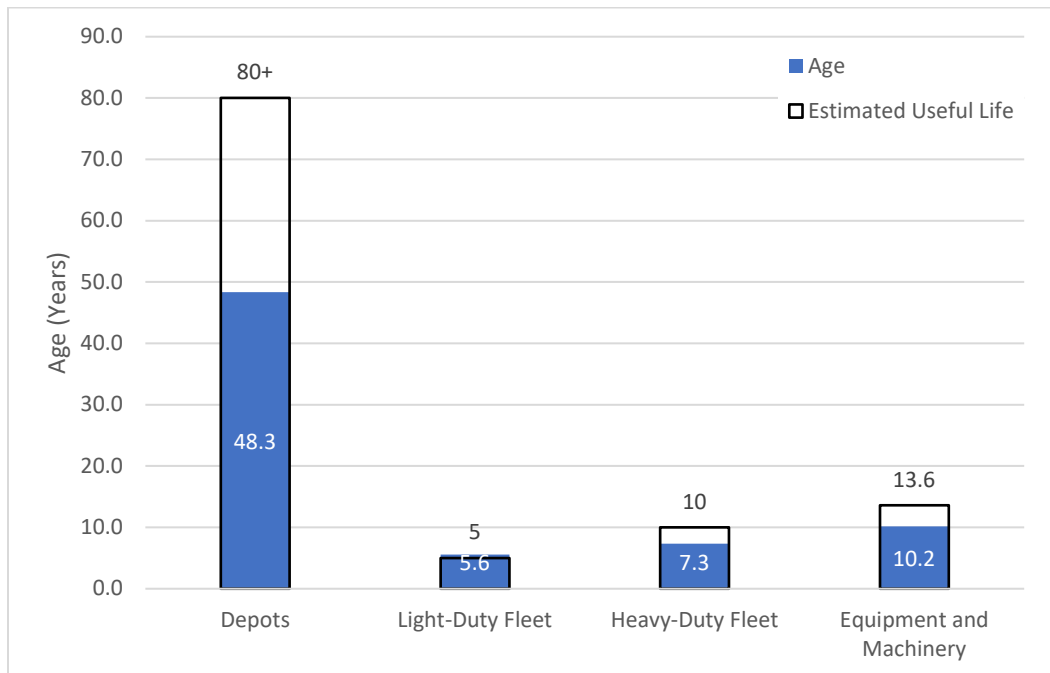


IMAGE: Sand and Salt Storage Dome at the Forest Operations Depot

Condition

The condition of Public Works facility assets is estimated based on completing a facility staff assessment which evaluates the condition of each major building component. The Forest, Oil City and Warwick Depots are assessed to be in Good overall condition, and the Petrolia Depot is assessed in Fair overall condition. The condition of fleet vehicles and equipment and machinery are estimated based on the age and percentage of useful life remaining. The Public Works Fleet is in Fair overall condition, and the Equipment and Machinery is in Good overall condition. The condition distribution of the department's assets is shown in Figure C-2.

Figure C-2: Condition Summary – Public Works

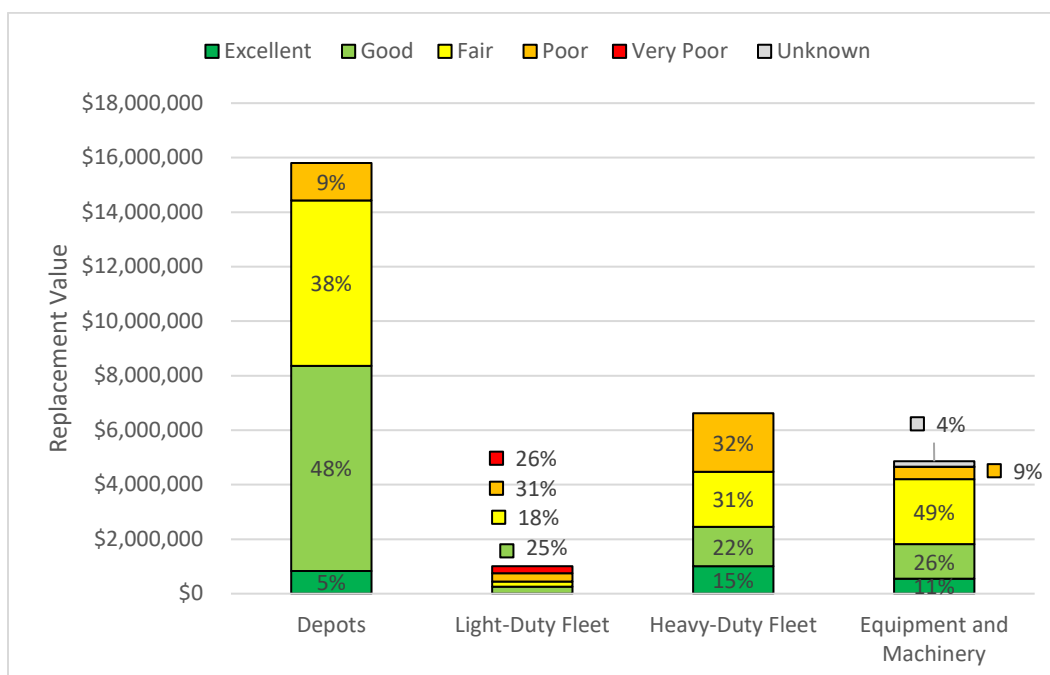


IMAGE: County of Lambton Grader in Storage

Facility Summary															
County Division:		Infrastructure & Development Services													
County Department:		Public Works													
General Data															
Asset ID (from Maximo)	Facility Name	Location	Asset Class	Asset Type	Description	Year Constructed	Age	Gross Floor Area		Floors Below Grade	Floors Above Grade	Current Replacement Value Unit Rate (\$/sq.ft)	Current Replacement Value	Condition	Condition Assessment Method
								sq.ft	sq.m						
RDS-FOREST	Forest Depot	6958 Townsend Line, Forest	Facility	PW Depot	Main Building	1975	49	12120	1126	0	2	\$275	\$3,333,000	Good	Staff Assessment
					Sand/Salt Dome	2006	18	10800	1003	0	1	\$50	\$540,000		
					Coverall	2021	3	1000	93	0	1	\$50	\$50,000		
					Fuel Centre	2023	1	N/A					\$250,000		
RDS-OILCITY	Oil City Depot	3024 Oil Heritage Road, Oil City	Facility	PW Depot	Main Building	1967	57	12325	1145	0	2	\$275	\$3,389,375	Good	Staff Assessment
					Sand/Salt Dome	1980	44	7854	730	0	1	\$50	\$392,700		
					2 Storage Sheds	1964	60	2000	186	0	1	\$50	\$100,000		
					Coverall	2021	3	1000	93	0	1	\$50	\$50,000		
					Fuel Centre	2006	18	N/A					\$250,000		
RDS-PETROLIA	Petrolia Depot	304 Centre Street, Petrolia	Facility	PW Depot	Main Building	1981	43	17000	1579	0	2	\$275	\$4,675,000	Fair	Staff Assessment
					Sand/Salt Dome	1983	41	7854	730	0	1	\$50	\$392,700		
					Fuel Centre	2024	0	N/A					\$250,000		
RDS-WARWICK	Warwick Depot	6905 London Line, Warwick	Facility	PW Depot	Main Building	1980	44	5508	512	0	2	\$275	\$1,514,700	Good	Staff Assessment
					Sand/Salt Dome	1980	44	10381	964	0	1	\$50	\$519,050		
					2 Storage Sheds	1980	44	2000	186	0	1	\$50	\$100,000		
							Average Main Bldg	Total Main Bldg					Total	Average	
							48	46953	4362				\$15,806,525	Good	

Current Replacement Value for Facilities is based on inflating previous estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.

Fleet Summary													
County Division:		Infrastructure & Development Services											
County Department:		Public Works											
General Data													
Asset ID (from PW)	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition Score (% EUL Remaining)	Condition	Condition Assessment Method
01-16	Fleet	Light-duty Fleet	Pickup		DODGE RAM 1500	2016	8	5	\$60,000	\$60,000	-60%	Very Poor	Age Based
02-21	Fleet	Light-duty Fleet	Pickup 4x4		FORD F150 XLT 4X4	2021	3	5	\$65,000	\$65,000	40%	Good	Age Based
03-19	Fleet	Light-duty Fleet	Pickup		FORD F150 XLT	2019	5	5	\$60,000	\$60,000	0%	Poor	Age Based
04-22	Fleet	Light-duty Fleet	Pickup 4x4		FORD F150 XLT 4X4	2022	2	5	\$65,000	\$65,000	60%	Good	Age Based
05-18	Fleet	Light-duty Fleet	Pickup 4x4	Replacement ordered 05-24 (9356)	FORD F150 TRUCK XLT 4X4	2018	6	5	\$65,000	\$65,000	-20%	Poor	Age Based
06-15	Fleet	Light-duty Fleet	Pickup		CHEVROLET SILVERADO	2015	9	5	\$60,000	\$60,000	-80%	Very Poor	Age Based
07-15	Fleet	Light-duty Fleet	Pickup		CHEVROLET SILVERADO	2015	9	5	\$60,000	\$60,000	-80%	Very Poor	Age Based
08-19	Fleet	Light-duty Fleet	Pickup 4x4		FORD F150 XLT 4X4	2019	5	5	\$65,000	\$65,000	0%	Poor	Age Based
10-19	Fleet	Light-duty Fleet	Pickup		FORD F150 XLT CREWCAB	2019	5	5	\$60,000	\$60,000	0%	Poor	Age Based
11-18	Fleet	Light-duty Fleet	Pickup		FORD F150 XLT CREWCAB	2018	6	5	\$60,000	\$60,000	-20%	Poor	Age Based
12-20	Fleet	Light-duty Fleet	Pickup 4x4		FORD F150 TRUCK XLT 4X4	2020	4	5	\$65,000	\$65,000	20%	Fair	Age Based
14-22	Fleet	Light-duty Fleet	Pickup 4x4		FORD F150 XLT 4X4	2022	2	5	\$65,000	\$65,000	60%	Good	Age Based
15-20	Fleet	Light-duty Fleet	Pickup		FORD PICKUP 2X4 REG CAB	2020	4	5	\$60,000	\$60,000	20%	Fair	Age Based
16-20	Fleet	Light-duty Fleet	Pickup		FORD PICKUP 2X4 REG CAB	2020	4	5	\$60,000	\$60,000	20%	Fair	Age Based
17-21	Fleet	Light-duty Fleet	Pickup		FORD F150 EXT CAB	2021	3	5	\$60,000	\$60,000	40%	Good	Age Based
18-10	Fleet	Light-duty Fleet	Pickup SD	Replacement ordered 18-23 (9128)	FORD F250	2010	14	5	\$80,000	\$80,000	-180%	Very Poor	Age Based
20-20	Fleet	Heavy-duty Fleet	Tandem Axle Truck		Freightliner 114SD	2020	4	10	\$430,000	\$430,000	60%	Good	Age Based
21-19	Fleet	Heavy-duty Fleet	Tandem Axle Truck		Freightliner 114SD	2019	5	10	\$430,000	\$430,000	50%	Good	Age Based
22-17	Fleet	Heavy-duty Fleet	Tandem Axle Truck		Freightliner 114SD	2017	7	10	\$430,000	\$430,000	30%	Fair	Age Based
23-11	Fleet	Heavy-duty Fleet	Tandem Axle Truck	Replacement ordered 23-23 (8970)	International	2011	13	10	\$430,000	\$430,000	-30%	Poor	Age Based
24-16	Fleet	Heavy-duty Fleet	Tandem Axle Truck		International	2016	8	10	\$430,000	\$430,000	20%	Fair	Age Based
25-15	Fleet	Heavy-duty Fleet	Tandem Axle Truck		International	2015	9	10	\$430,000	\$430,000	10%	Fair	Age Based
26-12	Fleet	Heavy-duty Fleet	Tandem Axle Truck	Replacement ordered 26-24 (9130)	International	2012	12	10	\$430,000	\$430,000	-20%	Poor	Age Based
27-13	Fleet	Heavy-duty Fleet	Tandem Axle Truck		International	2013	11	10	\$430,000	\$430,000	-10%	Poor	Age Based
28-14	Fleet	Heavy-duty Fleet	Tandem Axle Truck		International	2014	10	10	\$430,000	\$430,000	0%	Poor	Age Based
29-15	Fleet	Heavy-duty Fleet	Tandem Axle Truck		International	2015	9	10	\$430,000	\$430,000	10%	Fair	Age Based
30-12	Fleet	Heavy-duty Fleet	Tandem Axle Truck	Replacement ordered 30-24 (9131)	International	2012	12	10	\$430,000	\$430,000	-20%	Poor	Age Based
31-23	Fleet	Heavy-duty Fleet	Tandem Axle Truck		International	2023	1	10	\$430,000	\$430,000	90%	Excellent	Age Based
32-18	Fleet	Heavy-duty Fleet	Tandem Axle Truck		International	2018	6	10	\$430,000	\$430,000	40%	Good	Age Based
33-21	Fleet	Heavy-duty Fleet	Tandem Axle Truck		Freightliner 114SD	2021	3	10	\$430,000	\$430,000	70%	Excellent	Age Based
37-18	Fleet	Heavy-duty Fleet	Single Axle Truck		International 4300	2018	6	10	\$150,000	\$150,000	40%	Good	Age Based
38-23	Fleet	Heavy-duty Fleet	Single Axle Truck		International CV515	2023	1	10	\$150,000	\$150,000	90%	Excellent	Age Based
39-17	Fleet	Heavy-duty Fleet	Single Axle Truck		International 4300	2017	7	10	\$150,000	\$150,000	30%	Fair	Age Based
40-16	Fleet	Heavy-duty Fleet	Single Axle Truck		International 4300	2016	8	10	\$150,000	\$150,000	20%	Fair	Age Based
							Average			Total	Average	Average	
							6.5			\$7,630,000	9%	Fair	

Current Replacement Value for Fleet is based on recent purchase prices or current supplier estimates.

Equipment & Machinery Summary

County Division:		Infrastructure & Development Services										
County Department:		Public Works										
General Data												
Asset ID (from PW)	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition Score (% EUL Remaining)	Condition
41-20	Equipment & Machinery	Linestriper		2019 Rebuild to Painter Components (8408), 2020 Chassis Only (8545), 2012/2023 Painter Component Addons (8910/9133)	FREIGHTLINER LINESTRIPER	2020	4	10		\$750,000	60%	Good
42-20	Equipment & Machinery	Linestriper			GRACO PORTABLE LINESTRIPER	2020	4	10		\$14,000	60%	Good
42-01	Equipment & Machinery	Linestriper			PORTABLE LINESTRIPER	2001	23	20		\$14,000	-15%	Poor
50-05	Equipment & Machinery	Grader		Betterment in 2019	VOLVO G74B GRADER - Forest	2005	19	20		\$450,000	5%	Fair
51-03	Equipment & Machinery	Grader		Betterment in 2019	VOLVO G740B GRADER - Oil Springs	2003	21	22		\$450,000	5%	Fair
52-09	Equipment & Machinery	Excavator		Refurbished in 2023 (9134)	NEW HOLLAND E215B HYDRAULIC EXCAVATOR	2009	15	20		\$550,000	25%	Fair
56-17	Equipment & Machinery	Excavator			Ring-O-Matic 850 VX Vaccum Excavator	2017	7	10		\$130,000	30%	Fair
53-22	Equipment & Machinery	Loader			CASE 580 SN BACKHOE/LOADER	2022	2	10		\$200,000	80%	Excellent
60-21	Equipment & Machinery	Loader			CASE 570 NXT TRACTOR 4X4 - Petrolia Location	2021	3	10		\$220,000	70%	Excellent
61-13	Equipment & Machinery	Loader			CASE 570 NXT TRACTOR/LOADER - Forest Location	2013	11	10		\$220,000	-10%	Poor
62-18	Equipment & Machinery	Loader			CASE MAXXUM 115 CVT LOADER TRACTOR Agri - Oil Springs	2018	6	10		\$220,000	40%	Good
63-14	Equipment & Machinery	Loader		Refurbished in 2023 (9135)	Catrepillar 924K ARTICULATED WHEEL LDR - Forest	2014	10	14		\$250,000	29%	Fair
64-16	Equipment & Machinery	Loader			CASE 621F ARTICULATED WHEEL LDR - Oil Springs	2016	8	10		\$250,000	20%	Fair
54-10	Equipment & Machinery	Roller			SINGLE CASE SV208 DRUM ROLLER	2010	14	15		\$130,000	7%	Fair
	Equipment & Machinery	Roller			Diesel Bomag Walk behing double roller Total 1	2013	11	10		\$12,000	-10%	Poor
55-19	Equipment & Machinery	Brush Chipper			Bandit Intimidator 15XPC Brush Chipper	2019	5	10		\$100,000	50%	Good
65-16	Equipment & Machinery	Mower			Club Cadet 5040 Mower	2016	8	10		\$16,500	20%	Fair
70	Equipment & Machinery	Compactor			Plate Compactor	2005	19	20		\$5,000	5%	Fair
71	Equipment & Machinery	Compactor			Jumping Jack	2005	19	20		\$5,000	5%	Fair
	Equipment & Machinery	Attachment			Midland Model WA405 Road Widener Total 1	2019	5	10			50%	Good
80-21	Equipment & Machinery	Attachment			Jumbo Frontline Votex Flail Mower	2021	3	10		\$35,000	70%	Excellent

Equipment & Machinery Summary

County Division: Infrastructure & Development Services												
County Department: Public Works												
General Data												
Asset ID (from PW)	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition Score (% EUL Remaining)	Condition
76-19	Equipment & Machinery	Attachment			Votex Jumbo Flail Mower	2019	5	10		\$25,000	50%	Good
81-17	Equipment & Machinery	Attachment			Lely 205 HD Disc Mower	2017	7	10		\$12,000	30%	Fair
78-20	Equipment & Machinery	Attachment			EDDYNET SWEEPER	2020	4	10		\$20,000	60%	Good
77-22	Equipment & Machinery	Attachment			Sami -Tractor mount broom	2022	2	10		\$12,000	80%	Excellent
85-23	Equipment & Machinery	Attachment			HFL HSG902 shoulder grader	2023	1	10		\$10,000	90%	Excellent
67-08	Equipment & Machinery	Trailer			WITZ RG5 HYDRAULIC GOOSENECK TRLR	2008	16	20		\$100,000	20%	Fair
	Equipment & Machinery	Trailer			UTILITY TRAILER	2009	15	20		\$6,000	25%	Fair
	Equipment & Machinery	Trailer			EMERENCY ROAD CLOSED TRAILER	2020	4	10		\$6,000	60%	Good
	Equipment & Machinery	Trailer			EMERENCY ROAD CLOSED TRAILER	2020	4	10		\$6,000	60%	Good
	Equipment & Machinery	Trailer			EMERENCY ROAD CLOSED TRAILER	2020	4	10		\$6,000	60%	Good
	Equipment & Machinery	Trailer			EMERENCY ROAD CLOSED TRAILER	2020	4	10		\$6,000	60%	Good
81-20	Equipment & Machinery	Trailer			VER-MAC PCMS320 Message Board - Data logger	2020	4	10		\$30,000	60%	Good
82-20	Equipment & Machinery	Trailer			VER-MAC PCMS320 Message Board	2020	4	10		\$30,000	60%	Good
83-21	Equipment & Machinery	Trailer			VER-MAC PCMS320 Message Board	2021	3	10		\$30,000	70%	Excellent
84-21	Equipment & Machinery	Trailer			VER-MAC PCMS320 Message Board - Data logger	2021	3	10		\$30,000	70%	Excellent
	Equipment & Machinery	Trailer			Utility Trailer - 2022	2022	2	10		\$6,000	80%	Excellent
	Equipment & Machinery	Trailer			Utility Trailer - 2023	2023	1	10		\$6,000	90%	Excellent
	Equipment & Machinery	Lifting Equipment			Electric Chain Hoist	1996	28	20		\$10,000	-40%	Very Poor
	Equipment & Machinery	Lifting Equipment			Electric Chain Hoist	1998	26	20		\$10,000	-30%	Poor
	Equipment & Machinery	Lifting Equipment			6 TON PORTABLE CRANE	1998	26	20		\$20,000	-30%	Poor
	Equipment & Machinery	Lifting Equipment			TWO POINT HOIST - 18000 LBS	2003	21	20		\$20,000	-5%	Poor
	Equipment & Machinery	Lifting Equipment			Petrolia Depot Hoist	2004	20	25		\$30,000	20%	Fair

Equipment & Machinery Summary												
County Division:		Infrastructure & Development Services										
County Department:		Public Works										
General Data												
Asset ID (from PW)	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition Score (% EUL Remaining)	Condition
	Equipment & Machinery	Lifting Equipment			WHEEL LIFT SYSTEM	2004	20	20		\$20,000	0%	Poor
	Equipment & Machinery	RWIS		RWIS Stations (3 Total)		Varies	5	10	\$18,000	\$54,000	50%	Good
	Equipment & Machinery	Brine Tank		Brine Tanks (12 Total)		Varies	10.5	10	Varies	\$133,000	-5%	Poor
	Equipment & Machinery	Tools		Tools Pool		Varies				\$200,000	N/A	N/A
							Average			Total	Average	Average
							10.2	13.6		\$4,859,500	34%	Good

Current Replacement Value for and Equipment and Machinery is based on recent purchase prices or current supplier estimates.

Appendix D – Service Summary: Public Works Core Assets Roads



Roads Gallery

Road network at a glance:



1,376 lane km
of **arterial roads**
including:



181 lane km
of **urban asphalt**



1,152 lane km
of **rural asphalt**



43 lane km
of **rural gravel**

Supporting assets, including:



2
roundabouts



51 signalized
intersections



5,600
signs



29 flashing
beacons



80
streetlights



28,000 m of
safety barriers

Average Condition



GOOD RATING = 84/100



\$727.1
MILLION

current replacement value

Public Works – Core Assets Roads

The County of Lambton strives to provide a safe, efficient, and reliable arterial road network that supports the movement of traffic throughout the County. A well-maintained road network plays a key part in providing responsive and efficient services to the community. The County owns and maintains 647 centreline kilometres of roads, or a total of 1,376 lane kilometres.

The asset management plan provides all road measurements in lane kilometres. Lane kilometres take into consideration the number of lanes on the road, which factors in the size of the road and better reflects the maintenance, rehabilitation, and replacement costs. While, centreline kilometres are a measurement of the actual length of roads within the County or the distance travelled between locations.

For the purposes of the asset management plan the road network is divided into the following three asset types:

- 181 lane km's of urban arterial asphalt roads
- 1,152 lane km's of rural arterial asphalt roads
- 43 lane km's of rural arterial gravel roads

The road network also includes many supporting assets that are required for the safe movement of vehicles. These assets include roundabouts, signalized intersections, signage, flashing beacons, street lights and safety barriers. A summary of the road network infrastructure in the County of Lambton is provided in Table D-1 and Table D-2.

Table D-1: Road Network Asset Summary

Road Network				
Asset Type	Length (lane-km)	Pavement Area (m ²)	Average Age ¹ (years)	Average Condition (PCI)
Urban Arterial – Asphalt	181	623,371	15.1	83.5
Rural Arterial – Asphalt	1,152	4,840,059	12.3	83.8
Rural Arterial – Gravel	43	157,989	N/A	98.0
Total	1,376	5,228,501	13.5	83.9

¹ Age of a road segment is considered from the date of the last major rehabilitation. Age information for gravel roads is not reliable as they are maintained annually.

Table D-2: Road Network Supporting Assets Summary

Supporting Assets			
Asset Type	Quantity	Unit	Average Age (years)
Roundabouts	2	Each	7.5
Signalized Intersections	115	Legs ¹	N/A
Signage	5,600	Each	N/A
Flashing Beacons	29	Each	N/A
Streetlights	80	Each	N/A
Safety Barriers	28,000	Length (m)	N/A

¹ Intersections have shared ownership if the joining road is owned by a local municipality. A leg is considered as one direction of travel (i.e., a standard four-way intersection has 4 total legs).

Asset Inventory

The County's road network is comprised of a total of 34 numbered County roads. Each County road is divided into clearly identified segments that are distinguished by major intersections, in total there are 621 road segments. A map showing the location of all County Roads is provided at the end of this Appendix.

Each segment is labelled with an asset type that identifies what setting the roadway is in. The County has two distinct roadway settings, including:

- Urban which has curb and gutter at the edge of the pavement and underground infrastructure that is owned by the local municipality.
- Rural which has granular or paved shoulders and roadside ditches.

Most of the roads within the County network are paved with a small quantity of gravel roads identified as Rural Arterial Gravel. Each road segment is assigned with various attribute information, such as:

- Condition
- Age
- Road dimensions
- Traffic conditions
- Current replacement costs
- Maintenance and rehabilitation history

The County also follows Ontario Regulation 239/02: Minimum Maintenance Standards for Municipal Highways which defines classes of highways based on the posted speed limit and average daily traffic.

Roads with higher speed limits and average daily traffic require more frequent inspections and quicker response times to identified deficiencies such as potholes, debris, snow and ice accumulation, etc. County roads are divided into the classes summarized in Table D-3. A map showing the class of all County roads is provided at the end of this Appendix.

Table D-3: Minimum Maintenance Standards Classification

Road Class	Patrolling Frequency	Length (lane-km)
Class 1	3 times every 7 days	0.7
Class 2	2 times every 7 days	306.3
Class 3	Once every 7 days	857.7
Class 4	Once every 14 days	171.1
Class 5	Once every 30 days	40.6

The current replacement values of assets in the road network are based on recent trends in reconstruction costs and totals an estimated \$727.1 million, including:

- \$99.5 million in Urban Arterial Asphalt Roads
- \$576.2 million in Rural Arterial Asphalt Roads
- \$21.6 million in Rural Arterial Gravel Roads
- \$29.9 million in Supporting Assets

A summary of current replacement values is provided in Table D-4 and D-5.

Table D-4: Road Network Valuation

Road Network		
Asset Type	Length (lane-km)	Current Replacement Value ¹
Urban Arterial Asphalt	181	\$99,502,568
Rural Arterial Asphalt	1,152	\$576,155,992
Rural Arterial Gravel ²	43	\$21,570,568
Subtotal	1,376	\$697,229,128

¹ The following unit rates were used to calculate Current Replacement Value: Urban Arterial Asphalt = \$550,000 / lane km, Rural Arterial Asphalt = \$500,000 / lane km and Rural Arterial Gravel = \$500,000 / lane km.

² Rural Arterial Gravel roads will be replaced with asphalt roads whenever feasible, as such Rural Asphalt Arterial unit rates have been used for Rural Arterial Gravel roads.

Table D-5: Supporting Assets Valuation

Additional Road Assets			
Asset Type	Quantity	Units	Current Replacement Value ¹
Roundabouts	2	Each	\$4,000,000
Signalized Intersections	115	Legs	\$6,900,000
Signage	5,600	Each	\$980,000
Flashing Beacons	29	Each	\$85,000
Streetlights	80	Each	\$520,000
Safety Barriers	28,000	Length (m)	\$17,388,000
Subtotal	N/A	N/A	\$29,873,000

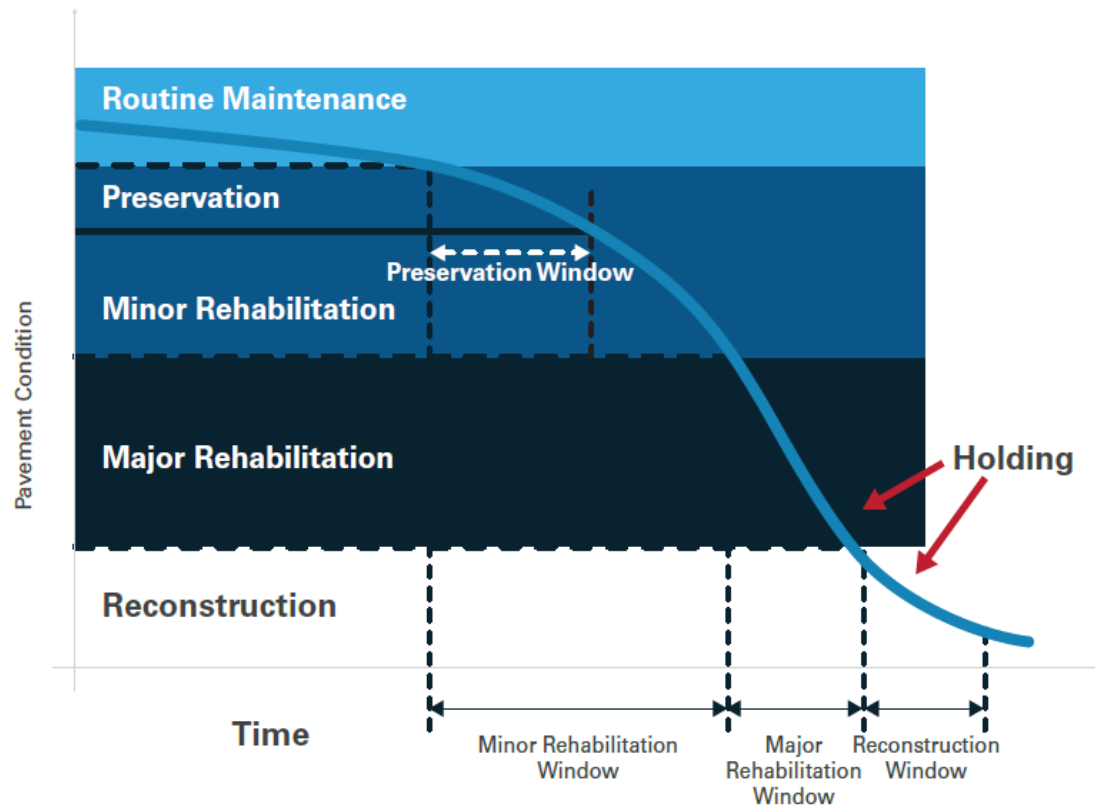
¹ The following unit rates were used to calculate Current Replacement Value: Roundabouts = \$2,000,000 each, Signalized intersections = \$60,000 / leg, Signage = \$175 / sign, beacons = \$2,500 / beacons and \$5,000 / overhead beacon, Streetlights = \$6,500 / streetlight, and Safety barriers = \$400 / m for cable barriers and \$800 / m for steel beam barriers.

Age and Estimated Useful Life

The exact age of roads is difficult to determine due to historical data gaps. Some roadways have existed in the County for well over one hundred years and continue to be maintained, rehabilitated, and reconstructed to provide service to the community. Additionally, the ownership of roads has varied over time with roads either being uploaded by local municipalities or downloaded from the province. Road rehabilitation and reconstruction dates are collected as projects are completed to establish reliable age information.

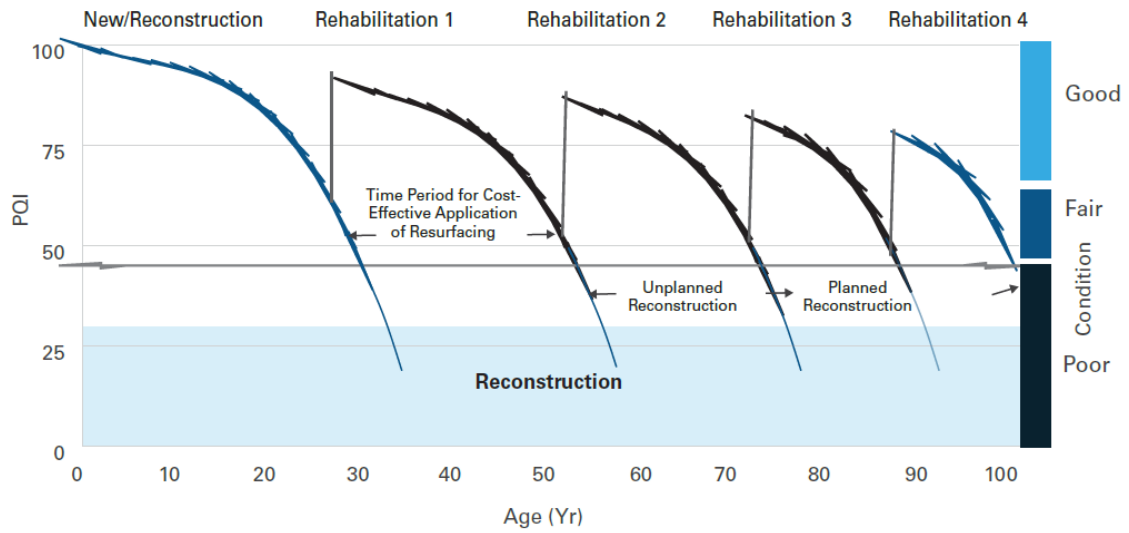
Once a road is built the pavement will start to deteriorate and the rate of deterioration will increase over time. A typical pavement performance curve is included in Figure D-1 (Taken from City of Toronto, Core Infrastructure Asset Management Plan, 2021).

Figure D-1: Typical Roadway Performance Curve Without Interventions



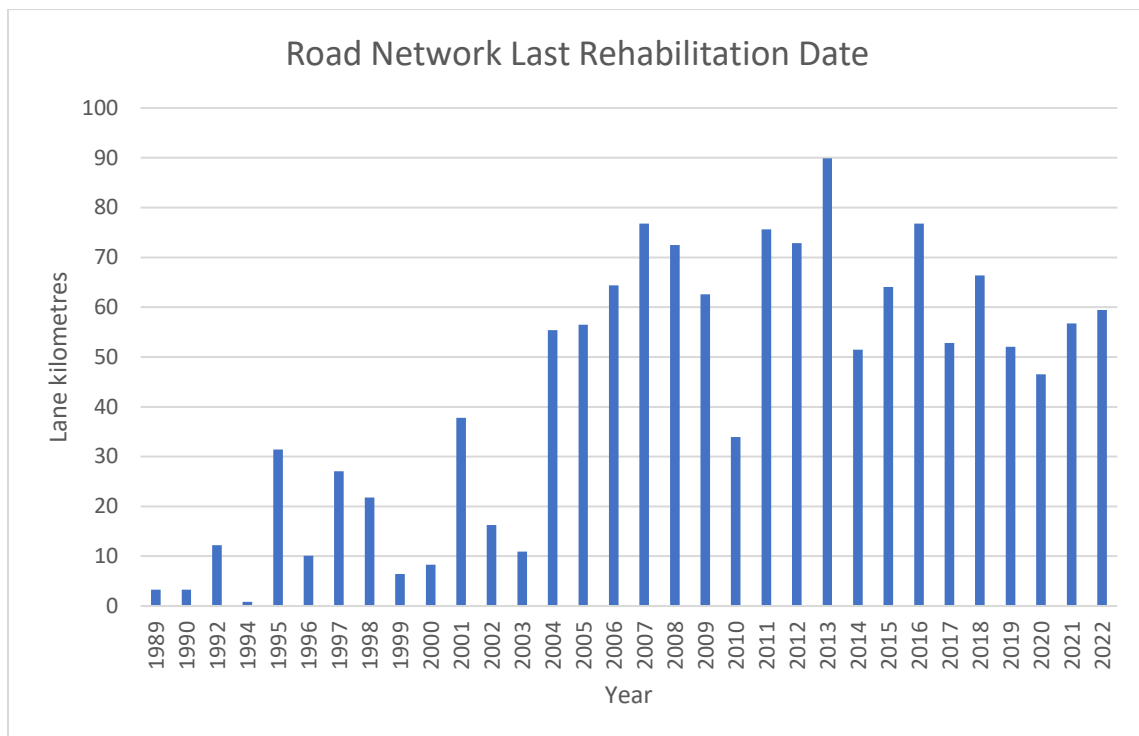
As a road deteriorates there are windows to apply maintenance and rehabilitation to extend the life of the roadway. If a road is left to deteriorate without any intervention it will reach a very poor condition in approximately 20 to 25 years. Once the road deteriorates to this point a full reconstruction is required. However, a properly maintained and rehabilitated road can provide approximately 75 to 100 years of service life or more before full replacement is required. During this time roads will generally undergo three to four cycles of major rehabilitation occurring about every 25 to 35 years. A typical service life of a well-maintained road is included in Figure D-2 (Taken from City of Toronto, Core Infrastructure Asset Management Plan, 2021).

Figure D-2: Typical Roadway Service Life with Interventions



The County has accurate data on the date roads have undergone their last rehabilitation. A histogram with the last rehabilitation date by lane kilometres is shown in Figure D-3.

Figure D-3: Road Network Last Rehabilitation Date



Condition

The County uses a pavement condition index (PCI) as the primary performance indicator when determining lifecycle strategies. Road condition is analyzed by County staff for each road segment and the frequency of inspections is at a minimum of once every 5 years. Road segments observed as being in distress may be analyzed at a higher frequency to ensure accurate and up to date conditions are recorded. The County's inspection frequency for roads is summarized in Table D-6.

Table D-6: Road Network Inspection Frequency

Asset Type	Inspection Frequency
Road Network	MTO Flexible Pavement Condition Rating every five (5) years

The network is reviewed in compliance with Ministry of Transportation Guide SP-022 Flexible Pavement Condition Rating, Guidelines for Municipalities. This is a standard guide used by road authorities throughout Ontario. The guide provides a consistent standard for rating the roadway by establishing an overall rideability value and the pavement's structural condition. The condition is determined by reviewing the severity and density of thirteen various distress manifestations observed within the road surface. The resulting data is translated into a five-point condition scale shown in Table D-7.

Table D-7: Road Network Condition Descriptions

PCI	Condition Scale	Service Level	Associated Work
90 or greater	Excellent	Recently reconstructed or rehabilitated. There are no visual cracks or structural issues. The ride is smooth.	No action is required.
75 to 90	Good	The road shows a few signs of surface deterioration, random cracks or rutting. The ride is relatively smooth	Maintenance
60 to 75	Fair	The road shows signs of surface deterioration, random cracks, rutting and some patching of surface defects. The ride is becoming rough.	Maintenance or Rehabilitation
40 to 60	Poor	The road shows signs of deterioration, cracks, rutting, and patching of surface defects that occur over 50 percent of the surface. Some structural issues are starting to show. The ride is uncomfortable.	Rehabilitation or Reconstruction
Below 40	Very Poor	The road shows significant structural issues with large visible cracks, rutting, and patching of surface defects that occur over 75 percent of the surface. The road is difficult to drive at the posted speed limit	Reconstruction or reconstruction

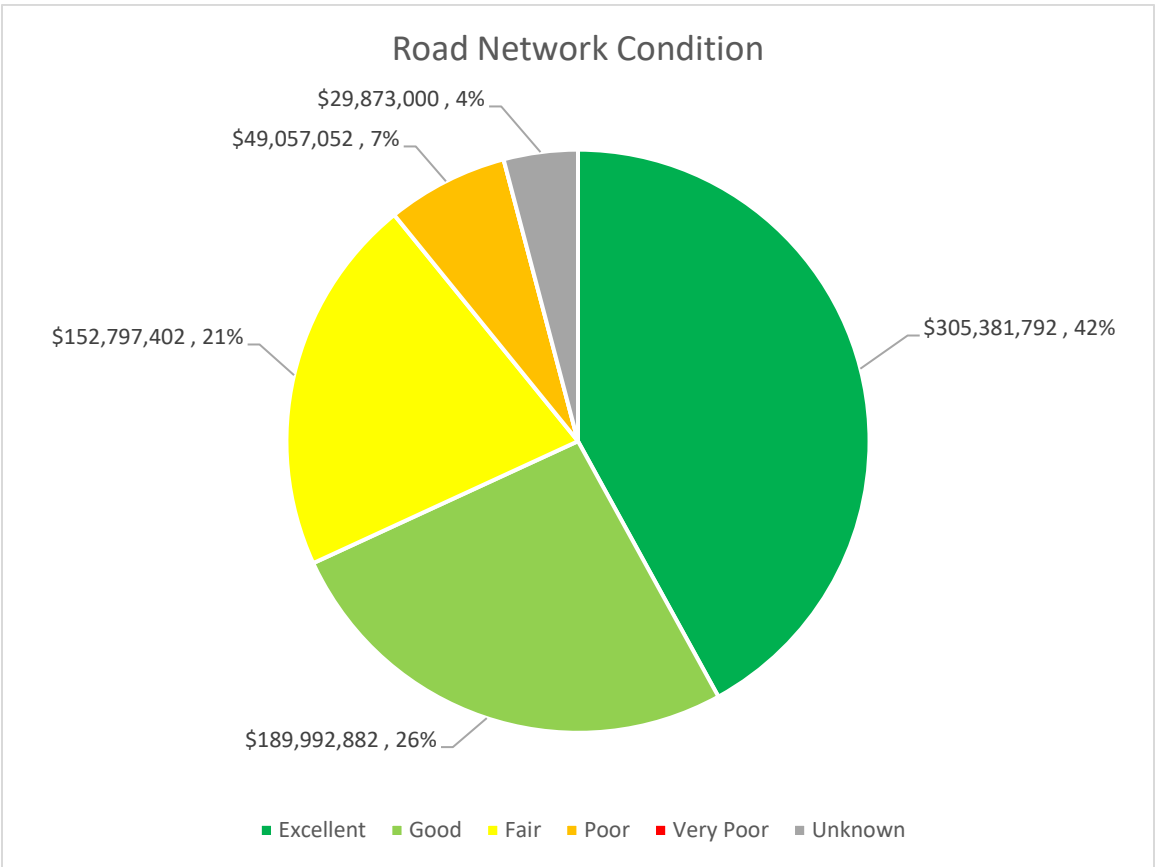
The County also undertakes an annual road coring program to determine the condition of granular material located underneath the asphalt. This is completed by an external geotechnical consultant. The program consists of coring through the road platform to confirm asphalt, granular and existing soil thicknesses to a depth of 1.0 metre. The road cores provide accurate data on how the roads have been built and any deficiencies that need to be addressed that could not be determined by visual inspection.

The condition of the road network is shown relative to the current replacement value of each asset, which includes:

- \$305.4 million or 42% in excellent condition
- \$190.0 million or 26% in good condition
- \$152.8 million or 21% in fair condition
- \$49.1 million or 7% in poor condition
- \$29.9 million or 4% in unknown condition

A pie chart with the condition of the road network and the associated current replacement value is shown in Figure D-4. A map showing the location of roads and their condition is included at the end of this Appendix.

Figure D-4: Road Network Condition by Current Replacement Value



Level of Service

The current level of service provided by the County's road network is summarized as community levels of service in Table D-8 and technical levels of service in Table D-9.

Table D-8: Community Level of Service

Qualitative Description	Current Level of Service
Description, which may include maps, of the road network in the municipality and its level of connectivity.	The County's road network is classified as arterial roads and as such the type of traffic supported by the structures includes motor vehicles, heavy transport vehicles, emergency response vehicles, school buses, cyclists and pedestrians. The County also supports the Lambton County Regional Trail System which is an on-road, shared access route for motorists, cyclists and pedestrians. A map showing the County road network is included at the end of this Appendix.
Description or images that illustrate the different levels of road class pavement condition.	Images of the condition of roads are shown in Figure D-5.

Table D-9: Technical Level of Service

Technical Metrics	Current Level of Service
Number of lane-kilometres of arterial roads as a proportion of square kilometres of land area of the municipality.	(1,376 lane km / 3,002 km ² land area) = 0.46 lane km / km ² land area
The average pavement condition index of the road network.	Good (PCI = 83.9)

Figure D-5: Local Examples of Road Network Condition

Excellent	Good
	
Fair	Poor
	
Very Poor	
	

The proposed level of service for roads focuses on the physical condition of the overall road network and sets the minimum level of service that the County aims to provide. Pavement condition is the main factor used to determine lifecycle events and is also the most noticeable by the residents and visitors of the County. Proposed levels of service are summarized in Table D-10.

Table D-10: Road Network Proposed Level of Service

Proposed Level of Service	Target	Performance
Maintain an average condition of 'Good' or better (PCI greater than 75)	Good (PCI>75)	Good (PCI=83.9)
Maintain 100% of roads above 'Very Poor' condition	100%	100%

Roads identified for replacement are allowed to decline to 'poor' condition. Poor condition roadways are considered acceptable in the short-term, except for any roads that have concerns with safety or performance.

The County is currently meeting the proposed level of service targets set for the road network.

Risk

The County is in the process of developing a framework that assesses the potential likelihood and consequences of asset failures to estimate risk exposure using a series of specific qualitative and quantitative metrics. The risk management framework will be built into the County's next iteration of the asset management plan.

Lifecycle Strategy

The key to long-term cost-effective pavement performance is the use of timely maintenance, rehabilitation, and reconstruction techniques. The benefits of applying these techniques appropriately are realized in lower lifecycle costs, longer service life, reuse of existing materials, increased service levels and less disruptions to the travelling public. The lifecycle strategies that the County uses in the overall sustainable management of its road network are summarized in Table D-11.

Table D-11: Summary of Structures Lifecycle Strategy

Category	Lifecycle Strategy
Non-Infrastructure	The County implements seasonal half-load restrictions to select roadways identified as being susceptible to damage due to traffic loading during freeze/thaw events. Overlap between County assets and those of local municipalities are reviewed and coordinated with key stakeholders. Financial and logistical savings can be recognized by using a coordinated asset management approach.
Maintenance	Maintenance is applied to maintain the current level of service and prevent further deterioration. The County groups maintenance into two categories: • Routine maintenance including catch basin cleaning, ditch cleaning, roadside cleaning, pothole repair, pavement marking, snow removal, ice prevention, etc. This maintenance is done on a routine basis to address immediate issues. • Preservation including crack sealing and spray patching. This maintenance is designed to be proactive and is used to preserve the current condition and to slow deterioration.
Rehabilitation	Rehabilitation is completed to increase the condition of the road and extend its estimated useful life. The County groups rehabilitation into two categories: • Minor Rehabilitation (Surface Renewal) including micro surfacing, bonded wearing course, asphalt overlay and topcoat mill and pave. • Major Rehabilitation (Resurfacing) including full depth mill and pave, cold-in-place recycling (CIR), cold in place recycling with expanded asphalt mix (CIREAM) and full depth reclamation (pulverizing).
Replacement	Total reconstruction of a section of roadway is determined when it is no longer financially practical or technically viable to continue maintenance and rehabilitation strategies. Other reasons for replacement may include: • Issues with underlying soil • Slope stability issues in areas with fill. • Improvements to the geometric design such as road re-alignment, turn lanes, road widening, etc. Prior to reconstructing, maintenance and rehabilitation is minimized and the road condition is left to decline in advance of replacement.
Disposal	Based on road network reviews, segments of road may be downloaded to local municipalities, closed, or abandoned, subject to approval by Council.
Growth / Expansion	Based on road network reviews, segments of road may be uploaded from local municipalities, subject to approval by Council or downloaded from the Province of Ontario. Other expansions may be necessary to provide operational or geometric design improvements to the network including intersection improvements such as roundabouts. Such expansions to the network coincide with areas of growth within the County and are subject to approval by Council.

The lifecycle strategy used for road segments is affected by many factors including road classification, pavement structure, traffic volume, traffic distribution, construction materials, quality of construction, and maintenance and rehabilitation history. Condition and performance can also be impacted by underground utility work and private development activities. Generally, a properly maintained and rehabilitated road will provide approximately 75 to 100 years of service or more before full replacement is required. Roads will generally undergo three to four cycles of major rehabilitation occurring about every 25 to 35 years of their service life. The lifecycle strategy for a major rehabilitation cycle used for the road network is summarized in Table D-12.

Table D-12: Road Network Lifecycle Strategy

Event Name	Event Trigger	Impact to BCI	Event Cost Urban	Event Cost Rural
Maintenance	Age = 5 to 10 years PCI < 80	PCI = 85	\$2,500 / lane km	\$2,500 / lane km
Minor Rehabilitation	Age = 12 to 18 years PCI < 70	PCI = 90	\$85,000 / lane km Urban Arterial	\$50,000 / lane km Rural Arterial
Maintenance	Age 20 to 25 PCI < 80	PCI = 85	\$2,500 / lane km	\$2,500 / lane km
Major Rehabilitation or Reconstruction	Age 25 to 35 years PCI < 60	PCI = 98 or 100	Major Rehab: \$200,000 / lane km	Major Rehab: \$175,000 / lane km
			Reconstruction: \$550,000 / lane km	Reconstruction: \$500,000 / lane km

Financial Strategy

The County's Financial Strategy for all County owned assets is provided in Section 6 of the report.

Growth and Expansion

Population and employment growth within the County will result in an increased demand on the road network. The County has seen an increase in growth and development recently and the County Official Plan is currently being updated to provide new population, demographic and employment projections for all local municipalities.

During the approval process for development applications a traffic impact study is completed to assess any required upgrades to County roads in the area. The County requires that any upgrades identified in the traffic impact study are paid for by the developer as part of the development process.

Significant increases in traffic volumes or shifts in traffic patterns can result in a need for road widenings or intersection improvements. It is not projected that any road widening projects will be required in the next ten years. However, there are currently intersection improvements, such as traffic lights or

roundabouts, that are being considered to provide an increased level of service. While the need for these intersection improvements may be influenced by growth within the County they are not captured in development projects and are funded directly from capital allocations.

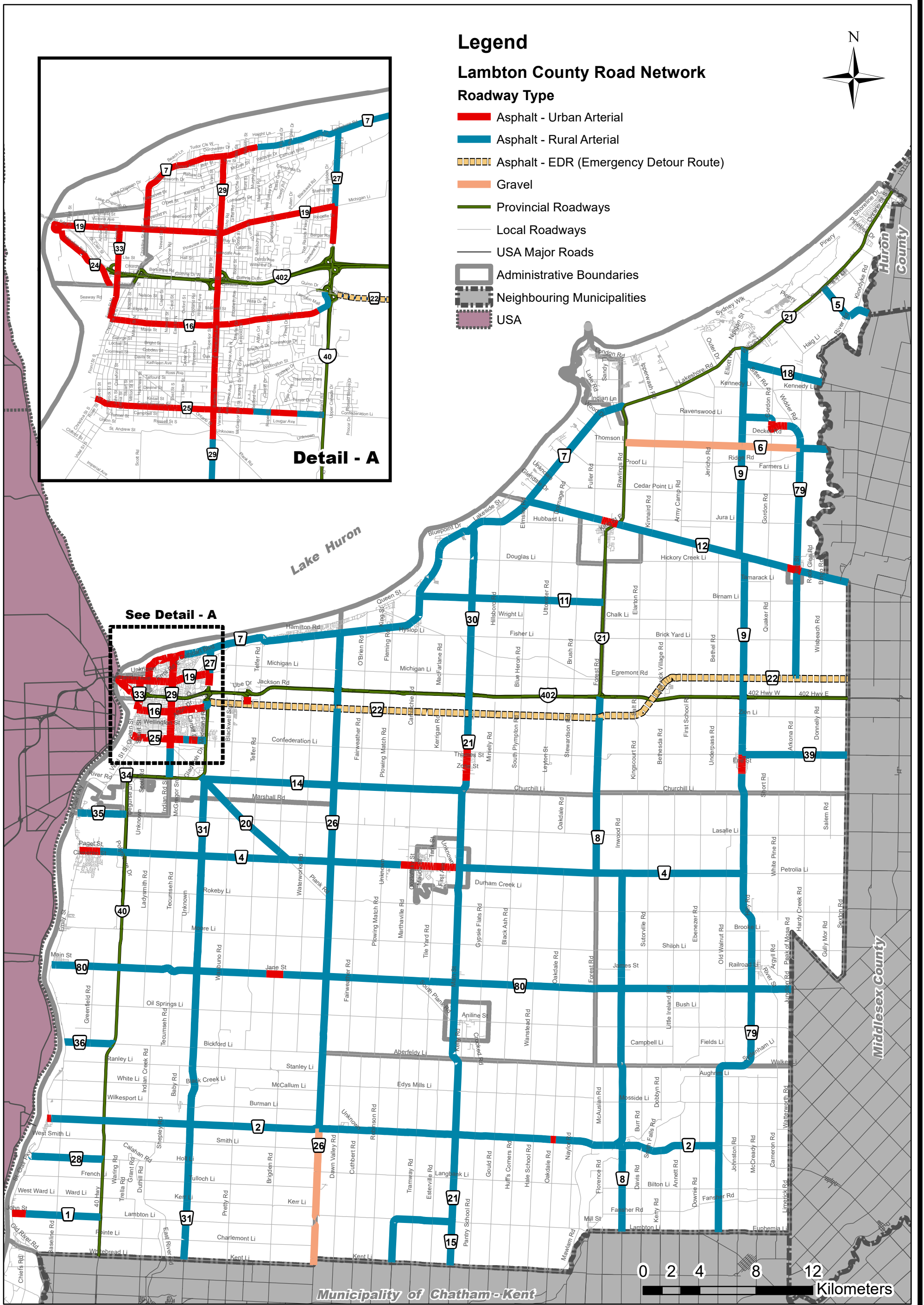
Any growth and expansion projects are not considered in the annual sustainable funding target and would require additional capital allocations.



The Corporation of the County of Lambton

Asset Management Plan

Road Network

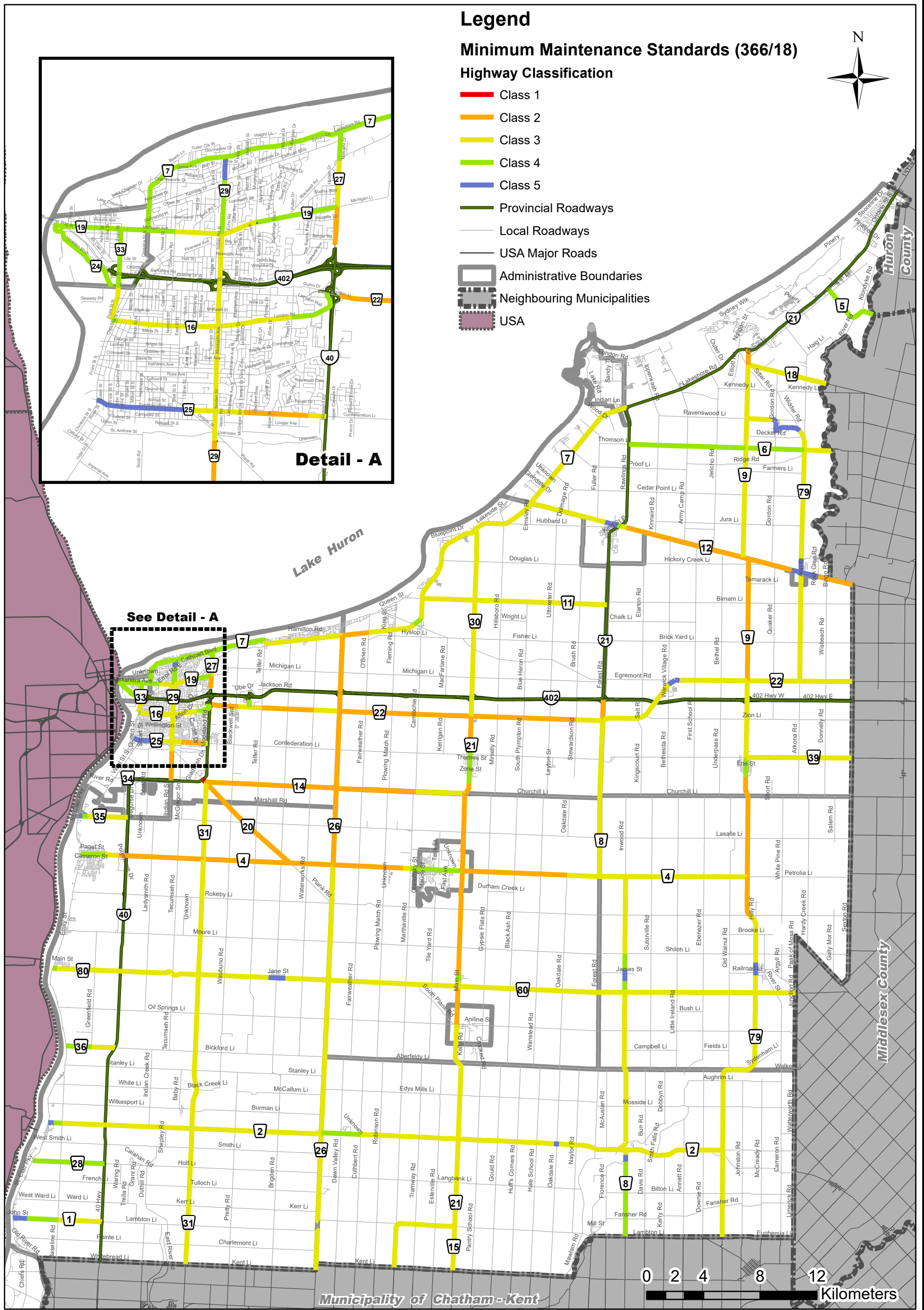




The Corporation of the County of Lambton

Asset Management Plan

Minimum Maintenance Standards Classes





The Corporation of the County of Lambton

Asset Management Plan

Road Conditions

Legend

Lambton County Road Network

PCI

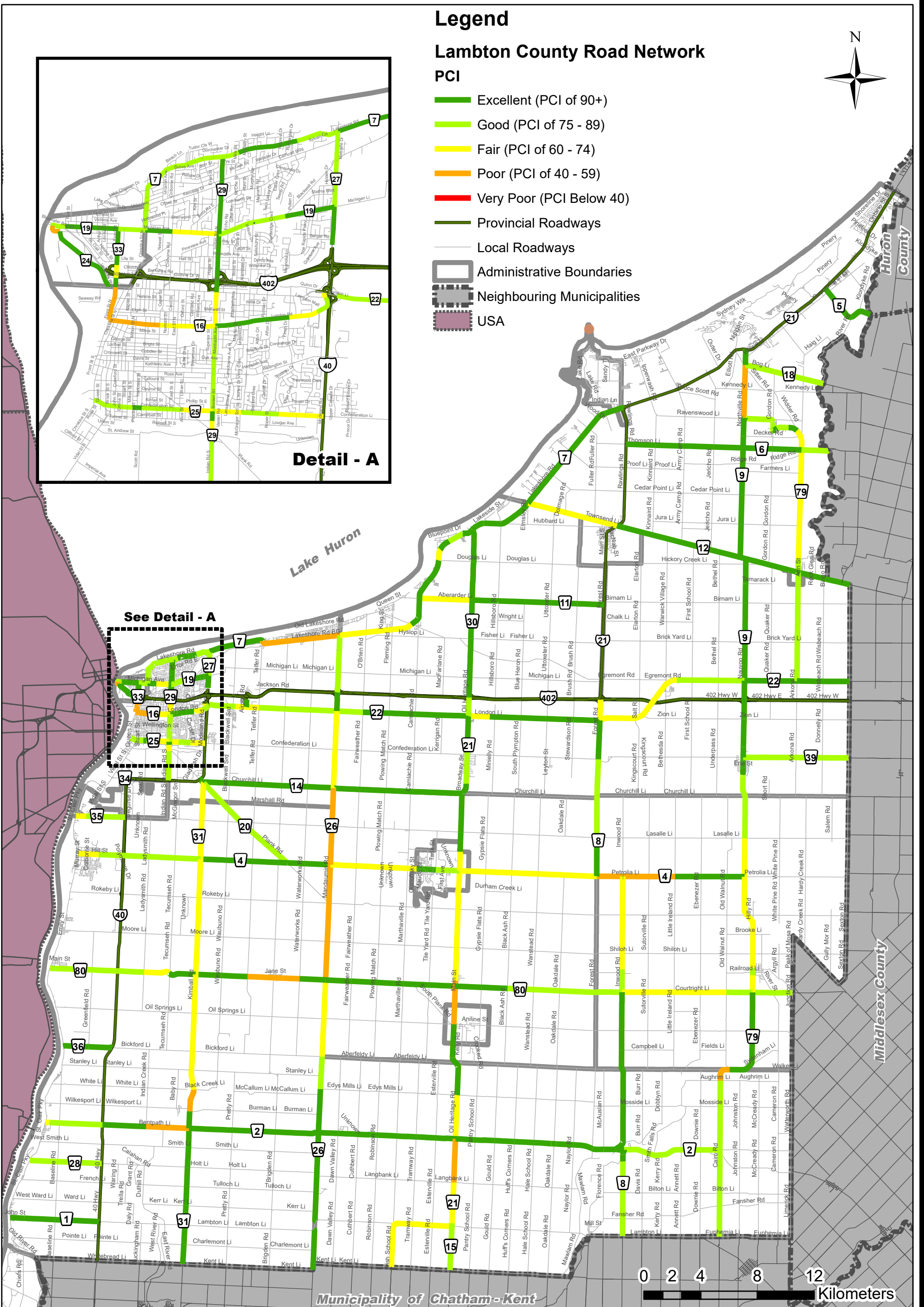
- Excellent (PCI of 90+)
- Good (PCI of 75 - 89)
- Fair (PCI of 60 - 74)
- Poor (PCI of 40 - 59)
- Very Poor (PCI Below 40)

- Provincial Roadways
- Local Roadways
- Administrative Boundaries
- Neighbouring Municipalities
- USA



Detail - A

See Detail - A



Appendix E – Service Summary: Public Works Core Assets Structures



Structures Gallery

Structures at a glance:



186
Structures
including:



71 Bridges



95 Concrete
culverts



20 Steel
culverts



49 YEARS
STRUCTURES
average age

Average Condition



GOOD RATING = 79/100



\$185.3
MILLION

current replacement value

Public Works – Core Assets Structures

Structures assist in the safe and efficient movement of vehicular traffic and form part of the County's road network. The County of Lambton owns and maintains 186 structures totaling over 40,000 square metres of deck area. For the purposes of the asset management plan the structures are divided into the following three asset types:

- 71 bridges
- 95 concrete culverts spanning 3.0 metres or greater
- 20 steel culverts spanning 3.0 metres or greater

In accordance with the Canadian Highway Bridge Design Code (CHBDC), a bridge is defined as “a structure that provides a roadway or walkway for the passage of vehicles, pedestrians, or cyclists across an obstruction, gap, or facility and is greater than 3.0 metre in span”.

The CHBDC defines culverts as “a structure that forms an opening through soil”. Culverts that are included in the Ontario Structures Inventory Manual (OSIM) have a span greater than or equal to 3.0 metres and more than 600 millimetres of cover and are referred to as major culverts. Culverts of less than 3.0 metres in span are not assessed based on OSIM methodology and are referred to as minor culverts. Minor culverts are not identified in this report but are maintained as part of the associated road asset.

A summary of the bridge and major culvert infrastructure in the County of Lambton is provided in Table E-1. Data is based on structure inspections completed in 2022.

Table E-1: Structures Asset Summary

Asset Type	Number of Structures	Total Deck Area (m2)	Average Age	Average Condition (BCI)
Bridges	71	24,621	51	Good (80.8)
Concrete Culverts (>3.0m)	95	12,612	48	Good (78.6)
Steel Culverts (>3.0m)	20	3,372	45	Good (76.1)
Total	186	40,605	49	Good (79.2)

Asset Inventory

The County owns and maintains a total of 186 structures consisting of 71 bridges, 95 concrete culverts and 20 steel culverts. A total of 17 structures or 9.1% are jointly owned with bordering Counties or Railways and the costs associated with inspection, maintenance, rehabilitation and reconstruction are shared. A map showing the location of all structures is included at the end of this Appendix.

Structures are identified with a unique identification number issued by County staff. This numbering system follows the format XX-Y-ZZZ where:

- XX is the County Road number or boundary location (EB = east boundary, SB = south boundary and IB = interior boundary)
- Y is the type of structure (3 = bridge and 5 = culvert)

- ZZZ is the location of the bridge measured as a distance (chainage) from the starting point of the road.

The current replacement values of bridges and major culverts is based on recent trends in reconstruction costs for equivalent structures and totals an estimated \$185.3 million, including:

- \$129.5 million in bridges
- \$44.1 million in concrete culverts (>3.0m)
- \$11.7 million in steel culverts (>3.0m)

A summary of current replacement values is provided in Table E-2. The values shown below only reflect the County's portion for any shared assets.

Table E-2: Structures Valuation

Asset Type	Number of Structures	Current Replacement Value ¹
Bridges	71	\$129,527,074
Concrete Culverts (>3.0m)	95	\$44,079,385
Steel Culverts (>3.0m) ²	20	\$11,717,143
Total	186	\$185,323,602

¹ The following unit rates were used to calculate Current Replacement Value: Bridges = \$6,000 / m² deck area, Concrete Culverts = \$3,500 / m² deck area and Steel Culverts = \$3,500 / m² deck area.

² Steel Culverts are replaced with Concrete Culverts whenever feasible. Concrete Culvert unit rates have been used for Steel Culverts

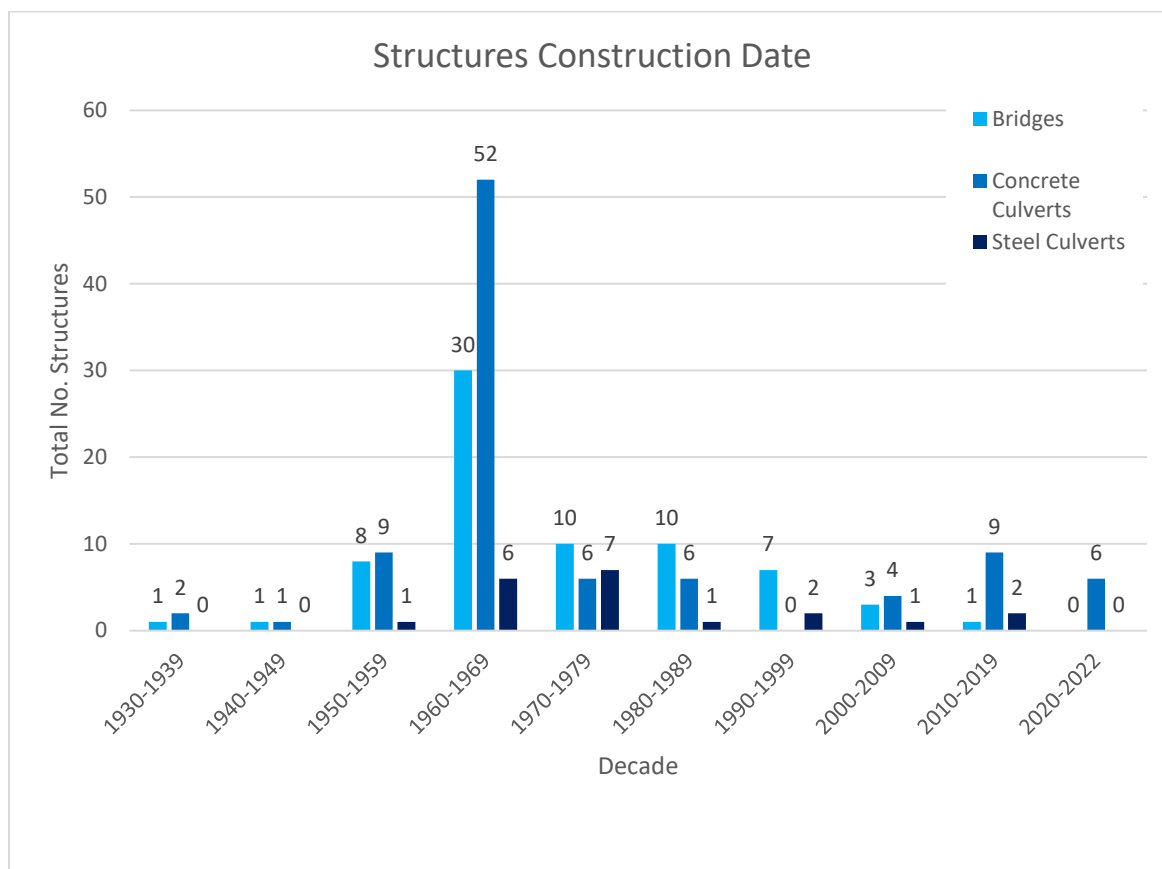
Age and Estimated Useful Life

The County records the date each structure was built, this age information is summarized below:

- Average age of bridges is 51 years, 63.4% are older than 50 years.
- Average age of concrete culverts is 48 years, 68.4% are older than 50 years.
- Average age of steel culverts is 45 years, 50.0% are older than 50 years.

Overall, there are 120 structures greater than 50 years old which is 64.5% of the network. Therefore, the structure network is trending to an older age profile. A histogram with the structure construction dates is shown in Figure E-1.

Figure E-1: Structures Construction Date

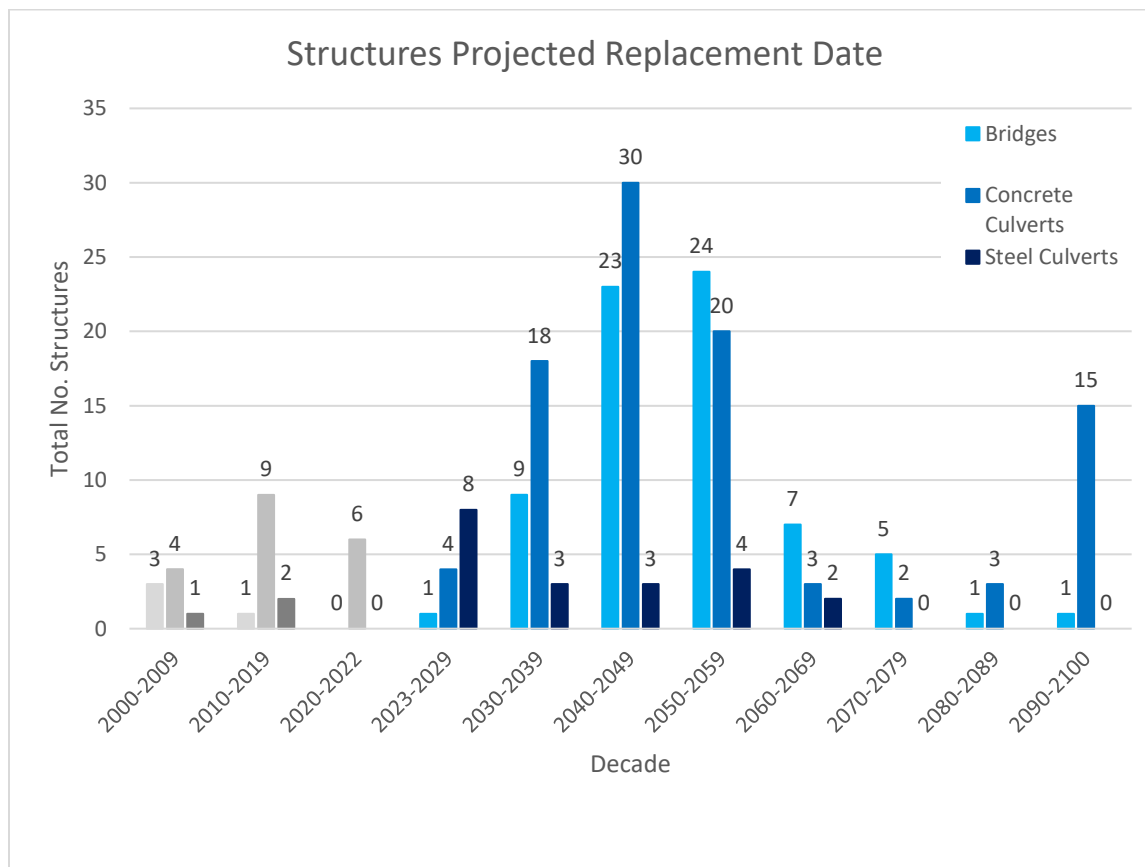


Many of the structures in the County's network were constructed during the 1960's. During this period there was major infrastructure investments that occurred throughout Canada, and this was fundamental to the construction of the bridge and highway system that we utilize today. Therefore, many structures in the County network are projected to reach the end of their useful lives in the next 25 years.

The Canadian Highway Bridge Design Code estimates that the useful life for bridges and concrete culverts is 75 years, while steel culverts have a shorter estimated useful life of 50 years. However, the actual useful life of a structure may vary due to a variety of factors such as design, construction methods, previous rehabilitation and maintenance schedules, traffic volumes, traffic loading, etc.

The County reviews each structure on a case-by-case basis as it ages and approaches the end of its estimated useful life. Based on the structures current condition, age, and maintenance history a replacement date is determined and the estimated useful life is adjusted accordingly. A total of 99 structures, totaling 53.2% of the network, may reach the end of their estimated useful life prior to 2050. A histogram with the structures projected replacement date is shown in Figure E-2.

Figure E-2: Structures Projected Replacement Date



Condition

Bridges and major culverts are legislated through Ontario Regulation 104/97: Standards for Bridges as amended by Ontario Regulation 472/10 made under the Public Transportation and Highway Improvement Act. In accordance with the regulation “The structural integrity, safety and condition of every bridge shall be determined through the performance of at least one inspection in every second calendar year under the direction of a professional engineer and in accordance with the Ontario Structure Inspection Manual (OSIM)”. The County’s inspection frequency for structures is summarized in Table E-3.

Table E-3: Structures Inspection Frequency

Asset Type	Inspection Frequency
Bridges and major culverts as per O.Reg. 472/10	OSIM inspection every two (2) years, 100% biennially
Minor culverts	Normal maintenance inspections by operations staff and prior to completing road rehabilitation or reconstruction in the area

The County's most recent OSIM inspection was completed in 2022 by an external consultant. These inspections are used to develop a condition rating, known as the Bridge Condition Index (BCI), which is based on the Ministry of Transportation (MTO) rating system. The BCI rating is on a scale from 0 to 100, with 0 representing the worst possible condition and 100 representing the best possible condition. While there are several factors associated with prioritizing needs, the BCI is used to reflect the general condition of bridges and culverts.

The BCI provided by the OSIM inspection is translated into a five-point condition scale shown in Table E-4.

Table E-4: Structures Condition Descriptions

BCI	Condition Scale	Service Level	Associated Work
85 or greater	Excellent	Recently reconstructed or rehabilitated. The structure is new or like new condition.	No action is required.
70 to 85	Good	The structure or components of the structure are showing signs of minor defects. The structure is performing as intended.	Maintenance. Rehabilitation is not usually required within five years.
60 to 70	Fair	The structure or components of the structure are showing signs of moderate defects. Performance of the structure may be slightly impacted.	Minor or Major rehabilitation is usually required within the next five years. This is the ideal time to schedule major bridge or culvert repairs from an economic perspective.
30 to 60	Poor	The structure or components of the structure are showing signs of severe defects. The structure is not performing as intended however a poor rating does not necessarily mean the bridge or structure is unsafe or unsuitable for use. Load restrictions may be required.	Major rehabilitation or reconstruction is usually required within approximately one year.
Below 30	Very Poor	The structure or components of the structure are showing signs of very severe defects. Load restrictions or temporary closure may be required.	Reconstruction is usually required immediately and is likely the most economical solution.

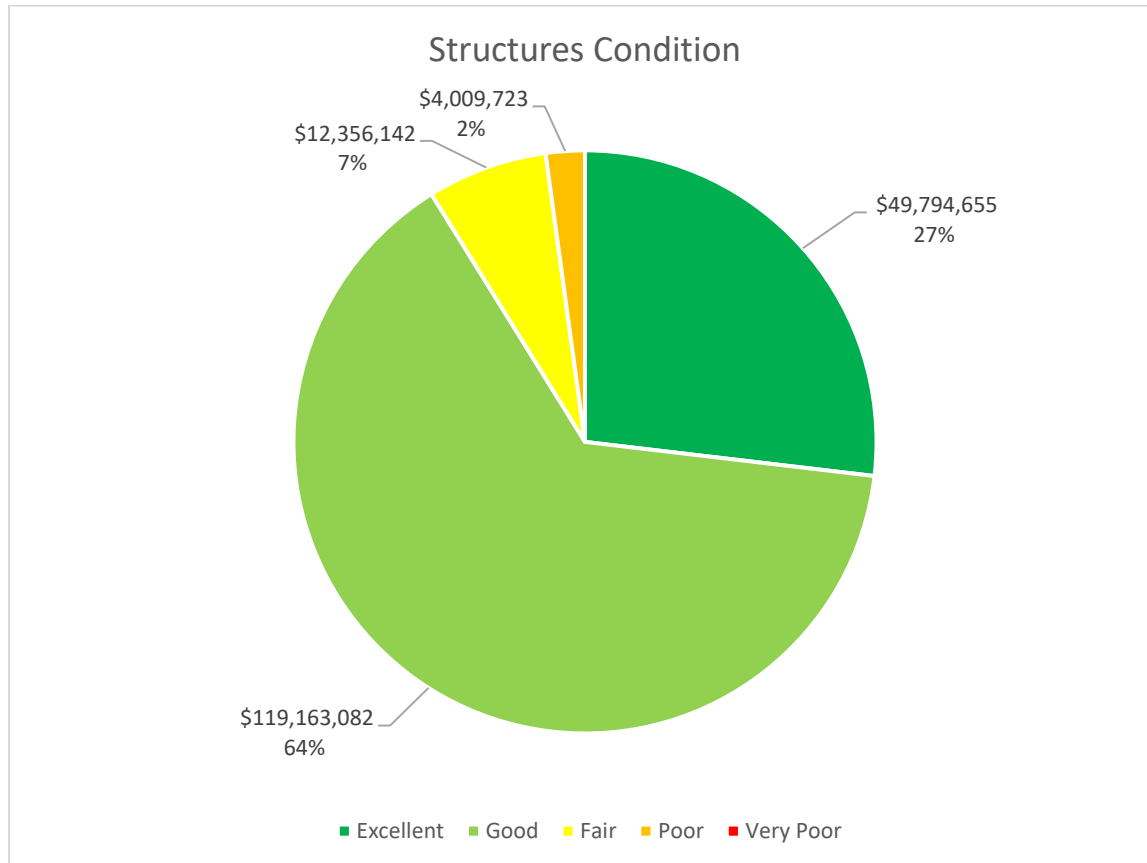
The condition of the structure network is shown relative to the current replacement value of each asset, which includes:

- \$49.8 million or 27% in excellent condition
- \$119.2 million or 64% in good condition
- \$12.4 million or 7% in fair condition

- \$4.0 million or 2% in poor condition

A pie chart with the condition of structures and the associated current replacement value is shown in Figure E-3. A map showing the location of structures and their condition is included at the end of this Appendix.

Figure E-3: Structure Network Condition Breakdown by Current Replacement Value



Level of Service

The current level of service provided by the County's structure network is summarized as community levels of service in Table E-5 and technical levels of service in Table E-6.

Table E-5: Community Level of Service

Qualitative Description	Current Level of Service
Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	The County's road network is classified as arterial roads, which support the following type of traffic: motor vehicles, heavy transport vehicles, emergency response vehicles, school buses, cyclists, and pedestrians. The County also supports the Lambton County Regional Trail System which is an on-road, shared access route for motorists, cyclists and

	pedestrians. A map showing the location of County structures is included at the end of this Appendix.
1. Description or images of the condition of bridges and how this would affect use of the bridges. 2. Description or images of the condition of culverts and how this would affect use of the culverts.	Images of the condition of bridges are shown in Figure E-4. Images of the condition of culverts are shown in Figure E-5. A map showing the location of structures and their condition is included at the end of this Appendix.

Table E-6: Technical Level of Service

Technical Metrics	Current Level of Service
Percentage of bridges in the municipality with loading or dimensional restrictions.	0.0%
For bridges in the municipality, the average bridge condition index value.	Good (BCI = 80.8)
For concrete culverts in the municipality, the average bridge condition index value.	Good (BCI = 78.6)
For steel culverts in the municipality, the average bridge condition index value.	Good (BCI = 76.1)

Figure E-4: Local Examples of Bridge Condition

Excellent – Structure No. 22-3-334, BCI = 100, Construction Date = 2019	Good – Structure No. 80-3-497, BCI = 72, Construction Date = 1959
	
Fair – Structure No. IB-3-031, BCI = 69, Construction Date = 1963	Poor – Structure No. 26-3-140, Construction Date = 1961 (Photo taken in 2007 prior to rehabilitation)
	
Very Poor – Structure No. 79-3-118, Construction Date = 1957 (Photo taken in 2004 prior to rehabilitation)	
	

Figure E-5: Local Examples of Culvert Condition

Excellent – Structure No. 79-5-474, BCI = 100, Construction Date = 2022	Good – Structure No. 09-5-010, BCI = 75, Construction Date = 1977
	
Fair – Structure No. 22-5-307, BCI = 64, Construction Date = 1960	Poor – Structure No. 02-5-385, BCI = 44, Construction Date = 1962
	
Very Poor – Structure No. 08-5-102, BCI = 28, Construction Date = 1974 (Photo taken in 2022 prior to reconstruction)	
	

Proposed level of service for structures focuses on the physical condition of the overall network as this provides the best indication of how a structure will perform in the short to medium term. The proposed level of service sets the minimum level of service that the County aims to provide. Proposed levels of service are summarized in Table E-7.

Table E-7: Structures Proposed Level of Service

Proposed Level of Service	Target	Performance
Maintain an average condition of 'Good' or better (BCI greater than 70)	Good (BCI>70)	Good (BCI=79.2)
Maintain 100% of bridges and major culverts above 'Very Poor' condition	100%	100%

Bridges identified for replacement are allowed to decline to 'poor' condition. Bridges rated as poor are considered as acceptable in the short-term except for any structures that have concerns with safety or performance.

The County is currently meeting the proposed level of service targets set for structures.

Risk

The County is in the process of developing a framework that assesses the potential likelihood and consequences of asset failures to estimate risk exposure using a series of specific qualitative and quantitative metrics. The risk management framework will be built into the County's next iteration of the asset management plan.

Lifecycle Strategy

The main goal of the lifecycle strategy is to maximize the life of the structure while maintaining a proposed level of service at the lowest possible cost. During the bi-annual OSIM review a list of recommended improvements is produced for each structure. These lifecycle events are classified as maintenance, minor rehabilitation, major rehabilitation, and replacement. The lifecycle strategies that the County uses in the overall sustainable management of its structures is summarized in Table E-8.

Table E-8: Summary of Structures Lifecycle Strategy

Category	Lifecycle Strategy
Non-Infrastructure	Structure lifecycle events are coordinated with the road network whenever possible. Financial and logistical savings can be recognized by using a coordinated asset management approach.
Maintenance	Maintenance is performed through spring bridge washing, crack sealing, minor concrete repairs, slope repairs, tree trimming, etc. Structures are continually reviewed for possible inclusion into these operations as well as other selective repairs, to maintain current level of service and to maximize useful life.
Minor Rehabilitation	Minor rehabilitations include the replacement of bridge bearings, resurfacing, replacement of waterproofing, concrete patching, replacement of joint seals, barrier repairs, etc.
Major Rehabilitation	Major rehabilitations involve more extensive work such as concrete overlays on decks, deck replacements, replacement of barriers, replacement of joint assemblies, resurfacing of substructure components, recoating structural steel, etc.
Replacement	Total reconstruction of a bridge or culvert is determined when it is no longer financially or technically viable to duplicate maintenance or rehabilitation strategies. The remaining useful life of the bridge or culvert is balanced with the associated risk prior to the ultimate replacement of the structure.
Disposal	Bridges and major culverts may be downloaded to the local municipalities or removed, subject to approval by Council.
Expansion	Bridges and major culverts may be uploaded from local municipalities or downloaded from the Province of Ontario. Existing structures may be widened to accommodate additional lanes of traffic, sidewalks, or to provide clear zone to remove the need for protective barriers. Structures that cross a water course may need to be expanded to accommodate increased hydraulic demands. All expansions are subject to approval by Council.

The lifecycle strategy that is used is different for bridges, concrete culverts, and steel culverts. Bridges are more complex with a variety of different components that are exposed to the elements, this results in more maintenance and rehabilitation work. Concrete and steel culverts are made up of very few components that are buried in soil which provides protection from the elements, resulting in less maintenance and rehabilitation work.

Maintenance is an important part of a structure's lifecycle strategy to sustain current levels of service and extend a structures useful life. Bridges, concrete culverts, and steel culverts are included in annual maintenance activities. These costs are reflected in the County's Public Works operating budget. Currently, the maintenance budget is sufficient for the County's structure network.

Lifecycle strategies provide a general guideline for what maintenance and rehabilitation will be required throughout the life of a structure. However, recommendations from inspections may vary from the general timeline due to a variety of factors. Where possible, lifecycle events are planned in conjunction with the activities of the road network to minimize disruption and realize cost efficiencies. The lifecycle strategy for each asset type is summarized below.

Bridge Lifecycle Strategy

The bridge lifecycle strategy consists of minor rehabilitations, major rehabilitations, and full asset replacement. First, a minor rehabilitation is triggered at an age between 20 to 40 years and a BCI between 70 to 80 at an estimated cost of 15% of the current replacement value. Second, a major rehabilitation is triggered at an age between 40 to 60 years and a BCI of between 60 to 70 at an estimated cost of 35% of the current replacement value. Third, an additional major rehabilitation or replacement of the bridge is triggered at an age between 60 to 80 years and when the BCI drops below 60. At this stage an assessment is required to determine the preferred option between rehabilitation or replacement. Finally, if the structure is still in service replacement of the bridge will typically occur between 80 to 100 years or later and when the BCI drops below 60. The bridge lifecycle strategy is summarized in Table E-9.

Table E-9: Bridge Lifecycle Strategy

Event Name	Event Trigger	Impact to BCI	Event Cost
Minor Rehabilitation	Age = 20 to 40 years BCI = 70 to 80	BCI = 90	15% of replacement value
Major Rehabilitation	Age = 40 to 60 years BCI = 60 to 70	BCI = 85	35% of replacement value
Major Rehabilitation or Replacement	Age = 60 to 80 years BCI = >60	BCI = 85 or 100	55% of replacement value or 100% replacement value
Replacement	Age = 80 to 100 years BCI = <60	BCI = 100	100% replacement value

Concrete Culvert Lifecycle Strategy

The concrete culvert lifecycle strategy consists of a possible major rehabilitation and full asset replacement. The potential for a major rehabilitation is evaluated between 50 to 75 years and a BCI of 60 to 70 at an estimated cost of 35% of the current replacement value. If a major rehabilitation is completed it will extend the life of the structure. The replacement of the culvert is triggered at an age between 75 to 100 years and when the BCI drops below 60. The concrete culvert lifecycle strategy is summarized in Table E-10.

Table E-10: Concrete Culvert Lifecycle Strategy

Event Name	Event Trigger	Impact to BCI	Event Cost
Major Rehabilitation	Age = 50 to 75 years BCI = 60 to 70	BCI = 85	35% of replacement value
Replacement	Age = 75 to 100 years BCI = <60	BCI = 100	100% replacement value

Steel Culvert Lifecycle Strategy

The steel culvert lifecycle strategy consists of a possible major rehabilitation and full asset replacement. The potential for a major rehabilitation is evaluated between 40 to 50 years and a BCI of 60 to 70 at an estimated cost of 35% of the current replacement value. The replacement of the culvert is triggered at an age between 50 to 75 years and when the BCI drops below 60. The County aims to replace steel culverts with concrete culverts whenever it is feasible due to the longer life span of concrete culverts. The steel culvert lifecycle strategy is summarized in Table E-11.

Table E-11: Steel Culvert Lifecycle Strategy

Event Name	Event Trigger	Impact to BCI	Event Cost
Major Rehabilitation	Age = 40 to 50 years BCI = 60 to 70	BCI = 85	35% of replacement value
Replacement	Age = 50 to 75 years BCI = <60	BCI = 100	100% replacement cost

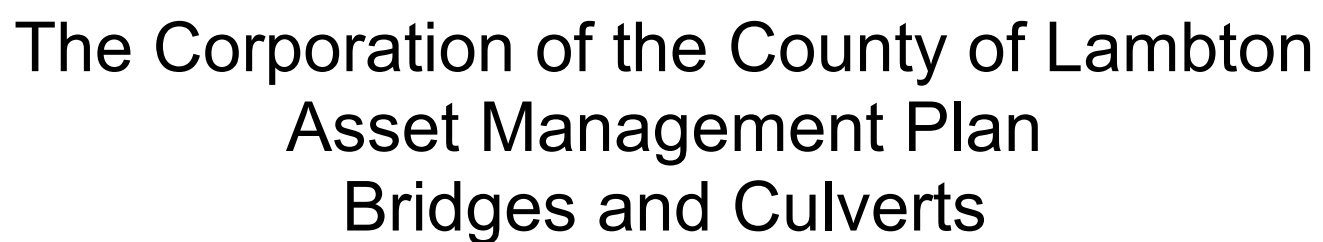
Financial Strategy

The County's Financial Strategy for all County owned assets is provided in Section 6 of the report.

Growth and Expansion

Significant increases in traffic volumes or shifts in traffic patterns can result in a need for structure widenings. It is not projected that any structure widening projects will be required in the next ten years.

Any growth and expansion projects are not considered in the annual sustainable funding target and would require additional capital allocations.



County Structures (>3m Span)

- Bridge
- ◆ Concrete Culvert
- ◆ Steel Culvert

Roadways

-  Local Roadways
 Provincial Roadways
 County Roadways
 Administrative Boundaries
 Neighbouring Municipalities
 USA



Detail - A

See Detail - A

Municipality of Chatham-Kent

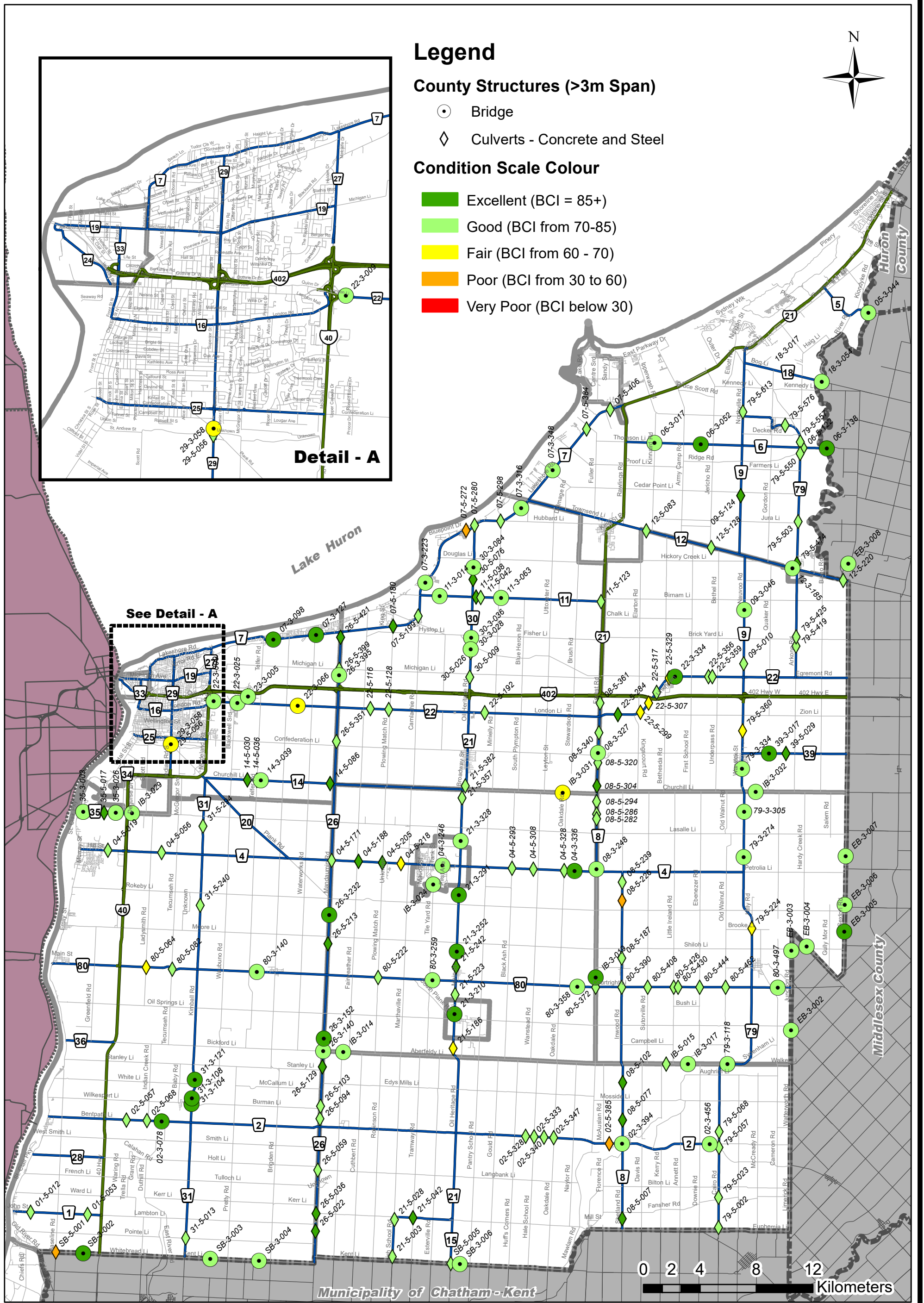
A scale bar showing distances in kilometers. It has markings for 0, 2, 4, 8, and 12 kilometers. The bar is black with white markings and numbers.



The Corporation of the County of Lambton

Asset Management Plan

Bridge and Culvert Conditions



Appendix F – Service Summary: Waste Management

Waste Management

The Waste Management department is responsible for providing waste disposal facilities to receive and dispose of municipal solid waste generated by the local municipalities. The disposal of Municipally collected solid waste occurs at a private landfill site through a private landfill service contract.

In 1991, the County took ownership of six existing waste disposal facilities that were previously operated by the local municipalities of Brooke, Dawn, Grand Bend, Moore, Sarnia and Sombra. The County supports ongoing waste disposal operations at the active County owned Dawn Landfill. As well as the ongoing monitoring and post closure care of the County's five closed landfill sites including the operation of the Sarnia Leachate Treatment Facility at the Sarnia Landfill.

The Waste Management asset portfolio has an estimated replacement value of **\$12.9 million** (in 2023 dollars). Table F-1 shows a detailed breakdown of the department's asset inventory.

Table F-1: Asset Inventory – Waste Management

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Landfill	Active	1	Each	\$360,000
	Closed	5	Each	\$12,576,090
Total				\$12,936,090

¹ Current Replacement Value is based on the cost to replace access roads, perimeter fencing, and groundwater monitoring wells but does not include land values. Sarnia Landfill includes the cost to replace the Sarnia Leachate Collection and Treatment Facility which is based on inflating the original construction cost using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.



IMAGE: Aerial photograph of the Sarnia Landfill owned by the County

The following reports support the Waste Management Department’s asset management initiatives:

- The Lambton County Waste Management Master Plan, dated February 1995
- Certificate of Approvals (CofA) issued by the Ministry of the Environment for each County owned landfill.

Age and Estimated Useful Life

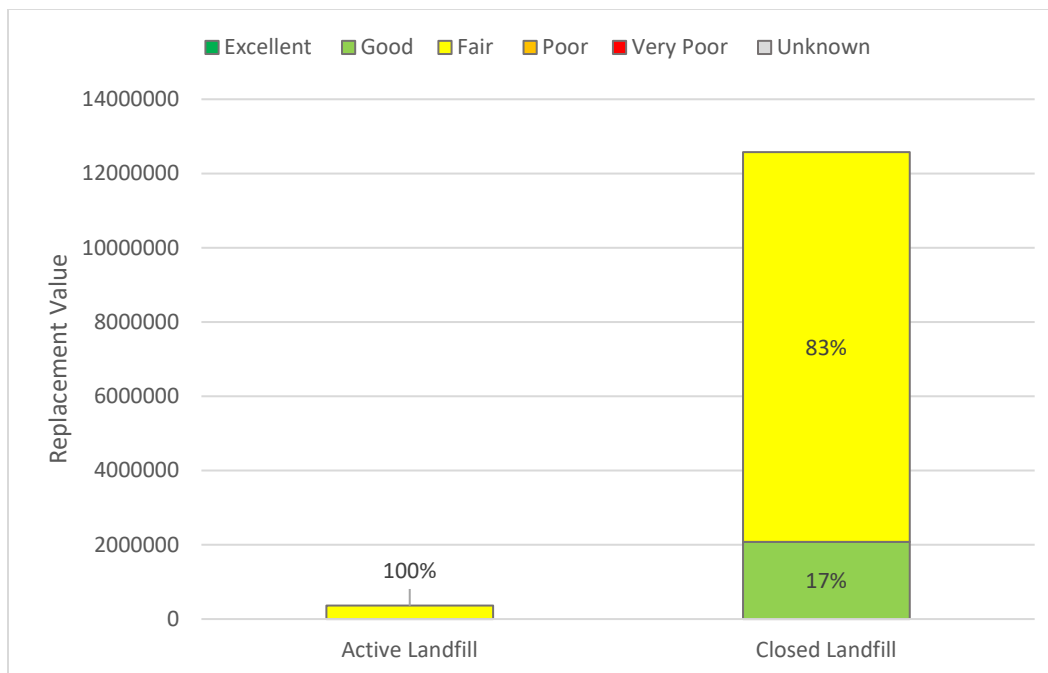
The County has one remaining active landfill, the Dawn Landfill, and has closed the other five County owned landfills. The “2023 Annual Monitoring and Site Progress Report, Dawn Landfill Site” by GHD estimates the Dawn Landfill has a remaining life of approximately 4.9 years.

Ongoing environmental monitoring and post-closure care continues at the five closed landfill sites. Unlike other assets, closing landfills requires continued environmental monitoring and post-closure care. As such it is assumed the closed landfills will remain a County owned asset in perpetuity.

Condition

The condition of Waste Management assets is estimated based on completing a facility staff assessment. Landfills are assessed based on the condition of access roads, perimeter fencing and groundwater monitoring wells. The condition of the Sarnia Landfill site includes a review of the onsite Leachate Treatment Facility. The County owned landfill sites are in Fair overall condition. The condition distribution of the department’s assets is shown in Figure F-1.

Figure F-1: Condition Summary – Waste Management



Landfill Summary																
County Division:		Infrastructure & Development Services														
County Department:		Waste Management														
General Data																
Asset ID (from Maximo)	Landfill Name	Location	Asset Class	Asset Type	Description	Year Opened	Year Closed	Site Area		Landfill Area		Landfill Capacity		Current Replacement Value	Condition	Condition Assessment Method
								Acres	Hectares	Acres	Hectares	Volume (m3)	Remaining Capacity (m3)			
WMD-LNDFDWN	Dawn Landfill	4084 Langbank Line	Landfill	Active Landfill	Transferred to County in 1991	1972	N/A	36	15	14	6	322000	87411	\$360,000	Fair	Staff Assessment
WMD-LNDFBRO	Brooke Landfill	4403 Old Walnut Road	Landfill	Closed Landfill	Transferred to County in 1991	1970	1998	9	4	7	3	N/A	0	\$115,000	Fair	Staff Assessment
WMD-LNDFGBD	Grand Bend Landfill	9898 Lakeshore Road	Landfill	Closed Landfill	Transferred to County in 1991	1942	1992	24	10	17	7	N/A	0	\$210,000	Fair	Staff Assessment
WMD-LNDFMOR	Moore Landfill	3198 Ladysmith Road	Landfill	Closed Landfill	Transferred to County in 1991	1970	2007	143	58	21	8	N/A	0	\$270,000	Fair	Staff Assessment
WMD-LNDFSAR	Sarnia Landfill	5100 Blackwell Sideroad	Landfill	Closed Landfill	Transferred to County in 1991. State of the art leachate treatment facility that treats leachate collected at the site	1971	1999	302	122	62	25	N/A	0	\$11,897,090	Fair	Staff Assessment
WMD-LNDFSOM	Sombra Landfill Site	1552 Indian Creek Road	Landfill	Closed Landfill	Transferred to County in 1991	1964	1996	14	6	11	4	N/A	0	\$84,000	Fair	Staff Assessment
														Total		
														\$12,936,090		

Current Replacement Value is based on the cost to replace access roads, perimeter fencing, and groundwater monitoring wells but does not include land values. Sarnia Landfill includes the cost to replace the Sarnia Leachate Collection and Treatment Facility which is based on inflating the original construction cost using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.

Appendix G – Service Summary: Planning and Development Services (Natural Assets)

Planning and Development Services (Natural Assets)

The Planning and Development Services Department is responsible for managing the County's natural assets. These assets are natural areas that include forests, wetlands, grasslands, etc. on County owned parcels of land. The County owns nine sites totaling **665.5 ha** of natural areas including 20.5 km of maintained trails. The County has partnered with the St. Clair Region Conservation Authority (SCRC) to maintain the County's natural assets.

The County of Lambton and the SCRC have developed land management plans for seven of the county-owned sites. The management plans provide a detailed review of each property including available recreational trails, flora and fauna, and future management activities to encourage their natural development and protection.

The County's natural assets preserve and protect unique ecosystems such as the Oak Savanna found in the Lambton County Heritage Forest. A replacement value has not been estimated for these natural assets as removal of established natural areas would result in the loss of high ecological value assets. Replacement could only be completed with a younger, new-growth asset which would not be equivalent to the existing asset.

Age and Estimated Useful Life

The County's natural asset management activities are intended to preserve and protect these natural assets for future generations. Age and Estimated Useful Life are not tracked for natural assets.

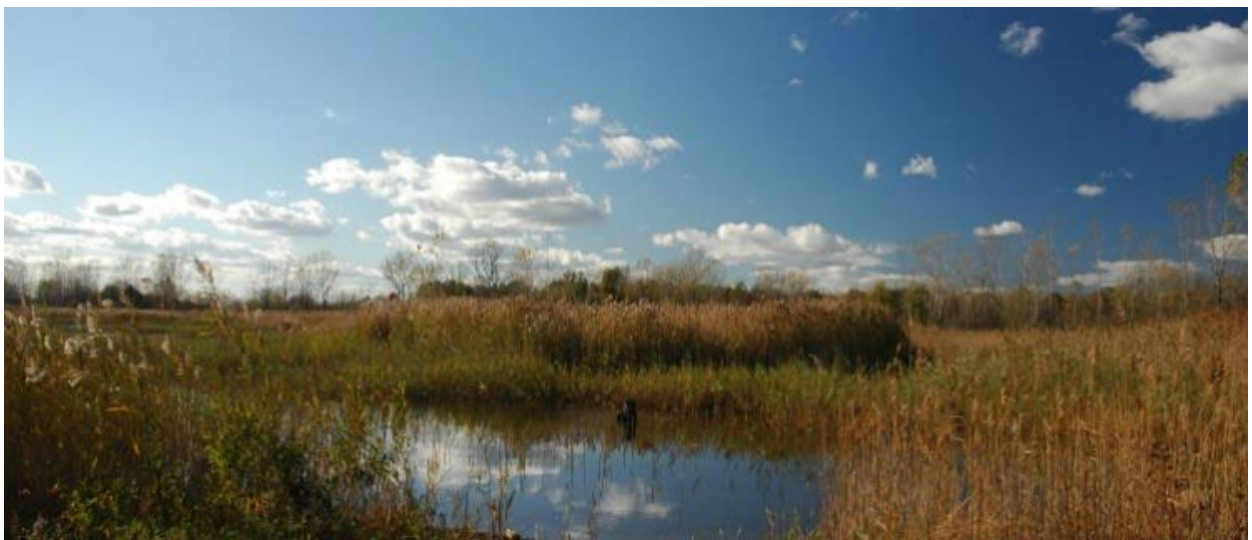


IMAGE: The Marthaville Habitat Management Area, owned by the County of Lambton and managed by the St. Clair Region Conservation Authority (Photo courtesy of SCRC).

Condition

The County in partnership with the SCRCA completes inspections and maintenance of the natural assets. Inspections completed by the SCRCA include:

- Risk management property inspections completed monthly from May to October and twice during the winter months.
- Hazard tree inspections completed at least once every 18 months following the SCRCA Hazard Tree Policy. When resources permit, hazard tree inspections are completed annually.

The condition of natural areas is assessed based on the assets ability to provide passive recreational activities to the community and the ability to continue to preserve the natural state of the asset. The County's Natural Assets are in Good overall condition.

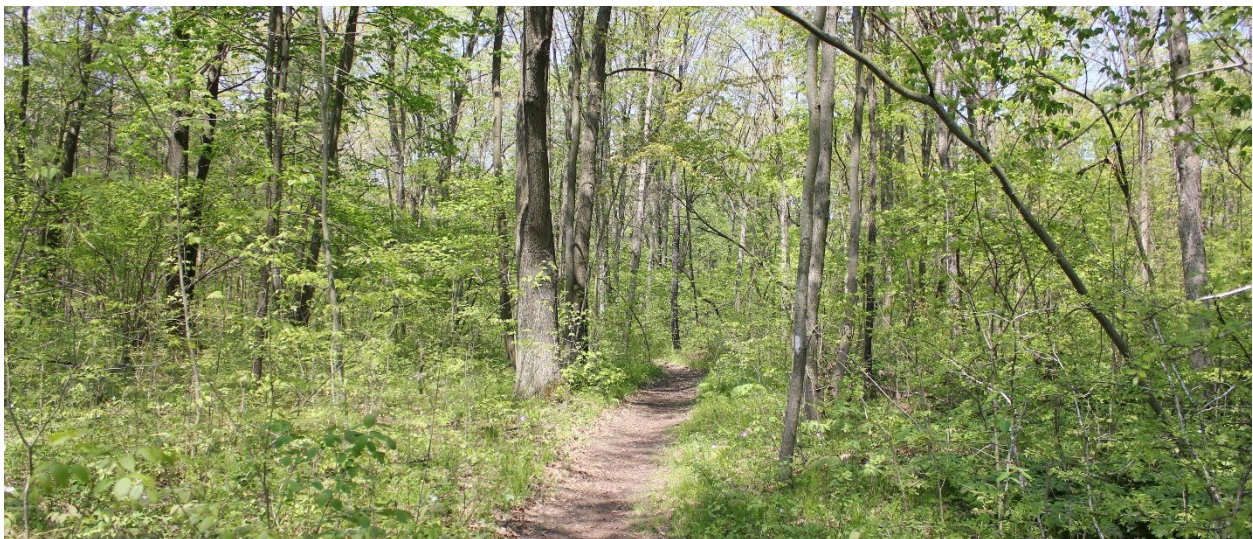


IMAGE: The Lambton County Heritage Forest, owned by the County of Lambton and managed by the St. Clair Region Conservation Authority (Photo courtesy of SCRCA).

Natural Asset Summary													
County Division:		Infrastructure & Development Services											
County Department:		Planning & Development Services											
General Data													
Asset ID (from Maximo)	Facility Name	Location	Asset Class	Asset Type	Description	Site Area		Use	Trail length (km)	Current Replacement Value Unit Rate (\$/sq.ft)	Current Replacement Value	Condition	Condition Assessment Method
						Acres	Hectares						
N/A	Bowen Creek Lands	2064 St Clair Pkwy. Courtright	Natural Asset	Mixed	Divided into two parcels of land	380.1	153.8	Naturalized lands (80.8 ha), Natural forest (64.8 ha)	N/A	N/A	N/A	Good	Staff Assessment
N/A	Lakeshore Road Trail	Trail running along the south side of Lakeshore road for Mandaumin Rd and Lakeshore Rd intersection to 825 m east of Fleming Rd and Lakeshore Rd intersection	Natural Asset	Nature Trail	Gravel trail	33.9	13.7	Nature Trail	4.5	N/A	N/A	Good	Staff Assessment
N/A	Lambton County Heritage Forest	9997 Port Franks Rd. Port Franks	Natural Asset	Woodland	Unique Lake Huron Sand Dune system	586.3	327.3	Open oak woodland with savannah areas	8.0	N/A	N/A	Good	Staff Assessment
N/A	Lambton County Heritage Forest Sandrin Woods	8572 Lakeshore Rd, Port Franks	Natural Asset	Woodland	Rehabilitated Gravel Pit	24.0	9.7	Forest (9.7 ha), Grassland (0.9 ha)	N/A	N/A	N/A	Good	Staff Assessment
N/A	Lambton Heritage Museum	10035 Museum Rd, Grand Bend	Natural Asset	Woodland	Unique Oak Savanna habitat	21.0	8.5	Oak savannah woodland (8.5 ha)	1.0	N/A	N/A	Good	Staff Assessment
N/A	Lambton Meadowview Villa	3958 Petrolia Ln. Petrolia	Natural Asset	Woodland	Mixed Deciduous Forest	20.5	8.3	Forest (2.2 ha), Plantation (4.4 ha), Wet Perennial (0.3 ha), Manicured grass (1.4 ha)	N/A	N/A	N/A	Good	Staff Assessment
N/A	Marthaville Habitat Management Area	4749 Marthaville Rd. Petrolia	Natural Asset	Mixed	Rehabilitated Gravel Pit	50.0	20.2	Forest (7.2 ha), Wetland (5.3 ha), Meadow (2.6 hectares), Tall grass prairie (2.7 ha)	3.0	N/A	N/A	Good	Staff Assessment
N/A	Moore Landfill Buffer Lands	3198 Ladysmith Rd. St. Clair	Natural Asset	Woodland	Mixed Deciduous Forest and Open Meadow	100.0	40.5	Naturalized (5.5 ha), Forest (34.5 ha)	N/A	N/A	N/A	Good	Staff Assessment
N/A	Perch Creek Habitat Management Area	1838-1902 Churchill Ln. Sarnia	Natural Asset	Woodland	Mixed Deciduous Forest and Open Meadow	200.0	80.9	Second growth forest (42.5 ha), Plantation (27 ha), Meadow (7.6 ha), Forest (78.6 ha)	3.5	N/A	N/A	Good	Staff Assessment
N/A	Peter Szabo Memorial Forest	787 Broadway St. Wyoming	Natural Asset	Plantation	Trees planted in 1992 (MNR), replanted as needed in 2001 (SCRCA)	6.5	2.6	Plantation (2.6 ha)	0.5	N/A	N/A	Good	Staff Assessment
						Total			Total		Total	Overall	
						1422.3	665.5		20.5		Undefined	Good	

Current replacement value has not been estimated for these natural assets as removal of established natural areas would result in the loss of high ecological value assets. Replacement could only be completed with a younger, new-growth asset which would not be equivalent to the existing asset

Appendix H – Service Summary: Lambton Public Health

Lambton Public Health

Lambton Public Health is mandated to provide specialized public health programs and services throughout Lambton County. The Lambton Public Health Administration Building supports the department's service delivery. The building provides workspace for the Medical Officer of Health, Health Promotion, Environmental Health, Family Health and Administration Staff as well as available areas for public programming.

The Lambton Public Health asset portfolio has an estimated replacement value of **\$7.8 million** (in 2023 dollars). Table H-1 shows a detailed breakdown of the department's asset inventory.

Table H-1: Asset Inventory – Lambton Public Health

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Facilities	Lambton Public Health Administration Building, Pt. Edward	N/A	N/A	\$7,808,125
Total				\$7,808,125

¹ Current Replacement Value for Facilities is based on inflating previous estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.



IMAGE: The Lambton Public Health Administration Building

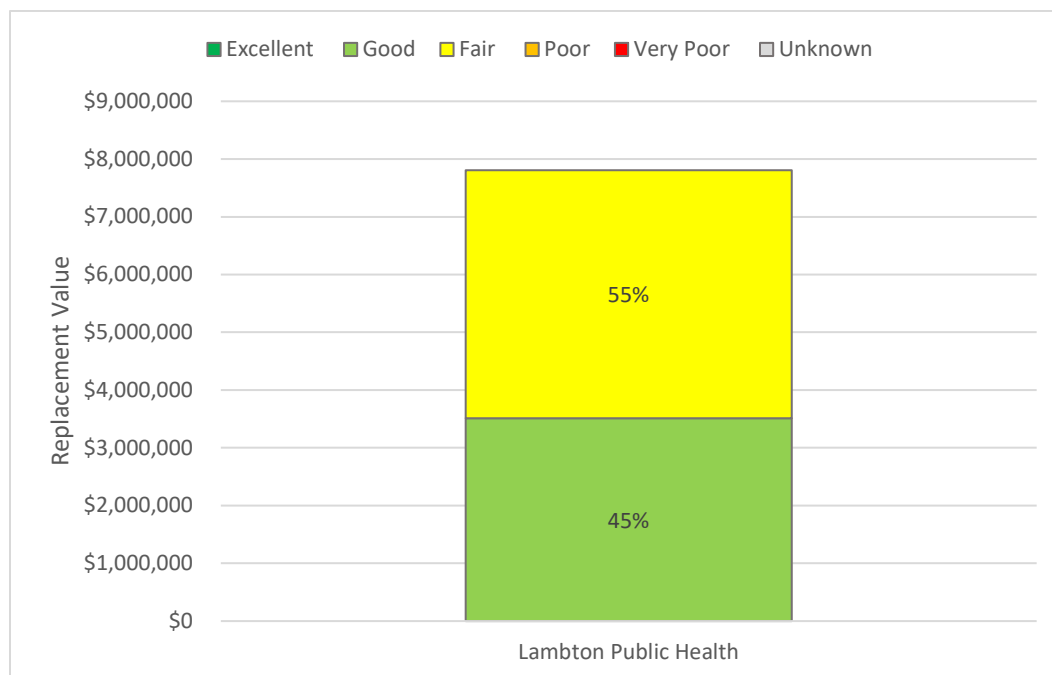
Age and Estimated Useful Life

The Lambton Public Health Administration Building was constructed in 1989 and is 35 years old. An addition to the north end of the building was constructed in 2011. The facility has undergone some renovations in the last 10 years including partial roof replacements, localized interior renovations, HVAC component replacements and full parking lot reconstruction. However, several building components are in fair condition and nearing the end of their estimated useful life.

Condition

The condition of Lambton Public Health Administration Building is estimated based on completing a facility staff assessment which evaluated the condition of each major building component. The Administrative Building is in Fair overall condition. The condition distribution of the department's assets is shown in Figure H-1.

Figure H-1: Condition Summary – Lambton Public Health



Facility Summary															
County Division:		Public Health Services													
County Department:		Lambton Public Health - Administration													
General Data															
Asset ID (from Maximo)	Facility Name	Location	Asset Class	Asset Type	Description	Year Constructed	Age	Gross Floor Area		Floors Below Grade	Floors Above Grade	Current Replacement Value Unit Rate (\$/sq.ft)	Current Replacement Value	Condition	Condition Method
								sq.ft	sq.m						
CHD- PHUPTED	Lambton Public Health	160 Exmouth Street, Point Edward	Facility	Office	Provides work space for the Medical Officer of Health, Health Promotion, Environmental Health, Family Health and Administration Staff as well as available areas for public programming	1989	35	24025	2232	0	1	\$325	\$7,808,125	Fair	Staff Assessment
							Average	Total	Total				Total		
							35	24025	2232				\$7,808,125		

Current Replacement Value for Facilities is based on inflating previous estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.

Appendix I – Service Summary: Emergency Medical Services

Emergency Medical Services

The Emergency Medical Services (EMS) department is mandated by Provincial legislation, to provide land ambulance services to the residents of Lambton County. EMS operates 24/7 from nine (9) stations located in Brigden, Bright's Grove, Corunna, Forest, Grand Bend, Petrolia, Sarnia, Thedford (leased facility) and Watford. The EMS department is responsible for eight County owned EMS stations, eight SUVs, five pick-up trucks, sixteen ambulances, a single-axle truck, and various pieces of medical equipment.

The County's EMS asset portfolio has an estimated replacement value of **\$20.5 million** (in 2023 dollars). Table I-1 shows a detailed breakdown of the asset inventory.

Table I-1: Asset Inventory – Emergency Medical Services

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Facilities	EMS Station	8	Each	\$12,215,385
Fleet	Light-Duty Fleet	11	Each	\$1,140,000
	Medium-Duty Fleet	15	Each	\$4,320,000
	Heavy-Duty Fleet	1	Each	\$750,000
Medical Equipment	Stair Chair, Power Load, Stretcher, Defibs and Pooled Assets	Pooled Assets		\$2,115,800
Total				\$20,541,185

¹ Current Replacement Value for EMS Facilities is based on inflating Station 7 (Forest) 2015 construction pricing using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada. Current Replacement Value for Fleet and Medical Equipment is based on recent purchase prices or current supplier estimates.



IMAGE: The Forest EMS Station (Station 7)

The following reports support the Emergency Medical Services departments Asset Management initiatives:

- Lambton Emergency Medical Services, Master Plan: 2024 – 2028

Age and Estimated Useful Life

The average age and estimated useful life of EMS assets is summarized below:

Facilities

The EMS stations have an average age weighted by replacement value of 21 years old. The Forest EMS station is the newest facility constructed by the County in 2016. The other EMS stations range in age from 16 to 33 years old. The EMS stations have an estimated useful life of 50 or more years.

Fleet

The EMS fleet vehicles have the following average age:

- Light-duty fleet (Pickups and SUVs): 3.3 years
- Medium-duty fleet (Ambulances): 4.9 years
- Heavy-duty fleet (Emergency Support Unit): 16 years

Both light-duty and medium-duty fleet vehicles have an estimated useful life of 6 years. The heavy-duty fleet vehicle has an estimated useful life of 20 years.

Medical Equipment

EMS medical equipment consists of stretchers, power loads, stair chairs, defibrillators, and various pooled assets. Age and estimated useful life are not assessed for medical equipment.

The average age and estimated service life of the County's EMS assets are summarized in Figure I-1.

Figure I-1: Average Age and Estimated Useful Life – Emergency Medical Services

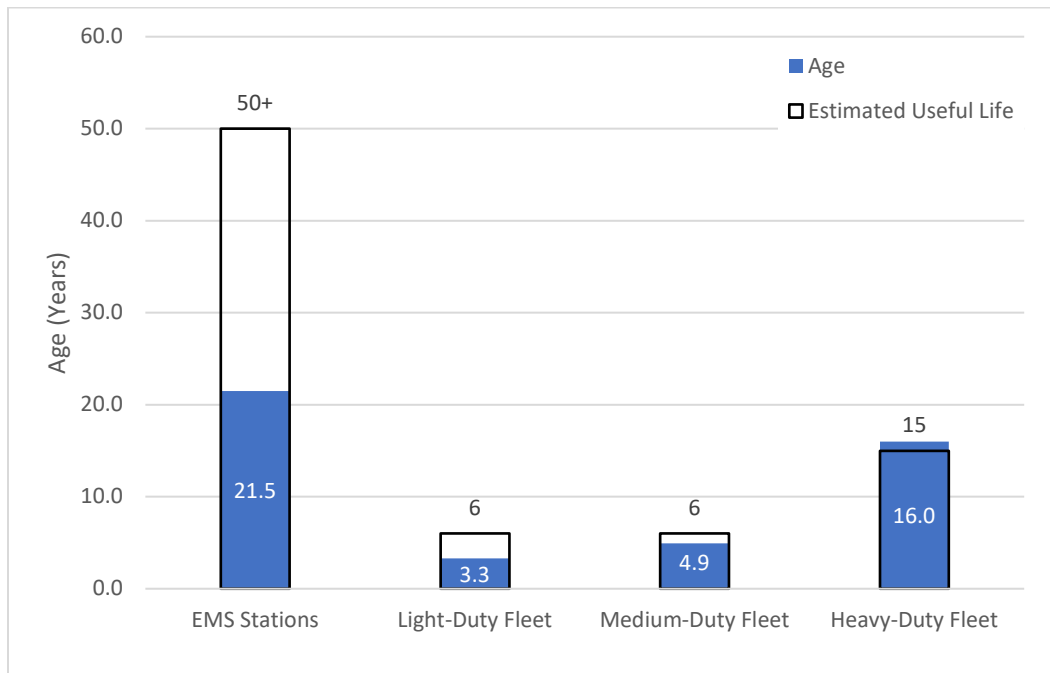


IMAGE: Current County of Lambton Ambulance (right) compared to older ambulance (left)

Condition

The condition of EMS facility assets is estimated based on completing a facility staff assessment which evaluates the condition of each major building component. The EMS stations are assessed to be in Good overall condition. The condition of EMS fleet vehicles is estimated based on the age and percentage of useful life remaining. The EMS fleet vehicles are in Fair overall condition. The EMS medical equipment is not assessed for condition. The condition distribution of the EMS Departments assets is shown in Figure I-2.

Figure I-2: Condition Summary – Emergency Medical Services

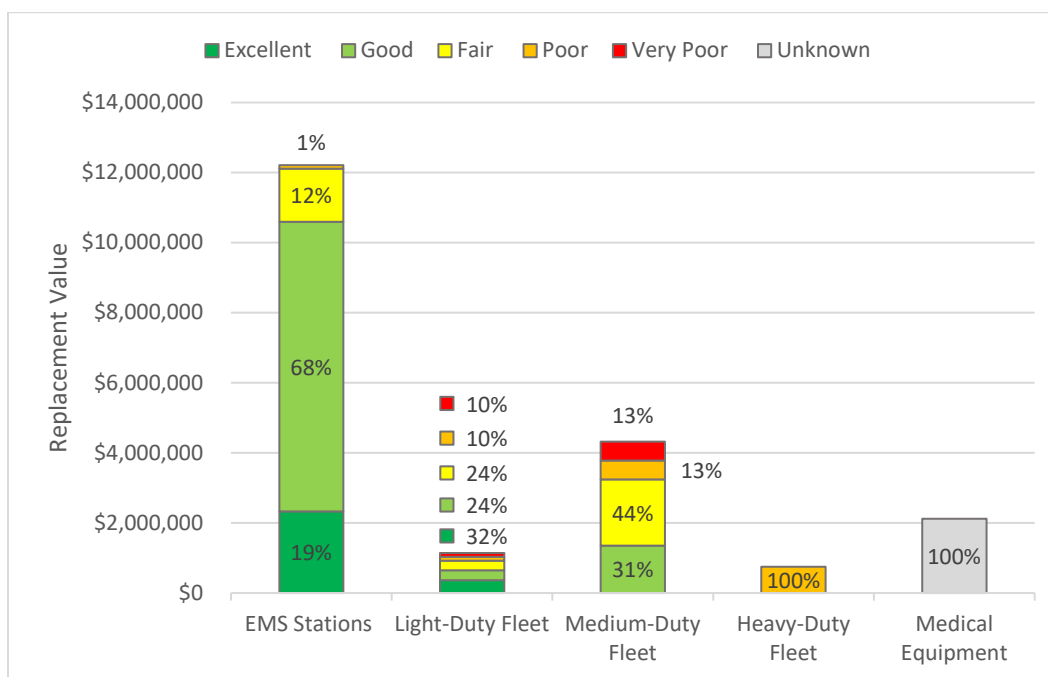


IMAGE: EMS fleet vehicles in front of the Progressive Auto Sales Arena in Sarnia

Facility Summary															
County Division:		Public Health Services													
County Department:		Emergency Medical Services													
General Data														Asset Specific Data	
Asset ID (from Maximo)	Facility Name	Location	Asset Class	Asset Type	Description	Year Constructed	Age	Gross Floor Area		Floors Below Grade	Floors Above Grade	Current Replacement Value Unit Rate (\$/sq.ft)	Current Replacement Value*	Condition	Garage Bays
								sq.ft	sq.m						
EMS-STN1SAR	Station 1 (Sarnia-George St.)	373 George Street, Sarnia	Facility	EMS Station		1991	33	3918	364	0	1	\$585	\$2,292,030	Good	4
EMS-STN2SAR	Station 2 (Brights Grove)	2106 Blackwell Road, Bright's Grove	Facility	EMS Station		2003	21	1776	165	0	1	\$585	\$1,038,960	Good	1
EMS-STN3COR	Station 3 (Corunna)	388 Baird Street, Corunna	Facility	EMS Station		1991	33	2476	230	1	1	\$585	\$1,448,460	Good	2
EMS-STN4BGD	Station 4 (Brigden)	2361 Courtright Line, Brigden	Facility	EMS Station		2003	21	1733	161	0	1	\$585	\$1,013,805	Good	1
EMS-STN5PET	Station 5 (Petrolia)	304 Centre Street, Petrolia	Facility	EMS Station		2003	21	2648	246	0	1	\$585	\$1,549,080	Good	2
EMS-STN6WAT	Station 6 (Watford)	7935 Confederation Line, Watford	Facility	EMS Station		2008	16	2400	223	0	1	\$585	\$1,404,000	Good	1
EMS-STN7FOR	Station 7 (Forest)	110 King Street, Forest	Facility	EMS Station		2016	8	4208	391	0	1	\$585	\$2,461,680	Excellent	2
EMS-STN9GRB	Station 9 (Grand Bend)	6 Municipal Drive, Grand Bend	Facility	EMS Station		2003	21	1722	160	0	1	\$585	\$1,007,370	Good	2
							Average	Total	Total				Total	Overall	Total
							21	20881	1940				\$12,215,385	Good	15

Current Replacement Value for EMS Facilities is based on inflating Station 7 (Forest) 2015 construction pricing using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.

Fleet Summary												
County Division:		Public Health Services										
County Department:		Emergency Medical Services										
General Data												
Asset ID (from Maximo)	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit	Current Replacement Value	Condition Score (% EUL Remaining)	Condition
1337	Fleet	Heavy Duty Fleet	Single Axle Truck	Emergency Support Unit (ESU)	International Dura Star	2008	16	15	\$750,000	\$750,000	-7%	Poor
1305	Fleet	Medium Duty Fleet	Ambulance	2015 Ambulance 1	Demers Type III	2015	9	6	\$270,000	\$270,000	-50%	Very Poor
1159	Fleet	Medium Duty Fleet	Ambulance	2015 Ambulance 2	Demers Type III	2015	9	6	\$270,000	\$270,000	-50%	Very Poor
1138	Fleet	Medium Duty Fleet	Ambulance	2017 Ambulance 1	Demers Type III	2017	7	6	\$270,000	\$270,000	-17%	Poor
1197	Fleet	Medium Duty Fleet	Ambulance	2017 Ambulance 2	Demers Type III	2017	7	6	\$270,000	\$270,000	-17%	Poor
1140	Fleet	Medium Duty Fleet	Ambulance	2018 Ambulance 1	Demers Type III	2018	6	6	\$270,000	\$270,000	0%	Fair
1146	Fleet	Medium Duty Fleet	Ambulance	2018 Ambulance 2	Demers Type III	2018	6	6	\$270,000	\$270,000	0%	Fair
1136	Fleet	Medium Duty Fleet	Ambulance	2019 Ambulance 1	Demers Type III	2019	5	6	\$270,000	\$270,000	17%	Fair
1137	Fleet	Medium Duty Fleet	Ambulance	2019 Ambulance 2	Demers Type III	2019	5	6	\$270,000	\$270,000	17%	Fair
1139	Fleet	Medium Duty Fleet	Ambulance	2019 Ambulance 3	Demers Type III	2019	5	6	\$270,000	\$270,000	17%	Fair
1145	Fleet	Medium Duty Fleet	Ambulance	2020 Ambulance 1	Demers Type III	2020	4	6	\$270,000	\$270,000	33%	Fair
1147	Fleet	Medium Duty Fleet	Ambulance	2020 Ambulance 2	Demers Type III	2020	4	6	\$270,000	\$270,000	33%	Fair
1198	Fleet	Medium Duty Fleet	Ambulance	2021 Ambulance 1	Demers Type III	2021	3	6	\$270,000	\$270,000	50%	Good
1160	Fleet	Medium Duty Fleet	Ambulance	2021 Ambulance 2	Demers Type III	2021	3	6	\$270,000	\$270,000	50%	Good
1162	Fleet	Medium Duty Fleet	Ambulance	2022 Ambulance 1	Demers Type III	2022	2	6	\$270,000	\$270,000	67%	Good
1161	Fleet	Medium Duty Fleet	Ambulance	2022 Ambulance 2	Demers Type III	2022	2	6	\$270,000	\$270,000	67%	Good
1141	Fleet	Medium Duty Fleet	Ambulance	2022 Ambulance 3	Demers Type III	2022	2	6	\$270,000	\$270,000	67%	Good
1360	Fleet	Light Duty Fleet	Pickup Truck	Emergency Response Unit (ERU)	Ford F150	2022	2	6	\$110,000	\$110,000	67%	Good
	Fleet	Light Duty Fleet	Pickup Truck	Emergency Response Unit (ERU)	Ford F150	2015	9	6	\$110,000	\$110,000	-50%	Very Poor
1335	Fleet	Light Duty Fleet	Pickup Truck	Emergency Response Unit (ERU)	Ford F150	2023	1	6	\$110,000	\$110,000	83%	Excellent
1336	Fleet	Light Duty Fleet	Pickup Truck	Emergency Response Unit (ERU)	Ford F150	2017	7	6	\$110,000	\$110,000	-17%	Poor
1306	Fleet	Light Duty Fleet	Pickup Truck	Emergency Response Unit (ERU)	Ford F150	2019	5	6	\$110,000	\$110,000	17%	Fair
ADM-1	Fleet	Light Duty Fleet	SUV	Administration Vehicle	Chevrolet Equinox	2022	2	6	\$55,000	\$55,000	67%	Good
CP-1	Fleet	Light Duty Fleet	SUV	Community Paramedicine (CPP)	Ford Escape S	2020	4	6	\$55,000	\$55,000	33%	Fair
CP-2	Fleet	Light Duty Fleet	SUV	Community Paramedicine (CPP)	Ford Escape	2020	4	6	\$55,000	\$55,000	33%	Fair
CP-3	Fleet	Light Duty Fleet	SUV	Community Paramedicine (CPP)	Hyundai Tucson	2021	3	6	\$55,000	\$55,000	50%	Good
CP-4	Fleet	Light Duty Fleet	SUV	Community Paramedicine (CPP)	Hyundai Tucson	2021	3	6	\$55,000	\$55,000	50%	Good
CP-5	Fleet	Light Duty Fleet	SUV	Community Paramedicine (CPP)	Ford Escape SE	2020	4	6	\$55,000	\$55,000	33%	Fair
CP-6	Fleet	Light Duty Fleet	SUV	Community Paramedicine (CPP)	Ford Explorer	2024	0	6	\$130,000	\$130,000	100%	Excellent
CHIC1	Fleet	Light Duty Fleet	SUV	Community Paramedicine (CPP)	Ford Explorer	2024	0	6	\$130,000	\$130,000	100%	Excellent
							Average			Total	Average	Average
							4.6			\$6,210,000	28%	Fair

Current Replacement Value for Fleet is based on recent purchase prices or current supplier estimates.

Medical Equipment Summary

County Division:		Public Health Services									
County Department:		Emergency Medical Services									
General Data											
Asset ID (from Maximo)	Asset Class	Asset Type	Quantity	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit	Current Replacement Value	Condition
	Medical Equipment	Stair Chair	15	Pooled Assets	Stryker Stair-Pro	Varies	6.5	12	\$4,000	\$60,000	Not Assessed
	Medical Equipment	Power Load	14	Pooled Assets	Stryker Power-Load	Varies	7.6	6	\$25,000	\$350,000	Not Assessed
	Medical Equipment	Stretcher	18	Pooled Assets	Stryker Power-Pro XT	Varies	7.6	6	\$25,000	\$450,000	Not Assessed
	Medical Equipment	Defib & Monitor	30	Pooled Assets	Lifepak 15	Varies	2	6	\$30,000	\$900,000	Not Assessed
	Medical Equipment	Remaining Maximo Assets (Pooled)	N/A	Pooled Assets		Varies				\$355,800	Not Assessed
										Total	
										\$2,115,800	

Current Replacement Value for and Medical Equipment is based on recent purchase prices or current supplier estimates.

Appendix J – Service Summary: Child Care and Children’s Services

Child Care and Children’s Services

The Child Care and Children’s Services department is responsible for the oversight of the childcare and early years’ system in the County of Lambton. As part of this service the County owns one facility at 295 Essex Street in Sarnia which is leased to a not-for-profit childcare provider.

The Child Care and Children’s Services asset portfolio has an estimated replacement value of **\$3.8 million** (in 2023 dollars). Table J-1 shows a detailed breakdown of the asset inventory.

Table J-1: Asset Inventory – Child Care and Children’s Services

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Facilities	Daycare	1	Each	\$3,844,671
Total				\$3,844,671

¹ Current Replacement Value for Facilities is based on the 2024 Building Condition Assessment (BCA) report completed by EGIS.

Age and Estimated Useful Life

The facility at 295 Essex Street was constructed in 2009 and is 15 years old. The facility is still relatively new with most original components remaining in good condition.

Condition

The facilities condition was assessed as part of the 2024 Building Condition Assessment completed by an external consultant. The report identified that the facility is in Good overall condition.

Facility Summary																
County Division:		Social Services														
County Department:		Child Care and Children’s Services														
General Data																
Asset ID (from Maximo)	Facility Name	Location	Asset Class	Asset Type	Description	Year Constructed	Age	Gross Floor Area		Floors Below Grade	Floors Above Grade	Current Replacement Value Unit Rate (\$/sq.ft)	Current Replacement Value	5 Year Avg FCI from BCAs	Condition	Condition Method
								sq.ft	sq.m							
CCC- PHUPTED	295 Essex Street	295 Essex Street, Sarnia, Ontario	Facility	Daycare	Currently leased to Little Friends	2009	15	8859	823	0	1	\$434	\$3,844,671	14.45%	Good	BCA
							Average	Total	Total				Total			
							15	8859	823				\$3,844,671			

Current Replacement Value for Facilities is based on the 2024 Building Condition Assessment (BCA) report completed by EGIS.

Appendix K – Service Summary: Housing Services

Housing Services

The Housing Services department manages 3 high-rise apartments, 13 low-rise apartments, and 8 family sites for a total of 832 housing units owned by the County.

The County’s Housing Services asset portfolio has an estimated replacement value of **\$285.6 million** (in 2023 dollars). Table K-1 shows a detailed breakdown of the asset inventory.

Table K-1: Asset Inventory – Housing Services

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Facilities	Low-rise apartment	13	Each	\$117,950,000
	High-rise apartment	3	Each	\$69,960,000
	Family site	8	Each	\$97,555,000
Fleet	Light-Duty fleet	2	Each	\$130,000
Total				\$285,595,000

¹ Current Replacement Value for low-rise and high-rise apartment buildings is based on the "At Home in the County of Lambton" report by Flourish dated January 22, 2024. Current Replacement Value for family sites is based on inflating previous AMP estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.



IMAGE: The Avondale Apartment Building in Sarnia

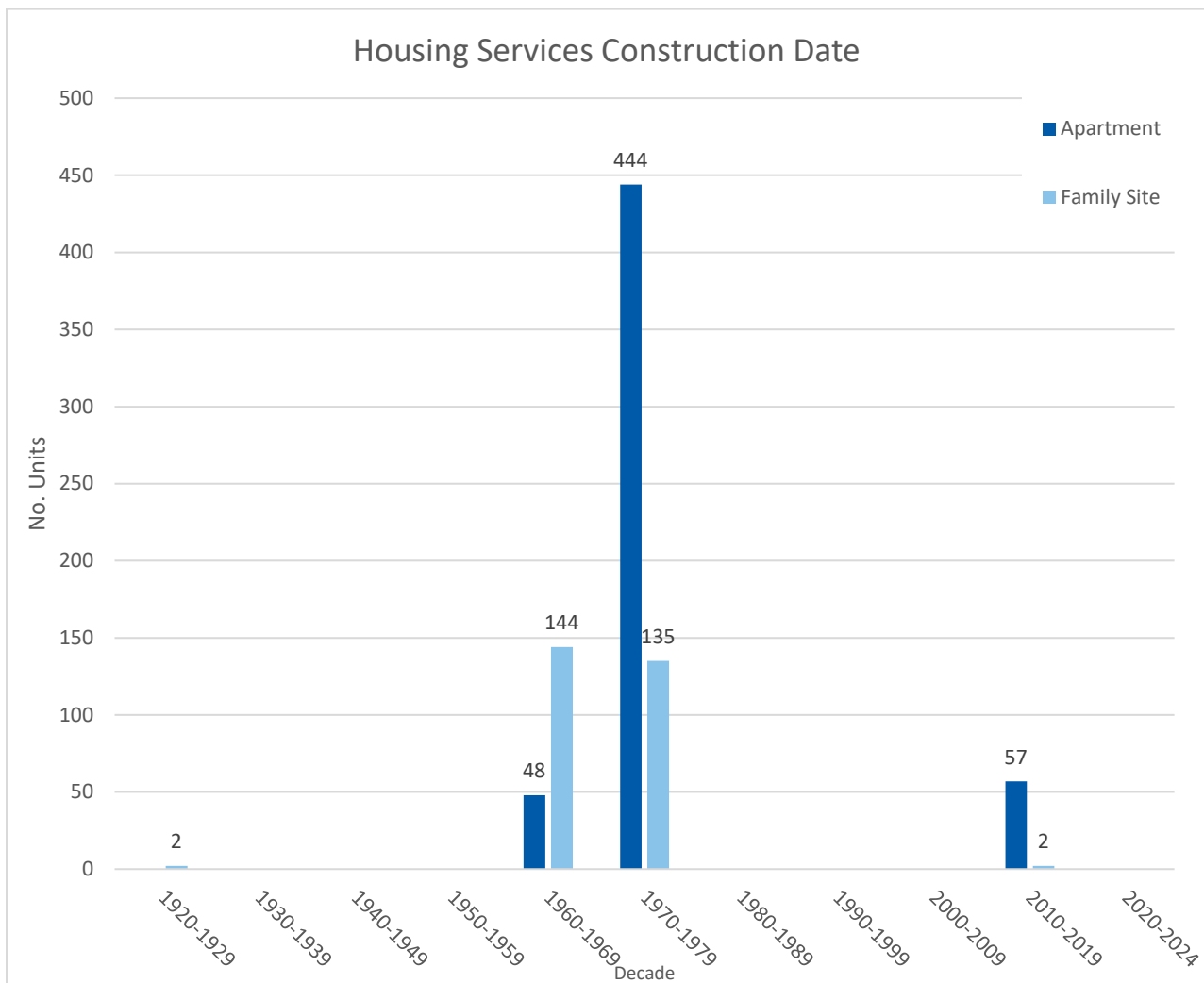
The following reports support the Housing Services Department’s asset management initiatives:

- Housing Services Capital Asset Management Plan Update – Year 11-20, approved by Council at its meeting on June 4, 2025.
- 10-Year Capital Asset Management and Funding Plan Update, updated annually to Council.

Age and Estimated Useful Life

The average age of the Housing Services facilities weighted by replacement value is 50 years old. Over 90% of the Housing facilities were built in the 1960s and 1970s as shown in the asset age profile in Figure K-1.

Figure K-1: Construction Date by Number of Units – Housing Services



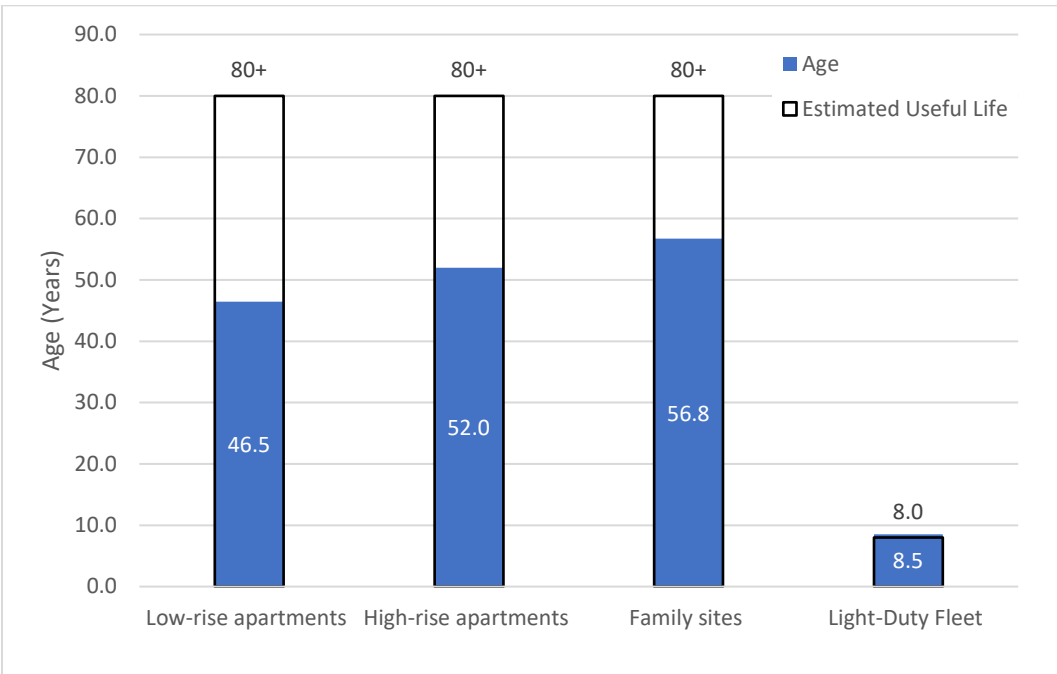
Housing Services facilities have seen a significant investment in renewal projects during the implementation of the 10-Year Asset Management and Funding Plan starting in 2015. This has included renewal and replacement of major building components as well as the complete refurbishment of several unit interiors. Over the last 5 years, 78-unit interiors have been fully renovated or just over 9% of the total units. Unit interiors of Housing Services facilities tend to undergo a quicker deterioration cycle

than other facility types. The renewal of major components and refurbishment of unit interiors will need to continue at a similar pace to maintain existing levels of service. With proper maintenance and renewal, the facilities are expected to have an estimated useful life of 80 years or longer.

The two fleet vehicles have an average age of 8.5 years old. The estimated useful life of these vehicles is 8 years.

The average age and estimated service life of the Housing Services assets are summarized in Figure K-2.

Figure K-2: Average Age and Estimated Useful Life – Housing Services



Condition

The Housing Services facility conditions were assessed as part of the 2024 Building Condition Assessments completed by an external consultant. The reports provide a Facility Condition Index (FCI) score for each facility. The condition of facility assets ranges from Poor to Excellent with the following breakdown:

- \$20.7 million or 7.3% in Excellent Condition
- \$190.3 million or 66.6% in Good Condition
- \$68.9 million or 24.1% in Fair Condition
- \$5.6 million or 2.0% in Poor Condition

The Housing Services facilities are in **Good** overall condition.

The condition of fleet vehicles are estimated based on the age and percentage of useful life remaining and they are in **Poor** overall condition. The condition distribution of the Housing Services Departments assets is shown in Figure K-3.

Figure K-3: Condition Summary – Housing Services

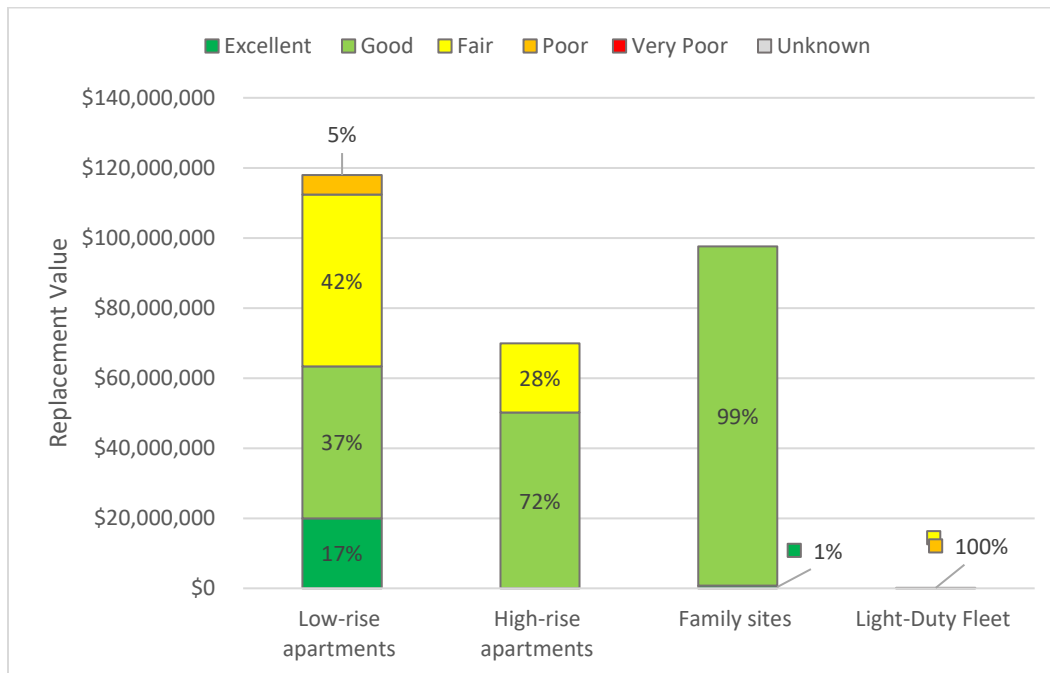


IMAGE: Kathleen Avenue Family Site in Sarnia

Facility Summary																						
County Division:		Social Services																				
County Department:		Housing Services																				
Asset ID (from Yardi)	Facility Name	Location	Asset Class	Asset Type	Description	Year Constructed	Age	Total Area		Floors Below Grade	Floors Above Grade	Current Replacement Value Unit Rate	Current Replacement Value	5 Year Avg FCI from BCAs	Condition	Condition Method	Units					Total Units
								sq.ft	sq.m								bachelor	1 - bedroom	2 - bedroom	3 - bedroom	4 - bedroom	
alvinst	Alvinston Apartments	3247 River Street, Alvinston	Facility	Low Rise Apartment	16 - 1 bedroom apartments	1977	47	13,440	1,249	0	2	\$350,000	\$5,600,000	19.40%	Fair	BCA		16				16
petgreen	Central Apartments	436 Greenfield Street, Petrolia	Facility	Low Rise Apartment	20 - 1 bedroom apartments	1979	45	16,150	1,500	0	2	\$350,000	\$7,000,000	21.10%	Fair	BCA		20				20
thedford	Golden Villa	47 Royal Street, Thedford	Facility	Low Rise Apartment	10 - 1 bedroom apartments	1975	49	7,225	671	0	1	\$350,000	\$3,500,000	15.40%	Fair	BCA		10				10
queen124	Guernsey Gardens	124 Queen Street, Sarnia	Facility	Low Rise Apartment	16 - Bachelor apartments, 32 - 1 bedroom apartments (12 are modified and supported by March of Dimes)	1968	56	35,320	3,281	0	4	\$350,000	\$16,800,000	11.30%	Good	BCA	16	32				48
ptedward	Huronview Apartments	11 Fort Street, Pt. Edward	Facility	Low Rise Apartment	10 - 1 bedroom apartments	1971	53	7,437	691	0	1	\$350,000	\$3,500,000	19.10%	Fair	BCA		10				10
cathcart	Jubilee Gardens	700 Cathcart Boulevard, Sarnia	Facility	Low Rise Apartment	41 - 1 bedroom apartments (5 are modified)	1976	48	30,546	2,838	0	2	\$350,000	\$14,350,000	17.80%	Fair	BCA		41				41
petking	King's Court	412 King Street, Petrolia	Facility	Low Rise Apartment	24 - 1 bedroom apartments (Must be 65 years of age)	1972	52	16,146	1,500	0	2	\$350,000	\$8,400,000	12.80%	Good	BCA		24				24
maxwell	Maxwell Park Place	993 Maxwell Street, Sarnia	Facility	Low Rise Apartment	54 - 1 bedroom apartments (4 modified and supported by March of Dimes), 3 - 2 bedroom apartments (all modified and supported by March of Dimes) (Must be 65 years of age)	2011	13	63,313	5,882	0	4	\$350,000	\$19,950,000	2.30%	Excellent	BCA		54	3			57
corunna	Moore Lodge	203 Fane Street, Corunna	Facility	Low Rise Apartment	28 - 1 bedroom apartments	1972	52	19,400	1,802	0	2	\$350,000	\$9,800,000	18.80%	Fair	BCA		28				28
wyoming	Parkside Apartments	587 Ontario Street, Wyoming	Facility	Low Rise Apartment	16 - 1 bedroom apartments (1 modified)	1978	46	11,840	1,100	0	2	\$350,000	\$5,600,000	29.00%	Poor	BCA		16				16
sombra	Sombra Apartments	3548 St. Clair Parkway, Sombra	Facility	Low Rise Apartment	24 - 1 bedroom apartments	1976	48	17,400	1,617	0	2	\$350,000	\$8,400,000	9.20%	Good	BCA		24				24
forest	Sunset Lodge	57 Union Street, Forest	Facility	Low Rise Apartment	15 - 1 bedroom apartments (1 modified)	1975	49	14,850	1,380	0	2	\$350,000	\$5,250,000	19.40%	Fair	BCA		15				15
watford	Watford Apartments	475 Ontario Street, Watford	Facility	Low Rise Apartment	28 - 1 bedroom apartments (2 modified)	1978	46	20,000	1,858	0	2	\$350,000	\$9,800,000	10.00%	Good	BCA		28				28
euphemia	Avondale Apartments	125 Euphemia Street, Sarnia	Facility	High Rise Apartment	60 - 1 bedroom apartments, 1 - 2 bedroom apartment (modified)	1972	52	41,672	3,871	0	6	\$330,000	\$20,130,000	13.60%	Good	BCA		60	1			61
capel230	Capel Manor	230 Capel Street, Sarnia	Facility	High Rise Apartment	90 - 1 bedroom apartments	1974	50	60,300	5,602	0	9	\$330,000	\$30,030,000	11.20%	Good	BCA		91				91
queen150	St. Clair Gardens	150 Queen Street Sarnia	Facility	High Rise Apartment	60 - 1 bedroom apartments	1970	54	46,600	4,329	1	6	\$330,000	\$19,800,000	15.00%	Fair	BCA		60				60
devin244	Devine Street	244 Devine Street, Sarnia	Facility	Family Site	Duplex, 2 - 1 bedroom apartments	1920	104	3,140	292	1	2	\$250	\$785,000	1.10%	Excellent	BCA		2				2
cardiff	Cardiff Acres	Scattered Units	Facility	Family Site	Detached, Semi-Detached, Row Houses, 19 - 3 bedroom units (1 modified), 6 - 4 bedroom units	1975	49	39,000	3,623	1	2	\$250	\$9,750,000	10.50%	Good	BCA				19	6	25
kathrow	Eastland Gardens (Kathleen Family)	122 to 128 (evens) & 135 to 143 (all) Walnut Avenue & 358 to 390 (evens), 365 to 375 (odds), 379 to 397 (odds), 402 to 418 (all), 420 to 428 (all), 430 to 444 (evens), 433 to 449 (odds), & 451 Kathleen Avenue, Sarnia	Facility	Family Site	Row Houses, 10 - 2 bedroom units, 76 - 3 bedroom units, 14 - 4 bedroom units	1961	63	112,380	10,440	1	2	\$250	\$28,095,000	6.90%	Good	BCA			10	76	14	100
kathadul	Eastland Gardens (Kathleen Adult)	347 a-d, 356 a-d, 348 to 354 (evens), 349 to 363 (odds) Kathleen Avenue, Sarnia	Facility	Family Site	Row Houses, 20 - 1 bedroom units (1 modified)	1961	63	15,000	1,394	0	1	\$250	\$3,750,000	10.70%	Good	BCA		20				20
roger	Roger Street	674-741 Roger Street, Sarnia	Facility	Family Site	Semi-Detached and Row Houses, 20 - 2 bedroom units, 28 - 3 bedroom units, 6 - 4 bedroom units	1973	51	75,000	6,968			\$250	\$18,750,000	7.20%	Good	BCA			20	28	6	54
kath-ahp	Twin Berry Parks (Kathleen AHP)	512 & 514 Kathleen Avenue, Sarnia	Facility	Family Site	Semi-Detached, 2 - 2 bedroom units	2010	14	5,030	467	1	1	\$250	\$1,257,500	12.00%	Good	BCA			2			2
kathsemi	Twin Berry Parks (Kathleen Semi)	457 to 463 (odds) & 454 to 510 (evens) Kathleen Avenue, Sarnia	Facility	Family Site	Semi-Detached, 6 - 2 bedroom units, 8 - 3 bedroom units, 10 - 4 bedroom units	1968	56	39,870	3,704	1	2	\$250	\$9,967,500	10.40%	Good	BCA			6	8	10	24
confed	Valley View Villa	914 Confederation Street, Sarnia	Facility	Family Site	Row Houses, 25 - 2 bedroom townhouses, 15 - 3 bedroom townhouses, 16 - 4 bedroom townhouses	1970	54	100,800	9,365	1	2	\$250	\$25,200,000	7.30%	Good	BCA			25	15	16	56
							Average	Total	Total				Total	Average	Average							Total
							49.8	811,859	75,424				\$285,465,000	12.98%	Good							832

Current Replacement Value for low-rise and high-rise apartment buildings is based on the "At Home in the County of Lambton" report by Flourish dated January 22, 2024. Current Replacement Value for family sites is based on inflating previous AMP estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.

Fleet Summary													
County Division:		Social Services											
County Department:		Housing Services											
General Data													
Asset ID	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition Score (% EUL Remaining)	Condition	Condition Method
N/A	Fleet	Light Duty Fleet	Pickup 2x4		Dodge Ram 1500	2015	9	8	\$65,000	\$65,000	-13%	Poor	Age Based
N/A	Fleet	Light Duty Fleet	Pickup 2x4		Dodge Ram 1500	2016	8	8	\$65,000	\$65,000	0%	Poor	Age Based
							Average	Average		Total	Average	Average	
							8.5	8		\$130,000	-6%	Poor	

Appendix L – Service Summary: Long Term Care

Long Term Care

The Long-Term Care department manages three not-for-profit long-term care homes with a total of 339 beds. The long-term care homes are the Lambton Meadowview Villa in Petrolia, the Marshall Gowland Manor in Sarnia, and the North Lambton Lodge in Forest. The department also owns a 12-passenger bus to support various programs.

The Long-Term Care department's asset portfolio has an estimated replacement value of **\$230.7 million** (in 2023 dollars). Table L-1 shows a detailed breakdown of the asset portfolio.

Table L-1: Asset Inventory – Long-Term Care

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Facilities	Lambton Meadowview Villa, Petrolia	N/A	N/A	\$85,000,000
	Marshall Gowland Manor, Sarnia	N/A	N/A	\$85,680,000
	North Lambton Lodge, Forest	N/A	N/A	\$59,840,000
Fleet	Medium-Duty Fleet	1	Each	\$150,000
Total				\$230,670,000

¹ Current Replacement Value for long-term care homes is based on Master Program and Master Plan for Lambton Meadowview Villa, September 2022. Current Replacement Value for Fleet is based on recent purchase prices or current supplier estimates.



IMAGE: The North Lambton Lodge Long-Term Care Home

The following reports support the Long-Term Care Departments Asset Management initiatives:

- The Master Program and Master Plan for Lambton Meadowview Villa dated September 6, 2022
- The Small House Functional Program and Master Plan for a new 12-bed Small House at the Lambton Meadowview Villa
- 2023 Building Condition Assessments by EGIS Group

Age and Estimated Useful Life

The average age of the long-term care homes weighted by replacement value is 34 years old. The long-term care homes operate 24/7 at full capacity with limited opportunities for major renovation or redevelopment projects. The three long-term care homes are summarized below:

Lambton Meadowview Villa

Lambton Meadowview Villa (Villa) is a 125-bed long-term care home. The home was constructed in 1993 and is classified as an “Older A” facility by the Ministry of Long-Term Care (MLTC). The facility is 31 years old and there are major components and systems at the Villa that are nearing or at the end of their estimated useful life requiring a significant capital investment to maintain current operations. However, meeting current MLTC standards can only be accomplished by constructing a new building or through a major renovation project.

Marshall Gowland Manor

Marshall Gowland Manor (Manor) is a 126-bed long-term care home. The home was constructed in 2003 and is classified as an “A” facility by the MLTC. The building is 21 years old, and some facility components are approaching the end of their estimate useful life.

North Lambton Lodge

North Lambton Lodge (Lodge) is an 88-bed long-term care home. The central administrative area, service wing and residential wing ‘C’ were constructed in 1968 with an addition completed in 1995. Residential wings ‘A’ and ‘B’ as well as the front entrance were constructed in 2002 in conjunction with substantial renovations to the remainder of the building. The Lodge is classified as an “A” facility by the MLTC. The original building is 56 years old, however the Lodge last underwent significant addition and renovations to the building 22 years ago. Some facility components are approaching the end of their estimate useful life.

Fleet

The department operates a 12-passenger bus (medium-duty fleet vehicle) that is 12 years old. The estimated useful life of the vehicle is 10 years, and it is past its estimated useful life.

The average age and estimated service life of the Long-Term Care Department’s assets are summarized in Figure L-1.

Figure L-1: Average Age and Estimated Useful Life – Long-Term Care

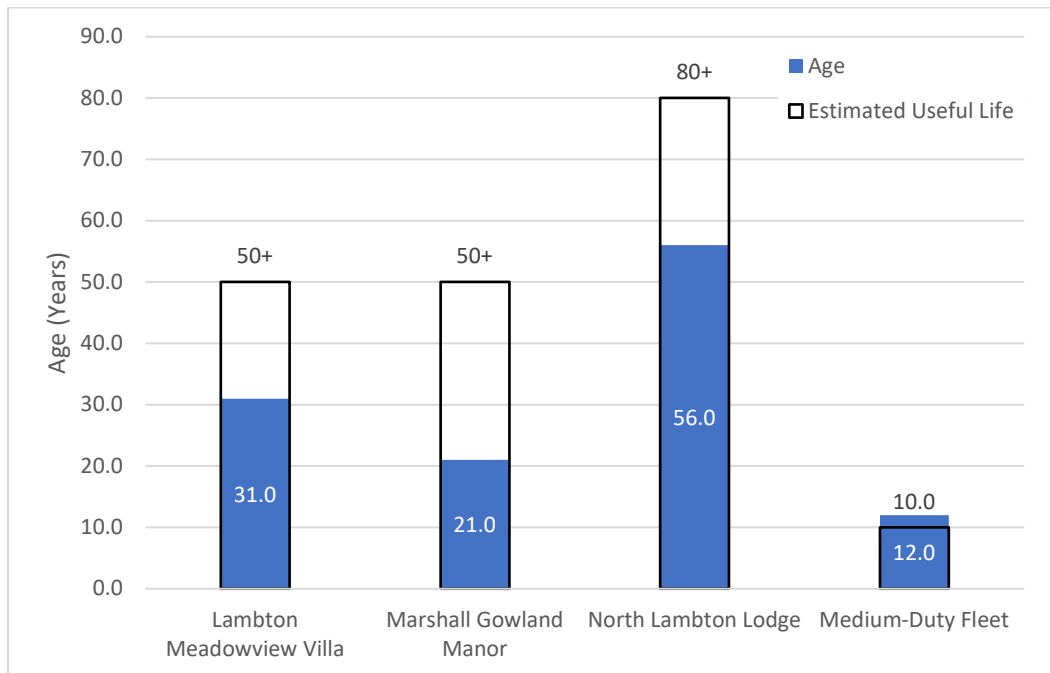


IMAGE: The Lambton Meadowview Villa Long Term Care Home

Condition

The long-term care homes were assessed as part of the 2023 Building Condition Assessments completed by an external consultant. In addition, a facility staff assessment was completed which evaluates the condition of each major building component. Marshall Gowland Manor is assessed to be in Good overall condition and Lambton Meadowview Villa and North Lambton Lodge are assessed to be in Fair overall condition. The condition of the fleet vehicle is estimated based on the age and percentage of useful life remaining. The Fleet is in Poor overall condition. The condition distribution of the Long-Term Care department's assets is shown in Figure L-2.

Figure L-2: Condition Summary – Long-Term Care

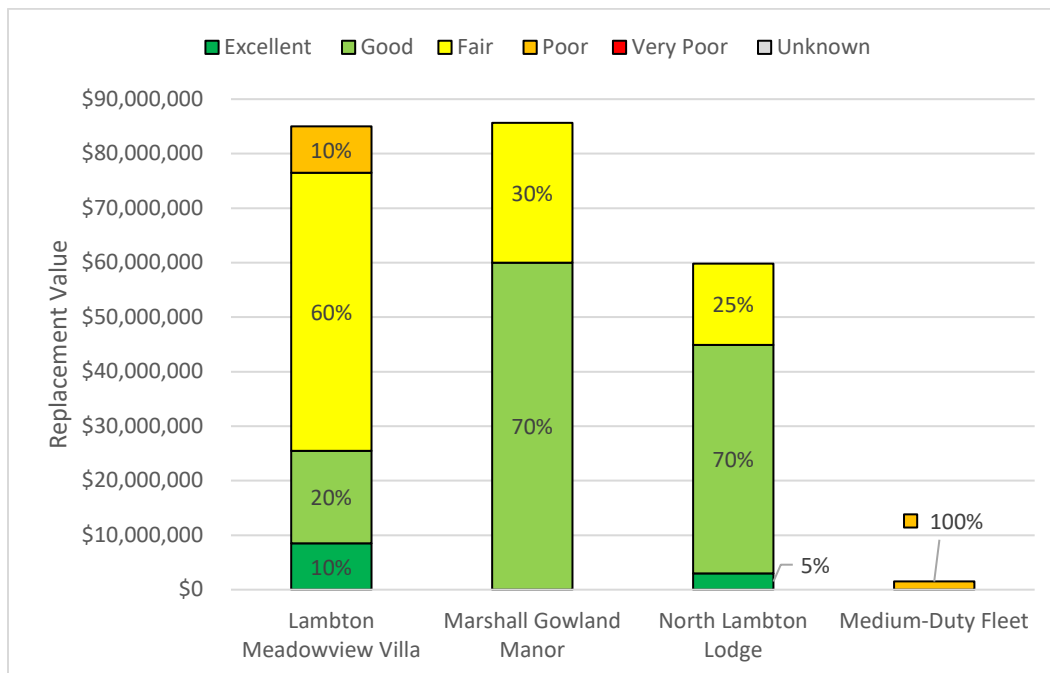


IMAGE: The Interior of the Marshall Gowland Manor Long Term Care Home

Facility Summary																	
County Division:		Long-Term Care															
County Department:		Lambton Meadowview Villa, Marshall Gowland Manor and North Lambton Lodge															
General Data																Asset Specific Data	
Asset ID (from Maximo)	Facility Name	Location	Asset Class	Asset Type	Description	Year Constructed*	Age	Gross Floor Area		Floors Below Grade	Floors Above Grade	Current Replacement Value Unit Rate (\$/bed)**	Current Replacement Value	Condition	Condition Method	Total No. of Units	Elevators
								sq.ft	sq.m								
LMV-PET	Lambton Meadowview Villa	3958 Petrolia Line, Petrolia	Facility	Long-Term Care Home	125 bed Level 'Older A' Long-Term Care Home	1993	31	122278	11360	1	3	\$680,000	\$85,000,000	Fair	Staff Assessment	125	3
MGM-SAR	Marshall Gowland Manor	749 Devine St., Sarnia	Facility	Long-Term Care Home	126 bed Level 'A' Long-Term Care Home	2003	21	93215	8660	0	2	\$680,000	\$85,680,000	Good	Staff Assessment	126	2
NLL-FOR	North Lambton Lodge	39 Morris St., Forest	Facility	Long-Term Care Home	88 bed Level 'A' Long-Term Care Home	1968	56	65993	6131	0	1	\$680,000	\$59,840,000	Good	Staff Assessment	88	0
							Average	Total	Total				Total	Average		Total	
							34	281486	26151				\$230,520,000	Good		339	

Current Replacement Value for long-term care homes is based on Master Program and Master Plan for Lambton Meadowview Villa, September 2022.

Fleet Summary													
County Division:		Long-Term Care											
County Department:		Lambton Meadowview Villa, Marshall Gowland Manor and North Lambton Lodge											
General Data													
Asset ID (from Maximo)	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition Score (% EUL Remaining)	Condition	Condition Method
6795	Fleet	Medium Duty Fleet	Passenger Bus	12 passenger bus	Chevrolet Titan II	2012	12	10	\$150,000	\$150,000	-20%	Poor	Age Based
							Average			Total	Average	Average	
							12			\$150,000	-20%	Poor	

Current Replacement Value for Fleet is based on recent purchase prices or current supplier estimates.

Appendix M – Service Summary: Cultural Services

Cultural Services

The Cultural Services Division manages Lambton Heritage Museum, the Oil Museum of Canada, the Judith & Norman Art Gallery, Library Headquarters / Lambton County Archives and the operation of 25 Libraries. The Division manages 3 cargo vans to provide a mobile outreach service and courier service. The Division is also responsible for multiple historic buildings, thousands of historic artifacts and over one thousand works of art. Historic buildings, artifacts and artworks are excluded from the Asset Management Plan.

The Cultural Services asset portfolio has an estimated replacement value of **\$44.1 million** (in 2023 dollars). Table M-1 shows a detailed breakdown of the asset portfolio.

Table M-1: Asset Inventory – Cultural Services

Asset Class	Asset Type	Quantity	Unit	Current Replacement Value ¹
Facilities	Lambton Heritage Museum	N/A	N/A	\$11,850,000
	Oil Museum of Canada	N/A	N/A	\$3,875,000
	Judith & Norman Alix Art Gallery	N/A	N/A	\$10,350,000
	Library Headquarters / Lambton County Archives	N/A	N/A	\$8,100,000
	25 library branches (building contents only)	N/A	N/A	\$9,760,700
Fleet	Light-duty fleet	3	Each	\$240,000
Total				\$44,175,700

¹ Current Replacement Value for Facilities is based on inflating previous estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada. Current Replacement Value for Fleet is based on recent purchase prices or current supplier estimates.



IMAGE: The Judith & Norman Alix Art Gallery

The following reports support the Cultural Services Division asset management initiatives:

- Cultural Services Strategic Plan: 2022 – 2026
- Cultural Services Annual Reports
- Joint Library Facilities Review: 2023 – 2031

Age and Estimated Useful Life

The average age of the Cultural Services facilities weighted by replacement value is 35 years old. The facilities are summarized below:

Lambton Heritage Museum

Lambton Heritage Museum is composed of the main exhibition centre, two display buildings and six historic buildings. The main exhibition building was constructed in 1978. The kitchen, workshop, and loading dock were added in 1990. The facility has undergone a significant renewal with several renovation projects completed in the last 10 years including: parking lot and sitework reconstruction, septic system replacement, HVAC system upgrades, electrical and lighting upgrades, roof replacement, exterior window and door replacements, and a full exhibit renewal. The facility is 46 years old with many major components in good or better condition.

Oil Museum of Canada

The Oil Museum of Canada is composed of the main exhibition centre, a storage garage, two display buildings and four historic buildings. The main exhibition building was constructed in 1959. A single-storey theatre was added in 1972 and a two-storey addition for storage and a mechanical penthouse was added in the 1990s. The facility has undergone a significant renewal with renovations completed to major building components in the last 10 years including: parking lot and sitework reconstruction, HVAC system upgrades, electrical and lighting upgrades, roof replacement, exterior window and door replacements, and a full exhibit renewal. The facility is 65 years old with many major components in good or better condition.

Judith & Norman Alix Art Gallery

The Judith & Norman Alix Art Gallery is a free public art gallery located in downtown Sarnia. The building was constructed in 2012. The unique building design incorporated the historic red-brick façade from the previous building on the site which dates back to 1893. The gallery holds the distinction of a Category 'A' designation received from the Department of Canadian Heritage. As such, the gallery meets and maintains a range of strict building, operational and professional standards. The facility is 12 years old with most major components less than halfway through their estimated useful life.

Library Headquarters / Lambton County Archives

The building is home to both the Lambton County Library Headquarters and the Lambton County Archives. The Archives serves as an active genealogical and local history resource centre and the Library Headquarters serves as the administration hub for the Lambton County Libraries Department. The building was constructed in 1992 on the same site as the County Administration Building. The facility was renovated in 2019 including: entrance upgrades, HVAC system upgrades, plumbing upgrades, and

interior renewal. The facility is 32 years old with some major components approaching the end their estimated useful life.

Fleet

The Cultural Services Division provides courier service to all County Divisions and partner agencies Tourism Sarnia-Lambton and Sarnia-Lambton Economic Partnership and operates a mobile library outreach service. This service relies on 3 cargo vans which are classified as light-duty fleet. Two fleet vehicles are used for the courier service, they were both replaced in 2023 and are 1 year old. The courier vehicles have an estimated useful life of 5 years. The remaining fleet vehicle is used for the Mobile Library Outreach program and is 5 years old. The library outreach vehicle has an estimated useful life of 8 years.

The average age and estimated service life of the Cultural Services assets are summarized in Figure M-1.

Figure M-1: Average Age and Estimated Useful Life – Cultural Services

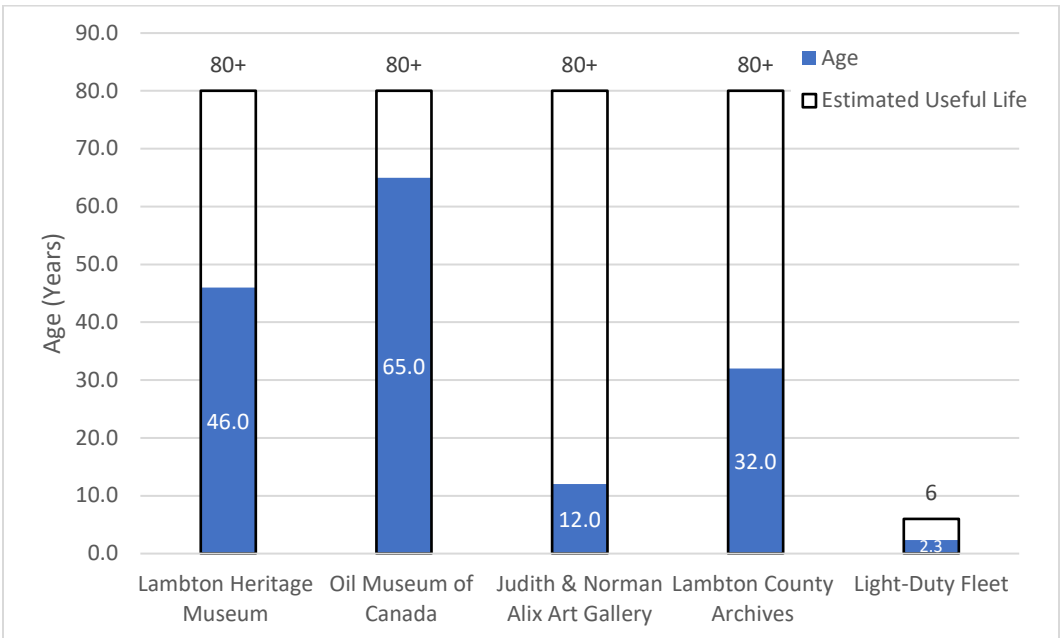


IMAGE: Lambton Heritage Museum

Condition

The condition of Cultural Services facility assets is estimated based on completing a facility staff assessment which evaluated the condition of each major building component. The facilities are in Good overall condition. The library building contents are not assessed for condition. The condition of fleet vehicles is estimated based on the age and percentage of useful life remaining. The fleet vehicles are in Good overall condition. The condition distribution of the Cultural Services Division's assets is shown in Figure M-2.

Figure M-2: Condition Summary – Cultural Services

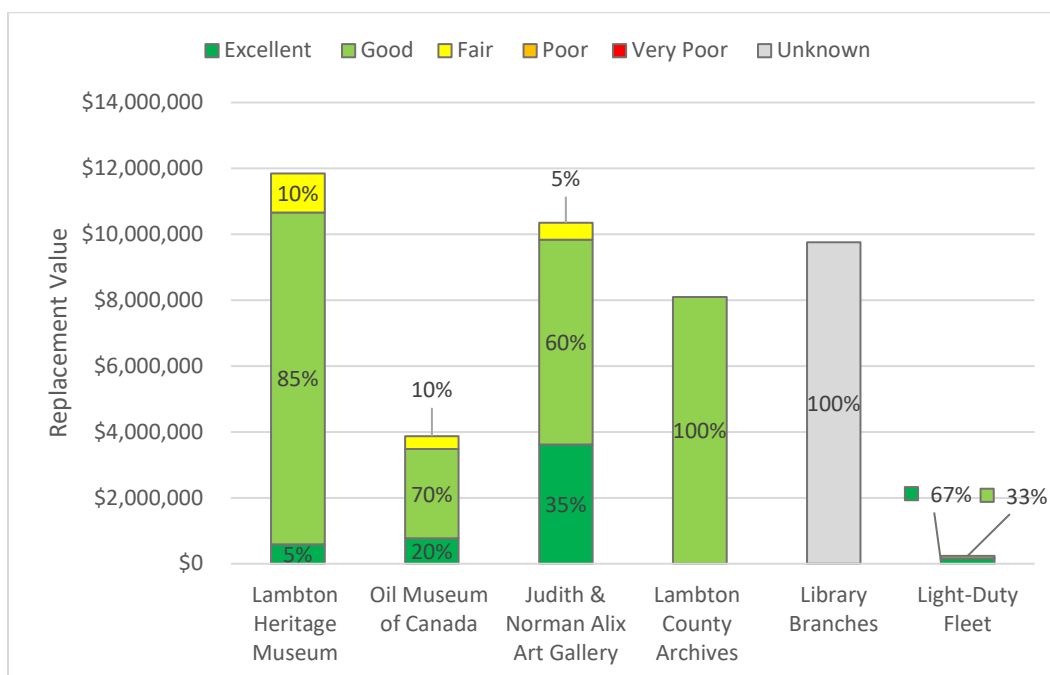


IMAGE: The Oil Museum of Canada

Facility Summary															
County Division:		Cultural Services													
County Department:		Museums, Gallery and Archives, Library													
General Data															
Asset ID (from Maximo)	Facility Name	Location	Asset Class	Asset Type	Description	Year Constructed	Age	Gross Floor Area		Floors Below Grade	Floors Above Grade	Current Replacement Value Unit Rate (\$/sq.ft)	Current Replacement Value*	Condition	Condition
								sq.ft	sq.m						
LHM-GRDBND	Lambton Heritage Museum	10035 Museum Rd, Grand Bend, ON	Facility	Museum	Exhibition and storage of over 25,000 historic artifacts	1978	46	21000	1951	0	1	\$450	\$9,450,000	Good	Staff Assessment
					2 - accessory storage buildings	1978	46	24000	2230	0	1	\$100	\$2,400,000		
LOM-OILSPR	Oil Museum of Canada	2423 Kelly Rd, Oil Springs, ON	Facility	Museum	Main exhibition centre, houses over 9,000 artifacts	1959	65	8500	790	1	1	\$450	\$3,825,000	Good	Staff Assessment
					Storage garage	Unknown	Unknown	1000	93	0	1	\$50	\$50,000		
LGL_LOCHIEL	Judith & Norman Alix Art Gallery	147 Lochiel St, Sarnia, ON	Facility	Gallery	Art gallery hosting a wide-range of exhibitions, tours, lectures and programs for all ages. Collection of 1,200 works	2012	12	23000	2137	1	3	\$450	\$10,350,000	Good	Staff Assessment
LIB-HQ	Library Headquarters / Lambton County Archives	787 Broadway Street, Wyoming, ON	Facility	Archives	Acts as both the Library adminstration building and Archives (active genealogical and local history resource centre) including 4813 linear feet of archival records.	1992	32	18000	1672	0	1	\$450	\$8,100,000	Good	Staff Assessment
LIB	25 Library Branches (Building Contents Only)	All Library Branches	Facility	Library	Library contents include books, audio books, magazines, audio-visual materials and more.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$9,760,700	Not Tracked	
							Average	Total	Total				Total		
							35	18000	1672				\$43,935,700		

Current Replacement Value for Facilities is based on inflating previous estimates using the Non-Residential Building Construction Price Index (NRBCPI) published by Statistics Canada.

Fleet Summary													
County Division:		Cultural Services											
County Department:		Library											
General Data													
Asset ID (from Maximo)	Asset Class	Asset Type	Asset Sub-type	Description	Make / Model	Model Year	Age	EUL	Current Replacement Value Unit Rate (\$/unit)	Current Replacement Value	Condition Score (% EUL Remaining)	Condition	Condition Assessment Method
9205	Fleet	Light-duty fleet	Van	Courier Van 1	Dodge Ram Promaster (2500 Chassis)	2023	1	5	\$80,000	\$80,000	80%	Excellent	Age Based
9285	Fleet	Light-duty fleet	Van	Courier Van 2	Dodge Ram Promaster (2500 Chassis)	2023	1	5	\$80,000	\$80,000	80%	Excellent	Age Based
8484	Fleet	Light-duty fleet	Van	Mobile Library Outreach	Ford Transit	2019	5	8	\$80,000	\$80,000	38%	Good	Age Based
							Average	Average		Total	Average	Average	
							2.3	6.0		\$240,000	66%	Good	

Current Replacement Value for Fleet is based on recent purchase prices or current supplier estimates.

