Asset Management Plan

Township of Wellesley

May 23, 2024

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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 continual improvement and updates of the plan, to ensure its relevancy over the long term.

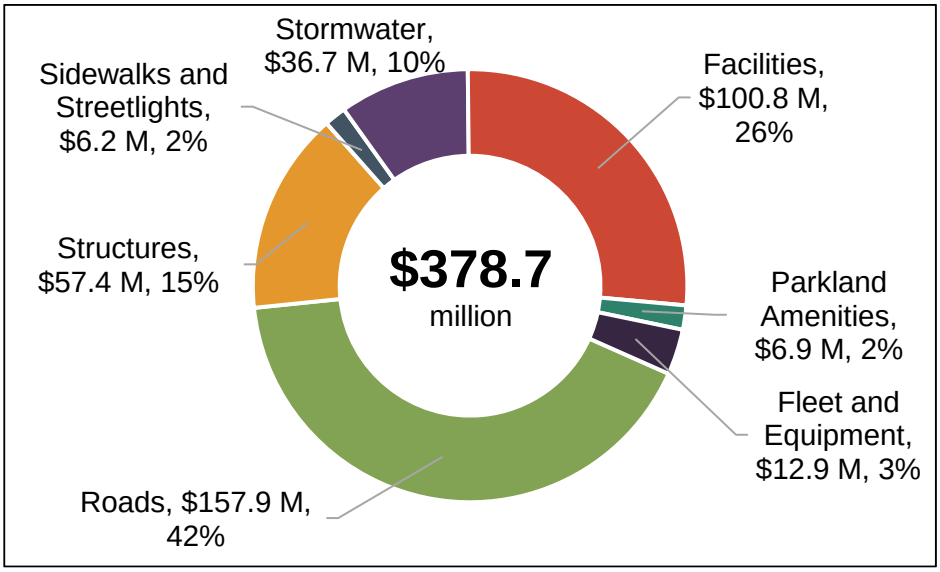
The Township of Wellesley (Township) retained Watson & Associates Economists Ltd. (Watson) to develop a new asset management plan to replace the Township's 2022 Asset Management Plan. The project is being completed in two phases. The first phase focused on complying with the July 1, 2024 requirements of O. Reg. 588/17 and is summarized in this report. The second phase of the project, to be completed in coming months, will focus on identifying proposed levels of service and developing a financial strategy that balances cost with levels of service.

The total replacement cost of the Township's assets has been estimated at almost $379 million. The Township shares responsibility for some roads and bridges with neighbouring municipalities. The Township's share of the total replacement cost is approximately $371 million. A breakdown of the total replacement cost by asset class is provided in Table 1-1 and is illustrated in Figure 1-1. Roads accounts for the largest share of replacement costs (42%), followed by facilities (27%), structures (15%), stormwater (10%), and all other assets (6%).

Table 1-1: Asset Classes and Replacement Costs

Asset Class	Replacement Cost (2024$)	Township Share of Replacement Cost (2024$)
Roads	$157,900,000	$152,500,000
Structures	$57,350,000	$55,000,000
Sidewalks and Streetlights	$6,160,000	$6,160,000
Stormwater	$36,700,000	$36,700,000
Facilities	$100,821,000	$100,821,000
Parkland Amenities	$6,856,000	$6,856,000
Fleet and Equipment	$12,868,000	$12,868,000
Total	**$378,655,000**	**$370,905,000**

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, both in 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 (now the Canada Community-Building Fund) 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 that were required to be included in municipal asset management plans under this initiative.

The Province's *Infrastructure for Jobs and Prosperity Act, 2015* (IJPA) was proclaimed on May 1, 2016. This legislation detailed principles for evidence-based and sustainable long-term infrastructure planning. The IJPA 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 IJPA. The intent of O. Reg. 588/17 is to establish standard content for municipal asset management plans. Specifically, the regulation requires that asset management plans be developed that define the current levels of service, identify the lifecycle activities that will be undertaken to achieve these levels of service, and provide a financial strategy to support the levels of service and lifecycle activities.

As noted earlier, this asset management plan was developed to bring the Township into compliance with the July 1, 2024 requirements of O. Reg. 588/17. Over the coming months the Township will be developing the final phase of its asset management plan, which will identify level of service targets and a financial strategy. The final phase of the

asset management plan will bring the Township into full compliance with the 2025 requirements of O. Reg. 588/17.

1.3 Asset Management Plan Development

This asset management plan was developed using an approach that leverages the Township's asset management principles as identified within its strategic asset management policy, capital asset data, and staff input.

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

1. Compile available information pertaining to the Township's capital assets to be included in the plan, including attributes such as size, material type, useful life, age, and current replacement cost. Update the current replacement cost, where required, using benchmark costing data or applicable inflationary indices.

2. Define and assess current asset conditions, based on a combination of input from Township staff, and existing background reports and studies (e.g., 2024 Building Condition Assessments).

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 and operating expenditures required to achieve these levels of service outcomes.

5. Document the asset management plan in a formal report to inform future decision-making and to communicate planning to municipal stakeholders.

Chapter 2
Transportation

2. State of Local Infrastructure and Levels of Service

2.1 Transportation

2.1.1 State of Local Infrastructure

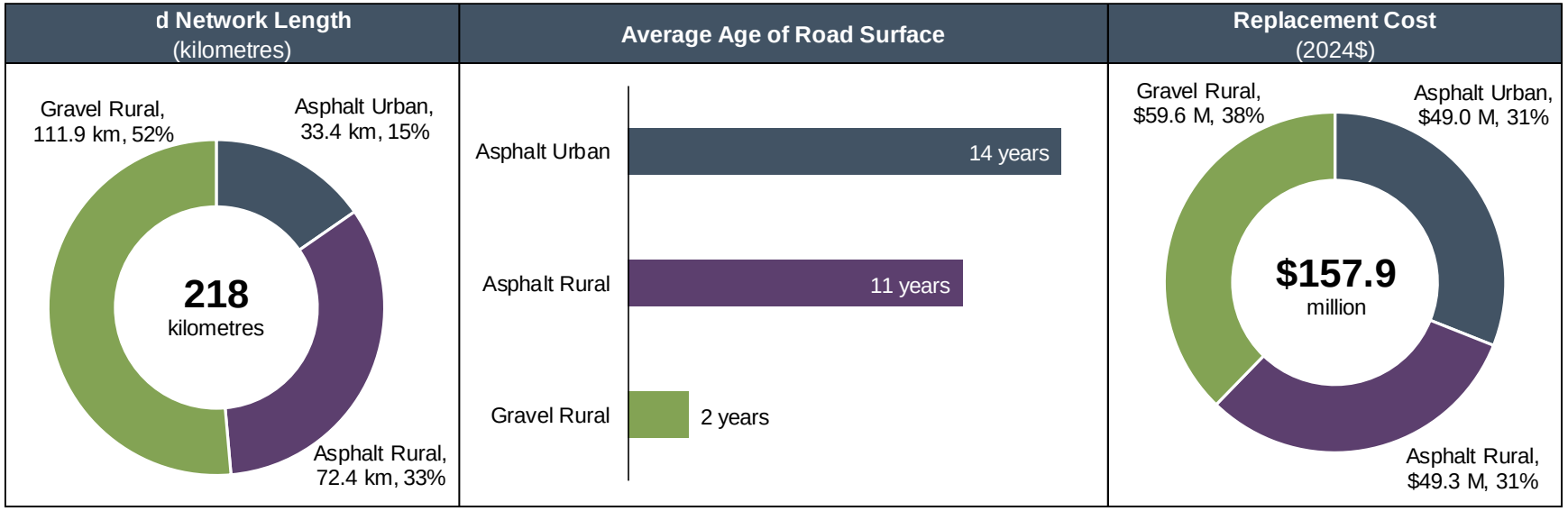
The Township owns and manages a variety of assets that support the provision of Transportation Services and that contribute to the overall level of service provided by the Township. Transportation assets comprise roads, structures, sidewalks, and streetlights. The replacement cost of these assets is approximately $221 million.

The road network comprises roads with two surface types: asphalt and gravel. Asphalt roads are further broken down by roadside environment – urban and rural. The estimated replacement cost of roads is approximately $158 million. Responsibility for boundary roads is shared with neighbouring municipalities, reducing the total replacement cost that the Township is responsible for to approximately $153 million. Table 2-1 provides a breakdown of the road network by surface type and roadside environment, showing centreline-kilometres, average age, replacement cost, and the Township's share of the replacement cost it is responsible for. A visual rendering of the data presented in Table 2-1 is provided in Figure 2-1.

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

Surface Type	Roadside Environment	Centreline-kilometres	Average Age of Surface (years)	Replacement Cost (2024$)	Township Ownership Share	Replacement Cost - Township Share (2024$)
Asphalt	Urban	29.1	14.4	$49,000,000	99.5%	$48,800,000
Asphalt	Rural	72.4	11.0	$49,300,000	94.3%	$46,500,000
Gravel	Rural	111.9	2.0	$59,600,000	96.0%	$57,200,000
Total		**217.7**	**6.9**	**$157,900,000**	**96.6%**	**$152,500,000**

Figure 2-1: Road Network Summary Information



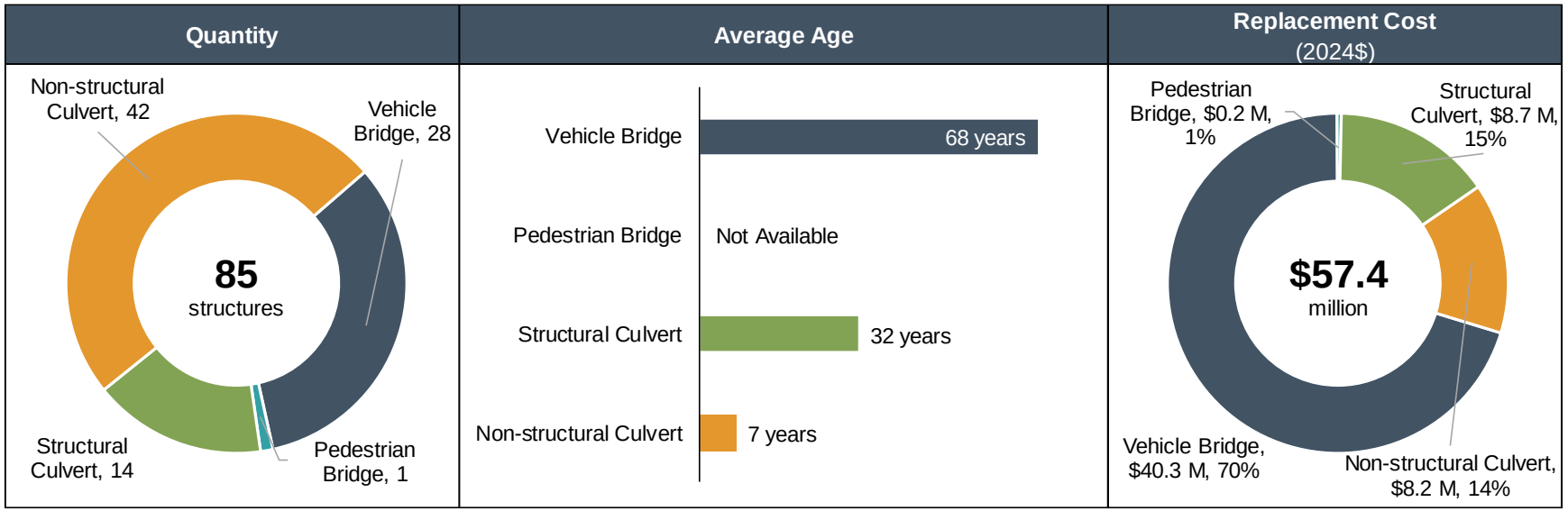
The Township has 28 vehicle bridges, 1 pedestrian bridge, 14 structural culverts (diameter ≥ 3m) and 42 non-structural culverts with an estimated combined replacement cost of $57.4 million. The average age of structures is 59.9 years.[1] Thirteen of the Township's structures (four vehicle bridges, one structural culvert, and eight non-structural culverts) are on boundary roads. The costs related to these structures are shared with neighboring municipalities. Table 2-2 provides a breakdown of the counts, average ages, replacement costs, and ownership shares by structure type. A visual rendering of the data presented in Table 2-2 is provided in Figure 2-2.

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

Structure Type	Quantity	Average Age (years)	Replacement Cost (2024$)	Township Ownership Share	Replacement Cost - Township Share (2024)
Vehicle Bridge	28	67.8	$40,260,000	96%	$38,510,000
Pedestrian Bridge	1	Not Available	$230,000	100%	$230,000
Structural Culvert	14	31.8	$8,650,000	98%	$8,500,000
Non-structural Culvert	42	7.2	$8,210,000	94%	$7,760,000
Total	**85**	**59.9**	**$57,350,000**	**96%**	**$55,000,000**

[1] Age data was only available for 65% of structures. Age data was available for all vehicle bridges, no pedestrian bridges, 57% of structural culverts, and 43% of non-structural culverts. The reported averages are based on the structures with known age.

Figure 2-2: Bridge and Culvert Summary Information

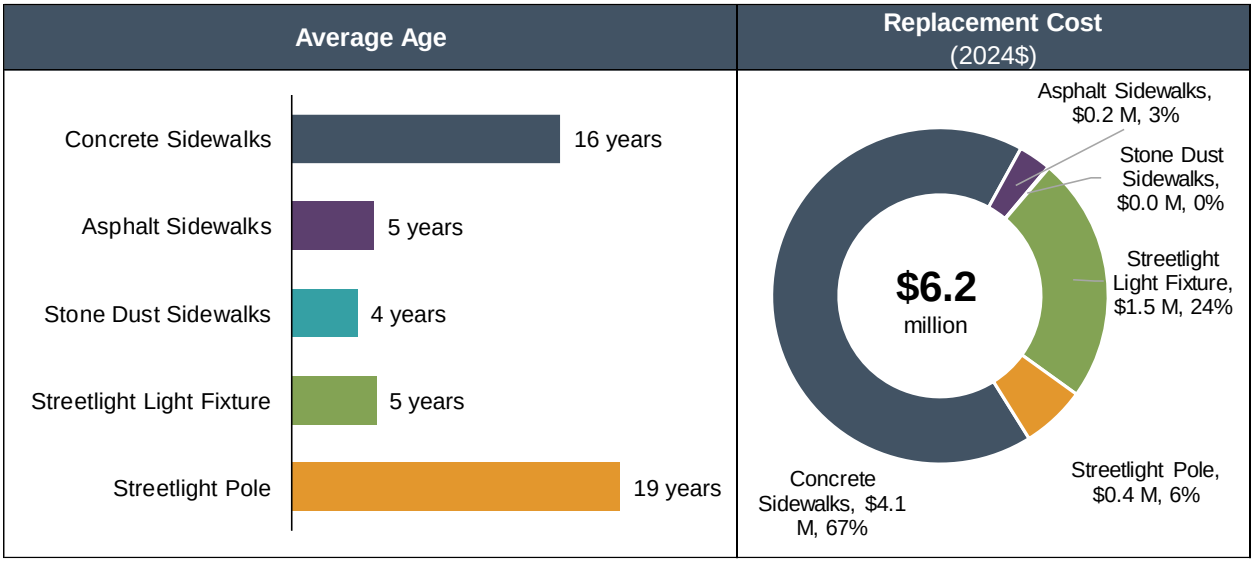


The Township has 46.6 kilometres of sidewalks and 572 streetlights with an estimated combined replacement cost of $6.2 million. The average age of these assets is 13.1 years. Table 2-2 provides a breakdown of the quantity, average age, and replacement cost by asset category. A visual rendering of the data presented in Table 2-2 is provided in Figure 2-2.

Table 2-3: Sidewalks and Streetlights – Summary of Asset Quantity, Age, and Replacement Cost by Asset Category

Asset Category	Asset Quantity	Average Age	Replacement Cost (2024$)
Concrete Sidewalks	36,399 m²	15.8	$4,120,000
Asphalt Sidewalks	7,140 m²	4.9	$193,000
Stone Dust Sidewalks	3,078 m²	3.9	$6,000
Streetlight Light Fixture	572	5.0	$1,461,000
Streetlight Pole	263	19.3	$380,000
Total/Average		**13.1**	**$6,160,000**

Figure 2-3: Sidewalks and Streetlights Summary Information



2.1.2 Condition

The Township assessed the cracks and rutting of its roads by estimating the severity and extent of distresses using the scales shown in Table 2-4 and Table 2-5. The assessment was done by road segment, typically intersection to intersection.

Table 2-4: Severity of Cracks and Rutting Distresses – Five-point Scale

Severity	Cracks	Rutting
No Defects (0 points)	No Cracks	No rutting
Very Slight (1 point)	Single hairline cracks, < 3mm width. or Alligator pattern forming.	3-6mm deep, usually no longitudinal cracks.
Slight (2 points)	Single cracks, 3 -12 mm width. or Alligator pattern established with block corners fracturing.	7-12mm deep, may include single longitudinal cracks.
Moderate (3 points)	Single cracks, 13-19 mm width. or Multiple cracks starting. or Alligator pattern established with spalling of blocks.	13-19mm deep, may include multiple longitudinal cracks. Dual rutting may begin to be visible.
Severe (4 points)	Single cracks, 20-25 mm width. or Multiple cracks with spalling starting. or Blocks begin to lift. Small potholes from missing blocks.	20-25mm deep, may include multiple longitudinal cracks. May include dual rutting.
Very Severe (5 points)	Single cracks, >25 mm width. or Multiple cracks with spalling developed. or Polygon blocks lifting. Potholes from missing blocks.	>25mm deep, may include multiple longitudinal cracks. Usually includes dual rutting.

Table 2-5: Extent of Cracks and Rutting Distresses – Five-point Scale

Extent	Percentage of Surface Affected
Few (1 point)	<10%
Intermittent (2 points)	10-20%
Frequent (3 points)	20-50%
Extensive (4 points)	50-80%
Throughout (5 points)	80-100%

The severity and extent assessments were combined into single indexes for cracks and rutting using the equation: $Index = 20 \times \left[5 - Severity \times \left(0.5 + \frac{Extent}{10}\right)\right]$. The formula produces an index from 0 to 100 with 100 being a road with no cracking or rutting and 0 being a road with severe and extensive cracking or rutting. Table 2-6 shows the resulting index scores with condition states shown in Table 2-7.

Table 2-6: Mapping from Severity and Extent to Index

			Extent				
			<10%	10-20%	20-50%	50-80%	80-100%
			1	2	3	4	5
Severity	No Defects	0	100	100	100	100	100
	Very Slight	1	88	86	84	82	80
	Slight	2	76	72	68	64	60
	Moderate	3	64	58	52	46	40
	Severe	4	52	44	36	28	20
	Very Severe	5	40	30	20	10	0

Table 2-7: Condition States

Condition States	Index Range
Excellent	85 ≤ Index ≤ 100
Very Good	70 ≤ Index < 85
Good	60 ≤ Index < 70
Fair	40 ≤ Index < 60
Poor	20 ≤ Index < 40
Very Poor	10 ≤ Index < 20
Failed	0 ≤ Index < 10

The distributions of road length by Cracking and Rutting indexes are shown in Figure 2-4 and Figure 2-5, respectively.

Figure 2-4: Distribution of Asphalt Road Length by Cracks Index

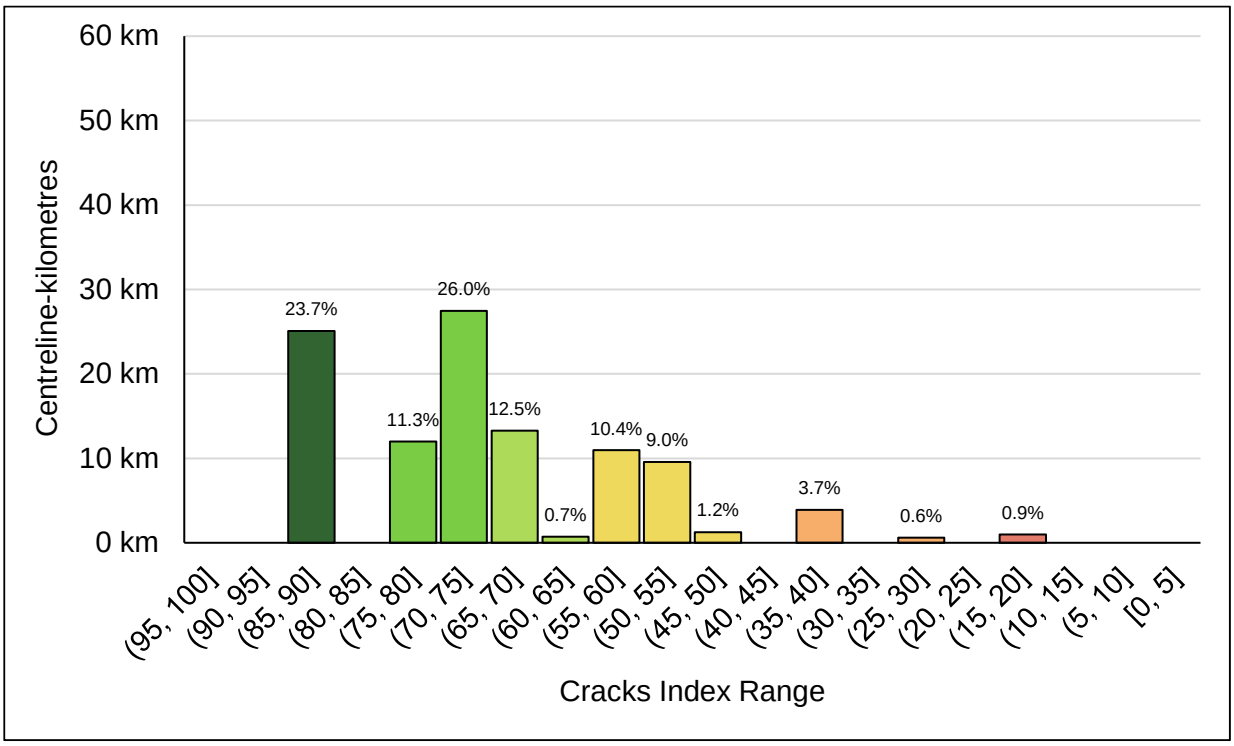
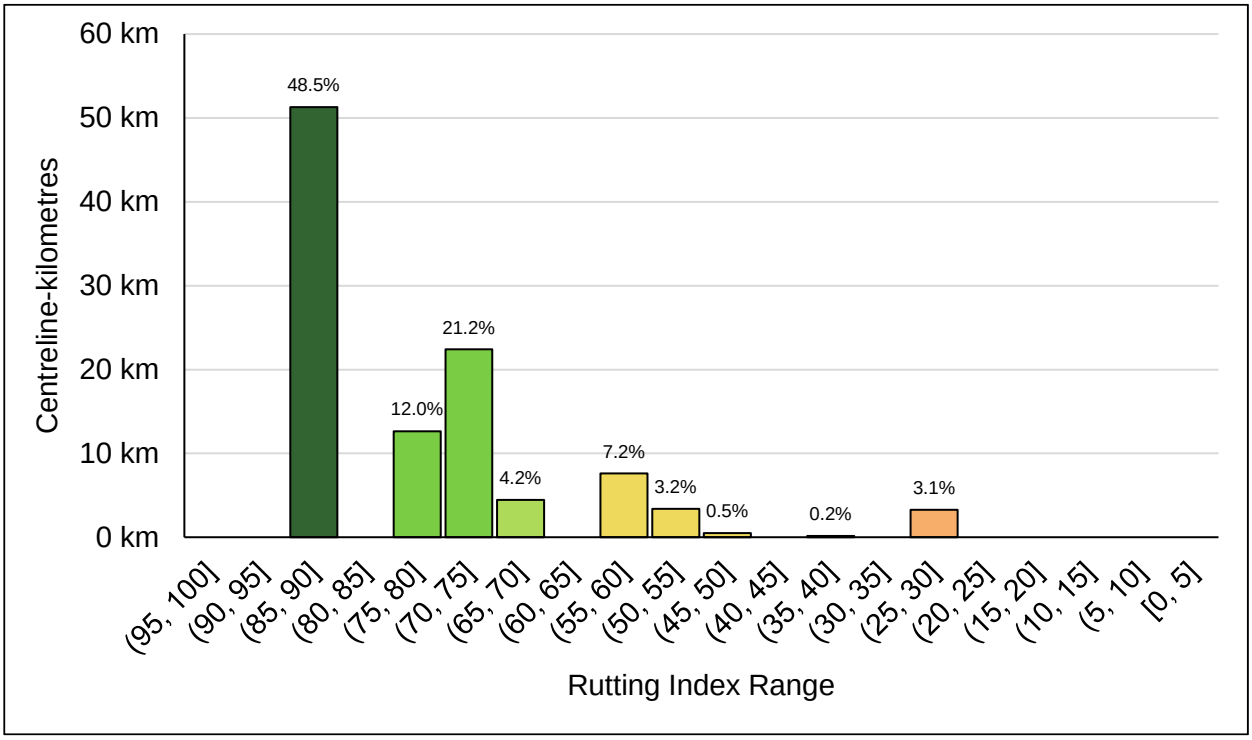
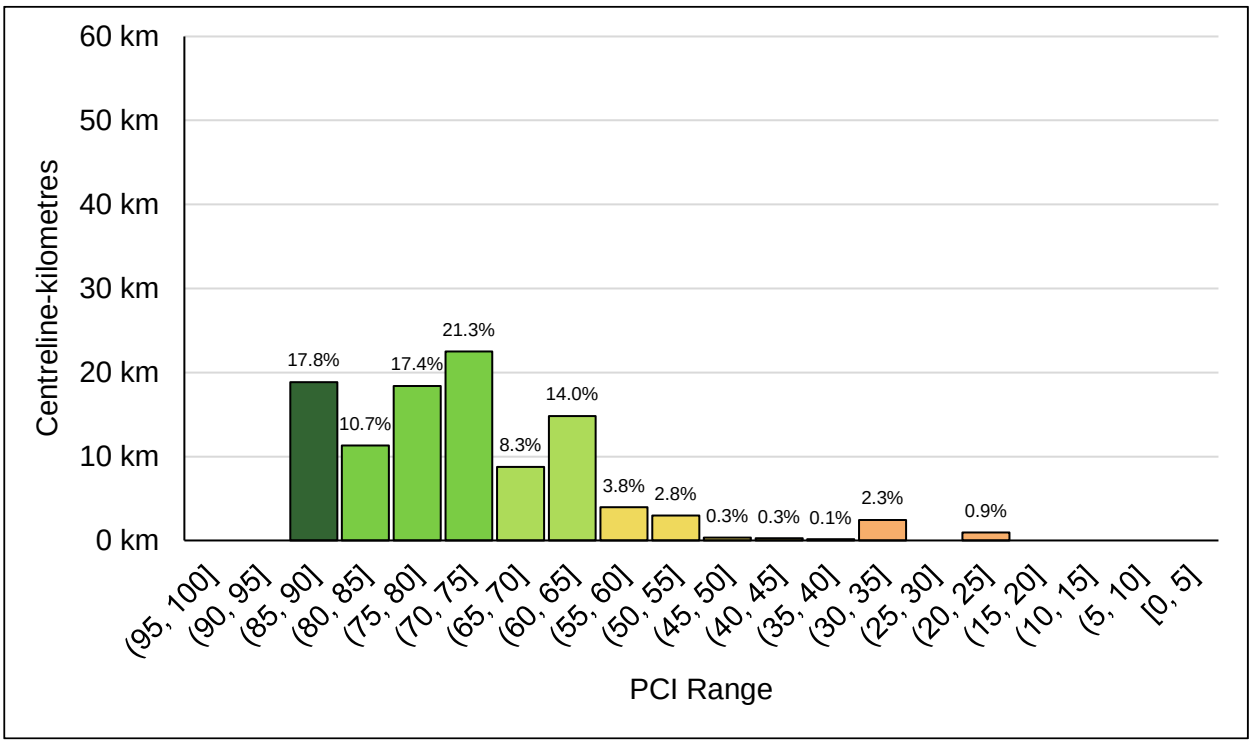


Figure 2-5: Distribution of Asphalt Road Length by Rutting Index



A single Pavement Condition Index (PCI) is created by averaging the Cracks Index and Rutting Index. Figure 2-6 shows the distribution of road length by PCI intervals.

Figure 2-6: Distribution of Asphalt Road Length by PCI



The Township re-gravels its roads on a 3-year cycle, aiming to maintain them in a condition of Fair to Good. While gravel roads were not assessed for condition, the Township believes that their re-gravelling plan is achieving the desired outcome.

Table 2-8 summarizes the information shows the average cracks index, rutting index, PCI, and Condition state of roads by surface type, roadside environment, and presence of stormwater mains. On average, paved roads are all in the Very Good condition state and gravel roads are in the Fair to Good condition state.

Table 2-8: Road Condition Analysis

Surface Type	Roadside Environment	Centreline-kilometres	Average Cracking Index	Average Rutting Index	Average PCI	Average Condition State
Asphalt	Urban	33.4	64	77	70	**Very Good**
Asphalt	Rural	72.4	73	77	75	**Very Good**
Gravel	Rural	111.9	Not Applicable	Not Applicable	Not Applicable	**Fair to Good**
Total		**217.7**	**70**	**77**	**73**	

In accordance with O. Reg. 104/97, the Township completes biennial inspections of its bridges and structural culverts following the OSIM. The most recent inspections were completed by GM BluePlan Engineering Limited in 2022. Each bridge and culvert 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 to better communicate the condition to the reader. Table 2-9 summarizes the BCI ratings and the condition state they represent.

Table 2-9: Examples and Descriptions of Bridge and Culvert Condition States

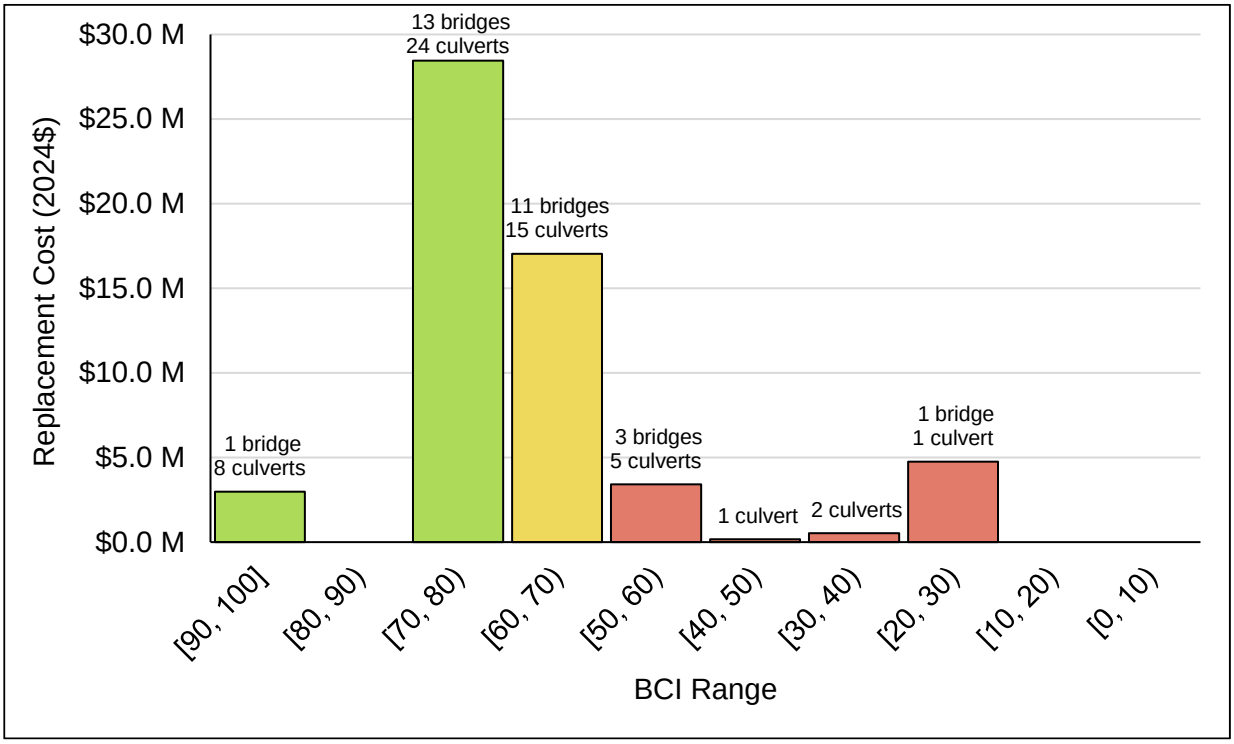
Condition State	Bridge Photos	Culvert Photos	Description
Good 70 ≤ BCI ≤ 100			
Fair 60 ≤ BCI < 70			Maintenance work is usually scheduled within the next five years. This is the ideal time to schedule major bridge repairs to get the most out of bridge spending.
Poor 0 ≤ BCI < 60			Maintenance work is usually scheduled within one year. Structure may be at increased risk of requiring a loading restriction to be posted.

The average BCI ratings and corresponding condition states for bridges and culverts are summarized in Table 2-10 below. On average, culverts are in the Good condition state, vehicle bridges are in the Fair condition state, and the pedestrian bridge is in the poor condition state. The distribution of structure condition (as measured by BCI) by structure replacement value by is presented in Figure 2-7.

Table 2-10: Bridges and Culverts Condition Analysis

Structure Type	Quantity	Condition (Weighted Average BCI)	Average Condition State
Vehicle Bridge	26	64.0	**Fair**
Pedestrian Bridge	1	54.3	**Poor**
Structural Culvert	15	71.1	**Good**
Non-structural Culvert	43	70.2	**Good**
Total	**85**	**65.9**	**Fair**

Figure 2-7: Distribution of Structure Replacement Cost by BCI



The condition of the Township's sidewalks and streetlights has not been directly assessed through a physical condition assessment. When the age and expected useful life of an asset is known, the condition is evaluated based on age relative to the expected useful life (i.e., based on the percentage of useful life consumed (ULC%)). A brand-new asset would have a ULC% of 0%, indicating that zero percent of the asset's life expectancy has been utilized. On the other hand, an asset that has reached its life

expectancy would have a ULC% of 100%. It is possible for assets to have a ULC% greater than 100%, which occurs if an asset has exceeded its typical life expectancy but continues to be in service. This is not necessarily a cause for concern; however, it must be recognized that assets that are near or beyond their typical life expectancy are likely to require replacement or rehabilitation in the near term.

To better communicate the condition of sidewalks, streetlights, and other assets where ULC% will be used, the ULC% ratings have been segmented into qualitative condition states as summarized in Table 2-11. The scale is set to show that if assets are replaced around the expected useful life, they would be in the Fair condition state. Beyond 100% of useful life, the probability of failure is assumed to have increased to a point where performance would be characterized as Poor or Very Poor.

Table 2-11: Condition States Defined with Respect to ULC%

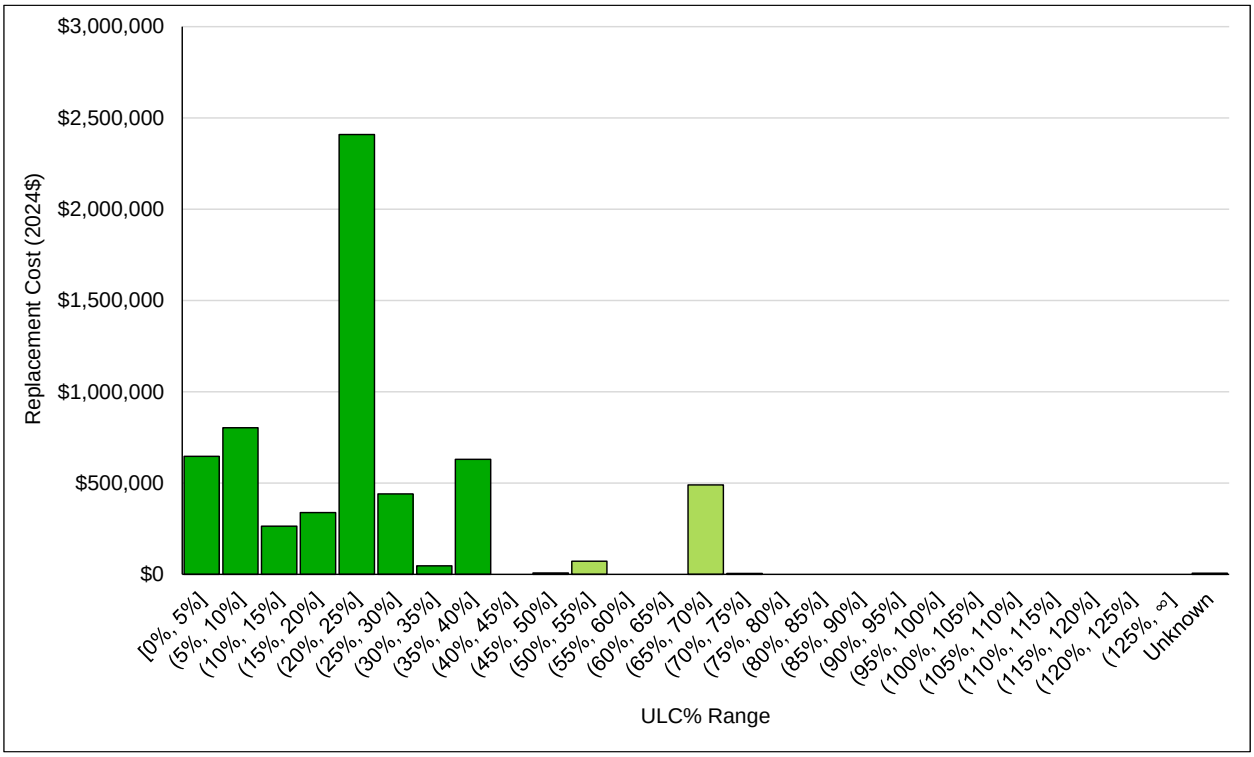
ULC%	Condition State
0% ≤ ULC% ≤ 45%	**Very Good**
45% < ULC% ≤ 90%	**Good**
90% < ULC% ≤ 100%	**Fair**
100% < ULC% ≤ 125%	**Poor**
125% < ULC%	**Very Poor**

Table 2-12 shows a summary of the age-based condition for all sidewalks and streetlights except for stone dust sidewalks, which are maintained indefinitely through operating activities and thus do not have an expected useful life. Figure 2-8 shows the distribution of these sidewalk and streetlight assets (measured by replacement cost) by ULC%.

Table 2-12: Condition Analysis – Sidewalks and Streetlights

Asset Category	Average ULC%	Average Condition Rating
Concrete Sidewalks	25%	Very Good
Asphalt Sidewalks	19%	Very Good
Stone Dust Sidewalks	Not Available	Not Available
Streetlight Light Fixture	25%	Very Good
Streetlight Pole	19%	Very Good
Total/Average	**24%**	**Very Good**

Figure 2-8: Distribution of Sidewalks and Streetlights by ULC%



2.1.3 Current Levels of Service

The levels of service currently provided by the Township's transportation system are, in part, a result of the state of local infrastructure identified above. The levels of service framework 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 2-13 and Table 2-14 include the prescribed technical levels of service along with additional levels of service developed by the Township. The levels of service measures were developed through identification of service aspects that are of interest to the users of transportation assets.

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 2-13 explains the Township's intent in plain language and provides additional information about the service being provided;
- The Performance Measure column in Table 2-14 describes the performance measure(s) connected to the identified service attribute; and
- The 2023 Performance column in Table 2-14 reports current performance for the performance measure.

Table 2-13: Community Levels of Service – Roads and Bridges & Culverts

Service Attribute	Community Levels of Service
Scope	The Township's transportation assets enable the movement of people and goods within the Township and provide connectivity to regional roads. In addition to passenger vehicles, the Township's transportation assets also support public transit, commercial truck traffic, movement of agricultural equipment, and reliable emergency vehicle access to all areas of the Township. The broader transportation network also supports other transportation modes such as walking and cycling.
	The Township provides street lighting on almost all residential streets.
Quality	The Township strives to maintain road and bridge surfaces to a level that supports comfortable passage of vehicles.
	To aid in interpreting condition states, photos of roads, bridges, and culverts in different condition states are shown in Table 2-4, Table 2-5, and Table 2-9. A general description of how each condition state may affect the use of these assets is also provided in these tables.
Safety	The Township ensures that safety concerns related to sidewalks are addressed in a timely manner.
	The Township ensures that high-traffic rural intersections are well lit.
Accessibility	The Township strives to ensure that sidewalks are accessible for all users.

Table 2-14: Technical Levels of Service – Transportation

Service Attribute	Performance Measure	2023 Performance
Scope	Number of lane-kilometres of arterial roads as a proportion of square kilometres of land area of the municipality.	N/A
	Number of lane-kilometres of collector roads as a proportion of square kilometres of land area of the Township.	1.23 km/km²
	Number of lane-kilometres of local roads as a proportion of square kilometres of land area of the Township.	0.34 km/km²
	Percentage of bridges in the Township with loading or dimensional restrictions.	0%
	Percentage of residential streets (by length) with street lighting	100%
Quality	For paved roads in the municipality, the average pavement condition index value.	73
	For paved roads in the Township, the average cracking index value.	70
	For paved roads in the Township, the average rutting index value.	77
	For unpaved roads in the Township, the average surface condition.	Good to Fair
	Percentage of gravel roads that have been re-gravelled at least once in the past three years	100%
	Application of dust suppressant to gravel road surfaces	Once per year
	Percentage of road network that is paved.	48.6%
	Percentage of shoulders graded in past year	100%
	For bridges in the Township, the average bridge condition index value.	63.9
	Number of bridges in the Poor condition state (BCI < 60)	4

Service Attribute	Performance Measure	2023 Performance
Quality (continued)	For structural culverts[1] in the Township, the average bridge condition index value.	71.1
	Number of structural culverts in the Poor condition state (BCI < 60)	0
Safety	Number (percentage) of bridges and culverts with guiderail deficiencies.	3 (3.5%)
	Percentage of identified sidewalk discontinuities over 1/2 an inch that are addressed within the timeframe specified in Ontario Regulation 239/02	100%
	Percentage of Township-owned intersections of asphalt roads in rural areas that have street lighting	100%
Accessibility	Percentage of sidewalks (by length) that are at least 1.5 m wide	56%

2.2 Stormwater

2.2.1 State of Local Infrastructure

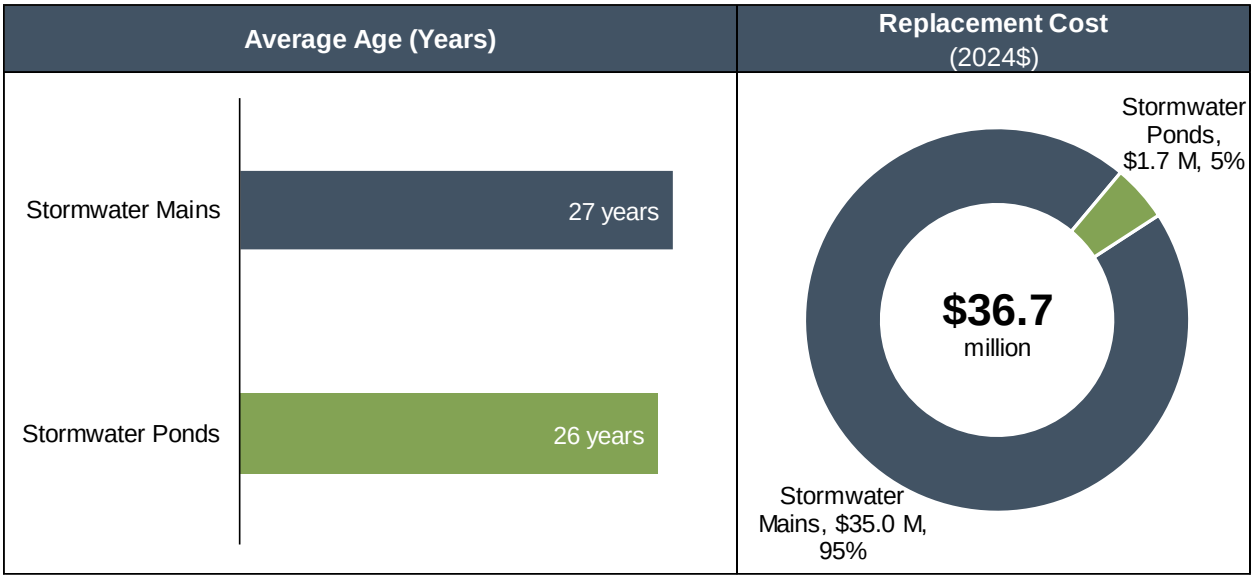
The Township owns and manages a variety of assets that support the management of stormwater runoff within settlement areas. The Township's stormwater infrastructure comprises approximately 33 kilometres of stormwater mains (including appurtenances such as maintenance holes and catch basins), and eight stormwater ponds. The combined replacement cost of this infrastructure is estimated at $36.7 million. Table 2-15 shows summary information for the Township's stormwater system, including quantities, average ages and replacement costs by asset category. A visual rendering of the data presented in Table 2-15 is provided in Figure 2-9.

[1] Structural culverts are culverts with a diameter greater than or equal to three metres.

Table 2-15: Summary of Assets, Age, and Replacement Cost by Asset Category – Stormwater

Asset Category	Description of Assets	Average Age	Replacement Cost (2024$)
Stormwater Mains	33.3 kilometres of stormwater mains, including associated assets such as maintenance holes and catch basins	26.7	$35,000,000
Stormwater Ponds	8 stormwater ponds	25.8	$1,700,000
Total		**54.4**	**$36,700,000**

Figure 2-9: Summary Information – Stormwater



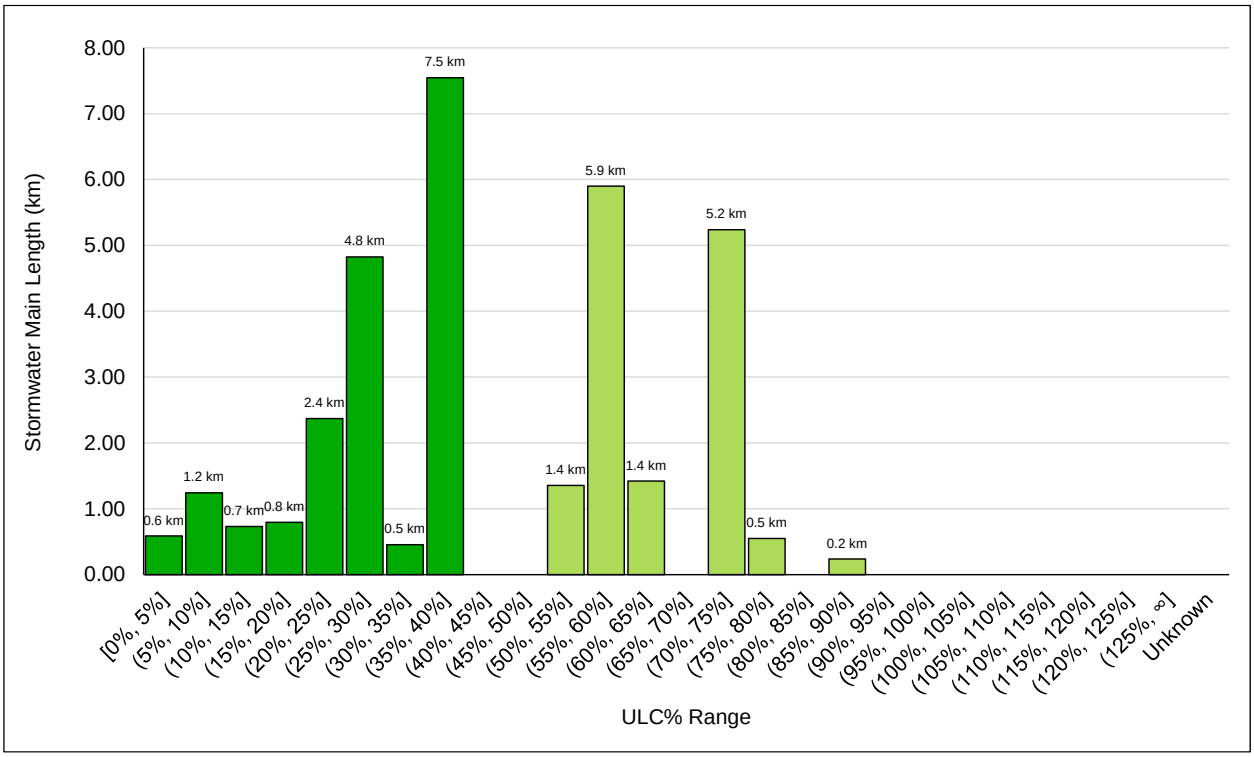
2.2.2 Condition

The condition of the Township's stormwater mains was evaluated based on age relative to the expected useful life, as was done with sidewalks and streetlights (see section 2.1.2). The average condition of the Township's stormwater mains is a ULC% of 44.5%, which corresponds to an average condition state of "Very Good". The distribution of the Township's stormwater mains (as measured by ULC%) is presented in Figure 2-10.

The condition of the Township's stormwater ponds was comprehensively assessed in 2023 by GM BluePlan. However, an overall condition rating was not provided through

those assessments. The Township should consider developing a condition rating system for its stormwater ponds so that a summary of their condition can be reported in the next iteration of the asset management plan.

Figure 2-10: Distribution of Stormwater Mains by Condition State



2.2.3 Current Levels of Service

The levels of service currently provided by the Township's stormwater infrastructure are, in part, a result of the state of local infrastructure identified above. The levels of service framework 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 stormwater assets. Table 2-16 and Table 2-17 include the prescribed technical levels of service along with additional levels of service developed by the Township. The levels of service measures were developed through identification of service aspects that are of interest to the users of stormwater assets.

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 2-16 explains the Township's intent in plain language and provides additional information about the service being provided;
- The Performance Measure column in Table 2-17 describes the performance measure(s) connected to the identified service attribute; and
- The 2023 Performance column in Table 2-17 reports current performance for the performance measure.

Table 2-16: Community Levels of Service – Stormwater

Service Attribute	Community Levels of Service
Scope	The stormwater management system provides for the collection of stormwater in order to protect properties and roads from flooding, and to manage the volume and quality of stormwater discharged back into the environment.
	Settlement areas within the Township are serviced by municipal stormwater infrastructure.
Reliability	The Township inspects and maintains the stormwater system to ensure that it functions as intended.

Table 2-17: Technical Levels of Service – Stormwater

Service Attribute	Performance Measure	2023 Performance
Scope	Percentage of properties in municipality resilient to a 100-year storm.	N/A[1]
	Percentage of the municipal stormwater management system resilient to a 5-year storm.	100%[2]
Reliability	Frequency of CCTV inspections of SW mains.	As-needed (e.g., as part of road reconstruction projects)
	Percentage of SWM Pond inspected (sedimentation) at least once in the past 10 years	100%
	Percentage of SWM ponds visually inspected in past year	0%
	Frequency of catch basin cleanouts	Reactive (when blockages occur)

2.3 Facilities

2.3.1 State of Local Infrastructure

The Township owns and manages a variety of facilities that support the provision of Public Works, Fire, and Parks and Recreation services. The replacement cost of these facilities is approximately $101 million. Parks and Recreation facilities account for approximately 75% of the replacement cost, followed by Public Works facilities (14%) and Fire facilities (11%). Table 2-18 provides a breakdown of facilities by Department,

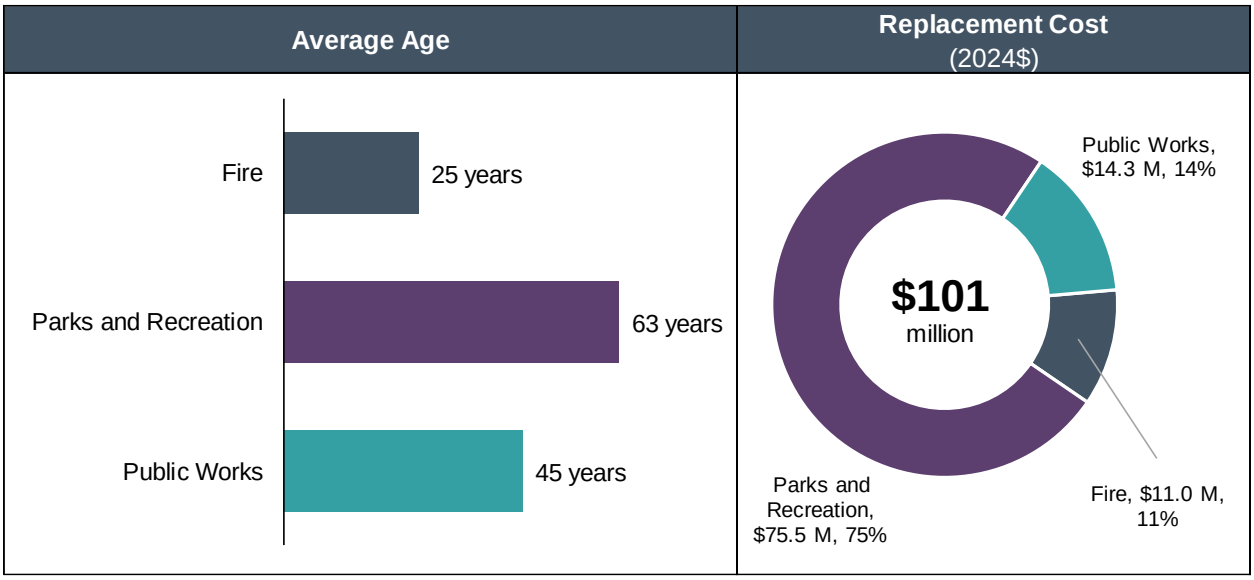
[1] The Township has not received any reports of flooding during recent significant rainfall events. Therefore, it would appear that most properties in the Township are resilient to a 100-year storm. The Township will further assess resiliency as part of its ongoing asset management planning efforts.
[2] This is a preliminary estimate. The Township will further evaluate resiliency of its stormwater management system as part of its ongoing asset management planning efforts.

showing descriptions, average age, and replacement cost. A visual rendering of the data presented in Table 2-18 is provided in Figure 2-11.

Table 2-18: Summary of Assets, Age, and Replacement Cost by Department – Facilities

Department	Description of Facilities	Average Age	Replacement Cost (2024$)
Fire	Fire halls (3)	25.4	$11,027,000
Parks and Recreation	Arena, sports complexes (2), community centres (3), libraries (2), outdoor washroom, ball press box, storage sheds (2)	63.1	$75,482,000
Public Works	Administration building, Council chambers, public works shops (2), salt dome	45.0	$14,312,000
Total		**56.4**	**$100,821,000**

Figure 2-11: Summary Information – Facilities



2.3.2 Condition

Condition assessments were completed for nine[1] of the Township's 20 facilities by Witzel Dyce Engineering Inc. in 2024. As part of the assessments, assessors estimated the cost of capital projects they thought would be required over the next 10 years. This information, combined with estimates of the replacement cost of facilities, can be used to calculate Facility Condition Index (FCI) ratings to provide an overall measure of each facility's condition. FCI ratings are calculated by expressing the sum of identified capital requirements as a percentage of the replacement cost of the facility. FCI ratings are subsequently converted to a qualitative condition state. Table 5-2 summarizes condition states based on FCI.

Table 2-19: Condition States Defined with Respect to FCI

FCI	Condition State
0% ≤ FCI < 2.5%	**Very Good**
2.5% ≤ FCI < 5%	**Good**
5% ≤ FCI < 10%	**Fair**
100% ≤ FCI < 30%	**Poor**
30% ≤ FCI	**Very Poor**

FCIs were estimated to be 0% for the St. Clements fire station and the Bill Gies Complex because they were constructed within the last five years and no capital projects are anticipated over the next 10 years. In all, FCI-based condition states were evaluated for 11 of the Township's 20 facilities.

Six[2] of the nine remaining facilities were assessed by Township staff using a 5-point component condition rating scale based on guidance from the Institute of Public Works

[1] The following facilities were assessed by Witzel Dyce Engineering Inc.: Administration building, Public Works shop 1, Council chambers, Linwood fire station, Wellesley fire station, Wellesley library, St. Clements recreation complex, Hawkesville community centre, and Linwood community centre.
[2] The following facilities were assessed by Township staff: Public Works shop 2, salt dome, St. Clements ball press box, St. Clements library, St. Clements outdoor washrooms, Linwood storage shed.

Engineering Australasia's International Infrastructure Management Manual. In each of the facilities between six and 13 components were assessed depending on the complexity of the facility. An overall condition state was evaluated for each facility by averaging the condition ratings of the components.

The three facilities at the Wellesley Arena[1] were not assessed because the facilities are not currently in use.

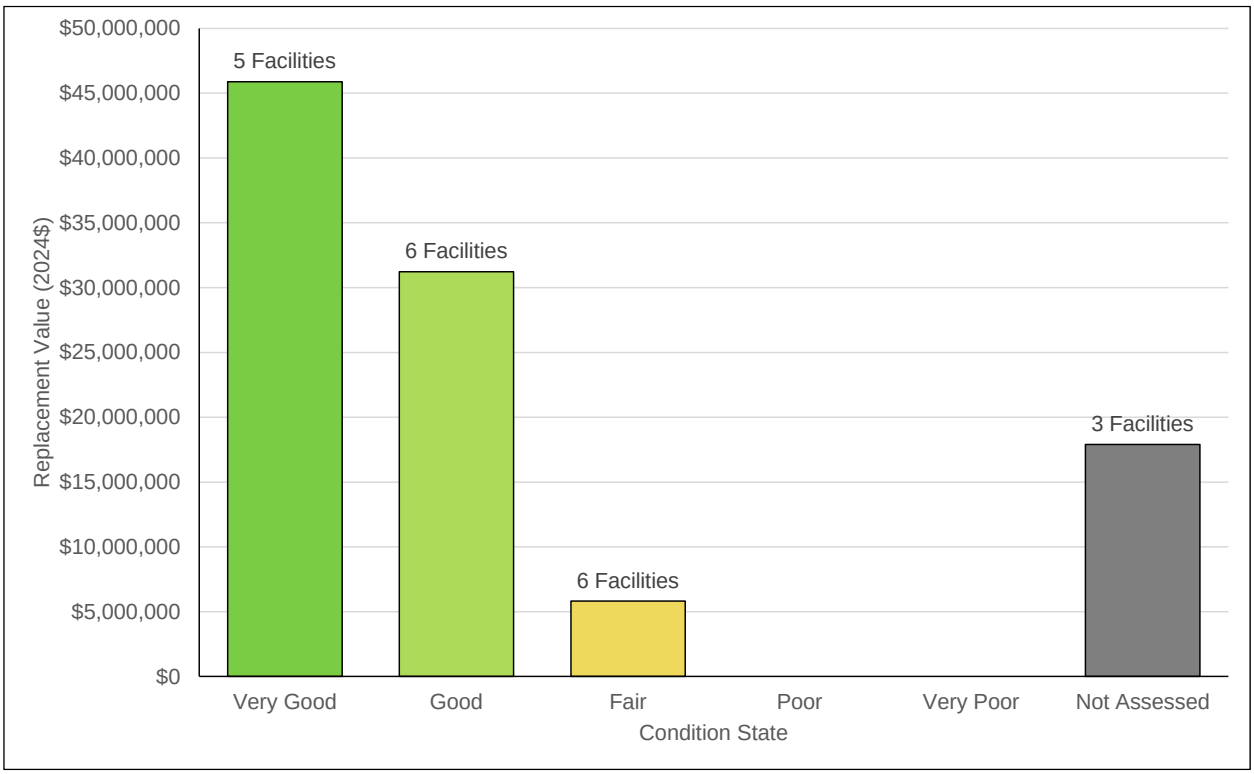
Table 2-20 shows a summary of the condition states evaluated for the 82% of facilities that were rated using the approaches described above. Figure 2-12 shows the distribution of these facilities (measured by replacement cost) by condition state.

Table 2-20: Condition Analysis – Facilities

Department	Average Condition State
Fire	Very Good
Parks and Recreation	Very Good
Public Works	Good

[1] The closed Wellesley Arena includes the following facilities: Wellesley Arena, Wellesley Community Centre, and Wellesley Storage Shed (old fire station).

Figure 2-12: Distribution of Facilities by Condition State



2.3.3 Current Levels of Service

The levels of service currently provided by the Township's facilities are, in part, a result of the state of local infrastructure identified above. The levels of service framework presented in this subsection defines the levels of service that the Township will track over time for its facility assets. It is noted that O. Reg. 588/17 does not prescribe any levels of service for non-core assets.

The levels of service framework is presented as follows:

- The Service Attribute columns indicate the high-level attribute being addressed;
- The Community Levels of Service column in Table 2-21 explains the Township's intent in plain language and provides additional information about the service being provided;
- The Performance Measure column in Table 2-22 describes the performance measure(s) connected to the identified service attribute; and
- The 2023 Performance column in Table 2-22 reports current performance for the performance measure.

Table 2-21: Community Levels of Service – Facilities

Service Attribute	Community Levels of Service
Capacity	The Township strives to maintain the capacity of its facilities.
Security	The Township takes steps to deter criminal activities at its facilities.

Table 2-22: Technical Levels of Service – Facilities

Service Attribute	Performance Measure	2023 Performance
Capacity	Gross floor area of municipal administration facilities per 1,000 population	771 ft²
	Gross floor area of public works maintenance facilities per 1,000 population	1,171 ft²
	Number of ice pads per 1,000 population	0.16
	Gross floor area of community centres per 1,000 population	4,989 ft²
	Gross floor area of libraries per 1,000 population	49 ft²
Security	Percentage of facilities (by number) with security cameras	25%
	Percentage of facilities (by number) with door card reader systems	25%
	Percentage of facilities (by number) with adequate perimeter lighting	70%

2.4 Parkland Amenities

2.4.1 State of Local Infrastructure

The Township owns and manages a variety of parkland amenities assets that support the provision of active recreation services. The replacement cost of these assets is approximately $6.86 million, with ball diamonds and playground equipment accounting for almost two-thirds of the replacement cost (61%). The remaining 39% of replacement cost is accounted for by soccer fields (15%), sports pads/skate parks

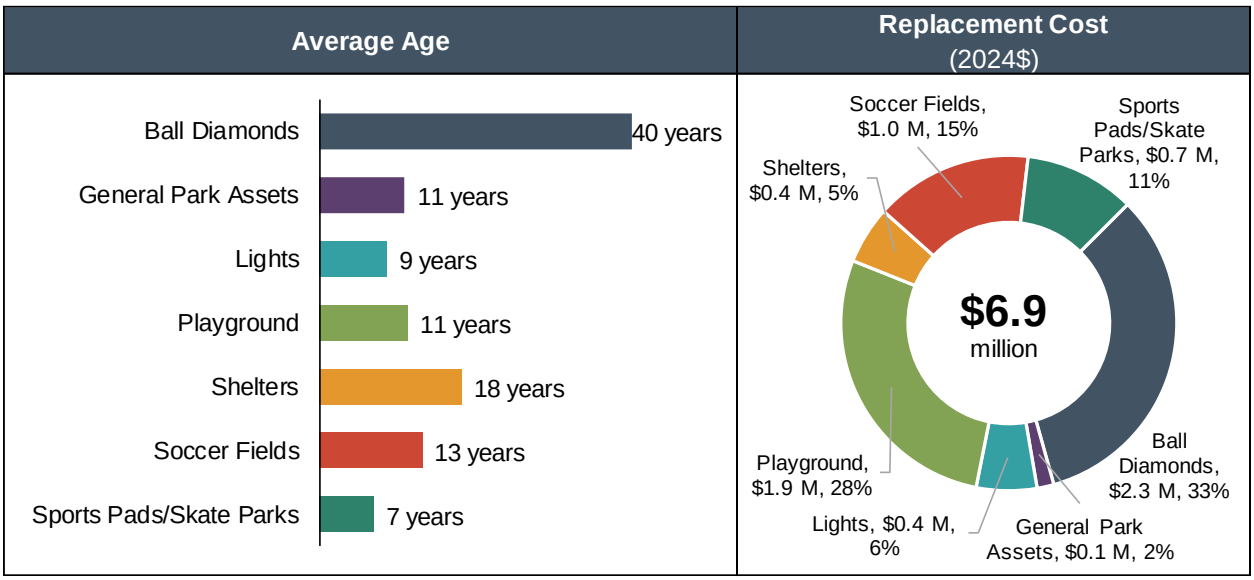
(11%), lights and shelters (6% each), and general park assets (2%). Table 2-23 provides a breakdown of parkland amenities by asset category, showing descriptions, average age[1], and replacement cost. A visual rendering of the age and replacement cost data presented in Table 2-23 is provided in Figure 2-13.

Table 2-23: Description of Assets, Average Age, and Replacement Cost by Asset Category – Parkland Amenities

Asset Category	Description of Assets	Average Age	Replacement Cost (2024$)
Ball Diamonds	Ball diamonds (incl. fencing)	40.4	$2,275,000
General Park Assets	Benches, barbage and recycling cans, fencing, nets	11.0	$111,000
Lights	Lighting (incl. posts) at various locations (e.g., parking lots, trails, sport fields)	8.7	$400,000
Playgrounds	Playground equipment	11.3	$1,915,000
Shelters	Pavilions, gazebos, picnic shelters	18.3	$381,000
Soccer Fields	Soccer fields and goal posts	13.2	$1,044,000
Sports Pads/Skate Parks	Multi-use sports pads, skate parks	7.0	$731,000
Total		**21.0**	**$6,856,000**

[1] It is noted that the age is unknown for 25 parkland amenity assets (representing approximately 8% of the total replacement cost). These assets are excluded from the average age values presented in this report.

Figure 2-13: Summary Information – Parkland Amenities



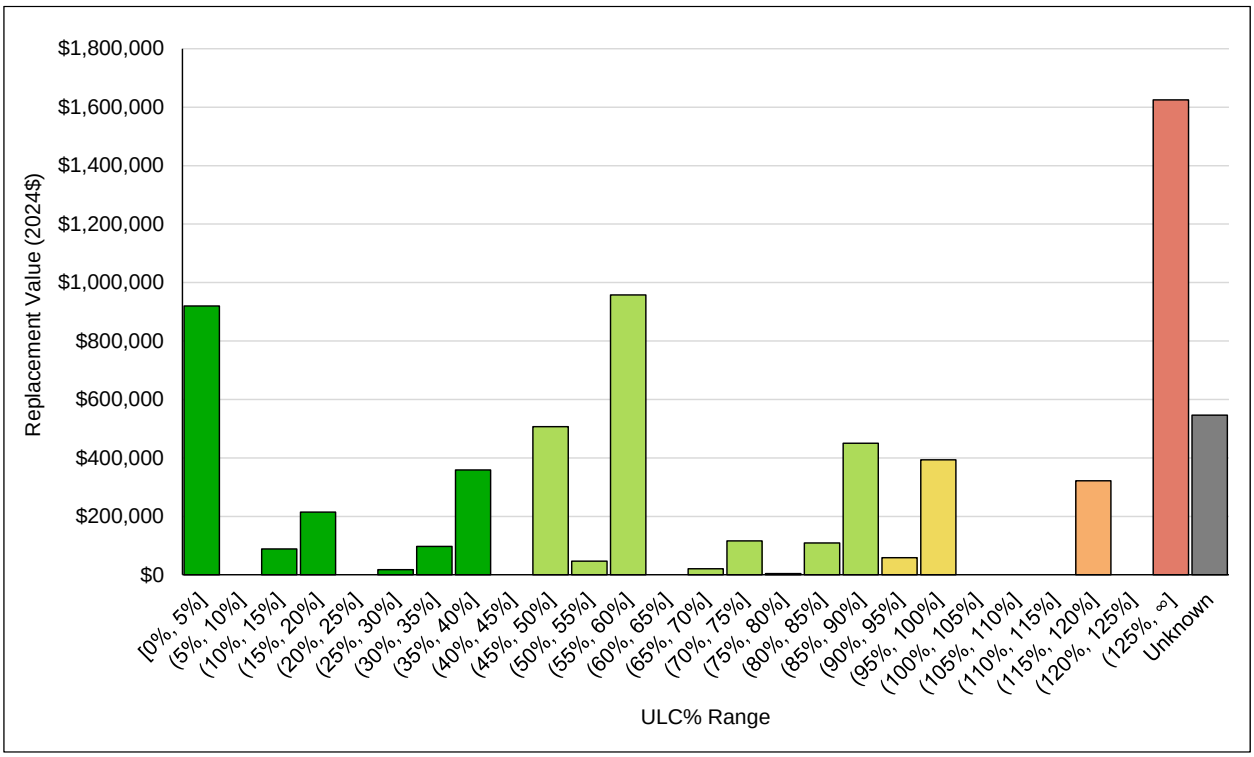
2.4.2 Condition

The condition of the Township's parkland amenities assets was evaluated based on age relative to the expected useful life, as was done with sidewalks and streetlights (see section 2.1.2). Table 2-24 shows a summary of the age-based condition of parkland amenities by asset category, along with the corresponding condition state. Figure 2-14 shows the distribution of parkland amenity replacement cost by condition state (as measured by ULC%).

Table 2-24: Condition Analysis – Parkland Amenities

Asset Category	Average ULC%	Average Condition State
Ball Diamonds	202%	Very Poor
General Park Assets	55%	Good
Lights	40%	Very Good
Playgrounds	45%	Good
Shelters	46%	Good
Soccer Fields	66%	Good
Sports Pads/Skate Parks	35%	Very Good

Figure 2-14: Distribution of Parkland Amenity Assets by Condition State



2.4.3 Current Levels of Service

The levels of service currently provided by the Township's parkland amenities are, in part, a result of the state of local infrastructure identified above. The levels of service framework presented in this subsection defines the levels of service that the Township will track over time for its parkland amenity assets. It is noted that O. Reg. 588/17 does not prescribe any levels of service for non-core assets.

The levels of service framework is presented as follows:

- The Service Attribute columns indicate the high-level attribute being addressed;
- The Community Levels of Service column in Table 2-25 explains the Township's intent in plain language and provides additional information about the service being provided;
- The Performance Measure column in Table 2-26 describes the performance measure(s) connected to the identified service attribute; and
- The 2023 Performance column in Table 2-26 reports current performance for the performance measure.

Table 2-25: Community Levels of Service – Parkland Amenities

Service Attribute	Community Levels of Service
Quality	The Township strives to ensure parks and park amenities are attractive to park users and function as intended.
Availability	The Township provides lighting at some sports amenities to allow evening access to users.
Capacity	The Township strives to maintain the capacity of parks and park amenities.
Accessibility	The Township strives to ensure everyone can use parks.
Safety	The Township strives to ensure playgrounds are safe.

Table 2-26: Technical Levels of Service – Parkland Amenities

Service Attribute	Performance Measure	2023 Performance
Capacity	Percentage of playground play surfaces with water ponding issues	11.1%
	Percentage of playgrounds with condition ratings of fair or better	100%
	Percentage of park sports amenities with water ponding issues	31.6%
	Percentage of multi-use pads that have concrete surfaces (versus asphalt surfaces)	80.0%
	Percentage of trails (by length) with asphalt surfaces (versus gravel, crushed stone, or wood chip surfaces)	69.8%
Availability	Percentage of playgrounds with lighting	33.3%
	Percentage of ball diamonds with lighting	71.4%
	Percentage of soccer fields with lighting	0.0%
	Percentage of multi-use pads with lighting	75.0%
	Percentage of skate parks with lighting	50.0%
Capacity	Park area (hectares) per 1,000 population	2.35
	Number of playgrounds per 1,000 population	0.70
	Number of ball diamonds per 1,000 population	0.54
	Number of soccer fields per 1,000 population	0.54
	Number of multi-use pads per 1,000 population	0.31
	Number of skate parks per 1,000 population	0.16
Accessibility	Percentage of playgrounds with accessible play surfaces (rubberized, engineered wood fiber, or artificial grass)	77.8%
	Percentage of playgrounds with one or more accessible components	55.6%
	Percentage of park amenities with accessible approaches from a parking lot	41.9%
Safety	Percentage of playgrounds that passed the most recent CSA safety inspection	100%

2.5 Fleet and Equipment

2.5.1 State of Local Infrastructure

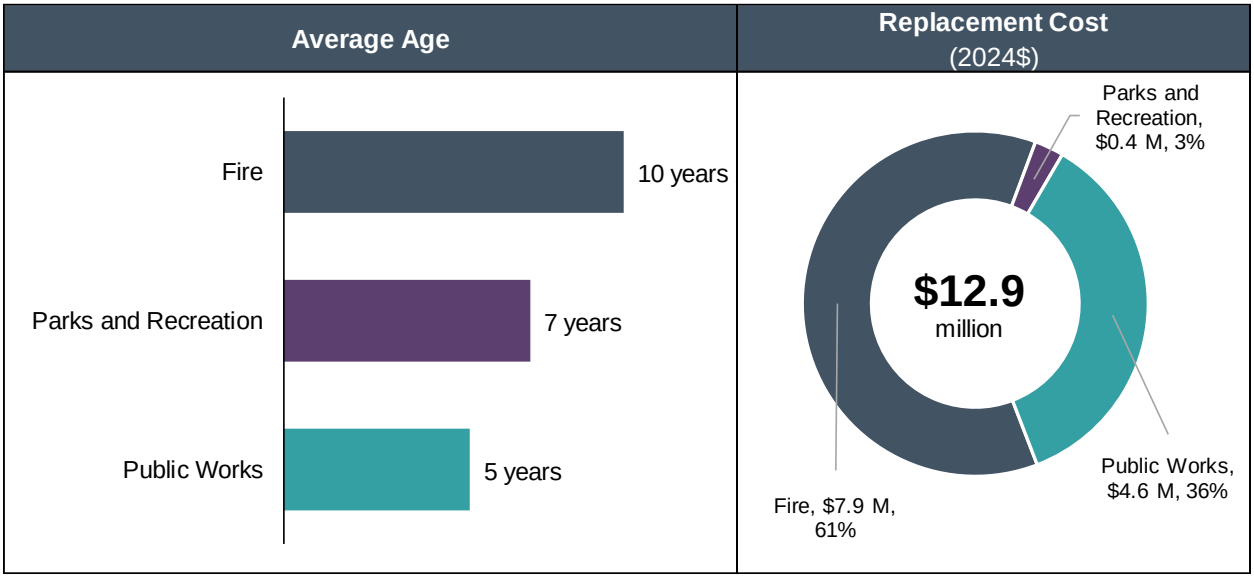
The Township owns and manages a variety of fleet and equipment assets that support the provision of Public Works[1], Fire, and Parks and Recreation services. The replacement cost of these assets is approximately $12.87 million, with Fire assets accounting for almost two-thirds of the replacement cost (62%). The remaining 38% of replacement cost is accounted for by Public Works assets (36%) and Parks and Recreation assets (3%). Table 2-27 provides a breakdown of fleet and equipment assets by department, showing descriptions, quantity, average age[2], and replacement cost. A visual rendering of the age and replacement cost data presented in Table 2-27 is provided in Figure 2-15.

Table 2-27: Description of Assets, Average Age, and Replacement Cost by Department – Fleet and Equipment

Department	Description of Assets	Number of Assets	Average Age	Replacement Cost (2024$)
Fire	Fire apparatus, firefighter gear, extraction tools, communications radios, etc.	29	9.6	$7,915,000
Parks and Recreation	Vehicles, trailers, vehicle attachments, mowers, utility tractors, loaders, fork lifts, rollers, groomers, trimmers, other small equipment	42	6.9	$351,000
Public Works	Pickup trucks, dump trucks, backhoe, loader, graders, tractors, steamer, sweeper/vacuum truck, roller, trailers, wood chipper	23	5.2	$4,602,000
Total		**94**	**8.0**	**$12,868,000**

[1] Public Works includes one vehicle used by the building department and one vehicle used for by-law enforcement.
[2] It is noted that the age is unknown for 27 fleet and equipment assets (representing approximately 0.48% of the total replacement cost). These assets are excluded from the average age values presented in this report.

Figure 2-15: Summary Information – Fleet and Equipment



2.5.2 Condition

The condition of the Township's Public Works fleet and equipment was assessed by Township staff using the 5-point condition rating scale shown in Table 2-28. The condition of the Township's other fleet and equipment assets was evaluated based on age relative to the expected useful life, as was done with sidewalks and streetlights (see section 2.1.2). Table 2-29 shows the average condition ratings of fleet and equipment assets by department, along with the corresponding condition state. The average condition state of the Township's fleet and equipment assets is "Good" across all departments. Figure 2-16 shows the distribution of Public Works fleet and equipment asset replacement cost by condition grade. Figure 2-17 shows the distribution of Fire and Parks & Recreation fleet and equipment asset replacement cost by condition (as measured by ULC%).

Table 2-28: Condition Grading Scale for Public Works Vehicles and Equipment

Condition Grade	Description
1 (Very Good)	Equipment is physically sound and performing as intended.
2 (Good)	Minor signs of equipment deterioration such as increased vibration, looseness, misalignment, slight leaks. Protective coating still evident. Efficiency undiminished. Minor oil leaks and gland wear becoming more evident.
3 (Fair)	Showing signs of equipment deterioration. All components functioning acceptably but showing significant wear and tear. Efficiency diminished. Minor failures with increasing corrosion of metal components, bearings and or gland wear (vibration) becoming more evident.
4 (Poor)	Significant leaks, vibration, looseness, misalignment or out of balance. Parts and components function but require significant maintenance to remain operational.
5 (Very Poor)	Unreliable with frequent breakdowns and adverse impact on performance. Effective life exceeded and equipment now incurring excessive maintenance costs compared to replacement costs.

Table 2-29: Condition Analysis – Fleet and Equipment

Department	Average Condition	Rating System	Average Condition State
Fire	49%	ULC%	Good
Parks and Recreation	67%	ULC%	Good
Public Works	2.17	Condition Grade	Good

Figure 2-16: Distribution of Fleet and Equipment Assets by Condition Grade – Public Works

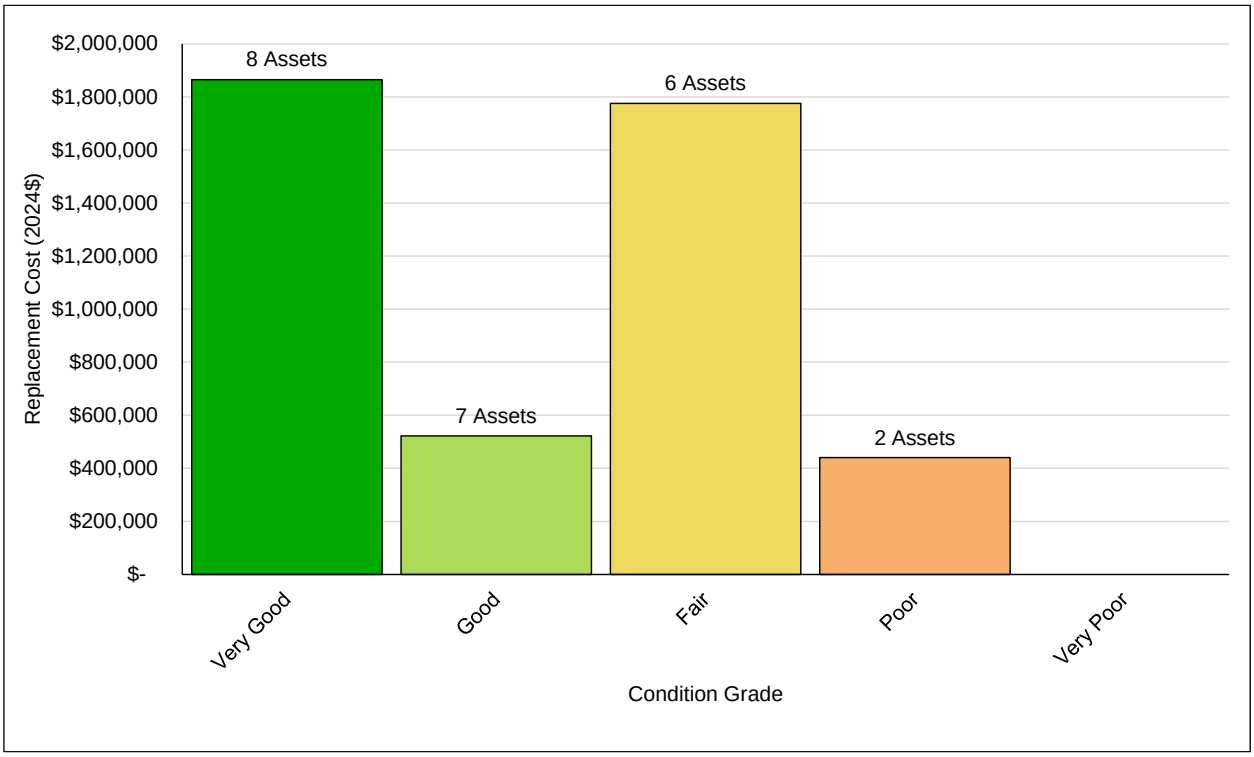
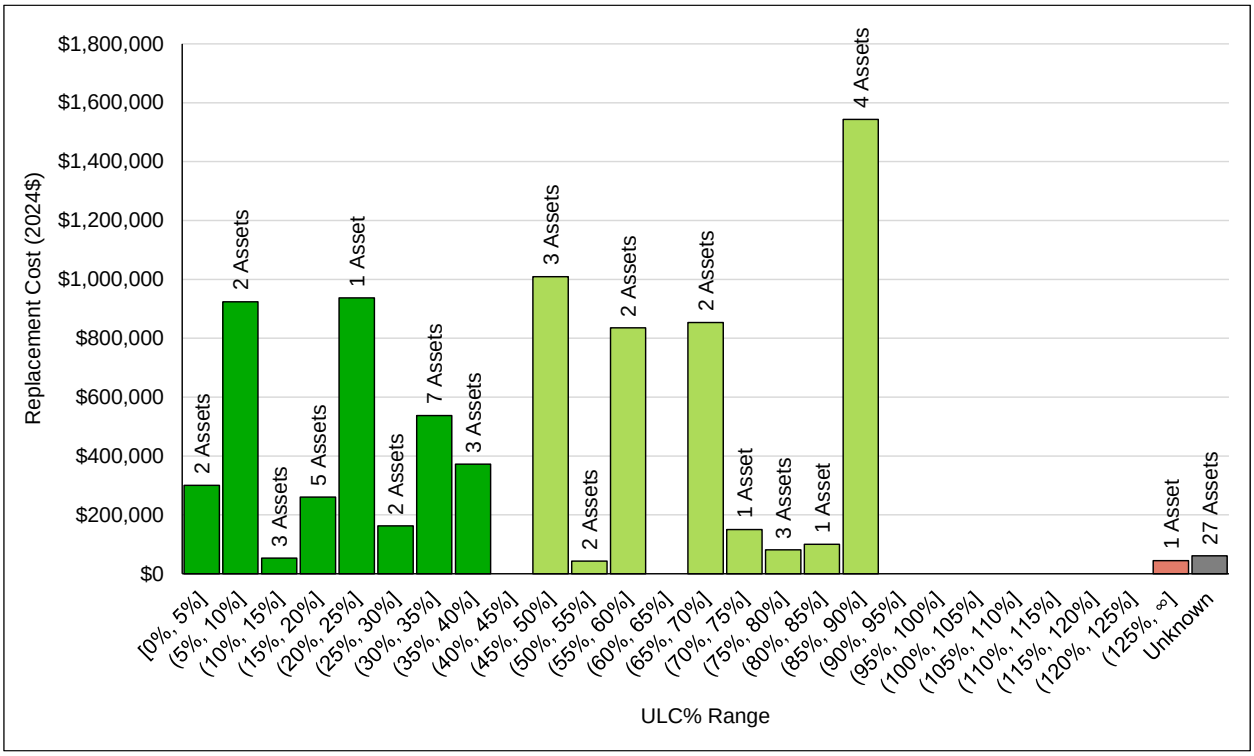


Figure 2-17: Distribution of Fleet and Equipment Assets by Condition State – Fire and Parks & Recreation



2.5.3 Current Levels of Service

The levels of service currently provided by the Township's fleet and equipment are, in part, a result of the state of local infrastructure identified above. The levels of service framework presented in this subsection defines the levels of service that the Township will track over time for its fleet and equipment assets. It is noted that O. Reg. 588/17 does not prescribe any levels of service for non-core assets.

The levels of service framework is presented as follows:

- The Service Attribute columns indicate the high-level attribute being addressed;
- The Community Levels of Service column in Table 2-30 explains the Township's intent in plain language and provides additional information about the service being provided;
- The Performance Measure column in Table 2-31 describes the performance measure(s) connected to the identified service attribute; and

- The 2023 Performance column in Table 2-31 reports current performance for the performance measure.

Table 2-30: Community Levels of Service – Fleet and Equipment

Service Attribute	Community Levels of Service
Quality/ Condition	The Township strives to ensure that its vehicles and equipment function as intended.
Reliability	The Township strives to minimize failures of its Fire vehicles and equipment during callouts.
Minimize Lifecycle Cost	The Township strives to manage its vehicles and equipment efficiently.

Table 2-31: Technical Levels of Service – Fleet and Equipment

Service Attribute	Performance Measure	2023 Performance
Quality/ Condition	Percentage of licensed Public Works vehicles (by replacement cost) with a condition rating of fair or better	83.8%
	Percentage of unlicensed Public Works vehicles (by replacement cost) with a condition rating of fair or better	100.0%
	Percentage of Public Works equipment (by replacement cost) with a condition rating of fair or better	80.3%
	Percentage of Parks and Recreation vehicles and equipment (by replacement cost) with an age-based condition rating of fair or better	70.1%
Reliability	Percentage of Fire equipment (by replacement cost) that is beyond its expected useful life.	0.0%
Minimize Lifecycle Cost	Annual maintenance and repair costs of licensed Public Works vehicles as a percentage of replacement cost.	1.8%
	Annual maintenance and repair costs of unlicensed Public Works vehicles as a percentage of replacement cost.	1.5%

2.6 Population and Employment Growth

Based on the 2021 census, the Township had a population of 11,318 in 2021. Based on the growth forecast contained in the Township's 2019 Development Charges Background Study, the Township's population is anticipated to reach 12,500 by 2031.

This growth in population is expected to result in incremental service demands that may impact the current level of service. These growth-related needs are summarized in the Township's 2019 Development Charges Background Study and 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 Township will be undertaking a new development charges study in 2024.

Chapter 3
Lifecycle Management Strategies

3. Lifecycle Management Strategies

3.1 Introduction

The lifecycle management strategies in this asset management plan identify 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 show summaries of the lifecycle models developed for the Township's assets and detail the ten-year forecasts of lifecycle activities and associated costs that would be required for the Township to maintain current levels of service. The 10-year lifecycle expenditure forecasts are preliminary estimates generated based on the lifecycle management models and current condition/age profile of the assets. Further adjustments may be made in the next phase of the asset management plan when level of service targets are going to be established.

This asset management plan also presents the average annual lifecycle costs estimated for each asset class. The annual lifecycle costs represent the amount of funding that would be required annually to fully finance a lifecycle management strategy over the long-term. By planning to achieve this annual funding level, the Township would be

[1] Future iterations of the Township's asset management plan will include proposed levels of service and the lifecycle management strategies 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.

able to fully fund capital works as they arise. In practice, however, capital needs are often characterized by peaks and valleys due to the value of works being undertaken changing year-to-year. By planning to achieve this level of funding over the long-term, the periods of relatively low capital needs would allow for the building up of lifecycle reserve funds that could be drawn upon in times of relatively high capital needs.

3.2 Transportation

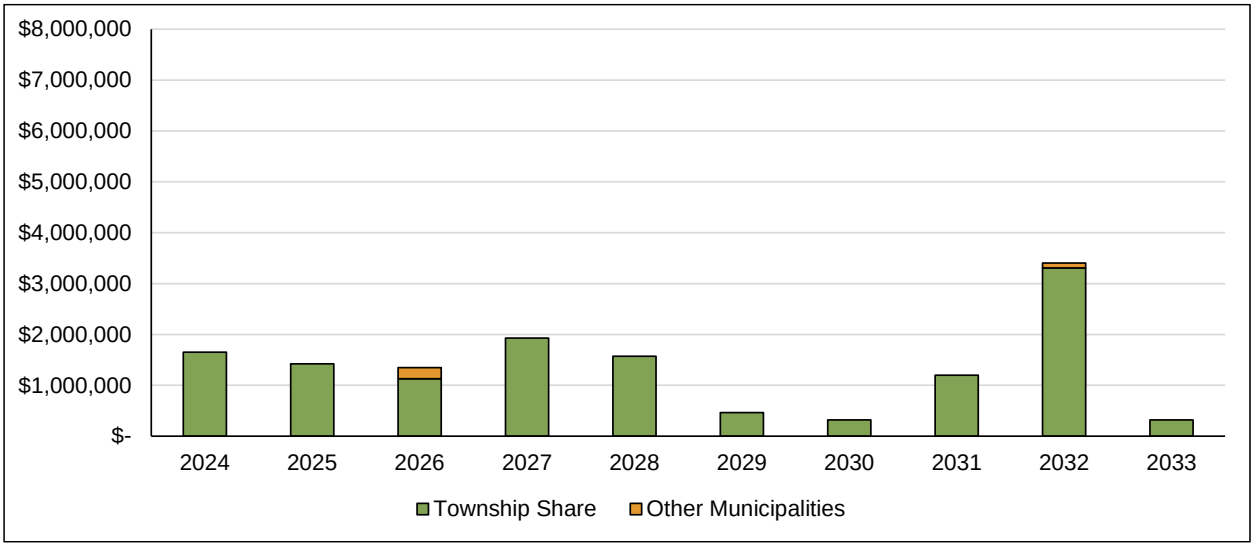
3.2.1 Roads

This section presents a preliminary estimate of the costs associated with maintaining current level of service for the Township's roads.

The lifecycle expenditure forecast was developed by applying lifecycle models to the Township's road inventory. These lifecycle models were developed using input from Township staff and include various rehabilitation activities as summarized in Table 3-2. Lifecycle activities were forecast by first estimating where each road segment is in its lifecycle (using results from the condition assessment described in 2.1.2) and then forecasting lifecycle activities and costs using the lifecycle model applicable to each road segment based on road surface and classification.

The 10-year lifecycle expenditure forecast for roads is summarized in Figure 3-1 and provided in tabular form in Table 3-1. Average annual expenditures over the forecast period have been estimated at approximately $1.36 million, with the Township's share being approximately $1.33 million.

Figure 3-1: Lifecycle Expenditure Forecast for Roads



The lifecycle models were also used to estimate the average annual lifecycle cost for the Township's roads. Table 3-2 shows the parameters of the generalized lifecycle model for roads. The total average annual lifecycle cost for the Township's roads is estimated to be $1.67 million. The Township's share of these costs is estimated to be $1.62 million.

Table 3-1: Lifecycle Expenditure Forecast for Roads (2024$)

Category	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Gross Capital Expenditures										
Asphalt – Urban	$1,013,549	$1,102,870	$0	$592,267	$0	$145,466	$0	$404,202	$1,569,498	$0
Asphalt - Rural	$318,415	$0	$1,030,127	$1,015,984	$1,252,569	$0	$0	$477,537	$1,515,304	$0
Gravel	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000
Total Gross Capital Expenditures	**$1,651,964**	**$1,422,870**	**$1,350,127**	**$1,928,251**	**$1,572,569**	**$465,466**	**$320,000**	**$1,201,740**	**$3,404,802**	**$320,000**
Capital Recoveries										
Asphalt – Urban	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Asphalt - Rural	$0	$0	$218,556	$0	$0	$0	$0	$0	$96,245	$0
Gravel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Capital Recoveries	**$0**	**$0**	**$218,556**	**$0**	**$0**	**$0**	**$0**	**$0**	**$96,245**	**$0**
Net Capital Expenditures										
Asphalt – Urban	$1,013,549	$1,102,870	$0	$592,267	$0	$145,466	$0	$404,202	$1,569,498	$0
Asphalt - Rural	$318,415	$0	$811,571	$1,015,984	$1,252,569	$0	$0	$477,537	$1,419,059	$0
Gravel	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000	$320,000
Total Net Capital Expenditures	**$1,651,964**	**$1,422,870**	**$1,131,571**	**$1,928,251**	**$1,572,569**	**$465,466**	**$320,000**	**$1,201,740**	**$3,308,557**	**$320,000**

Table 3-2: Generalized Lifecycle Model for Roads

Road Type	Lifecycle Activity	Frequency (years)	Unit Cost (per centreline-m)	Average Annual Lifecycle Cost (per centreline-m)	Length (m) - Total	Average Annual Lifecycle Cost	Length (m) - Township Share	Average Annual Lifecycle Cost - Township Share
Asphalt – Urban (with stormwater)	Mill and overlay	20	$196.31	$27.30	29,101	$794,300	28,939	$789,900
	Reconstruction	80	$1,594.70					
Asphalt – Urban	Mill and overlay	20	$196.31	$9.82	4,286	$42,100	4,286	$42,100
Asphalt – Rural	Overlay	20	$85.78	$6.91	72,424	$500,200	68,302	$471,700
	Pulverize and pave	60	$242.84					
Gravel	Re-gravel	3	$8.94	$2.98	111,868	$333,300	107,398	$320,000
Total						**$1,669,900**		**$1,623,700**

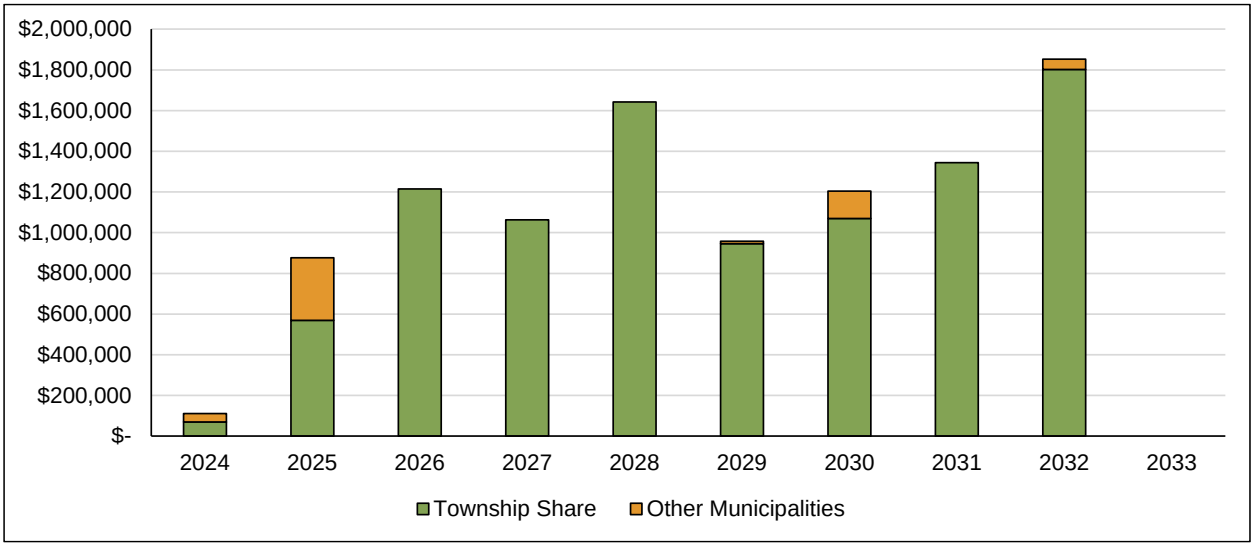
3.2.2 Structures

This section presents a preliminary estimate of the costs associated with maintaining current level of service for the Township's structures.

The biennial OSIM reports required by O. Reg. 104/97 form a starting point for short- and medium-term planning. They include recommendations for lifecycle activities that should be done over a ten-year timeframe. These recommendations are reviewed by Township staff to ensure they are affordable and that potential lower cost alternatives have been explored. Township staff regularly visit each structure during road patrols. If issues are observed, they are assessed for criticality and addressed appropriately.

The 10-year lifecycle expenditure forecast for structures is summarized in Figure 3-2 and is further broken down in Table 3-3. Average annual expenditures over the forecast period have been estimated at approximately $1.03 million. Of this amount, the Township's share is approximately $0.97 million (95%).

Figure 3-2: Lifecycle Expenditure Forecast for Structures



The annual lifecycle cost for the Township's structures were estimated by applying generalized lifecycle models. The generalized lifecycle models for structures include rehabilitation for vehicle bridges and concrete culverts and replacement and end of life for all structures. The costs of rehabilitation activities are captured in the generalized lifecycle model as a percentage of replacement cost that is expected to be needed over the lifespan of the structures.

Table 3-4 shows the parameters of the generalized lifecycle model for structures. Average annual lifecycle capital costs are 2% of replacement cost for all structure types except for plastic culverts where average annual lifecycle costs are 1% of replacement cost. The total average annual lifecycle cost for the Township's structures is estimated to be $1.14 million. The Township's share of these costs is estimated to be $932,000.

Table 3-3: Lifecycle Expenditure Forecast for Structures (2024$)

Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Gross Capital Expenditures										
Bridges	$58,000	$526,000	$1,215,000	$1,063,000	$1,642,000	$760,000	$935,000	$760,000	$993,000	$0
Structural Culverts	$0	$175,000	$0	$0	$0	$23,000	$269,000	$58,000	$584,000	$0
Non-structural Culverts	$53,000	$175,000	$0	$0	$0	$175,000	$0	$526,000	$275,000	$0
Total Gross Capital Expenditures	**$111,000**	**$876,000**	**$1,215,000**	**$1,063,000**	**$1,642,000**	**$958,000**	**$1,204,000**	**$1,344,000**	**$1,852,000**	**$0**
Capital Recoveries										
Bridges	$15,000	$219,000	$0	$0	$0	$0	$0	$0	$0	$0
Structural Culverts	$0	$0	$0	$0	$0	$12,000	$134,000	$0	$0	$0
Non-structural Culverts	$26,000	$88,000	$0	$0	$0	$0	$0	$0	$50,000	$0
Total Capital Recoveries	**$41,000**	**$307,000**	**$0**	**$0**	**$0**	**$12,000**	**$134,000**	**$0**	**$50,000**	**$0**
Net Capital Expenditures										
Bridges	$44,000	$307,000	$1,215,000	$1,063,000	$1,642,000	$760,000	$935,000	$760,000	$993,000	$0
Structural Culverts	$0	$175,000	$0	$0	$0	$12,000	$134,000	$58,000	$584,000	$0
Non-structural Culverts	$26,000	$88,000	$0	$0	$0	$175,000	$0	$526,000	$225,000	$0
Total Net Capital Expenditures	**$70,000**	**$570,000**	**$1,215,000**	**$1,063,000**	**$1,642,000**	**$947,000**	**$1,069,000**	**$1,344,000**	**$1,803,000**	**$0**

Table 3-4: Generalized Lifecycle Model for Structures

Structure Type	Material	Replacement Cost (2023$)	Average annual lifecycle cost (% of Replacement Cost)	Average annual lifecycle cost (2022$)	Ownership Share	Township share of Average Annual Lifecycle Costs
Vehicle Bridge		$36,710,000	2%	$734,000	90%	$659,000
Pedestrian Bridge		$210,000	2%	$4,000	94%	$4,000
Structural Culvert	Concrete	$3,940,000	2%	$79,000	91%	$72,000
	Steel	$3,940,000	2%	$79,000	94%	$74,000
Non-structural Culvert	Concrete	$1,230,000	2%	$25,000	94%	$23,000
	Steel	$5,250,000	2%	$105,000	86%	$91,000
	Plastic	$1,010,000	1%	$10,000	94%	$10,000
Total		**$52,300,000**		**$1,036,000**	**90%**	**$932,000**

3.2.3 Sidewalks and Streetlights

This section presents a preliminary estimate of the costs associated with maintaining current level of service for the Township's sidewalks and street lights. The lifecycle expenditure forecast is based on ages and expected useful lives of individual assets.

Using asset age and expected useful life to forecast lifecycle expenditures did not identify any lifecycle expenditures over the forecast period except for one small section of sidewalk that is due for replacement in 2031 at a cost of $5,733.

The annual lifecycle cost for the Township's sidewalks and streetlights is estimated to be approximately $150,000. Table 3-5 provides a breakdown of the annual lifecycle costs of sidewalks and streetlights by asset type.

Table 3-5: Average Annual Lifecycle Costs by Asset Type – Sidewalks and Streetlights (2024$)

Asset Type	Average Annual Lifecycle Cost
Concrete Sidewalks	$65,000
Asphalt Sidewalks	$8,000
Stone Dust Sidewalks[1]	$0
Streetlight Light Fixture	$73,000
Streetlight Pole	$4,000
Total	**$150,000**

[1] Stone Dust sidewalks are not expected to require capital renewal and therefore the average annual lifecycle cost is zero. It is note that these sidewalks do require periodic maintenance which would be funded from the Township's operating budget.

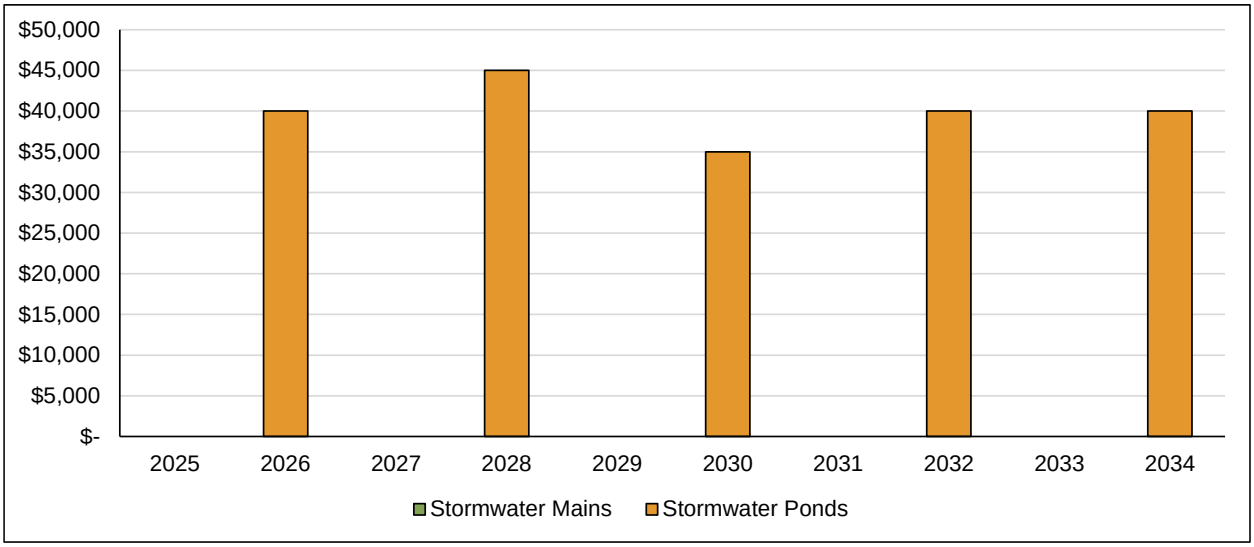
3.4 Stormwater

This section presents a preliminary estimate of the costs associated with maintaining current level of service for the Township's stormwater assets. The lifecycle expenditure forecast was developed using the following information:

- For stormwater mains, the lifecycle expenditure forecast is based on ages and expected useful lives of individual assets.
- For stormwater ponds, the lifecycle expenditure forecast is based on the anticipated timing of cleanouts and the associated cost. The timing of cleanouts is informed by sedimentation levels identified through periodic inspections.

The ten-year lifecycle expenditure forecast is summarized in Figure 3-3 and Table 3-7. Average annual expenditures over the forecast period have been estimated at approximately $20,000. All of the identified capital expenditures over the forecast period are related to stormwater pond cleanouts. Given the current age profile of the Township's stormwater mains, no replacements are expected over the 2025-2034 period. It should be noted, however, that age is not the only factor that determines when a replacement of a stormwater main may be required. Increase in stormwater runoff due to development and changing weather patterns are some examples of other factors that may result in replacement being required earlier than the expected useful life.

Figure 3-3: Lifecycle Expenditure Forecast for Stormwater Infrastructure



The annual lifecycle cost for the Township's stormwater infrastructure is estimated to be approximately $449,000. The annual lifecycle costs were estimated as follows:

- For stormwater mains, the average annual lifecycle cost is derived from the replacement cost of individual mains, divided by the expected useful life.
- For stormwater ponds, the average annual lifecycle cost is based on the cleanout costs specific to each pond and an estimated cleanout frequency of 27 years.

Table 3-6 provides a breakdown of the annual lifecycle costs of stormwater infrastructure assets by type.

Table 3-6: Average Annual Lifecycle Costs by Asset Type – Stormwater (2024$)

Asset Type	Average Annual Lifecycle Cost
Stormwater Mains	$437,000
Stormwater Ponds	$11,800
Total	**$448,800**

Table 3-7: Lifecycle Expenditure Forecast for Stormwater Infrastructure (2024$)

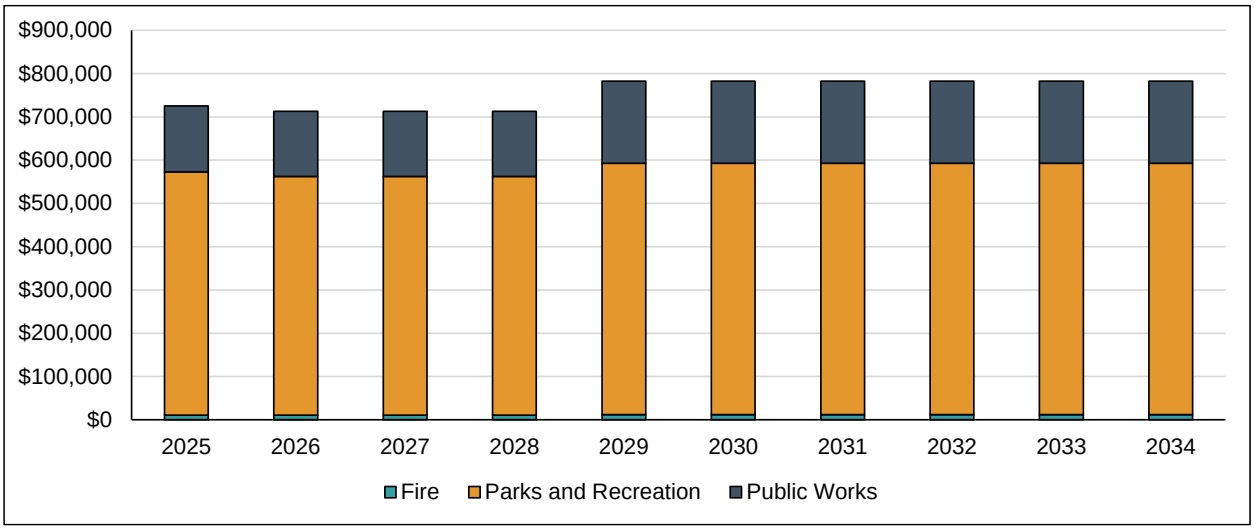
Asset Type	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Stormwater Mains	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stormwater Ponds	$0	$40,000	$0	$45,000	$0	$35,000	$0	$40,000	$0	$40,000
Total Gross Capital Expenditures	**$0**	**$40,000**	**$0**	**$45,000**	**$0**	**$35,000**	**$0**	**$40,000**	**$0**	**$40,000**

3.5 Facilities

This section presents a preliminary estimate of the costs associated with maintaining current level of service for the Township's facility assets. For facilities that were included in the 2024 condition assessment by Witzel Dyce Engineering Inc., the lifecycle expenditure forecast is based repair expenditures identified in the building condition assessment reports. For facilities that were not part of the 2024 condition assessment by Witzel Dyce Engineering Inc., the lifecycle expenditure forecast includes an annual allowance which is based on the average annual lifecycle cost.

The ten-year lifecycle expenditure forecast is summarized in Figure 3-4 and Table 3-9. Average annual expenditures over the forecast period have been estimated at approximately $756,000.

Figure 3-4: Lifecycle Expenditure Forecast for Facilities



The annual lifecycle cost for the Township's facility assets is estimated to be approximately $2.5 million. This estimate was derived by applying an annual reinvestment rate of 2.5% to the estimated replacement costs. The annual reinvestment rate of 2.5% is intended to capture replacement and repair of facility components as they come due, as well as larger-scale renovations/rehabilitations. Table 3-8 provides a breakdown of the annual lifecycle costs of facility assets by department.

Table 3-8: Average Annual Lifecycle Costs by Department – Facilities (2024$)

Department	Average Annual Lifecycle Cost
Fire	$276,000
Parks and Recreation	$1,887,000
Public Works	$358,000
Total	**$2,521,000**

Table 3-9: Lifecycle Expenditure Forecast for Facilities (2024$)

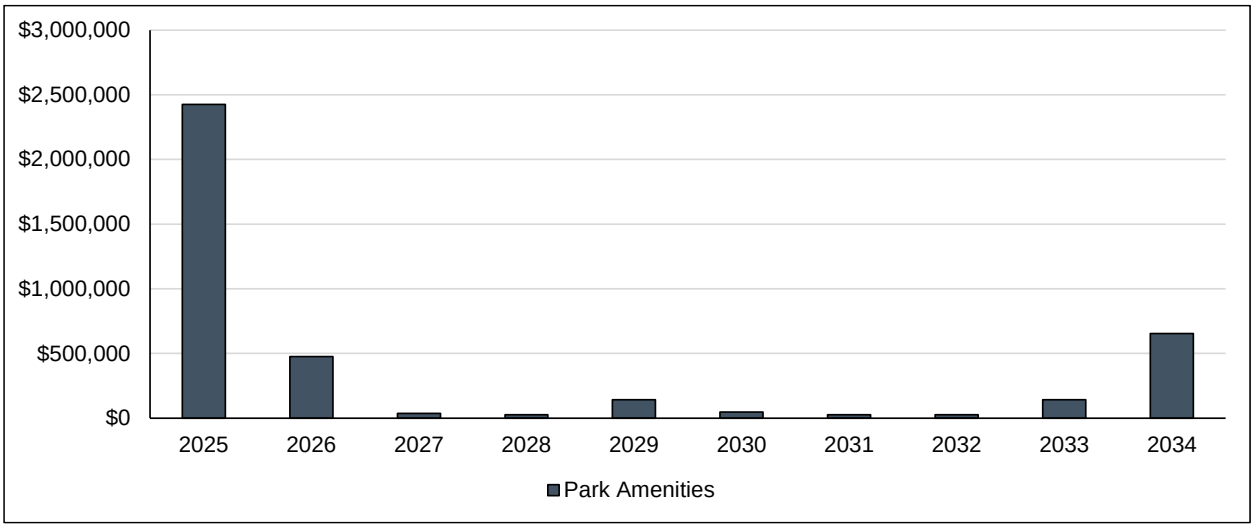
Department	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Fire	$10,700	$10,700	$10,700	$10,700	$12,167	$12,167	$12,167	$12,167	$12,167	$12,167
Parks and Recreation	$561,944	$551,944	$551,944	$551,944	$580,932	$580,932	$580,932	$580,932	$580,932	$580,932
Public Works	$152,922	$149,922	$149,922	$149,922	$189,705	$189,705	$189,705	$189,705	$189,705	$189,705
Total Gross Capital Expenditures	**$725,566**	**$712,566**	**$712,566**	**$712,566**	**$782,804**	**$782,804**	**$782,804**	**$782,804**	**$782,804**	**$782,804**

3.6 Parkland Amenities

This section presents a preliminary estimate of the costs associated with maintaining current level of service for the Township's park amenities. The lifecycle expenditure forecast is based on ages and expected useful lives of individual assets. For assets where age data is not available, the lifecycle expenditure forecast includes an annual allowance which is based on the average annual lifecycle cost.

The ten-year lifecycle expenditure forecast is summarized in Figure 3-5 and Table 3-11. Average annual expenditures over the forecast period have been estimated at approximately $400,400. The high peak in forecasted lifecycle expenditures in 2025 of approximately $2.4 million is mainly attributable to several sports fields (ball diamonds and soccer fields) that are currently beyond their expected useful life.

Figure 3-5: Lifecycle Expenditure Forecast for Park Amenities



The annual lifecycle cost for the Township's fleet and equipment assets is estimated to be approximately $314,000. Table 3-10 provides a breakdown of the annual lifecycle costs of park amenity assets by department.

Table 3-10: Average Annual Lifecycle Costs by Asset Type – Park Amenities (2024$)

Asset Type	Average Annual Lifecycle Cost
Lights	$16,000
Soccer Fields	$54,000
Ball Diamonds	$114,000
Shelters	$11,000
Sports Pads/Skate Parks	$37,000
General Park Assets	$6,000
Playground	$77,000
Total	**$314,000**

Table 3-11: Lifecycle Expenditure Forecast for Park Amenities (2024$)

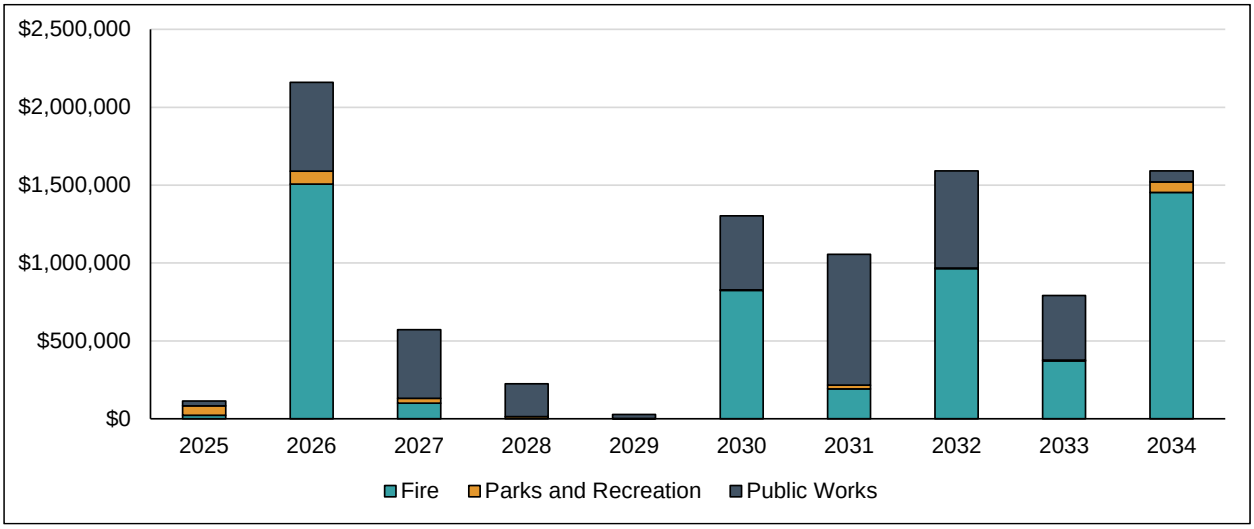
Asset Type	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Lights	$73,259	$2,661	$11,998	$2,661	$2,661	$23,261	$2,661	$2,661	$2,661	$2,661
Soccer Fields	$327,340	$142,340	$17,340	$17,340	$17,340	$17,340	$17,340	$17,340	$17,340	$17,340
Ball Diamonds	$1,950,000	$325,000	$0	$0	$0	$0	$0	$0	$0	$0
Shelters	$1,100	$1,100	$1,100	$1,100	$1,100	$1,100	$1,100	$1,100	$105,795	$1,100
Sports Pads/Skate Parks	$69,313	$468	$468	$468	$116,808	$468	$468	$468	$468	$148,568
General Park Assets	$4,961	$4,961	$4,961	$4,961	$4,961	$4,961	$4,961	$4,961	$16,650	$4,961
Playground	$0	$0	$0	$0	$0	$0	$0	$0	$0	$478,781
Total Gross Capital Expenditures	**$2,425,973**	**$476,530**	**$35,866**	**$26,530**	**$142,870**	**$47,129**	**$26,530**	**$26,530**	**$142,913**	**$653,412**

3.7 Fleet and Equipment

This section presents a preliminary estimate of the costs associated with maintaining current level of service for the Township's fleet and equipment assets. The lifecycle expenditure forecast is based on ages and expected useful lives of individual assets. For assets where age data is not available, the lifecycle expenditure forecast includes an annual allowance which is based on the average annual lifecycle cost.

The ten-year lifecycle expenditure forecast is summarized in Figure 3-6 and Table 3-13. Average annual expenditures over the forecast period have been estimated at approximately $943,000.

Figure 3-6: Lifecycle Expenditure Forecast for Fleet and Equipment



The annual lifecycle cost for the Township's fleet and equipment assets is estimated to be approximately $880,000. Table 3-12 provides a breakdown of the annual lifecycle costs of fleet and equipment assets by department.

Table 3-12: Average Annual Lifecycle Costs by Department – Fleet and Equipment (2024$)

Department	Average Annual Lifecycle Cost
Fire	$423,000
Parks and Recreation	$30,000
Public Works	$428,000
Total	**$880,000**

Table 3-13: Lifecycle Expenditure Forecast for Fleet and Equipment (2024$)

Department	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Fire	$22,954	$1,506,369	$100,000	$0	$0	$823,789	$192,641	$964,825	$370,802	$1,453,644
Parks and Recreation	$60,772	$83,683	$31,550	$14,016	$2,327	$3,437	$23,952	$2,327	$5,483	$67,201
Public Works	$30,000	$570,000	$440,000	$210,000	$25,000	$475,000	$840,000	$625,000	$415,000	$70,000
Total Gross Capital Expenditures	**$113,726**	**$2,160,052**	**$571,550**	**$224,016**	**$27,327**	**$1,302,227**	**$1,056,593**	**$1,592,152**	**$791,285**	**$1,590,846**

Chapter 4
Summary

4. Summary

This asset management plan has been developed to address the July 1, 2024 requirements of O. Reg. 588/17. The plan provides summary information for the Township's 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 Township to maintain current levels of service. The plan is based on the best information available to the Township at this time. The Township is actively working to have targets set for levels of service performance measures, and to include a detailed financial strategy. The ongoing development of the AMP will ensure the Township's compliance with the July 1, 2025 requirements of O. Reg. 588/17.

Beyond regulatory compliance, the Township should continue working on integrating asset management planning with other municipal financial and planning documents. Furthermore, the Township 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