



Township of Chapleau 2025 Asset Management Plan

November 25th, 2024



Contents

Executive Summary	4
Glossary of Terms	5
1 Introduction	7
1.1 Introduction to the Asset Management Plan	7
1.2 Asset Management Planning Approach	7
1.3 Chapleau Municipal Assets in Context	9
1.4 Data Sources	11
1.5 Limitations of the Asset Management Plan	11
2 State of the Infrastructure	13
2.1 Assets included in the Asset Management Plan	13
2.2 Asset Condition	15
3 Buildings, Equipment, Vehicles, and Airport Assets	16
3.1 Buildings and Facilities	16
3.2 Vehicles	20
3.3 Equipment	25
3.4 Airport	30
4 Infrastructure and Road Assets	34
4.1 Water	34
4.2 Wastewater	40
4.3 Stormwater and Drainage	45
4.4 Roads	48
4.5 Bridges and Culverts	52
4.6 Linear Infrastructure Investment Plan	57
5 Financial Strategy	59
5.1 Annual Asset Investment Needs	59
5.2 Financial Context and Considerations	61
5.3 Funding Strategies	62
6 Continuous Improvement	65
7 Conclusion	66
Appendices	67
Appendix A1: Service Area Views	67
Appendix A2: Data Sources	69
Appendix A3: Asset Condition and Estimated Useful Life Approach	70

Executive Summary

The Township of Chapleau (the 'Township' or 'Municipality') manages a diverse capital asset portfolio that includes roads, bridges, buildings, water distribution, urban storm and drainage networks, airport runways, recreational facilities, vehicles, and equipment. Overall, these assets are worth an estimated \$250 million in replacement value in 2024, with the much of this value in roads, at approximately \$85 million. These assets provide critical services for residents and businesses, supporting quality of life in the community.

To manage its diverse, extensive set of assets, the Township deemed it necessary to develop a comprehensive Asset Management Plan (AMP). This AMP takes stock of these assets, the condition they are in, and what they are used for. It sets high-level strategies for how they will be maintained, rehabilitated, and replaced over time.

Chapleau Asset – Key Statistics	
Asset portfolio: Current replacement value	\$250 million
Average age of assets ¹	47 Years
Estimated annual investment requirement	\$5.6 million
Target annual reinvestment rate	2.24%

The first chapter of the AMP introduces the assets in the context of the Township and the approach to Asset Management planning. Chapter 2 provides an overall snapshot of the current state of the asset portfolio, in a State of the Assets report. A high-level overview of asset age, condition, annual costs, and budget for the Township's tangible capital assets are included in this chapter.

The following chapters provide a more in-depth review of nine major asset categories, covering most of the Township's capital assets. A financial plan follows, which identifies the need for an overall average of \$5.6 million in expenditures on asset maintenance and rehabilitation per year over 10 years.

Sources of funding including Township tax and service fee revenues, grants, loans, and other financial strategies are identified to address projected financial requirements. Finally, next steps for improvement to Asset Management are identified, to fill in gaps in asset data and information and move towards greater reliability and comprehensiveness in the Township's approach to Asset Management going forward.

Assets in this AMP	
<i>Non-Core Assets²</i>	<i>Core Assets</i>
Buildings	Water
Fleet	Wastewater
Equipment	Stormwater
Airport	Roads
-	Bridges and Culverts

¹ Weighted average for age and condition, based on asset value

² Core assets as described within Ontario Regulation 588/17; Non-core assets describes all other assets included in the AMP.

Glossary of Terms

Acronyms

AMP	Asset Management Plan
AODA	Accessibility for Ontarians with Disabilities Act
BCI	Bridge Condition Index
FD	Fire Department
GHG	Greenhouse Gas
LOS	Level(s) of Service
MTO	Ministry of Transportation Ontario
O.Reg 588/17 (Regulation)	The Ontario Regulation entitled "Asset Management Planning for Municipal Infrastructure," see further information within the report.
OSIM	Ontario Structure Inspection Manual
PCI	Pavement Condition Index
PM	Preventive Maintenance
RCR	Ride Comfort Rating

Definitions

Financial Strategy	Requirement of O.Reg.588/17 to outline the cost to maintain the current levels of service
Funding Gap	Instances where an investment requirement does not have dedicated funding sources identified or assigned to execute the targeted activity associated with the investment
Levels of Service (LOS)	Qualitative descriptions and technical metrics that describe commitments, standards, and expectations for the continued performance of municipal infrastructure
Lifecycle Cost	The total costs required for an asset or service over all stages of its life, e.g., planning, acquisition, construction, operation and maintenance, renewal, and disposal, and all engineering and design work associated with those activities
Expected Useful Life	The expected length of time an asset can be operational and deliver the required level of service
Lifecycle Management	The processes in place to manage infrastructure assets over the course of their useful lives including planning, acquisition, construction, operation, maintenance, renewal, disposal, and all engineering and design work associated with those activities
Own Source Revenues	Own source revenue is defined as revenue raised by a government from its own imposition of a tax, a license, a fee or any other charge
Non-Core Assets	Any infrastructure asset that does not fall under one of the Core Asset categories, but is still owned and operated by the municipality, such as fleet and equipment, parks, facilities, etc.
O.Reg.588/17	An Ontario Regulation entitled, "Asset Management Planning for Municipal Infrastructure" that prescribes the policies and requirements relating to the preparation of this asset management plan by applicable municipalities
Operating Costs	The aggregate costs, including energy costs, of operating a municipal infrastructure asset over its service life
Replacement Value/ Replacement Cost	The replacement value is the estimated cost to replace a given asset.
State of Infrastructure	Requirement of O.Reg 588/17 to outline a summary of assets including their replacement costs, average ages, conditions, etc.
Technical Levels of Service	Detailed metrics that can be used to evaluate and report whether the community, and subsequently corporate LOS, are being achieved

1 Introduction

1.1 Introduction to the Asset Management Plan

Chapleau is a lower-tier municipality in Sudbury District in northern Ontario. The Municipality maintains a portfolio of assets that includes buildings, vehicles, equipment, an airport, as well as linear and network assets such as water, sewer, storm, road, and bridge assets. These municipal assets provide important services to residents and businesses in support of the local economy, social well-being, and responsible environmental management. Asset Management provides a methodical approach to evaluating and planning for investments in these assets across their lifecycle, from acquisition to maintenance, replacement, and disposal.

This Asset Management Plan serves to identify methods and strategies to manage Chapleau's public assets. It utilizes data available at the time of publication, including municipal financial records, asset-specific consultant reports, and the professional knowledge of Township staff. It provides information on current asset needs based on these sources, and it identifies ways in which the approach to Asset Management can be further improved. Through continuous improvement and consistent application, the Municipality will enhance its ability to accurately project and address its infrastructure asset needs efficiently and accurately, providing value for money while supporting community well-being.

1.2 Asset Management Planning Approach

This Asset Management Plan provides an overview of the current state of the Township's infrastructure, provides details on the level of service (LOS) and investment needs related to each asset category, and finally provides a summary of the financial investment needed to sustain LOS over the next 10 years. It aims to do this in a financially, socially, and environmentally acceptable manner, following the principles outlined in the Township's Asset Management Policy.

The Plan includes three main sections:

- 1 **State of the Infrastructure:** A brief synopsis of the quantity and status of assets in Chapleau.
- 2 **Management of Assets:** A more in-depth view of each of the major tangible capital asset categories maintained by the Township. Each of the sub-sections in this portion of the Plan contain further details on state of the infrastructure of asset sub-categories, levels of service, lifecycle activities, and financial requirements relevant to that asset class.
- 3 **Financial Strategy:** A summary of the financial requirements for each asset category, and a discussion on financial needs for asset lifecycle management.

The approach followed in preparing those sections, and an outline of key points covered in each section and sub-section of the report, is provided here.

State of the Infrastructure

The State of the Infrastructure is provided for all asset classes in Chapter 2 of this report, with further details provided for each asset class in Chapters 3 and 4. The current condition of infrastructure assets that informs the Asset condition is derived from specialist reports where available, and if not, is estimated based on the current age of the asset according to the methodology described in Appendix A3. Broadly speaking, as assets age, their condition degrades, and this can ultimately impact service delivery.

Asset Valuation Approach

The Replacement Value estimates for each asset were calculated either based on historical costs plus inflation or provided by third party consultants in the inspection reports, financial plans, or strategy documents, as listed in Appendix A2. For assets where the replacement value is estimated based on

historical costs, the replacement value has been determined according to the historical cost plus an annual cost escalation of 4%. This rate is based on the municipality's experience with costs increases related to capital assets, especially the rate of construction cost increase for major projects and changes experienced since 2020 (including escalation impacts observed during COVID). Further details on asset condition and valuation approaches are provided in Appendix A3.

Levels of Service

O. Reg. 588/17 requires that the municipality indicate the current Levels of Service (LOS) provided by each asset class, including core and other assets, in the 2024 update to the AMP. The LOS for core assets respond to qualitative descriptions and technical metrics in the Ontario regulation for municipal asset management, while for non-core assets the municipality may decide on LOS metrics and report on current performance. The LOS for non-core assets were developed in this AMP by staff members at the Township. In all cases, LOS evaluate the extent to which assets are meeting the needs and expectations of the local community, and include the following components:

- 1 **Community LOS:** narrative statements that demonstrate the priorities and themes that are valued by the community
- 2 **Technical LOS:** metrics and supporting evidence that demonstrate delivery in response to Community LOS.

Levels of Service identified in this document are the result of an initial review by Township staff and may be further improved in subsequent versions of the Asset Management Plan. Continuous improvement will help refine targets for the desired LOS for all asset classes, adding further guidance for investments, as required in each 5-year update under O. Reg. 588/17.

Lifecycle Activities

As defined in O.Reg.588/17, lifecycle activities include *"activities undertaken with respect to a municipal infrastructure asset over its service life, including constructing, maintaining, renewing, operating and decommissioning, and all engineering and design work associated with those activities."* Provincial regulations require that the AMP include the lifecycle activities that are needed to maintain existing LOS for each asset category over the next ten (10) years. The regulations also require the estimated costs of these lifecycle activities. The aim is to optimize the trade-offs between levels of service, associated risks and total lifecycle costs. The Lifecycle Activities outlined in this AMP were provided by staff, the Township's Tangible Capital Asset (TCA) spreadsheets, or consultants reports and identify common activities across the useful lives of each asset category.

Asset Financial Requirements and Financial Plan

The financial requirements presented at the end of each asset class section are intended to outline the financial requirements necessary to maintain the current LOS presented in the LOS tables. Chapleau aims to manage its assets in a way that allows the Township to provide service to residents in a financially responsible manner. The financial requirements include annual expenditures to address projected asset investment needs over the 10-year planning period.

The Financial Strategy section at the end of this document consolidates the annualized funding needs and identifies opportunities for funding and revenue to address funding needed to implement this Plan. It acknowledges issues, including shifts in the requirements for Provincial and Federal grants, that are affecting the Township's ability to secure external funding to cover its asset reinvestment needs.

A key objective of this Asset Management Plan is to identify the financial needs for lifecycle activities that will enable municipal assets to continue to support levels of service over time. Further discussion on this is offered in the Financial Strategy section.

1.3 Chapleau Municipal Assets in Context

Chapleau has a population of 1,942 people living in 973 dwellings (2021 census). Its origins relate to the construction of the Canadian Pacific Railway through the area in 1885, with highway access first established in 1949. It is just over 300 km by highway to Sault Ste. Marie and 200 km from Timmins on Hwy 101, and approximately 312 km by road from Sudbury.

Chapleau has many cultural communities residing in and around the Township, including the Chapleau Cree First Nation, Chapleau Ojibwe First Nation, Brunswick House First Nation, as well as a francophone and a Métis community. The Township's natural beauty attracts outdoor enthusiasts, families, retirees, and independent individuals to live and explore. In 2020, the average total household income was \$91,600, and the average value of dwellings is \$150,400. Chapleau offers a mix of housing types, including single-family homes and some apartment complexes.

Chapleau's economic drivers include forestry, transportation, and tourism, with recent growth in mining at the Borden Gold Mine. The Chapleau Crown Game Preserve attracts eco-tourism enthusiasts. To support these sectors and business, Chapleau maintains infrastructure assets, including 30 km of paved and unpaved roads.

Chapleau operates recreational facilities, including an arena and sports complex, a museum, playgrounds, a splash pad, waterfront park and boat launch. Chapleau operates over 12 buildings that support public services, including administrative buildings, an animal shelter and the Township maintains three cemeteries.

The Township contracts with the Ontario Clean Water Agency to provide water and wastewater services. The Township draws water from the Kebaquasheshing River and provides treated drinking water to its residents through a distribution network of over 15 kms of pipes. Wastewater is collected through a 13 km network, treated at a wastewater treatment plant, and ultimately discharged into the Nebskwashi River.



*The Chapleau Recreation Centre is an important public asset that supports resident quality of life.
Image: Township of Chapleau*



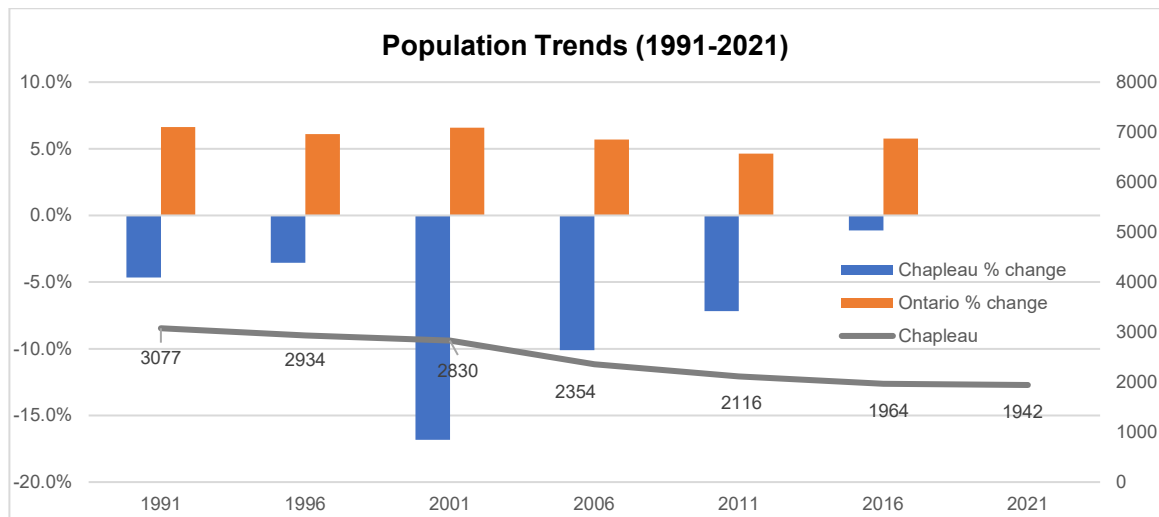
The Chapleau Civic Centre provides offices and reception areas for administrative services for residents, as well as a library and Fire Hall. Image: Township of Chapleau

The Chapleau airport is a short distance from downtown and supports fly-ins, flight training, and firefighting operations. The Township maintains two intersecting runways, which serve as a local and cross-country light aircraft re-fuelling location.

This Asset Management Plan aims to provide a pathway to maintain reliable services, considering key attributes including the Township's remote location and its diverse populace. This shall be achieved through strategic planning and investments in critical assets that benefit both residents and visitors.

Population Change

Chapleau's population has declined from 3,077 residents in 1991 to 1,942 residents in 2021, a total decrease of 37% of residents over 30 years. The rate of decline has slowed in recent years, and the local population remained relatively stable between 2016 to 2021, declining by just 1.1%. This was below the provincial average growth of 5.8% over the same 5-year period.



Population decline has an impact on the municipality's tax and fee revenues, and on declining users served by existing infrastructure such as water and wastewater treatment plants. This may mean that these and other facilities have additional capacity relative to declining demand over time.

To cater to the needs of visitors and maintain services to its residents, this Asset Management Plan evaluates the need for investments and upgrades to key assets including transportation, utilities, and public facilities, aware of population pressures on both the use of these facilities and changes to the local tax base and ability to pay for their continued operation.

Climate Change

Climate change poses a risk to municipal services, with potential disruptions caused by severe weather events like heavy rain, windstorms, and heatwaves, as well as ongoing issues like more frequent freeze-thaw cycles. This makes it harder to maintain the expected level of service for assets, as climate change heightens risks and escalates costs for preventative measures and repairs after climate-related incidents.

Chapleau typically experiences warm, rainy summers and long, cold, and snowy winters. However, the climate has generally been shifting towards hotter summers, milder winters, and more severe storms³. The average temperatures are expected to increase by 2.5 degrees for the 2021-2050 period under a high emissions scenario as compared to historic average during the 1971-2000 period. These changes mainly impact transportation, buildings, water, and storm drainage systems in the following ways:

- Buildings may see a decrease in the lifespan of components such as roofs and HVAC systems, and there may be a greater dependence on cooling systems, leading to higher energy consumption.
- Roads, bridges and airport runways may suffer damage due to more frequent and severe thermal cracking, rutting, frost heave, and thaw weakening, resulting in cracked asphalt, warped pavement, and uneven surfaces. This necessitates more regular repairs and surface replacements.
- High temperatures could cause physical harm to water and sewer infrastructure, including pipe warping, cracking, and alterations to pump and equipment performance. A decrease in average annual rainfall could threaten water sources over time. On the other hand, extreme rainfall events

³ See, for example, climatedata.ca/

could exceed the storm drainage system's capacity and river high flood level, causing to divert water from roads and properties, leading to flooding, road washouts, and property damage. This could result in additional costs for pumping, repair, and rehabilitation of public assets, as well as risk and liability for damage to properties.

- Both higher temperatures and reduced average annual rainfall could lead to more frequent wildfires in the forests around the community. The Chapleau airport is an important base for operations and refuelling of fire suppression aircraft. As the risk of forest fires increases, the importance of having Chapleau airport available to serve these firefighting aircraft is expected to increase. Aircraft operations may be instrumental in addressing the risk of wildfires causing damage to public and private properties in Chapleau and surrounding communities.

Investing in adaptive and mitigative measures for assets, such as constructing flood-resistant water and storm sewer systems, fire-resistant buildings, and developing emergency response infrastructure and backup systems, could help safeguard Chapleau's public assets from these emerging threats.

1.4 Data Sources

This Asset Management Plan was prepared using available asset data and information at the time of writing. This included data from the Township's TCA register, from its annual budgets and financial statements, and from relevant consultants' reports completed in the last 5 years. The Township completed data validation and updates to its TCA register during the preparation of this plan, to update the estimated replacement value of certain assets and the asset inventory. The current age and estimated useful life were also discussed and addressed.

In this AMP, preference was given to using recent and accurate data, as provided by the following sources:

- 1 Technical reports from professionals commissioned by the municipality for Airport and Bridge assets. These include information on asset condition, rehabilitation and replacement costs, and recommendations on rehabilitation requirements and timing.
- 2 The municipal Tangible Capital Asset register. This includes date of acquisition of an asset, estimates on the replacement value, and inferences on the condition of each asset based on age. It also includes a risk analysis and prioritization of linear assets, including roads, water, storm, and sewers.
- 3 Municipal reserves and capital expenditures. Additional information was incorporated from the Township's financial returns since 2015.

Further details on data sources for each sub-section are provided in Appendix A2.

1.5 Limitations of the Asset Management Plan

A common challenge in Asset Management is reliability of data – the confidence that the data used is representative of the real needs and costs for managing the municipality's assets. The data approach outlined above attempts to mitigate that challenge. However, Chapleau may consider new data collection and analysis efforts in the future to support a robust update to the plan, as well as building capacity across teams and departments to input and maintain reliable information related to Asset Management decision-making. Some of the specific challenges related to the state of current information include:

- **The AMP uses estimates for asset replacement values.** The true costs of construction, renovation, or acquisition of assets will be determined at the time of procurement. The purpose of the AMP is to provide an indication of the type and approximate magnitude of the expenses that the municipality should expect for maintaining its capital assets over the next 10 years.
- **Lifecycle activities were developed in discussion with staff.** Lifecycle Activities described in this AMP are based on estimated refurbishments and replacements needed in the coming 10 years,

validated by Chapleau staff. They may not necessarily reflect the actual maintenance and replacement activities required for all assets. This is because each asset may have unique characteristics and have been exposed to both usage patterns and events that influence its condition and therefore its maintenance needs and lifespan. Details on the specific requirements of each asset may be developed in consultation with asset operators and engineering professionals and integrated into future versions of the AMP.

- **Estimates are used for asset useful life.** This AMP uses estimates for the remaining useful life of different assets by category, based on the asset's current age and municipal experience with the type of asset. This may not accurately reflect the actual remaining lifespan of an asset, as wear and tear on an asset can vary depending how frequently it is used, the environment it is used in, and how well it is maintained. For more accurate planning and budgeting, the remaining useful life should be determined for each asset based on regular asset condition assessments.
- **Actual events may differ from expected events.** Events and conditions may occur in the future that affect asset performance and use in unforeseen ways, triggering a need to maintain, rehabilitate, or replace assets that is not captured in this AMP.

Next steps identified in the final chapters of this AMP include improving the quality of data and information for municipal assets, which will add confidence and reliability to future versions of the Township's AMP. Improvements to asset data, data management systems, and asset information may better enable more accurate projected maintenance and rehabilitation needs and improve expenditure forecasts, which will lead to greater confidence that the plan accurately captures the requirements to maintain infrastructure in a state of good repair and support of desired Levels of Service.

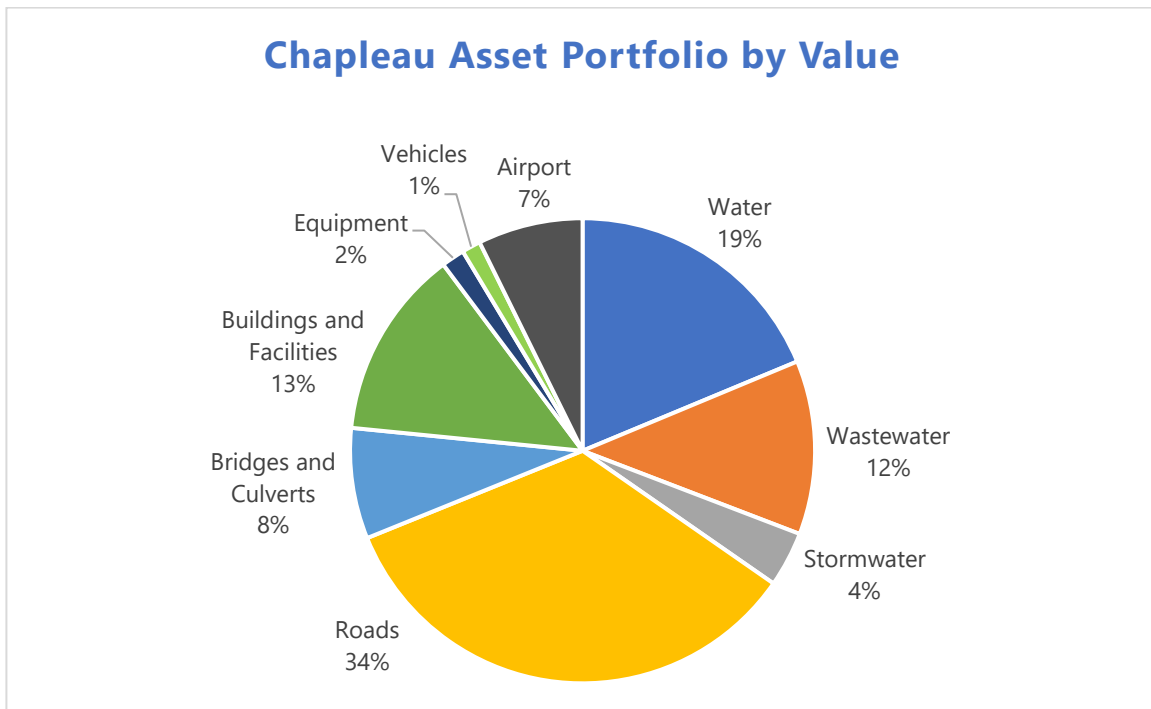
2 State of the Infrastructure

This section summarizes the state of the infrastructure assets owned by the Township and provides insights into metrics including replacement value, asset age, and asset condition. These metrics help to inform current levels of service and lifecycle activities required to support continued asset performance. Data and information on the current state of infrastructure is a key input into the asset management planning process, and the Township recognizes the need to continue to improve the acquisition and management of data in support of a robust and reliable asset management plan.

2.1 Assets included in the Asset Management Plan

Township of Chapleau operates and maintains infrastructure assets with an estimated current replacement value of approximately **\$250 million**. The proportion of total municipal capital assets by replacement value, represented by each asset category in this AMP, is shown in Figure 1. Roads and related assets form the largest share of the Township's asset portfolio at 34% of total asset value, with an estimated current replacement value of \$85.4 million. Further details on the value of each asset category, and the breakdown of values by asset type, are provided throughout this document.

Figure 1: Values of Chapleau Assets, as a proportion of the municipality's entire asset portfolio.



A summary of asset inventory, age, replacement value and annual reinvestment requirements for all asset categories is summarized in Table 1 on the following page. The annual reinvestment requirement is calculated in the following chapters of this report. It is based on the average of major maintenance, rehabilitation, and replacement costs of assets within each asset category, per year, for the period from 2025 to 2034. Data sources for the Reinvestment Requirements are explained in the following chapters and in Appendix A2.

Table 1: Municipal Asset Portfolio Summary

Asset Category	Replacement Value Est, 2024	Quantity / Inventory of Assets	Avg Age ⁴	Useful Life, Avg Est	Average remaining useful life	10-Year Reinvestment Requirement
Water						
Water Distribution	\$27,865,038	15.3 km Water pipes Hydrants and valves	56	83	33%	\$5,674,743
Water Treatment Plant	\$18,880,548	1 Building 38 Pcs of equipment	42	63	34%	\$7,930,000
Stormwater and Drainage						
Storm and Drainage	\$9,597,831	7.5 kms Drain pipes 103 Catch basins 52 Manholes	57	90	37%	\$1,593,966
Wastewater						
Sewer Lines	\$19,695,622	13.3 kms Sewer lines 1.8 kms Force mains	44	75	42%	\$4,344,378
Wastewater Treatment	\$10,505,824	3 Pumping stations Lagoon and equipment	31	66	52%	\$3,413,000
Roads						
Roads	\$75,257,792	30.2 kms Roads	48	56	15%	\$10,700,100
Associated Structures	\$10,132,393	6.6 kms Sidewalks 300+ Streetlights	34	60	43%	
Bridges and Culverts						
Bridges & Culverts	\$19,229,406	4 Bridges, 1 Culvert and Associated structures	49	74	34%	\$581,000
Buildings & Facilities						
Buildings	\$32,955,070	16 Buildings Recreational equipment	35	74	52%	\$3,998,604
Equipment						
Equipment	\$4,023,054	60 Pcs equipment	20	19	0%	\$3,046,950
Vehicles						
Vehicles	\$3,263,786	20 Vehicles	16	17	7%	\$2,685,290
Airport						
Airport	\$18,231,037	2.656 kms Paving 2 Buildings, Fuel Storage	49	50	2%	\$12,036,199
Total	\$249,637,401		44	65	32%	\$56,004,230

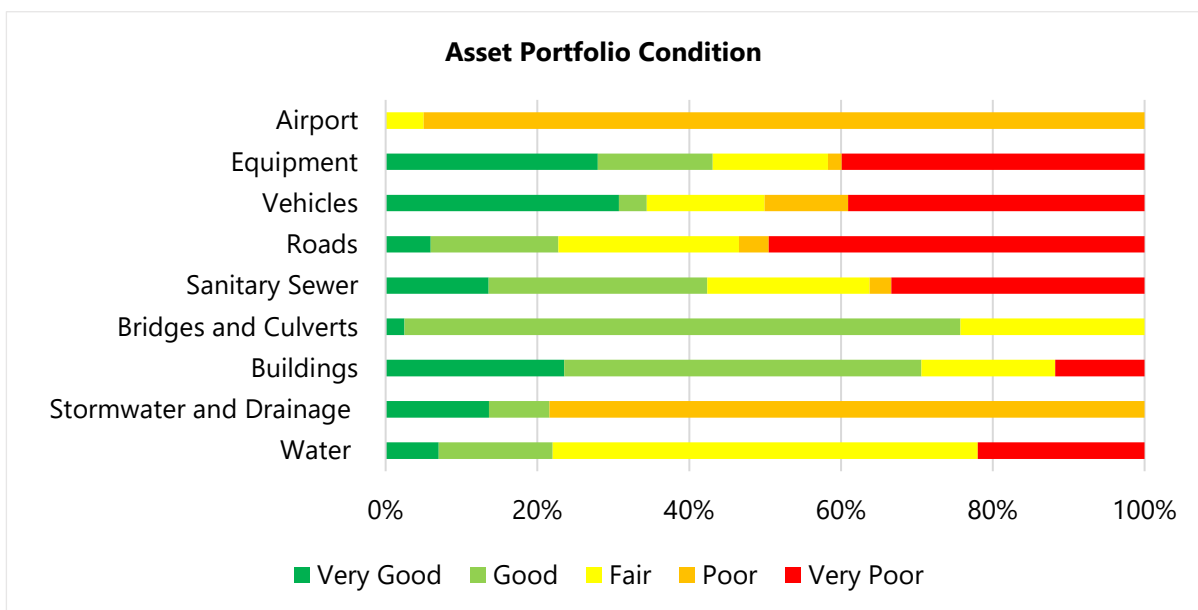
⁴ Weighted average for age, based on asset value

2.2 Asset Condition

The Township monitors the condition of its assets according to processes that follow regulations and leading practices for the management of each asset type. Asset specific inspection processes and approaches to evaluating asset condition are described in each asset class's sub-section in Chapters 3 and 4.

Formal asset condition inspection and needs reports were completed for the Township's Bridges, Pumping Stations, Water and Wastewater Treatment Plants, Airport (including runway, taxiway, and fuel assets) and specific Recreational Facilities within the past 6 years. For assets that do not have formal condition assessment information, condition in this report is derived from the age and estimated lifespan of the asset, following the approach described below and detailed in Appendix A3. A summary of current condition of assets across the Municipality is shown in Figure 2.

Figure 2: Asset Portfolio Condition



For most assets, condition is based on estimated remaining useful life, following the methodology explained in Appendix A3. Condition ratings in all charts in this document are as follows:

Condition Rating	Remaining useful life (%)
Very Good	More than 75%
Good	50% to 75%
Fair	25% to 49%
Poor	10% to 25%
Very Poor	Less than 10%

Overall, Bridges, Culverts, and Buildings are estimated to have most assets in Good or Very Good condition, while Airport, Equipment, Water, and Road assets are estimated to have a greater number of assets in Poor and Very Poor condition.

The implications of these condition ratings for each asset category, as well as the assets' capacity and serviceability under changing environmental conditions, resident demands, and Township operational needs, are described in further detail for each asset class in the following chapters.

3 Buildings, Equipment, Vehicles, and Airport Assets

The Township has assets in seven service categories: Water, Stormwater, Sewer, Bridges & Culverts, Roads, Buildings and Facilities, Vehicles, Equipment, and Airport. These assets are specific to the Township and provide services that support residents and businesses. This section offers insights into the current state Buildings, Equipment, Vehicles, and Airport assets, including their current condition, current and projected Levels of Service, and projected activities required to maintain these assets.

3.1 Buildings and Facilities

Township operates and maintains 12 buildings, facilities, and other land improvements which support diverse services including municipal operations and recreation. Key community-facing buildings include the civic centre, waterfront pavilion, arena and museum. Operations buildings include landfill buildings, public works and roads buildings, the animal shelter and cemetery structures.

Chapleau owns and operates three Cemeteries, two on Birch Street that are closed for new interments and a third cemetery located on Highway 129 as the currently operational cemetery⁵. The Cemetery has a chapel and vault on site which the municipality maintains. Chapleau also operates the municipal landfill site, located on Highway 129⁶, which has three buildings and landfill cells.

Asset Overview

Chapleau's building and facility assets have an estimated replacement value of \$32.9 million. The Civic Centre (which includes the Fire Hall and Library) and the Arena are the two most valuable assets in this class.

Table 2: Asset Inventory – Buildings

Asset Class	Asset Sub-Class	Replacement Value ⁷	Quantity / Inventory of Assets	Average Age (Years)	Useful Life (Years)	Average remaining useful life
Operational Buildings	Civic Center and Fire Hall	\$7,523,304	1 Building	40	75	47%
	Other buildings	\$8,523,663	12 Buildings	36	76	53%
Recreational Facilities	Recreational Buildings and Fixed Equipment	\$16,908,103	2 Buildings and 29 Equipment	32	72	55%
Total		\$32,955,070		35	74	52%

Asset Condition

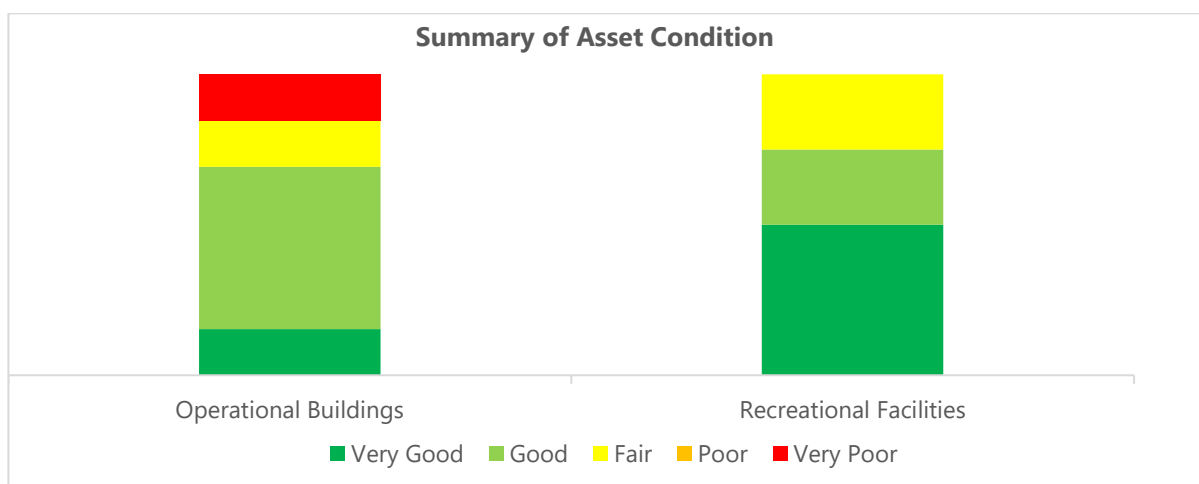
For this Asset Management Plan, all buildings in Chapleau are estimated in the Township's TCA register to have a useful service life of 70-80 years. Further improvement to building condition estimates would be possible through additional building condition assessments, as deemed necessary by staff. Asset condition is identified for each asset sub-class in the table below, according to the age-based methodology described in Appendix A3.

⁵ [Cemeteries - Township of Chapleau](#)

⁶ [Community Profile 2018 \(chapleau.ca\)](#)

⁷ Replacement value determined based on its historical cost adjusted for annual inflation of 4%

Figure 3: Asset Condition – Buildings



Levels of Service

Table 3: Community LOS– Buildings

Att	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	List of buildings/facilities and description of services provided.	Recreational facilities include the Sports Complex, Waterfront Park, Playgrounds, and Museum. Operational facilities include the Civic Centre and Fire Department building, Animal Shelter, and Cemetery buildings.	No change.	=	Maintaining the services provided by these facilities.
Utilization	Description of community use of the facilities.	The Sports Complex, Waterfront Park, Playgrounds, and Museum, as well as the Library in the Civic Centre, are open for public use and are used by community groups.	No change.	=	Maintain the availability of these buildings.
Safety	Description of building/facility inspection processes.	No formal inspection process is in place, but minor defects are corrected when identified.	The Township Safety Committee has created a building inspection program covering all Township buildings.	Improved	Maintain the 2024 inspection schedule and correct minor defects as identified.

Table 4: Technical LOS – Buildings

Att	Technical LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Number of buildings that are estimated to be operating beyond capacity or inadequate for purpose.</i>	Facilities are utilized within their capacity limits	Staff estimate the changing rooms at the Arena are inadequate relative to post-COVID space and ventilation needs. Other facilities remain within capacity limits.	=	Public buildings shall be improved as funding comes available, to remain adequate for the Township's needs.
Accessibility	<i>Number and % of public buildings that are AODA compliant. List of recent or planned projects to improve accessibility.</i>	The Arena and Civic Centre have accessibility features, including automatic doors and ramps. Each facility includes accessible washrooms, though the lower-level Civic Centre washrooms are not accessible.	No change.	=	Future upgrades to the Arena can provide accessible direct access to the curling facility. The lower-level Civic Centre washrooms may be improved when funding becomes available.
Safety	<i>Number of service requests to manage unsafe building conditions per year.</i>	0	No change.	=	No safety complaints.

Lifecycle Activities

Table 5: Lifecycle Activities – Buildings

Lifecycle Activities – Buildings
<p>Maintenance</p> <ul style="list-style-type: none"> Buildings shall generally be maintained in a state of good repair. This includes corrective maintenance such as repairing fixtures, locks, doors, lighting, and faults. Safety Inspections: Monthly safety checks for wear and tear and CSA compliance of playground structures. Cleaning: Regular cleaning of surfaces to remove dirt and prevent degradation.
<p>Rehabilitation</p> <ul style="list-style-type: none"> Building exterior components such as rooves and siding shall be repaired or replaced when determined necessary through a building inspection, for buildings that have an expected remaining structural useful life of over 10 years. Replacement of building components such as HVAC and pump equipment will take place as determined necessary based on an evaluation of the serviceability and suitability of that equipment.

Lifecycle Activities – Buildings

- Playground Component Replacement: Replace worn-out components such as swing seats, chains, or slide surfaces as needed.
- Playground Surface Renewal: Replace or renew impact-absorbing surfaces like mulch or rubber surfacing every few years.

Replacement or Disposal

- Buildings which have reached the end of their useful life or are no longer suitable for their purpose may be replaced, according to the requirements set out in a building/community needs assessment or other feasibility study.
- Buildings which are no longer needed may be disposed of, in accordance with the results of a building needs assessment or feasibility study, or as permitted under a relevant municipal asset disposal policy.
- Full Replacement: Replace major playground structures every 15-20 years.
- Surface Replacement: Replace safety surfaces like rubber tiles every 10-12 years.

Building Financial Requirements

Based on major maintenance, rehabilitation, and replacement needs as per TCA inventory, it is estimated that Chapleau has a total capital requirement for buildings of approximately \$4 million over the next ten years. Considering the remaining useful life, condition, and replacement requirements, building improvements or disposals may be completed after conducting further detailed assessment of the assets and the Township's needs.

Key expenditure requirements per building are estimated as follows:

Table 6: Major Works – Buildings

Building	Works Required	Year	Value
Centennial Museum	Site works (groundskeeping), envelope, mechanical, repairs.	2025	\$50,840
Cemetery Structures	Site works (groundskeeping), vault and chapel envelope (metal roof).	2025	\$82,639
Public Works Buildings	Roads Building and Animal Shelter: Envelope, mechanical, site works.	2026	\$139,185
Civic Centre	Envelope (siding, windows, roof), Mechanical (HVAC), Accessibility, Pavilion, Site works	2027	\$1,180,739
Arena	Envelope, mechanical including changeroom HVAC, accessibility, equipment, capacity improvements.	2030-2034	\$2,545,201
Total		2025-2034	\$3,998,604

3.2 Vehicles

Fleet assets enable municipal staff to deliver a broad spectrum of services to all within the Township. These assets are in regular use and visible to the public. The Township owns and operates approximately 20 vehicles in its fleet.

Asset Overview

These 20 vehicle assets have an estimated replacement value of \$3.2 million. As noted in table below, many of the Township’s vehicles are at the midpoint of their useful life and overall are currently operating efficiently. Because some Fire Department vehicles, the airport fuel truck, and some road maintenance vehicles are in operation past the end of their estimated useful lives, the average remaining useful life of these vehicle types overall shows as 0%.

Table 7: Asset Inventory – Vehicles

Asset Class	Asset Sub-Class	Replacement Value ⁸	Quantity / Inventory of Assets	Average Age (Years)	Useful Life of the Asset (Years)	Average remaining useful life
Vehicles	Administration	\$188,477	2	4	12	66%
	Airport	\$218,329	1	29	15	0%
	Fire	\$1,367,892	6	30	24	0%
	Garbage Collection	\$579,536	2	1	12	90%
	Road Maintenance	\$254,753	5	8	14	0%
	Water & Wastewater	\$82,232	1	1	12	92%
	Winter Control	\$536,902	1	1	10	90%
	Parks & Recreation	\$35,661	2	10	12	17%
Total		\$3,263,786	20	16	17	7%

Asset Condition

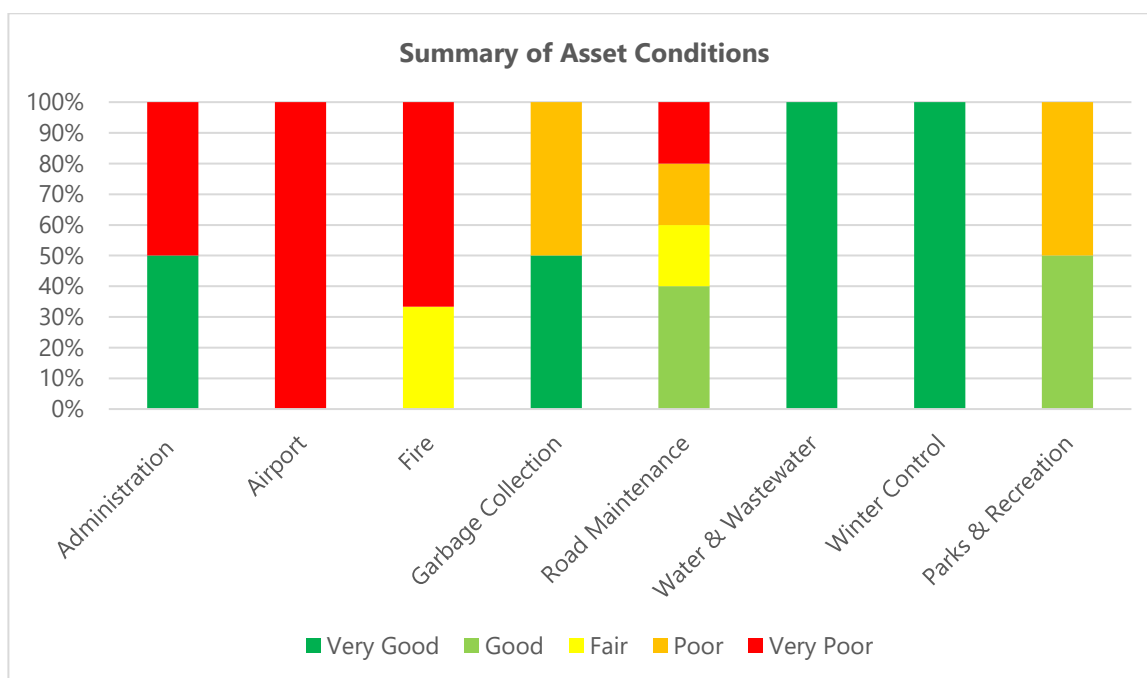
Asset condition is identified for each asset sub-class in the table shown in Figure 10 below, according to the age-based methodology described in the Appendix 0. Most vehicles are shown to be in Very Good to Fair condition, based on age compared to estimated useful life. The Township acquired a new a new plow truck in 2023, categorized under Winter Control. Note that other recent heavy equipment purchases are shown under Equipment, in the following section.

The Airport fuel truck, some administration and road maintenance vehicles, and several Fire Department vehicles are older than their estimated useful lives, and therefore assessed to be in Very Poor condition based on their age. However, some Airport and Fire vehicles have low usage based on mileage or kilometres driven, and therefore may not require near-term replacement, while some have been identified as priorities for replacement in the section below.

The municipality may continue to optimize vehicle lifespan based on regular vehicle use, and revise the estimated useful life of vehicles (e.g. specialist vehicles that are not in use for full-time operations) in the table above.

⁸ Replacement value determined based on its historical cost adjusted for annual inflation of 4%

Figure 4: Asset Condition – Vehicles



Levels of Service

Table 8: Community LOS – Vehicles

	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	List and number of vehicles in operation and description of services provided	Chapleau operates a fleet of approximately 25 vehicles eligible for road licensing. These support administration, road maintenance, winter, and parks services.	No change.	=	Chapleau will regularly maintain and plan for the replace vehicles according to its current and projected service needs.
Condition	Description of fleet condition.	Most vehicles are at the mid-point of their service life. Reliability issues were noted with the garbage truck, and the transit bus is due for replacement.	Vehicle replacements since 2019 include the garbage truck, the transit bus, and four pickup trucks.	Improved	Vehicles shall be maintained and replaced progressively to maintain current average fleet condition and reliability.

	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Safety	<i>Description of vehicle inspection and maintenance procedures.</i>	Staff do circle checks prior to using a vehicle, minor defects are reported and repaired. The Township does not have a mechanic, local mechanics complete repairs, preventive maintenance and PMCVI inspections. Municipality has a license for inspection of the transit bus, and has a preferred contractor come to perform inspections on-site.	No change.	=	Current maintenance procedures are followed.

Table 9: Technical LOS - Vehicles

	Technical LOS (Quantitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Condition	<i># of unplanned out-of-service days / # of defects repaired / days # of maintenance / repair calls</i>	Fleet downtime is not currently tracked, but alternate service vehicles are available for most services. Garbage truck is regularly out of service.	New garbage truck has eliminated downtime of that vehicle, improving overall fleet availability.	Improved	Current vehicle performance is maintained.
Safety	<i>% of vehicles maintained according to Ministry specifications</i>	All in-service vehicles are plated and maintained per ministry specifications, except the airport refueler which never leaves the airport.	No change	=	Current maintenance programs are maintained.

Lifecycle activities

Table 10 Lifecycle Activities – Vehicles

Lifecycle Activities – Vehicles
Maintenance
<ul style="list-style-type: none">• During each maintenance visit, fleet technicians should rate the general condition of serviced vehicles and record ideally in a Fleet Management Information System (FMIS) to enable comprehensive tracking and reporting for making better informed decisions.• Maintenance ratio should be introduced as it informs fleet managers about the ratio between the cost of preventive maintenance (PM) and reactive repairs. This will help determine whether PM activities are sufficient to avoid costly and unplanned reactive repairs and breakdowns.• The frequency of preventive maintenance depends on factors such as the type of vehicle, its usage, and manufacturer recommendations. However, a general guideline might include:<ul style="list-style-type: none">- Daily Checks: Visual inspections before and after each use.- Weekly Checks: Fluid level checks, tire inspections, and visual inspections.- Monthly Checks: Comprehensive inspections, including engine components, brakes, electrical systems, and fluids.- Quarterly Checks: In-depth inspections, including testing of pumps, hoses, and additional operational systems.- Annually or Biannually: Complete and thorough inspection involving all components. This may also include specialized tests, such as pump performance testing.• Fluid levels, including engine oil, transmission fluid, brake fluid, and coolant must be maintained and monitored• NFPA 1911 outlines the procedures for the inspection, maintenance, testing, and retirement of in-service automotive fire apparatus. To ensure reliability and safety of fire vehicles during emergency response situations, NFPA must be followed.
Replacement/Disposal
<ul style="list-style-type: none">• For truck bodies and mounted equipment, consider the potential of remounting. Before replacement, assess the condition of the installed equipment using the unit condition assessment. If the equipment's condition is good, consider the cost-effective option of remounting

Overall Financial Requirements

It is estimated that the Township has a total capital requirement of \$2.68 million over 10 years and will require an average of \$268,529 annually to address its vehicle needs. Considering the size of the fleet in relation to the community's population and the projected replacement requirement, actual vehicle purchases may be evaluated based on the needs and estimated service life of the existing fleet.

Key expenditure forecasts for vehicles, per department or service, are estimated as follows:

Table 11: Major Asset Expenditure Forecast – Vehicles

Vehicle Sub-Class	Requirements	Year	Estimated Cost
Operations	½ Tonne Pickup	2025	\$60,000
	½ Tonne Pickup	2028	\$40,000
	¾ Tonne Pickup	2030-2034	\$90,000
	½ Tonne Pickup	2030-2034	\$45,000
Fire	Pumper Truck	2025	\$800,000
	Rescue Vehicle	2025	\$250,000
	¾ Tonne Pickup	2028	\$60,000
	Fire Engine	2030-2034	\$340,000
Landfill and Garbage	Refuse Collection Vehicle	2030-2034	\$530,000
Winter Control	Plow Truck w/ Wing & Sander	2030-2034	\$470,290
Total	10 Vehicles	2025-2034	\$2,685,290

3.3 Equipment

The Township’s Equipment asset class consists of 8 sub-classes: IT infrastructure, fire, garbage collection, landfill, Parks & Recreation, Water & Wastewater, Road Maintenance and Winter control equipment that are required to run the services smoothly. In total, there are 60 pieces of equipment recorded as Township assets.

Asset Overview

As noted in the table below, the average age of these assets ranges from 9 years to 22 years, depending on asset type, whereas their average estimated useful life ranges from 11 years to 21 years. The replacement value of all the assets combined in 2024 is approximately \$4 million.

Table 12: Asset Inventory - Equipment

Asset Class	Asset Sub-Class	Replacement Value ⁹	Quantity / Inventory of Assets	Average Age (Years)	Useful Life of the Asset (Years)	Estimated average remaining useful life
Equipment	Fire Equipment	\$343,122	14 Units	13	15	13%
	Operations	\$1,435,044	14 Units	20	21	18%
	Road Maintenance	\$1,955,125	8 Units	22	20	0%
	IT Infrastructure	\$289,764	18 Units	9	11	0%
Total		\$4,023,054	60 Units	20	19	0%

Asset Condition

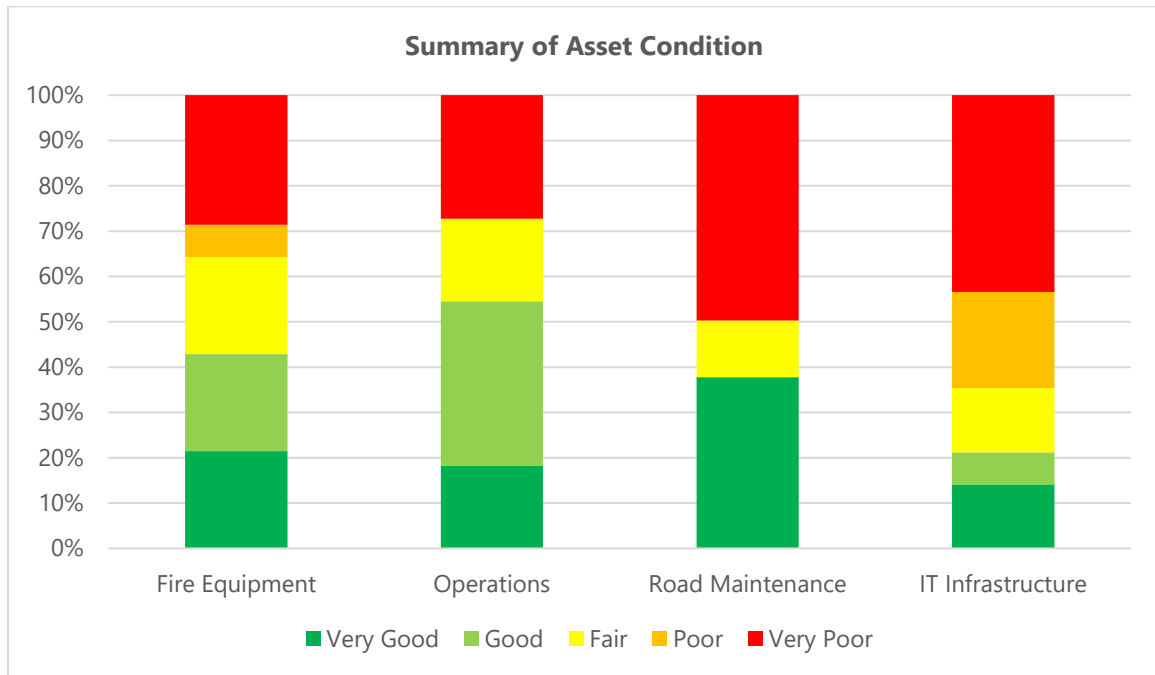
Equipment assets are estimated to be in mixed condition, based on the age of the assets, as shown in the following graph. A detailed condition assessment would help validate the current condition of specific assets, based on a field review which may be completed by staff.

The Township has taken action to decommission older telecommunications and IT equipment. The average age of computer servers in operation is 5 years, and older servers are being decommissioned and recycled.

The Township acquired new major Operations equipment, including a backhoe and loader, in the past five years. Other Operations related equipment is used for services like water, winter control, garbage collection, parks and recreation, etc. Equipment specifically used for Fire and Road Maintenance, such as the grader, are listed separately. Continued monitoring replacement needs of these equipment assets will help clarify replacement timelines and annual costs, as their expected useful life is typically shorter than other asset classes.

⁹ Replacement value based on historical cost adjusted for annual cost escalation of 4%

Figure 5: Asset Condition - Equipment



The condition ratings in the chart above are weighted based on asset value. Several high-value pieces of equipment, such as the road grader and landfill garbage compactor, are beyond their expected useful life. A detailed assessment of these assets, which may be led by staff, could offer reliable information to determine priorities for immediate and long-term equipment replacement needs.

Levels of Service

Table 13: Community LOS - Equipment

	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	List of equipment types and services the equipment performs.	Chapleau maintains equipment for the use of the fire department, IT hardware, parks and recreation, winter control, and road maintenance.	Additional security equipment, specifically cameras, have been procured at municipal facilities.	Improved	Maintain current availability of equipment and add security cameras as recommended by staff.
Availability	Description of how equipment is meeting needs of user groups.	Chapleau maintains equipment to be adequate and operational to support its service lines to complete their tasks.	There have been recurring reliability issues with the grader and the trackless. Other equipment has been replaced or is functioning normally.	Decline	Equipment with reliability challenges shall be refurbished, decommissioned, or replaced as recommended by staff.

	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Condition	<i>Description of equipment regular maintenance and inspection processes.</i>	Staff do a circle check prior to use of equipment; safety and maintenance issues are reported to management. The Township generally contracts out-of-town mechanics to maintain heavy equipment.	No change.	=	No change to maintenance procedures.

Table 14: Technical LOS - Equipment

	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	Number of pieces of equipment.	Chapleau has 14 pieces of fire protection equipment, 16 pieces of IT infrastructure, 4 of parks and recreation, and 8 for road maintenance.	No change.	=	Same as 2024
Availability	# recorded incidences of inadequate / unavailable equipment	Equipment was generally available and operable when required.	Regular incidences of service downtime have been noted with the trackless and the grader.	Decline	The Township will strive to improve service performance of equipment.

Lifecycle Activities

Table 15: Lifecycle Activities - Equipment

Lifecycle Activities – Equipment
Maintenance
<p>Communications Equipment</p> <ul style="list-style-type: none"> • Regular Inspections: Checks for wear and tear to identify issues early. • Battery Checks: Battery level checks and replacements as needed. <p>Computer Servers and Related Software</p> <ul style="list-style-type: none"> • Regular Updates: Install software patches and updates to maintain security and performance. • Backup Management: Backups to protect data integrity and recovery in case of failure. <p>Public Works and Other Equipment</p> <ul style="list-style-type: none"> • Regular Inspections: Conduct regular inspections to identify and address issues early.

Lifecycle Activities – Equipment

- Lubrication: Regular lubrication of moving parts to prevent wear and ensure smooth operation.
- Calibration: Annual calibration of equipment to ensure accuracy and reliability.

Rehabilitation

Communications Equipment

- Component Upgrades: Periodically, as required, upgrade key components like antennas and receivers to enhance performance.
- Recalibration: Annual recalibration to ensure accurate and reliable performance.
- Firmware Overhaul: Comprehensive firmware updates every 3 years to fix bugs and enhance capabilities.

Computer Servers and Related Software

- Hardware Upgrades: Periodic upgrades to components such as RAM, hard drives, and graphics cards to maintain performance.
- Reinstallation: Reinstall operating systems and update essential software every 5 years to optimize performance and remove unnecessary files.

Public Works and Other Equipment

- Component Replacement: Replace key components such as hydraulic hoses, tires, and blades.
- Structural Repairs: Address structural damage and wear through welding and reinforcement.
- System Upgrades: Upgrade hydraulic and electrical systems to improve performance and efficiency.

Replacement / Disposal

Communications Equipment

- Safe Disposal: Dispose of outdated equipment following environmental regulations, recycling components where possible.
- Data Wiping: Ensure all data is securely wiped before disposal to protect sensitive information.

Computer Servers and Related Software

- Secure Disposal: Follow environmental regulations for the disposal of old hardware, ensuring sensitive data is securely wiped or destroyed.
- Component Recycling: Recycle usable components to reduce environmental impact and recover value from obsolete hardware.

Public Works and Other Equipment

- Safe Disposal: Dispose of old equipment following environmental regulations, ensuring proper recycling of metals and hazardous materials.
- Parts Reuse: Salvage and reuse parts that are still functional to minimize waste.

Overall Financial Requirements

Based on major maintenance, rehabilitation, and replacement needs, Chapleau has a total estimated capital requirement for equipment of \$3.05 million from 2025-2034. This amounts to an annual replacement rate of 8.2% of the total value of equipment assets, reflecting the shorter lifespan of assets in this class and their need for more frequent replacement, compared to other asset types.

Considering the remaining useful life/condition and replacement requirement, replacement of equipment may have to be prioritized after conducting field assessments of the assets. Projected expenditures by sub-asset class are estimated in the following table.

Key expenditure requirements per department or service are estimated as follows:

Table 16: Major Asset Expenditure Forecast – Equipment

Sub-Class	Requirements	Year	Estimated Cost
IT Equipment	IT Equipment Annual Purchases	2025+	Annual \$30,480
Fire Equipment	Truck Equipment Annual Purchases	2025+	Annual \$7,340
	Personal Equipment Annual Purchases	2025+	Annual \$18,575
Operations	Bomag Refuse Compactor	2026	\$1,400,000
	Road Grader	2026	\$350,000
	Street Sweeper Attachment	2025	\$125,000
	Trackless Sidewalk Machine	2028	\$200,000
	Sewer Camera	2030-2034	\$18,000
	Airport Snow Blower	2029	\$175,000
Recreation	Zamboni (electric)	2026	\$250,000
	Mower	2029	\$15,000
Total	Equipment Purchases	2025-2034	\$3,046,950*

*The total includes the sum of annual IT and Fire equipment purchases over 10 years.

Many of the Township’s equipment assets are expected to reach the end of their useful lives over the coming 10-year period. Regular rehabilitation and replacement of equipment assets, which tend to have shorter lifecycles than other asset types, will be required.

Continued assessment of asset condition will help identify the replacements that are the most urgent and those that may be deferred until required.

3.4 Airport

Chapleau’s Airport asset class comprises of three sub-classes - runways, terminal buildings and ancillary buildings. The airport acts as a local and cross-country fuelling location. The airport is operated with winter and summer hour staffing, with terminal building comprising of flight planning area and NAV Canada staffed weather station.

Asset Overview

The average age of airport assets is 49 years with a total replacement value of \$18 million, excluding land values. The runways sub-class include a main runway of 1.52 kms, a secondary runway of length 0.92 kms, a taxiway of 0.12 kms and an apron.

Table 17: Asset Inventory - Airport

Asset Class	Asset Sub-Class	Replacement Value ¹⁰	Quantity / Inventory of Assets	Average Age (Years)	Avg Total Expected Useful Life (Yrs)	Estimated average remaining useful life
Airport	Airfield Pavement (runways, taxiways and apron)	\$ 17,226,573	2.656 kms	50	48	0%
	Buildings and Fuel Storage	\$ 1,004,464	2 buildings	44	76	42%
Total		\$18,231,037		49	50	2%

Asset Condition

In the 2024 Chapleau Airport condition assessment report, condition of the airfield pavements was evaluated based on the relevant American Society for Testing and Materials (ASTM) standard using field observations processed through Paver software to calculate the PCI. A description of PCI indicators is provided in the table below. Paver software was also used to assess sub-surface structural conditions and presence of foreign object debris that will affect the safety of the airfield pavements.

Condition was assessed for Runway 28-10, Taxiways and Apron using sample section evaluations. The pavements are observed to be overall in poor condition, with the structural integrity of the sub-surface components assessed in fair to poor condition.

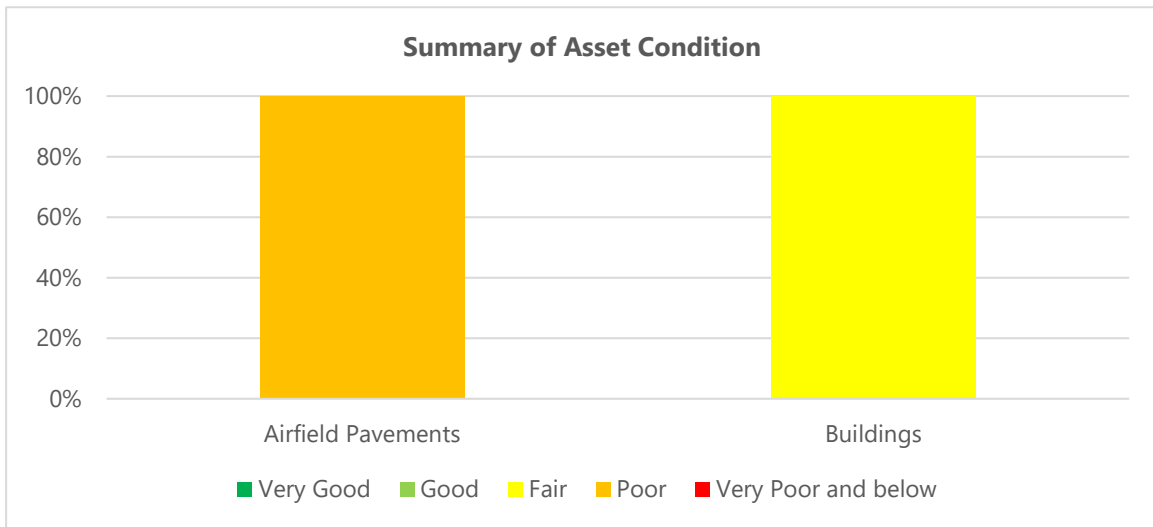
Condition	PCI	Description
Good	86-100	No major distresses. Possibly some crack seal in place. Crack Sealing is suggested to reduce amount of water penetrating surface
Satisfactory	71-85	Recent crack seal starting to fail, longitudinal + transverse cracks, some recent and clean patches
Fair	56-70	Moderate to severe block cracking, alligator cracking, potholes, and aging patches
Poor	41-55	Increased quantity of alligator cracking, block cracking, potholes, and patches
Very Poor	26-40	Severe alligator cracking. Failed patches, large quantity of deep and/or wide potholes

¹⁰ Replacement value based on historical cost adjusted for annual cost escalation of 4%

Condition	PCI	Description
Serious	11-25	Serious alligator cracking. Failed patches, high potential of FOD
Failed	0-10	Operation quality is severely affected by deep and dense potholes, failed patches, and alligator cracking. FOD hazard predicted

Asset condition for pavements (runways, taxiways, and apron) is shown based on the condition assessment report. Building condition is assessed according to the age-based methodology described in Appendix 0.

Figure 6: Asset Condition – Airport, by Asset Count



Levels of Service

Table 18: Community LOS - Airport

	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Availability	Description of airport availability	Airport is available for aircraft movement 365 days / year, with after-hours and weekend winter service available on call for an additional fee.	No change.	=	Maintain current airport availability.
		2 runways: 4,000 and 5,000 ft have ageing asphalt surfaces. Automated remote controlled lighting system (Arcal) uses older, incandescent lights.	Runway and lighting system are ageing and reaching the end of their service life.	=	The Township will evaluate airport usage and runway repaving and lighting replacement needs.
Services	Description of aircraft services available	Mobile Jet A1 refueler, cabinets for jet fuel and for Avgas.	No change. Equipment is ageing but regularly maintained.	=	Maintain current fuel facility availability

Table 19: Technical LOS - Airport

	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Availabilit	% availability of runways and fuel service	Runways and fuel are regularly available for airport users.	Some interruptions in fuel availability due to supply challenges.	Decline	Diversify fuel suppliers to improve fuel availability.
	Number of aircraft movements	466 aircraft movements per year in 2018-19.	629 aircraft movements per year in 2022-23.	Increase	Maintain current service availability to support continued airport use.
Services	Volume of fuel sold	Average 131,015 L of jet fuel and 33,058 L of avgas sold per year from 2018-2019.	Average 185,278 L of jet fuel and 31,052 L of avgas sold per year from 2022-23.	Increase	Maintain supply to support increasing jet fuel demand.

Lifecycle Activities

Table 20: Lifecycle Activities - Airport

Lifecycle Activities – Airport
<p>Maintenance</p> <p>Runways and Taxiways</p> <ul style="list-style-type: none"> • Crack routing, patching, micro-surfacing of localized deficiencies. Resurfacing to address minor surface deficiencies, base repairs addressed in priority area as part of reconstruction. • Light maintenance activities include changing of bulbs and painting of fixtures where relevant. • Remove snow from runways and taxiways during winter. <p>Buildings, Vehicles and Equipment</p> <ul style="list-style-type: none"> • Painting and minor repairs as required. • Regular maintenance of vehicles and equipment including minor part refits and replacements.
<p>Rehabilitation</p> <p>Runways and Taxiways</p> <ul style="list-style-type: none"> • Resurfacing of deficient sections with base and sub-base repairs as required. <p>Buildings, Vehicles and Equipment</p> <ul style="list-style-type: none"> • Repair or replacement of key fixtures, HVAC, and exterior components such as rooves and siding when determined necessary through a building inspection, as required as these components reach the end of their service life, for buildings with a structural useful life of over 10 years. • Repair or overhaul of vehicles, pumps and equipment as determined necessary based on an evaluation of the serviceability and suitability of that equipment.

Lifecycle Activities – Airport

Replacement / Disposal

Runways and Taxiways

- Reconstruction of runways and taxiways with deficiencies. Replacement of base and sub-base depending on engineer’s evaluation of requirements.
- Runways deemed surplus may be decommissioned to serve as taxiways and maintained as such.
- Replacement of lights and lighting fixtures based on their condition, material, and age.

Buildings, Vehicles and Equipment

- Replacement of vehicles, pumps and equipment as determined necessary based on an evaluation of the serviceability and suitability of that equipment.

Overall Financial Requirements

The Township has commissioned an engineering consultant to report on asset repair and rehabilitation needs for the airport. The financial outlook for the airport, using the 2024 Low estimates provided by the consultant, is shown in this section. Key expenditure requirements for the airport are as follows:

Table 21: Major Capital Works – Airport

Airport Sub-Class	Requirements	Year	Estimated Cost
Equipment	Replace Fuel storage and delivery system	n/s	\$1,293,865
Runway	Runway 10-28 Rehabilitation	n/s	\$7,517,050
	Taxiway Rehabilitation	-	\$456,044
	Apron Rehabilitation	-	\$1,270,324
	Runway 05-23 Decommission	-	\$175,550
	New Taxiway Construction	-	\$1,323,366
Total	Airport Repairs		\$12,036,199

* Note: Year of required repairs and replacements is not specified in the report.

Specific funding programs exist to support rural and northern communities with required repairs and rehabilitations to airports and critical infrastructure. The municipality may investigate the Canada Community Buildings Fund, which has supported airport improvement projects in Northern Ontario, or funding for infrastructure related to climate adaptation from the Green Municipal Fund. Further discussion on these funds and their impact on capital requirements is included in the financial strategy in Chapter 5.

4 Infrastructure and Road Assets

The Township operates Water, Sewer, Stormwater, Roads, Bridges & Culverts, as core assets identified under Ontario's regulation for Asset Management. This section offers insights into the current state of these assets, including their current condition, current and projected Levels of Service, and projected activities required over the coming 10-year asset reinvestment period.

A final section in this chapter, **Section 4.6: Linear Infrastructure Investment Plan** addresses the network improvements required to deal with ageing sub-surface assets, which would typically be scheduled by the Township to take place at the same time on the same portion of roadway. These improvements are organized into a set of sub-projects identified as Very High priorities to improve the linear / distribution portion of the water, sewer, and storm sewer network. Together with the financial requirements listed under each asset class, these lifecycle activities are required to achieve target LOS, with annual cost estimates provided in a 10-year financial outlook for each section below.

4.1 Water

The Township owns over 120 water distribution system assets that provide potable water to residences, businesses, and municipal facilities, as well as water supply for fire suppression. Water treatment facilities are operated and managed by the Ontario Clean Water Agency (OCWA). The delivery of water services must comply with Provincial legislation and regulations. Water operators and operations in Ontario are governed by regulations and acts, including:

- The *Safe Drinking Water Act* and related regulations:
 - Water Quality Standards, Ontario Regulation (O. Reg) 169/03
 - Drinking Water Systems Regulation, O. Reg 170/03
 - Certification of Drinking Water System Operators and Water Quality Analysts, O. Reg 128/04
 - Licensing of Sewage Works Operators, O. Reg 129/04
- The Ontario Water Resources Act and regulations:
 - Wells, RRO 1990 Reg 903
- Drinking Water Quality Management Program

Asset Overview

The Township's water infrastructure includes assets necessary for the production, treatment, storage and delivery of potable water. As of June 2024, the estimated replacement value of the Township's water assets was evaluated at \$46.7 million, including engineers' assessment of replacement costs of pipes and the value of treatment and pump facilities and equipment. Continuous operation of the water system depends on the water treatment plant, which is owned by the Township and is operated by Ontario Clean Water Agency (OCWA).

As noted in Table 22 below, the average age of the Township's water assets was estimated to be 49 years. Records show that 3.5 km of the 15.3 km water distribution network was installed prior to 1950, and most assets are in the latter half of their estimated useful life. For AMP reporting purposes, the Township has established useful lives for distribution pipes of 75 or 85 years depending on the pipe material, and for other asset sub-classes such as pumps and structures the estimated useful life ranges from 7 to 80 years, with overall averages by asset type ranging from 31 to 83 years.

Table 22: Asset Inventory – Water

Asset Class	Asset Sub-Class	Replacement Value ¹¹	Quantity/ Inventory of Assets	Average Age (Years)	Useful Life, Est (Years)	Est avg remaining useful life
Water Services Assets	Watermains	\$27,865,038	15,322 m	56	83	33%
Other components-Buildings	Water Treatment Plant - Structure	\$16,016,158	1 Building	47	69	31%
	Water Treatment Plant - Equipment	\$ 2,864,390	38 Pcs	9	31	72%
Total		\$46,745,586		48	72	33%

Asset Condition



The Chapleau Water Treatment Plant is a critical asset for providing safe drinking water to the community. Image: Township of Chapleau

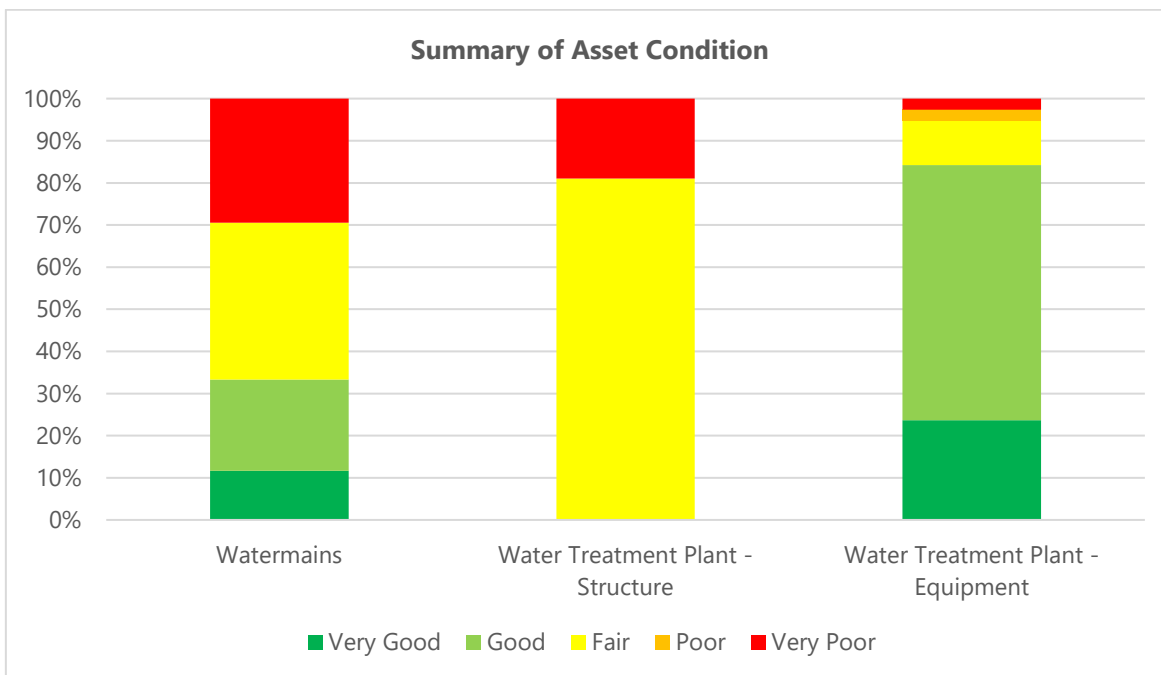
The condition of the Township’s water assets has been assessed based on the remaining useful life and asset type, because detailed asset condition assessments were not available at the time of publication of this AMP. The condition ratings are assigned based on the approach described in Appendix 0.

As summarized in the following tables, most of the Township’s water assets are rated as being in fair to very poor condition, as they are approaching the end of their estimated useful life. Current asset condition data, informed by field study and maintenance records, may provide further insight into current water system asset conditions.

Out of the total water assets, 38 have exceeded their useful life, and may exhibit severe deterioration leading to sudden and unexpected loss of potable water service. The water treatment plant structure is estimated to be in fair condition based on age, but certain building elements such as the building envelope and site works have exceeded their expected useful life and may be due for rehabilitation.

¹¹ Replacement value is determined based on historical cost adjusted for annual inflation of 4%

Figure 7: Asset Condition – Water



Levels of Service

Ontario Regulation (O.Reg.) 588/17 provides levels of service metrics for Potable Water assets, which are presented alongside current performance in the table below:

Table 23: Community Levels of Service – Water

Att	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	Description of the user groups or areas of the municipality that are connected to the municipal water system.	Municipal water is provided to approximately 900 of 973 dwellings in Chapleau, as well as businesses and facilities in the urbanized area between 200 Monk St and 154 Martel Rd. A map of water lines is provided in the Appendix.	No change.	=	New houses and businesses may be connected to the potable water system if constructed adjacent to existing service, based on an evaluation of available capacity.

Att	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
	<i>Description of the user groups or areas of the municipality that have fire flow.</i>	The Township has fire hydrants on 32 streets and fire flows are available within the water service area. Fire service is extended beyond the community with tanker trucks.	No change. An evaluation of capacity to handle multiple fires within the service area has not been completed.	=	Fire flows remain available within the water service area. In the event of multiple fires, fire suppression service within the Township of Chapleau is prioritized.
Reliability	<i>Description of boil water advisories and service interruptions.</i>	No drinking water advisories were issued in 2019.	Drinking water advisories were in place for 3 days in late 2020 and 9 days in 2021. The Chapleau Water Treatment Plant saw a process interruption and water conservation was recommended in May, 2022 ¹²	Decline	The Township will strive to reduce the incidences of drinking water advisories and service interruptions.

Table 24: Technical Levels of Service – Water

Att	Technical LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Percentage of properties connected to the municipal water system.</i>	Approximately 92% of households	No change.	=	All existing households and new households built adjacent to services, subject to available capacity.
	<i>Percentage of properties where fire flow is available.</i>	100% of households with tanker support.	No change.	=	100% within Township limits

¹² <https://chapleau.ca/news/boil-water-advisory/> and <https://chapleau.ca/news/chapleau-water-treatment-plant/>

Att	Technical LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Reliability	<i>The number of connection-days per year where a water advisory notice is in place compared to the total number of properties connected to the municipal water system.</i>	Days under boil water advisory - None Response time for notices per subsection 18(1) of SDWA – 5 days	System-wide drinking water advisories were issued for 9 days in 2021, or 2.5% of connection days.	Decline	Drinking water advisories are reduced within Chapeau’s water service area.
	<i>The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.</i>	The 2018 AMP suggests approximately 1 water main break per year. Temporary services installed after water main breaks or service line freezes result in 0 connection-day losses.	2 water main breaks occurred in each of 2021 and 2022. Temporary services are used in case of main breaks or service line freezes, resulting in 0 connection-day losses.	Decline	No households experience a loss of connection for over one day due to water main breaks, and incidences of water main breakages are reduced.

Lifecycle activities

Asset lifecycle activities for water include expansion of system components to meet growing demand, replacement of pumps and equipment at the end of their useful life, maintenance of hydrants and the distribution network, and maintenance and replacement of wells.

As the largest asset by value, maintenance of distribution mains is typically tailored to the material of the main (i.e., cast iron, PVC, or PE). These activities usually begin around 20 years after the main has been installed and are carried out at set frequencies.

Historical asset performance information, which includes pipe failures and pipe break history, is used to inform replacement criteria. When annual emergency maintenance costs in response to breakages exceed a fraction of the cost of pipe replacement, watermain pipe replacement may be justified. Due to unknown sub-surface conditions and unpredictable events, it is possible that some pipe materials will require replacement earlier than expected. In contrast, pipe materials may have the service life extended with timely maintenance and rehabilitation, according to Tables 5 and 6 in this section.

Table 25: Lifecycle Activities – Water

Lifecycle Activities
Maintenance
<ul style="list-style-type: none"> • Routine checks/inspections to ensure the water system’s effective functioning. • The main flushing process is carried out biannually utilizing in-house resources. The valve exercise program is conducted once a year, during the spring season. • Leak detection and CCTV inspections are conducted in response to specific incidents.

Lifecycle Activities

Replacement / Disposal

- Replacement of water mains will generally depend on main breaks and any problems detected, as well as factors including age, surrounding soil conditions, pressure related issues, capacity, and hydrant spacing.
- Factors such as planned future road rehabilitation or adjacent sub-surface pipe works may modify the priority of the replacement schedule.
- Replacement of devices, fittings, and equipment will take place as they reach the end of their service life or as technologies improve.
- The Township is committed to safe removal and recycling or disposal of old pipeline materials.

Asset Financial Requirements

Based on the current age of the water asset portfolio from TCA and the consultants report¹³, it is estimated that the Township will require \$793,000 in average annualized expenditures from 2025-2034 to align with maintenance, rehabilitation and replacement needs at the Water Treatment Plant.

The following major projects represent major works required over the coming 10 years, for asset maintenance, expansion, and renewal as per consultant's report¹³. These comprise a portion of the projected capital expenses required to maintain levels of service for this asset category.

Key expenditure requirements are estimated as follows:

Table 26: Major Capital Works – Water

Sub-Class	Requirements	Year	Estimated Cost
Water Treatment Plant	Structure and Equipment Upgrades	2025	\$3,496,000
	Annual Maintenance and Upgrades	2026-2029	\$604,000
	Annual Maintenance and Upgrades	2030-2034	\$295,600
Total	Treatment Plant Maintenance and Upgrades	2025-2034	\$7,930,000

In addition, water distribution pipe, valve, and hydrant replacements are required to renew and reduce risks of failure among ageing linear infrastructure in the water network, as described further in **Section 4.6: Linear Infrastructure Investment Plan**.

Water Services	Water Mains	2025-2034	\$5,674,743
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¹³ Water and Wastewater Facilities Condition Assessment, Risk Assessment and Estimated Cost Updates, 2022

4.2 Wastewater

The Township operates 230 sewer line segments and 12 forcemain pipe segments, as well as wastewater pumping stations and lagoon to provide wastewater services. The maintenance of these assets is crucial to provide a healthy, clean and safe living environment in the community.

Asset Overview

The Township's wastewater asset inventory includes sewer lines, wastewater pumping stations and forcemains, a wastewater treatment building, lagoons, which together have an estimated total replacement value of \$30.2 million. As shown in table below, most of the assets needs to be replaced soon as apart from the lagoon building, all other assets have less than 50% of their projected useful life remaining.

Table 27 : Asset inventory – Wastewater

Asset Class	Asset Sub-Class	Replacement Value ¹⁴	Quantity / Inventory of Assets	Average Age (Years)	Useful Life of the Asset (Years)	Average remaining useful life
Wastewater	Sewer lines	\$ 18,262,000	13,307 m	44	75	41%
	Forcemains	\$ 1,433,622	1,829 m	39	75	48%
	Wastewater Pumping Stations	\$ 6,902,837	3 Buildings	34	61	44%
	Lagoon	\$2,391,663	1,016 17 Units	32	90	64%
	Lagoon-Building	\$1,211,324	1 Building	14	43	67%
Total		\$30,201,446		39	71	46%

Asset Condition

The condition of the Township's wastewater assets is assessed based on the remaining percentage of their estimated useful lives. The condition ratings are categorized based on the criteria detailed out in Appendix A3.

Most of the Township's storm and drainage assets are rated as being in very poor condition as shown below. This further emphasises the need for rehabilitation or replacement of existing assets.

¹⁴ Replacement value determined based on its historical cost adjusted for annual inflation of 4%.

Figure 8 : Asset Condition – Wastewater

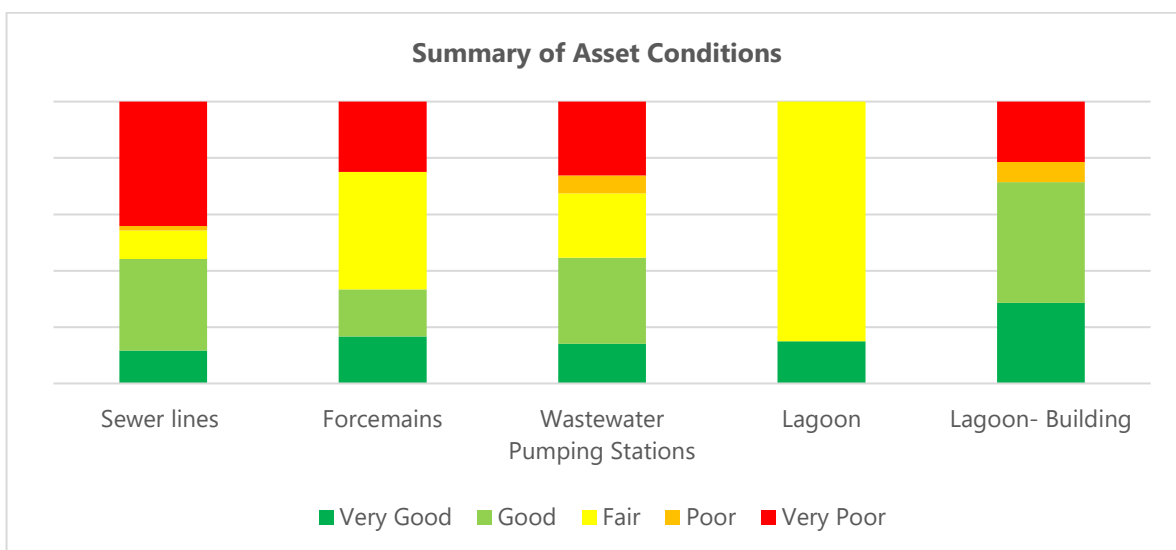


Table 28 : Community Levels of Service – Wastewater

Att	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.</i>	Wastewater services are provided to approximately 900 of 973 dwellings in Chapleau, as well as businesses and facilities in the urban area between 200 Monk St and 154 Martel Rd. A map of sewer lines is provided in the Appendix.	No change.	=	New dwellings and businesses may be connected to the wastewater system if constructed adjacent to existing service and subject to capacity.
Scope	<i>Description of how stormwater can get into wastewater in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.</i>	Chapleau has separated sewer and storm lines. Due to the age and material of the wastewater system, inflow and infiltration results in flow increases at the Township's 3 wastewater pump stations after rainfall.	No reported change in I&I since 2019.	=	Pump capacity and sewer pipe quality are maintained to reduce the risk of overflows at pump stations resulting from I&I after rainfall.

Att	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Reliability	<i>Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid climate events</i>	Chapleau's wastewater system was not originally designed to be resilient to extreme climate events. Concrete and/or cast-iron pipes are rigid and may fail under stress.	New PVC pipes, which comprise 39% of the Township's pipe network, are estimated to be flexible and durable and therefore resilient to climate events.	=	New sewer installation shall use materials and/or design features to prolong asset life, as recommended by engineers and approved by the Township.
Reliability	<i>Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.</i>	Effluent has been treated using a tertiary process including aeration and chlorination. It is stored in wastewater lagoons prior to being released.	De-chlorination was added to wastewater treatment during a capital project completed in 2021.	Improved	The Township will maintain its 2024 effluent treatment process.

Table 29 : Technical Levels of Service – Wastewater

Att	Technical LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Percentage of properties connected to the municipal wastewater system.</i>	Approximately 92% of households	No change.	=	All existing households and new households built adjacent to services, subject to available capacity.
Reliability	<i>The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.</i>	No sewer overflows were recorded prior to 2024	Estimated 0.008 flow capacity exceedance per property. 7 overflows were recorded in the manhole adjacent to the water treatment plant (WTP), related to water treatment processing and backwash.	Decline	Sewers are improved and maintained to reduce incidences of flow exceeding capacity.

Att	Technical LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
	<i>The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.</i>	Service line faults resulted in backups. No backups due to mains failure. The Riverside Pump Station was temporarily offline, however, no backups occurred.	One service line fault resulted in a backup. No backups resulting from mains failure.	=	The Township shall gradually improve the quality of sewer mains and service lines to the property line to reduce the risk of wastewater backups.
	<i>The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.</i>	No violations due to discharge reported.	No change.	=	No violations due to discharge.

Lifecycle activities

Table 30 : Lifecycle Activities – Wastewater

Lifecycle Activities Table
Maintenance
<ul style="list-style-type: none"> The sanitation network undergoes flushing yearly in problem areas, organized by section. Lift stations are inspected daily, cleaned yearly with a vac truck, and issues are addressed as needed.
Replacement / Disposal
<ul style="list-style-type: none"> Replacement of undersized, cracked, collapsed, dilapidated, or otherwise non-conforming wastewater assets and ancillary equipment when identified by a condition assessment.

Asset Financial Requirements

It is estimated that the Township will require \$3,413,000 in capital expenditures from 2025-2034 to respond to asset maintenance and replacement needs for the Township’s wastewater management facilities. This includes \$634,000 in immediate expenditures and annual expenditures thereafter. Additional costs related to linear infrastructure upgrades are listed in **Section 4.6**.

Key expenditure requirements per facility are estimated as follows:

Table 31 Major Capital Works – Wastewater

Wastewater Sub-Class	Requirements	Year	Estimated Cost
Wastewater Treatment Plant	Structure and Equipment Upgrades	2025	\$527,000
	Maintenance and Upgrades	2026-2029	\$128,000
	Annual Maintenance and Upgrades	2030-2034	\$138,400
Wastewater Pump Stations	Structure and Equipment Upgrades	2025	\$107,000
	Annual Maintenance and Upgrades	2026-2029	\$147,000
	Annual Maintenance and Upgrades	2030-2034	\$197,400
Total	Wastewater Facilities - Maintenance and Upgrades	2025-2034	\$3,413,000

In addition, sewer and force main replacements are required to renew and reduce risks of failure among ageing linear infrastructure in the sewer network, as described further in **Section 4.6: Linear Infrastructure Investment Plan**.

Wastewater	Sewer mains and Force mains	2025-2034	\$4,344,378
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4.3 Stormwater and Drainage

The Township operates 125 urban stormwater management system components. Stormwater management, as a function, has as an objective to safeguard lives and properties from flooding and erosion.

Asset Overview

The Township's storm and drainage asset inventory includes drains and storm sewers estimated at a total replacement value of \$9.6 million. This is the estimated value of improvements of drain/outlet structures and does not include the value of the land upon which storm facilities are located. As shown in table below, most of the assets are estimated to be due for replacement, as 40% of current in-service assets were constructed in the 1950s or before, and the average remaining useful life is just 24% of the total estimated useful life.

Table 32 : Asset inventory – Urban Storm Systems

Asset Class	Asset Sub-Class	Replacement Value ¹⁵	Quantity / Inventory of Assets	Average Age (Years)	Useful Life of the Asset (Years)	Average remaining useful life
Storm and Drainage Assets	Stormwater drains	\$ 9,597,831	7,505 m	57	90	37%
	Associated Structures		Catch basins	231 Nos	58	90
Manholes			52 Nos	16	90	83%
Total		\$ 9,597,831		57	90	37%

Asset Condition

The condition of the Township's urban storm assets is assessed based on the remaining percentage of their estimated useful lives. The condition ratings are categorized based on the criteria detailed in Appendix A3.

Most of the Township's storm and drainage assets are rated as being in poor condition, based on their age and expected useful life. This emphasises the need for rehabilitation or replacement of these assets, along with other subsurface works, when those works are completed.

¹⁵ Replacement value determined based on its historical cost adjusted for annual inflation of 4%.

Figure 9 : Asset Condition – Stormwater

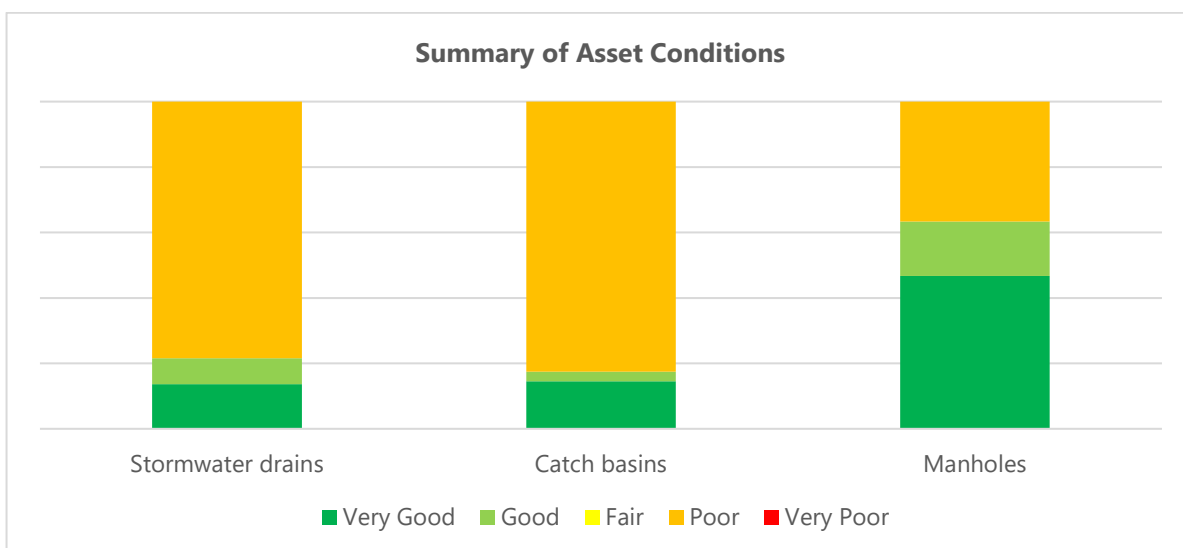


Table 33 : Community Levels of Service – Stormwater

Att	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.</i>	Stormwater services are provided through 7.5 km of storm main, mainly located on north-south rights of way in the urban area from 200 Monk St to the Lisgar St causeway.	No change.	=	Stormwater pipes are maintained and replaced when works are completed on other subsurface infrastructure.

Table 34 : Technical Levels of Service – Stormwater

Att	Technical LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Percentage of properties in municipality resilient to a 100-year storm.</i>	A thorough analysis of stormwater resilience has not been completed. Flooding of homes and properties due to rainfall has not been recorded in recent years, according to Chapleau staff.	No increase in properties flooding due to rain.	=	Maintain current performance.

Att	Technical LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Reliability	Percentage of the municipal stormwater management system resilient to a 5-year storm.	A thorough analysis of stormwater resilience has not been completed. Staff estimate the system faces capacity issues, twice per five years, for 95% overall resilience.	No change. Issues of localized storm drain overflows have been noted at the corner of Monk and Maple, near the Arena.	=	The system is approximately 95% resilient to a 1-in-5 year storm with only localized overflows. Overflows shall be reduced when sub-surface works are completed.

Lifecycle activities

Table 35 : Lifecycle Activities – Stormwater and Drain

Lifecycle Activities Table
Maintenance
<ul style="list-style-type: none"> Monitoring and visual inspections of urbanized stormwater management treatment infrastructure including but not limited to inlets, forebays, weirs, aft bays, outlets, overflows and outfalls, on a bi-annual basis (spring and fall) and after significant rainfall events Vegetation removal and cleanout Maintain conveyance infrastructure such as manholes, catch basins, ditches, culverts, and infiltration trenches CCTV inspections in response to certain incidents/ events, e.g. overflows
Rehabilitation / Reconstruction
<ul style="list-style-type: none"> Reconstruction of energy dissipation surfaces (e.g., riprap and gabions) Repair erosion around inlet structures and outlet pipes and site restoration with topsoil and hydroseeding
Replacement / Disposal
<ul style="list-style-type: none"> Replacement of undersized, dilapidated, or otherwise non-conforming storm drains and ancillary equipment when identified by a condition assessment or a drainage study.

Asset Financial Requirements

The Township intends to replace Storm sewers along with other sub-surface infrastructure replacements when completed. These works will see that all linear infrastructure is renewed during these capital works, as described further in **Section 4.6: Linear Infrastructure Investment Plan**.

Stormwater	Storm sewers, catch basins and manhole replacements	2025-2034	\$1,593,966
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4.4 Roads

The Township’s municipal road network is comprised of 30.2 kilometers of roads that connect properties within the Township to each other and other communities through connections with the Highway 129, which further gets connected to Highway 101 and the Trans-Canada highway. The road network is supported by storm and drainage infrastructure, described in Section 4.3.

Asset Overview

A summary of the Township road network and related structures is provided below. The Township’s road assets, with an estimated replacement value of approximately \$85.4 million, represents the highest value asset class in the asset portfolio. Associated structures include sidewalks and streetlights are also considered under this Asset Class.

Table 36 : Asset Inventory – Roads

Asset Class	Asset Subclass	Replacement Value ¹⁶	Quantity / Inventory of Assets	Average Age (Years)	Useful Life, est (Years)	Average remaining useful life
Roads	Wearing Surface	\$ 21,123,964	30.2 km	38	25	0%
	Subsurface and Other	\$ 54,133,828		54	75	28%
Associated structures	Sidewalks	\$ 8,228,259	6.6 km	34.8	60	42%
	Streetlights	\$ 1,904,134	Over 300	32.3	60	46%
Total		\$ 85,390,185		46	56	18%

Asset Condition

Road Network

Asset condition is identified for each asset sub-class in the table below, according to the age-based methodology described in the Appendix 0. Most roads are categorized as very poor, indicating deterioration of asset quality as these assets have surpassed their useful life.

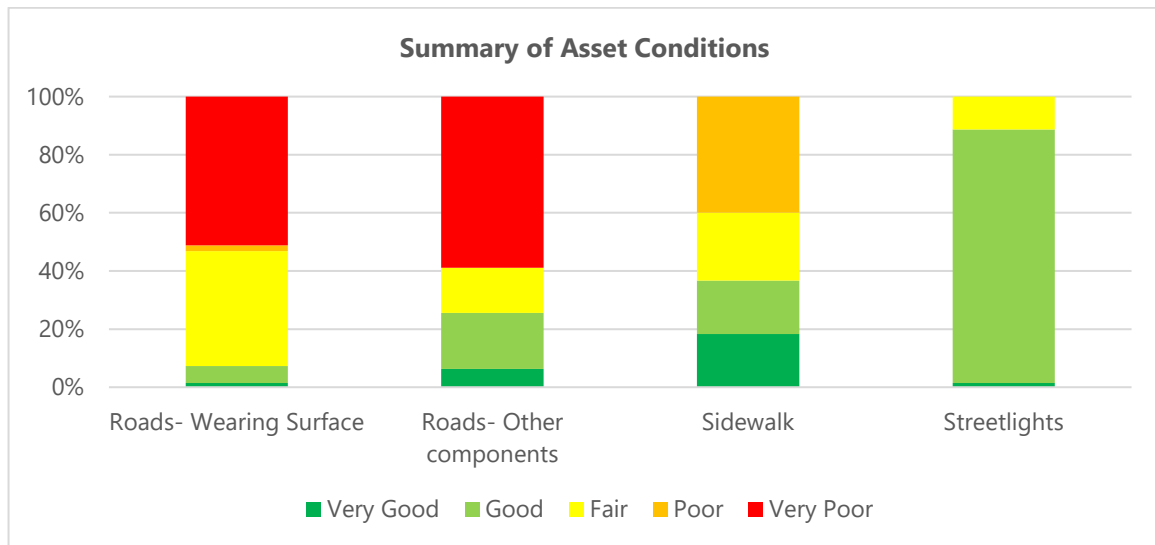
Associated Structures: Sidewalks and Street Lights

The condition of the Township’s sidewalks and streetlights are assessed based on their remaining useful lives using criteria explained in Appendix 0. About 22% of the roads have sidewalks, and 60% of these have sidewalks on both sides. There are 60 concrete sidewalks in the Township and 76% of the sidewalks were brought to service before 2000. Hence, as shown in the figure below, many of these assets are rated to be in fair to poor condition and are estimated to require further capital investment beyond routine maintenance as they age, over the coming 15 years.

More than 80% of street light assets are currently in good condition. The Township has recently completed a streetlight replacement program, and all streetlights are newer LED models. These LED streetlights may have a longer lifespan than previous models. As formal condition assessments information was not available at the time of preparation of this AMP, the age of the assets is used to determine the condition and assess rehabilitation/replacement needs.

¹⁶ Replacement values of Associated structures is determined based on historical cost adjusted for annual escalation of 4%.

Figure 10 : Asset Condition – Roads and Associated Structures



Levels of Service

Table 37: Community LOS - Roads


Att	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Description, which may include maps, of the road network in the municipality and its level of connectivity.</i>	The Township’s Road network comprises 207 roadway segments generally in a grid pattern in the urban centre. Total road length is 30.2 km. Map in Appendix.	No change.	=	Maintain current level of road network connectivity.
Quality	<i>Description or images that illustrate the different levels of road class pavement condition.</i>	<p>Gravel Road: Ash St</p>  <p>Fair road: Lorne St</p>  <p>Good road: Monk St</p> 	Road quality has typically declined over the period due to wear and age. Part of King Street’s paving was removed following subsurface works. Some road capital upgrades were completed in 2022.	Decline	<p>Road surfaces will be restored only after evaluation and upgrades to subsurface infrastructure. Road surface upgrades may be further delayed, to benefit from cost savings in a larger asphalt order.</p> <p>Paved roads in fair condition shall be maintained with pothole and crack filling as required, and gravel roads shall be graded and surface treated periodically.</p>

Table 38: Technical LOS - Roads

Att	Technical LOS (Quantitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	Number of lane-kilometers of each of arterial roads, collector roads and local roads as a proportion of square kilometers of land area of the municipality.	Total length 30.2 km (4.1 lane-km/ km ²) The Township's land area is 13.2 km ² Lane kilometers of roads by type: Collector roads ¹⁷ : 24.8 km (3.7 lane-km / km ²) Local roads ¹⁸ : 5.4 km (0.41 lane-km / km ²)	No change.	=	Retain current roadway network.
Quality	For paved roads in the municipality, the average pavement condition index value.	A PCI evaluation has not been completed. The wearing surface of paved roads are in poor condition on average, as per age-based assessment. The subsurface components of paved roads are in fair condition.	Typical decreases in road surface quality due to wear and age have been observed by Township staff.	=	Replace road surface following works on subsurface infrastructure as described. Regularly fill cracks and potholes as required.
	For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).	Unpaved roads have been maintained with graders and gravel and are in fair to good condition.	No change.	=	Continue with current maintenance of unpaved roads.

Lifecycle activities

Table 39: Lifecycle Activities - Roads

Lifecycle Activities Table
Maintenance
<ul style="list-style-type: none"> • Patching and micro-surfacing for asphalt roads. • Application of maintenance gravel/calcium chloride for gravel roads. • Resurfacing of roads to address minor surface deficiencies, road base repairs addressed in priority area as part of reconstruction.

¹⁷ Collector roads facilitate the movement of traffic between local roads and arterial roads. They typically handle moderate traffic volumes and provide access to residential areas, commercial zones, and community facilities.

¹⁸ Local Roads provide access to residential properties and local businesses, with limited through traffic. They are characterized by lower traffic volumes and speed limits.

<ul style="list-style-type: none"> • Streetlight maintenance includes changing bulbs where relevant. • Remove snow from roads and limited sidewalk snow removal during winter.
Rehabilitation
<ul style="list-style-type: none"> • Rehabilitation of roads with deficiencies in both the road surface and road base, with an intended goal to replace approximately 25% of the road base as part of the rehabilitation.
Replacement / Disposal
<ul style="list-style-type: none"> • Reconstruction of roads with deficiencies. Current service levels do not include full removal and replacement of both the road surface and base unless sub-surface infrastructure is also being replaced. Projects for full roadway replacement may be determined as necessary by staff. • Replacement of streetlights and poles based on their condition, material, and age.

Asset Financial Requirements

The Township has elected a strategy where roadway surface and sub-surface improvements will occur following major upgrades to storm, sanitary, and water pipes and related infrastructure under the roadway. Please refer to **Section 4.6** for the Roadway rehabilitation needs as part of this asset management plan. The estimated Road replacement component as part of these works is:

Roads	Roadway replacements and upgrades	2025-2034	\$10,700,100
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4.5 Bridges and Culverts

The Township has a total of 4 bridges and 1 culvert with a span of over 3 meters. Most span watercourses or ditches, while some span railways. These assets serve dual purposes: facilitating citizens' movement to all areas within the Township and providing for water flow and drainage throughout the area. Guiderails and retaining walls, which are often co-located with bridge and culvert structures, are also addressed in this section of the AMP.

Asset Overview

The Township undertakes bi-annual inspections of bridges and culvert structures as required through the Ontario Structure Inspection Manual (OSIM). The most recent inspection report was completed in 2023 for which site inspections were conducted using OSIM standards for the 4 bridges.

For this AMP, the Township has adopted useful lives of bridges as 80 years and culverts as 45 years. As noted in Table below, the Township's bridge assets have not exceeded their useful life.

Table 40 : Asset Inventory – Bridges and Culverts

Asset Class	Asset Sub-Class	Replacement Value ¹⁹	Quantity / Inventory of Assets	Average Age (Years)	Useful Life of the Asset (Years)	Average remaining useful life
Bridges and Culverts	Bridges	\$18,665,081	4 Bridges	50	75 ²⁰	33%
	Culverts	\$90,338	1 Culvert	14	45	69%
Associated structures		\$473,986	Guiderail and Exp Joint	8	40	80%
Total		\$19,229,406		49	74	34%

Asset Condition

Bridges and Culverts

The Township conducts regular, biennial inspections of 4 bridge structures, with each structure inspected every alternate year. These inspections are conducted in accordance with OSIM, per Ontario Regulation 104/97, "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."

The results of the inspections are weighted to provide Bridge Condition Index (BCI), which determines the timeline of required maintenance works. The BCI has been determined based on the Ministry of Transportation Ontario methodology, with a new structure having a BCI value of 100, which declines over time. Monitoring this rate of decline against the anticipated rate of decline helps the Township in long term planning. The ranges for BCI value are identified in the table below.

¹⁹ Replacement value determined based on its historical cost adjusted for annual inflation of 4%

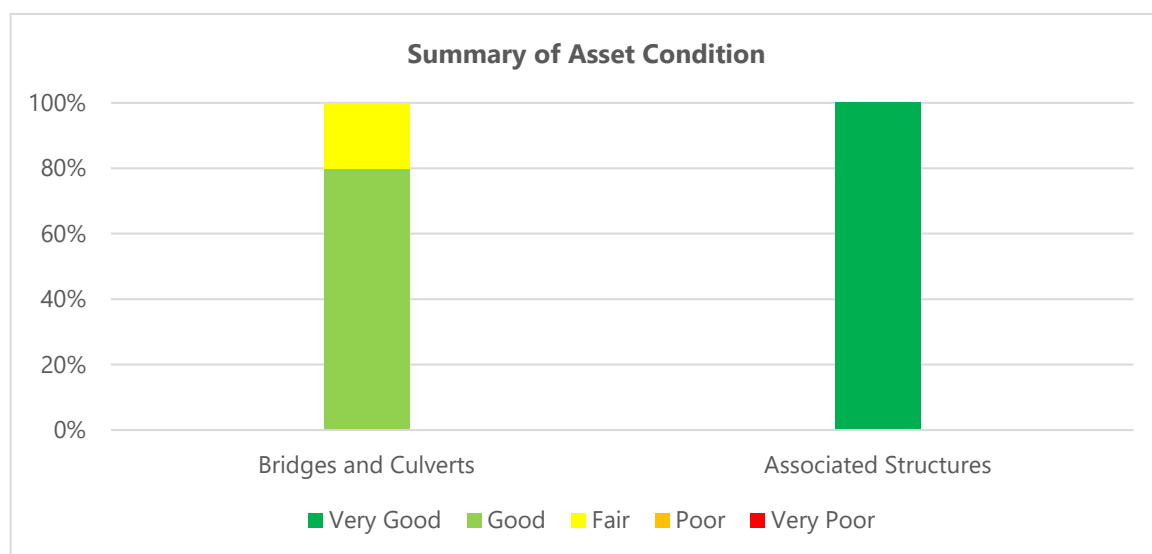
²⁰ Although the Township estimates the useful life of most bridges as 80 years, the weighted average comes to 75 because of the useful life of Cedar Bridge

Table 41 : BCI Ranges – Bridges and Culverts

Condition	BCI	Description
Good	70-100	It indicates that structure is in good to excellent condition. Repair and rehabilitation are not really required in the next 5 years. However, routine maintenance is recommended.
Fair	60-70	It indicates that structure is in good to fair condition. Repair and rehabilitation should ideally be completed in the next 5 years.
Poor	Less than 60	It indicates structure is nearing the end of their service life. Repair and rehabilitation should ideally be completed within a year

The results of recent inspections resulted in the profile for current conditions of Township bridge assets as presented in the 2023 OSIM Bridge Inspections Report prepared by Tulloch Engineering Inc, as shown the figure below. These condition ratings were applied to the Bridges and Culverts asset conditions shown in the graph below. Associated structures, however, are evaluated using the age-based condition assessment system described in Appendix A3.

Figure 11: Asset Condition – Bridges



The report confirms that the structures are in good condition and does not require any replacement in the next 10 years. However, general maintenance and repair/ rehabilitation will be required to reduce the deterioration of the structure.

For the culvert and associated structures, age-based methodology described in the Appendix 0 was performed to assess conditions of the structures. As per the TCA reporting, the culvert is in good condition based on the on the remaining percentage of their estimated useful lives, indicating that only general maintenance and repair is required. The associated structures - guiderails and expansion joints (one asset each) are in very good condition indicating the assets will only require general replacement/ repair to maintain the assets.

Levels of Service

Bridges and culverts are required for safe transportation and for safe conveyance of stormwater and natural watercourses. O.Reg 588/17 provides the following metrics for levels of service for bridges and culverts:

Table 42 : Community LOS– Bridges and Culverts

Att	Community LOS (Qualitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).</i>	The Monk and Lisgar St bridges serve heavy transport vehicles including logging, as well as pedestrians and cyclists. The Pedestrian, Cedar St. Bridge, and Buciarelli Culvert serve pedestrians, cyclists, and local light traffic.	No change.	=	Maintain current traffic supports on existing bridges.
Quality	<i>Description or images of the condition of bridges and how this would affect use of the bridges and culverts</i>	The Township has 4 bridges and 1 culvert for the movement of passengers and goods. Images and further descriptions are provided in the Appendix.	No change. The two main traffic bridges are Monk St. and Lisgar St., which are roughly at the midpoint of their lifespan.	=	Maintain current bridges and begin planning for end-of-life or works that can extend the lives of current bridges.

Table 43 : Technical LOS– Bridges and Culverts

Att	Technical LOS (Quantitative)	2019 Performance Estimate	2024 Performance Estimate	Trend	Target Performance
Scope	<i>Percentage of bridges in the municipality with loading or dimensional restrictions.</i>	Cedar Street Bridge has loading restrictions.	No change.	=	Same as current.
Quality	<i>For bridges and culverts in the municipality, the average bridge condition index value.</i>	The average values of the 4 bridges are provided below: BCI – 71 BSI - 67	No change.	=	Same as current.

Lifecycle activities

Table 44 : Lifecycle activities – Bridges and Culverts

Lifecycle Activities – Bridges and Culverts
Maintenance
<ul style="list-style-type: none"> • Annual routine maintenance carried out by Township staff, including cleaning winter sand and salt off bridges. • Periodic maintenance as needed, such as replacing missing railing end caps and corroded bolts, removing graffiti on abutment walls, etc., routing and sealing surface cracks.
Repair/ Rehabilitation
<ul style="list-style-type: none"> • Recommended repairs for bridges include replacing damaged junction box covers and abutment bearings, damaged and missing timbers in the deck top/ wearing surface, repairing damaged joint seal, deteriorating piles and cracks on pedestrian ramps etc. It also includes patching concrete spalls in girders, sidewalks and wingwalls, etc. • Bridges and culverts that are deemed to be suitable for rehabilitation by a qualified engineer and require major improvements to serviceability, may be rehabilitated in accordance with an appropriate study to extend their service life. Bridges and culverts inspected with a BCI of 40-60 may be candidates for rehabilitation.
Disposal / Replacement
<ul style="list-style-type: none"> • Bridges and culverts that are no longer serviceable for the public (e.g., due to load restrictions or other safety constraints), but are required based on traffic or other needs, may be replaced following an appropriate engineer’s assessment, feasibility studies, design, and procurement. Bridges and culverts inspected with a BCI below 40 may be candidates for replacement. • Bridges and culverts which are no longer required, as determined by traffic flows, a transportation study, or a drainage study, may be removed in accordance with Township asset disposal processes.

The 2023 OSIM Bridge Inspections Report outlines Bridge Sufficiency Index (BSI) in addition to BCI. BSI values incorporate socioeconomic factors to refine the assessment. These factors include Detour length, Average Annual Daily Traffic (AADT), economic importance of the roadway. Bridges with larger differences between BCJ and BSI values are deemed more critical for the Township’s operation.

Overall Financial Requirements

The 2023 OSIM Structure Inspections Report provides details on the capital requirements for bridges. The estimated total cost for bridge and culvert related capital works from 2025-2034 is \$581,000. A further budget of \$230,000 is recommended by the report for maintenance, related to bridges and culverts. This results in a combined total annualized capital requirement of \$81,100.

The 2023 OSIM Report outlines the following priority projects for bridge maintenance and repairs. Key expenditure requirements per asset are estimated as follows:

Table 45: Major Capital Works – Bridges

Sub-Class	Requirements	Year	Estimated Cost
Bridges	Monk Street Bridge - Repair	Before 2030	\$107,000
	Lisgar Street Bridge - Repair	Before 2030	\$87,000
	Cedar Street Bridge - Repair	Before 2030	\$86,000
	Pedestrian Bridge - Repair	After 2030	\$301,000
Total	Bridges - Repairs	2025-2034	\$581,000

4.6 Linear Infrastructure Investment Plan

In addition to the specific rehabilitations and repairs identified in the Water, Sewer, Storm, Roads, and Bridges and Culverts section of this Asset Management Plan, the Township of Chapleau has identified a set of roadway segments that are the Town's top priorities for complete rehabilitation and replacement of road and infrastructure assets over the planning period.

Table 46: Very High Priority Projects – Linear Infrastructure

Area	Road Name	Segment	Discussion and Risk Priority
Chapleau West	Dufferin St.	Elm to Maple	Aged vulnerable sanitary forcemain with recent break. Potential hydrocarbon contamination
	Elgin St.	Teak to Ash Ash to Maple	Aged vulnerable sanitary forcemain. Aged vulnerable sanitary forcemain, substandard watermain size, poor storm drainage requiring increased maintenance.
	Queen St. Ash St. King St.	Queen: Teak to Ash Ash: Queen to King King: Ash to Maple	Substandard WM size, higher frequency of watermain breaks & wastewater flow restrictions requiring increased maintenance. Substandard watermain size. Substandard WM size & higher frequency of watermain breaks.
Chapleau Central	Birch St.	Young to Lorne	Land use type (downtown core) - Economic driver.
	Lorne St.	Birch to S End	Potential hydrocarbon contamination, substandard watermain size, poor storm drainage requiring increased maintenance.
Chapleau East	Pine St.	Lisgar to Connaught	Poor storm drainage requiring increased maintenance, substandard watermain size, sanitary sewer capacity limitations.
	Aberdeen St.	N End to Cedar	Wastewater flow restrictions requiring increased maintenance. Watermain break.
	Cherry St. Grey St.	Grey to N End Pine to Cherry	Substandard WM size & wastewater flow restrictions requiring increased maintenance.
	Minto St.	Pine to Riverside	Substandard WM size.
	Laneway no. 5	Aberdeen to Grey	Wastewater flow restrictions requiring increased maintenance & sanitary across private properties (no known easement).

The descriptions in the table above are drawn from the AECOM linear assets prioritization memo. Subsurface replacement works have been completed along King Street to replace failed water pipes, however, replacement of other assets and surface works must be completed.

With major works to be completed on remaining assets, these segments of roadway and subsurface works remain the Township's top priorities for linear infrastructure repairs and replacements since they were identified in 2019.

Table 47: Capital Works Estimate – Linear Infrastructure

Area	Segment Upgrades Required	Roads Estimate	Water Estimate	Sewer Estimate	Storm Estimate	Estimated Total
Chapleau West	Dufferin St. Elm to Maple	\$264,540	\$312,651	\$420,015	\$195,618	\$1,192,824
	Elgin St. Teak to Maple	\$1,778,187	\$891,839	\$875,399	\$200,155	\$3,745,581
	Queen St, Ash St, King St. Teak to Maple	\$1,474,258	\$986,867	\$724,629	None	\$3,185,754
Chapleau Central	Birch St. Beech to Lansdowne	\$1,160,315	\$340,510	\$275,574	\$225,453	\$2,001,852
	Lorne St. Birch to S End	\$1,673,501	\$839,870	\$585,449	\$355,897	\$3,454,717
Chapleau East	Pine St. Lisgar to Connaught	\$787,585	\$434,533	\$141,368	None	\$1,363,486
	Aberdeen St. N End to Cedar	\$2,080,583	\$761,380	\$718,093	\$495,721	\$4,055,776
	Cherry St. Grey St. Pine to N End	\$1,160,900	\$787,403	\$305,974	\$121,122	\$2,375,400
	Minto Street Pine to Riverside	\$259,001	\$319,688	\$223,229	None	\$801,919
	Laneway no. 5 Aberdeen to Grey	\$61,231	None	\$74,649	None	\$135,880
Total	All Projects	\$10,700,100	\$5,674,743	\$4,344,378	\$1,593,966	\$22,313,187

5 Financial Strategy

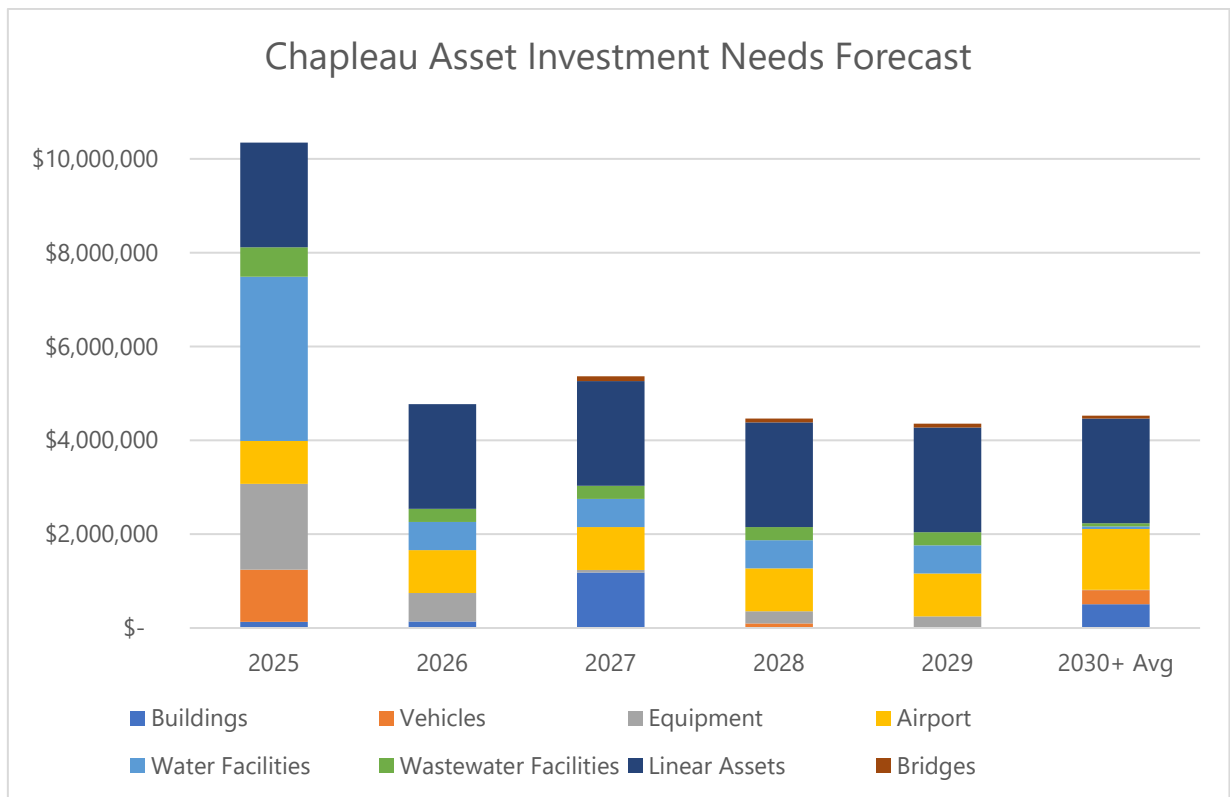
This AMP provides estimated reinvestment needs for each category of municipal tangible capital assets over a 10-year planning horizon, to deliver the services expected by its communities and stakeholders. As part of its approach to asset management and compliance with the Ontario regulation, this analysis has been undertaken for core and non-core assets.

Investment needs identified throughout this document generally pertain to asset rehabilitation and renewal, as well as specific capital projects for infrastructure expansion identified at the time of publication. Further evaluation of asset condition, performance, level of service, and risk data, as part of continuous improvement of asset management processes, will continue to improve the quality and reliability of these financial projections.

The municipality reviews its 10-year Capital Budget every year, as it prepares its annual budget. As the municipality continues to refine its data, information, and approaches to asset management planning, it may continue to refine its expenditure forecasts and plans considering each year of the 10-year asset planning period.

5.1 Annual Asset Investment Needs

Analysis of each asset class shows an annual investment requirement for the Township that ranges from a low of \$4.7 million per year projected in 2029 to a high of \$10.4 million in 2025, due in part to key asset rehabilitation and replacement that is past due. While Township staff have taken efforts to defer required maintenance to reduce the immediate burden on the municipality, the Township has a list of service requirements for the water treatment plant, as well as replacements for ageing vehicles and equipment that should be addressed when possible.



Note: 2030 values are shown as the *annual average* of expenditures over the 5-year period from 2030 to 2034 inclusive.

Across all asset classes, the investment profile for the coming 10 years is as follows:

	2025	2026	2027	2028	2029	2030-2034
Buildings	\$133,479	\$139,185	\$1,180,739	\$-	\$-	\$2,545,201
Vehicles	\$1,110,000	\$-	\$-	\$100,000	\$-	\$1,475,290
Equipment	\$1,681,395	\$606,395	\$56,395	\$256,395	\$246,395	\$299,975
Airport	\$913,688	\$913,688	\$913,688	\$913,688	\$913,688	\$4,568,440
Water Facilities	\$3,496,000	\$604,000	\$604,000	\$604,000	\$604,000	\$295,600
Wastewater Facilities	\$634,000	\$275,000	\$275,000	\$275,000	\$275,000	\$335,800
Linear Assets	\$2,231,319	\$2,231,319	\$2,231,319	\$2,231,319	\$2,231,319	\$11,156,594
Bridges	\$-	\$-	\$107,000	\$87,000	\$86,000	\$301,000
Annual Total	\$10,480,058	\$5,149,764	\$5,748,318	\$4,847,579	\$4,736,579	\$22,878,784

5.1.1 10-Year Capital Funding Needs

The table below shows the 10-year projected capital funding needs for all asset types from 2025-2034, based on activities listed in this AMP. The funding requirements are determined based on the Lifecycle Activities listed in each section of the report, which have been identified as required to maintain and uphold the Levels of Service objectives identified for each asset class. Actual expenditures on capital projects may differ, depending on the capital budget of the municipality and available external sources of funding including grants and loans.

Table 48: 10-Year Capital Funding Needs by Asset Category

Asset Category	Asset Replacement Value	10-Year Funding Requirement	Annual Reinvestment Rate
Buildings	\$32,955,070	\$3,998,604	1.21%
Vehicles	\$3,263,786	\$2,685,290	8.23%
Equipment	\$4,023,054	\$3,046,950	7.57%
Airport	\$18,231,037	\$12,036,199	6.60%
Water Facilities	\$18,880,548	\$7,930,000	4.20%
Wastewater Facilities	\$10,505,824	\$3,413,000	3.25%
Linear Assets	\$142,548,676	\$22,313,187	1.57%
Bridges	\$19,229,406	\$581,000	0.30%
Total	\$249,637,401	\$56,004,230	2.24%

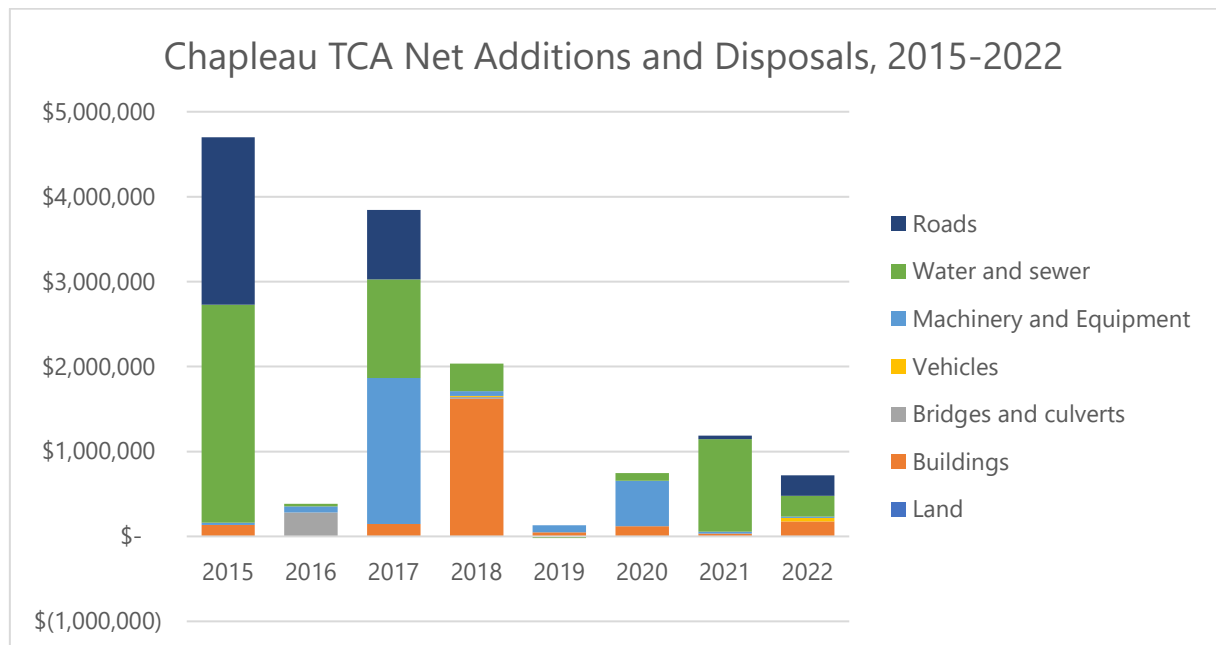
With a 10-year funding requirement of \$56.0 million, the annualized capital expenditures of **\$5.6 million** is equivalent to an annual reinvestment rate of **2.24%** of the estimated replacement value of the municipality's asset portfolio. Municipalities typically spend a proportion of their total asset portfolio value in annual asset-related expenditures per year, with real expenditures depending on the age and condition of the assets. The generally accepted rule of thumb is that approximately 2% of the total asset portfolio value should be spent on O&M each year – recognizing that variances to this

amount will exist to account for different environmental factors, such as usage rates, materials used, average age of the portfolio, and other factors affecting deterioration and condition of the assets.

In years when planned capital projects do not exceed the projected annual budgetary requirement, or external funding sources are available to offset project costs, the remainder of the unspent capital budget should be moved into a reserve. This will help to pay for expenses incurred in years when projected costs will be higher than the average.

5.2 Financial Context and Considerations

According to the Township’s financial statements, investment in tangible capital assets has varied in recent years, from a low of \$110,561 in net new additions in 2019 to a high of \$4.7 million in 2015. From 2017 to 2022, five-year average for net investments was \$959,052 in capital expenditures, net of disposals and write-downs, annually.



The chart above shows annual additions to the Township’s capital register since 2015, according to asset type. Township staff note that major investments in infrastructure, notably in 2015, 2017, 2018, and 2021, took place when grants, loans, or donations were available to financially support capital projects. These figures give demonstrate the range of funding allocated to asset lifecycle projects by category over recent years, given these diverse historical sources of funding.

Specific sources of funding for asset investments over this timeframe include:

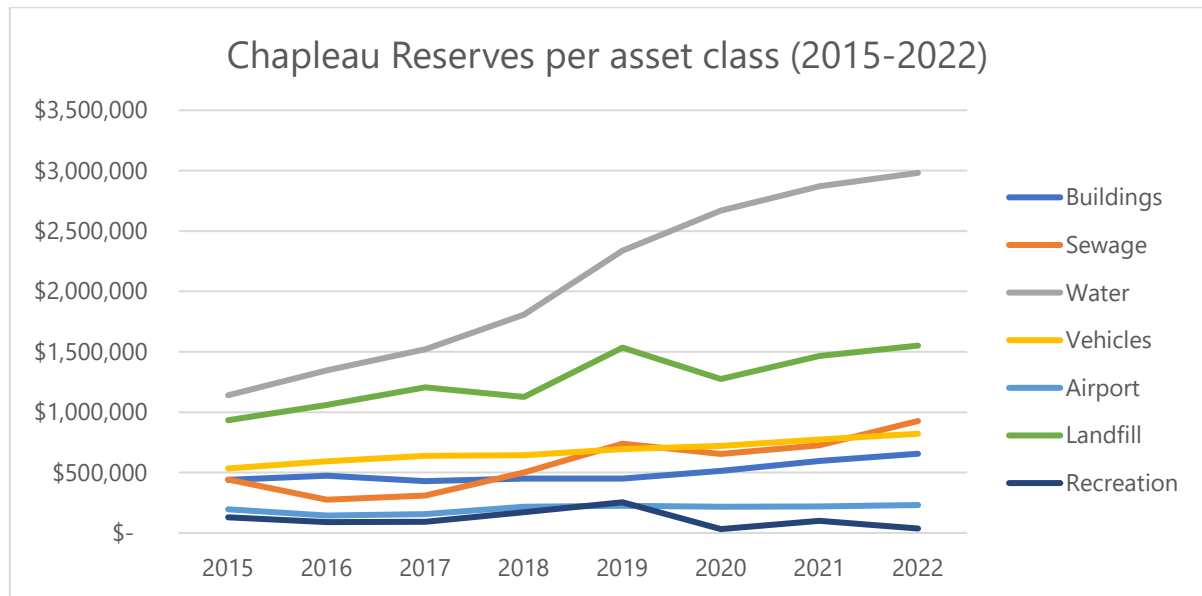
- In 2015, a grant for roads and subsurface works, valued at approximately \$2.0m
- In 2017, a loan for roads and subsurface works, valued at approximately \$1.5m
- In 2018, grants and donations for upgrades to the Arena, of approximately \$1.6m
- In 2021, a grant for upgrades to wastewater treatment, of approximately \$0.6m

Broadly since 2006, water and sewer infrastructure has represented the largest area of investment for the Municipality, amounting to \$7.2 million or 47% of total capital spending. Transportation (road) infrastructure comprised the next largest component of capital expenditures, amounting to \$5.4 million or 35% of total spending.

5.2.1 Reserve Funds

The municipality has made significant contributions to its financial reserves since 2015. Most of this investment has gone into reserves for water assets; airport and recreation asset reserve values have

remained relatively consistent. The graph below demonstrates the increase in value of specific reserve funds over the timeframe from 2015 to 2022, per the Township’s financial statements:



Over the timeframe, on average, the value of all Township capital reserve funds together increased by an average of \$492,618 per year from 2015 to 2022. This includes contributions and income from interest and is net of transfers from reserves for project costs incurred during that timeframe. Reserves for water infrastructure have grown at the fastest rate and by the largest amount, increasing to almost \$3 million in 2022. Other reserves have grown at lower rates or remained stable, indicating lower contributions and/or withdrawals for those asset types over the period.

The Township asserts that it must maintain and expand the value of its reserves to strategically be able to pay for current and identified future infrastructure needs. The total value of reserves, as of the 2022 financial statement, is \$8,067,044. Given its location and operating context, a certain amount of capital reserve funding must always be available to cover emergencies, which may have significant financial cost. Furthermore, reserve funding may be accumulated over several years to fund projects with a value greater than what the Township is able to afford through general revenues in a single year. Finally, reserve funds may be held until they can be used strategically as the Township’s contribution to specific capital projects when matching funding is available from other sources.

5.3 Funding Strategies

The annual investment requirement forecasts the municipality’s infrastructure needs over the coming 10-year period. A comprehensive financial plan will allow the municipality to fund the repair, rehabilitation, and renewal of its asset base as it ages and breaks down.

The asset classes being examined are funded from different revenue sources with respect to capital project funding. Structures, roads, buildings, fleet assets and stormwater infrastructure are tax-supported assets. The municipal share of capital costs for these assets is derived from the general tax base. Water and wastewater are funded through the collection of charges assessed to only those properties that receive service.

Other sources of funding for infrastructure projects could include senior government grant contributions, development charge contributions, and reserves. Under O. Reg 588/17, the municipality must demonstrate internal capacity to provide all funding towards future asset replacement and rehabilitation needs. Given the limited size of the community and current revenues, the Township emphasizes the need to raise funds from external sources to complete the activities identified in this plan.

As a broader strategy, the Township may consider economic diversification, targeting growth in commercial and industrial development (such as tourism and mining) to expand potential municipal revenue streams. Growth in the local economy may expand the value and number of properties contributing to annual revenues, increasing the municipality's ability to pay for operations as well as those expansions and replacements of ageing infrastructure.

External Sources of Funding

External funding, such as Federal and Provincial infrastructure project grants, assist the municipality to address specific project funding needs and are regularly called upon by the municipality to support the types of projects identified in this AMP. Where possible, the municipality will leverage external funding to increase the value obtained by local taxpayers. In some instances, Federal, Provincial, and other external funding programs may pay a significant portion of eligible project costs, reducing the Township's financial obligations to a project, thereby retaining reserve funds for future initiatives.

However, the Township has also observed that current infrastructure funding programs, such as Ontario's Municipal Housing Infrastructure Program and Housing-Enabling Water Systems Fund, have tied infrastructure rehabilitation funding specifically to enabling new housing development. New housing is not an objective in Chapleau currently. For that reason, the Township is finding it increasingly difficult to access grant funding to support its identified infrastructure replacement needs.

Furthermore, external funding sources are often available for short time periods for specific initiatives, and typically have specific requirements to secure and maintain the funding. To make use of these funds, the Municipality lists projects with outstanding community, environmental, social, cultural, or economic benefits that may be candidates for future funding programs.

The following are options that have been used by neighbouring municipalities towards addressing their infrastructure needs and that may be considered for the Township of Chapleau:

- Federal Economic Development Agency for Northern Ontario (FedNor)
- Northern Ontario Heritage Fund Corporation (NOHFC) – Community Enhancement Program
- Housing and Infrastructure Canada – Investing in Canada Infrastructure Fund - Rural and Northern Communities Infrastructure Stream ([example projects](#))
- Green Municipal Fund – [Climate Ready Plans and Processes](#) and 2025 Capital Financing
- Canada Community Building Fund (CCBF): [Regional and Local Airports Stream](#)

Funders may require further analysis of specific projects as part of an application to qualify for funding. Funding amounts may be limited. In many cases, funding programs also require applicants to demonstrate capabilities in effective planning and financial management. The AMP provides a critical means to demonstrate understanding of municipal assets, services, community priorities, and abilities to assess these needs.

Asset Maintenance and Rehabilitation Funding

The Township may implement additional revenue streams locally to supplement its internal capital budget. While most annual expenditures in this AMP relate to asset renewal, certain revenue streams may be implemented to support the full asset lifecycle. These revenue streams may be considered on a case-by-case basis as they apply to the Township's capital asset needs.

Dedicated Stormwater Management Funding

The assets that support stormwater management in Chapleau have a total estimated replacement value of \$9.6 million, with an estimated annual expenditure requirement of at least \$159,000. Historically, funding for the stormwater management program has come through property taxes, which puts it in competition with other essential municipal services for limited resources of tax levy

funding. Many municipalities in Ontario and Canada have adopted a designated stormwater user rate to address funding challenges around stormwater management.

As a user fee, a stormwater rate would charge the property owner based on the approximate amount of stormwater runoff generated by the property. It could also lead to incentives for property owners to reduce the amount runoff and/or pollutants that they create, potentially reducing future infrastructure needs. Additionally, by having a separate fee, stormwater infrastructure would have a designated funding source allowing the municipality to build towards a sustainable funding level based on actual needs.

In the context of increasing storm intensity or duration projected under future climate scenarios, and incidences of localized flooding, a dedicated funding stream in the form of stormwater levies on serviced properties may assist in improving the quality of stormwater management assets. This may improve the conveyance of stormwater, reducing incidences of flooding and building resilience to intense storms over time. If directed by Council, the municipality may conduct further study on the risks and benefits of adopting a stormwater rate, prior to adopting such a fee structure.

Capital Levy

To address specific infrastructure requirements or maintain service levels, some municipalities have implemented special capital levies or special infrastructure levies. Chapleau had a capital levy in place for a period. Chapleau may seek to renew its capital/infrastructure levy to support annual capital expenditures, with variable charges per year approved by Council in response to identified capital needs in that year.

Capital Reserve Contributions

Chapleau has historically contributed regularly to its Capital Reserves and used funds from the reserves to pay for infrastructure investment and repair projects. On further evaluation, the Township may determine a target value for its reserves to build up fund for projects and to cover needs in an emergency. It may then direct its historical contributions to reserves to serve as committed capital contributions to provide for in-year rehabilitation and replacement of assets, according to the investment plan outlined in this document.

Debt Financing

The Ministry of Municipal Affairs and Housing regulates the amount of debt that municipalities may carry by setting an annual repayment limit of 25% of a municipality's net own source revenues. Staff monitor debt limits according to municipal debt management policies and practices.

Chapleau has historically raised approximately \$2m in debenture funding with a 10-year repayment period, with repayment funded by local taxes and levies. This debenture is maturing during the 5-year planning period of this AMP. Once the current loan is repaid, the Township will examine its priority projects and the conditions for financing those projects with new debt.

Overall, debt financing is limited to circumstances when prudent, approved under appropriate regulations, and in line with Township financial and debt management priorities.

6 Continuous Improvement

This AMP identifies current practices and strategies in place to manage public infrastructure. This section makes recommendations as to how the processes involved in asset decision-making may be further refined. Through the implementation of sound asset management strategies, the Township can continue to improve its approach to managing public infrastructure, supporting the sustainable delivery of municipal services.

Key activities that would support asset management improvement in Chapleau include:

- **Software and data management:** The municipality's TCA spreadsheet consolidates information, however maintenance of such a dataset is an ongoing challenge, while a diverse set of condition and performance documentation provides key inputs to asset management. Developing a common approach to data management, through dedicated asset management software or centralized spreadsheets and templates, may help maintain reliable asset data.
- **Data collection:** Continue to gather asset data, especially condition data on assets of concern. The municipality currently has limited condition data documented in its TCA register for specific assets, especially sub-surface assets. More complete condition assessments of all assets will help to prioritize interventions and improve the quality of expenditure forecasts.
- **Data validation:** Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets, e.g. vehicles, accordingly.
- **Risk management:** Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies. A common approach to model risks should be implemented and reviewed on a regular basis, to adjust risk-based asset needs according to a current and considered evaluation of the probability and consequences of asset failure;
- **Levels of Service:** Continue refining Levels of Service criteria and measuring current levels in accordance with the metrics that the Township has established in this AMP. Additional metrics can be established to refine inputs and objectives for asset management planning. These may, for example, identify thresholds or trigger points for asset expansion or replacement.

Next Steps for Asset Management

Activities that the municipality will consider in the coming years include:

Data Storage: The municipality may consider options for data management including dedicated software or updated, refined spreadsheets, to centralize and maintain reliable asset data.

Refining Target Levels of Service: Chapleau will need to further refine how it uses community input and municipal strategic plans to set current and target Levels of Service performance within the AMP. A process for community consultation, which may be aligned with other municipal outreach and strategic planning efforts, will help to discern what the community expects for service levels, whether existing measures are sufficient, and what the municipality would like to commit to deliver.

Annual Financial Forecasts: As data and information on assets and LOS improve, the Township will be able to further refine its cost projections to identify realistic annual expenses for each asset category, over the coming 10-year period. Financial forecasts that include expenditures in individual years will further help the municipality to anticipate and plan for asset maintenance, rehabilitation, and expansion costs.

7 Conclusion

Chapleau operates a diverse range of assets in support of critical services and quality of life for its residents. Many of these assets were installed when the Township was first built, and challenges exist related to assets that have exceeded their useful life or need expansion or replacement to meet evolving demand. This Plan identifies key areas of focus, including the need for increased investment in infrastructure renewal and the importance of continuing to adopt a proactive, rather than reactive, approach to asset management.

Sustainable and resilient infrastructure is essential for supporting the community's long-term economic, social, and environmental goals. Attention to the role that municipal capital assets play in delivering services to residents will emphasize the importance of maintaining, renewing, and replacing these assets in a timely and cost-effective manner.

As the municipality moves forward, the next step will be to commit to delivering on the capital investments required to maintain municipal infrastructure, and to continue improving on asset data and asset management approaches. This will help the community move toward prioritizing projects based on their impact on service delivery and their alignment with community's goals. This will also help anticipate funding requirements and assist with implementing projects in a timely and efficient manner.

Ultimately, asset management offers a means to build a stronger, more resilient community. Following the asset management plan will build confidence that public infrastructure needs are being attended to and that the community's needs will continue to be served well, now and into the future.

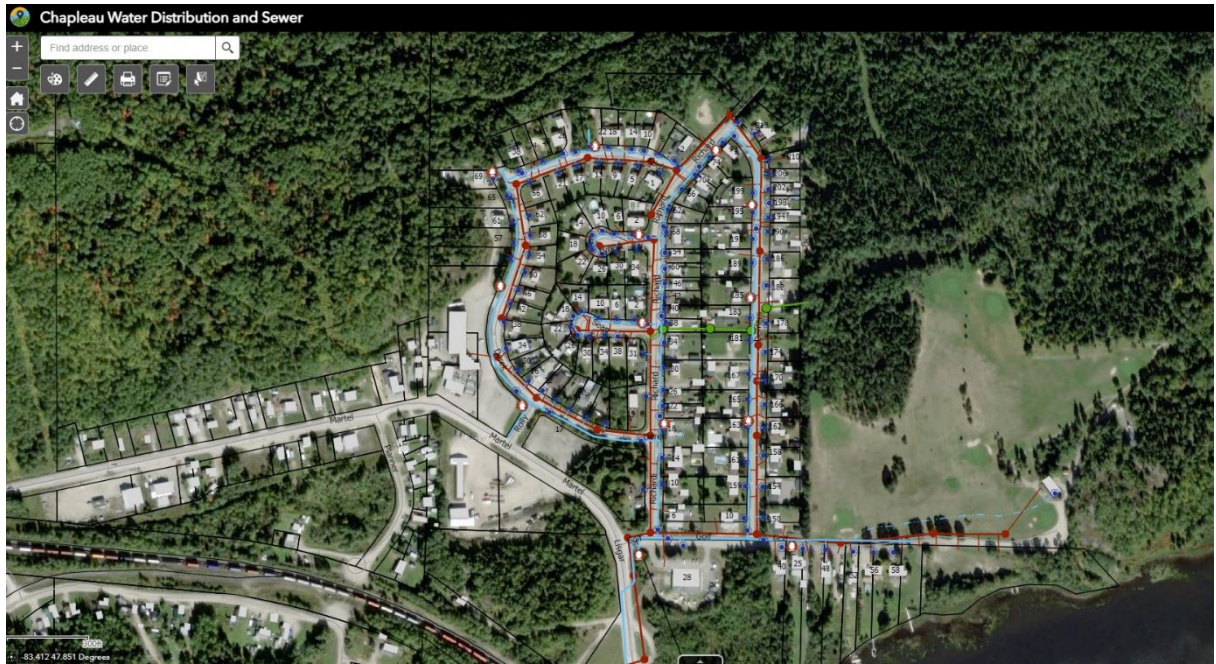
Appendices

Appendix A1: Service Area Views

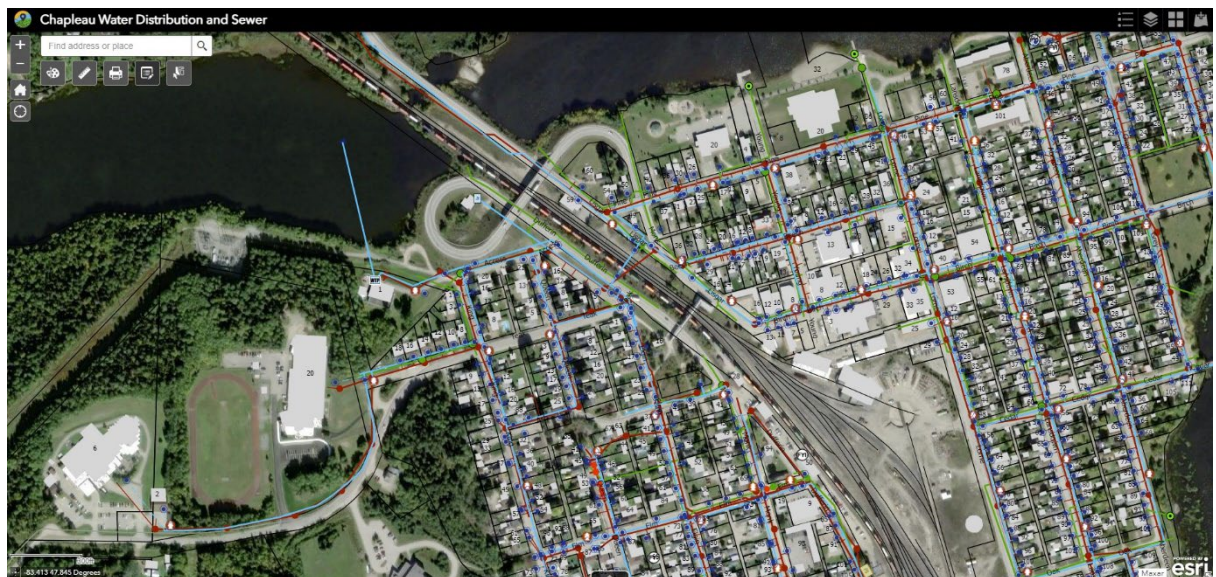
The following map views demonstrate the extent of water, sewer, and storm services within Chapleau.

- Water pipes are shown in blue
- Sewer pipes are shown in red
- Storm pipes are shown in green

North Shore Area



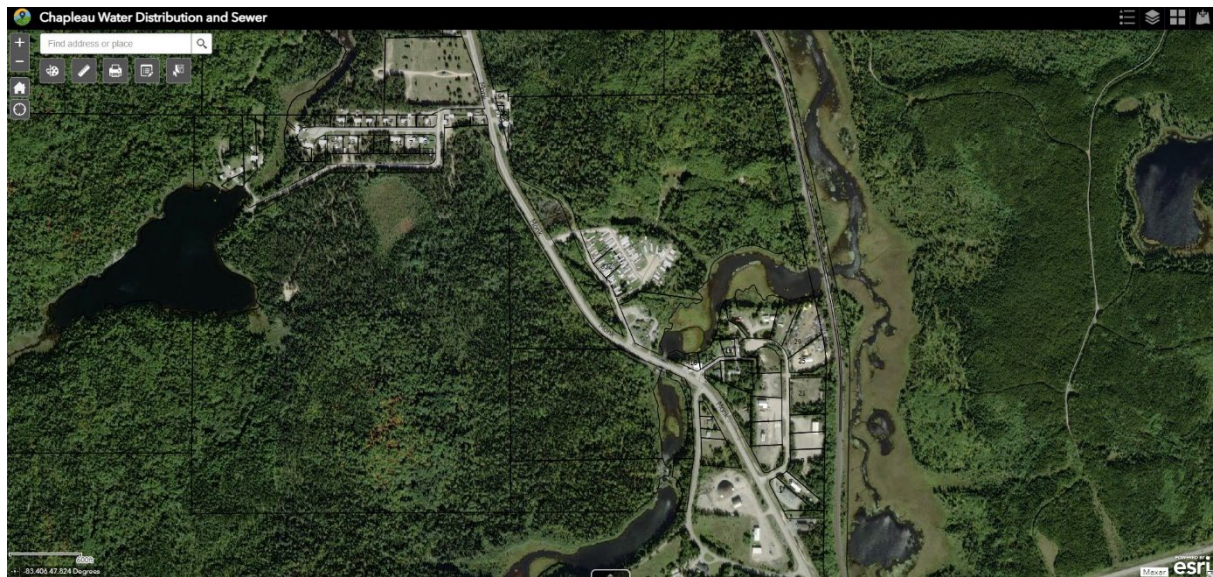
Downtown – West Side



South of Downtown



South End



Appendix A2: Data Sources

The following data sources were used to report on asset condition and lifecycle information for each asset class in this AMP:

Asset Class	Key Documents	Asset Condition	Lifecycle and Financial
Water, Sewer and Storm	<ul style="list-style-type: none"> Township of Chapleau, Water and Wastewater Facilities Condition Assessment – Risk Assessment Supplement. AECOM, 2019. Linear Assets Replacement Prioritization Memo. AECOM, 2019. 	Age-based	Based on TCA, risk assessment, and prioritization memo
Roads	<ul style="list-style-type: none"> Linear Assets Replacement Prioritization Memo. AECOM, 2019. 	Age-based	Based on TCA
Bridges & Culverts	<ul style="list-style-type: none"> Structure Inspection Report. Tulloch Engineering, January 2024 Update. 	Based on inspection report	Based on inspection report
Buildings	<ul style="list-style-type: none"> Chapleau Recreation Centre, Structural Inspection Report. Tulloch Engineering, 2018 Chapleau Civic Centre, Building Condition Report. 360 Architecture, 2019. TCA Spreadsheets and Township commentary. 	Age-based	Based on TCA
Vehicles	<ul style="list-style-type: none"> TCA Spreadsheets and Township commentary. 	Age-based	Based on TCA
Equipment	<ul style="list-style-type: none"> TCA Spreadsheets and Township commentary. 	Age-based	Based on TCA
Airport	<ul style="list-style-type: none"> Chapleau Airport Facilities Assessment. WSP, 2024. 	Age-based	Based on study

In addition, the Township's Tangible Capital Asset inventory and its financial returns from 2015-2022 were used as a reference for all assets, to validate and improve on the data included in this AMP.

Appendix A3: Asset Condition and Estimated Useful Life Approach

Asset conditions identified in this report are based on available condition assessment data included within relevant municipal asset evaluations and reports on those assets, as listed in the Data Sources table in Appendix A2.

For those asset categories in which a current, reliable assessment of asset condition was not available during the preparation of this AMP, the condition of those assets was estimated by the age of the asset relative to its estimated useful life.

The asset's remaining useful life is calculated as a percentage, using $(\text{Useful Life} - \text{Current Age}) / (\text{Useful Life})$. For example:

- An asset procured and delivered in 1994 is recorded as 30 years old in 2024
- Its expected useful life is estimated to be 50 years
- The remaining useful life is calculated as $(50 - 30) / 50 = 40\%$
- This equates to $(50 \text{ years} - 30 \text{ years}) = 20 \text{ years}$ remaining, out of a total expected useful life of 50 years, for 40% remaining useful life

The remaining useful life is then used to assess current asset condition.

The following table ascribes condition ratings based on that useful life calculation, which are used in the asset condition information sections of those asset classes:

Condition Rating	Remaining useful life (%)
Very Good	More than 75%
Good	50% to 75%
Fair	25% to 49%
Poor	10% to 25%
Very Poor	Less than 10%

Limitations of this Method

Using an age-based approach to estimating the remaining useful life and current condition of the assets provides an estimate of current asset performance and a projected replacement timeline. However, it is not as accurate as a condition assessment conducted in the field. Real asset condition will vary based on use, operating environment, wear and tear, and other factors that affect the rate at which an asset deteriorates. Therefore, an age-based condition rating may not accurately represent current asset condition and may over- or under-estimate the remaining useful life of the asset.

The Township may develop a condition assessment framework so that staff may record actual asset condition and estimated remaining useful life, using common evaluation criteria and templates for various asset types.