



Asset Management Plan: Tax-supported Assets

Township of North Dundas

Final Report

August 24, 2026

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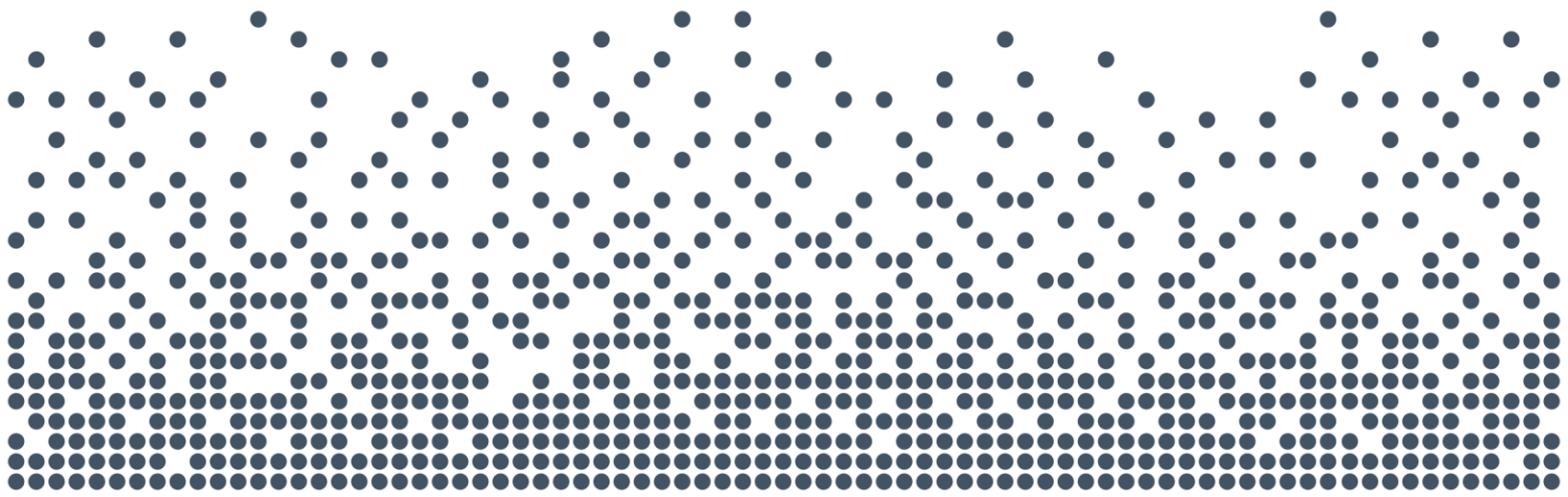
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Report



Chapter 1

Introduction



1. Introduction

1.1 Overview

The primary objective of an asset management plan is to utilize the best available data and information to support the long-term planning, management, and stewardship of infrastructure assets. The plan also establishes a structured and documented framework for continuous improvement and periodic updates, ensuring that it remains relevant and responsive to evolving conditions, demands, and priorities.

It is noted that the asset management plan presented herein applies exclusively to assets supported through the Township's general tax levy (i.e., tax-supported assets). Accordingly, the Township's water and wastewater assets, which are supported through user rates, are excluded from the scope of this report. Asset management components related to water and wastewater assets are addressed separately in the Township's 2026 Water and Wastewater Rate Study report, which includes forecasts of capital and significant operating expenditures, as well as a comprehensive financial strategy for those assets.

This asset management plan builds upon prior work completed for the Township's tax-supported assets through its 2022 Asset Management Plan and brings the Township into compliance with the July 1, 2025 requirements of Ontario Regulation 588/17 for these assets. The following asset management components for tax-supported assets are presented in this report:

- State of local infrastructure summaries and levels of service frameworks (Chapter 2); and
- Lifecycle management strategies and 10-year forecasts of lifecycle expenditures (Chapter 3).

A comprehensive financial strategy designed to support the implementation of this asset management plan is outlined in the Township's 2026 Long-Term Financial Plan report, which was developed in conjunction with this plan. The following asset management components are addressed within the Long-Term Financial Plan report:



- Sources and levels of capital financing available to undertake the lifecycle activities presented in Chapter 3, which support the proposed levels of service outlined in Chapter 2;
- Significant operating costs identified through the asset management analyses; and
- Impacts on the Township's tax levy and tax rates associated with the gradual elimination of the current annual infrastructure funding gap for tax-supported assets.

The estimated current replacement cost of the Township's tax-supported infrastructure assets is \$473.3 million. Transportation assets represent the largest share of replacement cost at \$299.8 million (63%), followed by facilities at \$74.5 million (16%), stormwater assets at \$71.7 million (15%), fleet and equipment assets at \$20.6 million (4%), parks and recreation assets at \$3.6 million (1%), and lastly, land improvement assets at \$3.1 million (1%).

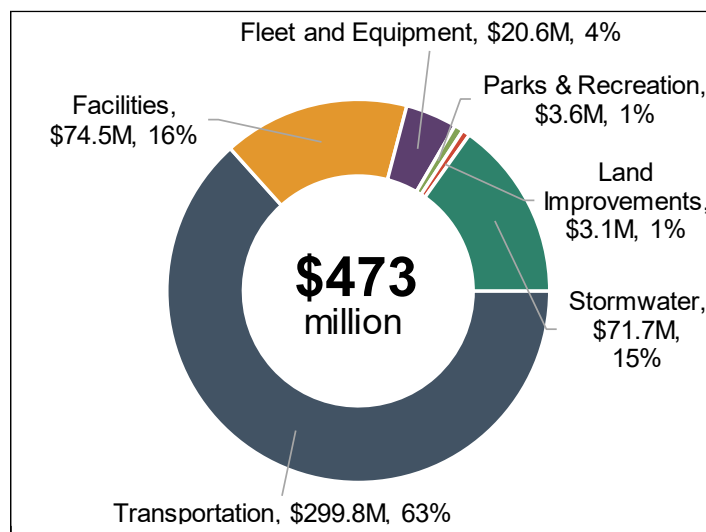
A breakdown of the replacement cost by asset category is provided in Table 1-1 and is further illustrated in Figure 1-1.

Table 1-1: Distribution of Replacement Cost by Asset Category

Asset Category	Current Replacement Cost
Transportation	\$299,822,000
Facilities	\$74,515,000
Fleet and Equipment	\$20,581,000
Parks & Recreation	\$3,604,000
Land Improvements	\$3,097,000
Stormwater	\$71,698,000
Total	\$473,317,000



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



1.2 Legislative Context for the Asset Management Plan

Asset management planning in Ontario has evolved significantly over the past decade. Prior to 2009, it was common municipal practice to expense capital assets in the year of their acquisition or construction. Consequently, this meant that many municipalities did not have appropriate tracking of their capital assets, especially with respect to any changes that capital assets may have undergone (i.e. betterments, disposals, etc.). Furthermore, this also meant that many municipalities had not yet established inventories of their capital assets, both in their accounting structures and financial statements. As a result of revisions to *Section 3150 – Tangible Capital Assets* of the *Public Sector Accounting Board* (PSAB) handbook, which came into effect for the 2009 fiscal year, municipalities were forced to change this long-standing practice and capitalize their tangible capital assets over the term of the asset's expected useful service life. In order to comply with this revision, municipalities needed to establish asset inventories, if none previously existed.

In 2012, the Province launched the Municipal Infrastructure Strategy, which required municipalities and local service boards seeking provincial funding to demonstrate how any proposed project fits within a broader 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 municipal asset



management plans, the Province produced a document entitled *Building Together: Guide for Municipal Asset Management Plans*. This document outlined the information and analyses that were 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 regulation requires that asset management plans be developed that define levels of service, identify the lifecycle activities that will be undertaken to achieve those levels of service, and provide a financial strategy to support the levels of service and lifecycle activities.

1.3 Asset Management Plan Development

The development of this plan was guided by asset management strategies identified through discussions with the Township's asset managers, reviews of long-term planning documents and studies, service level objectives established through engagement with staff, and detailed analyses of the Township's asset data. The key steps in the development process of this asset management plan are summarized below:

1. Update underlying asset data, including quantities, ages, condition ratings, useful service life expectations, replacement cost valuations, and lifecycle activity costs.
2. Establish targets for the levels of service the Township proposes to provide to the public over the long term through consultation with staff. As part of these consultations, changes to existing lifecycle management strategies to support the proposed levels of service were identified. This step informed the development of 10-year lifecycle expenditure forecasts that would enable the Township to achieve and sustain the proposed levels of service over the next ten years.
3. Determine the level of annual capital funding necessary to sustain the proposed levels of service over the long term.
4. Integrate the results of the asset management analyses into the financial strategy developed as part of the Township's 2026 Long-Term Financial Plan.



5. Document the asset management plan in a formal report to inform future decision-making and to communicate the Township's long-term infrastructure planning approach to the public.



Chapter 2

State of Local Infrastructure and Levels of Service



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 transportation assets that enable the safe and efficient passage of vehicular and pedestrian traffic and contribute to the overall level of service provided by the Township. These assets comprise the Township's roads, bridges, culverts, and road-related assets such as streetlights, sidewalks, guide rails, parking lots, and traffic signals. The estimated current replacement cost of the Township's transportation assets is \$299.8 million.

The Township's road network spans over 400 kilometres and comprises roads with three surface types: asphalt, surface treatment, and gravel. The estimated current replacement cost of the Township's roads is \$237.1 million. Asphalt roads represent the largest share of replacement cost at \$125.8 million (53%), followed by surface treated roads at \$94.2 million (40%), and lastly, gravel roads at \$17.1 million (17%).

It is noted that the initial dates of construction for the Township's roads are not readily available. As such, an average age for the Township's roads cannot be established at this time and is not reported in this asset management plan. It is recommended that the Township continue its efforts to address this data gap to support the reporting of this metric in future iterations of this plan.

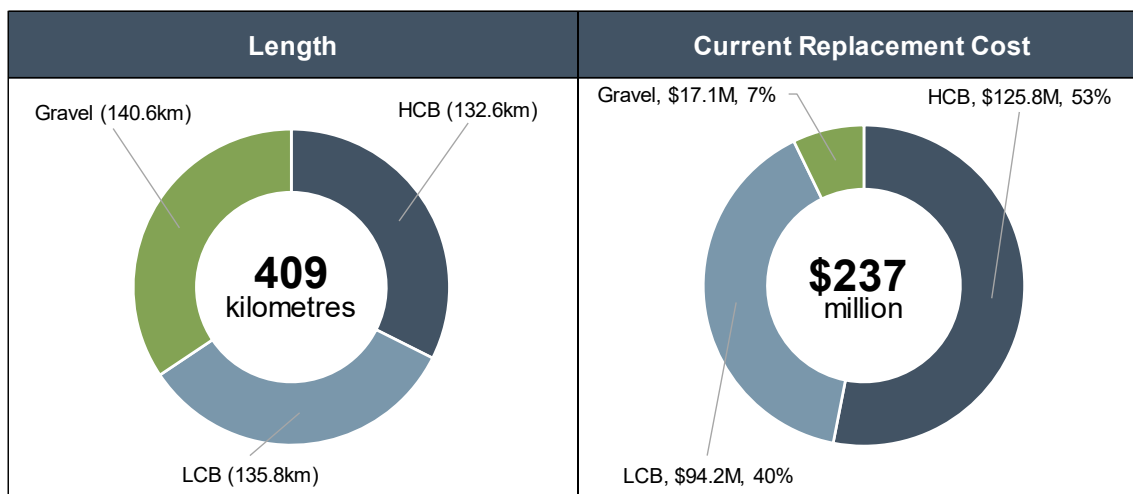
Table 2-1 summarizes the length and estimated current replacement cost of the Township's roads by surface type. This information is further illustrated in Figure 2-1.

Table 2-1: Roads – Length and Replacement Cost by Surface Type

Surface Type	Length	Current Replacement Cost
HCB	132.6 km	\$125,848,000
LCB	135.8 km	\$94,239,000
Gravel	140.6 km	\$17,052,000
Total	408.9 km	\$237,139,000



Figure 2-1: Roads – Length and Replacement Cost by Surface Type



The Township's transportation network is also supported by 45 structures comprising 17 bridges and 28 structural^[1] culverts. The estimated current replacement cost of the Township's structures is \$53.2 million, with bridges accounting for 60% of this replacement cost (i.e., \$32.1 million) and structural culverts accounting for the remaining 40% (i.e., \$21.1 million). The average age of the Township's structures is 29.5 years. Table 2-2 summarizes the quantity, average age, and estimated current replacement cost of the Township's structures by structure type. This information is further illustrated in Figure 2-2.

Table 2-2: Structures – Quantity, Average Age, and Replacement Cost by Structure Type

Structure Type	Quantity	Average Age ^[2]	Current Replacement Cost
Bridges	17	31.1 years ^[3]	\$32,104,000
Structural Culverts	28	27.1 years	\$21,093,000
Total	45	29.5 years	\$53,197,000

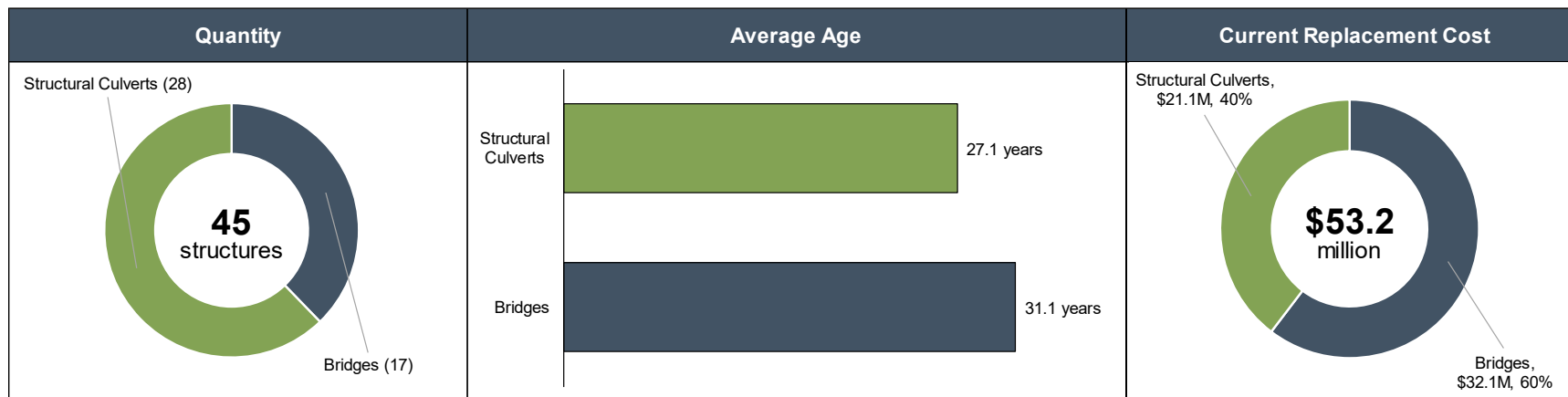
^[1]The *Ontario Structure Inspection Manual (2008)* defines structural culverts as structures that form an opening through soil and have a total span of three meters or more.

^[2]Weighted average utilizing the replacement cost of each structure as weights.

^[3]It is noted that the years of construction of Structure No. BRH004 (Cayer Rd. & Annable Creek MD Bridge) and Structure No. BRH012 (Nation Valley Rd. & Barkley Creek Bridge) are not readily available. As such, these bridges have been excluded from the calculation of weighted average age presented herein.



Figure 2-2: Structures – Quantity, Average Age, and Replacement Cost by Structure Type





The Township also owns and manages a variety of road-related assets, which play a vital role in supporting its broader transportation network. These assets comprise sidewalks, guide rails, streetlights, traffic signals, and parking lots. The estimated current replacement cost of the Township's road-related assets is \$9.5 million. Sidewalks represent the largest share of replacement cost at \$7.0 million (74%), followed by guide rails at \$1.4 million (15%), streetlights at \$840,000 (9%), parking lots^[1] at \$200,000 (2%), and lastly, traffic signals at \$74,000 (1%). The average age of the Township's road-related assets is 18.8 years.

Table 2-3 summarizes the quantity, average age, and estimated current replacement cost of the Township's road-related assets by asset type. This information is further illustrated in Figure 2-3.

Table 2-3: Road-related Assets – Quantity, Average Age, and Replacement Cost by Asset Type

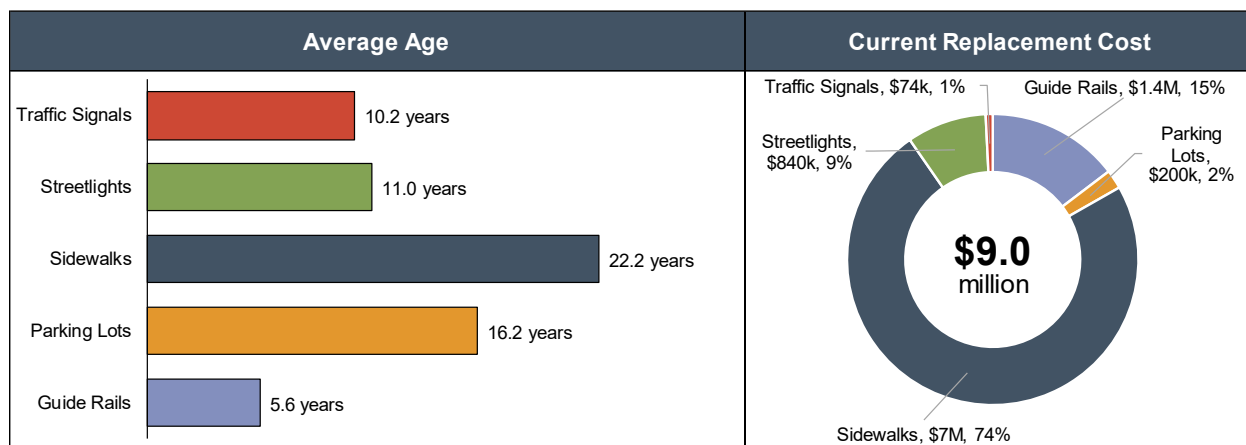
Asset Type	Quantity	Average Age ^[2]	Current Replacement Cost
Guide Rails	5.6 km	5.6 years	\$1,390,000
Parking Lots	4	16.2 years	\$200,000
Sidewalks	23.1 km	22.2 years	\$6,982,000
Streetlights	780	11.0 years	\$840,000
Traffic Signals	4	10.2 years	\$74,000
Total		18.6 years	\$9,486,000

^[1]Parking lots included in this section comprise standalone lots owned and managed by the Township. Parking lots associated with the Township's facilities are included in Section 2.2 of this report.

^[2]Weighted average utilizing the length of guiderails and sidewalks and the replacement cost of other assets as weights.



Figure 2-3: Road-related Assets – Average Age and Replacement Cost by Asset Type



2.1.2 Condition

The Township periodically completes physical condition assessments of its paved roads to evaluate the frequency and severity of observed pavement distresses. As part of these assessments, condition ratings are calculated for each assessed road segment based on its:

- Surface Condition (10 points), which reflects how well a road segment provides a smooth, comfortable, and safe driving experience;
- Structural Adequacy (20 points), which reflects the ability of a road segment to support traffic loads and resist deformation; and
- Maintenance Demand (10 points), which reflects the level of ongoing maintenance required for a road section^[1].

Based on an evaluation of the three factors noted above, each road segment is assigned a condition rating out of 40 points. To better communicate the condition of paved roads, condition ratings are segmented into qualitative condition states as summarized in Table 2-4.

^[1]As noted in the Township's 2025 Road Needs Study, maintenance demand for each road segment was determined based on observed conditions and staff input.



Table 2-4: Roads – Definition of Qualitative Condition States

Condition Rating Range	Condition State	Description ^[1]
30 < PCI ≤ 40	Very Good	“Road platform is in excellent condition; asset is in relatively new condition and fully supports existing traffic use. Condition supports very smooth ride with little to no visual defects noted. Longer term preventative maintenance (e.g., crack sealing) to be scheduled.”
21 < PCI ≤ 30	Good	“Road platform is in good condition with slight cracking, very slight distortion and fully supports existing traffic use. Condition supports a comfortable ride. Preventative maintenance to be scheduled in the near term, and the road section is a candidate for mid-term resurfacing investments to preserve the asset. Maintenance demand is minor.”
12 < PCI ≤ 21	Fair	“Road platform is in fair condition with moderate cracking and intermittent distortion, and the ride condition may be uncomfortable with moderate to frequent bumps or depressions. Existing traffic use is supported; however, minor to moderate structural deficiencies is noted. Pavement rehabilitation to be scheduled in the mid-term and this road section may be a candidate for a condition hold strategy until pavement rehabilitation can be completed. Maintenance demand is greater than average.”
0 ≤ PCI ≤ 12	Poor	“Road platform is in poor condition with moderate to severe alligator cracking and extensive distortion. Ride is very uncomfortable at the posted speed limit. Treatment options are limited to full rehabilitation or reconstruction in the near-term. Maintenance demand is high.”

The Township most recently assessed the condition of its paved roads as part of its 2025 Road Needs Study. Based on the results of this assessment, the Township’s paved roads were assessed to have an average condition rating of 23.8. This would indicate that paved roads were in an overall ‘Good’ condition state (on average) at the time of the assessment.

^[1]Descriptions of qualitative condition states have been sourced directly from the Township’s 2025 Road Needs Study.



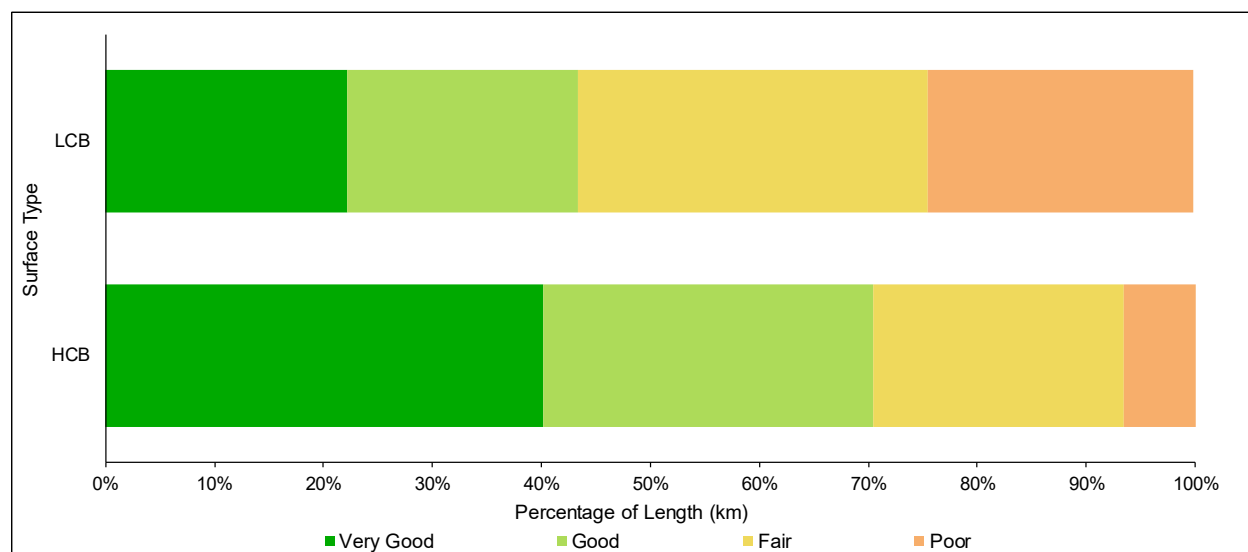
Table 2-5 summarizes the average condition ratings and associated condition states of the Township's paved roads by surface type.

Table 2-5: Paved Roads – Average Condition Ratings and Associated Condition States by Surface Type

Surface Type	Average Condition Rating ^[1]	Condition State
HCB	26.5	Good
LCB	21.0	Good
Average	23.8	Good

The distribution (surface area) of the Township's paved roads by condition state and surface type is illustrated in Figure 2-4.

Figure 2-4: Paved Roads – Distribution (by length) of Roads by Condition State and Surface Type



It is noted that the Township's 2025 Road Needs Study did not assess the condition of its unpaved (i.e., gravel) roads. It is further noted that the condition of gravel roads can vary significantly over short timeframes due to factors such as weather conditions and the timing of recent maintenance activities. The Township completes regular maintenance and as-needed rehabilitation activities on its gravel roads based on their

^[1]Weighted average utilizing the length of road segments as weights.



observed physical condition through its annual gravel road maintenance program. Based on this approach, it is assumed that the condition of gravel roads remains adequate and stable with regular maintenance and rehabilitation activities being performed.

In accordance with Ontario Regulation 104/97: Standards for Bridges (O. Reg. 104/97), the Township completes biennial inspections of its bridges and structural culverts based on the Ontario Structure Inspection Manual (OSIM). To provide an overall measure of condition, Bridge Condition Index (BCI) ratings are calculated by assigning weighted values to the condition of various structural (e.g., deck, foundation, superstructure, substructure, girders/beams, bearings, etc.) and non-structural elements (e.g., sidewalks, curbs, handrails, barriers, signage, etc.). To better communicate the condition of the Township's bridges and structural culverts, BCI ratings have been segmented into qualitative condition states as summarized in Table 2-6.

Table 2-6: Structures – Definition of Qualitative Condition States

BCI Rating Range	Condition State	Description ^[1]
$80 \leq \text{BCI} \leq 100$	Excellent	"Maintenance/rehabilitation work is not usually required within the next fifteen years."
$70 \leq \text{BCI} < 80$	Good	"Maintenance/rehabilitation work is not usually required within the next ten years."
$60 \leq \text{BCI} < 70$	Fair	"Maintenance/rehabilitation work is usually required/scheduled within the next five to ten years. Carrying out work within this timeframe is typically considered the ideal time to get the most out of bridge spending."
$0 \leq \text{BCI} < 60$	Poor	"Maintenance/rehabilitation work is usually required/scheduled within the next one to five years."

The Township most recently assessed the condition of its structures as part of its 2025 Bridge Management Study. Based on the results of this assessment, the Township's structures were assessed to have an average BCI rating of 69.8. This would indicate

^[1]Descriptions of qualitative condition states have been sourced directly from the Township's 2025 Bridge Management Study prepared by HP Engineering Inc.



that the structures were in an overall 'Fair' condition state (on average) at the time of the assessment.

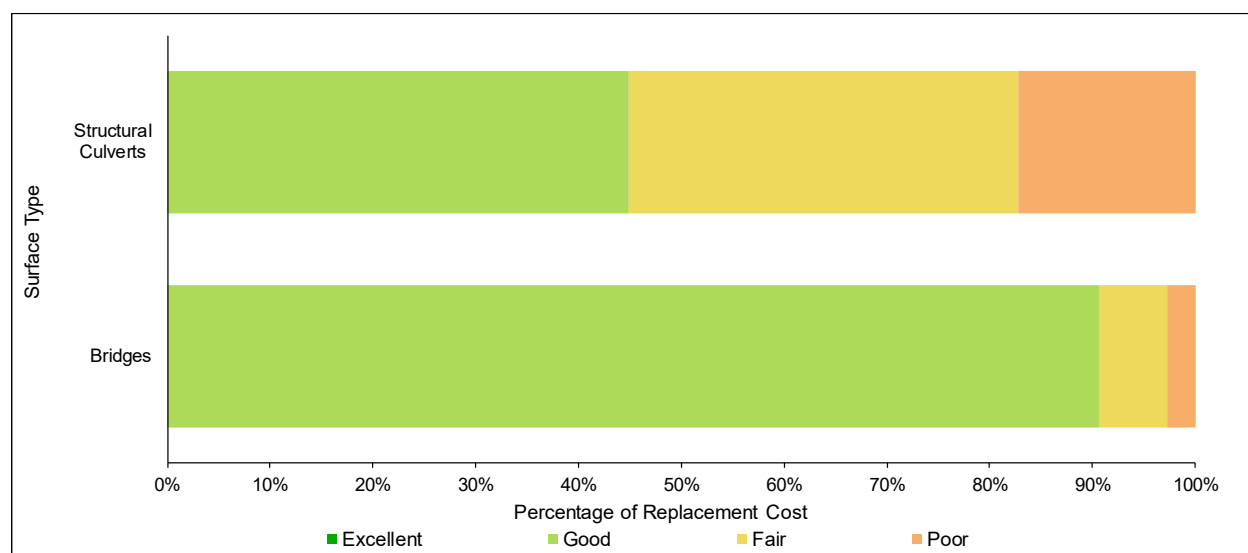
Table 2-7 summarizes the average BCI rating and associated condition states of the Township's bridges and structural culverts.

Table 2-7: Bridges and Structural Culverts – Average BCI Ratings and Condition States by Structure Type

Structure Type	Average BCI Rating ^[1]	Condition State
Bridges	71.9	Good
Structural Culverts	66.7	Fair
Total	69.8	Fair

The distribution (by replacement cost) of the Township's bridges and structural culverts by condition state and structure type is illustrated in Figure 2-5 and by BCI rating range is illustrated in Figure 2-6.

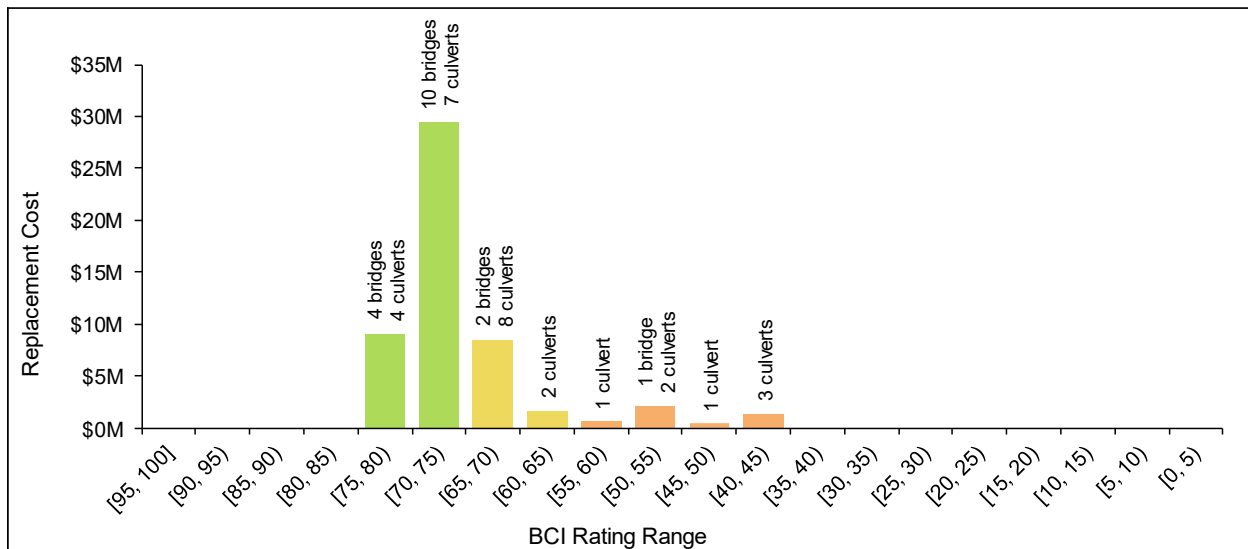
Figure 2-5: Bridges and Structural Culverts – Distribution (by replacement cost) of Assets by Condition State and Structure Type



^[1]Weighted average utilizing the replacement cost of structures as weights.



Figure 2-6: Bridges and Structural Culverts – Distribution (by replacement cost) of Assets by BCI Rating Range



The condition of the Township’s road-related assets has not been directly assessed through physical condition assessments. For the purposes of this asset management plan, condition ratings have been assigned to these assets based on their ages relative to their respective useful service life expectancies (i.e., based on the percentage of useful service life consumed (ULC%)). A brand-new asset would have a ULC% of 0%, indicating that none of the asset’s life expectancy has been utilized. Conversely, an asset that has reached the end of its life expectancy would have a ULC% of 100%. It is possible for assets to have a ULC% greater than 100%, which occurs if the 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 near or beyond their typical useful service life expectancy are likely to require replacement or rehabilitation in the near term, may exhibit reduced reliability, and may have increasing repair and maintenance costs.

To better communicate the condition of assets, ULC% ratings have been segmented into qualitative condition states, as summarized in Table 2-8. The scale is set to show that if assets are operated within their typical service life expectancies, they would be in a ‘Fair’ or better condition. For assets that remain in service beyond their useful service life expectancies (i.e., ULC% > 100%), probabilities of failure are assumed to have increased to a point where these assets would be characterized as being in a “Poor” or worse condition state.



Table 2-8: Definition of Condition States based on ULC% Ranges

ULC%	Condition State
$0\% \leq \text{ULC}\% \leq 45\%$	Very Good
$45\% < \text{ULC}\% \leq 90\%$	Good
$90\% < \text{ULC}\% \leq 100\%$	Fair
$100\% < \text{ULC}\% \leq 125\%$	Poor
$125\% < \text{ULC}\%$	Very Poor

The Township's road-related assets have an average ULC% of 41.1%, indicating that, on average, assets are in a 'Very Good' condition state.

Table 2-9 summarizes the average ULC% and associated condition states of the road-related assets by asset type.

Table 2-9: Road-related Assets – Average ULC% and Condition States by Asset Type

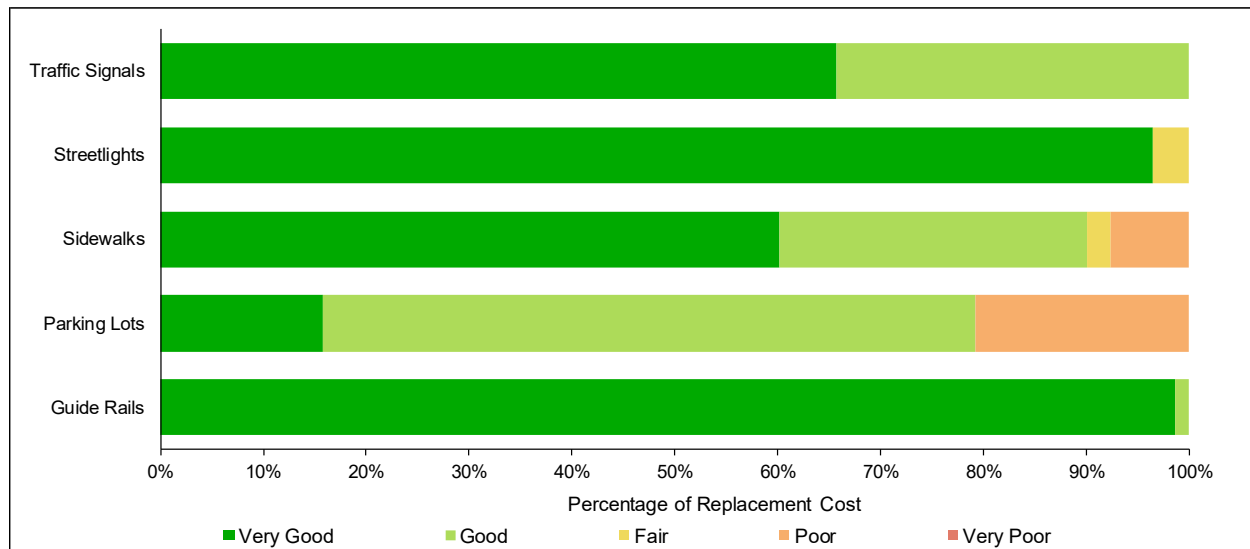
Asset Type	Average ULC% ^[1]	Condition State
Guiderails	22.3%	Very Good
Parking Lots	64.9%	Good
Sidewalks	44.4%	Very Good
Streetlights	39.2%	Very Good
Traffic Signals	34.1%	Very Good
Total	41.1%	Very Good

The distribution (by replacement cost) of the Township's road-related assets by condition state and asset type is illustrated in Figure 2-7.

^[1]Weighted average utilizing the length of guiderails and sidewalks and the replacement cost of other assets as weights.



Figure 2-7: Road-related Assets – Distribution (by replacement cost) of Assets by Condition State and Asset Type



2.1.3 Levels of Service

The levels of service currently provided by the Township's transportation assets are, in part, a result of the state of local infrastructure presented above. The levels of service framework presented in this subsection identifies both the levels of service that assets are currently providing as well as the proposed levels of service (i.e., target performance) that the Township is striving towards. The levels of service frameworks presented in this asset management plan were developed by identifying service aspects that would be of interest to end users (and more broadly, the general public) and in consideration of available data.

The Township's levels of service frameworks are organized in tables, which are structured as follows:

- The 'Service Attribute' column in Table 2-10 indicates the high-level attribute being addressed;
- The 'Community Levels of Service' column in Table 2-10 explains the Township's intent in plain language and provides additional information about the service being provided;
- The 'Performance Measure' column in Table 2-11 describes the performance measure(s) connected to the identified service attribute;



- The 'Current Performance' column in Table 2-11 identifies the current level of service with respect to each performance measure based on the best available data; and
- The 'Target Performance' column in Table 2-11 identifies the proposed level of service with respect to each performance measure.

Table 2-10: Transportation Assets – Community Levels of Service

Service Attribute	Community Levels of Service
Scope	The Township's transportation assets enable the safe and efficient movement of people and goods within the Township and provide connectivity to regional roads. In addition to pedestrian traffic and passenger vehicles, the Township's transportation assets also support commercial truck traffic, movement of agricultural equipment, and provide reliable emergency vehicle access to all areas of the Township. The broader transportation network also supports other transportation modes such as walking and cycling.
Quality	The Township strives to maintain transportation assets at a level that supports the safe and comfortable passage of vehicular and pedestrian traffic.
	To aid in interpreting the condition of transportation assets, descriptions of different condition states are summarized in Section 2.1.2. General descriptions of how each condition state affects the use of assets is also provided in therein.

Table 2-11: Transportation Assets – Technical Levels of Service

Service Attribute	Performance Measure	Current Performance	Target Performance
Scope	Number of lane-kilometres of arterial roads as a proportion of square kilometres of land area of the Township.	Not Applicable ^[1]	Not Applicable
	Number of lane-kilometres of collector roads as a proportion of	0.30 km/km ² ^[2]	Maintain

^[1]The Township does not currently own and maintain any arterial roads within its road network.

^[2]It is noted that the class of approximately 12% (by length) of the Township's roads is not readily available. As such, these roads have been excluded from the calculation of current performance for this level of service measure.



Service Attribute	Performance Measure	Current Performance	Target Performance
	square kilometres of land area of the Township.		
	Number of lane-kilometres of local roads as a proportion of square kilometres of land area of the Township.	1.14 km/km ² ^[1]	Maintain
	Percentage of bridges in the Township with loading or dimensional restrictions.	0%	0%
	Percentage (by length) of roads with HCB surface.	32%	66% ^[2]
	Percentage (by length) of roads with LCB surface.	33%	0% ^[2]
	Percentage (by length) of roads with gravel surface.	34%	34%
Quality	For paved roads in the Township, the average Pavement Condition Index value (and condition state).	PCI = 59.5 ^[3] (Good)	Maximize
	For unpaved roads in the Township, the average surface condition.	Adequate ^[4]	Maximize
	For bridges in the Township, the average bridge condition index value (and condition state).	BCI = 71.9 (Good)	Maximize

^[1]It is noted that the class of approximately 12% (by length) of the Township's roads is not readily available. As such, these roads have been excluded from the calculation of current performance for this level of service measure.

^[2]The Township intends to convert all its LCB roads to HCB surface over the next ten years to address increased traffic from development and improve the level of service provided by its road network.

^[3]As noted in Section 2.1.2, the Township assesses the condition of its paved roads utilizing a 40-point rating scale as summarized in Table 2-4. The average condition rating of paved roads has been multiplied by a factor of 2.5 to provide an estimate of the average pavement condition index value, which is typically reported on a scale of 0 to 100.

^[4]As noted in Section 2.1.2, a formal condition assessment of the Township's gravel roads has not been recently completed. The Township undertakes regular maintenance and as-needed rehabilitation of gravel roads through its annual gravel road maintenance program. Based on this approach, it is assumed that the condition of gravel roads remains adequate and stable with regular maintenance and rehabilitation activities being performed.



Service Attribute	Performance Measure	Current Performance	Target Performance
	For structural culverts in the Township, the average bridge condition index value (and condition state).	BCI = 66.7 (Fair)	Maximize
	Percentage (by length) of guiderails in a 'Fair' or better condition state.	100%	Maximize
	Percentage (by replacement cost) of parking lots in a 'Fair' or better condition state.	79%	Maximize
	Percentage (by length) of sidewalks in a 'Fair' or better condition state.	92%	Maximize
	Percentage (by replacement cost) of streetlights in a 'Fair' or better condition state.	100%	Maximize
	Percentage (by replacement cost) of traffic signals in a 'Fair' or better condition state.	100%	Maximize

2.2 Facilities

2.2.1 State of Local Infrastructure

The Township owns and manages 29 facilities that support the provision of various municipal services supported by the general tax levy. As noted in Section 1.1, asset management components for facilities that support the provision of water and wastewater services, which are funded by water and wastewater rate revenues, are addressed separately within the Township's 2026 Water and Wastewater Rate Study and thus excluded from the analysis presented in this section.

The estimated current replacement cost of the Township's facilities is \$74.5 million. Parks, recreation, and culture facilities represent the largest share of replacement cost at \$36.9 million (50%), followed by fire and protective services facilities at \$20.6 million (28%), administrative facilities at \$8.6 million (11%), and lastly, public works facilities at \$8.4 million (11%). The average age of the Township's facility components is 35.9 years. Table 2-12 summarizes the quantity, gross floor area, average age, and



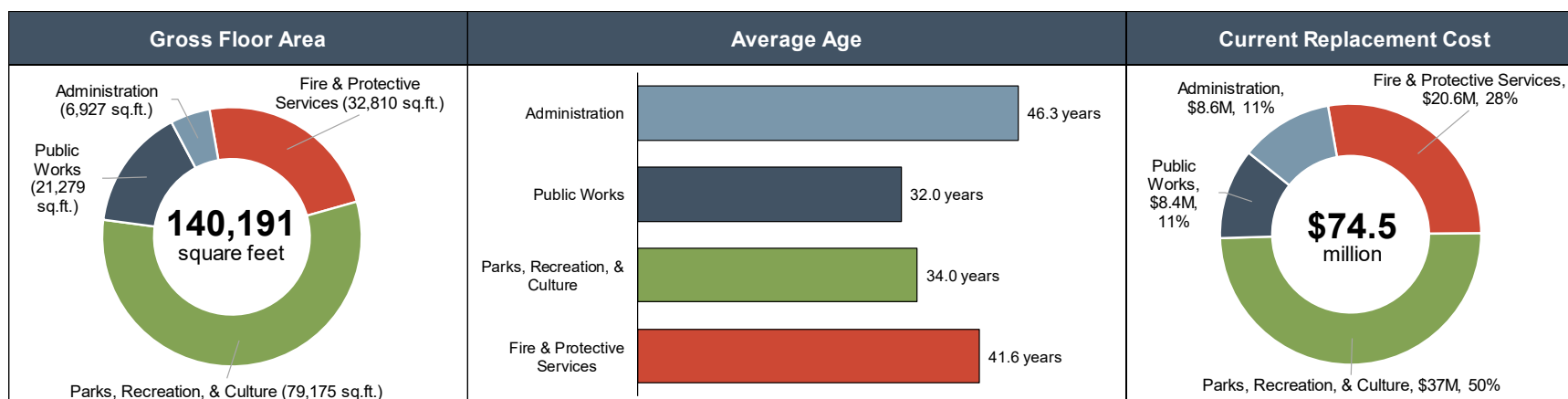
estimated current replacement cost of the Township's facilities by service area. This information is further illustrated in Figure 2-8.



Table 2-12: Facilities – Quantity, Gross Floor Area, Average Age, and Replacement Cost by Service Area

Service Area	Quantity	Gross Floor Area	Average Age ^[1]	Current Replacement Cost
Fire & Protective Services	6	32,810 ft ²	41.6 years	\$20,616,000
Parks, Recreation, & Culture	15	79,175 ft ²	34.0 years	\$36,985,000
Public Works	6	21,279 ft ²	32.0 years	\$8,362,000
Administration	2	6,927 ft ²	46.3 years	\$8,552,000
Total	29	140,191 ft²	35.9 years	\$74,515,000

Figure 2-8: Facilities – Gross Floor Area, Average Age, and Replacement Cost by Service Area



^[1]Weighted average based on the ages of the building elements comprising each facility. The weighted average age of each facility was calculated using the replacement cost of building elements as weights. The weighted average age for each service area was subsequently determined using the gross floor area (ft²) of each facility as weights.



2.2.2 Condition

The Township assesses the condition of its facilities through formal Building Condition Assessments (BCAs) completed by an external service provider and supplemented by staff input. The assessments identify repair, maintenance, rehabilitation, and replacement requirements for facilities at a component level. As part of the assessment process, individual facility components are inspected and, based on their observed physical condition and ability to continue meeting functional requirements, are assigned a condition rating utilizing the five-point rating scale as summarized in Table 2-13.

Table 2-13: Facilities – Definition of Qualitative Condition States

Component Condition Rating	Component Condition State
5	Very Good
4	Good
3	Fair
2	Poor
1	Very Poor

The Township most recently completed BCAs on its facilities in 2022. To provide an overall measure of the condition of each facility, the condition ratings of each facility's components were averaged. The resulting average condition rating across all facilities is 3.3, indicating that facilities were in an overall 'Fair' condition state (on average) at the time of the assessment, based on the condition of their respective components.

Table 2-14 summarizes the average condition ratings and associated condition states of facility components by service area.

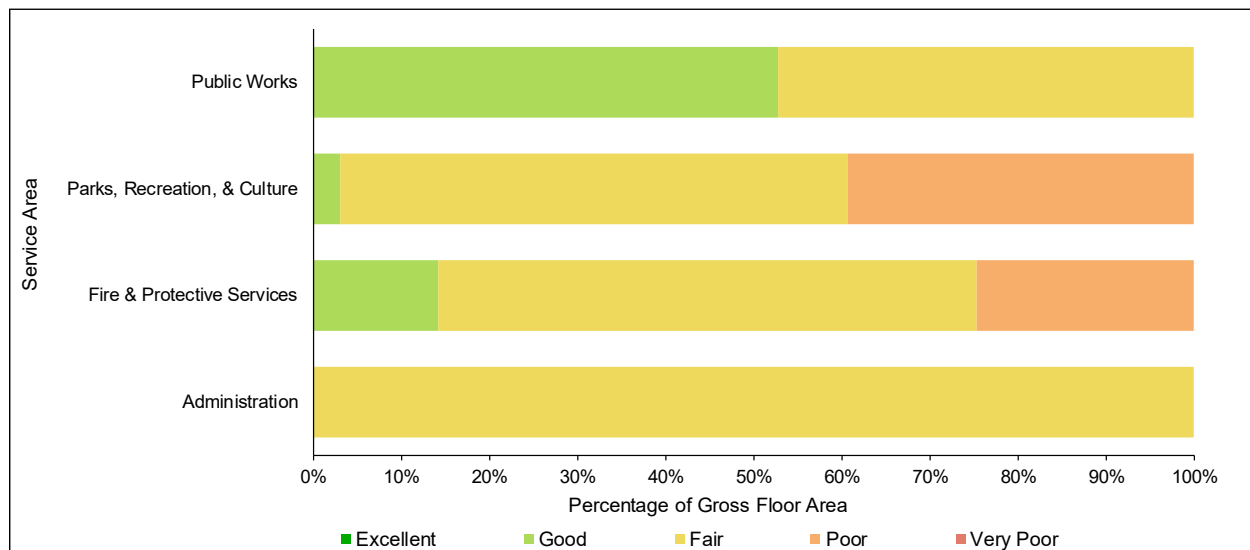


Table 2-14: Facilities – Average Condition Ratings and Condition States by Service Area

Service Area	Average Condition Rating ^[1]	Condition State
Administration	3.3	Fair
Fire & Protective Services	3.5	Fair
Parks, Recreation, & Culture	3.1	Fair
Public Works	3.7	Fair
Average	3.3^[2]	Fair

The distribution (gross floor area) of the Township's facilities by condition state and service area is illustrated in Figure 2-9 and by condition state is illustrated in Figure 2-10.

Figure 2-9: Facilities – Distribution (by gross floor area) of Assets by Condition State and Facility Type

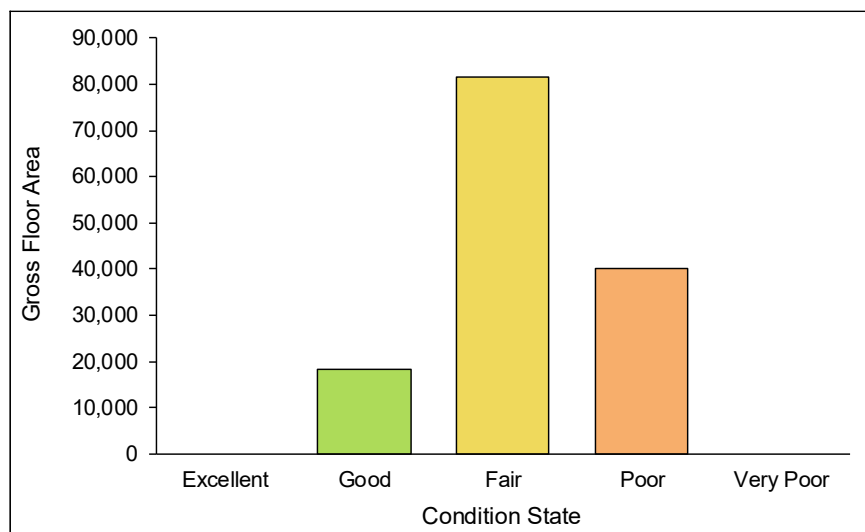


^[1]Weighted average based on the condition ratings of the building elements comprising each facility. The weighted average condition rating of each facility was calculated using the replacement cost of building elements as weights. The weighted average condition rating for each service area was subsequently determined using the gross floor area (ft²) of each facility as weights.

^[2]Weighted average based on the condition ratings of the building elements comprising each facility. The weighted average condition rating of each facility was calculated using the replacement cost of building elements as weights. The weighted average condition rating for all facilities was subsequently determined using the gross floor area (ft²) of facilities as weights.



Figure 2-10: Facilities – Distribution (by gross floor area) of Assets by Condition State



2.2.3 Levels of Service

This subsection presents the Township's levels of service framework for facilities. Table 2-15 presents the Service Attributes and Community Levels of Service while Table 2-16 presents the Technical Levels of Service (i.e., performance measures). Please refer to Section 2.1.3 for further details on the Township's levels of service framework.

Table 2-15: Facilities – Community Levels of Service

Service Attribute	Community Levels of Service
Capacity	The Township strives to align the capacity of its facilities with the service demands of its community.
Quality	The Township strives to maintain its facilities in adequate condition to continue effectively supporting the provision of municipal services.



Table 2-16: Facilities – Technical Levels of Service

Service Attribute	Performance Measure	Current Performance	Target Performance
Capacity	Gross floor area (square footage) of fire and protective services facilities per 100 residents.	267 ft ² per 100 residents ^[1]	248 ft ² per 100 residents ^[1]
	Gross floor area (square footage) of parks, recreation, and culture facilities per 100 residents.	644 ft ² per 100 residents ^[1]	598 ft ² per 100 residents ^[1]
	Gross floor area (square footage) of public works facilities per kilometre of roads.	52 ft ² per kilometre	52 ft ² per kilometre
	Gross floor area (square footage) of administrative facilities per 100 residents.	56 ft ² per 100 residents ^[1]	52 ft ² per 100 residents ^[1]
Quality	Average condition rating (and condition state) of fire and protective services facilities.	3.5 ^[2] (Fair)	Maximize
	Average condition rating (and condition state) of parks, recreation, and culture facilities.	3.1 ^[2] (Fair)	Maximize
	Average condition rating (and condition state) of public works facilities.	3.7 ^[2] (Fair)	Maximize
	Average condition rating (and condition state) of administrative facilities.	3.3 ^[2] (Fair)	Maximize

^[1]Derived utilizing population growth projections (excluding Census undercount) provided in the Township's 2021 Development Charges Background Study, as summarized in Section 2.7 of this report.

^[2]Weighted average based on the condition ratings of the building elements comprising each facility. The weighted average condition rating of each facility was calculated using the replacement cost of building elements as weights. The weighted average condition rating for each service area was subsequently determined using the gross floor area (ft²) of each facility as weights.



2.3 Fleet and Equipment

2.3.1 *State of Local Infrastructure*

The Township's owns and manages a diverse inventory of fleet and equipment assets that support the provision of various municipal services supported by the general tax levy. This inventory includes passenger vehicles, pickup trucks, plow trucks, fire apparatus (e.g., tankers, pumpers, rescue vehicles), and other vehicles. The inventory also includes a range of equipment, including graders, backhoes, sidewalk machines, tractors, generators, trailers, firefighting equipment (e.g., radios, extrication equipment, self-contained breathing apparatus), etc.

Consistent with the treatment of facilities, asset management components for equipment assets supporting the provision of water and wastewater services (e.g., treatment components), which are funded by water and wastewater rate revenues, are addressed separately in the Township's 2026 Water and Wastewater Rate Study and thus excluded from the analyses presented in this section.

The estimated current replacement cost of the Township's fleet and equipment assets is \$20.6 million. Public works assets represent the largest share of replacement cost at \$8.9 million (43%), followed by fire fleet assets at \$6.3 million (31%), fire-fighting equipment at \$2.5 million (12%), parks and recreation assets at \$1.9 million (9%), and lastly, administrative and IT assets at \$984,000 (5%). The average age of the Township's fleet and equipment assets is 11.1 years.

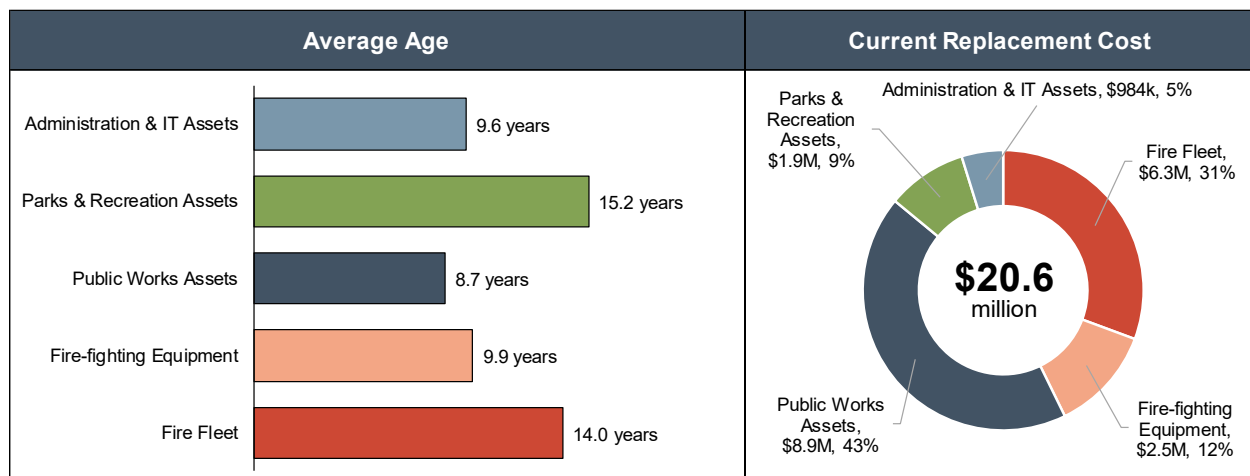
Table 2-17 summarizes the average age and estimated current replacement cost of the Township's fleet and equipment assets by asset type. This information is further illustrated in Figure 2-11.



Table 2-17: Fleet and Equipment – Average Age and Replacement Cost by Asset Type

Asset Type	Average Age ^[1]	Current Replacement Cost
Fire Fleet	14.0 years	\$6,310,000
Fire-fighting Equipment	9.9 years	\$2,491,000
Public Works Assets	8.7 years	\$8,897,000
Parks & Recreation Assets	15.2 years	\$1,899,000
Administration & IT Assets	9.6 years	\$984,000
Total	11.1 years	\$20,581,000

Figure 2-11: Fleet and Equipment – Average Age and Replacement Cost by Asset Type



2.3.2 Condition

The condition of the Township's fleet and equipment assets has not been directly assessed through physical condition assessments. For the purposes of this asset management plan, condition ratings have been assigned to assets based on age relative to useful service life (i.e. based on the percentage of useful service life consumed (ULC%)). To better communicate the condition of these assets, ULC% ratings have been segmented into qualitative condition states as summarized previously in Table 2-8. Please refer to Section 2.1.2 for further information on this condition assessment methodology.

^[1]Weighted average utilizing the replacement cost of each asset as weights.



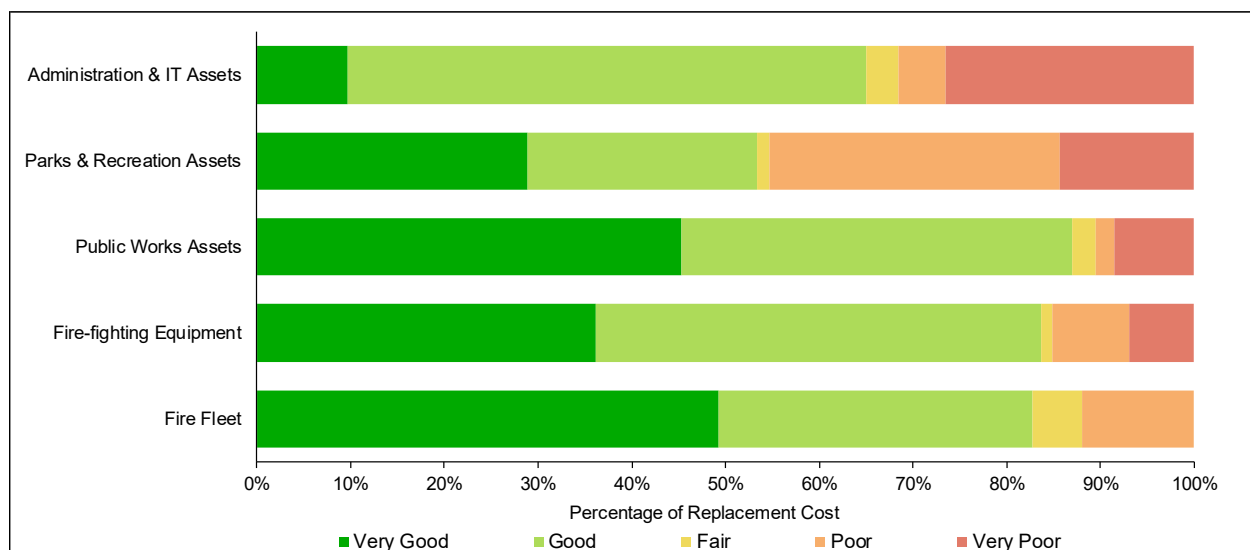
The Township's fleet and equipment assets have an average ULC% of 64.0%, indicating that they are currently in a 'Good' condition state (on average). Table 2-18 summarizes the average ULC% and associated condition states of fleet and equipment assets by asset type.

Table 2-18: Fleet and Equipment – Average ULC% and Condition States by Asset Type

Asset Type	Average ULC% ^[1]	Condition State
Fire Fleet	56.2%	Good
Fire-fighting Equipment	70.1%	Good
Public Works Assets	57.3%	Good
Parks & Recreation Assets	84.0%	Good
Administration & IT Assets	120.9%	Poor
Average	64.0%	Good

The distribution (by replacement cost) of the Township's fleet and equipment assets by condition state and asset type is illustrated in Figure 2-12 and by ULC% rating range is illustrated in Figure 2-13.

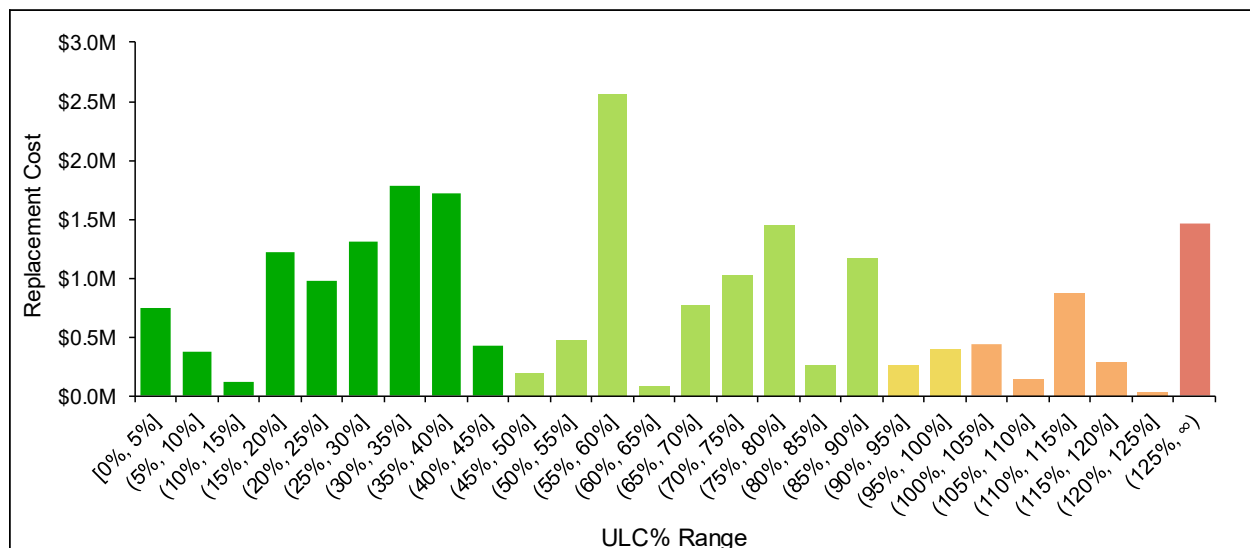
Figure 2-12: Fleet and Equipment Assets – Distribution (by replacement cost) of Assets by Condition State and Asset Type



^[1]Weighted average utilizing the replacement cost of each asset as weights.



Figure 2-13: Fleet and Equipment Assets – Distribution (by replacement cost) of Assets by ULC% Rating Range



2.3.3 Levels of Service

This subsection presents the Township’s levels of service framework for fleet and equipment assets. Table 2-19 presents the Service Attributes and Community Levels of Service, while Table 2-20 presents the Technical Levels of Service (i.e., performance measures). Please refer to Section 2.1.3 for further details on the Township’s levels of service framework.

Table 2-19: Fleet and Equipment – Community Levels of Service

Service Attribute	Community Levels of Service
Reliability	The Township strives to minimize the number and impact of unplanned repair/maintenance activities performed on its fleet and equipment assets.

Table 2-20: Fleet and Equipment – Technical Levels of Service

Service Attribute	Performance Measure	Current Performance	Target Performance
Reliability	Percentage (by replacement cost) of fire fleet assets in a ‘Fair’ or better condition state.	88%	Maximize



Service Attribute	Performance Measure	Current Performance	Target Performance
	Percentage (by replacement cost) of fire fighting equipment in a 'Fair' or better condition state.	85%	Maximize
	Percentage (by replacement cost) of public works assets in a 'Fair' or better condition state.	90%	Maximize
	Percentage (by replacement cost) of parks and recreation assets in a 'Fair' or better condition state.	55%	Maximize
	Percentage (by replacement cost) of administrative and IT assets in a 'Fair' or better condition state.	68%	Maximize

2.4 Parks and Recreation

2.4.1 State of Local Infrastructure

The Township owns and manages a variety of parks and recreation assets comprising park amenities/structures and play equipment. The estimated current replacement cost of the Township's parks and recreation assets is \$3.6 million, with park amenities/structures accounting for 89% of this replacement cost (i.e., \$3.2 million) and play equipment accounting for the remaining 11% (i.e., \$406,000). The average age of the Township's parks and recreation assets is 15.0 years.

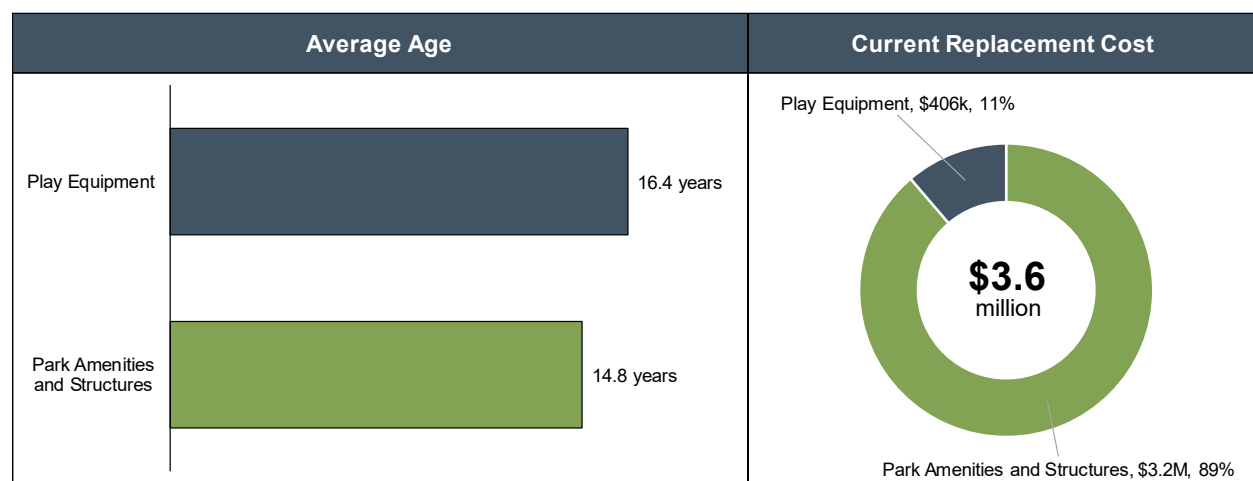
Table 2-21 summarizes the average age and estimated current replacement cost of the Township's parks and recreation assets by asset type. This information is further illustrated in Figure 2-14.



Table 2-21: Parks and Recreation – Average Age and Replacement Cost by Asset Type

Asset Type	Average Age ^[1]	Current Replacement Cost
Park Amenities and Structures	14.8 years	\$3,198,000
Play Equipment	16.4 years	\$406,000
Total	15.0 years	\$3,604,000

Figure 2-14: Parks and Recreation – Average Age and Replacement Cost by Asset Type



2.4.2 Condition

The condition of the Township's parks and recreation assets has not been directly assessed through physical condition assessments. For the purposes of this asset management plan, condition ratings have been assigned to assets based on age relative to useful service life (i.e. based on the percentage of useful service life consumed (ULC%)). To better communicate the condition of these assets, ULC% ratings have been segmented into qualitative condition states as summarized previously in Table 2-8. Please refer to Section 2.1.2 for further information on this condition assessment methodology.

The Township's parks and recreation assets have an average ULC% of 51.4%, indicating that they are currently in a 'Good' condition state (on average). Table 2-22

^[1]Weighted average utilizing the replacement cost of each asset as weights.



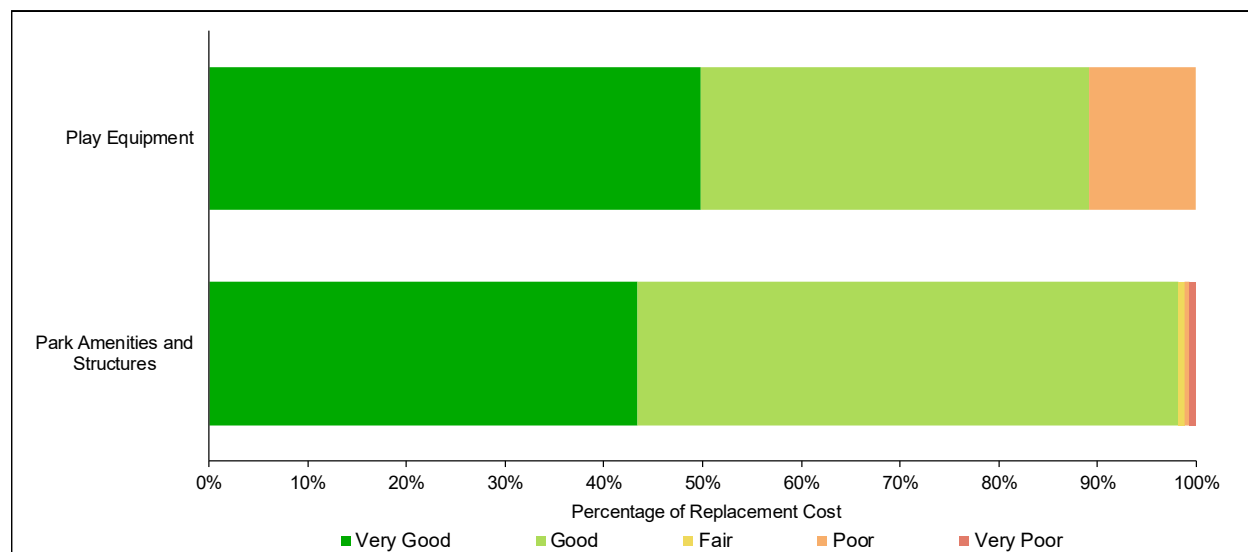
summarizes the average ULC% and associated condition states of parks and recreation assets by asset type.

Table 2-22: Parks and Recreation – Average ULC% and Condition States by Asset Type

Asset Type	Average ULC% ^[1]	Condition State
Park Amenities and Structures	51.4%	Good
Play Equipment	51.7%	Good
Average	51.4%	Good

The distribution (by replacement cost) of the Township's parks and recreation assets by condition state and asset type is illustrated in Figure 2-15 and by ULC% rating range is illustrated in Figure 2-16.

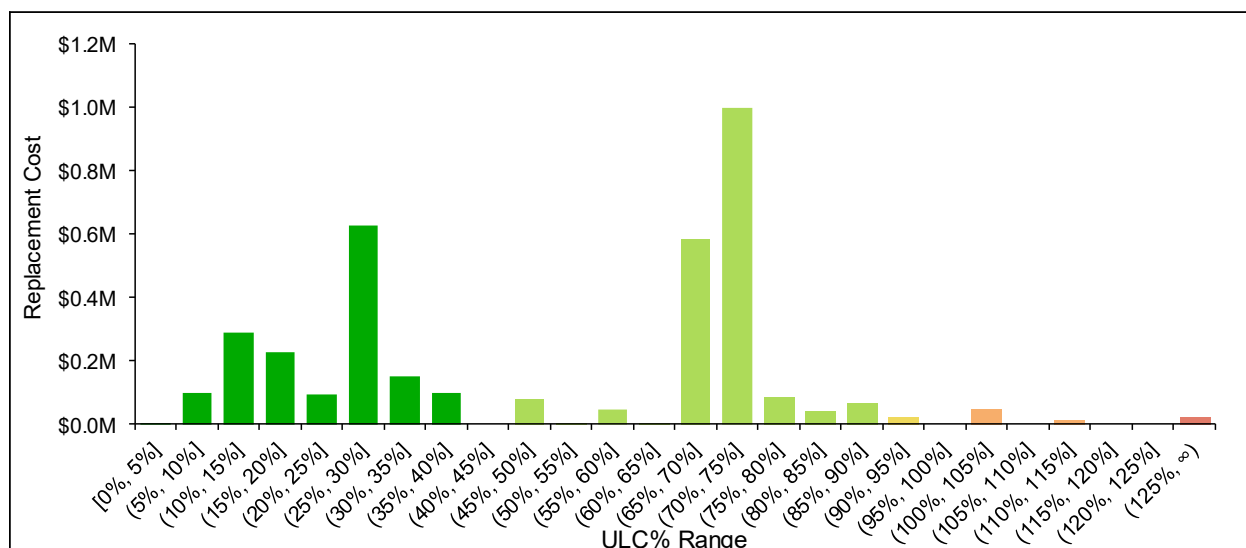
Figure 2-15: Parks and Recreation – Distribution (by replacement cost) of Assets by Condition State and Asset Type



^[1]Weighted average utilizing the replacement cost of each asset as weights.



Figure 2-16: Parks and Recreation – Distribution (by replacement cost) of Assets by ULC% Rating Range



2.4.3 Levels of Service

This subsection presents the Township’s levels of service framework for parkland amenities assets. Table 2-19 presents the Service Attributes and Community Levels of Service, while Table 2-20 presents the Technical Levels of Service (i.e., performance measures). Please refer to Section 2.1.3 for further details on the Township’s levels of service framework.

Table 2-23: Parks and Recreation – Community Levels of Service

Service Attribute	Community Levels of Service
Reliability	The Township strives to maintain its parks and recreation assets in adequate condition to continue providing a satisfactory user experience and meeting service demands.

Table 2-24: Parks and Recreation – Technical Levels of Service

Service Attribute	Performance Measure	Current Performance	Target Performance
Reliability	Percentage (by replacement cost) of park amenities and structures in a ‘Fair’ or better condition state.	99%	Maximize



Service Attribute	Performance Measure	Current Performance	Target Performance
	Percentage (by replacement cost) of play equipment in a 'Fair' or better condition state.	89%	Maximize

2.5 Land Improvements

2.5.1 State of Local Infrastructure

The Township's inventory of land improvement assets comprises fencing and lighting, paved pathways, sport courts, and landfill monitoring wells. The estimated current replacement cost of the Township's land improvement assets is \$3.1 million. Fencing and lighting represent the largest share of replacement cost at \$1.3 million (43%), followed by sport courts at \$1.2 million (40%), paved pathways at \$327,000 (11%), and lastly, wells at \$196,000 (6%). The average age of the Township's land improvement assets is 23.1 years.

Table 2-25 summarizes the average age and estimated current replacement cost of the Township's land improvement assets by asset type. This information is further illustrated in Figure 2-17.

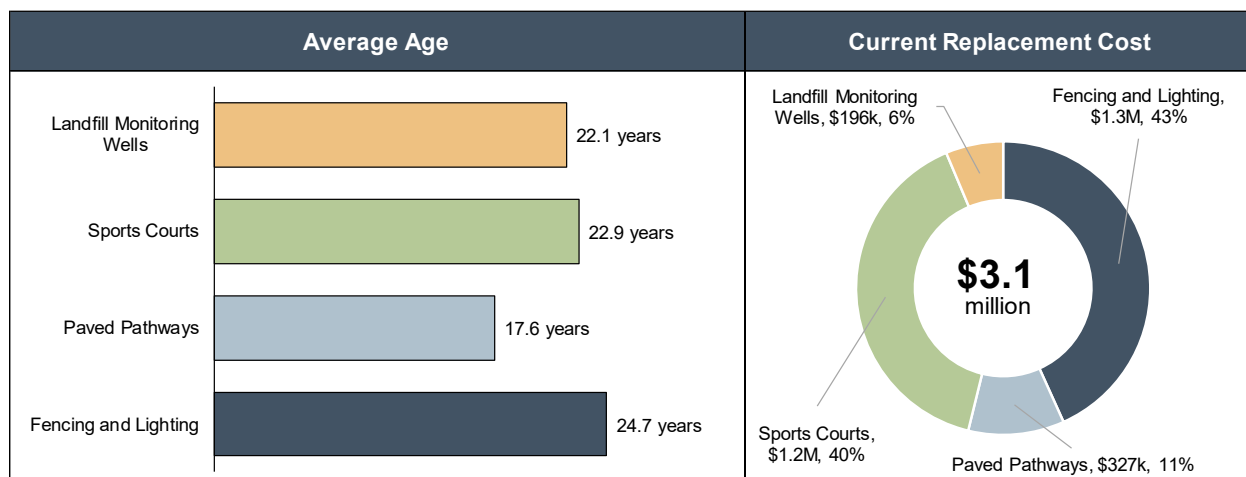
Table 2-25: Land Improvements – Average Age and Replacement Cost by Asset Type

Asset Type	Average Age ^[1]	Current Replacement Cost
Fencing and Lighting	24.7 years	\$1,340,000
Paved Pathways	17.6 years	\$327,000
Sport Courts	22.9 years	\$1,234,000
Landfill Monitoring Wells	22.1 years	\$196,000
Total	23.1 years	\$3,097,000

^[1]Weighted average utilizing the replacement cost of each asset as weights.



Figure 2-17: Land Improvements – Average Age and Replacement Cost by Asset Type



2.5.2 Condition

The condition of the Township's land improvement assets has not been directly assessed through physical condition assessments. For the purposes of this asset management plan, condition ratings have been assigned to assets based on age relative to useful service life (i.e. based on the percentage of useful service life consumed (ULC%)). To better communicate the condition of these assets, ULC% ratings have been segmented into qualitative condition states as summarized previously in Table 2-8. Please refer to Section 2.1.2 for further information on this condition assessment methodology.

The Township's land improvement assets have an average ULC% of 62.4%, indicating that they are currently in a 'Good' condition state (on average). Table 2-26 summarizes the average ULC% and associated condition states of land improvement assets by asset type.

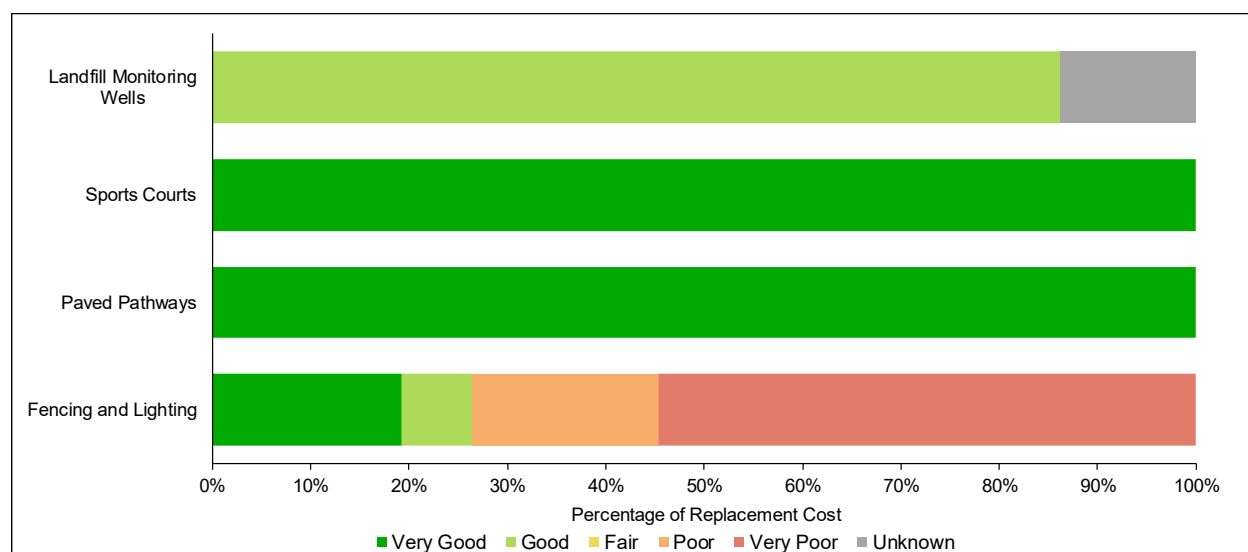


Table 2-26: Land Improvements – Average ULC% and Condition States by Asset Type

Asset Type	Average ULC% ^[1]	Condition State
Fencing and Lighting	105.6%	Poor
Paved Pathways	22.2%	Very Good
Sport Courts	25.9%	Very Good
Landfill Monitoring Wells	63.8%	Good
Average	62.4%	Good

The distribution (by replacement cost) of the Township's land improvement assets by condition state and asset type is illustrated in Figure 2-18 and by ULC% rating range is illustrated in Figure 2-19.

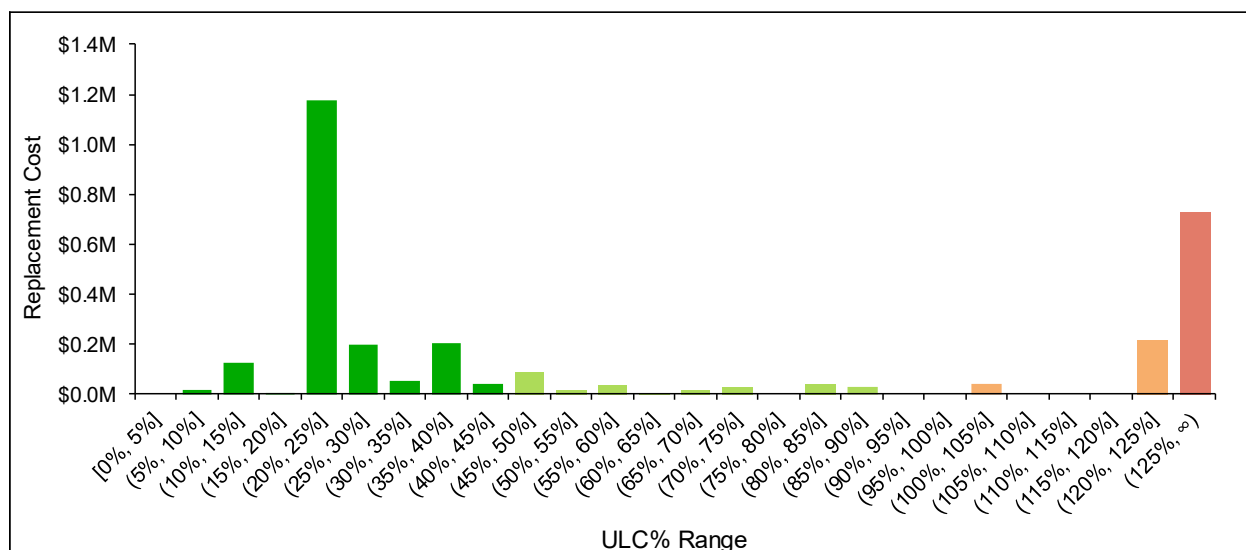
Figure 2-18: Land Improvements – Distribution (by replacement cost) of Assets by Condition State and Asset Type



^[1]Weighted average utilizing the replacement cost of each asset as weights.



Figure 2-19: Land Improvements – Distribution (by replacement cost) of Assets by ULC% Rating Range



2.5.3 Levels of Service

This subsection presents the Township’s levels of service framework for land improvement assets. Table 2-27 presents the Service Attributes and Community Levels of Service, while Table 2-28 presents the Technical Levels of Service (i.e., performance measures). Please refer to Section 2.1.3 for further details on the Township’s levels of service framework.

Table 2-27: Land Improvements – Community Levels of Service

Service Attribute	Community Levels of Service
Reliability	The Township strives to maintain its land improvement assets in adequate condition to continue providing a satisfactory user experience and meeting service demands.

Table 2-28: Land Improvements – Technical Levels of Service

Service Attribute	Performance Measure	Current Performance	Target Performance
Reliability	Percentage (by replacement cost) of fencing and lighting assets in a ‘Fair’ or better condition state.	26%	Maximize



Service Attribute	Performance Measure	Current Performance	Target Performance
	Percentage (by replacement cost) of paved pathways in a 'Fair' or better condition state.	100%	Maximize
	Percentage (by replacement cost) of sport courts in a 'Fair' or better condition state.	100%	Maximize
	Percentage (by replacement cost) of landfill monitoring wells in a 'Fair' or better condition state.	86%	Maximize

2.6 Stormwater

2.6.1 State of Local Infrastructure

The Township's stormwater system supports the management of stormwater runoff, provides flood protection, manages the rate of groundwater discharge while helping to recharge groundwater reserves, and helps stop contaminants from entering the water supply. The system is supported by 38.1 km of stormwater mains, 997 catch basins, and 8 stormwater ponds.

The estimated current replacement cost of the Township's stormwater system assets is \$71.7 million. Stormwater mains represent the largest share of total replacement cost at \$51.2 million (80%), followed by catch basins at \$13.3 million (19%), and stormwater ponds at \$1.2 (2%) and OGSs at \$1.3 million (2%). The average age of the Township's stormwater system assets is 20.0 years.

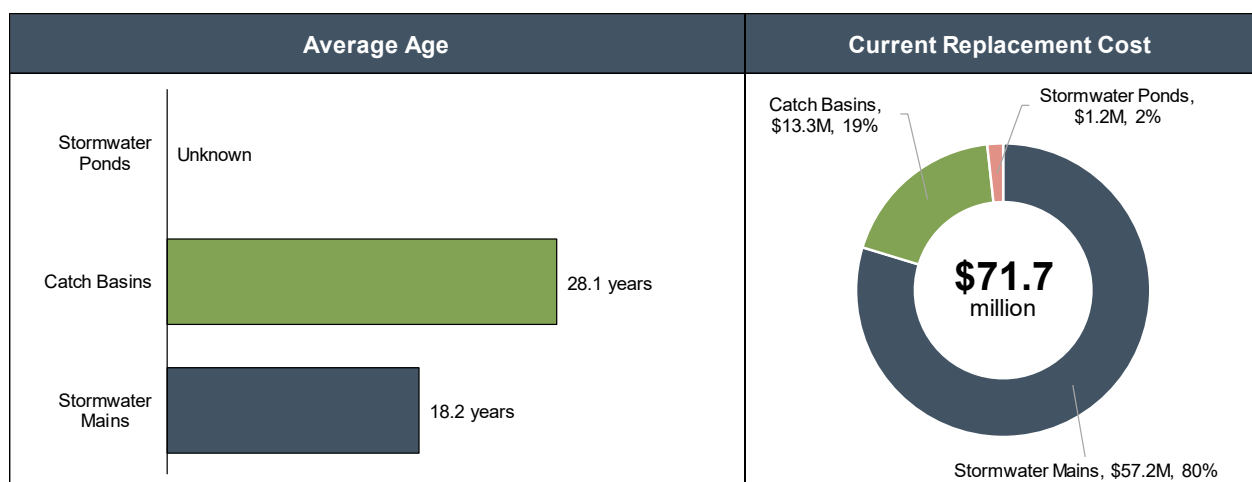
Table 2-29 summarizes the quantities, average age, and estimated current replacement cost of the Township's stormwater system assets and this information is illustrated graphically in Figure 2-20.



Table 2-29: Stormwater – Quantity, Average Age, and Replacement Cost by Asset Type

Asset Type	Quantity	Average Age ^[1]	Current Replacement Cost
Stormwater Mains	38.1 km	18.2 years ^[2]	\$57,152,000
Catch Basins	997	28.1 years	\$13,299,000
Stormwater Ponds	8	N/A ^[3]	\$1,247,000
Total		20.0 years^[4]	\$71,698,000

Figure 2-20: Stormwater – Average Age and Replacement Cost by Asset Type



2.6.2 Condition

The condition of the Township's stormwater system assets has not been directly assessed through physical condition assessments. For the purposes of this asset management plan, condition ratings have been assigned to assets based on age relative to useful service life (i.e. based on the percentage of useful service life consumed (ULC%)). To better communicate the condition of these assets, ULC%

^[1]Weighted average utilizing the length of stormwater mains and the replacement cost of other asset as weights.

^[2]It is noted that initial years of construction are not readily available for approximately 8% of the Township's stormwater mains. As such, these assets are excluded from the calculation of weighted average age presented herein.

^[3]It is noted that the ages of the Township's stormwater ponds are not readily available. As such, an average age for these assets cannot be established at this time and is not reported herein.

^[4]Weighted average utilizing the replacement costs of asset types as weights.



ratings have been segmented into qualitative condition states as summarized previously in Table 2-8. Please refer to Section 2.1.2 for further information on this condition assessment methodology.

The Township's stormwater system assets have an average ULC% of 32.4%, indicating that they are currently in a 'Very Good' condition state (on average). Table 2-30 summarizes the average ULC% and associated condition states of stormwater system assets by asset type.

Table 2-30: Stormwater – Average ULC% and Condition States by Asset Type

Asset Type	Average ULC% ^[1]	Condition State
Stormwater Mains	31.1% ^[2]	Very Good
Catch Basins	37.4%	Very Good
Stormwater Ponds	N/A ^[3]	N/A
Average	32.4%^[4]	Very Good

The distribution (by replacement cost) of the Township's stormwater system assets by condition state and asset type is illustrated in Figure 2-21.

^[1]Weighted average utilizing the lengths of stormwater mains and the replacement costs of other assets as weights.

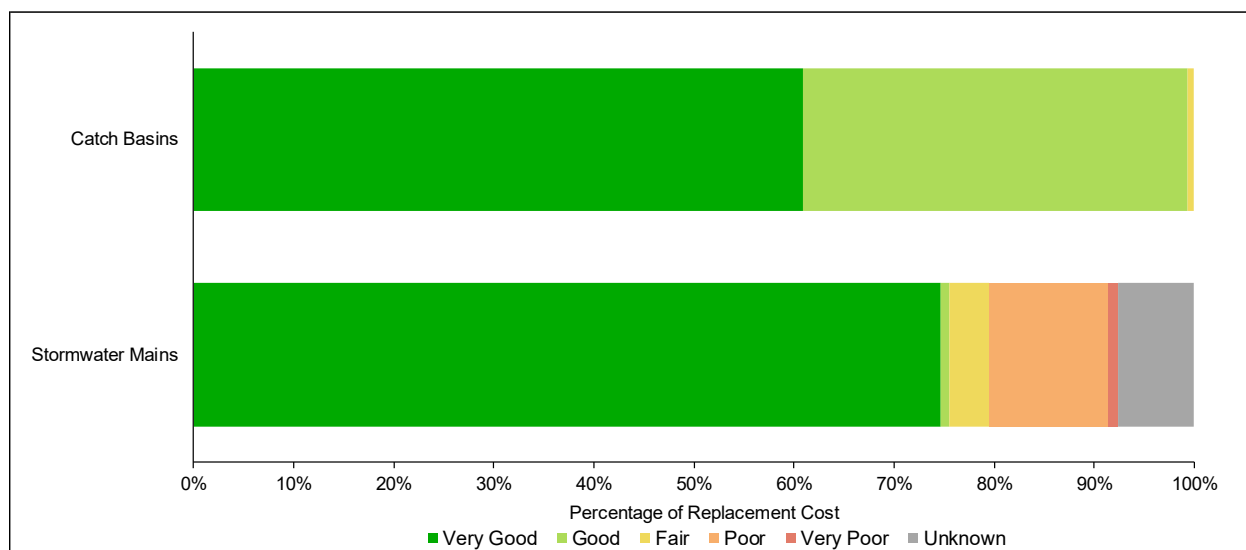
^[2]It is noted that ages for approximately 8% of the Township's stormwater mains are not readily available. As such, these assets are excluded from the calculation of weighted average ULC% presented herein.

^[3]It is noted that ULC% ratings cannot be calculated for the Township's stormwater ponds at this time, as their ages are currently unknown.

^[4]Weighted average utilizing the replacement costs of asset types as weights.



Figure 2-21: Stormwater – Distribution (by replacement cost) of Assets by Condition State and Asset Type



The distribution (by length) of the Township's stormwater mains by ULC% rating range is illustrated in Figure 2-22 and the distribution (by replacement cost) of the Township's catch basins by ULC% rating range is illustrated in Figure 2-23.

Figure 2-22: Stormwater Mains – Distribution (by length) of Assets by ULC% Rating Range

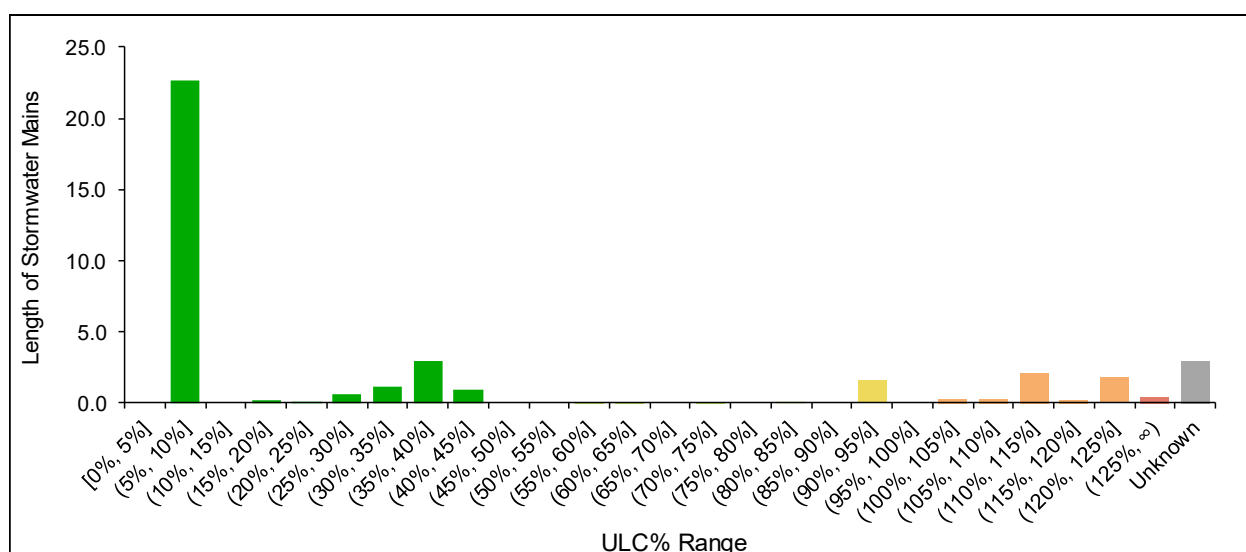
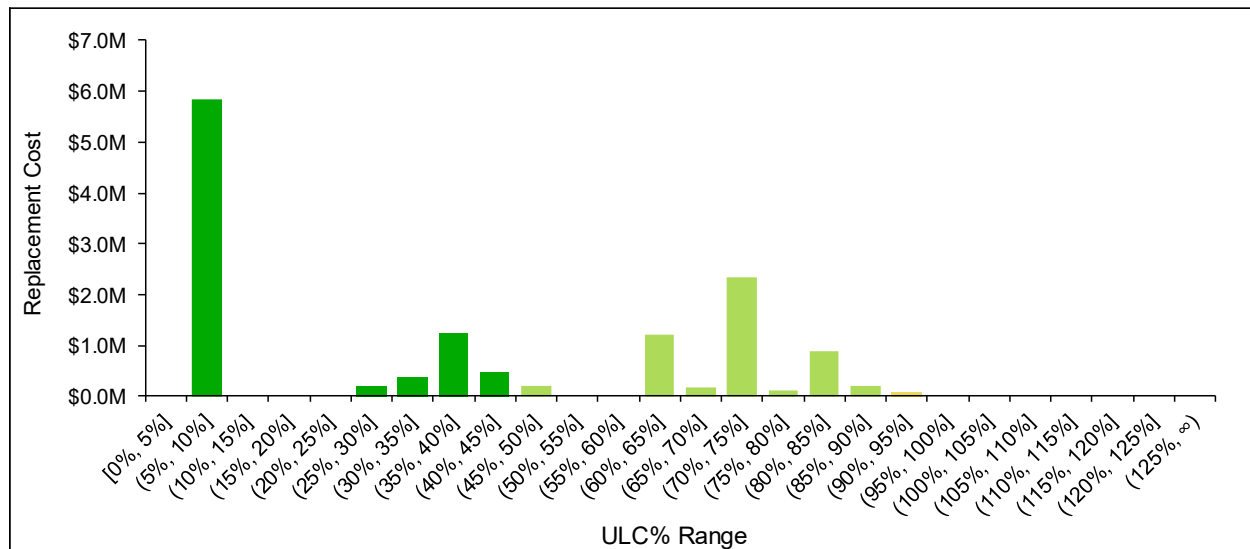




Figure 2-23: Catch Basins – Distribution (by replacement cost) of Assets by ULC% Rating Range



2.6.3 Levels of Service

This section presents the Township's levels of service framework for stormwater assets. Table 2-31 presents the Service Attributes and Community Levels of Service, while Table 2-32 presents the Technical Levels of Service (i.e., performance measures). Please refer to Section 2.1.3 for further details on the Township's levels of service framework.



Table 2-31: Stormwater – Community Levels of Service

Service Attribute	Community Levels of Service
Scope	The stormwater management system enables collection and retention of stormwater within the Township.
Reliability	The Township strives to maintain its stormwater system assets in adequate condition to reliably provide flood protection to properties and roads, manage the rate of groundwater discharge, and assist in reducing the level of contamination entering the natural environment.

Table 2-32: Stormwater – Technical Levels of Service

Service Attribute	Performance Measure	Current Performance	Target Performance
Scope	Percentage of properties in Township resilient to a 100-year storm.	Not Available ^[1]	Not Available
	Percentage of the municipal stormwater management system resilient to a 5-year storm.	60.4% ^[2]	60.4%
Reliability	Percentage (by length) of stormwater mains in a 'Fair' or better condition state.	80% ^[3]	Maximize
	Percentage (by replacement cost) of catch basins in a 'Fair' or better condition state.	100%	Maximize

2.7 Population and Employment Growth

Based on its 2021 Development Charges Background Study, the Township's population is expected to increase at a rate of approximately 0.79% annually, growing to

^[1]The Township does not currently have sufficient data to report on this level of service metric. It is recommended that the Township update its floodplain mapping in the near future, which will support the reporting of this metric in future iterations of this asset management plan.

^[2]Based on data from 2006. Consistent with the recommendation for the previous metric, it is recommended that the Township update its floodplain mapping in the near future, which will support the reporting of this metric in future iterations of this asset management plan.

^[3]As noted earlier in Section 2.6.2, the condition of approximately 8% of the Township's stormwater mains cannot be established at this time. As such, these assets are excluded from the calculation of the current performance of this metric.



approximately 13,240 residents by mid-2036. Furthermore, the same study also projects employment within the Township to increase at a rate of approximately 0.39% annually, growing to approximately 2,920 employees by mid-2036.

Continued population and employment growth will result in incremental service demands that may impact levels of service. The Township assesses these service impacts through master plans and development charges background studies, and imposes development charges on new development to fund growth-related infrastructure expansion and upgrades. Utilizing development charges helps alleviate the financial burden these growth-related expenditures would otherwise place on existing taxpayers.



Chapter 3

Lifecycle Management Strategies



3. Lifecycle Management Strategies

3.1 Introduction

The lifecycle management strategies in this asset management plan identify the activities that would need to be undertaken to achieve and sustain the proposed levels of service presented in Chapter 2. Within this context, lifecycle activities are the actions undertaken to ensure assets are performing adequately and/or to extend their service lives^[1]. 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 performed when specified conditions are met.

In accordance with Ontario Regulation 588/17, the lifecycle activities and associated costs presented in this chapter consider the full lifecycle of assets. In general terms, an asset's lifecycle starts with its initial planning and acquisition (or construction), includes both the capital and significant operating/maintenance activities the asset is expected to undergo throughout its life, and ends with its eventual disposal. The lifecycle management strategies presented in this asset management plan have been developed with the aim of identifying the set of lifecycle activities that can be undertaken at the lowest cost to achieve and sustain target service levels.

The following subsections summarize the ten-year forecasts of lifecycle activities and associated costs that would be required for the Township to provide the proposed levels of service. Brief descriptions of the methods and data sources utilized to develop the forecasts are also provided in the following subsections.

It is noted that the ten-year forecasts of lifecycle expenditures presented in this chapter do not account for unforeseen circumstances that may introduce additional costs (e.g., natural disasters, etc.). There is a level of inherent uncertainty in lifecycle forecasts, reinforcing the need to review and update this asset management plan on a regular basis.

^[1]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.



3.2 Transportation

This section presents an estimate of costs associated with providing the proposed levels of service for the Township's transportation assets presented earlier in Section 2.1.3.

In general terms, the proposed levels of service involve:

- Maintaining road surfaces in adequate quality to provide a satisfactory user experience;
- Maintaining bridges in adequate condition to enable the safe and efficient passage of vehicular and pedestrian traffic;
- Maintaining structural culverts in adequate condition to efficiently convey hydraulic flows while safely supporting overlying traffic loads;
- Maintaining road-related assets so that they can effectively support the broader transportation network.

The lifecycle expenditure forecast for the Township's paved roads was derived based on the recommendations outlined in its 2025 Road Needs Study and includes costs associated with the planned conversion of all remaining LCB roads to HCB surface by 2036. The forecast also includes costs associated with the reconstruction of selected urban roads based on projected deterioration in condition, determined in consultation with staff.

The Township intends to maintain its gravel roads through the timely completion of regular maintenance activities (e.g., dust suppressant applications, periodic re-grading, periodic re-application of granular, etc.), which are funded through its operating budgets. These activities are expected to maintain gravel roads in adequate condition over the long term, with no capital lifecycle expenditures expected over the 10-year planning horizon of this asset management plan. As such, the annual cost of gravel road maintenance is excluded from the lifecycle expenditure forecast presented in this section. These costs are reflected within the operating cost projections of the Long-Term Financial Plan and are fully incorporated into the financial strategy presented therein.

The lifecycle expenditure forecast for structures was developed based on recommendations outlined in the Township's 2025 Bridge Management Study. These



recommended activities are intended to support the timely maintenance, rehabilitation, and replacement of the Township's structures.

The Township undertakes the replacement/reconstruction of its guide rails, streetlights, and sidewalks in coordination with planned road work. The lifecycle expenditure forecast presented in this section includes an annual allowance to complete these replacement/reconstruction activities alongside planned road work. As such, the allowance varies annually based on the length of roads expected to be rehabilitated or reconstructed in a particular year. The lifecycle expenditure forecast for the Township's traffic signals and parking lots includes costs associated with the replacement/reconstruction of assets based on best estimates of their useful service lives.

The 10-year lifecycle expenditure forecast for the Township's transportation network is illustrated in Figure 3-1 and provided in tabular form in Table 3-1. Average annual expenditures over the forecast period have been estimated at \$4.2 million.



Figure 3-1: Transportation Assets – Lifecycle Expenditure Forecast (2026\$)

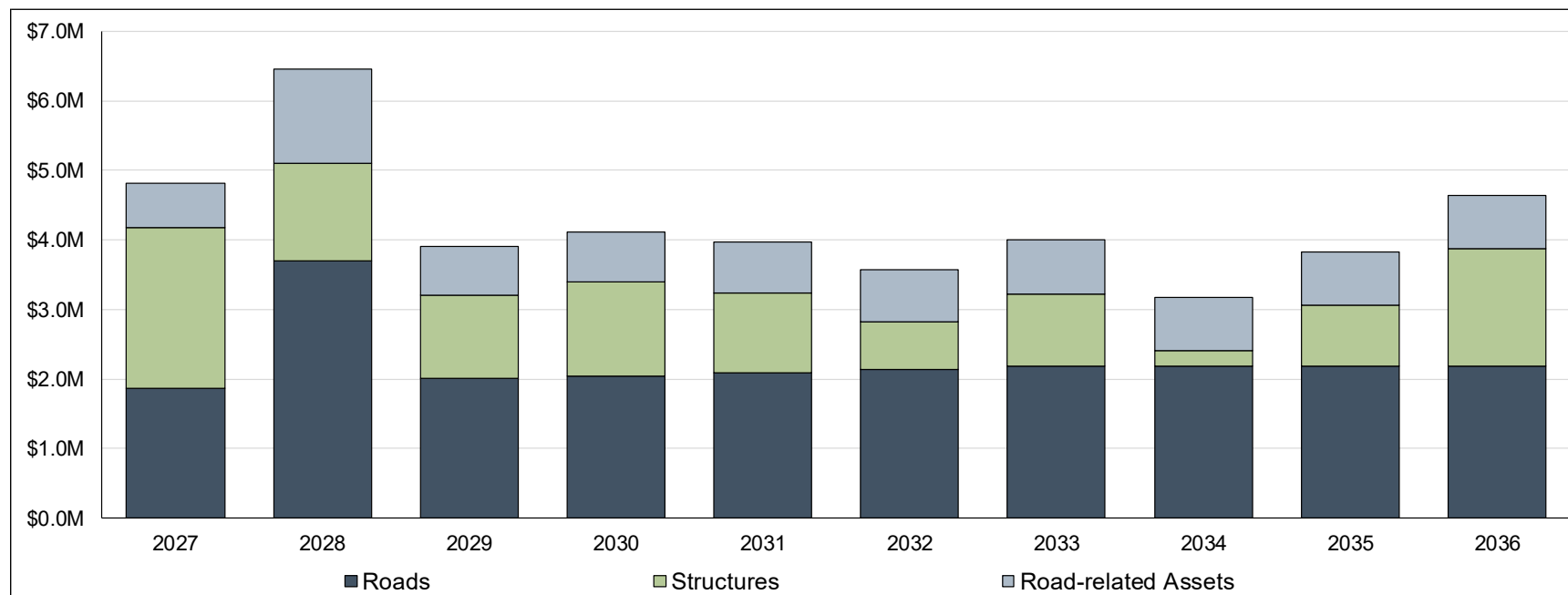


Table 3-1: Transportation Assets – Lifecycle Expenditure Forecast (2026\$)

Description	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Roads	\$ 1,869,000	\$ 3,694,000	\$ 2,003,000	\$ 2,047,000	\$ 2,092,000	\$ 2,136,000	\$ 2,181,000	\$ 2,181,000	\$ 2,181,000	\$ 2,181,000
Structures	\$ 2,302,000	\$ 1,405,000	\$ 1,206,000	\$ 1,342,000	\$ 1,137,000	\$ 680,000	\$ 1,043,000	\$ 221,000	\$ 874,000	\$ 1,694,000
Road-related Assets	\$ 652,000	\$ 1,356,000	\$ 704,000	\$ 721,000	\$ 738,000	\$ 755,000	\$ 773,000	\$ 773,000	\$ 773,000	\$ 773,000
Total Capital Expenditures	\$ 4,823,000	\$ 6,455,000	\$ 3,913,000	\$ 4,110,000	\$ 3,967,000	\$ 3,571,000	\$ 3,997,000	\$ 3,175,000	\$ 3,828,000	\$ 4,648,000



3.3 Facilities

This section presents an estimate of costs associated with providing the proposed levels of service for the Township's facilities presented earlier in Section 2.2.3.

In general terms, the proposed levels of service involve ensuring that the current capacity of facilities (i.e., gross floor area) is sufficient to meet the service demands of the community and ensuring that facilities are maintained in adequate condition to continue effectively supporting the provision of municipal services. Through consultation with staff, it was determined that existing facility capacities are sufficient to meet current and anticipated service demands. Accordingly, there are no facility space expansions, consolidations, or reductions expected within the planning horizon of this asset management plan.

The lifecycle expenditure forecast for the Township's facilities was derived based on the recommendations outlined in the 2022 Building Condition Assessments (BCAs). As mentioned in Section 2.2.2, the BCAs identify repair, maintenance, rehabilitation, and replacement requirements for facilities at a component level. For the purposes of this Asset Management Plan, these lifecycle requirements were reviewed and refined in consultation with staff to reflect current priorities and conditions.

Based on an analysis of the recommended activities and input from staff, the Township's facilities are expected to require a significant level of capital investment in the short to medium term to sustain desired service levels. To manage the associated financial impacts, the Township intends to phase the required rehabilitation and replacement activities over the 10-year planning horizon of this asset management plan (and long-term financial plan). Accordingly, the lifecycle expenditure forecast includes an annual allowance for each facility, based on the annual average of its projected capital investment requirements over this period.

The 10-year lifecycle expenditure forecast for the Township's facilities is illustrated in Figure 3-2 and provided in tabular form in Table 3-2. Average annual expenditures over the forecast period have been estimated at \$3.6 million.



Figure 3-2: Facilities – Lifecycle Expenditure Forecast (2026\$)

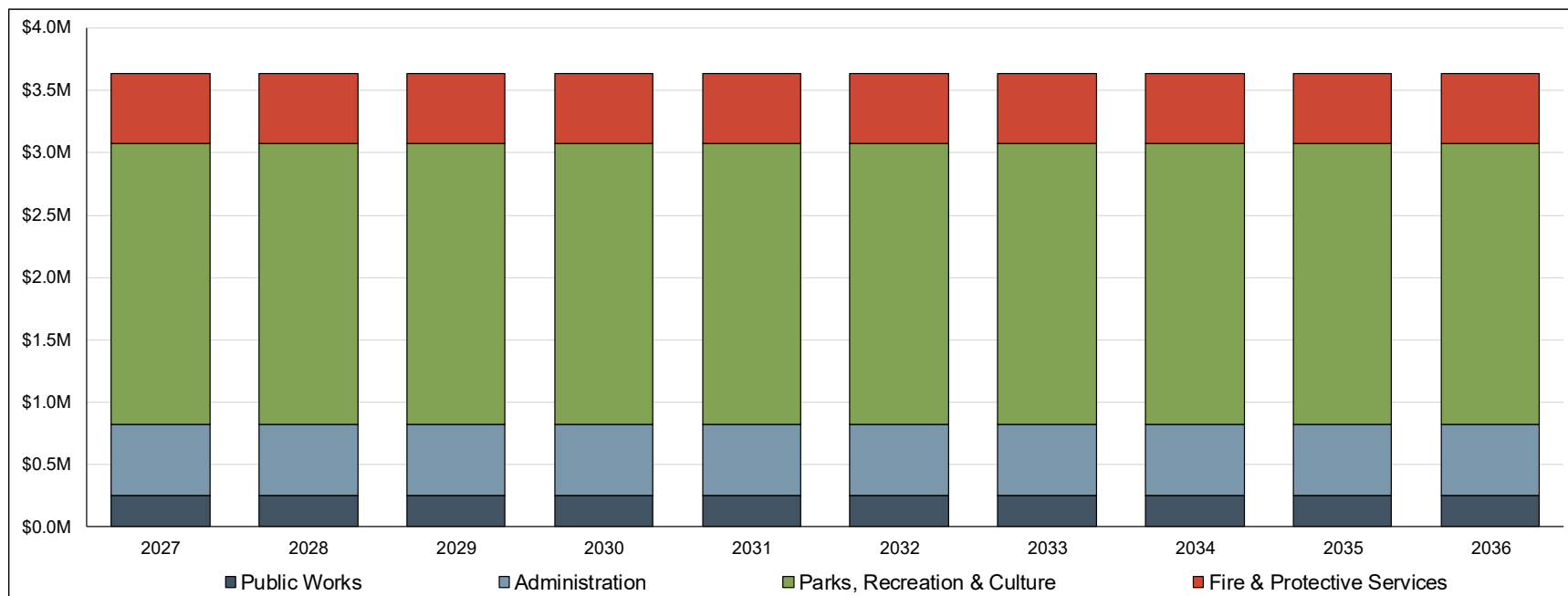


Table 3-2: Facilities – Lifecycle Expenditure Forecast (2026\$)

Service Area	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Fire & Protective Services	\$ 558,000	\$ 558,000	\$ 558,000	\$ 558,000	\$ 558,000	\$ 558,000	\$ 558,000	\$ 558,000	\$ 558,000	\$ 558,000
Parks, Recreation & Culture	\$ 2,255,000	\$ 2,255,000	\$ 2,255,000	\$ 2,255,000	\$ 2,255,000	\$ 2,255,000	\$ 2,255,000	\$ 2,255,000	\$ 2,255,000	\$ 2,255,000
Public Works	\$ 249,000	\$ 249,000	\$ 249,000	\$ 249,000	\$ 249,000	\$ 249,000	\$ 249,000	\$ 249,000	\$ 249,000	\$ 249,000
Administration	\$ 573,000	\$ 573,000	\$ 573,000	\$ 573,000	\$ 573,000	\$ 573,000	\$ 573,000	\$ 573,000	\$ 573,000	\$ 573,000
Total Capital Expenditures	\$ 3,635,000	\$ 3,635,000	\$ 3,635,000	\$ 3,635,000	\$ 3,635,000	\$ 3,635,000	\$ 3,635,000	\$ 3,635,000	\$ 3,635,000	\$ 3,635,000



3.4 Fleet and Equipment

This section presents an estimate of costs associated with providing the proposed levels of service for the Township's fleet and equipment assets presented earlier in Section 2.3.3.

In general terms, the proposed levels of service for fleet and equipment assets involve maintaining assets in adequate condition to continue performing as expected and reliably support the provision of municipal services. The Township will accomplish this by undertaking timely replacements of ageing and poorly performing assets and through the completion of regular maintenance activities. The lifecycle expenditure forecast presented in this section includes the costs associated with the replacement of assets based on current best estimates of their remaining useful service lives.

The 10-year lifecycle expenditure forecast for the Township's fleet and equipment assets is illustrated in Figure 3-3 and provided in tabular form in Table 3-3. Average annual expenditures over the forecast period have been estimated at \$1.6 million.

The current backlog for the Township's fleet and equipment assets has been estimated to be approximately \$2.8 million. This represents the estimated replacement cost of all fleet and equipment assets that are currently in service beyond their respective useful service life expectancies. These backlogged assets are forecast for replacement in 2027.



Figure 3-3: Fleet and Equipment – Lifecycle Expenditure Forecast (2026\$)

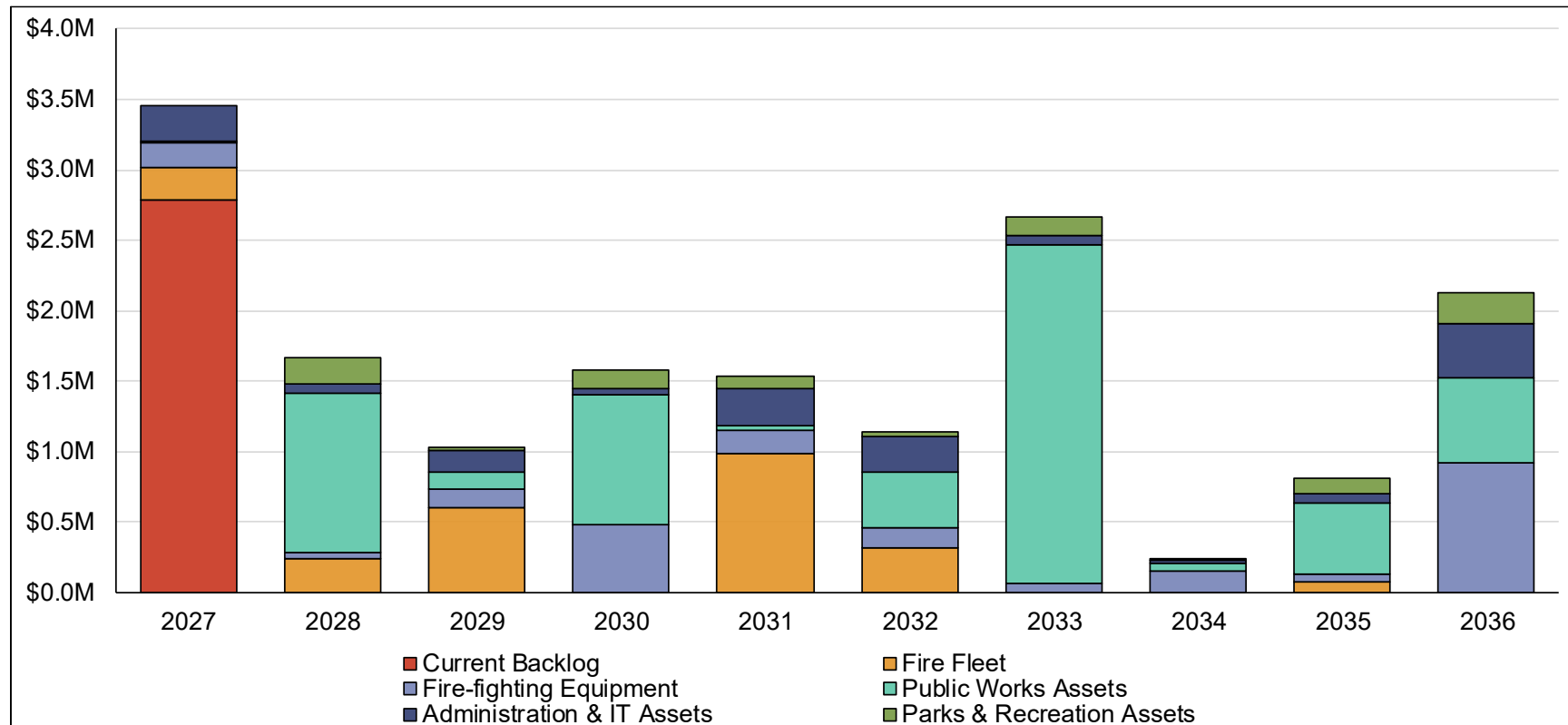


Table 3-3: Fleet and Equipment – Lifecycle Expenditure Forecast (2026\$)

Service Area	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Fire Fleet	\$ 240,000	\$ 240,000	\$ 605,000	\$ -	\$ 990,000	\$ 320,000	\$ -	\$ -	\$ 70,000	\$ -
Fire-fighting Equipment	\$ 170,000	\$ 46,000	\$ 132,000	\$ 480,000	\$ 163,000	\$ 141,000	\$ 58,000	\$ 153,000	\$ 53,000	\$ 918,000
Public Works Assets	\$ 11,000	\$ 1,127,000	\$ 112,000	\$ 919,000	\$ 29,000	\$ 396,000	\$ 2,407,000	\$ 55,000	\$ 514,000	\$ 602,000
Parks & Recreation Assets	\$ -	\$ 196,000	\$ 19,000	\$ 140,000	\$ 95,000	\$ 35,000	\$ 126,000	\$ 10,000	\$ 114,000	\$ 211,000
Administration & IT Assets	\$ 250,000	\$ 61,000	\$ 159,000	\$ 43,000	\$ 263,000	\$ 249,000	\$ 74,000	\$ 16,000	\$ 59,000	\$ 392,000
Current Backlog	\$ 2,782,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Expenditures	\$ 3,453,000	\$ 1,670,000	\$ 1,027,000	\$ 1,582,000	\$ 1,540,000	\$ 1,141,000	\$ 2,665,000	\$ 234,000	\$ 810,000	\$ 2,123,000



3.5 Parks and Recreation

This section presents an estimate of costs associated with providing the proposed levels of service for the Township's parks and recreation assets presented earlier in Section 2.4.3.

Similar to fleet and equipment assets, the proposed levels of service for the parks and recreation assets aim to maintain assets in adequate condition to continue providing a satisfactory user experience. The Township will accomplish this by undertaking timely replacements of ageing and poorly performing assets and through the completion of regular maintenance activities. The lifecycle expenditure forecast presented in this section includes the costs associated with the replacement of assets based on current best estimates of their remaining useful service lives.

The 10-year lifecycle expenditure forecast for the Township's parks and recreation assets is illustrated in Figure 3-4 and provided in tabular form in Table 3-4. Average annual expenditures over the forecast period have been estimated at \$202,000.

The current backlog for the Township's parks and recreation assets has been estimated to be approximately \$80,000. This represents the estimated replacement cost of all parks and recreation assets that are currently in service beyond their respective useful service life expectancies. These backlogged assets are forecast for replacement in 2027.



Figure 3-4: Parkland Amenities – Lifecycle Expenditure Forecast (2026\$)

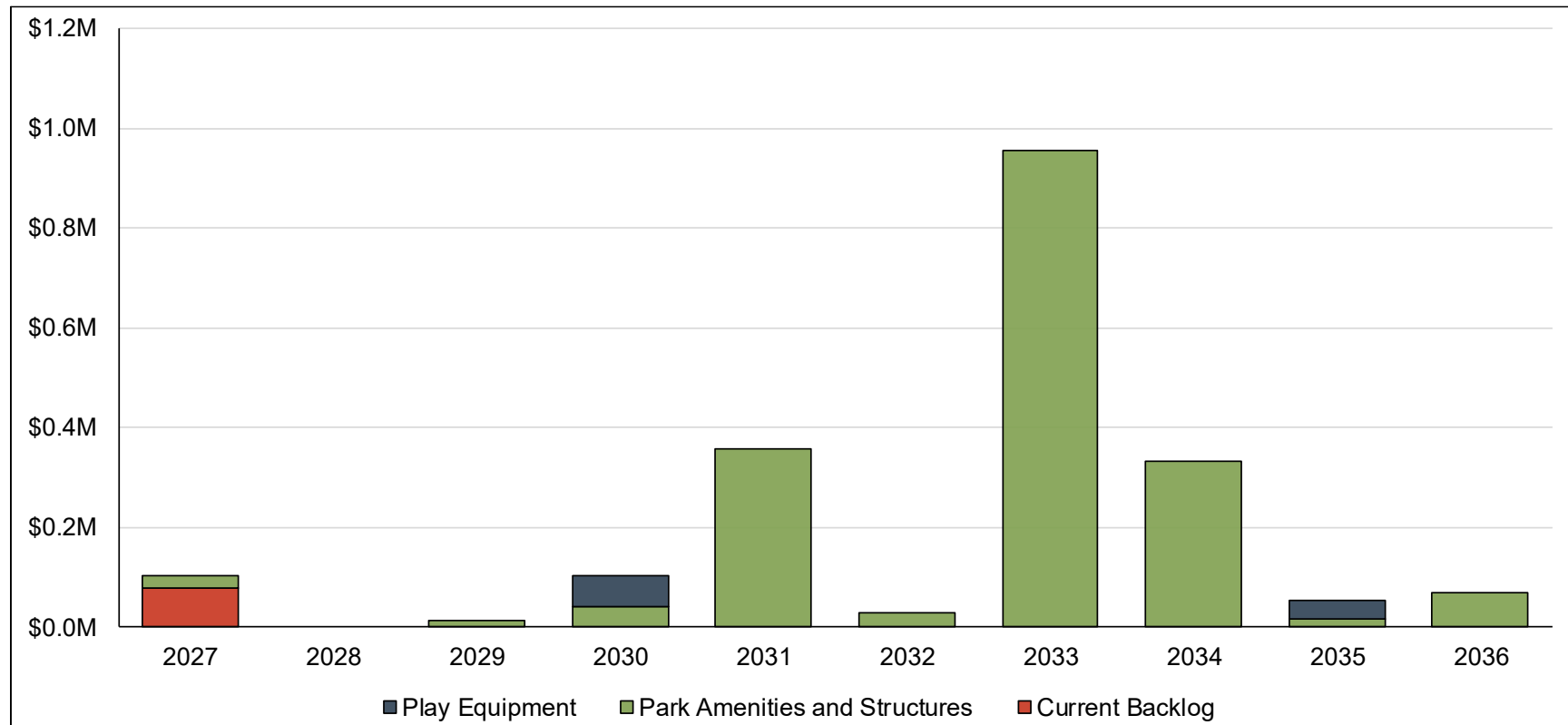


Table 3-4: Parkland Amenities – Lifecycle Expenditure Forecast (2026\$)

Description	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Park Amenities and Structures	\$ 22,000	\$ -	\$ 13,000	\$ 41,000	\$ 358,000	\$ 30,000	\$ 956,000	\$ 332,000	\$ 16,000	\$ 69,000
Play Equipment	\$ -	\$ -	\$ -	\$ 64,000	\$ -	\$ -	\$ -	\$ -	\$ 40,000	\$ -
Current Backlog	\$ 80,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Expenditures	\$ 102,000	\$ -	\$ 13,000	\$ 105,000	\$ 358,000	\$ 30,000	\$ 956,000	\$ 332,000	\$ 56,000	\$ 69,000



3.6 Land Improvements

This section presents an estimate of costs associated with providing the proposed levels of service for the Township's land improvement assets presented earlier in Section 2.5.3.

Similar to fleet, equipment, and parks and recreation assets, the proposed levels of service for land improvement assets involve maintaining assets in adequate condition to continue performing as expected and reliably support the provision of municipal services. The Township will accomplish this by undertaking timely replacements of ageing and poorly performing assets and through the completion of regular maintenance activities. The lifecycle expenditure forecast presented in this section includes the costs associated with the replacement of assets based on current best estimates of their remaining useful service lives.

The 10-year lifecycle expenditure forecast for the Township's land improvement assets is illustrated in Figure 3-5 and provided in tabular form in Table 3-5. Average annual expenditures over the forecast period have been estimated at \$115,000.

The current backlog for the Township's land improvement assets has been estimated to be approximately \$985,000. This represents the estimated replacement cost of all land improvement assets that are currently in service beyond their respective useful service life expectancies. The Township intends to address this backlog in a phased manner over the next five years (i.e., by 2031). Accordingly, the lifecycle expenditure forecast includes an annual allowance to support the gradual replacement/rehabilitation of these backlogged assets over this period.



Figure 3-5: Land Improvements – Lifecycle Expenditure Forecast (2026\$)

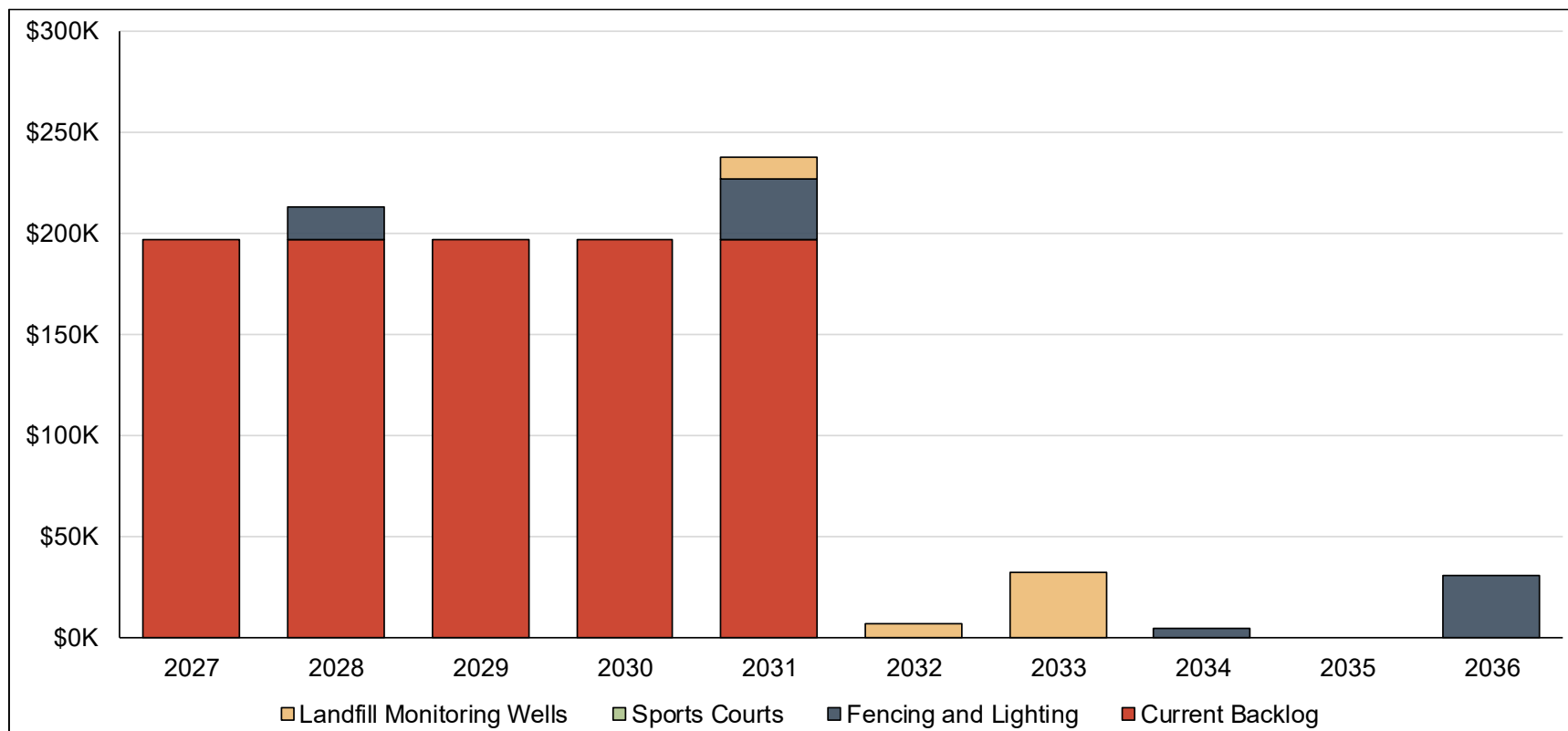


Table 3-5: Land Improvements – Lifecycle Expenditure Forecast (2026\$)

Description	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Fencing and Lighting	\$ -	\$ 16,000	\$ -	\$ -	\$ 30,000	\$ -	\$ -	\$ 5,000	\$ -	\$ 31,000
Paved Pathways	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,000	\$ -	\$ -	\$ -
Sports Courts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Landfill Monitoring Wells	\$ -	\$ -	\$ -	\$ -	\$ 11,000	\$ 7,000	\$ 33,000	\$ -	\$ -	\$ -
Current Backlog	\$ 197,000	\$ 197,000	\$ 197,000	\$ 197,000	\$ 197,000	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Expenditures	\$ 197,000	\$ 213,000	\$ 197,000	\$ 197,000	\$ 238,000	\$ 7,000	\$ 60,000	\$ 5,000	\$ -	\$ 31,000



3.7 Stormwater

This section presents an estimate of costs associated with providing the proposed levels of service for the Township's stormwater system assets presented earlier in Section 2.6.3.

In general terms, the proposed levels of service for the Township's stormwater system assets involve maintaining assets in adequate condition to reliably provide flood protection, manage the rate of groundwater discharge, and assist in reducing the level of contamination entering the natural environment. The Township will accomplish this by ensuring the timely replacement of ageing and poorly assets and through the completion of as-needed maintenance activities.

The lifecycle expenditure forecast presented in this section includes costs associated with the replacement of assets based on current best estimates of their useful service lives. In addition, as noted in Section 3.2, the Township plans to reconstruct selected urban roads based on projected deterioration in condition. As part of these reconstruction activities, associated stormwater infrastructure is also expected to be replaced within the scope of the capital works. Accordingly, the lifecycle expenditure forecast also includes costs related to the replacement of stormwater infrastructure associated with the urban roads selected for reconstruction.

The 10-year lifecycle expenditure forecast for the Township's stormwater system assets is illustrated in Figure 3-6 and provided in tabular form in Table 3-6. Average annual expenditures over the forecast period have been estimated at \$1.3 million.

The current backlog for the Township's stormwater system assets has been estimated to be approximately \$7.4 million. This represents the estimated replacement cost of all stormwater system assets that are currently in service beyond their respective useful service life expectancies. The Township intends to address this backlog in a phased manner over the next ten years (i.e., by 2036). Accordingly, the lifecycle expenditure forecast includes an annual allowance to support the gradual replacement/rehabilitation of these backlogged assets over this period.



Figure 3-6: Stormwater – Lifecycle Expenditure Forecast (2026\$)

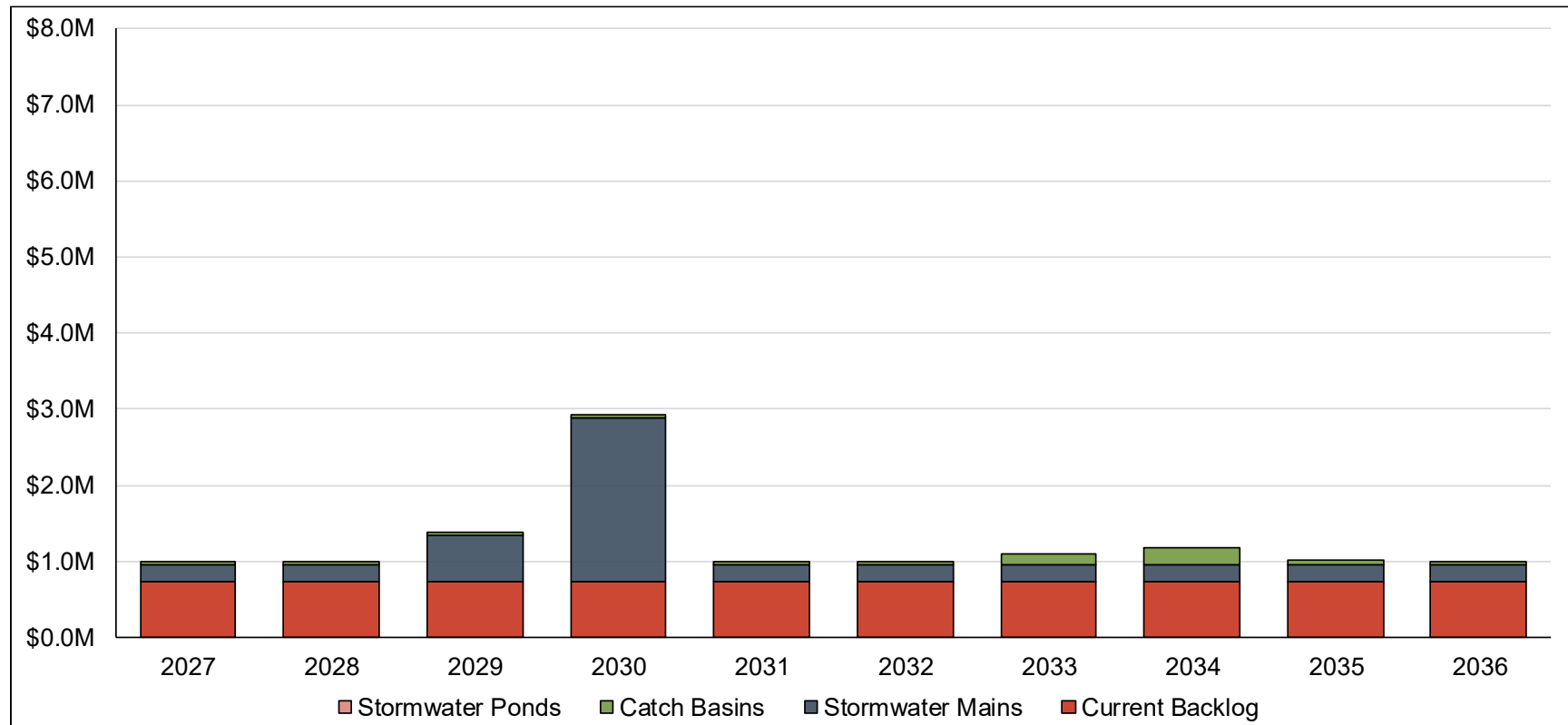


Table 3-6: Stormwater – Lifecycle Expenditure Forecast (2026\$)

Description	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Stormwater Mains	\$ 224,000	\$ 224,000	\$ 609,000	\$ 2,155,000	\$ 224,000	\$ 224,000	\$ 224,000	\$ 224,000	\$ 224,000	\$ 224,000
Catch Basins	\$ 41,000	\$ 41,000	\$ 41,000	\$ 41,000	\$ 41,000	\$ 41,000	\$ 135,000	\$ 228,000	\$ 55,000	\$ 41,000
Stormwater Ponds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Current Backlog	\$ 736,000	\$ 736,000	\$ 736,000	\$ 736,000	\$ 736,000	\$ 736,000	\$ 736,000	\$ 736,000	\$ 736,000	\$ 736,000
Total Capital Expenditures	\$ 1,001,000	\$ 1,001,000	\$ 1,386,000	\$ 2,932,000	\$ 1,001,000	\$ 1,001,000	\$ 1,095,000	\$ 1,188,000	\$ 1,015,000	\$ 1,001,000



Chapter 4

Recommendations and Next Steps



4. Recommendations and Next Steps

4.1 Recommendations

The recommendations associated with this asset management plan are provided in the Township's 2026 Long-Term Financial Plan report.

4.2 Next Steps

Following the approval of this asset management plan by Council, the Township's asset management journey will transition from developing the plan to its operationalization. The Township will need to establish processes and implement systems to keep asset information (e.g., condition, replacement costs, etc.) updated and relevant, so that it can be relied on to identify capital priorities and inform the annual budget process.

To ensure ongoing compliance with O. Reg. 588/17, the Township will need to start conducting annual reviews of the progress being made towards implementing the asset management plan, with the first review required to be conducted prior to July 1, 2027. The annual reviews must identify any factors preventing progress towards full implementation and outline a strategy to address those impeding factors. Following the completion of this asset management plan, the Township should shift its focus to developing the format and content of these annual reviews to enable informed decision-making by Council and staff.

Furthermore, O. Reg. 588/17 requires that asset management plans be updated at a minimum frequency of every five years. To support the reliability and accuracy of future updates, the Township should proactively plan to update background studies and underlying asset data in a timely manner in advance of updating this asset management plan. In addition, the Township should establish a process for regularly updating the data used to measure the current performance of technical levels of service metrics. Tracking the performance of these metrics relative to established targets will provide an important indicator of progress in implementing this asset management plan over time.