



Report prepared by:



Asset Management Plan – Core Assets

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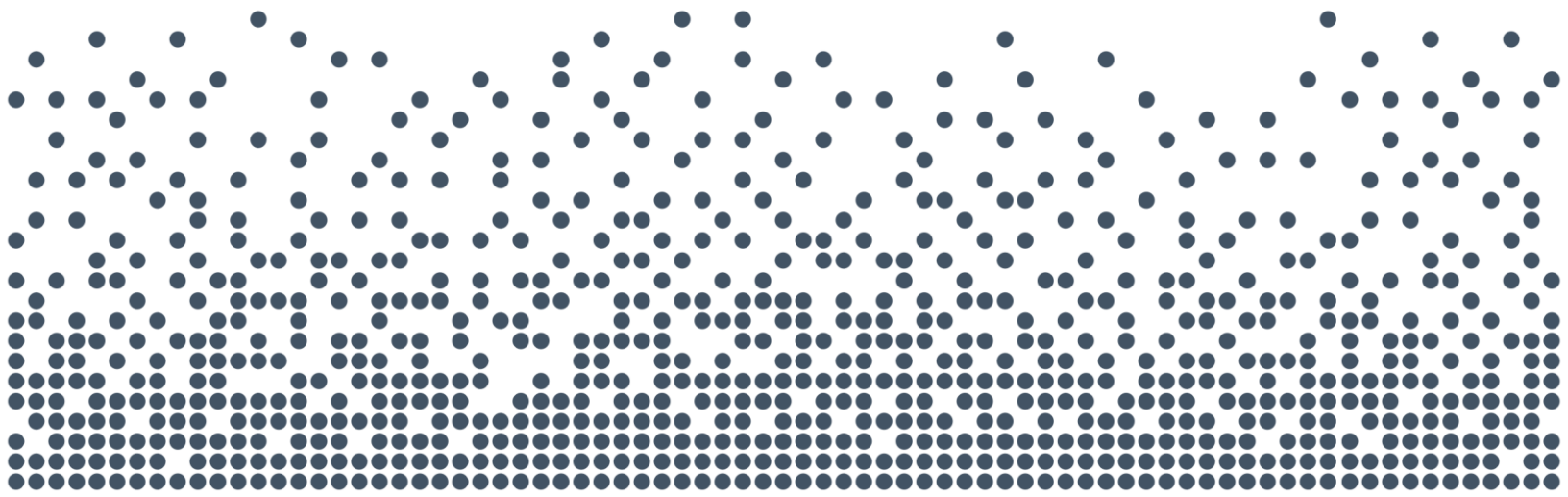
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List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
BCI	Bridge Condition Index
CCTV	closed-circuit television
HCB	high-class bituminous
ICB	intermediate-class bituminous
IJPA	Infrastructure for Jobs and Prosperity Act, 2015
Km	kilometre(s)
LCB	low-class bituminous
M	million
O. Reg.	Ontario Regulation
OSIM	Ontario Structure Inspection Manual
PCI	Pavement Condition Index
PSAB	Public Sector Accounting Board
RUL%	Remaining useful life percentage



Report



Chapter 1

Introduction



1. Introduction

1.1 Overview

The main objective of an asset management plan is to use a municipality's best available information to develop a comprehensive long-term plan for capital assets. In addition, the plan should provide a sufficiently documented framework that will enable continuous improvement and updates of the plan, to ensure its relevancy over the long term.

The County of Prince Edward (County) retained Watson & Associates Economists Ltd. (Watson) to update the County's 2018 Asset Management Plan. With this update, the intent is to bring the County's asset management plan into compliance with the July 1, 2022, requirements of Ontario Regulation (O. Reg.) 588/17.

The assets included in this iteration of the asset management plan are the core municipal assets which fall into the following broad asset classes:

- Roads;
- Bridges and structural culverts;
- Water;
- Wastewater; and
- Stormwater.

Core assets and their replacement costs are shown in Table 1-1 and

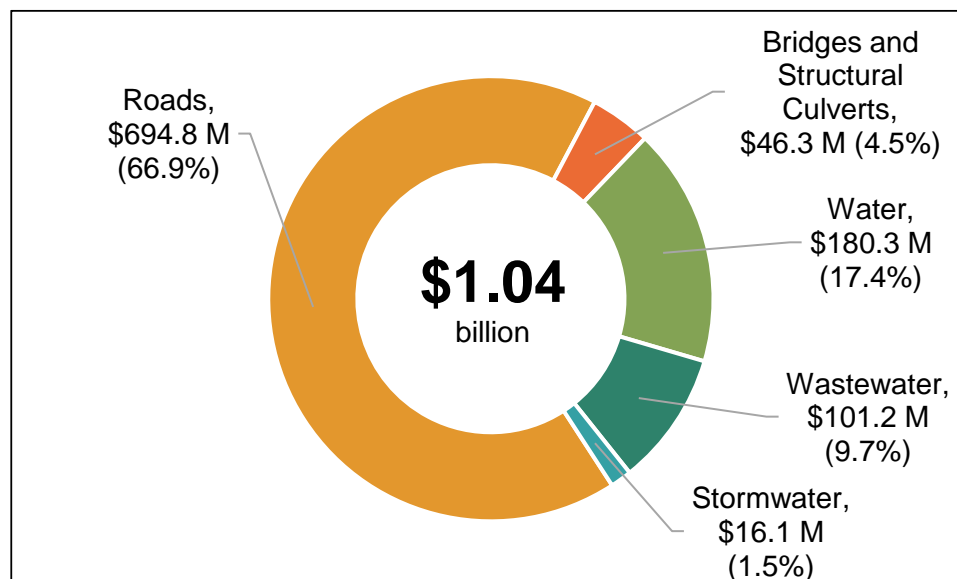
Figure 1-1. Roads account for approximately two thirds of the total replacement cost (67%), followed by water (17.4%), wastewater (9.7%), bridges and structural culverts (4.5%) and lastly, stormwater (1.5%).



Table 1-1: Asset Classes and Replacement Costs (2022\$)

Asset Class	Replacement Cost
Roads	\$694,807,477
Bridges and Structural Culverts	\$46,258,378
Water	\$180,349,446
Wastewater	\$101,239,751
Stormwater	\$16,081,221
Total	\$1,038,736,273

Figure 1-1: Distribution of Replacement Cost by Asset Class



1.2 Legislative Context for the Asset Management Plan

Asset management planning in Ontario has evolved significantly over the past decade.

Before 2009, capital assets were recorded by municipalities as expenditures in the year of acquisition or construction. The long-term issue with this approach was the lack of a capital asset inventory, in both the municipality's accounting system and financial statements. As a result of revisions to section 3150 of the Public Sector Accounting Board (PSAB) handbook, effective for the 2009 fiscal year, municipalities were required to capitalize tangible capital assets, thus creating an inventory of assets.



In 2012, the Province launched the municipal Infrastructure Strategy. As part of that initiative, municipalities and local service boards seeking provincial funding were required to demonstrate how any proposed project fits within a detailed asset management plan. In addition, asset management plans encompassing all municipal assets needed to be prepared by the end of 2016 to meet Federal Gas Tax agreement requirements. To help define the components of an asset management plan, the Province produced a document entitled *Building Together: Guide for Municipal Asset Management Plans*. This guide documented the components, information, and analysis required to be included in municipal asset management plans under this initiative.

The Province's *Infrastructure for Jobs and Prosperity Act, 2015* (IIPA) was proclaimed on May 1, 2016. This legislation detailed principles for evidence-based and sustainable long-term infrastructure planning. The IIPA also gave the Province the authority to guide municipal asset management planning by way of regulation. In late 2017, the Province introduced O. Reg. 588/17 under the IIPA. The intent of O. Reg. 588/17 is to establish standard content for municipal asset management plans. Specifically, the regulations require that asset management plans be developed that define the current levels of service, identify the lifecycle activities that would be undertaken to achieve these levels of service, and provide a financial strategy to support the levels of service and lifecycle activities.

This plan has been developed to address the July 1, 2022, requirements of O. Reg. 588/17. It utilizes the best information available to the County at this time.

1.3 Asset Management Plan Development

This asset management plan was developed using an approach that leverages the County's capital asset database information, various background reports, and staff input.

The development of the County's asset management plan is based on the steps summarized below:

1. Compile available information pertaining to the County's capital assets to be included in the plan, including attributes such as size, material type, useful life, age, and current replacement cost valuation. Update the current replacement



cost valuation, where required, using benchmark costing data or applicable inflationary indices.

2. Define and assess current asset conditions, based on a combination of County staff input, existing background reports and studies (e.g., 2020 and 2021 Ontario Structure Inspection Manual (OSIM) Reports), and an asset age-based condition analysis.
3. Define and document current levels of service based on analysis of available data and consideration of various background reports.
4. Develop lifecycle management strategies that identify the activities required to sustain the levels of service discussed above. The outputs of these strategies are summarized in the forecast of annual capital expenditures required to maintain current level of service.
5. Document the asset management plan in a formal report to inform future decision-making and to communicate planning to municipal stakeholders.



Chapter 2

State of Local Infrastructure and Levels of Service



2. State of Local Infrastructure and Levels of Service

2.1 Introduction

This chapter provides an analysis of the County's assets and the current service levels provided by those assets.

O. Reg. 588/17 requires that for each asset category included in the asset management plan, the following information must be identified:^[1]

- Summary of the assets;
- Replacement cost of the assets;
- Average age of the assets (it is noted that the regulation specifically requires average age to be determined by assessing the age of asset components);
- Information available on the condition of assets; and
- The municipality's approach to condition assessments (based on recognized and generally accepted good engineering practices where appropriate).

Asset management plans must identify the current levels of service being provided for each asset category. For core municipal infrastructure assets, both the qualitative descriptions pertaining to community levels of service and metrics pertaining to technical levels of service are prescribed by O. Reg. 588/17.

The rest of this chapter addresses the requirements identified above, with each section focusing on an individual service.

^[1] The asset management plan contains asset summary information that has been compiled from various sources, including the County's asset inventory database, and various background reports. For further information regarding these background sources, please contact the Director of Corporate & Legislative Services.



2.2 Transportation Services

2.2.1 State of Local Infrastructure

The core assets that support the County's transportation services comprise roads, bridges, and structural culverts. Other transportation assets such as signs and streetlights are not included in this plan because they are not considered core assets in O. Reg. 588/17.

The road network consists of roads with various surface types, including high-class bituminous (HCB), low-class bituminous (LCB), concrete, and gravel. The estimated replacement cost of roads is approximately \$695 million. Table 2-1 provides a breakdown of the road network length, average age, and replacement cost by surface type. A visual rendering of the data presented in Table 2-1 is provided in Figure 2-1.

Table 2-1: Road Network Length, Age, and Replacement Cost by Surface Type

Surface Type	Length (kilometres)	Average Age (years)	Replacement Cost (2022\$)
HCB	342	25	\$370,537,842
LCB	523	26	\$245,867,691
Concrete	18	53	\$34,247,200
Gravel	164	64	\$44,154,745
Total	1,047		\$694,807,478

The County has 25 bridges, 24 structural culverts, and 14 park/trail bridges with an estimated combined replacement cost of \$46.3 million. The average age of bridges is 46 years, the average age of structural culverts is 25 years, and the age of park/trail bridges is unknown.^[1] Table 2-2 provides counts, average ages, and replacement costs for these structures. A visual rendering of the data presented in Table 2-2 is provided in Figure 2-2.

^[1] It is noted that the construction year is unknown for 33 structures (approximately 52% of the total). The average ages identified in this report are reflective of the structures with known construction years.



Table 2-2: Structures – Summary of Count, Average Age, and Replacement Cost by Structure Type

Structure Type	Count	Average Age (years)	Replacement Cost (2022\$)
Bridges	25	46	\$31,095,594
Culverts	24	25	\$14,452,621
Par/Trail Bridges	14	N/A	\$710,163
Total	63		\$46,258,378



Figure 2-1: Road Network Summary Information

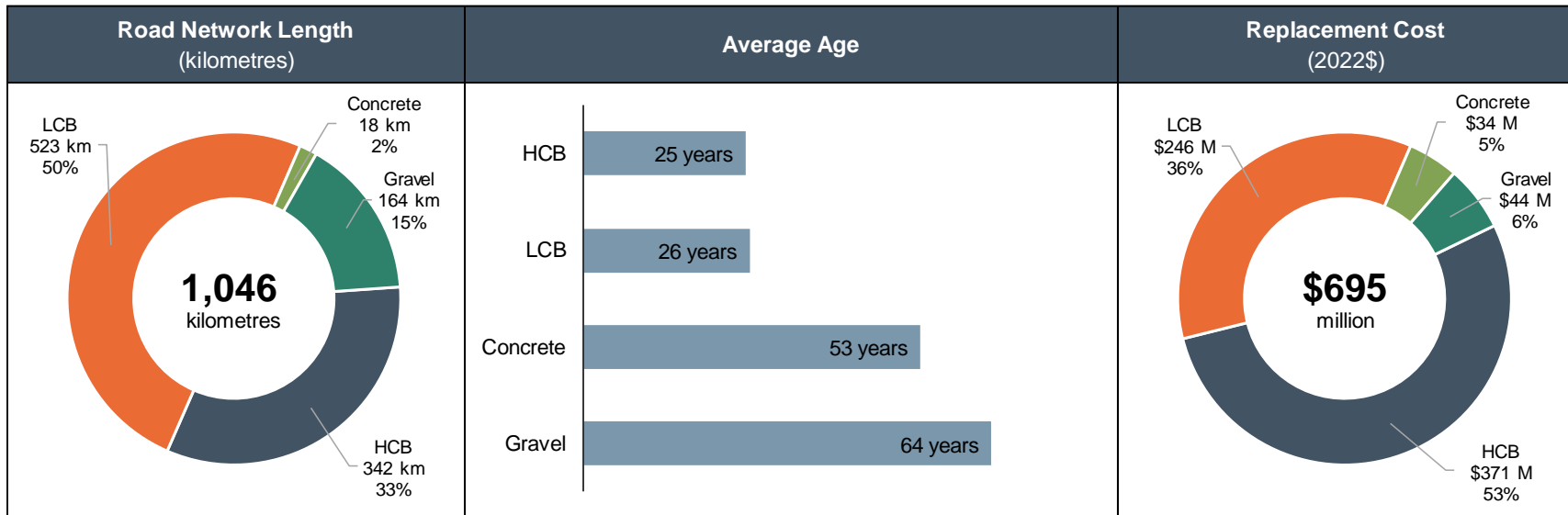
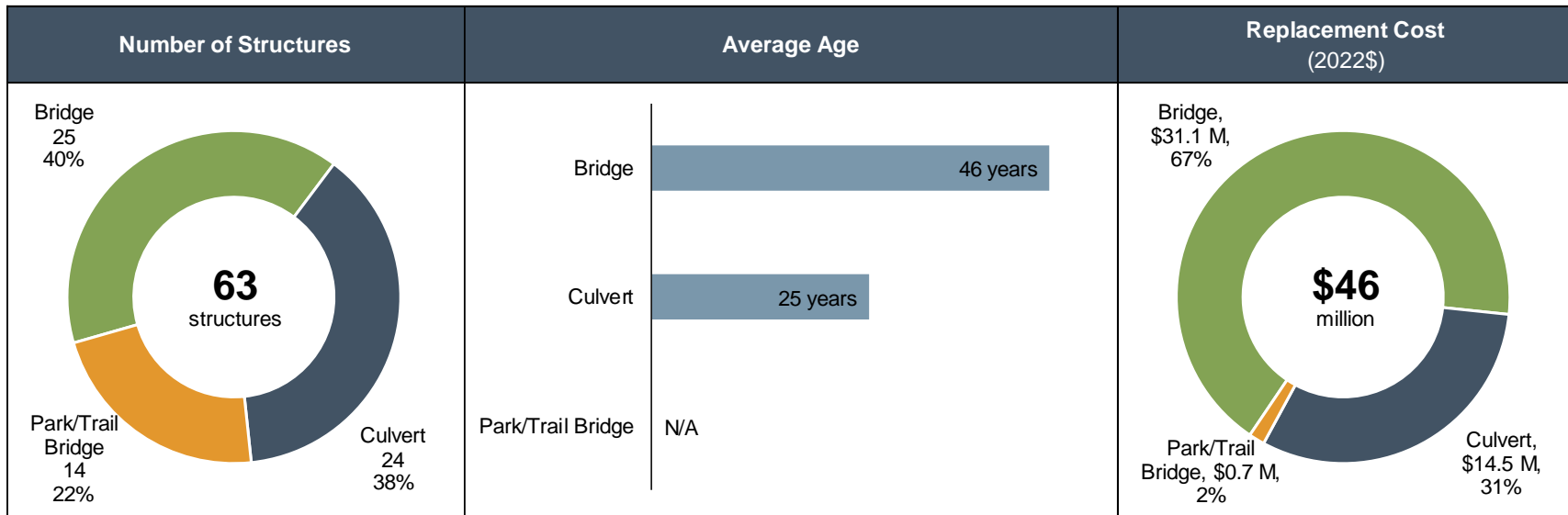




Figure 2-2: Bridges and Structural Culverts – Summary Information





2.2.2 Condition

The County's approach to assessing the condition of roadways entails regular field assessments. The last field assessments were completed in 2021 by StreetScan. In this asset management plan, road condition is reported using the Pavement Condition Index (PCI). PCI is calculated from three factors: the physical condition of the surface, a rating of the ride comfort and a calibration coefficient based on the surface type.

To better communicate the condition of the paved road network, the numeric condition ratings for paved roads have been segmented into qualitative condition states as shown in Table 2-3. Moreover, descriptions and photos of roads in these condition states are provided to better communicate the condition to the reader.



Table 2-3: Road Condition States Defined with Respect to Pavement Condition Index

Condition State	Photo	Condition State	Photo
Excellent 85 < PCI ≤ 100		Poor 40 < PCI ≤ 55	
Good 70 < PCI ≤ 85		Very Poor PCI ≤ 40	
Fair 55 < PCI ≤ 70			



Table 2-4 shows the average condition of County roads by surface type, weighted based on centreline-kilometres. On average, HCB and LCB roads are in the Fair condition state, Concrete roads are in the Very Poor condition state, and gravel roads are in the Poor condition state. Figure 2-3 shows the overall distribution of County roads by condition state and Figure 2-4 provides a further breakdown of this information by surface type.

Table 2-4: Road Condition Analysis

Road Surface	Kilometres	Pavement Condition Index (Weighted Average)	Average Condition State
HCB	342	69.7	Fair
LCB	523	61.5	Fair
Concrete	18	21.6	Very Poor
Gravel	164	53.0	Poor
Total	1,047	62.2	Fair

Figure 2-3: Distribution of Road Length (kilometres) by Condition State

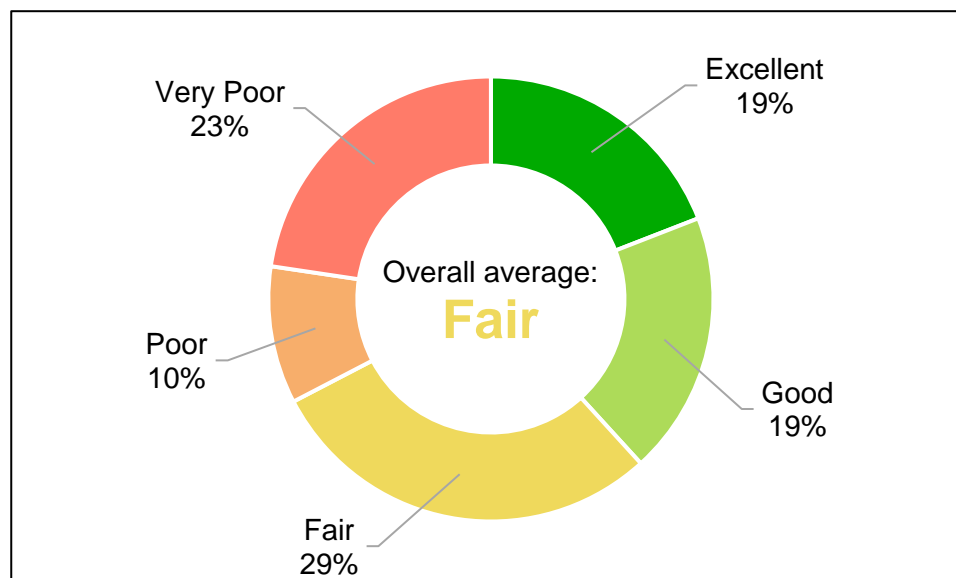
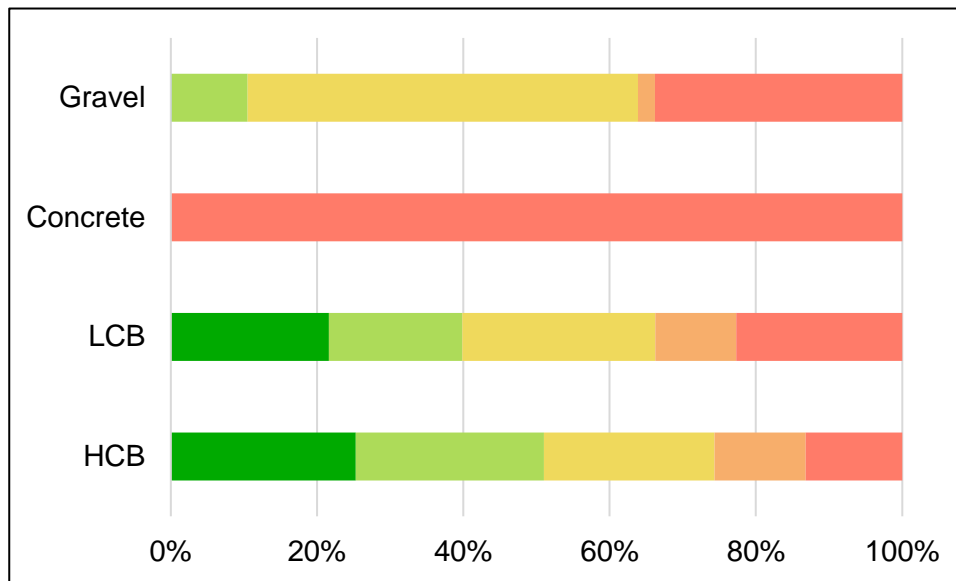




Figure 2-4: Distribution of Road Length (kilometres) by Condition State for Each Surface Type



In accordance with O. Reg. 104/97, the County completes biennial inspections of its bridges and culverts following the OSIM. Typically, approximately half of the structures are inspected each year. The most recent inspections were completed by Ainley Group in 2020 and 2021. Each structure was assigned a Bridge Condition Index (BCI). The BCI is on a scale of 0 to 100, with 100 being an asset in as-new condition and 0 being a failed asset. Similar to the analysis for roads described above, the numeric condition ratings for bridges and structural culverts have been segmented into qualitative condition states. Photographs and descriptions of these condition states are provided in Table 2-5 to better communicate the condition to the reader.



Table 2-5: Examples and Descriptions of Bridge and Culvert Condition States

Condition State	Bridge Photos	Culvert Photos	Description
<p>Good 70 ≤ BCI ≤ 100</p>			<p>Maintenance is not usually required within the next five years.</p>
<p>Fair 60 ≤ BCI < 70</p>			<p>Maintenance work is usually scheduled within the next five years. This is the ideal time to schedule major bridge repairs to get the most out of bridge spending.</p>
<p>Poor BCI < 60</p>			<p>Maintenance work is usually scheduled within one year.</p>



Table 2-6 shows the average condition of County bridges and structural culverts by structure type, weighted based on replacement cost. On average, park/trail bridges are in the Good condition state while both bridges and structural culverts are in the Fair condition state. The overall distribution of the County's bridges and structural culverts by condition state is presented in Figure 2-5 and a further breakdown of this information by structure type is provided in Figure 2-6.

Table 2-6: Bridges and Structural Culverts Condition Analysis

Structure Type	Count	Average Condition	Average Condition State
Bridges	25	69.7	Fair
Culverts	24	69.7	Fair
Park/Trail Bridges	14	70.3	Good
Total	63	69.7	Fair

Figure 2-5: Distribution of Structures by Condition State

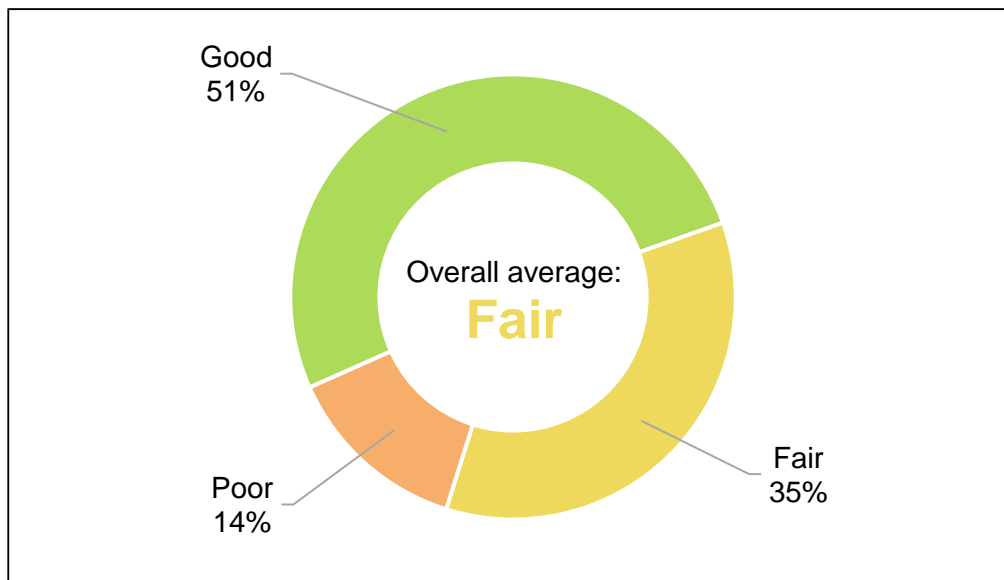
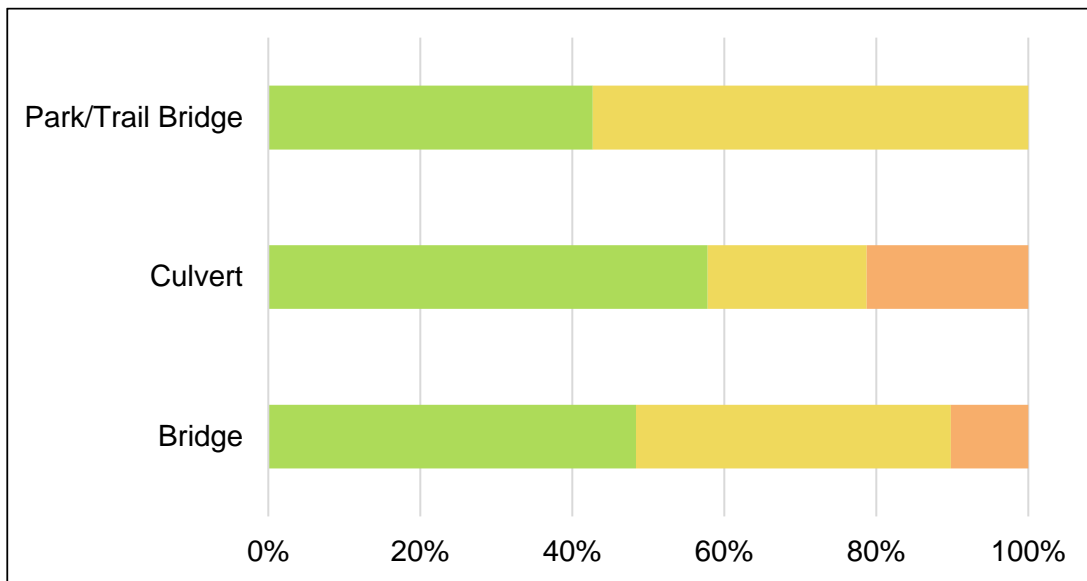




Figure 2-6: Distribution of Structure Replacement Costs by Condition State for Each Structure Type



2.2.3 Current Levels of Service

The levels of service currently provided by the County’s transportation system are, in part, a result of the state of local infrastructure identified above. A levels of service analysis defines the current levels of service that will be tracked over time. In future iterations of the asset management plan, targets will be set for the technical levels of service.

There are prescribed levels of service reporting requirements under O. Reg. 588/17 for some transportation assets (i.e., roads, bridges and culverts). Table 2-7 and Table 2-8 include the prescribed community and technical levels of service.

The tables are structured as follows:

- The Service Attribute headings and columns indicate the high-level attribute being addressed;
- The Community Levels of Service column in Table 2-7 explains the County’s intent in plain language and provides additional information about the service being provided;
- The Performance Measure column in Table 2-8 describes the performance measure(s) connected to the identified service attribute; and



- The 2021 Performance column in Table 2-8 reports current performance for the performance measure.

Table 2-7: Community Levels of Service – Roads and Bridges

Service Attribute	Community Levels of Service
Scope	The County's roads and bridges enable the movement of people and goods within the County. The assets also support transient traffic passing through the County. In addition to passenger vehicles, the County's transportation assets also support pedestrian traffic, commercial truck traffic, movement of agricultural equipment, and provide reliable emergency vehicle access to all areas of the County.
	The scope of the County's transportation network, including roads and bridges, is illustrated by the map in Appendix A.
Quality	To aid in interpreting condition states, photos of roads, bridges, and structural culverts in different condition states are provided in Table 2-3 and Table 2-5. A general description of how each condition state may affect the use of these assets is also provided in these tables.



Table 2-8: Technical Levels of Service – Roads and Bridges

Service Attribute	Performance Measure	2021 Performance
Scope	Number of lane-kilometres of arterial roads as a proportion of square kilometres of land area of the County	0.04 lane-km/km ²
	Number of lane-kilometres of collector roads as a proportion of square kilometres of land area of the County	0.94 lane-km/km ²
	Number of lane-kilometres of local roads as a proportion of square kilometres of land area of the County	1.01 lane-km/km ²
	Percentage of bridges in the County with loading or dimensional restrictions	0%
Quality	For paved roads in the County, the average pavement condition index value	63.9
	For unpaved roads in the County, the average surface condition	53.0
	For bridges in the County, the average bridge condition index value	69.7
	For structural culverts in the County, the average bridge condition index value	69.7



2.3 Water Services

2.3.1 State of Local Infrastructure

The County owns and maintains six drinking water systems and is responsible for the operation of multiple treatment plants, pumping stations, storage facilities and water mains. The combined replacement cost of the County's water infrastructure is approximately \$180.3 million. Table 2-9 provides a summary of water infrastructure by asset category, including quantity, average age, and replacement cost. A visual rendering of the data presented in Table 2-9 is provided in Figure 2-7.

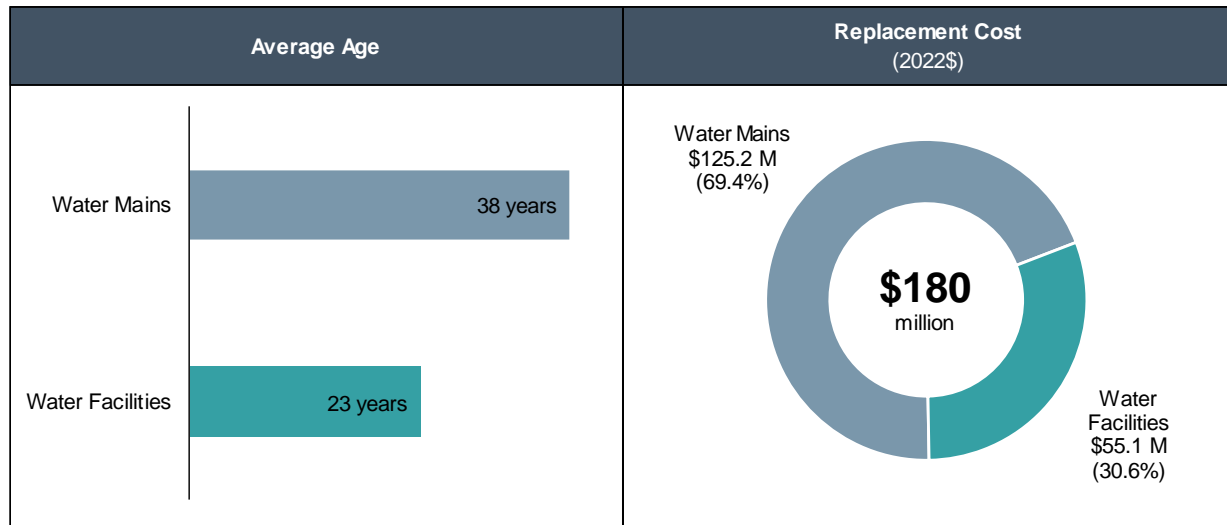
Table 2-9: Water Infrastructure – Quantities, Average Age, and Replacement Cost by Asset Category

Asset Category	Quantity	Average Age (Years)	Replacement Cost (2022\$)
Water Mains	111 km	38	\$125,226,823 ¹
Facilities	4 treatment plants 3 pumping stations 4 elevated storage tanks	23	\$55,122,622
Total			\$180,349,445

¹ Replacement cost of water mains includes related assets such as gate valves, fire hydrants, etc.



Figure 2-7: Water Infrastructure – Summary Information



2.3.2 Condition

The condition of the County’s water infrastructure has not been formally assessed through a physical condition assessment. In this asset management plan, the condition of water infrastructure is reported based on the estimated remaining useful life relative to the expected useful life (RUL%). For facilities, this assessment was done at the component level. The RUL% ratings have been segmented into qualitative condition states (i.e., Good, Fair, Poor) as summarized in Table 2-10. The segmentation is consistent with the County’s 2014 Asset Management Plan.

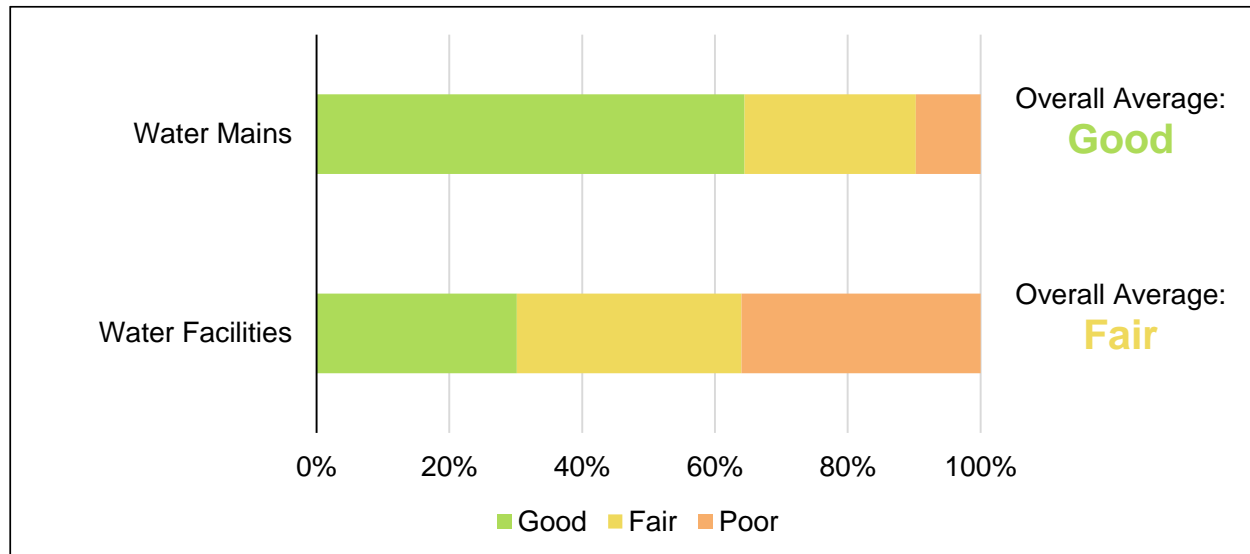
Table 2-10: Condition States Defined with Respect to Remaining Useful Life Percentage (RUL%)

RUL%	Condition State
Greater than 50%	Good
10% to 50%	Fair
Less than 10%	Poor

The distribution of the County’s water infrastructure by condition state and by asset category is presented in Figure 2-8. On average, water mains are in the Good condition state while water facilities are in the Fair condition state.



Figure 2-8: Distribution of Water Mains and Water Facilities by Condition State



2.3.3 Current Levels of Service

The levels of service currently provided by the County’s water infrastructure are, in part, a result of the state of local infrastructure identified above. A levels of service analysis defines the current levels of service that will be tracked over time. In future iterations of the asset management plan, targets will be set for the technical levels of service.

Water assets have prescribed levels of service reporting requirements under O. Reg. 588/17. These requirements include levels of service reporting at two different levels, i.e., community levels of service and technical levels of service. Community levels of service objectives describe service levels in terms that customers understand and reflect customers’ expectations with respect to the scope, reliability, affordability, and efficiency of the water systems. Technical levels of service describe these aspects of the County’s water infrastructure through performance measures that can be quantified and evaluated.

Table 2-11 and Table 2-12 present the current levels of service for the water systems.



Table 2-11: Community Levels of Service – Water Services

Service Attribute	Community Levels of Service
<p>Scope</p>	<p>The County owns, maintains, and operates six drinking water systems, serving the communities of Picton, Bloomfield, Wellington, Ameliasburgh, Peat’s Point, Consecon, Carrying Place, Rossmore and Fenwood Gardens. Generally, all areas that are connected to the water systems have fire flow available, except for Ameliasburgh and Peat’s Point due to operational limitations of those systems.</p>
	<p>The scope of the County’s water distribution systems is illustrated by the maps in Appendix A. The maps show the geographical distribution of the County’s water infrastructure.</p>
<p>Reliability</p>	<p>The County is committed to:</p> <ul style="list-style-type: none"> • Providing a consistent supply of safe drinking water to all consumers of The County’s municipal drinking water systems; • Operating, maintaining, and managing the County’s drinking water systems in a responsible manner in accordance with applicable legislative/regulative requirements, and documented quality management procedures, and; • The maintenance and continual improvement of the Quality Management System. <p>Through the implementation of the Quality Management System, the County is dedicated to accomplishing these goals through commitment, support and participation from all levels of the organizational structure, including The Owner, Upper Management and all personnel associated with the management, operation and maintenance of the drinking water systems. Each component of the organizational structure shares in the responsibility of implementing, maintaining and contributing to the continual improvement of the Drinking Water Quality Management System.</p>



Table 2-12: Technical Levels of Service – Water Services

Service Attribute	Performance Measure	2021 Performance
Scope	Percentage of properties connected to the municipal water system.	39.4%
	Percentage of properties where fire flow is available.	38.7%
Reliability	The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.	0 connection-days per connection
	The number of connection-days per year lost due to water main breaks compared to the total number of properties connected to the municipal water system.	0.0014 connection-days per connection

2.4 Wastewater Services

2.4.1 State of Local Infrastructure

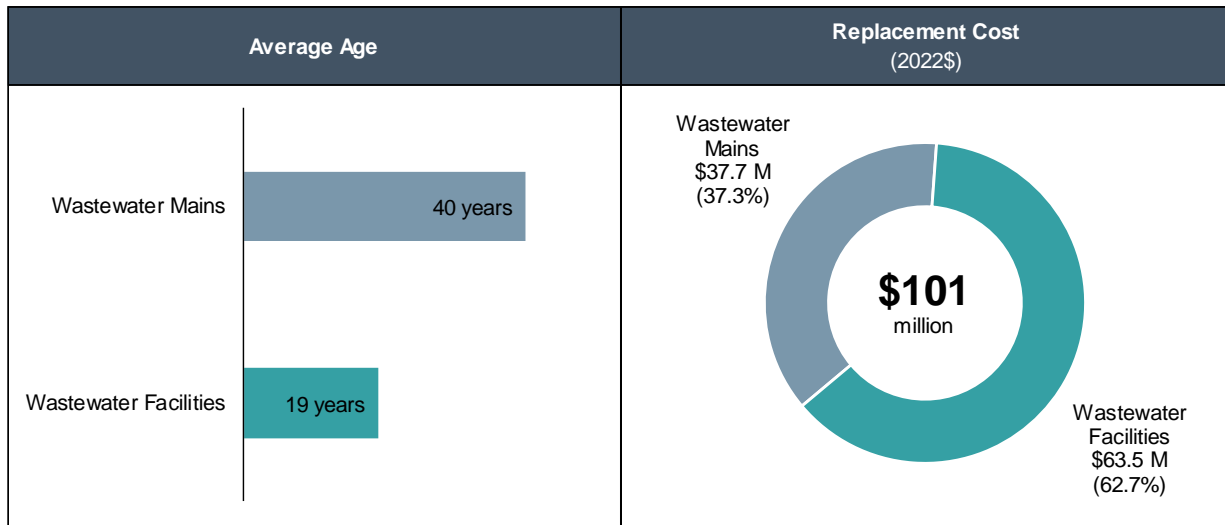
The County owns and maintains two wastewater systems and is responsible for the operation of wastewater treatment plants, sewage pumping stations, and wastewater mains. The combined replacement cost of the County's wastewater infrastructure is approximately \$101.2 million. Table 2-13 provides a summary of wastewater infrastructure by asset category, including quantity, average age, and replacement cost. A visual rendering of the data presented in Table 2-13 is provided in Figure 2-9.

Table 2-13: Wastewater Infrastructure – Quantities, Average Age, and Replacement Cost by Asset Category

Asset Category	Quantity	Average Age (years)	Replacement Cost (2022\$)
Wastewater Mains	49 km	40	\$37,731,921
Wastewater Facilities	2 treatment plants 10 pumping stations	19	\$63,507,829
Total			\$101,239,750



Figure 2-9: Wastewater Infrastructure – Summary Information



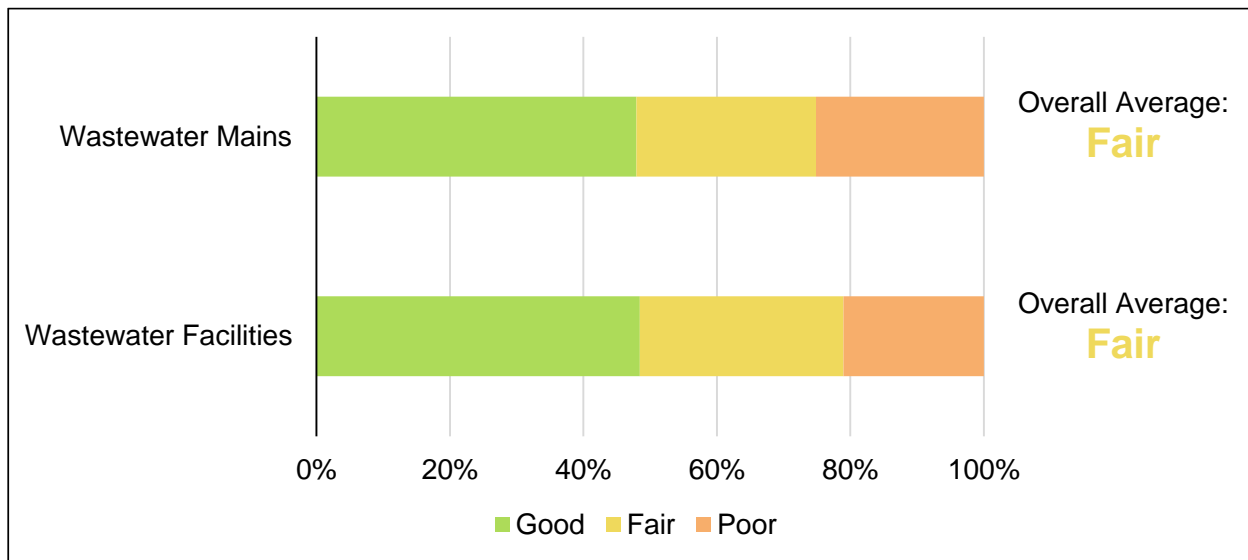
2.4.2 Condition

The condition of the County’s wastewater infrastructure has not been formally assessed through a physical condition assessment. In this asset management plan, the condition of wastewater infrastructure is reported based on the estimated remaining useful life relative to the expected useful life (RUL%). For facilities, this assessment was done at the component level. The RUL% ratings have been segmented into qualitative condition states (i.e., Good, Fair, Poor) as identified in subsection 2.3.2 (see Table 2-10).

The distribution of the County’s wastewater infrastructure by condition state and by asset category is presented in Figure 2-10. On average, both wastewater mains and wastewater facilities are in the Fair condition state.



Figure 2-10: Distribution of Wastewater Mains and Wastewater Facilities by Condition State



2.4.3 Current Levels of Service

The levels of service currently provided by the County’s wastewater infrastructure are, in part, a result of the state of local infrastructure identified above. A levels of service analysis defines the current levels of service that will be tracked over time. In future iterations of the asset management plan, targets will be set for the technical levels of service.

Wastewater assets have prescribed levels of service reporting requirements under O. Reg. 588/17. These requirements include levels of service reporting at two different levels, i.e., community levels of service and technical levels of service. Community levels of service objectives describe service levels in terms that customers understand and reflect customers’ expectations with respect to the scope, reliability, affordability, and efficiency of the water systems. Technical levels of service describe these aspects of the County’s wastewater infrastructure through performance measures that can be quantified and evaluated.

Table 2-14 and Table 2-15 present the current levels of service for wastewater.



Table 2-14: Community Levels of Service – Wastewater Services

Service Attribute	Community Levels of Service
Scope	<p>The County owns and maintains two wastewater systems, serving the communities of Picton and Wellington.</p>
	<p>The scope of the County’s wastewater collection systems is illustrated by the maps in Appendix A. The maps show the geographical distribution of the County’s wastewater infrastructure.</p>
Reliability	<p>The District does not have combined sewers (i.e., sewers designed to carry both sanitary and storm water in a single pipe). Despite this, stormwater can get into sanitary sewers through various means, such as sump pump connections, infiltration through poor joints and connections between sanitary pipes and manholes, cracks in clay tiles/clay infrastructure etc.</p> <p>The County is working to reduce the amount of stormwater entering the wastewater system (inflow and infiltration). Inflow & infiltration has been reduced in Picton as a result of recent pipe replacements. Furthermore, the County will continue to address inflow and infiltration through future street rehabilitation. The County may also consider additional CCTV work in its collection systems to identify other key areas where inflow and infiltration is a concern.</p>
	<p>The County’s wastewater treatment plants are operated in accordance with Environmental Compliance Approvals (ECA) as issued by the Ministry of Environment, Conservation and Parks (MECP). Descriptions of the effluent that is discharged from wastewater treatment plants in the County’s wastewater system are provided in the ECA for each facility:</p> <ul style="list-style-type: none"> • Picton Wastewater Treatment Plant: 5464-AKATW7 • Wellington Wastewater Treatment Plant: 6269-C6FJNP



Table 2-15: Technical Levels of Service – Wastewater Services

Service Attribute	Performance Measure	2021 Performance
Scope	Percentage of properties connected to the municipal wastewater systems	31.5%
Reliability	The number of connection-days lost per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater collection systems	0.0007 ^[1] connection-days per connection
	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0 violations per connection

2.5 Stormwater Services

2.5.1 State of Local Infrastructure

The stormwater management system provides for the collection of stormwater in order to protect properties and roads from flooding, to manage the discharge rate into the environment, and to remove contaminants from the water before it re-enters the natural environment. The County owns and maintains several stormwater ponds and a network of stormwater mains. The combined replacement cost of the County’s stormwater infrastructure is approximately \$16.1 million. Table 2-16 provides a summary of stormwater infrastructure by asset category, including quantities and replacement costs. It is noted that currently the County has only limited records for the stormwater assets and asset age data are not available. Further work will be done in the coming years to capture these assets more comprehensively in the County’s asset management plan.

^[1] Number of wastewater backups are reported in annual performance reports for each facility. For the purposes of this asset management plan, only wastewater backups that were deemed to be a result of issues on the municipal side of the service are reported. It has been assumed that each backup lasted up to one day.



Table 2-16: Stormwater Infrastructure – Quantities and Replacement Costs by Asset Category

Asset Category	Quantity	Replacement Cost (2022\$)
Stormwater Mains	14 km	\$11,005,221
Stormwater Ponds	9 ponds	\$5,076,000
Total		\$16,081,221

2.5.2 Condition

Most of the County’s stormwater infrastructure has not been formally assessed through a physical condition assessment. However, some storm infrastructure in parts of the Village of Wellington (stormwater assets along Consecon Road and Main Street) was assessed by R.V. Anderson Associates Limited (RVA) in 2021. The assessment conducted by RVA identified that approximately 22% of the storm sewer network is in need of urgent repairs, reconstruction, or maintenance. The County will be looking into implementing a full condition assessment for all stormwater infrastructure in the coming years.

2.5.3 Current Levels of Service

A levels of service analysis defines the current levels of service that will be tracked over time. In future iterations of the asset management plan, targets will be set for the technical levels of service.

Stormwater assets have prescribed levels of service reporting requirements under O. Reg. 588/17. These requirements include levels of service reporting at two different levels, i.e., community levels of service and technical levels of service. Community levels of service objectives describe service levels in terms that customers understand and reflect customers’ expectations with respect to the scope, reliability, affordability, and efficiency of the water systems. Technical levels of service describe these aspects of the County’s stormwater infrastructure through performance measures that can be quantified and evaluated.

Table 2-17 and Table 2-18 present the current levels of service for stormwater.



Table 2-17: Community Levels of Service – Stormwater Services

Service Attribute	Community Levels of Service
Scope	Stormwater services are provided primarily in the communities of Wellington and Picton.

Table 2-18: Technical Levels of Service – Stormwater Services

Service Attribute	Performance Measure	2021 Performance
Scope	Percentage of properties in municipality resilient to a 100-year storm.	76% ¹
	Percentage of the municipal stormwater management system resilient to a 5-year storm.	100% ²

2.6 Population and Employment Growth

As of 2022, the County had a permanent population of approximately 25,258 (excluding the census undercount). Employment data from the 2021 census are not yet available, however the County had estimated employment of 7,217 in 2018. The County also had an estimated seasonal population of 7,475 in 2018. Based on the County’s 2021 Official Plan, by 2038 permanent population is anticipated to reach 26,709, seasonal population is anticipated to reach 12,125, and employment is anticipated to reach 8,750.

This growth in population (both permanent and seasonal) and employment is expected to result in incremental service demands that may impact the current level of service. Some of these growth-related needs, as they pertain to transportation services (Services Related to Highways), are summarized in the County’s 2017 Development Charges Background Study. Furthermore, the water and wastewater service expansion needs to facilitate development in Wellington are summarized in the County’s 2021

¹ Based on the percentage of properties that are not within the 100-year flood plain.

² Most of the pipe network is designed to handle a 5-year storm (as defined in year of construction). However, a formal assessment of resiliency to a 5-year storm event has not been undertaken.



Area-Specific Development Charges Background Study for the Wellington Urban Serviced Area. These growth-related needs are funded through development charges imposed on new development. Utilizing development charges helps reduce the effects that future population and employment growth have on the cost of maintaining levels of service for existing tax and rate payers.

The estimated capital expenditures related to the lifecycle activities required to maintain the current levels of service considering the projected increases in demand caused by growth are included in the ten-year capital forecasts presented in the next chapter of this report.



Chapter 3

Lifecycle Management Strategy



3. Lifecycle Management Strategy

3.1 Introduction

The lifecycle management strategy in this asset management plan identifies the lifecycle activities that would need to be undertaken to maintain the current levels of service presented in Chapter 2.^[1] Within the context of this asset management plan, lifecycle activities are the specified actions that can be performed on an asset in order to ensure it is performing at an appropriate level, and/or to extend its service life.^[2] These actions can be carried out on a planned schedule in a prescriptive manner, or through a dynamic approach where the lifecycle activities are only carried out when specified conditions are met.

O. Reg. 588/17 requires that all potential lifecycle activity options be assessed, with the aim of identifying the set of lifecycle activities that can be undertaken at the lowest cost to maintain current levels of service. Asset management plans must include a ten-year capital forecast, identifying the lifecycle activities resulting from the lifecycle management strategy.

The following sections detail the ten-year forecasts of lifecycle activities and associated costs that would be required to allow the County to maintain current levels of service.

3.2 Transportation Services

This section presents a preliminary estimate of the costs associated with maintaining all the County's roads, bridges, and structural culverts at their current level of service. For roads, the estimate is based on a combination of deterioration models and asset treatment strategies, modelled in the County's asset management decision support system. For bridges and structural culverts, the estimate is based on the repair, rehabilitation and replacement recommendations identified through the 2020 and 2021

^[1] Future iterations of the County's asset management plan will include proposed levels of service and the lifecycle management strategy will identify the lifecycle activities that would need to be undertaken to provide the proposed levels of service.

^[2] The full lifecycle of an asset includes activities such as initial planning and maintenance which are typically addressed through master planning studies and maintenance management, respectively.



OSIM Inspections. The estimate of growth-related capital needs is based on the County's 2017 Development Charges Background Study.

The ten-year lifecycle expenditure forecast for roads, bridges, and structural culverts is summarized in Figure 3-1. A further breakdown of the lifecycle expenditure forecast is provided in Table 3-1. Average annual expenditures over the forecast period have been estimated at approximately \$16.8 million.

Figure 3-1: Lifecycle Expenditure Forecast for Roads, Bridges, and Structural Culverts (2022\$)

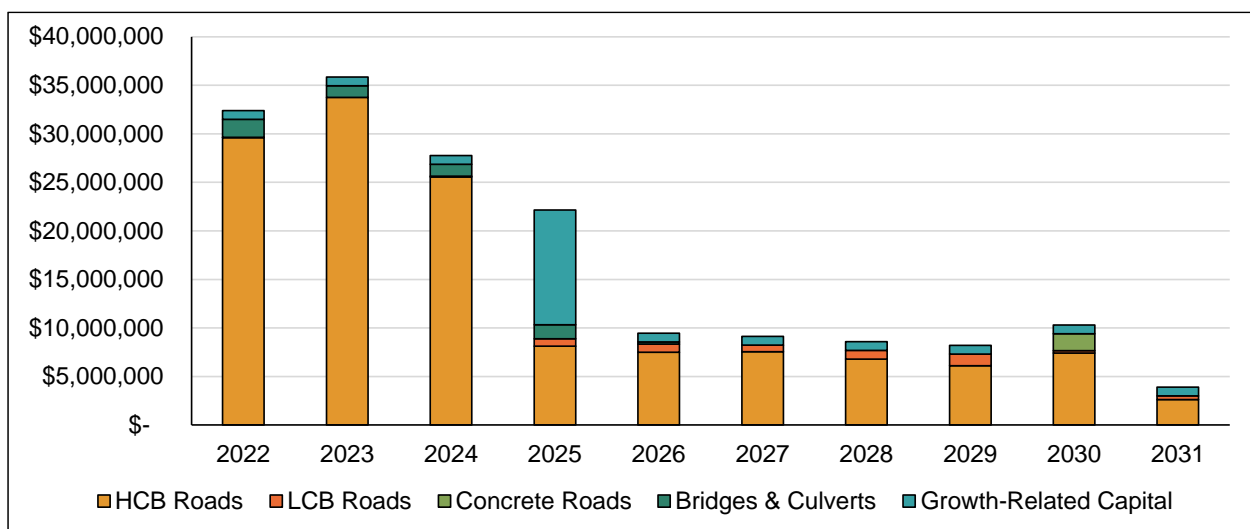




Table 3-1: Lifecycle Expenditure Forecast for Roads, Bridges, and Structural Culverts (2022\$)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
HCB Roads										
Crack Seal	\$ -	\$ 364	\$ -	\$ 448	\$ -	\$ 756	\$ 2,184	\$ 1,680	\$ 532	\$ 1,456
Micro Surface	\$ 1,680	\$ 4,725	\$ 4,305	\$ -	\$ -	\$ -	\$ -	\$ 3,045	\$ 170,625	\$ 2,296,770
Rehabilitation	\$ 63,945	\$ 53,865	\$ 2,853,900	\$ 8,121,015	\$ 7,491,015	\$ 7,563,780	\$ 6,789,195	\$ 6,095,880	\$ 7,254,450	\$ 315,000
Reconstruction	\$ 29,563,800	\$ 33,685,050	\$ 22,705,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-total HCB Roads	\$ 29,629,425	\$ 33,744,004	\$ 25,563,405	\$ 8,121,463	\$ 7,491,015	\$ 7,564,536	\$ 6,791,379	\$ 6,100,605	\$ 7,425,607	\$ 2,613,226
LCB Roads										
Single Surface	\$ 5,544	\$ -	\$ 87,066	\$ 778,806	\$ 861,084	\$ 663,138	\$ 886,662	\$ 1,212,372	\$ 238,518	\$ 390,726
Sub-total LCB Roads	\$ 5,544	\$ -	\$ 87,066	\$ 778,806	\$ 861,084	\$ 663,138	\$ 886,662	\$ 1,212,372	\$ 238,518	\$ 390,726
Concrete Roads										
Full Reconstruction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,750,000	\$ -
Sub-total Concrete Roads	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,750,000	\$ -
Bridges & Culverts										
Bridges & Culverts	\$ 1,871,454	\$ 1,213,028	\$ 1,208,907	\$ 1,432,529	\$ 209,777	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-total Bridges & Culverts	\$ 1,871,454	\$ 1,213,028	\$ 1,208,907	\$ 1,432,529	\$ 209,777	\$ -	\$ -	\$ -	\$ -	\$ -
Growth-Related Capital										
Growth-Related Capital	\$ 900,905	\$ 900,905	\$ 900,905	\$ 11,818,286	\$ 900,905	\$ 900,905	\$ 900,905	\$ 900,905	\$ 900,905	\$ 900,905
Sub-total Growth-Related Capital	\$ 900,905	\$ 900,905	\$ 900,905	\$ 11,818,286	\$ 900,905	\$ 900,905	\$ 900,905	\$ 900,905	\$ 900,905	\$ 900,905
Total Transportation	\$ 32,407,328	\$ 35,857,937	\$ 27,760,282	\$ 22,151,085	\$ 9,462,781	\$ 9,128,579	\$ 8,578,946	\$ 8,213,882	\$ 10,315,030	\$ 3,904,857



3.3 Water Services

This section presents a preliminary estimate of the costs associated with maintaining all the County's water infrastructure at the current level of service. The estimate is based on the forecast developed through the County's 2021 Water and Wastewater Rate Study.

The ten-year lifecycle expenditure forecast for water infrastructure is summarized in Figure 3-2 and Table 3-2. Average annual expenditures over the forecast period have been estimated at approximately \$7.9 million.

Figure 3-2: Lifecycle Expenditure Forecast for Water Infrastructure (2022\$)

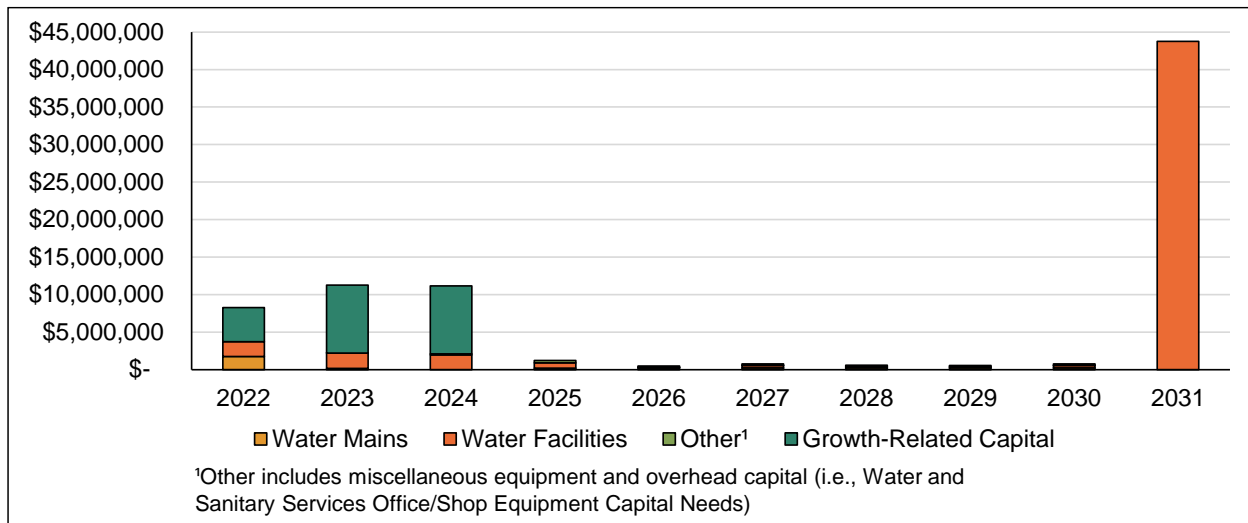




Table 3-2: Lifecycle Expenditure Forecast for Water Infrastructure (2022\$)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Water Mains	\$ 1,766,541	\$ 153,120	\$ -	\$ 200,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ -
Water Facilities	\$ 1,961,809	\$ 2,069,647	\$ 1,969,647	\$ 700,000	\$ 45,000	\$ 317,000	\$ 165,000	\$ 120,000	\$ 317,000	\$ 43,757,000
Other ¹	\$ -	\$ 5,000	\$ 148,000	\$ 322,000	\$ 18,000	\$ 9,000	\$ -	\$ -	\$ 12,000	\$ -
Growth-Related Capital	\$ 4,549,650	\$ 9,030,353	\$ 9,030,353	\$ -	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ -
Total	\$ 8,278,000	\$ 11,258,120	\$ 11,148,000	\$ 1,222,000	\$ 493,000	\$ 756,000	\$ 595,000	\$ 550,000	\$ 759,000	\$ 43,757,000

¹ Other includes miscellaneous equipment and overhead capital (i.e., Water and Sanitary Services Office/Shop Equipment Capital Needs)



3.4 Wastewater Services

This section presents a preliminary estimate of the costs associated with maintaining all the County’s wastewater infrastructure at the current level of service. The estimate is based on the forecast developed through the County’s 2021 Water and Wastewater Rate Study.

The ten-year lifecycle expenditure forecast for water infrastructure is summarized in Figure 3-3 and Table 3-3. Average annual expenditures over the forecast period have been estimated at approximately \$3.1 million.

Figure 3-3: Lifecycle Expenditure Forecast for Wastewater Infrastructure (2022\$)

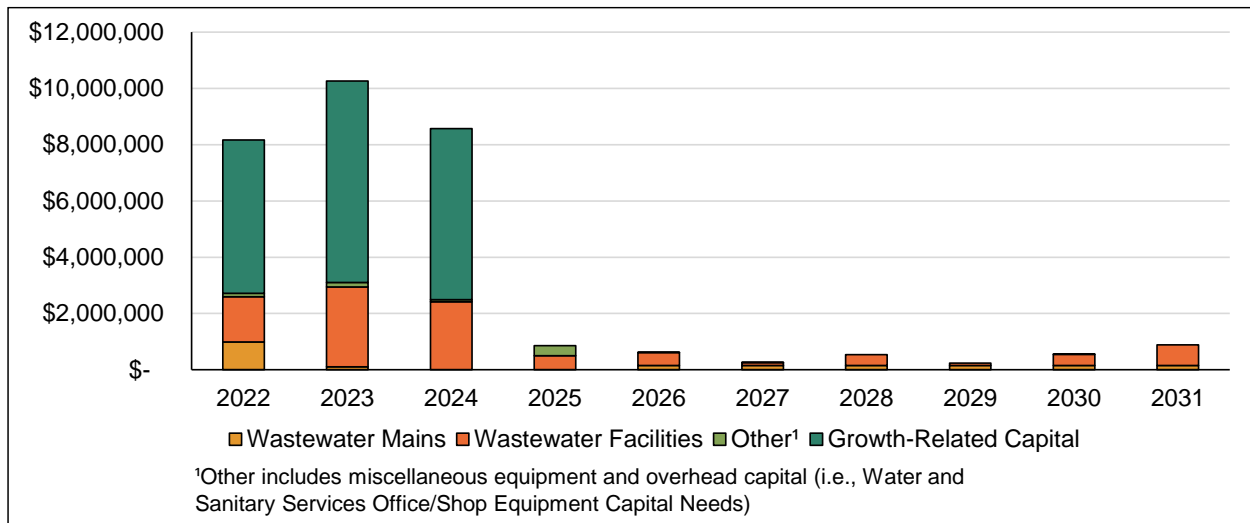




Table 3-3: Lifecycle Expenditure Forecast for Wastewater Infrastructure (2022\$)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Wastewater Mains	\$ 992,500	\$ 102,080	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
Wastewater Facilities	\$ 1,604,840	\$ 2,840,426	\$ 2,414,362	\$ 500,000	\$ 465,000	\$ 110,000	\$ 390,000	\$ 83,000	\$ 395,000	\$ 740,000
Other ¹	\$ 125,000	\$ 165,000	\$ 75,000	\$ 355,000	\$ 12,000	\$ 6,000	\$ -	\$ -	\$ 8,000	\$ -
Growth-Related Capital	\$ 5,447,660	\$ 7,159,574	\$ 6,085,638	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 8,170,000	\$ 10,267,080	\$ 8,575,000	\$ 855,000	\$ 627,000	\$ 266,000	\$ 540,000	\$ 233,000	\$ 553,000	\$ 890,000

¹ Other includes miscellaneous equipment and overhead capital (i.e., Water and Sanitary Services Office/Shop Equipment Capital Needs)



3.5 Stormwater Services

Given the limited records currently available for the County's stormwater assets, the costs associated with maintaining all the County's stormwater infrastructure at the current level of service have not been estimated.

It is noted, however, that in the coming years the County will be investing in Master Service Plans/Assessments for all stormwater systems (including condition and capacity assessments) and developing Operational Maintenance Plans for stormwater ponds (including condition/sedimentation surveys). These plans and assessments will form the basis for developing a long-term lifecycle investment plan.



Chapter 4

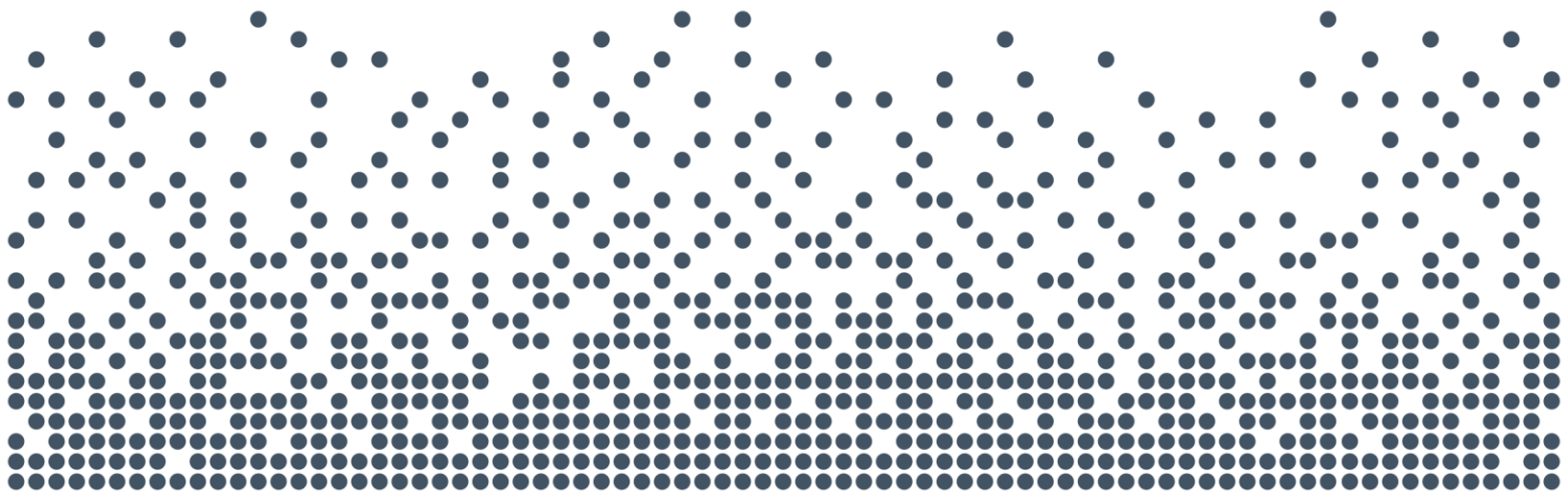
Summary



4. Summary

This asset management plan has been developed to address the July 1, 2022 requirements of O. Reg. 588/17. The plan provides summary information for the County's core infrastructure assets (including replacement cost valuation and condition), identifies current levels of service, and includes a 10-year forecast of lifecycle activities and associated costs that would be required for the County to maintain current levels of service. The plan is based on the best information available to the County at this time. The County is actively working on further expanding the asset management plan to include all County assets, to have targets set for levels of service performance measures, and to include a detailed financial strategy. The ongoing expansion of the AMP will ensure the County's compliance with the July 1, 2024 and July 1, 2025 requirements of O. Reg. 588/17.

Beyond regulatory compliance, the County should continue working on integrating asset management planning with other municipal financial and planning documents. Furthermore, the County will need to establish processes for reviewing and updating assumptions underlying the asset management plan on a regular basis to keep the plan relevant and reliable.



Appendices



Appendix A

Maps



Appendix A: Maps

Maps referenced throughout this asset management plan have been included as a separate appendix due to file size.