Municipal Asset Management Plan

2025

Whitby

Contents

Town Asset Portfolio Overview

The Town of Whitby maintains an infrastructure portfolio with a replacement cost of $3.3 billion, comprising of seven Service Areas:

- Facilities
- Fire Equipment
- Fleet
- Library Services
- Parks
- Roads Right-of-Way, and
- Technology & Innovation Services (TIS)

Asset portfolio replacement cost

$3.3 B

Town staff are committed to employing asset management practices to deliver services that make a difference in the community.

Strategic asset management is a critical practice that empowers municipalities to provide reliable services by anticipating and planning for the near- and mid-term needs of its infrastructure assets.

The Asset Management Plan (AMP) gives a high-level overview of the state of Town infrastructure, the levels of service (LoS) the Town proposes to provide through its infrastructure, the risk assessments that inform capital spending priorities, and projected financial needs over the short- and medium-terms (five to 10 years).

State of Town Infrastructure

Table 1 - State of Infrastructure Summary Table

Service Area	Overall Condition Score	Replacement Cost (M)
Facilities	C - Fair	$ 536.4
Fire Equipment	B - Good	$ 6.5
Fleet	C - Fair	$ 44.5
Library Services	B - Good	$ 6.6
Parks	B - Good	$ 215.3
Roads Right-of-way	B - Good	$ 2,471.2
Technology & Innovation Services	C - Fair	$ 9.7
		$3,277

Based on replacement cost and a blend of age-based data and assessed condition data, the majority (93.8%) of Whitby's assets are in Fair to Very Good condition. However, 6.2% of assets fall into the Poor or Very Poor condition classes and are worth

$200 million. An Overall Asset Health Rating of three out of five (“Fair”) has been assigned to the municipality.

There are several factors that will contribute to the Town’s management of assets that deliver reliable services to the residents, business, and visitors of Whitby:

- The ongoing development, approval, and adherence to the Town of Whitby’s strategic approach to asset management.
- The Town’s investments in ongoing preventative maintenance programs, to avoid early or unexpected major rehabilitation or replacement needs.
- The Town’s investments in maintaining and replacing Town infrastructure as it ages.
- Regular condition assessment programs across the Corporation.

Reinvestment Needs

There has been a decrease in the overall percentage of assets in the fair or better condition category since the 2024 Asset Management Plan. Previously, 94.7% of assets were in fair or better, and 5.3% were in poor or very poor condition.

To combat the decrease in condition being realized across the portfolio, this Asset Management Plan was proposing an average annual asset management investment of $41.5 million on average per year or an annual reinvestment rate of 1.3% into the portfolio of Town assets (=$41.5 million / $3.3 billion). This is an increase from the current 1.0% reinvestment rate.

However, due to funding constraints, the Plan has been modified to incorporate available funding of $36.9 million, or a 1.1% reinvestment rate annually, beginning in 2027. This has resulted in some levels of service adjustments for service areas, especially Roads Right-of-way, Fleet and to a lesser extent, Facilities. These are represented as “constrained”. The adjustment has also shifted back the replacement date for service areas’ assets. This will have some impact on levels of service and on operating and maintenance budgets as assets are retained longer.

Asset Management Funding

% of annual need available in reserve

69.6%

For 2025, the annual property taxes collected and allocated to the asset management reserve fund (AMRF) is $24.4 million. With the addition of the Federal Government’s Canada Community Building Fund (CCBF), The Town’s sustainable annual asset management funding increases to $28.9 million per year. In addition, some growth infrastructure projects yield an asset replacement component funded from the Growth

Reserve Fund and asset specific projects can utilize user fee-based funding sources from Program Reserves.

Table 2 - Current Asset Management Funding

Current Funding	Annually (millions)
Council Approved Tax-based Funding	$24.4
Canada Community Building Fund (formally Federal Gas Tax)	$4.5
Growth Reserve Funding (tax-based)	$1.1
Program Reserves	$2.4
Total Funding Currently Available	**$32.4**

Asset Management Funding Shortfall

The proposed Level of Service (LoS) required to maintain the Town's existing infrastructure in a state of good repair resulted in a projected 10-year expenditure of $415 million. This translates to an average annual funding requirement of $41.5 million—representing an annual shortfall of $9.1 million compared to the current funding level of $32.4 million.

To align with the funding increases outlined in the 2025–2027 adopted multi-year budget, a reduced Level of Service (LoS) and corresponding asset condition—reflecting a lower state of good repair—was incorporated into the 10-year financial forecast. This adjusted LoS scenario results in a projected 10-year expenditure of $369 million, which is $4.6 million annually less than the forecast associated with the proposed higher LoS.

Asset Management Funding Strategy

The adjusted funding requirements associated with the lower Level of Service (LoS) are consistent with the asset management funding increases outlined in the adopted 2025–2027 multi-year budget. The Town's current annual funding level is $32.4 million. The budget includes targeted increases of $1.8 million in 2026 and $2.7 million in 2027 for asset management. As a result, the 10-year average annual funding is projected to rise to $36.9 million.

Figure 1 illustrates the Town's financial strategy for delivering reduced levels of service. The grey bars represent the annual funding requirement under the unconstrained proposed Level of Service, totaling $415 million over the 10-year forecast period. The blue bars reflect the adjusted annual requirement aligned with the reduced Level of Service, corresponding to a total of $369 million over the same period, in line with the adopted multi-year budget. The yellow line indicates the planned funding increases—an additional $1.8 million in 2026 and $2.7 million in 2027—resulting in an average annual funding level of $36.9 million.

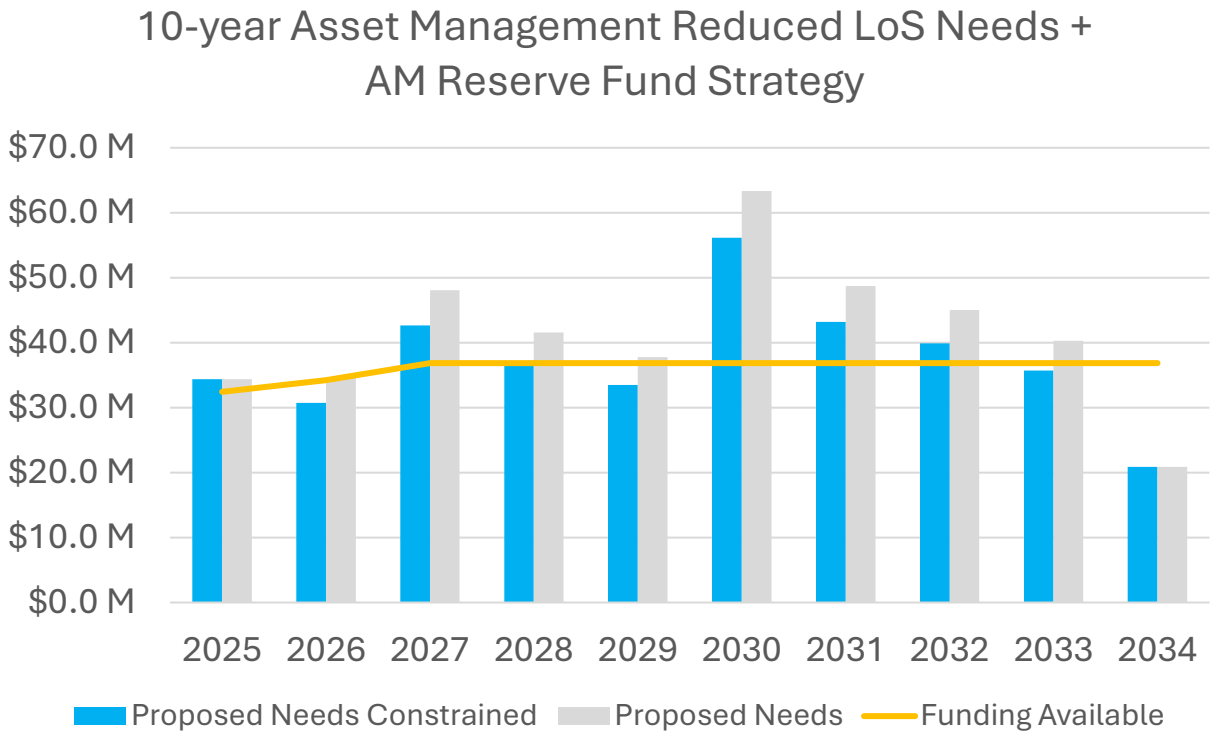


Figure 1 - 10-year Town Portfolio Asset Management Needs

Financial Strategy Principles:

Highlights:

- Identify most at-risk assets
- Identify opportunistic conditions (economy of scale, third-party funding opportunities, geographical location, community preferences, etc.)
- Detail 10-year capital improvement plan
- Identify available operating and capital funding (tax levy, reserve, grants) as available
- Establish reserve contributions forecast and commit to budget

The Town utilizes in-house and third-party inspections to assess the condition of its assets and identify the highest risks to our asset-enabled services. Inspections inform our life cycle activity plans which include monitoring, maintenance, rehabilitation and replacement actions.

The Town weighs cost, risk, and levels of service scenarios in asset management and financial analysis software applications to compare investment and outcome implications. The community's levels of service expectations are collected through public engagement during the development of the annual budget, the Community Strategic Plan, and master plans.

The asset management team meets with service areas to refine forecasts, incorporating conditions being realized in the field. Examples of conditions include asset obsolescence, degraded function, and failures. Service area-prepared budget proposals are also compared with asset management forecast budget needs and adjustments are made each year by Financial Services.

The Town further prioritizes and adjusts capital projects if funding from other levels of government becomes available and if there are economies of scale such as work batching based on asset classes, nature of work, and location.

For asset management-related work (rather than growth-related new construction), funding is sourced from a designated reserve. The annual tax-based contribution rate of funding to the reserve is informed by the long-term asset management forecast and is endorsed by Council.

Asset Management Program Strategy:

Asset management is a shared responsibility across the organization to realize value from its assets. Optimal value is achieved through planning with an asset's whole life cycle in mind, while balancing:

- desired performance,
- acceptable risk levels, and
- the lowest possible life cycle cost

To fully realize this value, the Asset Management Program Strategy aims to establish:

- Coordination and alignment across departments, functions, databases, and asset life cycle phases
- Line of sight between the community, the front-line, and strategic decision makers
- A standardized methodology for asset management across all functions and departments

> An asset management (AM) strategy is an important part of a well-functioning AM system. It outlines how the AM policy will be implemented and provides details on how the AM system will help in achieving strategic goals and objectives. The audience for an asset management strategy can be both internal (municipal staff) and external (Council and the public).
>
> - Federation of Canadian Municipalities (FCM)

Value of Asset Management

Asset management can save up to 40% of asset life cycle costs according to the Asset Management Council – a world leading non-profit AM advocacy association based in Australia.

Example: Whitby builds a facility for $20 M *(what we are advised it would cost to build the Brooklin Community Centre today)*, that is 20-35% of the total life cycle costs that will be realized over its life. Life cycle costs, which include maintenance activities and energy, will be between $57 M to $128 M. That equates to a combined monthly operational and capital budget for this facility of $80K to $178K over 60 years.

If we consider the full life cycle cost of a $20 M facility to be $57 – $128 M, asset management done right can save Whitby $22.8 M to $51 M over its lifespan – which is a 40% savings. Think about those savings across the full multi-billion-dollar asset portfolio, and from a taxpayer perspective.

The following image, adapted from the Asset Management Council, shows the relationship described above, graphically:

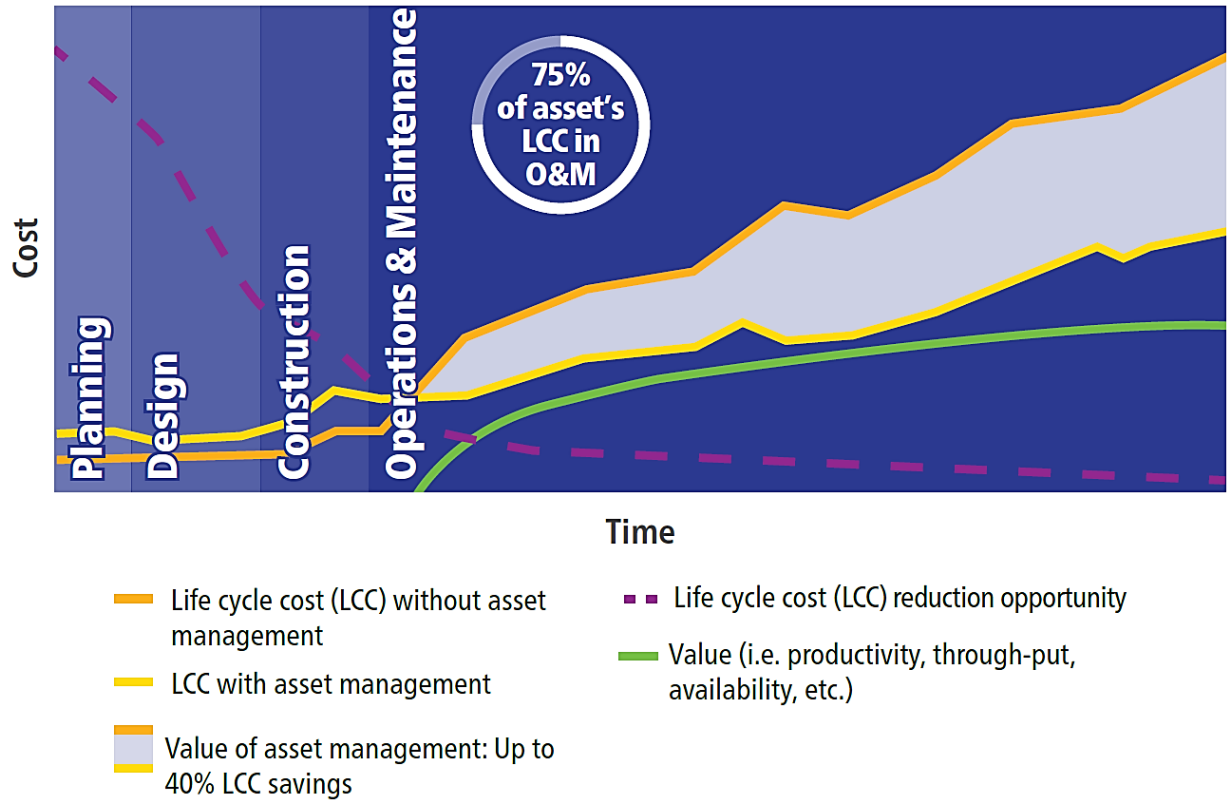


Figure 2 - Life Cycle Cost Diagram

How is asset management "done right"?

As shown in the Figure 2 above, the best opportunity to influence an asset's life cycle cost is during the planning and design phases of its life (purple line). This is because during these phases, an asset's inherent reliability and its performance are established. Once an asset is built and made operational, these two critical characteristics are set in stone. Maintenance can only help achieve the design life (inherent reliability) of the asset. Premature failure is when this life is not reached.

This program strategy places emphasis on:

- Incorporating reliability thinking from the specification and design stages of a new asset.
- Understanding the approximate life cycle cost commitment before the asset is put into service and making sure we are positioned to cover these costs over the asset's life.

The insights gained and assumptions made during the planning and design phase can be observed once the asset is operational. This strategy focuses on:

- Monitoring asset performance closely to get ahead of failures

- Identifying and managing service and asset performance risk threats
- Targeted inspections and maintenance to asset failure modes, and
- Documenting insights in a manner that best informs future decisions

The Aim

The Corporate Asset Management Strategy aims to position the Town to realize full value from asset management, and achieve the goals set out in the Asset Management Policy. This is accomplished by:

1. Outlining measurable steps towards success
2. Establishing a system of internal practices and processes that build asset management capability within our organization

Through a maturity evaluation, the organization's current state of asset management will be documented. The maturity criteria establish a path toward success that will be regularly remeasured.

Instituting a risk assessment methodology that documents current vulnerabilities and actions to manage threats will also provide a means to measure progress. Assessments will be conducted regularly as well.

Asset Management is a collective effort. By aligning and coordinating our efforts, we enable teams, assets, and the organization to operate more effectively and efficiently.

Scope and Strategic Alignment of Asset Management

The Corporate Asset Management Strategy is an extension of, and shares the scope of, the Whitby's Asset Management Policy (# F 480).

Strategic Asset Management Policy
This policy outlines the asset management governance of all seven (7) service areas…and summarized in the Municipal Asset Management Plan (MAMP). The seven service areas are Road Right-of-way, Facilities, Parks, Fire, Libraries, Fleet, and Technology and Innovation Services.

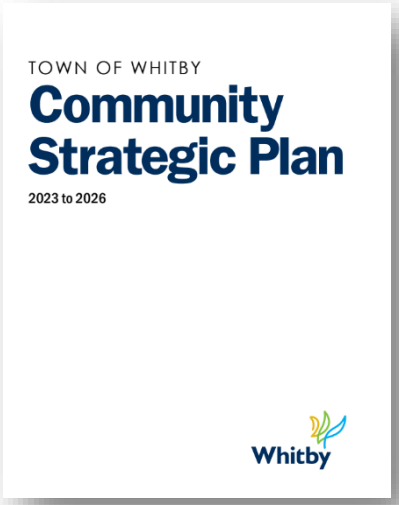
Alignment with two of the Community Strategic Plan (CSP) Areas of Focus:

Pillar Two - Whitby's Natural and Built Environment

- Asset management (infrastructure, fleet, facility)
- Roads maintenance

Pillar Four - Accountable & Responsive Government

- *Continued fiscal accountability and responsibility*
- *Exceptional customer service*
- *Community engagement and collaboration*



The following objectives and action items from Whitby's CSP are enabled by this Asset Management Program Strategy, namely:

Objective 2.3 *Invest in infrastructure and assets*

Objective 4.3 *Deliver exceptional customer service and community engagement*, action item 4.3.5 *Provide timely and transparent reporting to the community, staff, and Council*

How: obtaining meaningful asset and work data from frontline personnel in a structured manner enables the Town to build meaningful reports and real-time dashboards.

Objective 4.4.1 *Deliver services that respond to community needs while balancing the impact to taxpayers*

How: Asset investment will take into consideration community needs and preferences gathered through surveys including the annual budget engagement surveys.

Objective 4.4.4 *Update long-range financial plans to ensure essential Town services are provided in a sustainable and affordable way*

How: The 2025 Asset Management Plan looks ahead ten years to anticipate costs of asset-enabled services to the community.

Priority Action Areas for Asset Management Program

1. Customer Focus and Experience
2. Proactive Service Readiness Planning and Risk Management
3. Evidence-based Decision Making

4. Alignment and Standardization of Processes and Practices

1. **Customer focus and experience**
   Empower public and internal customers through engagement and allow them to influence outcomes. Proactive engagement allows departments to better anticipate where requirements and preferences are heading to forecast and plan for service implications.

> **Regulatory and/or Policy Drivers**
> **O. Reg. 588/17**
> Promote community engagement in asset management planning.

Strategic asset management actions:

- Continue to enhance the way we regularly engage customers in service level decision making through service requests, education, surveys, workshops and meetings
- Gather, document and centralize stakeholder and customer needs to inform decision making
- Incorporate needs within service delivery and asset/system design
- Connect community levels of service to individual assets and workforce efforts to monitor and maintain assets
- Improve service planning by:
    - Optimizing how we account for changes to population growth and needs
    - Analyzing services through the lens of demand management and consider non-asset solutions
    - Ensuring services are equitable in their coverage
    - Incorporating a diverse set of internal and/or public views in service decision making

2. Proactive service readiness and risk management

Regulatory and/or Policy Drivers
Asset Management Policy
Establish direct and indirect life cycle costs related to the new development and redevelopment of assets, and the long-term financial viability of the new development

Validate the need of each significant new asset considering the future operating costs

To ensure optimal asset performance and service reliability, it is vital to identify and manage risks threats. This can be done for assets that are already operational, and those we are planning to put into service through the capital planning process. Here, the design phase plays a critical role in shaping performance, making it crucial to explicitly define performance requirements and identify potential failure scenarios. These can either be designed out or inform inspection and maintenance activities once the asset is operational. This enables the asset to achieve its inherent reliability, intended lifespan and value through effective service enablement.

Strategic asset management actions:

- Strive to enhance threat avoidance by instituting formal risk management practices
- Create a registry that ranks critical assets within each service area
- Create a risk registry that evaluates what events and scenarios could threaten service levels. Identify what capital and maintenance activities could help to detect, manage, and prevent identified scenarios
- Review and adjust LoS at least annually in response to asset portfolio capability, costs, customer expectations, and risk
- Account for potential impacts of LoS changes (increases or decreases) and changes to assets
    - Impacts could include staff skill misalignment, more operational costs, technological requirements, risk management and life cycle management plans
- Improve understanding of operational impact of introducing new assets. This includes ensuring systematic onboarding of asset information, skilled human resources, technology, operations, inspections, and maintenance activities
- Incorporate whole-of-life costs across planning, operating, maintenance and asset retirement

3. Evidence-based decision making

Optimal asset performance and reliability depend on careful coordination of data and information sharing throughout the asset's life cycle. This requires ongoing participation of all departments.

Evidence-based decision making requires reliable asset information that is accessible by operations, maintenance, and contract personnel to develop work plans and capture detailed cost and work history against assets. This also requires database management during asset replacement.

Regulatory and/or Policy Drivers

O. Reg. 588/17
Use Asset Management planning to guide the Capital Budget and long-term financial forecast by projecting replacement and maintenance needs for each service area based on current condition data and life cycle management strategies

Asset Management Policy
Ensure asset management information is kept up to-date and accurate.

Better decisions require understanding where investments make the most impact and what data is necessary to make informed decisions to achieve the stated outcomes.

Strategic asset management actions:

- Rationalize the data and information sets being managed, or shall be, by defining why they are being collected, who's managing the data and information sets, and for whom
- Ensure a clear understanding of our datasets for decision-making. Datasets arising from the following areas (but not limited to):
    - customers (customer relationship management - CRM)
    - front-line inspectors, operators, maintenance, and capital delivery personnel
    - In-field data collection mechanisms that store, query, track, trend and leverage data and information to make operational, tactical and strategic decisions
- Develop a corporate capital investment prioritization approach that is based on asset management best practices
- Develop a roadmap for the use and enhancement of the Town's computerized maintenance management software applications
- Establish targets and metrics to evaluate asset and service performance, and adjust accordingly

4. Alignment and standardization of processes and practices

Enable service areas to coordinate between each other and reliably achieve their desired outcomes and service outputs.

Strategic asset management actions:

- Conduct and review service area maturity assessments every two years
- Enable quick sharing of information and the *entered once - used by many* approach
- Continue to refine the coordination of information sharing and decision making horizontally and vertically across the organization
- Continue to mature consistent asset management system* practices and a consistent approach to AM across all service areas by continuing to mature and define the requirements of the components, processes and practices that comprise the system
- Increase organizational service performance through the systematic asset-need identification, delivery, operation and maintenance, disposal of assets, and continual learning/improvement in a manner that balances cost, risk and performance

Regulatory and/or Policy Drivers

Asset Management Policy

- Consistently apply asset management practices across the Corporation
- Create and implement Asset Management Strategies
- Monitor asset management practices and develop and research improvements
- Include the Asset Management funding requirements as identified in the Municipal Asset Management Plan (MAMP) in the Corporate Long Range Financial Plan
- Identify what the municipality can afford to spend on infrastructure assets and work with departments to prioritize funding requirements
- Maintain alignment between the MAMP and other financial plans
- Build and maintain the link between the Municipal Asset Management Plan and the budgeting process
- Explore other sources of revenue to assist in offsetting the costs of maintaining infrastructure assets

Corporate-wide asset management system model

It is recommended that the Town adopts a standard asset management system model to help facilitate the four *Priority Action Areas for Asset Management*. This model will

*"An **asset management (AM) system** (the management system for asset management) is a set of interrelated and interacting elements of an organization, whose elements include the AM policy and AM objectives, and the processes needed to achieve those objectives. In this context, the elements of the AM system should be viewed as a set of tools, including policies, plans, business processes and information systems, which are integrated to ensure that the AM activities will be delivered." (Source: FCM).

guide a common approach to identifying and incorporating stakeholder, customer, and other external drivers into service offerings, service levels, and the assets that enable them. It identifies how to best consider the feasibility of potential changes to service levels and the asset portfolios and the financial, physical and technological implications that will be realized because of the changes. The Corporate Asset Management System Model is a *Plan, Do, Check, Act,* and risk-based model that will establish a consistent and repeatable approach across the organization to meeting the goals of the Asset Management Policy and O. Reg. 588/17:

Needs Analysis

To kick off the ***Plan****, Do, Check, Act* process, and the asset management process, *needs analysis* is charged with anticipating and analyzing changes and disruptions in the economic, technological, regulatory, and social landscapes.

Demand Analysis

The anticipated changes and disruptions are prioritized and run through analyses to understand what demands they will have on the organization's resources and sustainability, and which are feasible either under current conditions or with changes at the organization. To do this effectively, the organization needs to understand:

- current and near-term financial positions
- current human, asset, and technological resource capability
- the risks and opportunities the anticipated changes will generate

The demand analysis will recommend either non pursuance (for discretionary change drivers) or adopt with draft integrated support and draft capital plans for decision makers.

The integrated support plans (ISPs) detail the following needs and business impacts:

- Budget(s)
- Human resources & training
- Draft design requirements
- Operational parameters
- Inspection & maintenance implications
- Logistics
- Data & information

Asset Management Plan

With the above preliminary insights, levels of service options are compared, and a selection is made. This commitment then informs the development or redrafting of the asset management plan.

The asset management plan is the ***Plan*** in *Plan, Do, Check, Act* details the objective(s), strategic driver(s), capital and operating life cycle activities, the cost forecasts, and the salient points from the ISP produced earlier that will sit under the AM plan to guide operations, maintenance, and capital teams.

Service Delivery

The operational space is the ***do*** in *Plan, Do, Check, Act.* This is where service is delivered, maintenance is performed, and new assets are delivered (Capital Delivery). Here the work management process guides how work is identified, planned, scheduled, executed, and how we learn from insights collected in the field.

FRACAS and RCA

These components are the ***check*** in *Plan, Do, Check, Act.* They monitor when assets deviate from expected performance in order to respond and course-correct the life cycle activity plan. It also serves to inform design standards, levels of service objectives, capital plans, data & information management plans, ISPs, staff performance plans, etc. It evaluates past assumptions and findings to ensure their ongoing viability.

Adjustment

The more systematic and procedural asset management is done, the easier it can be adjusted to realized insights. The ability and actions taken to adjust to the findings are the ***act***, in *Plan, Do, Check, Act.*

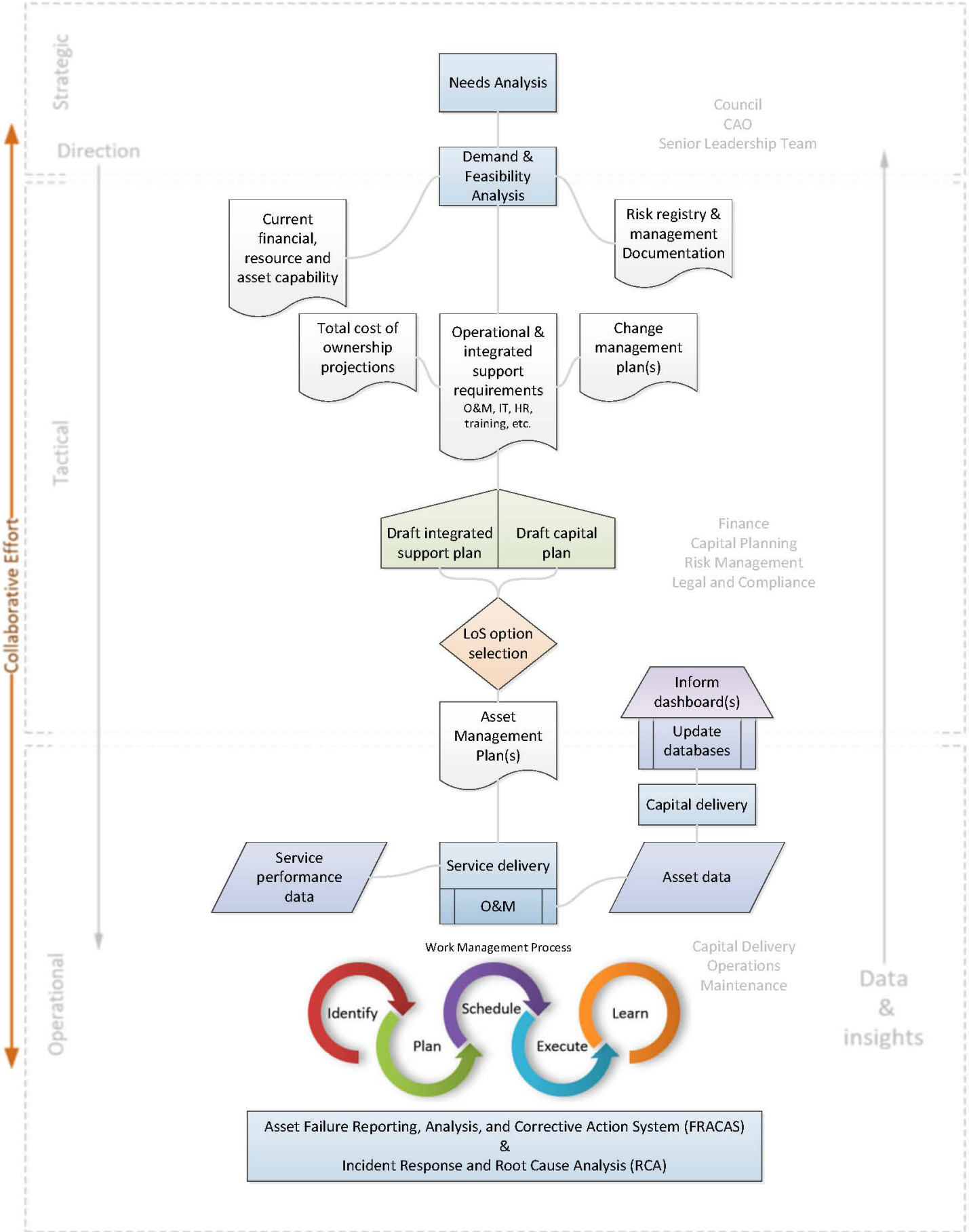


Figure 3 - Asset Management System Diagram

Service Area Summaries

- Facilities
- Fire Equipment
- Fleet
- Library Services
- Parks
- Roads Right-of-way
- Technology and Innovation Services (TIS)

Facilities

Asset Portfolio Health Rating

Fair

"C"

About the Service Area

The Facilities Service Area comprises all assets pertaining to Town-owned and leased buildings, including community centres and library facilities, fire halls, the municipal building (Town Hall), operations facilities, sports facilities, and other town properties. The assets managed within the Facilities Service Area include all building components, such as foundations, building shells, interior construction and finishes, services (plumbing, HVAC, electrical), site services (including parking lots, exterior lighting and security), and furniture/equipment. Operationally, the Facilities division, under the Town's Community Services Department, is responsible for the day-to-day operation and maintenance, as well as the long-term management and capital project planning, for all municipal facilities and Town-owned properties.

Current Inventory

Table 3 - Current inventory of Facilities by Facility Class

Asset Type	Area (Sq. ft.)	Total Replacement Cost	Average Condition
Community Centres	194,012	$145,310,054	Fair
Fire Halls	59,813	$37,388,059	Fair
Municipal Building	45,560	$32,626,826	Fair
Operations Facilities	113,508	$39,239,437	Fair
Sports Facilities	601,299	$248,609,068	Good
Other Town Properties	106,422	$33,251,375	Fair
Facilities Total	**1,120,614**	**$536,424,821**	**Fair**

Replacement Cost of Facilities

The replacement cost represents the amount needed to replace the portfolio in the year of publication (2025). Replacement Costs are based on evaluations of the Town's facilities by third parties during background studies and condition audits. All were inflated to 2025 dollars. The total replacement cost of facilities assets is $536.4 M.

Condition Distribution by Replacement Cost

The conditions of Town facilities are based on a Facility Condition Index (FCI), determined as a combination of staff-developed maintenance and rehabilitation capital project needs, and independent Building Condition Assessments (BCAs) conducted by contractors on behalf of the Town. The FCI represents the total cost of the five-year and deferred maintenance needs of a facility, as a percentage of the overall replacement cost of the facility.

$$\frac{\text{Five-Year Facility Maintenance Requirements (\$)}}{\text{Total Facility Replacement Cost (\$)}} \times 100\% = \textbf{FCI}$$

Table 4 below outlines the different 5-Year FCI percentage thresholds used to determine the conditions of Town facilities. FCI thresholds were determined through consultation with Facilities service area subject matter experts and industry best practices.

Table 4 - 5-Year Facility Condition Indices (FCIs) Thresholds and Descriptions

Condition	5-Year FCI	Description
Very Good	< 5%	The facility is functioning as intended, with regular preventive maintenance needs, and minimal need for any rehabilitation.
Good	>5 – 10%	The facility is functioning as intended, with some restorative maintenance needs required in the 5-year horizon.
Fair	>10 – 25%	The facility continues to function largely as intended, with more substantial restorative maintenance or rehabilitation needs in the 5-year horizon.
Poor	>25 – 60%	The facility is no longer functioning as intended, with substantial maintenance or rehabilitation needs in the 5-year horizon. Maintenance and rehabilitation works may be required within a year.
Very Poor	> 60%	The facility is no longer functioning as intended, and maintenance/rehabilitation needs are high enough to justify potential reconstruction, replacement, or decommissioning.

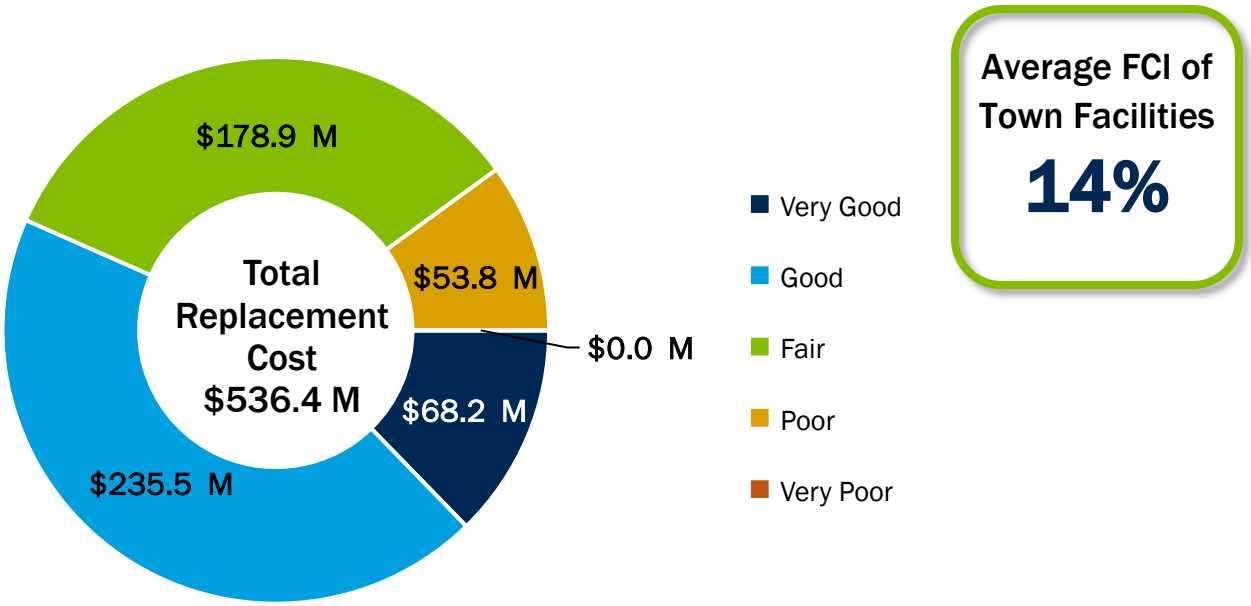


Figure 4 - Condition Distribution by Replacement Cost

90% of the Facilities portfolio ($482.6 M) is in fair or better condition. The remaining portion is in poor condition.

The facility subgroup with the highest condition (lowest overall 5-year FCI) is Sports Facilities, and the facility type with the lowest condition (highest overall 5-year FCI) is Operational Facilities.

It is important to note that 5-year FCIs continually evolve as investments in restorative maintenance and rehabilitation needs are made or deferred for each facility, and as ongoing building condition audits (BCAs) are conducted.

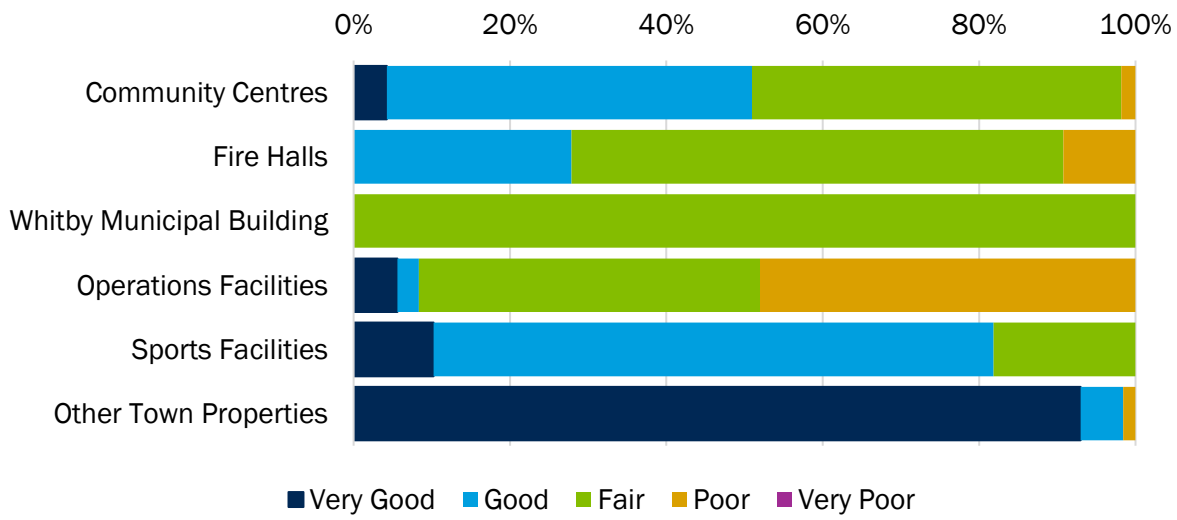


Figure 5 - Condition Distribution by Asset Class

Useful Life Consumption of Facilities

Staff continually reevaluate useful lives, to ensure they continue to be accurate and appropriate as assets change. Many building components could be of a certain age but performing well and have a much lower observed age. These components may be nearing the end of their expected useful lives but could still be in good condition.

% of Facilities components beyond their useful lives

7%

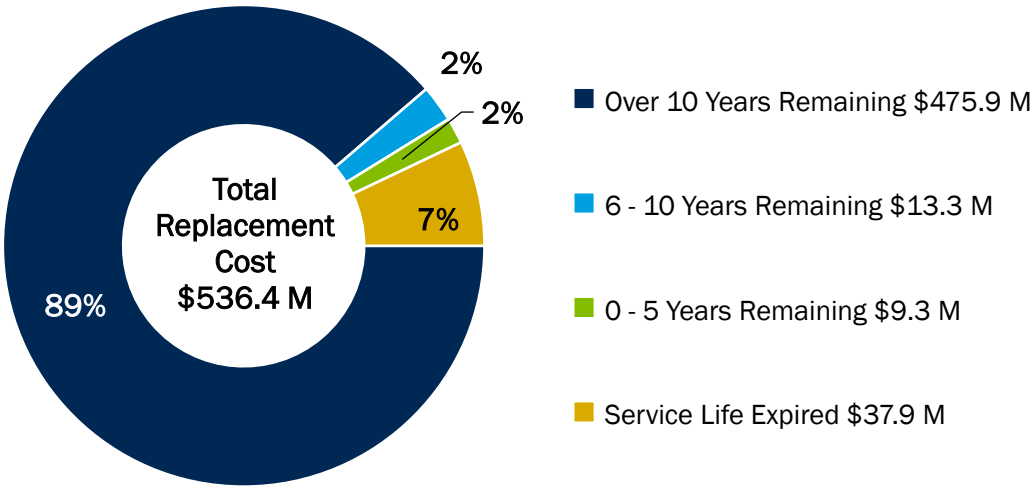


Figure 6 - Useful Life Consumption of Facilities

Condition Distribution by Asset Class

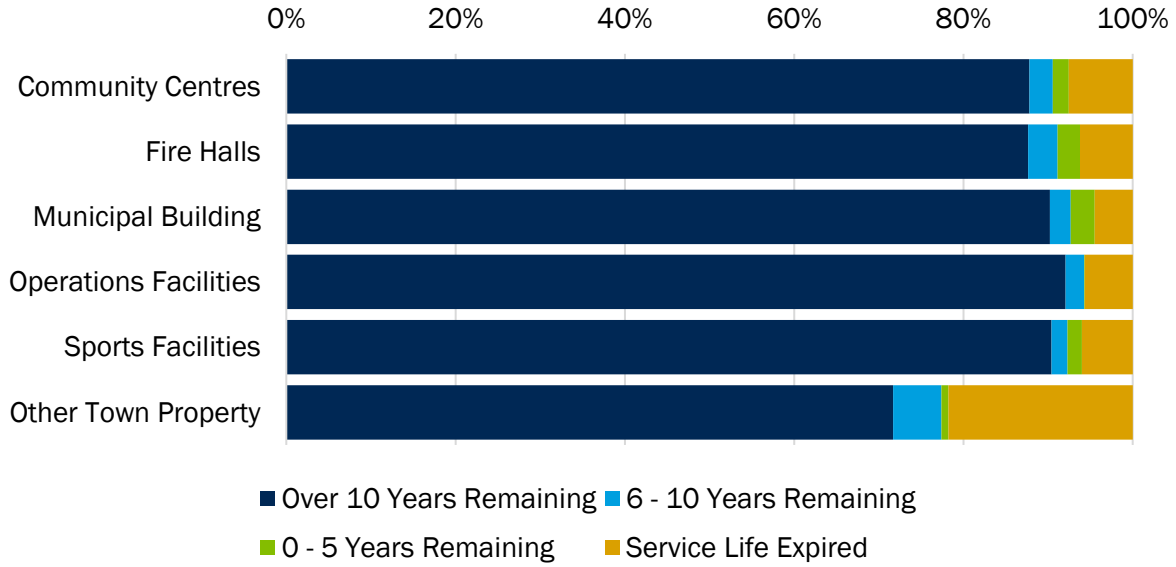


Figure 7 - Condition Distribution by Asset Class

Levels of Service

The Town is proposing to keep its facilities assets in fair or better condition over the next ten years:

Table 5 - Facilities Levels of Service

Scope	Community LoS	Proposed Technical LoS
Facility Condition	Maintain Whitby facilities in a condition of fair or better	Maintain each facility to a Facility Condition Index score of 25% or higher.
		Constrained Technical LoS
		Maintain facilities portfolio with an overall Facility Condition Index score of greater than 25%.

The proposed capital forecast is informed by third-party Building Condition Audits (BCAs) performed at select facilities and staff-identified needs.

The proposed LoS requires a funding increase over the historical 5-year average annual spend of $4.4 million to an annual average of 9.1 million. See the subsection titled Funding Requirements below for more information.

Alternatives
A reduction in LoS will result in an increase in poor and very poor facilities assets. Given the increase in repair that would result, the Town's objective is to continue to keep fleet assets in a condition of fair or better.

An increase in LoS that would bring the facilities up to an overall condition of good or very good is not financially achievable.

Any realized shortfalls in funding the proposed LoS will be addressed through prioritizing the maintenance and replacement of critical assets while the least critical assets continue to be used, maintained, and age beyond their useful lives. This increases the potential for failures among building components not considered highly critical.

Inspections of Facilities

Table 6 below describes the various inspection processes conducted by staff and external contractors to determine the conditions of Town Facilities.

Table 6 - Examples of Inspections and Frequencies for Facilities

Inspection Type	Frequency of Inspection	Inspection Details
Building Condition Audits (BCAs)	To be determined	Consultants and Contractors tour facilities, evaluate each building component visually, and determine restorative maintenance and rehabilitation needs of building components.
Facility Parking Lot Inspections	Every 3 years	Contractor assesses parking lot condition
Operations Inspections	Various frequencies	Examples of staff- and contractor-led inspections: elevators, gas-fired nn66^ equipment, fire alarm and suppression systems, generators, fuel storage tanks, ice plants, chemical treatment systems, overhead doors, hoists and lifts.

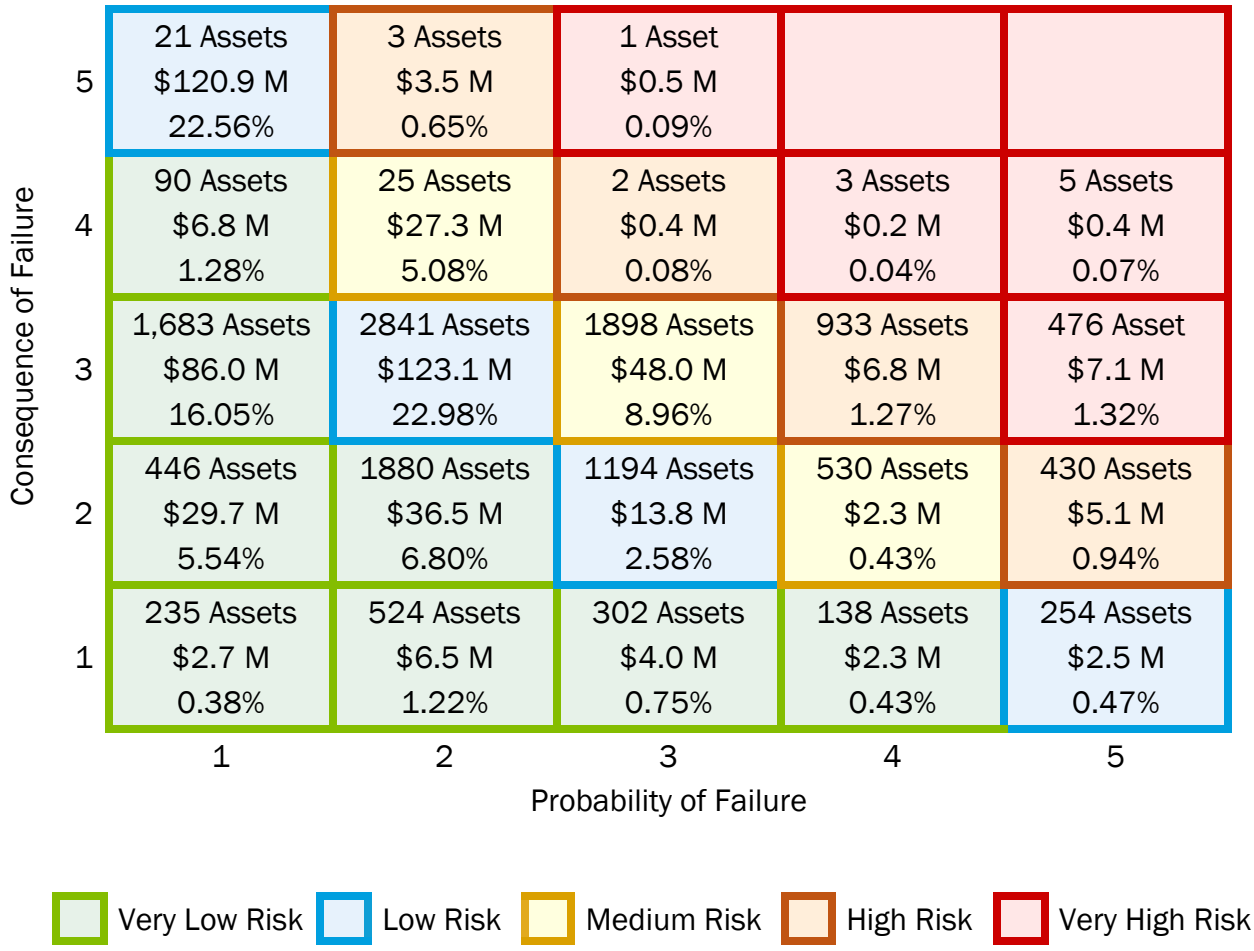
Risk Levels for Facilities

Risk Levels for Facilities depend on the operational purpose of the facility (consequence of failure) and the condition of the building (probability of failure). A facility with a high consequence of failure, such as a fire hall or sports facility, would appear near the top right of the risk matrix, if its probability of failure was also high (poor or very poor condition).

% of facilities assets considered very high-risk

1.52%

Table 7 - Facilities Asset Risk Matrix



For assets considered low risk, with low consequences of failure and low probabilities of failure, preventative maintenance and consistent monitoring of these facilities will help to ensure that they remain near the bottom-left of the risk matrix and continue to perform as expected.

For assets considered medium-risk, preventative or rehabilitative maintenance is required on some of these facilities, as well as more frequent monitoring, to ensure that they do not become high-risk facilities.

Finally, assets considered high- and very high-risk have high consequences of failure and high probabilities of failure, and may require budgeting for replacement, more frequent rehabilitative maintenance, and very consistent monitoring.

Table 8 - Risk Levels and Examples of Possible Impacts for Facilities

Risk Level	Potential Risks	Asset Examples
Low	• Reduction in the quality of service received by some users. • Little impact on other assets' functionality. • The potential for minor claims and/or embarrassment within the department or municipality is possible.	Sinks, most lighting, and furniture
Medium	• Reduction in the quality of service received by many users. • Other assets' functionalities will be reduced. • Opportunities for moderate life extending rehabilitation will be missed. • Could lead indirectly to loss of life or injury.	Door operators and HVAC equipment
High and Very High	• Service could be unavailable to many users. • Other assets may not function or could deteriorate quicker. • Opportunities for significant life extending rehabilitation will be missed. • Could lead directly to loss of life or injury.	Fire safety equipment

Probabilities of failure are informed regularly through inspections and condition assessments of assets. Consequences of Failure should continue to be reevaluated, and new metrics will continue to be incorporated into the Consequences of Failure of assets.

The current state of the Town's Facilities, the Town's management of risk, and the impacts of various strategic documents and regulations inform the proposed levels of service provided by Town Facilities.

Service Area Spotlight – Whitby Sports Complex

The Town is constructing a new Whitby sports complex to help meet both the immediate and future recreational needs of our growing community. The new complex will be located on the west side of Baldwin Street South, south of the intersection of Highway 407.

The vision for the complex is to create a multi-purpose gathering space for inclusive sport and community programming - a place for residents of all ages and abilities to connect, play and get active.

The Whitby Sports Complex and park will include the following recreation components:

- *A twin-pad arena*
- *An indoor aquatic centre with 10 lanes, separate leisure pool and second floor viewing area, which will be the largest indoor pool in Durham Region*
- *A double gymnasium with a three-lane indoor walking track*
- *Multi-purpose program space*
- *A full-size, outdoor lit artificial turf sports field*
- *A skateboard park and pump track*
- *Three lit multi-purpose courts (e.g., basketball and ball hockey)*
- *Three lit tennis courts*
- *14 lit pickleball courts*
- *A playground*
- *Open greenspace*
- *Plaza space capable of hosting community events; and*
- *Ancillary outdoor space adjacent to the Whitby Sports Complex to accommodate future interior program space.*

With construction ongoing in 2025, the Whitby Sports Complex is designed to be a Zero Carbon building and LEED Gold facility and create a multi-purpose gathering space for active recreation, sports, community programming and passive park enjoyment for all ages and abilities.

As well, the new Whitby Sports Complex will have 20 Dual Port Level 2 Electric Vehicle Charging Stations.

Facilities Life Cycle Management

The life cycle of Facilities assets encompasses all activities relating to the design and construction, monitoring, maintenance and rehabilitation, renewal, replacement, and disposal of Facilities. In addition to these, the planning and acquisition or construction of additional Facilities supplementary to the Town's current inventory, in order to meet the needs of a growing community, are addressed through growth-related life cycle activities. The types of life cycle activities, examples of events within these life cycle activities, and the risks associated with not completing the different life cycle events are further discussed in Table 9 below.

Table 9 - Facilities Life Cycle Activity Types, Activities and Examples Associated Risks of Not Performing the Activities

Life Cycle Activity	Included Events	Risks
Renewal, Rehabilitation, Replacement (Capital)	- Planning and associated works to replace or rehabilitate existing assets, to continue to provide expected or proposed service levels. - Includes HVAC replacements at various facilities and the reconstruction of the IPSC rink pads.	- Reduction of service levels and greater potential for unplanned downtime due to asset failure. - Increased maintenance and inspection costs.
Growth	- Acquisition or construction of additional sites and Facilities to supplement the Town's current inventory and meet the needs of community growth. - Includes the construction of Fire Hall 6, and the remaining construction of the North Whitby Sports Complex.	- Reduction in service levels and availability of Facility spaces for recreation, sports, community, or operational purposes, as the community grows and available spaces does not keep pace with growth. - Higher rates of use for existing Facilities and amenities, such as pools and ice rinks, could result in increased maintenance costs and earlier need for replacement.

Life Cycle Activity	Included Events	Risks
Operations and Maintenance	- Regular and routine maintenance activities associated with ensuring assets continue to perform as expected within their useful lives. - Activities include patching of walls, monitoring of temperatures and building controls, light replacements, HVAC servicing, etc.	- Reduction of service levels, including increased downtime due to unexpected asset failure. - Facility components may not last as long as their expected useful lives, requiring greater capital renewal and replacement investment. - Unexpected major expenses associated with replacements of assets in advance of their expected replacement dates.
Non-Infrastructure Solutions	- Activities including Master Plans, Risk Assessments, which could extend the lives or efficiency of Facility components' life cycle management, not through direct capital investment. - Includes the Building Envelope Assessments, Structural Assessments, and certain components of the Parks and Recreation Master Plan.	- Asset life cycles are less efficiently managed, resulting in potentially higher expenditures due to a less coordinated approach to life cycle management. - Growth, renewal, replacement and maintenance are less accurately planned and captured, resulting in the potential for service disruptions or service level decreases, if events are missed.

The activities detailed and costed in this Asset Management Plan correspond to the activities required to meet the proposed levels of service for Facilities. These activities and events were determined through input from the Facilities Division subject matter experts, Financial Services staff, and the Town's operating budget and capital forecasting.

Funding Requirements

Capital Renewal, Rehabilitation, and Replacement

Table 10 below outlines the five-year and 10-year rehabilitation, renewal, and replacement needs for Facilities to meet the proposed service levels.

Table 10 - Five- and 10-year Capital Renewal, Rehabilitation, and Replacement Needs Costing

Asset Reinvestment Period	Needs	Constrained
Fire Years	$48.9 M	$43 M
10 Years	$91.5 M	$90.3

* Values are in 2025 Dollars

Figure 8 below details the funding needs for rehabilitation, renewal, and replacement for each of the next 10 years to meet the proposed service levels.

The notable increase in 2027 includes several larger projects at:

Iroquois Park Sports Complex
- Rink pad slab work
- Roofing project
- Boiler replacement
- Desiccant replacement

McKinney Centre
- Roof project
- Rooftop unit replacements
- Window replacements
- New cold water flooding system

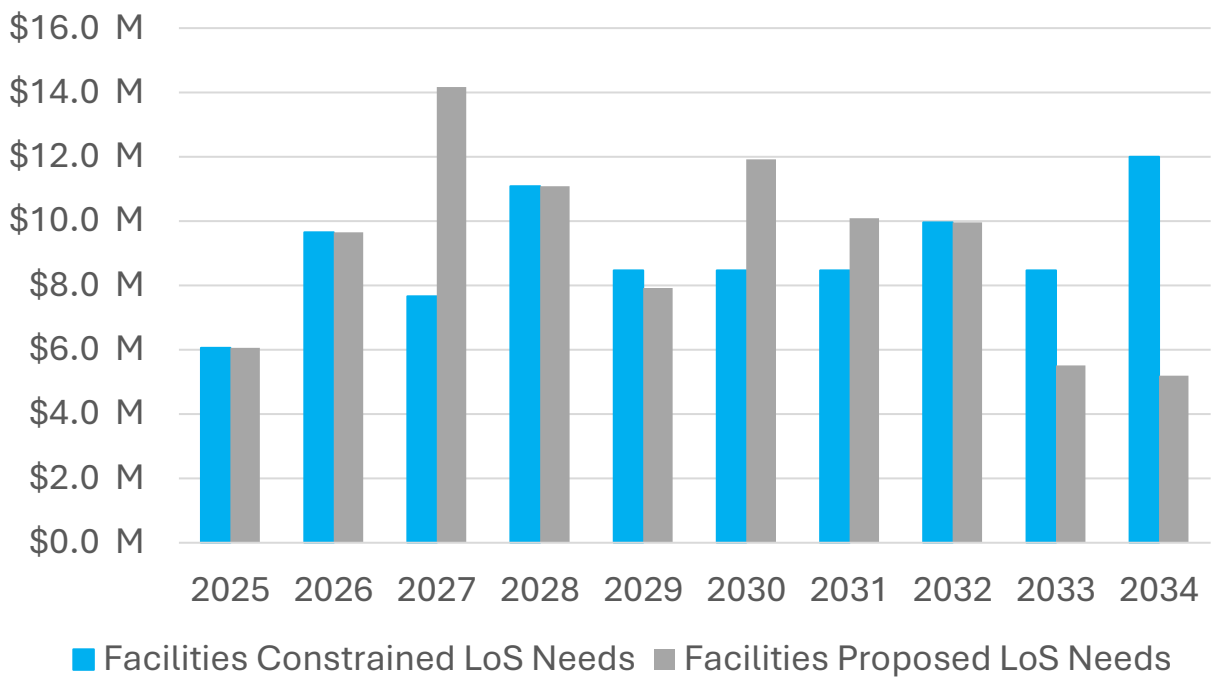


Figure 8 - 10-year Capital Renewal, Rehabilitation, and Replacement Needs Costing

Growth

Growth-related projects are funded by development charges rather than the Asset Management Reserve Fund.

Table 11 below details the growth-related projects planned for the Facilities service area.

Table 11 - Growth-related Funding Needs

Growth Investment Period	Needs
Five years	$35.3 M
10 years	$140.6 M

* Values are in 2025 Dollars

Figure 9 below details the growth-related funding needs for each of the next 10 years.

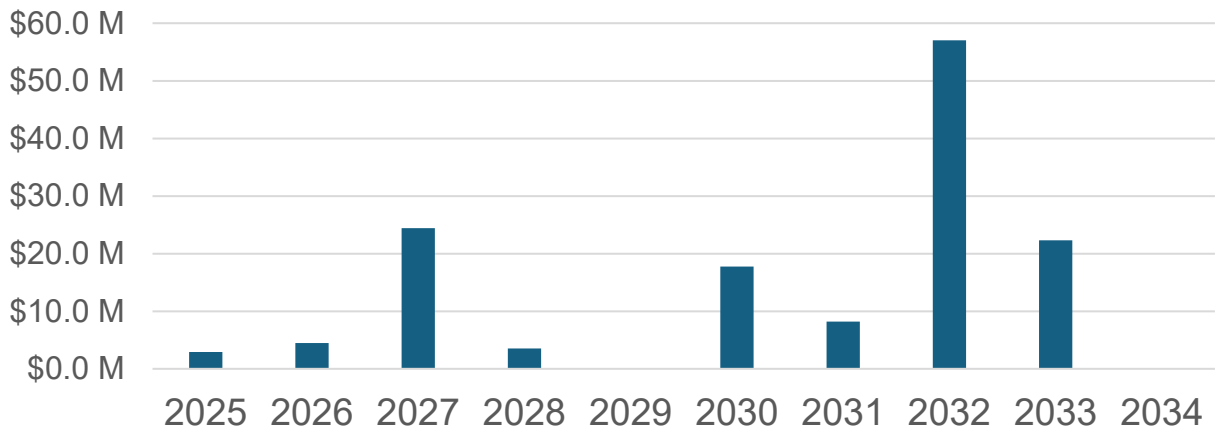


Figure 9 - 10-year Growth Capital Costing

Maintenance and Repair Needs

Table 12 - 10-year Maintenance & Repair Needs

Investment Period	Needs
10 years	$6.8 M

Figure 10 below details the expected maintenance and repair needs each year for the Facilities portfolio. Over ten years, these needs are expected to total $6.8 million. The increase from 2025 to 2026 results from the commissioning of the new Whitby Sports Complex and the new west Whitby fire hall.

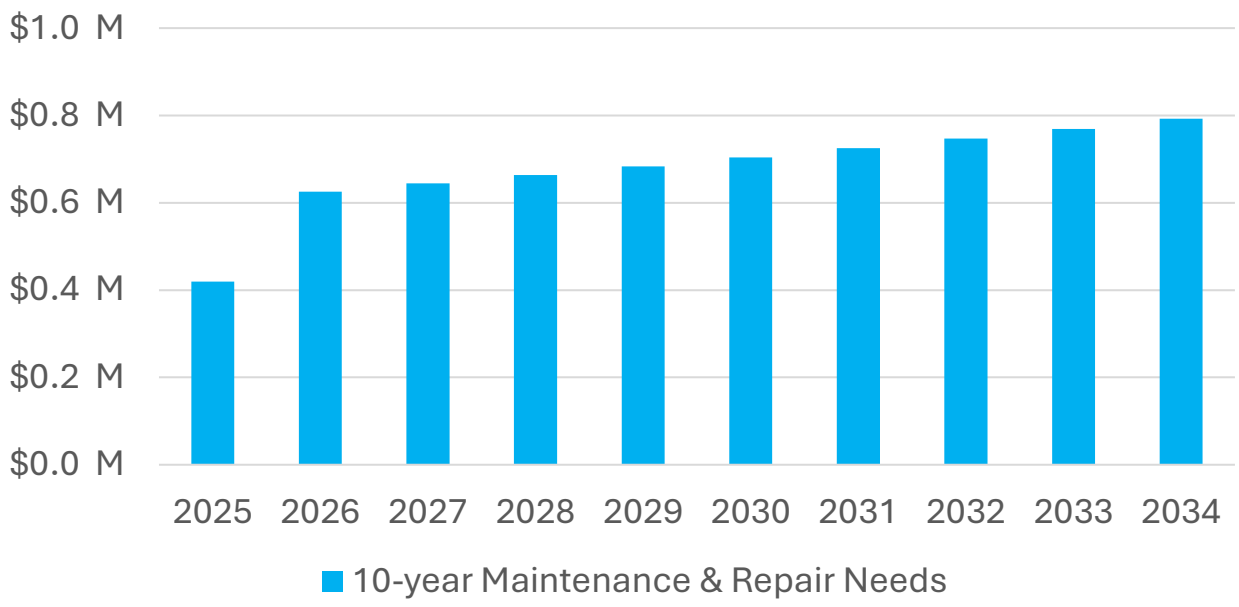


Figure 10 - Facilities 10-year Maintenance and Repair Needs

Fire Equipment

Asset Portfolio Health Rating

Good

"B"

About the Service Area

The Fire Equipment Service Area comprises all fire equipment assets used by Whitby Fire and Emergency Services in firefighting and rescue operations, including firefighter PPE and equipment, as well as the equipment kept on the fire trucks and water rescue vessels. While the fire vehicles are within the Fleet Service Area, and the Fire Halls are within the Facilities Service Area, Whitby Fire and Emergency Services is responsible for the inventorying, planning, disposal, renewal, and inspections of the PPE and Equipment used by WFES personnel on a 24/7 basis.

Current Inventory

Table 13 - Current Inventory of Fire Equipment Assets by Class

Asset Type	Total Replacement Cost	Average Condition
Equipment	$4,110,910	Good
Personal Protective Equipment (PPE)	$2,374,115	Good
Fire Equipment Total	**$6,485,025**	**Good**

Replacement Cost of Fire Equipment

The replacement cost represents the proposed budget amount to replace an item in the year of publication (2025). Where possible and practical, replacement costs have been based on budgeted amounts for new assets, or the recent actual cost of purchased assets in previous years, inflated to 2025 dollars. The total replacement cost of Fire Equipment is $6.5 M.

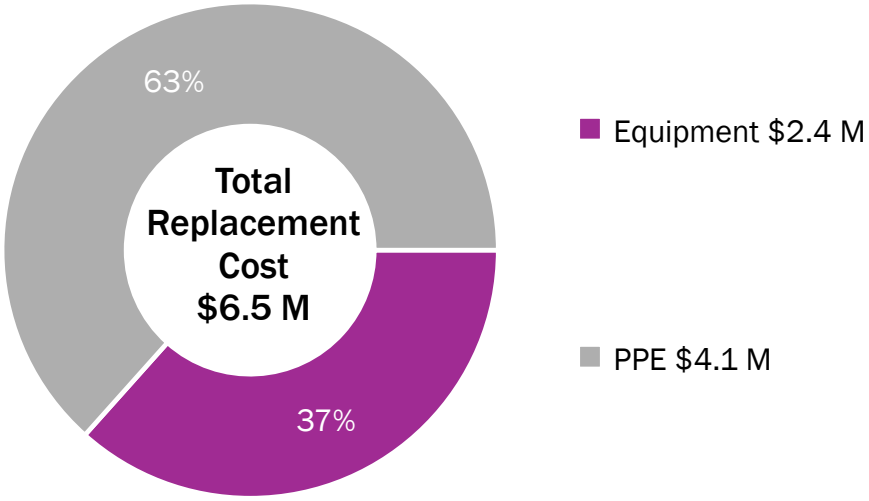


Figure 11 - Asset Classes as Portions of Replacement Cost

Condition Distribution by Replacement Cost

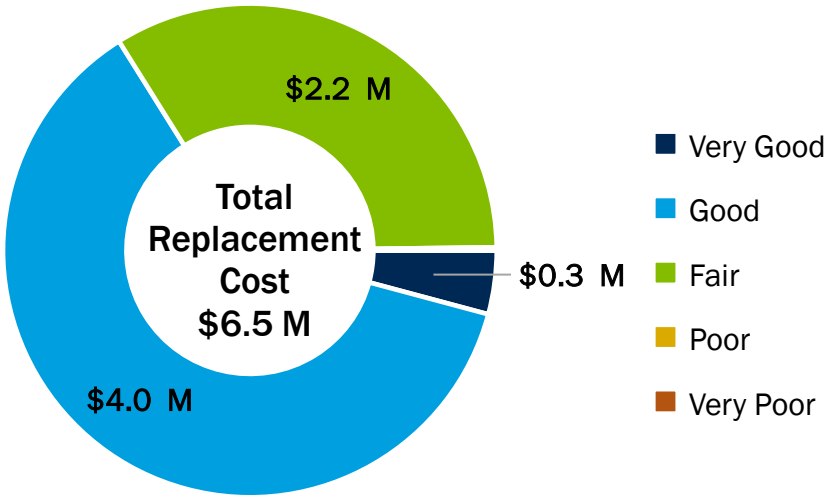


Figure 12 - Condition Distribution by Replacement Value

100% of Fire Equipment by replacement cost $6.5 M are currently in Fair or better condition, and 66% of Fire Equipment by replacement cost are in Good or better condition. Fire Equipment conditions are governed by health and safety (NFPA) regulatory requirements.

Average Condition of Fire Equipment

3.79

Table 14 - Condition Legend

5	Very Good	No defects and are in as-new condition.
4	Good	Minor defects are becoming apparent in superficial finishes.
3	Fair	Assets are decommissioned at this level.
2	Poor	Assets do not reach this level while in service.
1	Very Poor	Assets do not reach this level while in service.

Condition Distribution by Asset Class

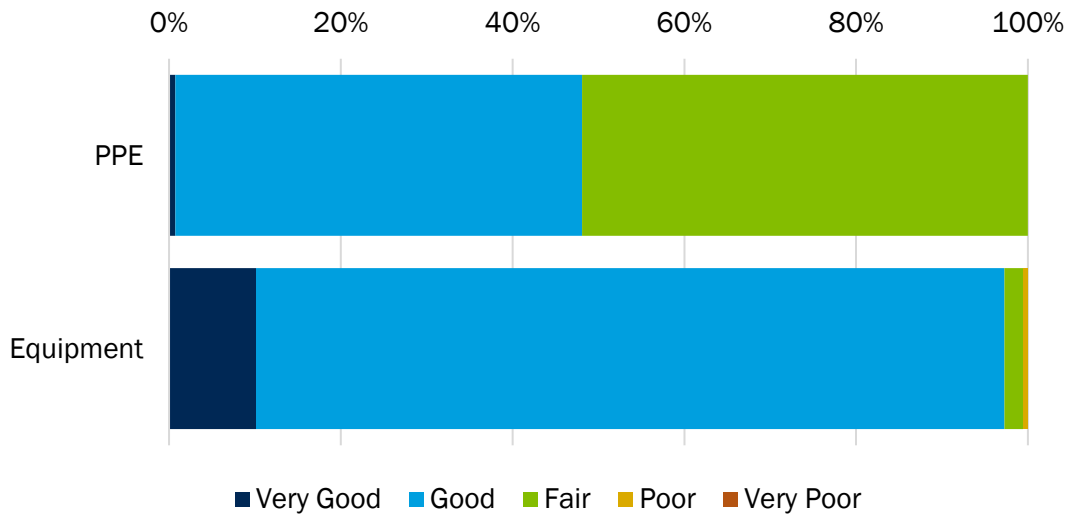
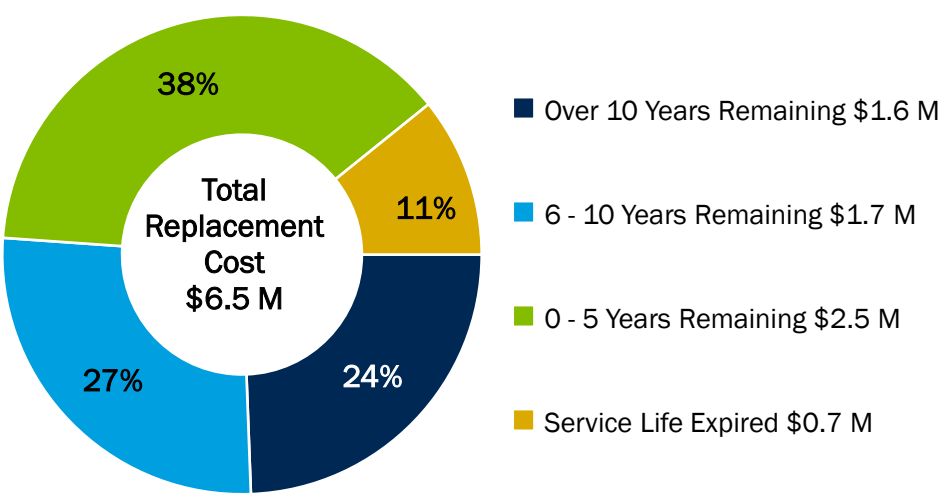


Figure 13 - Condition Distribution by Asset Class

Useful Life Consumption of Fire Equipment



% of Fire Equipment beyond their useful lives

11%

Figure 14 - Useful Life Consumption

Many estimated useful lives are governed by NFPA regulatory requirements, but those which are not, are subject to continual staff reevaluation, to ensure the EULs continue to be accurate and appropriate as assets change and technology evolves.

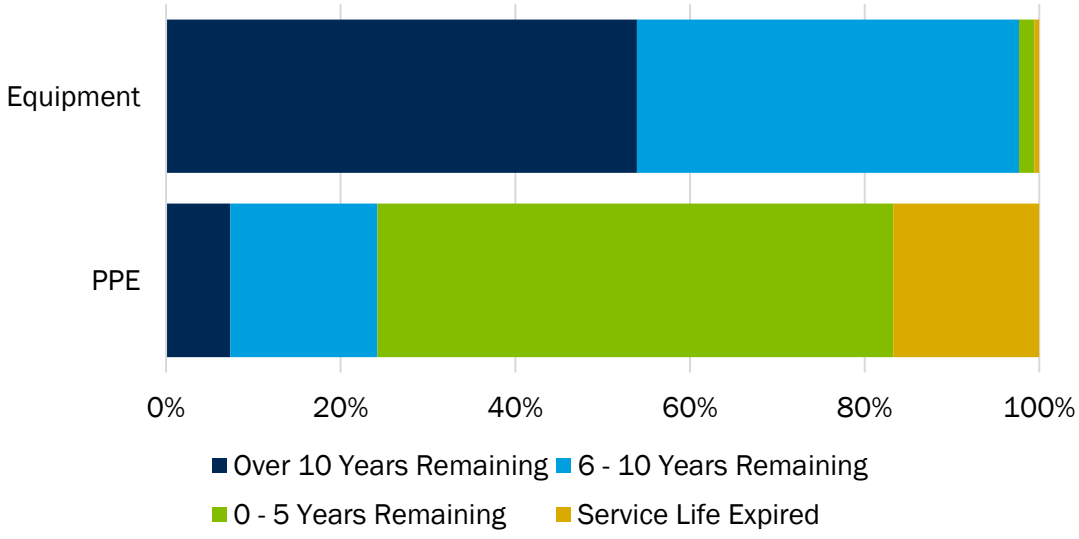


Figure 15 - Useful Life Consumption by Asset Class

11% of Fire Equipment have exceeded their useful lives. 24% of Fire Equipment have more than 10 years remaining of their useful lives.

Levels of Service

Given the non-discretionary nature of fire equipment, which are almost entirely governed by NFPA regulatory requirements, the Town is proposing no change to Fire Services' current LoS.

Table 15 - Levels of Service

Scope	Community LoS	Technical LoS
Reliability	Fire Personal Protective Equipment will continue to be entirely kept within its mandated service lives, to ensure regulatory compliance and the safety of Fire personnel. Fire Emergency Response Equipment should be nearly all within their expected useful lives, to ensure continued operability and performance.	% of Fire Equipment within their Useful Lives: 1. PPE: 100% 2. Emergency Response Equipment: 95%
Safety and Operability	Fire Personal Protective Equipment must, and will continue to, meet NFPA standards. PPE will be maintained in good working condition, to ensure the safety of Fire & Emergency Services personnel, and to provide the continued reliable service to residents. Fire Emergency Response Equipment will continue to be maintained in good working condition to ensure its efficacy in emergency responses as well as firefighter safety.	1. PPE ≥ condition of 3.5 2. Equipment ≥ condition of 3.5

Inspections of Fire Equipment Assets

Table 16 - Inspection Examples for Fire Services

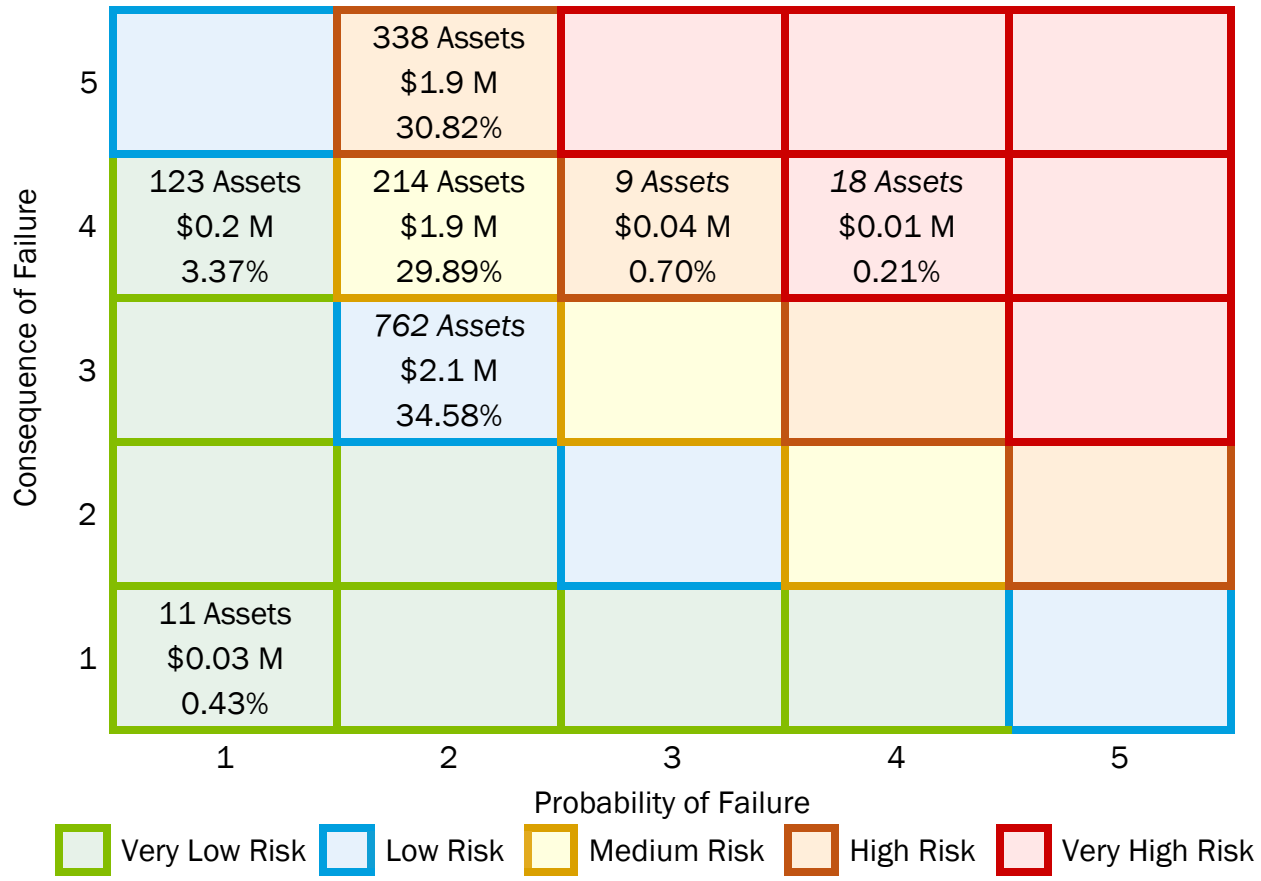
Asset Type	Frequency of Inspection
Annual Bunker Gear	Annually
Plymovent Ventilation System	Annually
Extinguisher Inspection - Trucks	Annually
Extinguisher Inspection - Buildings	Annually
Port A Count	Annually
Etools	Annually
Self-Contained Breathing Apparatus (SCBA) Flow Testing	Annually
Cascade System Air Quality Test (3 locations)	Spring & fall
Cascade System Maintenance (3 locations)	Annually
Cylinder drain and fill	Annually (if required)

Cylinders Hydrostatic testing	5 years
Ground Ladder Inspections	Annually
Pump Testing	Annually
Hose Testing	Annually
Sensor Testing	Bi-annual
Hydrants	Annually
Generator	Monthly and annually
HazMat suits	Annually
Ropes	Annually

Risk Levels for Fire Equipment

Risk Levels for Fire Equipment depend on the operational purpose of the asset (consequence of failure) and probability of failure. An asset with a high consequence of failure, such as Bunker Gear, would appear near the top right of the risk matrix, if its probability of failure was also high (poor or very poor condition, for example).

Table 17 - Fire Services Equipment Asset Risk Matrix



For assets considered low risk, with low consequences of failure and low probabilities of failure, preventative maintenance and consistent monitoring of these assets will help to ensure that they continue to remain near the bottom-left of the risk matrix and continue to perform as expected.

For assets considered medium-risk, preventative or rehabilitative maintenance is required on some of these assets, as well as more frequent monitoring, to ensure they do not become high-risk assets.

Finally, assets considered high- and very high-risk have high consequences of failure and high probabilities of failure and may require budgeting for asset replacement, more frequent rehabilitative maintenance, and very consistent monitoring.

Table 18 - Risk Levels and Examples of Possible Impacts for Fire Equipment

Risk Level	Potential Risks	Asset Examples
High and Very High	• Service could be unavailable to many users. • Other assets may not function or could deteriorate quicker. • Opportunities for significant life extending rehabilitation will be missed. • Could lead directly to loss of life or injury.	Firefighter bunker gear and person protective equipment

Probabilities of failure are informed regularly through inspections and condition assessments of assets, as discussed in Table 16. Consequences of Failure should continue to be consistently reevaluated and reassessed, and new metrics will continue to be incorporated into the Consequences of Failure of assets, including usage levels.

The current state of Fire Equipment, the NFPA, the Town's management of risk, and the impacts of various strategic documents inform the levels of service provided by the Town's Fire Equipment.

Fire Equipment Life Cycle Management

The life cycle of Fire Equipment encompasses all activities relating to the acquisition, monitoring, maintenance and rehabilitation, renewal, replacement, and disposal of PPE and Emergency Response Equipment. In addition to these activities, the planning and acquisition of additional Fire Equipment supplementary to the Town's current inventory, in order to meet the needs of a growing community, are addressed through growth-related life cycle activities. The types of life cycle activities, examples of events within these life cycle activities, and the risks associated with not completing the different life cycle events are further discussed in Table 19 below.

Table 19 - Fire Equipment Life Cycle Activity Types, Activities, and Examples of Associated Risks if the Activities are Not Performed

Life Cycle Activity	Included Events	Risks
Renewal, Rehabilitation, Replacement (Capital)	- Planning and purchase of Fire Equipment (PPE and Emergency Response Equipment) to replace existing assets, to continue to provide expected or proposed service levels.	- Reduction of service levels and greater potential for reduced response time, and increased asset failure rates. - Increased maintenance and inspection costs. - Potential non-compliance with NFPA regulations.
Growth	- Acquisition of additional Fire Equipment to supplement WFES' current inventory and meet the needs of community and organizational growth.	- Reduction in service levels and availability of equipment for staff, resulting in the potential reduction of service levels across the organization to the community. Could result in decrease in response times. - Higher rates of use for existing equipment to manage larger workload volumes could result in increased maintenance costs and earlier need for replacement. - Potential non-compliance with NFPA regulations.
Operations and Maintenance	- Regular and rigidly scheduled inspections and testing of Fire	- Potential non-compliance with NFPA regulations.

Life Cycle Activity	Included Events	Risks
	Equipment assets to ensure regulatory compliance and the health and safety of WFES personnel. - Day-to-day use and inspection of equipment prior to use by WFES personnel.	- Potential unexpected asset failure, which could have catastrophic results to the health and safety of WFES personnel, as well as members of the public.
Non-Infrastructure Solutions	- Activities including Master Plans, Risk Assessments, which could extend the lives or efficiency of Fire Equipment life cycle management, not through direct capital investment. - Includes the Fire Master Plan.	- Asset life cycles are less efficiently managed, resulting in potentially higher expenditures due to a less coordinated approach to life cycle management, or regulatory non-compliance. - Growth, renewal, replacement and maintenance are less accurately planned and captured, resulting in the potential for service disruptions or service level decreases, if events are missed.

The activities detailed and costed in this Municipal Asset Management Plan correspond to the activities required to meet the levels of service for Fire Equipment. These activities and events were determined through input from Whitby Fire and Emergency Services subject matter experts, Financial Services staff, and the Town's operating budget and capital forecasting.

Funding Requirements

Capital Renewal, Rehabilitation, and Replacement

Table 20 below outlines the five-year and 10-year rehabilitation, renewal, and replacement needs for Fire Services assets in order to meet the proposed service levels. The proposed levels of service for Fire Equipment are the continuation of current service levels – meeting all regulatory requirements as outlined by the NFPA.

Table 20 - Five and 10-year Renewal, Rehabilitation, and Replacement Funding Needs

Asset Reinvestment Period	Needs
Five years	$2 M
10 years	$4.5 M

* Values are in 2025 Dollars

Figure 16 below details the rehabilitation, renewal, and replacement needs for Fire Services assets to meet the proposed service levels.

The notable increases in 2028 and 2031 are the result of anticipated Personal Protective Equipment replacements for firefighters.

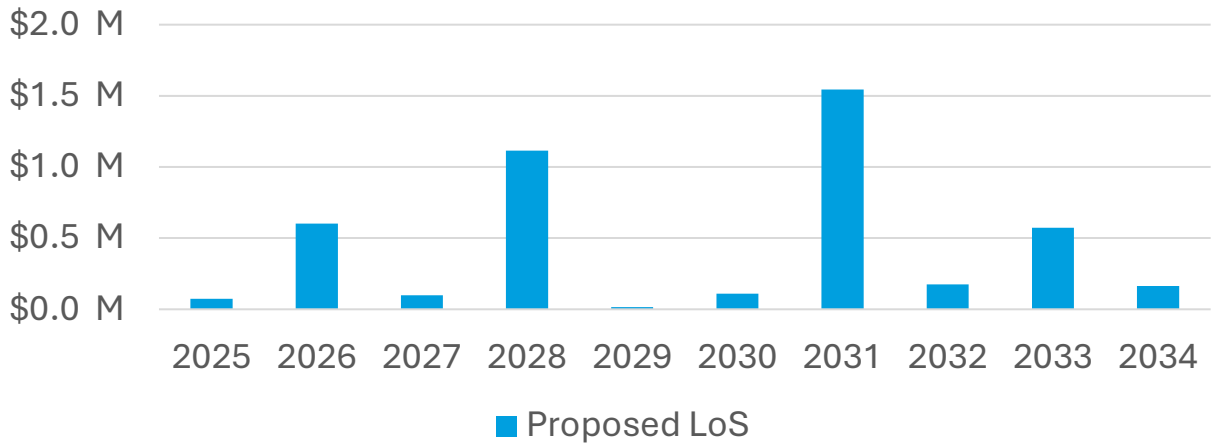


Figure 16 - Rehabilitation, Renewal, and Replacement Needs for Each of the Next Ten Years

Growth

Growth-related projects are funded by development charges rather than the Asset Management Reserve Fund.

Table 21 below outlines the five-year and 10-year rehabilitation, renewal, and replacement needs for Fire Services assets in order to meet the proposed service levels.

Table 21 - Five-year and 10-year Rehabilitation, Renewal, and Replacement needs

Growth Investment Period	Needs
Five years	$0.238 M
10 years	$0.476 M

* Values are in 2025 Dollars

Figure 17 below details the growth-related funding needs for each of the next ten years.

In anticipation of the construction of two new fire halls (in 2026 and 2031), both of which are captured in the Facilities growth forecast, Fire Services will be purchasing firefighting equipment for new hires.

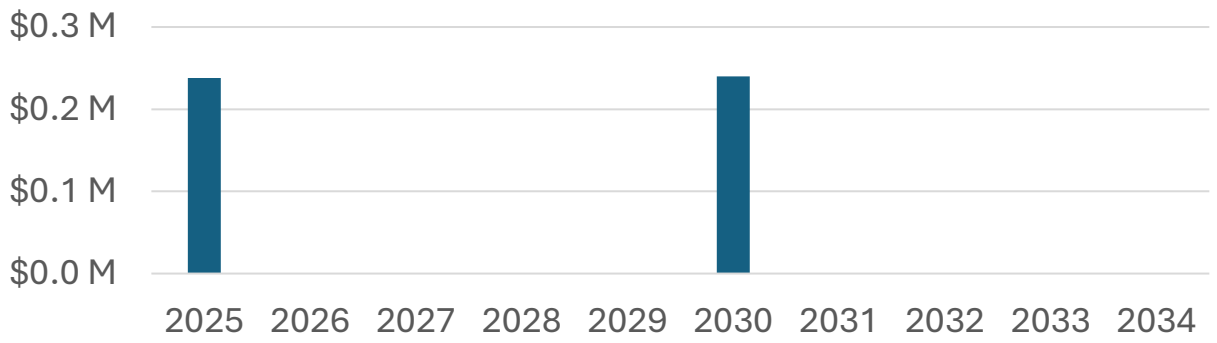


Figure 17 - Growth-related Funding Needs for Each of the Next Ten Years

Maintenance and Repair Needs

Table 22 - 10-year Maintenance & Repair Needs

Investment Period	Needs
10 years	$1.7 M

Figure 18 below details the expected funding for maintenance and repair needs each year for the Fire Equipment portfolio. Over ten years, these needs are expected to total $1.7 million. The increase from 2025 to 2026 results from the introduction of a new fire hall in Brooklin.

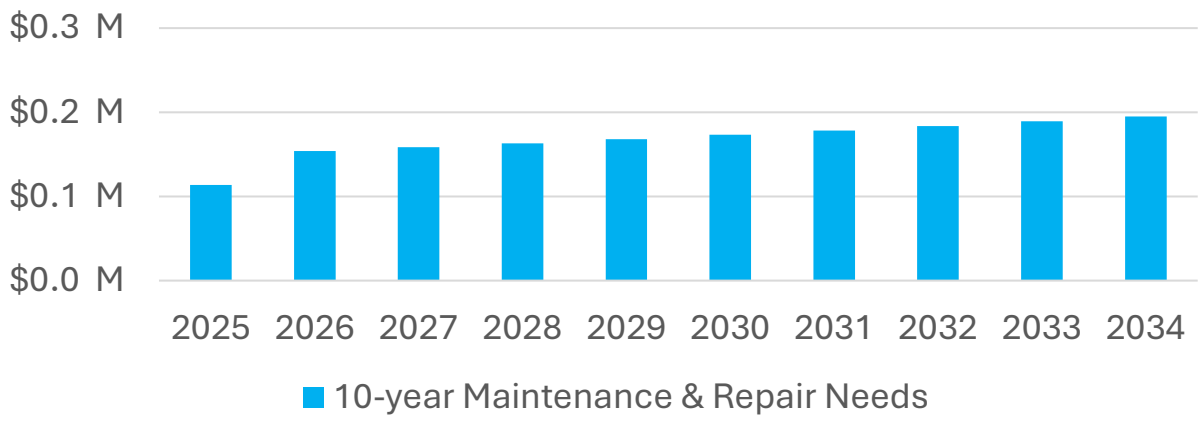


Figure 18 - Fire 10-year Maintenance & Repair Needs

Non-Infrastructure Solutions

As Fire Equipment condition assessments are conducted through the operations and maintenance life cycle activity scope, non-infrastructure solutions for the Fire Equipment service area comprise master planning and feasibility studies. Current non-infrastructure solutions for Fire Equipment include:

- Fire Master Plan (2025-2035)

Fleet

Asset Portfolio Health Rating

Fair

"C"

About the Service Area

The Town's Fleet Service Area comprises all vehicles and equipment used and owned by the Town, including all Arena Equipment, Construction Equipment, Fire Trucks, Garage & Shop Equipment, Lawn Care & Forestry Vehicles and Equipment, Passenger Vehicles, Waste Trucks, Snow Equipment, and Trailers. Operationally, Fleet Services manages the full vehicle asset life cycle, from procurement to end-of-life disposal, including ongoing maintenance work to ensure vehicles continue to be road-worthy and well-functioning. Fleet Services also ensures vehicles are licensed for use and staff are trained for the safe handling of all vehicles and equipment necessary to perform their duties.

Current Inventory

Table 23 - Current Inventory of Fleet Assets by Asset Class

Asset Type	Total Replacement Cost	Average Condition
Arena Ice Equipment	$910,281.82	Fair
Construction Equipment	$10,986,130	Fair
Fire Trucks	$7,364,683	Fair
Garage and Shop Equipment	$702,782	Fair
Lawn Care & Forestry	$4,773,656	Fair
Passenger Vehicles	$6,069,912	Fair
Waste Trucks	$9,054,369	Fair
Snow Equipment	$3,786,153	Fair
Trailers	$808,133	Fair
Fleet Total	**$44,456,101**	**Fair**

Replacement Cost of Fleet

The replacement cost represents the amount to replace the portfolio of assets in the year of publication (2025). Where possible and practical, replacement costs have been based on budgeted amounts for new assets, or the recent actual cost of purchased assets in previous years, inflated to 2025 dollars. The total replacement cost of Fleet assets is $44.5 M.

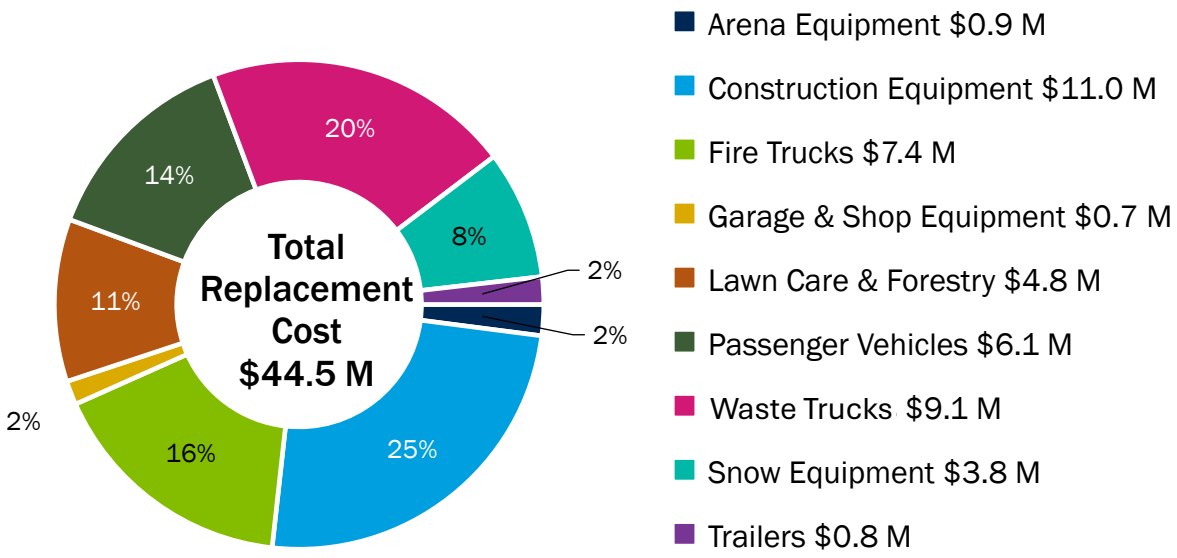


Figure 19 - Asset Classes as Percentage of Fleet Portfolio

Condition Distribution by Replacement Cost

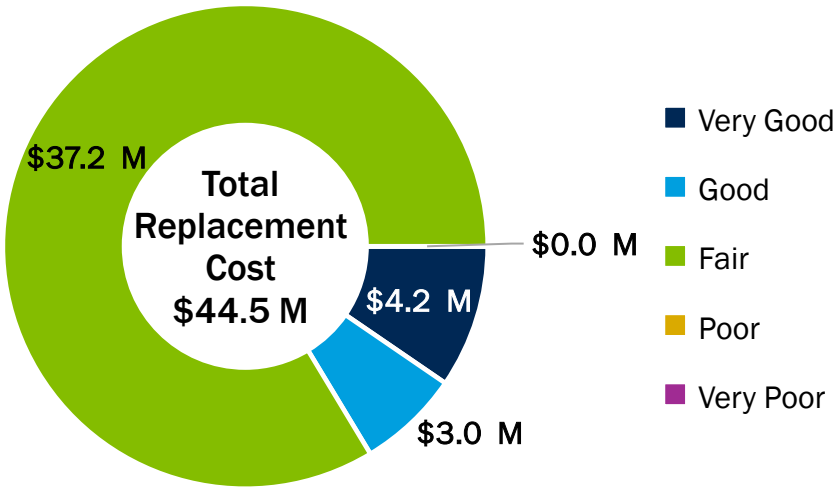


Figure 20 - Condition Distribution by Replacement Cost

100% of Fleet assets by replacement cost ($44.5 M) are currently in Fair or better condition, and 16% of Fleet assets by replacement cost are in Good or better condition. No assets on the road or in use by staff are in less than Fair condition. Many Fleet asset types for high consequence of failure (CoF) assets (e.g. Fire Trucks) have vehicles maintained as secondary fleet, which are used when those assets in the primary fleet are being serviced. These vehicles could be older and in a lower condition state than the primary fleet assets.

Average Condition of Fleet Assets

2.92

Table 24 - Condition Legend

5	Very Good	The asset is typically new with good public appearance.
4	Good	The asset is still in good condition with good public appearance.
3	Fair	The asset is showing signs of corrosion, increased maintenance costs and down-time in order to meet governing standards. Poor visual appearance.
2	Poor	Assets are repaired or replaced if they reach this level.
1	Very Poor	Assets do not reach this level.

Condition Distribution by Asset Class

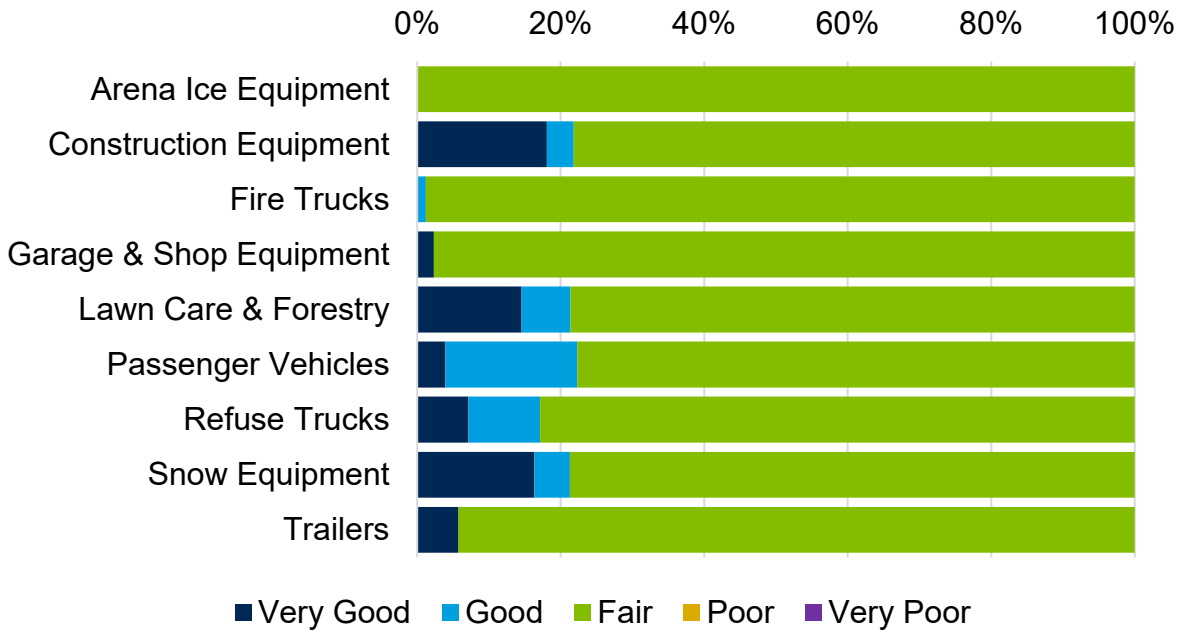


Figure 21 - Condition Distribution by Asset Class

Useful Life Consumption of Fleet Assets

40% of Fleet assets have exceeded their useful lives. 58% Fleet assets have useful lives of 10 years or less. 2% of Fleet assets have more than 10 years remaining of their useful lives.

Staff continually reevaluate useful lives to ensure they continue to be accurate and appropriate as assets change. Many Fleet assets belonging to the secondary fleet, which are used when those assets in the primary fleet are being serviced, could be older and in a lower condition state than the primary fleet assets.

% of Fleet assets beyond their useful lives

40%

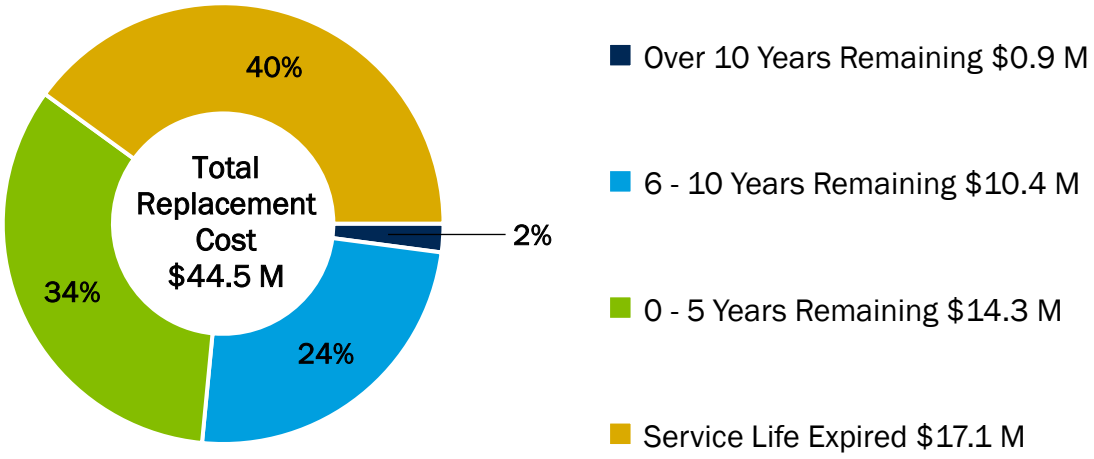


Figure 22 - Useful Life Consumption of Fleet Assets

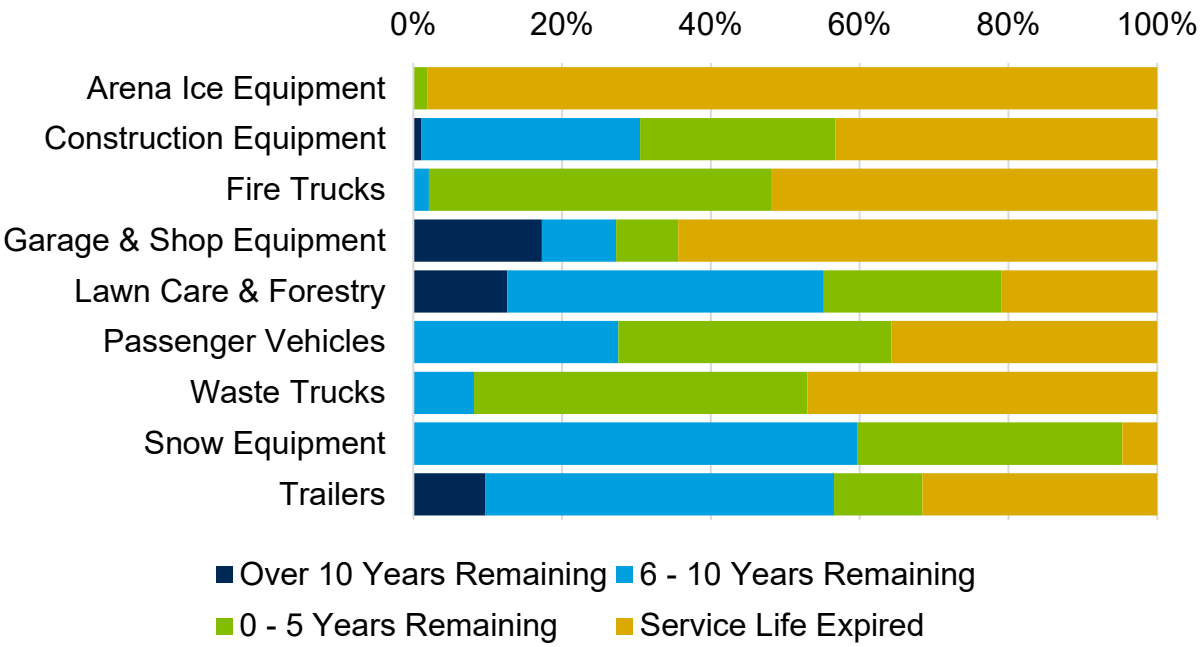


Figure 23 - Useful Life Consumption of Fleet Assets by Asset Class

Levels of Service

The Town is proposing to keep its fleet assets in fair or better condition over the next ten years, which is aligned with the Town's historical LoS. However, given the rising costs of vehicles, the required average annual capital investment requires a 22% increase over that of the past 5 years.

Inspection and maintenance will continue to provide a safe fleet while an adjustment is made to how capital funding is provided. The Town aims to account for long lead-time vehicles such as pumper trucks (fire), snowplows, dump trucks, and graders, ensuring they are received and deployed when needed. Ensuring vehicles are ordered in advance of the end of their service lives ensures vehicles are maintained at a higher condition, more of the Fleet is within the designated service lives, and reduces the required costs associated with increased maintenance downtime and inspection frequency.

Table 25 - Fleet Levels of Service

Scope	Community LoS	Technical LoS
Appearance	Fleet Services maintains vehicles and equipment to be in a reliable, **fair or better** state of repair for road-worthiness. **Fair** (2.5–3.49) **Good** (3.5–4.49)	1. Arena Equipment should be in fair or better condition 2. Construction Equipment should be in fair or better condition 3. Fire Trucks should be in good or better condition 4. Garage & Shop Equipment should be in fair or better condition 5. Lawn Care & Forestry Equipment should be in fair or better condition 6. Passenger Vehicles should be in fair or better condition 7. Waste Trucks should be in fair or better condition 8. Snow Equipment should be in good or better condition 9. Trailers should be in fair or better condition
Reliability	Fleet Services maintains vehicles and equipment to be in a reliable, **fair or better** state of repair for road-worthiness.	1. 63 % of Arena Equipment should be within their Expected Useful Lives (EULs) 2. 60% of Construction Equipment should be within their Expected Useful Lives (EULs) 3. 70% of Fire Trucks should be within their Expected Useful Lives (EULs) 4. 70% of Garage & Shop Equipment should be within their Expected Useful Lives (EULs) 5. **Proposed**: 80%; **constrained**: 75% of Lawn Care & Forestry Equipment should be within their Expected Useful Lives (EULs) 6. **Proposed**: 65%; **constrained**: 60% of Passenger Vehicles should be within their Expected Useful Lives (EULs)

		7. 70% of Waste Trucks should be within their Expected Useful Lives (EULs) 8. **Proposed**: 95%; **constrained**: 75% of Snow Equipment should be within their Expected Useful Lives (EULs) 9. 65% of Trailers should be within their Expected Useful Lives (EULs)

Alternatives

Any reduction in levels of service will result in an increase in poor and very poor fleet assets. Given the increase in repair that would result, and their important role in the delivery of critical services such as firefighting, snow relocation and removal, and waste removal, the Town's objective is to continue to keep fleet assets in a condition of fair or better.

An increase in LoS that would bring the fleet up to an overall condition of good or very good is not financially achievable.

Any realized shortfalls in funding the proposed LoS will be addressed through prioritizing the maintenance and replacement of critical vehicles while the least critical assets continue to be used, maintained, and age beyond their useful lives. Typical fleet inspections and road-safety checks will continue to detect and flag for removal any unsafe fleet assets.

Service Area Spotlight – Greening the Fleet

An initiative to purchase green vehicles where practicable introduced:

- 13 plug-in hybrid electric vehicles (PHEVs) in 2023 and 2024
- one battery-powered ice resurfacing machine
- one electric utility cart

Prospective future purchases include:

- two PHEV sport utility vehicles
- five mild hybrid electric pickup trucks (MHEVs)
- one full hybrid electric pickup truck (FHEV)
- two battery-powered ice resurfacing machines

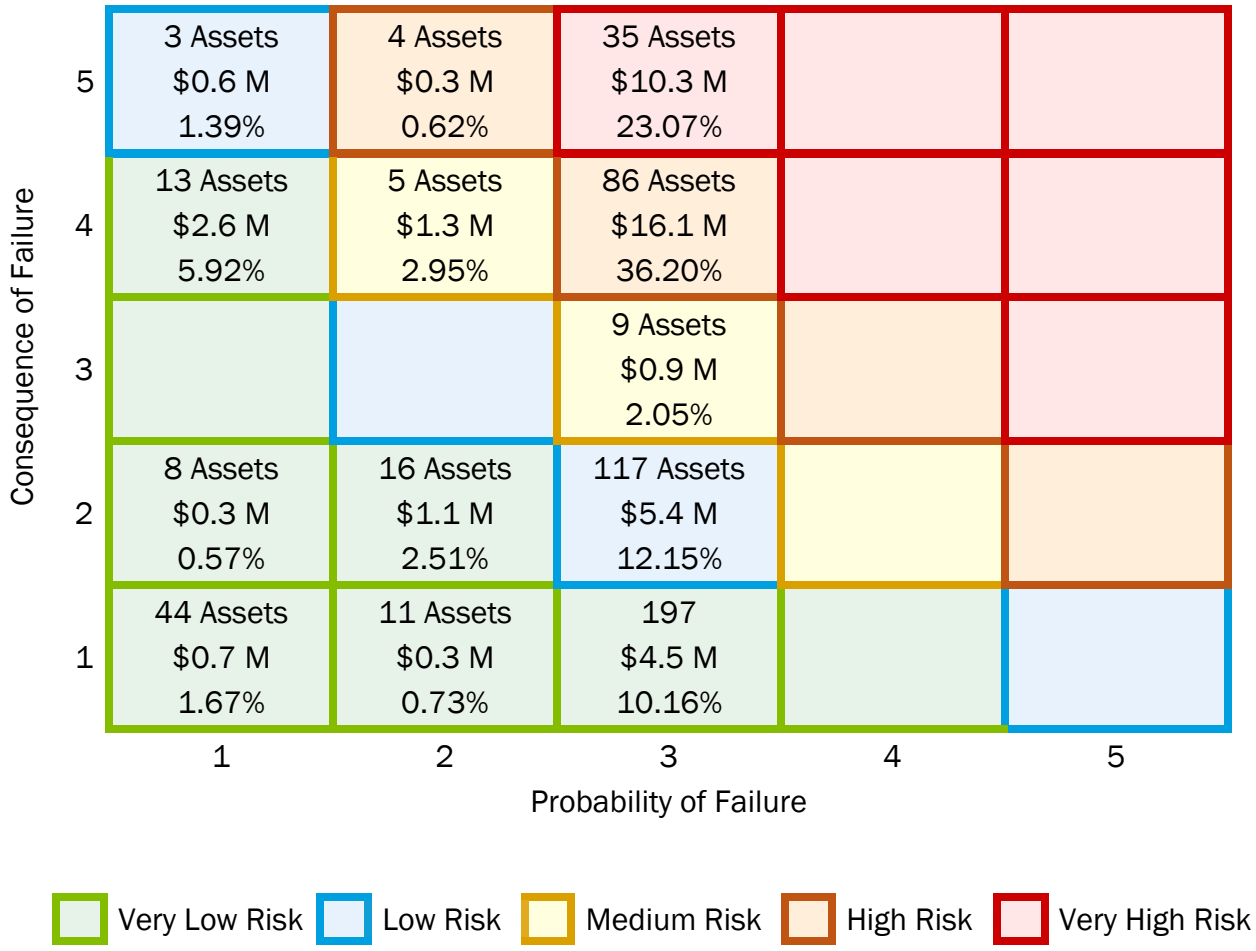
Risk Levels for Fleet Assets

Risk Levels for Fleet assets depend on the operational purpose of the asset (consequence of failure) and the condition of the asset (probability of failure). An asset with a high consequence of failure, such as a Fire Truck, would appear near the top right of the risk matrix, if its probability of failure was also high (poor or very poor condition).

% of Fleet assets considered very high-risk

23%

Table 26 - Fleet Assets Risk Matrix



For assets considered low risk, with low consequences of failure and low probabilities of failure, preventative maintenance and consistent monitoring of these assets will help to ensure that they remain near the bottom-left of the risk matrix and continue to perform as expected.

For assets considered medium-risk, preventative or rehabilitative maintenance is required on some of these assets, as well as more frequent monitoring, to ensure that they do not become high-risk assets.

Finally, assets considered high- and very high-risk in terms of consequence of failure require more frequent rehabilitative maintenance and consistent monitoring. More details on these risk levels can be found in Table 27 below.

Table 27 - Risk Levels and Examples of Possible Impacts for Fleet

Risk Level	Potential Risks	Asset Examples
Low	• Reduction in the quality of service received by some users. • Little impact on other assets' functionality. • The potential for minor claims and/or embarrassment within the department or municipality is possible.	Trailers, blowers and ride-on mowers
Medium	• Reduction in the quality of service received by many users. • Other assets' functionalities will be reduced. • Opportunities for moderate life extending rehabilitation will be missed. • Could lead indirectly to loss of life or injury.	Ice resurface equipment, graders, and pick-up trucks
High and Very High	• Service could be unavailable to many users. • Other assets may not function or could deteriorate quicker. • Opportunities for significant life extending rehabilitation will be missed. • Could lead directly to loss of life or injury.	Firefighter and waste trucks

Probabilities of failure are informed regularly through inspections and condition assessments of assets. Consequences of Failure should continue to be consistently reevaluated and reassessed, and new metrics will continue to be incorporated into the Consequences of Failure of assets.

The current state of Fleet's assets, the Town's management of risk, and the impacts of various strategic documents and regulations inform the proposed LoS provided by Fleet.

Fleet Assets Life Cycle Management

The life cycle of Fleet assets encompasses all activities relating to the acquisition, monitoring, maintenance and rehabilitation, renewal, replacement, disposal of vehicles and equipment. In addition to these, the planning and acquisition of additional vehicles and equipment supplementary to the Town's current fleet, in order to meet the needs of a growing community, are addressed through growth-related life cycle activities. The types of life cycle activities, examples of events within these life cycle activities, and the risks associated with not completing the different life cycle events are further discussed in Table 28 below.

Table 28 - Life Cycle Activity Types, Activities, and Examples of Associated Risks if Activities are Not Performed

Life Cycle Activity	Included Events	Risks
Growth	- Acquisition of additional vehicles and equipment to supplement the Fleet and meet the needs of community growth.	- Reduction in service levels and availability of vehicles and equipment. - Higher rates of use for existing vehicles and equipment to manage larger workload volumes could result in increased maintenance costs and earlier need for replacement.
Renewal, Rehabilitation, Replacement (Capital)	- Planning and purchase of vehicles and equipment to replace existing assets, to continue to provide expected or proposed service levels.	- Reduction of service levels and greater potential for unplanned downtime. - Increased maintenance and inspection costs. - New assets not received in time due to supply chain constraints.
Operations and Maintenance	- Regular and routine maintenance activities associated with ensuring assets continue to perform as expected within their useful lives. - Activities include, but are not limited to, oil changes, tire	- Reduction of service levels, including increased downtime. - Vehicles and equipment may not last as long as their expected useful lives, requiring greater capital renewal and replacement investment. - Unexpected major expenses associated with replacements of

Life Cycle Activity	Included Events	Risks
	rotations, lubrications, and condition inspections of current assets.	assets in advance of their expected replacement dates.
Non-Infrastructure Solutions	- Activities including Master Plans, Risk Assessments, which could extend the lives or efficiency of vehicles and equipment life cycle management, not through direct capital investment. - Includes the Fleet Strategic Master Plan Update.	- Asset life cycles are less efficiently managed, resulting in potentially higher expenditures due to a less coordinated approach to life cycle management. - Growth, renewal, replacement and maintenance are less accurately planned and captured, resulting in the potential for service disruptions or service level decreases, if events are missed.

The activities detailed and costed in this Asset Management Plan correspond to the activities required to meet the proposed levels of service for Fleet. These activities and events were determined through input from Fleet Services subject matter experts, Financial Services staff, and the Town's operating budget and capital forecasting.

Funding Requirements

Capital Renewal, Rehabilitation, and Replacement

Table 29 below outlines the five-year and 10-year rehabilitation, renewal, and replacement needs for Fleet assets to meet the proposed service levels.

The 10-year requirement for the proposed recommended levels of service is $52 M, resulting in an average annual requirement of $5.2 M. This is a 22% increase in funding over the average annual requirements of the previous five years.

However, the approved 10-year funding plan allocates $51.3 M for renewal, rehabilitation and replacement life cycle activities.

Table 29 - Five-year and 10-year Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels

Asset Reinvestment Period	Needs	Constrained
Five years	$27 M	$30 M
10 years	$52 M	$51.3 M

* Values are in 2025 Dollars

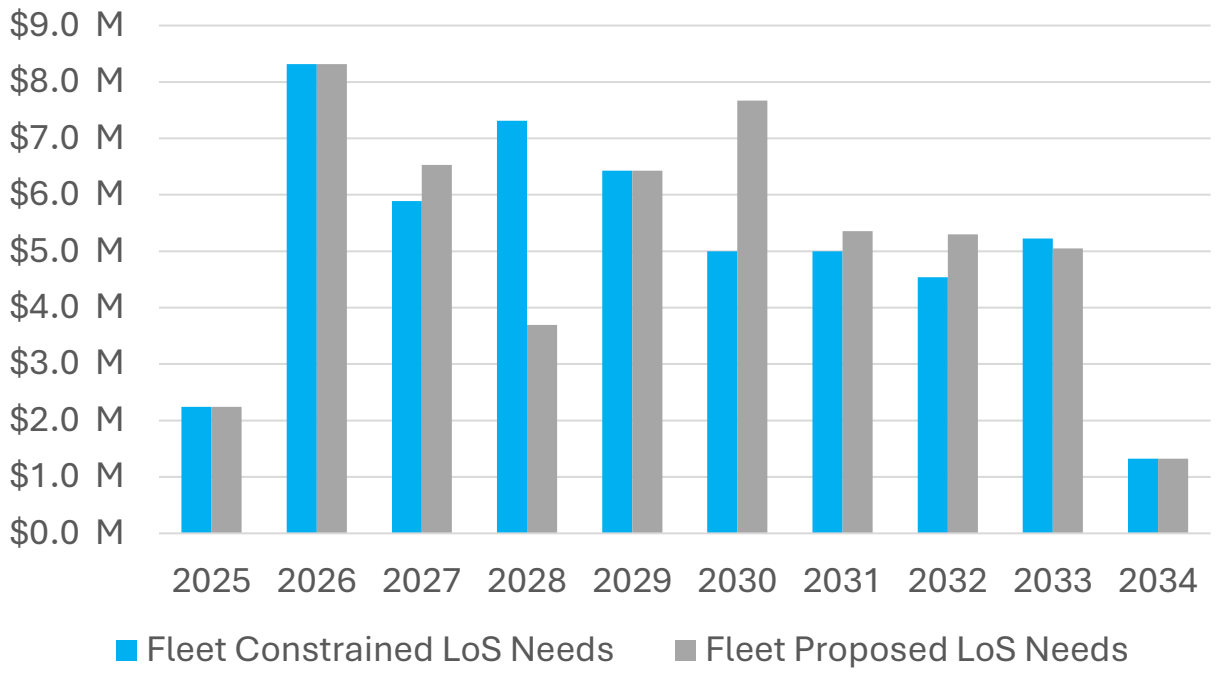


Figure 24 - Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels for Each of the Next Ten Years

The notable increase in 2026 is for the anticipated replacement of an aerial truck. Likewise, a pumper truck is anticipated to require replacement in 2030.

The underlying funding strategy for Fleet is having the funding available before the vehicle reaches its end-of-life to enable the pre-purchase of long lead-time vehicles such as fire trucks, graders, and waste trucks. This approach prevents having to wait one to two years for a vehicle to arrive and replace a vehicle that is past due for replacement.

Growth

Growth-related projects are funded by development charges rather than the Asset Management Reserve Fund.

Table 30 below details the funding needs for growth-related projects for the Fleet service area.

Table 30 - Growth-related Funding Needs Fleet Services

Growth Investment Period	Needs
Five years	$7.2 M
10 years	$14.6 M

* Values are in 2025 Dollars

Figure 25 below details the growth-related funding needs for each of the next ten years.

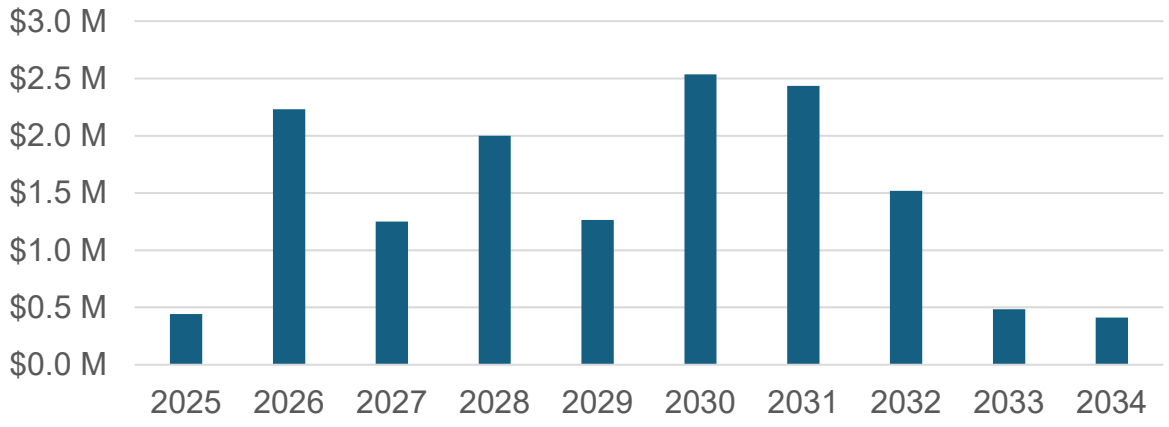


Figure 25 - Growth-related Funding Needs for Each of the Next Ten years

Maintenance and Repair Needs

Table 31 - Fleet 10-year Maintenance & Repair Needs

Investment Period	Needs
10 years	$48.5 M

Figure 26 below details the expected maintenance and repair needs each year for the Fleet portfolio. Over ten years, these needs are expected to total $48.5 million.

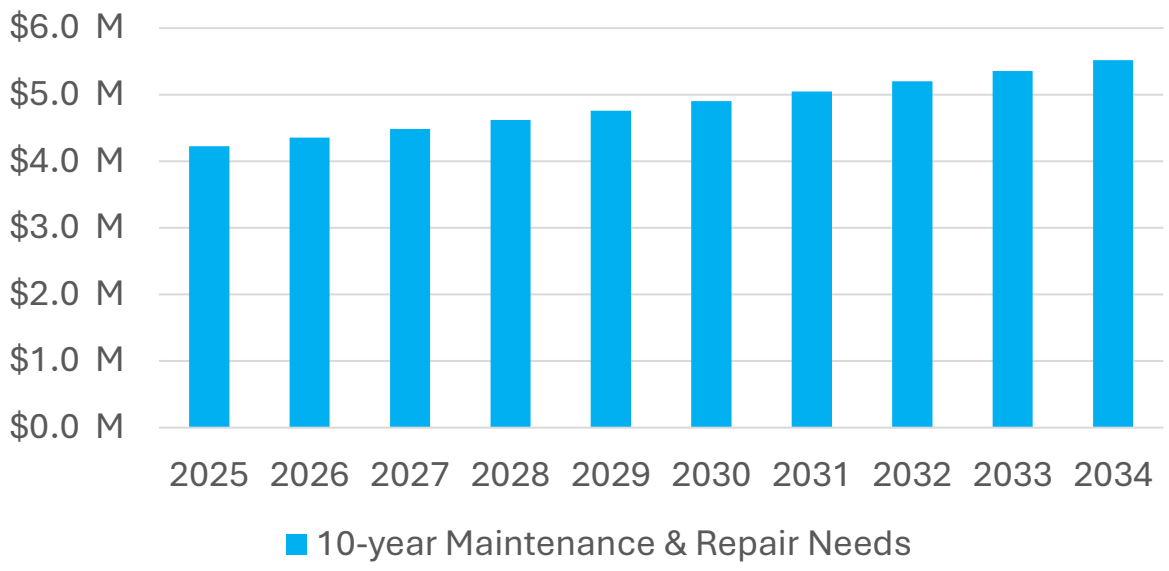


Figure 26 - Fleet 10-year Maintenance and Repair Needs

Library Services

Asset Portfolio Health Rating 2025

Good

"B"

About the Service Area

The Library Resources Service Area comprises all collections and equipment assets available to the public through the Whitby Public Library's operations, including print and digital collections, library information technology assets (workstations, tablets, printers, servers), and maker-gear (3D Printers) assets. While the Library buildings and furniture are captured under the Facilities Service Area, the collections and equipment services provided by the Whitby Public Library are captured in the Library Service Area. Operationally, the Whitby Public Library is responsible for the capital planning, renewal, and day-to-day operations and maintenance of Library collections and equipment. The WPL is functionally separate from the Town, but their Operating and Maintenance budgeting has been incorporated into this Asset Management Plan, to provide a holistic breakdown of the Library Resources asset management strategy.

Current Inventory

Table 32 - Current Inventory of Library Assets by Asset Class

Asset Type	Total Replacement Cost	Average Condition
Collections	$3,380,326	Good
Community Centres	$2,251,372	Fair
Equipment	$971,616	Fair
Library Resources Total	**$6,603,314**	**Good**

Replacement Cost of Library Services

Service Area Spotlight – The Acoustics of Innovation

Picture this - you're a local writer and you have dreams of recording an audio book of your recently published work. One might imagine the options are limited. Enter the Whitby Public Library. A top-of-the line sound recording booth is just one of the many high-tech offerings in the Library's popular Discovery Zone. A staff member in charge of the Library's Durham Indie Author collection helped connect local writers with the sound booth and the results were magical.

The replacement cost represents the proposed budget amount to replace an item in the year of publication (2025). Where possible and practical, replacement costs have been based on budgeted amounts for new assets, or the recent actual cost of purchased assets in previous years, inflated to 2025 dollars. The total replacement cost of Library Resources is $6.6 M. Library Furniture has been included in the inventory to account for proposed levels of service.

Replacement Cost of Library Services

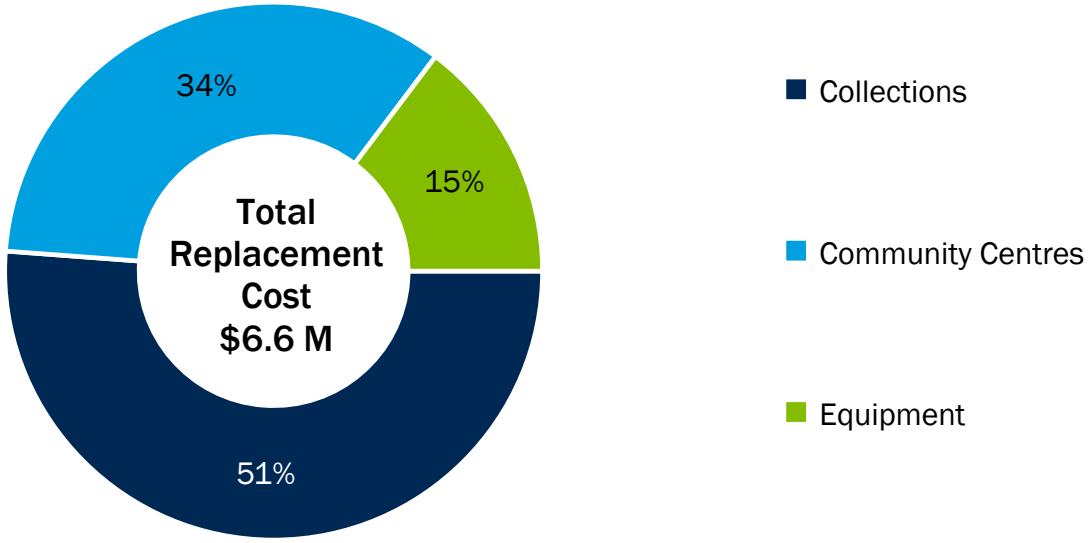
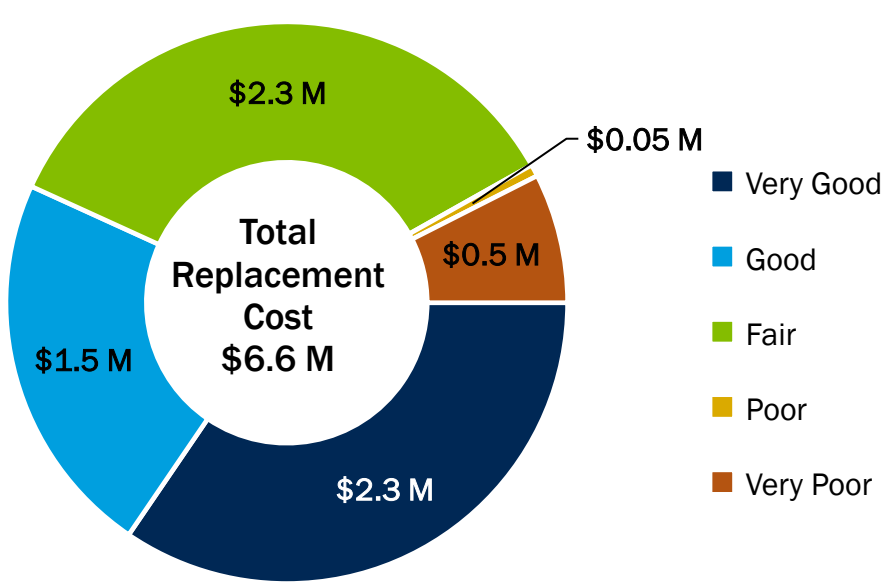


Figure 27 - Asset Classes as Percentage of Library Portfolio

Condition Distribution by Replacement Cost



Average Condition of Library assets

3.76

Figure 28 - Condition Distribution by Replacement Cost

92% of Library assets by replacement cost ($6.1 M) are currently in Fair or better condition, and 57% of Library assets by replacement cost are in good or better condition.

Table 33 - Condition Legend

5	Very Good	The equipment is in new condition and meets or exceeds needs.
4	Good	Minor deficiencies are fixed so that the asset remains in service.
3	Fair	Equipment is scheduled to be replaced when in fair condition.
2	Poor	Assets are disposed of when they are in less than fair condition.
1	Very Poor	Assets are disposed of when they are in less than fair condition.

Condition Distribution by Asset Class

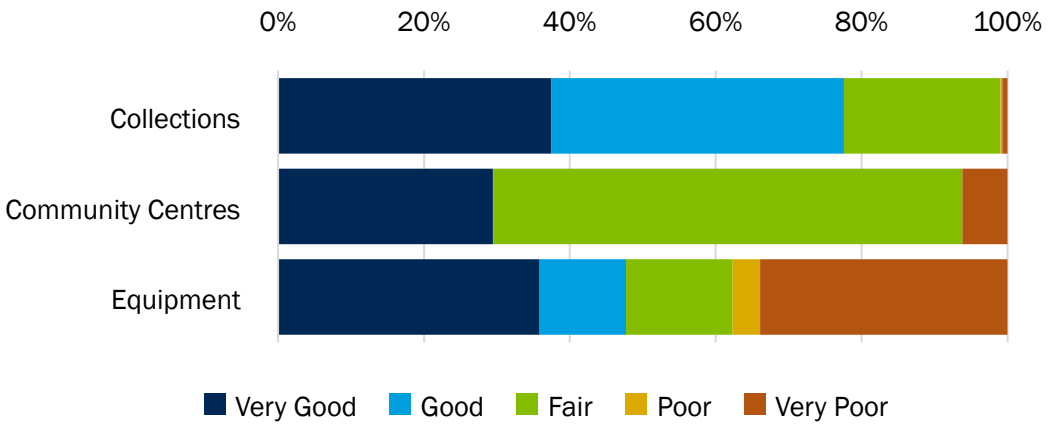


Figure 29 - Condition Distribution by Asset Class

Useful Life Consumption of Library Services

Whitby Public Library staff continuously monitor lifespans of Library Resources assets, to ensure their EULs continue to be accurate, align with LoS objectives, and appropriate as assets change and technology evolves.

% of Library assets beyond their useful lives

43%

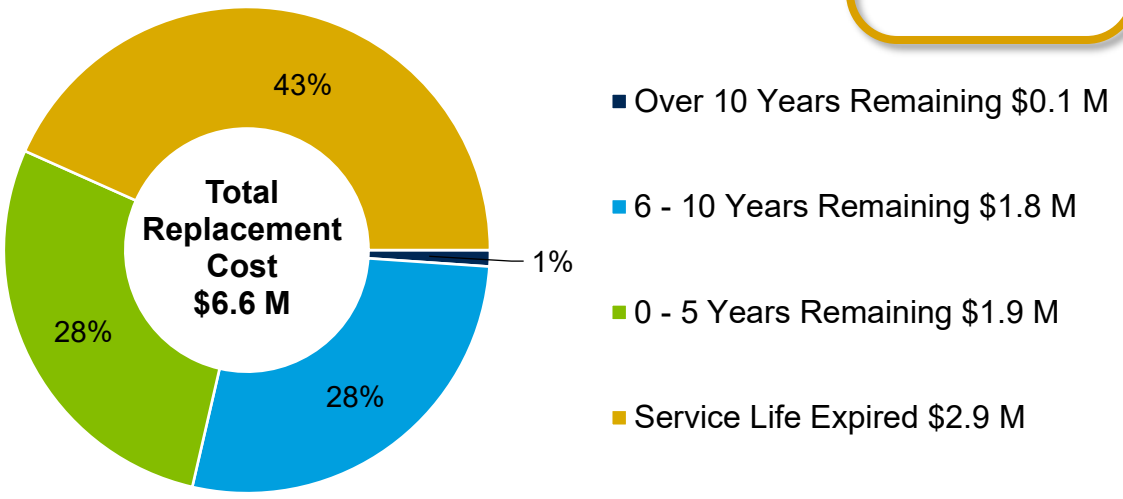
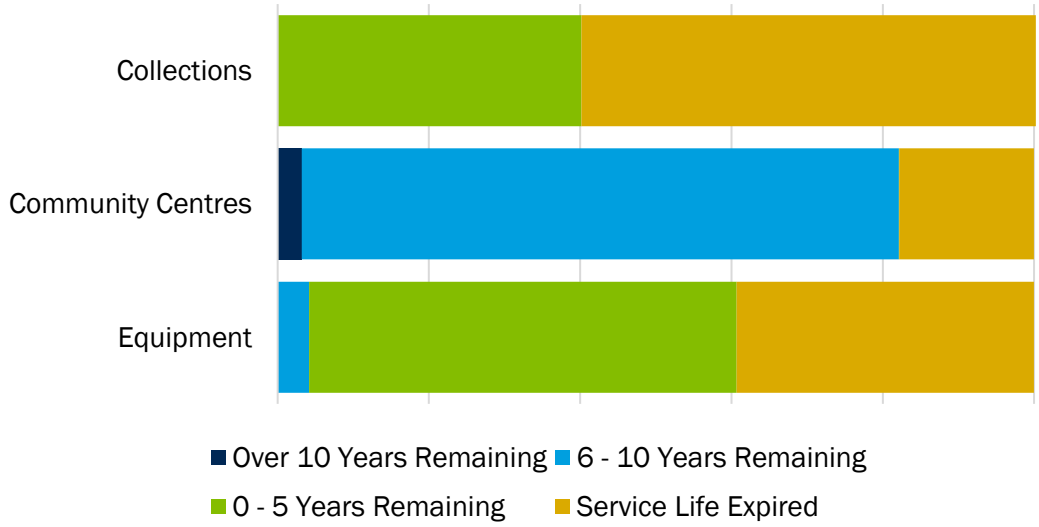


Figure 30 - Useful Life Consumption of Library Services

Figure 31 - Useful Life Consumption of Library Services by Asset Class



Levels of Service

Library Services is proposing the following LoS:

Table 34 - Library Services Levels of Service

Scope	Community LoS	Technical LoS
Capacity	Whitby's Libraries provide sufficient collections resources for its residents, including books, magazines, and media, in both physical and digital formats.	Collections assets should be provided at a rate of 1.7 per capita
Condition	Library assets are generally in good condition for use by the public and provide reliable services on a regular basis.	Library Equipment Assets should be in good or better condition Library Furniture Assets should be in good or better condition
Availability	Library Discovery Zone equipment is consistently available for use by the public.	Library Discovery Zone equipment should be available 90% of the operational year.

The proposed LoS funding needs are in line with historical spending on the asset management of the library collections and technology.

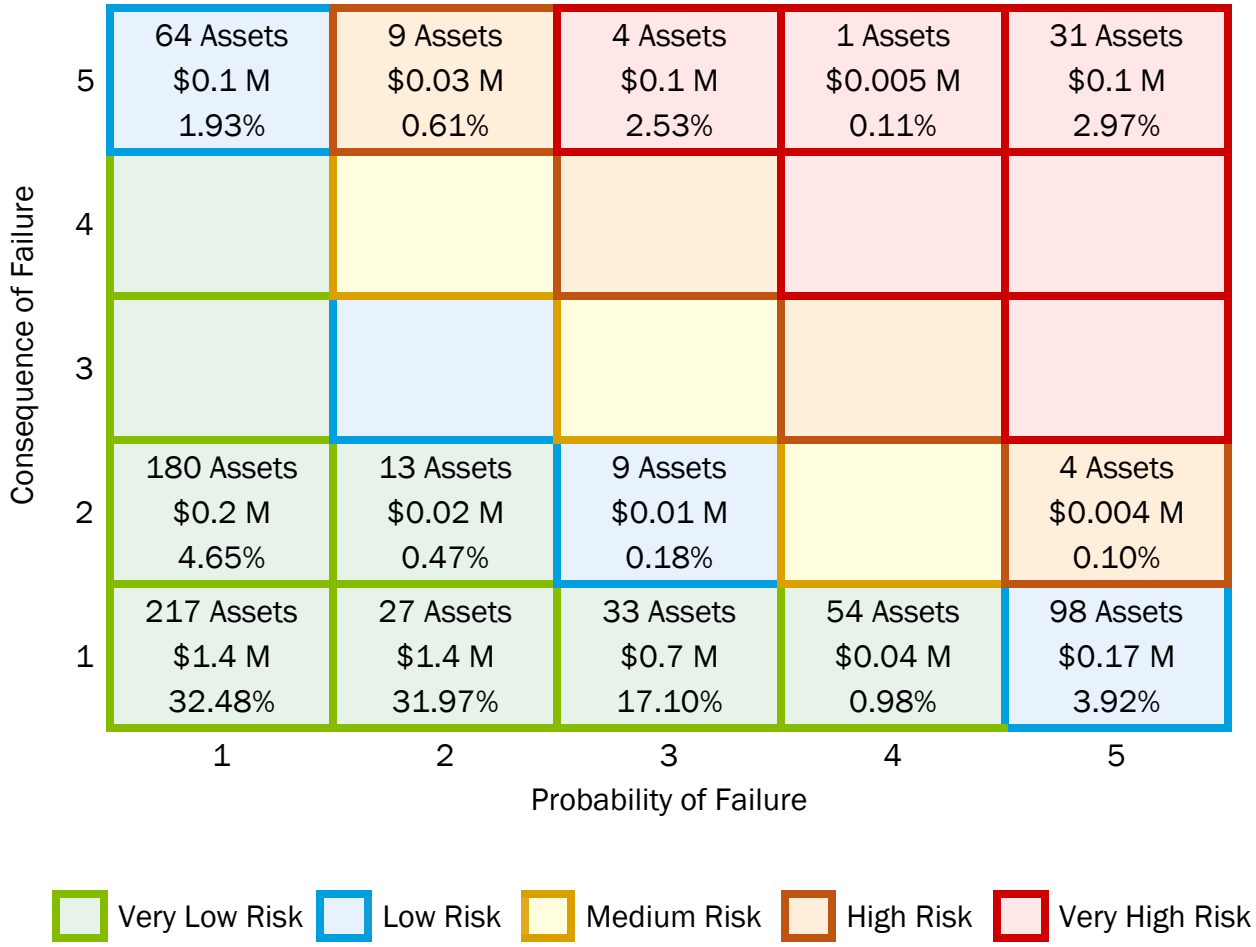
Risk Levels for Library Services

Risk Levels for Library Resources assets depend on the operational purpose of the asset (consequence of failure) and the condition of the asset (probability of failure). An asset with a high consequence of failure, such as a Server, would appear near the top right of the risk matrix, if its probability of failure was also high (poor or very poor condition).

% of Library Resources considered very high-risk

5.6%

Table 35 - Library Services Assets Risk Matrix



Library assets found in the high- and very high-risk area of the heat map are critical network-related IT infrastructure equipment. These assets have high consequences of failure and high probabilities of failure, and may require budgeting for asset replacement, more frequent rehabilitative maintenance, and very consistent monitoring.

Table 36 - Risk Levels and Examples of Possible Impacts for Library Services

Risk Level	Potential Risks	Asset Examples
Low	• Reduction in the quality of service received by some users. • Little impact on other assets' functionality. • The potential for minor claims and/or embarrassment within the department or municipality is possible.	General computer stations, desks, games
Medium	• Reduction in the quality of service received by many users.	Staff work stations

	• Other assets' functionalities will be reduced. • Opportunities for moderate life extending rehabilitation will be missed. • Could lead indirectly to loss of life or injury.	
High and Very High	• Service could be unavailable to many users. • Other assets may not function or could deteriorate quicker. • Opportunities for significant life extending rehabilitation will be missed. • Could lead directly to loss of life or injury.	Network switches and servers

Probabilities of failure are informed regularly through inspections of assets. Consequences of Failure should continue to be consistently reassessed.

The current state of Library Resources assets, the Town's management of risk, and the impacts of various strategic documents and regulations inform the proposed levels of service.

Library Services Life Cycle Management

The life cycle of Library Resources encompasses all activities relating to the acquisition, monitoring, maintenance and rehabilitation, renewal, replacement, and disposal of Collections assets and Library Resources technology and equipment. In addition to these activities, the planning and acquisition of additional Library Resources assets supplementary to the Town's current inventory, in order to meet the needs of a growing community, are addressed through growth-related life cycle activities. The types of life cycle activities, examples of events within these life cycle activities, and the risks associated with not completing the different life cycle events are further discussed in Table 37 below.

Table 37 - Library Resources Life Cycle Activity Types, Activities, and Examples of Associated Risks if Activities are Not Performed

Life Cycle Activity	Included Events	Risks
Growth	- Acquisition of additional Library Resources assets to supplement the Whitby Public Library's current inventory and meet the	- Reduction in service levels and availability of equipment for staff and members of the public. - Higher rates of use for existing equipment to manage larger public usage volumes could result in

Life Cycle Activity	Included Events	Risks
	needs of community growth.	increased maintenance costs and earlier need for replacement.
Renewal, Rehabilitation, Replacement (Capital)	- Planning and purchase of Library Resources assets (Collections assets and Library Equipment assets) to replace existing inventory, to continue to provide expected or proposed service levels.	- Reduction of service levels and greater potential for unscheduled downtime, asset failures, and collections assets being unavailable for use by the public. - Increased maintenance and inspection costs to ensure current inventory can perform its intended functions.
Operations and Maintenance	- Regular and routine maintenance of library collections and equipment assets, to ensure continued performance of service. - Asset inspections, conducted by WPL staff.	- Potential early or unexpected asset failure, which could result in unscheduled downtime or the unavailability of certain assets. - Reduction in WPL collection and equipment service levels.
Non-Infrastructure Solutions	- Activities including Master Plans, Risk Assessments, which could extend the lives or efficiency of Fire Equipment life cycle management, not through direct capital investment. - There are currently no budgeted strategic plans or feasibility studies pertaining to Library Resources.	- Asset life cycles are less efficiently managed, resulting in potentially higher expenditures due to a less coordinated approach to life cycle management, or regulatory non-compliance. - Growth, renewal, replacement and maintenance are less accurately planned and captured, resulting in the potential for service disruptions or service level decreases, if events are missed.

The activities detailed and costed in this Asset Management Plan correspond to the activities required to meet the proposed levels of service for Library Resources. These activities and events were determined through input from Whitby Public Library subject matter experts, Financial Services staff, and the Town's operating budget and capital forecasting.

Funding Requirements

Capital Renewal, Rehabilitation, and Replacement

Table 38 below outlines the five-year and 10-year rehabilitation, renewal, and replacement needs for Library assets to meet the proposed service levels.

Table 38 - Five-year and 10-year Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels

Asset Reinvestment Period	Needs
5 years	$4 M
10 years	$8 M

* Values are in 2025 Dollars

It is important to note that the Town has funded library furniture needs through the Facilities service area budget.

The proposed LoS is in line with historical spending on the asset management of the library collections and technology.

Figure 32 below shows the rehabilitation, renewal, and replacement needs for each year for Library assets to meet the proposed service levels. The large increase in 2028 comprises replacements of books, technology and gear; and in 2030 includes a substantial book collection replacement.

Figure 32 - Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels for Each of the Next 10 Years

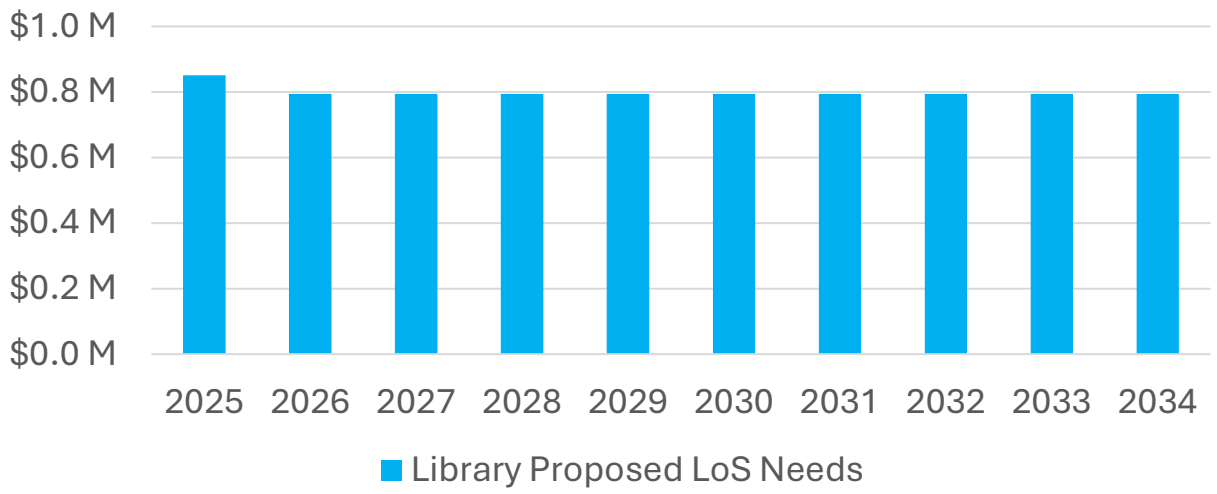


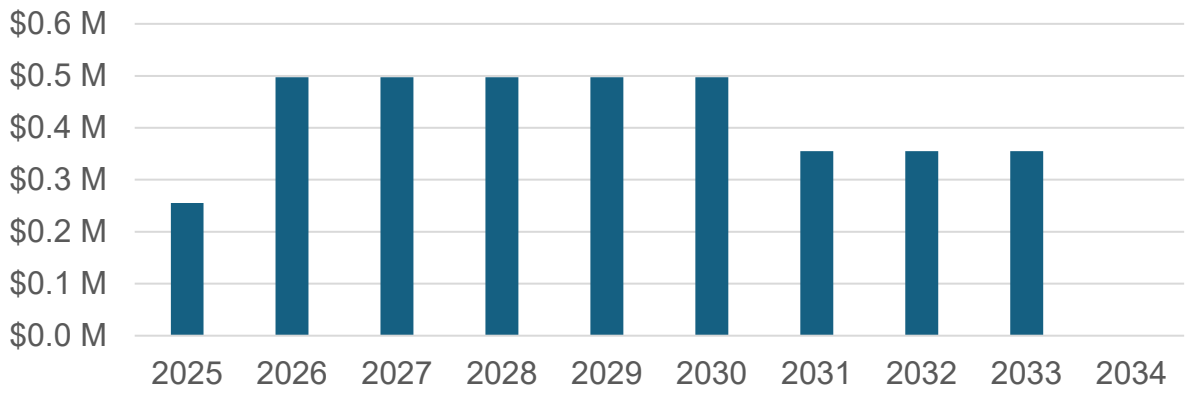
Table 39 - Growth-related Funding Needs for Library Services

Growth Investment Period	Needs
Five years	$2.2 M
10 years	$3.8 M

* Values are in 2025 Dollars

Figure 33 below details the growth-related funding needs for each of the next Ten years.

Figure 33 - Growth-related Funding Needs for Each of the Next Ten years



Parks

Asset Portfolio Health Rating

Good

"B"

About the Service Area

The Parks Service Area comprises all assets within and servicing Town-owned parks, including Amenities and Furniture, Arboriculture and Horticulture assets, Park Lighting, Paved Surfaces (parking lots, recreational trails and pathways), and recreation facilities (splash pads, multi-use courts, sports fields, etc.). Operationally, these assets are planned for and managed by two divisions within the Town's Community Services Department: Parks Planning and Development, and Parks Operations. The former is responsible for the design and construction of new parks, long-range planning of the parks and trails system Town-wide to accommodate growth-related needs, as well as planning the capital renewal and management of existing parks assets. The latter is responsible for all day-to-day maintenance, inspections, repairs of parks assets, along with the cutting, repairs and grooming of park grass, sports turfs and baseball diamonds.

Current Inventory

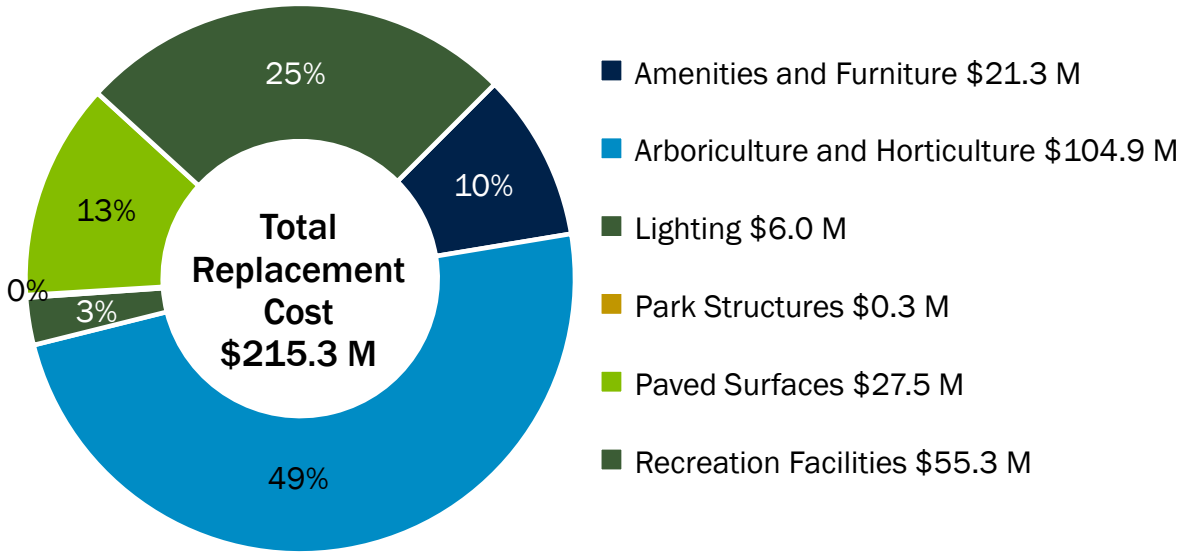
Table 40 - Current Inventory of Parks Assets by Asset Class

Asset Type	Total Replacement Cost	Average Condition
Amenities and Furniture	$21,293,074	Fair
Arboriculture and Horticulture	$104,867,300	Very Good
Lighting	$6,004,304	Very Poor
Park Structures	$302,180	Very Good
Paved Surfaces	$27,460,172	Good
Recreation Facilities	$55,331,517	Good
Parks Total	**$215,258,548**	**Good**

Replacement Cost of Parks

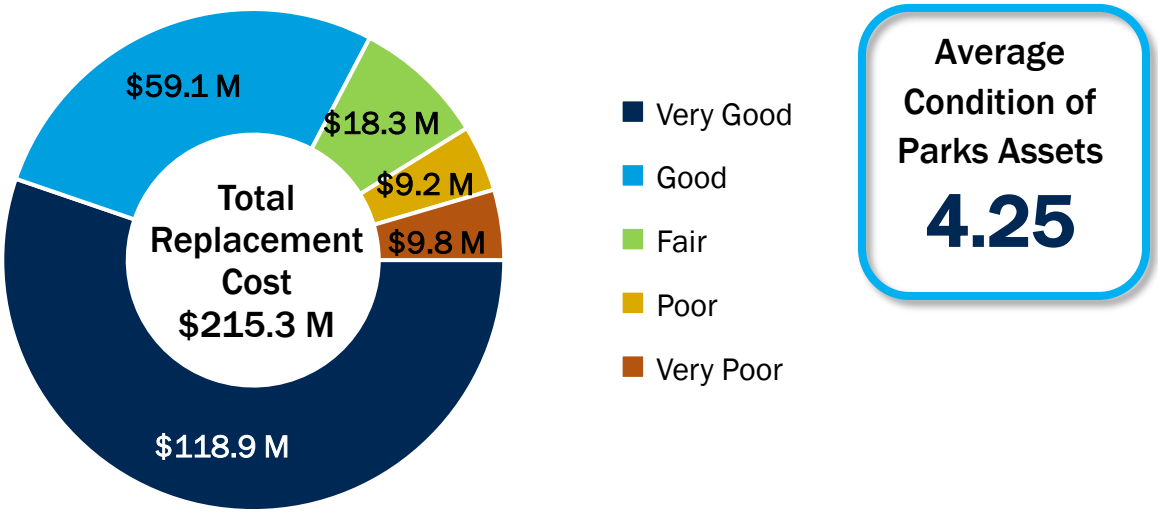
The replacement cost represents the amount to replace the portfolio of assets in the year of publication (2025). Where possible and practical, replacement costs have been based on budgeted amounts for new assets, or the recent actual cost of purchased assets in previous years, inflated to 2025 dollars. The total replacement cost of Parks assets is $215.3 M.

Figure 34 - Asset Classes as Portions of the Parks Portfolio



Condition Distribution by Replacement Cost

Figure 35 - Condition Distribution by Replacement Cost



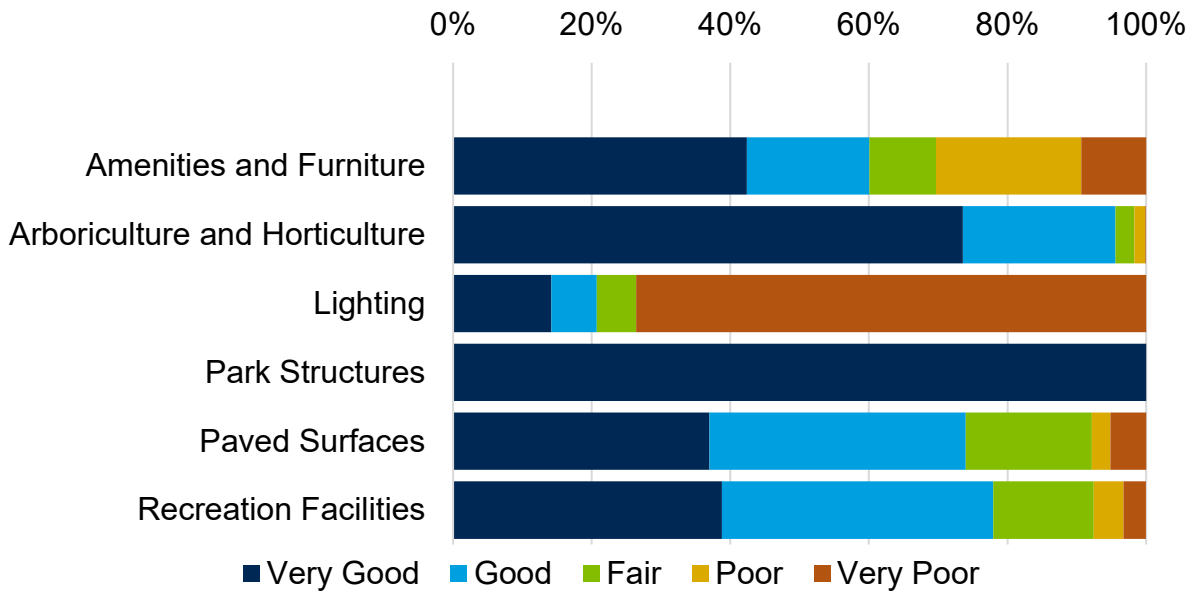
91% of Parks assets by replacement cost ($196.3 M) are currently in Fair or better condition, and 83% of Parks assets by replacement cost are in Good or better condition.

Table 41 - Condition Legend

5	Very Good	The asset is typically new or well-maintained without wear or damage.
4	Good	The asset still has good public appearance with normal wear.
3	Fair	The asset is showing minor defects.
2	Poor	Asset has defects and needs more maintenance and repair.
1	Very Poor	Assets have failed and are at the end of their useful life.

Condition Distribution by Asset Class

Figure 36 - Condition Distribution by Asset Class



Useful Life Consumption of Parks Assets

13.8% of Parks assets have exceeded their useful lives. Assets that have exceeded their estimated useful lives may still be in good condition through continual monitoring and maintenance practices. 68.5% of Parks assets have more than 10 years remaining of their useful lives.

% of Parks assets beyond their useful lives

14%

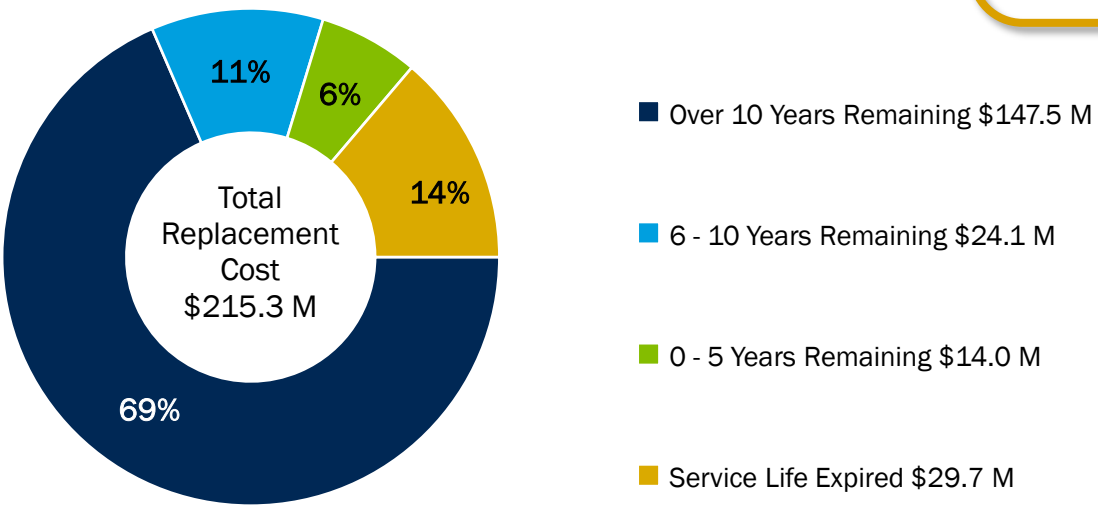
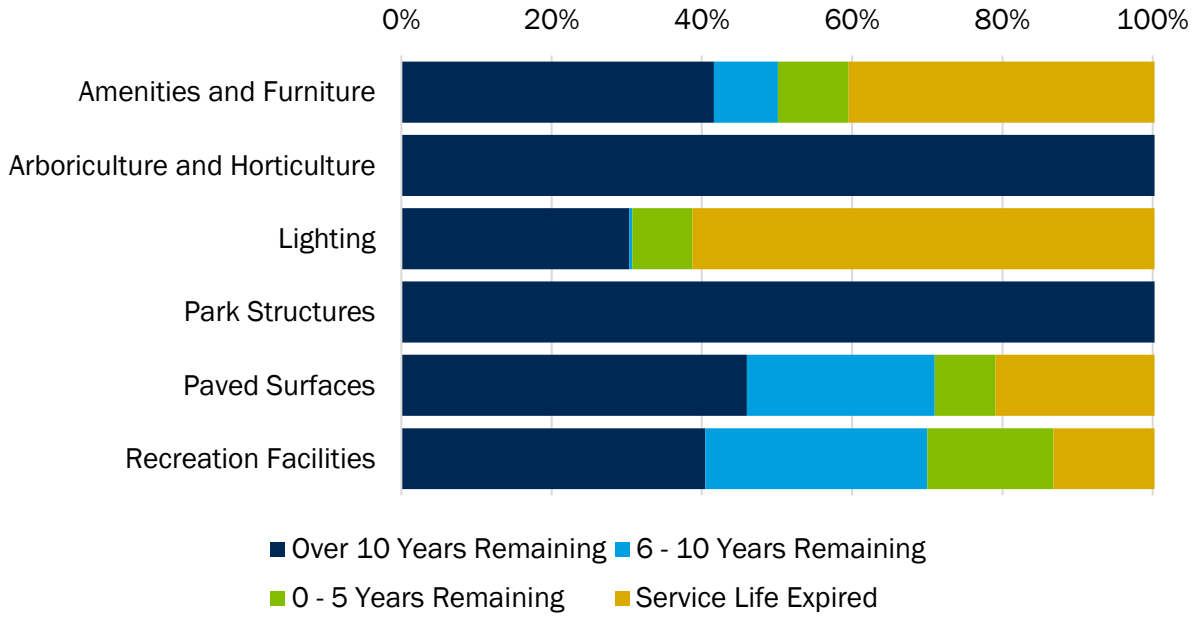


Figure 37 - Useful Life Consumption of Parks Assets

Figure 38 - Useful Life Consumption of Parks Assets by Class for Parks Assets



Levels of Service

The Town is proposing the following LoS objectives over the next ten years:

Table 42 - Parks Levels of Service

Scope	Community LoS	Technical LoS
Access	The Town aims to provide park-based recreational facilities that meet the needs of present and future residents.	The Town should meet the provision levels for the following park-based recreational facilities based on population needs, service levels and the targets identified in the Parks and Recreation Master Plan: - Rectangular fields: 1 per 3,200 residents - Ball diamonds: 1 per 3,500 residents - Cricket fields: 1 field - Tennis courts: 1 per 5,000 residents - Pickleball courts: 1 per 10,000 residents - Basketball & multi-courts: 1 per 650 youth - Splash pads:1 per 900 children - Skate parks:1 per 6,500 youth - Playgrounds: 1 per 200 children
	The Town aims to provide a safe and accessible trail network that conveniently links users with and between communities and to key destinations, including the waterfront, community centres and parks (PRMP).	The Town is implementing less than 75% of the off-road trails identified in the ATP within existing built-up areas.
Condition	Park and trail assets are to be maintained in a good state of repair to provide reliable services to the community.	80% or more of Parks assets in good or better condition

Alternatives

Any reduction in levels of service will result in an increase in poor and very poor Parks assets. Given the increase in repair that would result, and their important role in the community, the Town's objective is to continue to maximize Parks assets in a condition of good or better.

An objective to increase the quantity of Parks assets in very good condition is not financially achievable.

Any realized shortfalls in funding the proposed LoS will be addressed through prioritizing the maintenance and replacement of critical vehicles while the least critical assets continue to be used, maintained, and age beyond their useful lives. Typical inspections and checks will continue to detect and flag for removal any unsafe assets.

Inspections of Parks Assets

Table 43 below describes the various inspections conducted by staff and contractors to monitor the conditions of Parks assets.

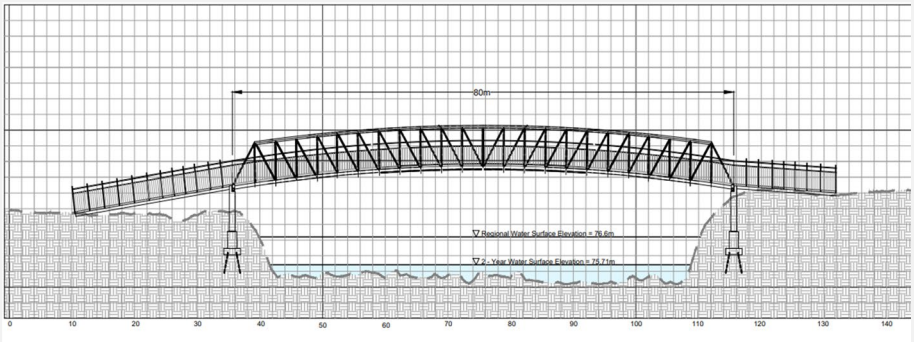
Table 43 - Inspection and Frequency Examples for Parks Assets

Asset Type	Frequency of Inspection	Inspection Details
Parks Assets (Overall)	Monthly	Parks Operations Staff visually inspect parks for safety and maintenance needs.
Parks Assets (Individual)	Annually	Summer Students visually inspect individual Parks assets to provide annual condition ratings.
Parks Trees	Completed in 2024. Frequency to be determined.	Contractors inventory and visually inspect Parks Trees.

Detailed descriptions, images, examples, and methods for various Parks' asset classes' condition assessments can be found in the Appendix. These methods and examples were used in the Parks' individual assets' condition assessments, outlined in the subsequent section.

Service Area Spotlight – Waterfront Trail Improvements: Corbett Creek Bridge, Trail and Boardwalk Replacement

Significant improvements are underway for Whitby's Waterfront Trail within the Corbett Creek Watershed. The project involves widening 600 meters of the trail to four meters, replacing a 145-meter boardwalk, and adding an 80-meter pedestrian bridge. These upgrades aim to create a continuous, accessible, and safe waterfront route for residents, neighboring municipalities, and tourists. Funded in part by a $2.6 million Active Transportation Grant from the Government of Canada, the project is enhancing active transportation options in Whitby. For more information, visit Connect Whitby.



Risk Levels for Parks Assets

Risk Levels for Parks assets depend on the operational purpose of the asset (consequence of failure) and the condition of the asset (probability of failure). An asset with a high consequence of failure, such as a Playground Surface, would appear near the top right of the risk matrix, if its probability of failure was also high.

% of Parks assets considered very high-risk

3.1%

Table 44 - Parks Assets Risk Matrix

Consequence of Failure	1	2	3	4	5
5					
4	139 Assets $21.8 M 10.46%	127 Assets $21.9 M 10.47%	43 Assets $7.6 M 3.64%	14 Assets $2.4 M 1.13%	11 Assets $1.8 M 0.86%
3	498 Assets $9.1 M 4.35%	344 Assets $7.4 M 3.54%	88 Assets $3.6 M 1.72%	42 Assets $0.9 M 0.41%	33 Assets $1.1 M 0.54%
2	10493 Assets $86.8 M 41.55%	3608 Assets $28.6 M 13.68%	1148 Assets $9.9 M 4.76%	117 Assets $0.3 M 0.16%	219 Assets $2.3 M 1.09%
1	253 Assets $0.6 M 0.26%	259 Assets $0.9 M 0.42%	89 Assets $0.3 M 0.14%	150 Assets $1.6 M 0.76%	44 Assets $0.1 M 0.04%

Probability of Failure

Very Low Risk | Low Risk | Medium Risk | High Risk | Very High Risk

For Parks assets that are considered low risk, with low consequences of failure and low probabilities of failure, preventative maintenance and consistent monitoring of these assets will help to ensure that they continue to remain near the bottom-left of the risk matrix and continue to perform as expected.

For Parks assets considered medium-risk, preventative or rehabilitative maintenance is required on some of these assets, as well as more frequent monitoring, to ensure that they do not become high-risk assets.

Finally, for the Town's Parks assets considered high- and very high-risk, these assets have high consequences of failure and high probabilities of failure and may require budgeting for asset replacement, more frequent rehabilitative maintenance, and very consistent monitoring. More details on these risk levels can be found in Table 45 below.

Table 45 - Risk Levels and Examples of Possible Impacts for Parks

Risk Level	Potential Risks	Asset Examples
Low	Reduction in the quality of service received by some users. Little impact on other assets' functionality. The potential for minor claims and/or embarrassment within the department or municipality is possible.	Signage, select fencing, and bike racks
Medium	Reduction in the quality of service received by many users. Other assets' functionalities will be reduced. Opportunities for moderate life extending rehabilitation will be missed. Could lead indirectly to loss of life or injury.	Trail surfaces, parks retaining walls, and select play surfaces
High and Very High	Service could be unavailable to many users. Other assets may not function or could deteriorate quicker. Opportunities for significant life extending rehabilitation will be missed. Could lead directly to loss of life or injury.	Select play surfaces including splash pads, pedestrian bridge

Probabilities of failure are informed regularly through inspections and condition assessments of assets. Consequences of Failure should continue to be consistently reevaluated, and new metrics will continue to be incorporated into the Consequences of Failure of assets.

The current state of Parks' assets, the Town's management of risk, and the impacts of various strategic documents and regulations inform the levels of service provided by Parks and were used to establish proposed levels of service.

Parks Life Cycle Management

The life cycle of Parks assets encompasses all activities relating to the acquisition, monitoring, maintenance and rehabilitation, renewal, replacement, disposal of amenities and furniture, arboriculture and horticulture assets, lighting, paved surfaces, and recreation facilities in Parks and Open Spaces. In addition to these, the planning and acquisition of additional parkland and the accompanying services within new Parks and Open Spaces supplementary to the Town's current inventory, to meet the needs of a growing community, are addressed through growth-related life cycle activities. The

types of life cycle activities, examples of events within these life cycle activities, and the risks associated with not completing the different life cycle events are further discussed in Table 46 below.

Table 46 - Parks Life Cycle Activity Types, Activities, and Examples of Associated Risks with Not Completing the Activities

Life Cycle Activity	Included Events	Risks
Renewal, Rehabilitation, Replacement (Capital)	- Planning and purchase of Parks assets to replace or rehabilitate existing inventory, to continue to provide expected or proposed service levels.	- Reduction of service levels and greater potential for amenities being unavailable to the public. - Increased maintenance and inspection costs.
Growth	- Acquisition of additional parkland and Parks assets for servicing new Parks and Open Spaces to supplement the current inventory and meet the needs of community growth.	- Reduction in service levels and availability of Parks and associated amenities and facilities, as the community grows. - Higher rates of use for existing assets to manage larger demand volumes could result in increased maintenance costs and earlier need for replacement.
Operations and Maintenance	- Regular and routine maintenance activities associated with ensuring assets continue to perform as expected within their useful lives. - Activities include minor repairs of amenities and furniture, grass cutting, Parks litter collection, baseball diamond grooming, fence repairs, park pathway plowing in winter. Inspections of Parks	- Reduction of service levels, including increased unavailability of Parks assets, if maintenance needs are not addressed. - Poor visual appearance of Parks and Trails, or unavailability of some services in winter. - Unexpected major expenses associated with replacements of assets in advance of their expected replacement dates. Potential need for reactive over proactive spending on asset renewal.

Life Cycle Activity	Included Events	Risks
	assets are also included in this life cycle domain.	
Non-Infrastructure Solutions	- Activities including Master Plans, Risk Assessments, which could extend the lives or efficiency of Parks and Parks assets' life cycle management, not through direct capital investment. - Includes the Parks Trees Inventory and Assessment, and the Waterfront Management Plan.	- Asset life cycles are less efficiently managed, resulting in potentially higher expenditures due to a less coordinated approach to life cycle management. - Growth, renewal, replacement and maintenance are less accurately planned and captured, resulting in the potential for service disruptions or service level decreases, if events are missed.

The activities detailed and costed in this Asset Management Plan correspond to the activities required to meet the proposed levels of service for Parks. These activities and events were determined through input from Parks Planning and Development as well as Parks Operations subject matter experts, Financial Services staff, and the Town's operating budget and capital forecasting.

Funding Requirements

Capital Renewal, Rehabilitation, and Replacement

Table 47 below outlines the five-year and 10-year rehabilitation, renewal, and replacement needs for Parks assets to meet the proposed service levels.

Table 47 - Five-year and 10-year Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels

Asset Reinvestment Period	Needs
Five years	$9.2 M
10 years	$22.4 M

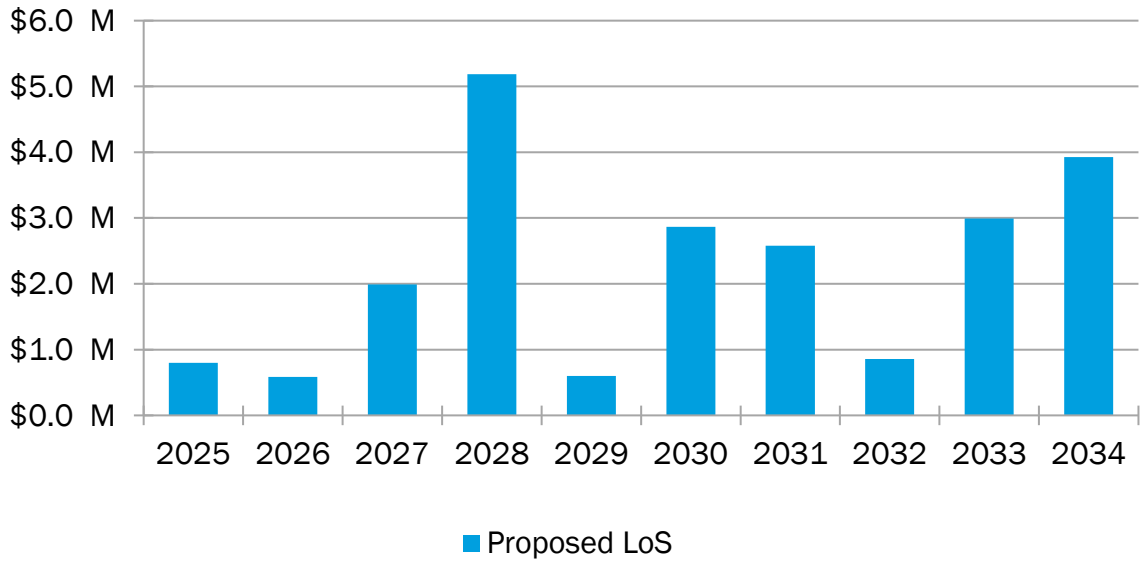
* Values are in 2025 Dollars

The average annual AM need over the next ten years aligns with the average annual historical spend within the Parks portfolio.

Figure 39 below details the rehabilitation, renewal, and replacement needs for Parks assets to meet the proposed service levels.

The notable increase in 2028 is for the anticipated replacement of fencing, parking lots, a baseball diamond, and multi-use court, among other smaller projects.

Figure 39 - Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels for Each of the Next Ten Years



Growth

Growth-related projects are funded by development charges rather than the Asset Management Reserve Fund.

Table 48 below details the growth-related projects planned for the Parks service area.

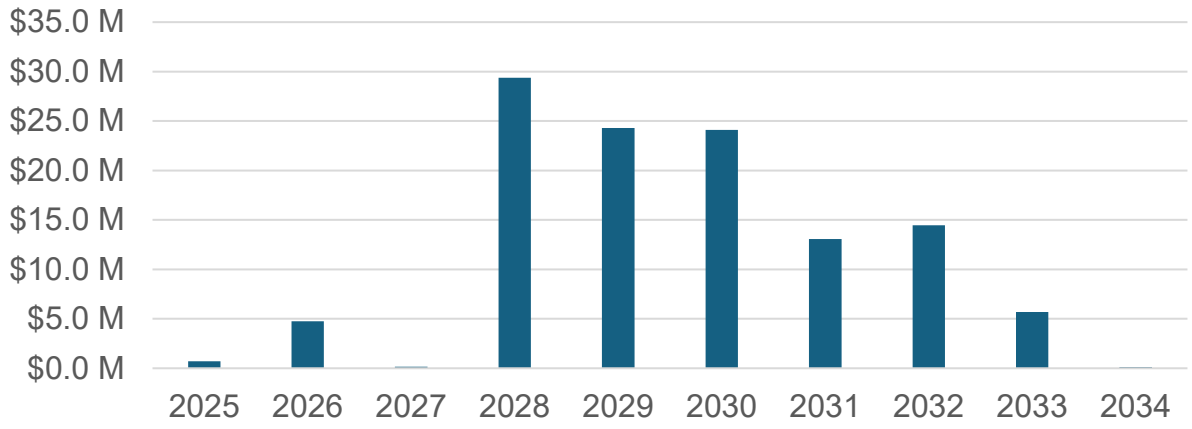
Table 48 - Growth-related Funding Needs for Parks

Growth Investment Period	Needs
Five years	$59.3 M
10 years	$116.8 M

* Values are in 2025 Dollars

Figure 40 below details the growth-related funding needs for each of the next ten years.

Figure 40 - Growth-related Funding Needs for Each of the Next Ten Years



Maintenance and Repair Needs

Table 49 - Parks 10-year Maintenance & Repair Needs

Investment Period	Needs
10 years	$88 M

Figure 41 below details the expected maintenance and repair needs each year for the Facilities portfolio. Over ten years, these needs are expected to total $88 million.

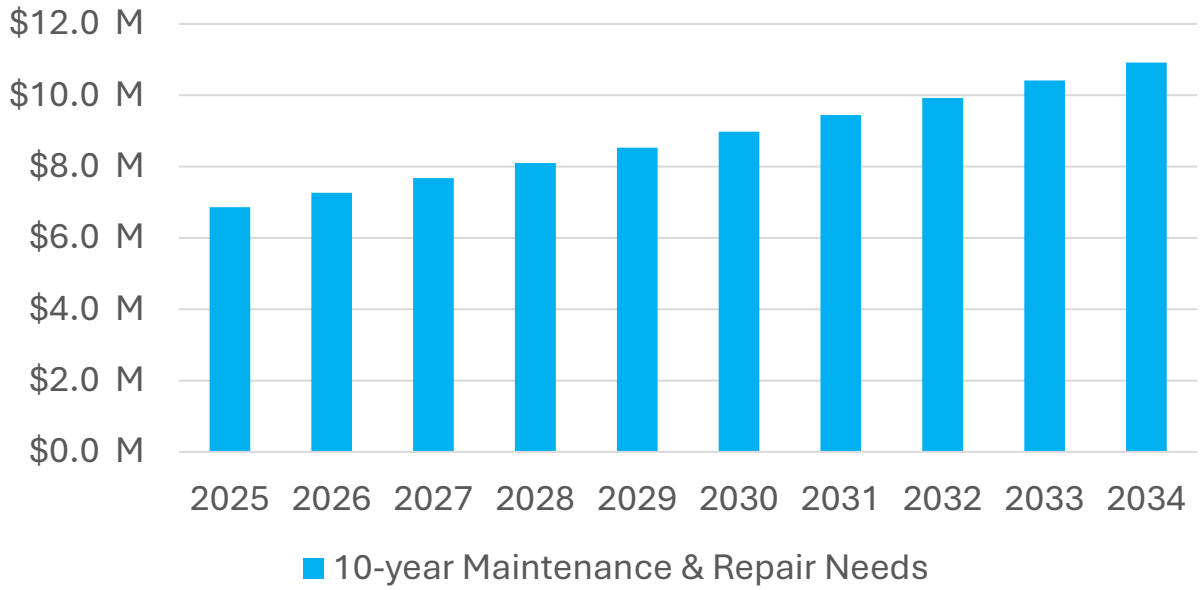


Figure 41 - Parks 10-year Maintenance and Repair Needs

Roads Right-of-way

Asset Portfolio Health Rating

Good

"B"

About the Service Area

The Roads Right-of-way Service Area is the largest of the Town's service areas and comprises all Town-owned linear and vertical assets on roads and within the road right-of-way, including road bases and surfaces, bridges and culverts, stormwater management assets (stormwater management ponds, storm lines, channels), streetlighting, roadside appurtenances (information signs, fences, retaining walls, guiderails), boulevard trees, and parking assets (lots, meters, kiosks). Operationally, the assets within Roads Right-of-way are planned, designed, constructed or acquired, managed, renewed and inspected through a variety of departments and divisions. These include several divisions within the Planning and Development Department (Engineering Services, Development Services, Transportation Services, Capital Infrastructure Services, and Construction Administration Services), the Financial Services Department (Asset Management Division), and the Community Services Department (Right-of-Way Services and Roads Operations).

Current Inventory

Table 50 - Current Inventory of Roads Right-of-way Assets by Class

Asset Type	Total Replacement Cost	Average Condition
Bridges & Culverts	$142,415,259	Good
Parking	$4,702,047	Fair
Road Bases	$1,243,370,244	Very Good
Road Surfaces	$392,803,108	Fair
Roadside Appurtenances	$32,094,982	Fair
Sidewalks and Multi Use Paths	$170,007,935	Good
Stormwater Management	$347,343,579	Good
Streetlights	$38,922,399	Good
Street Trees	$86,209,669	Good
Roads Right-of-Way Total	**$2,457,869,225**	**Good**

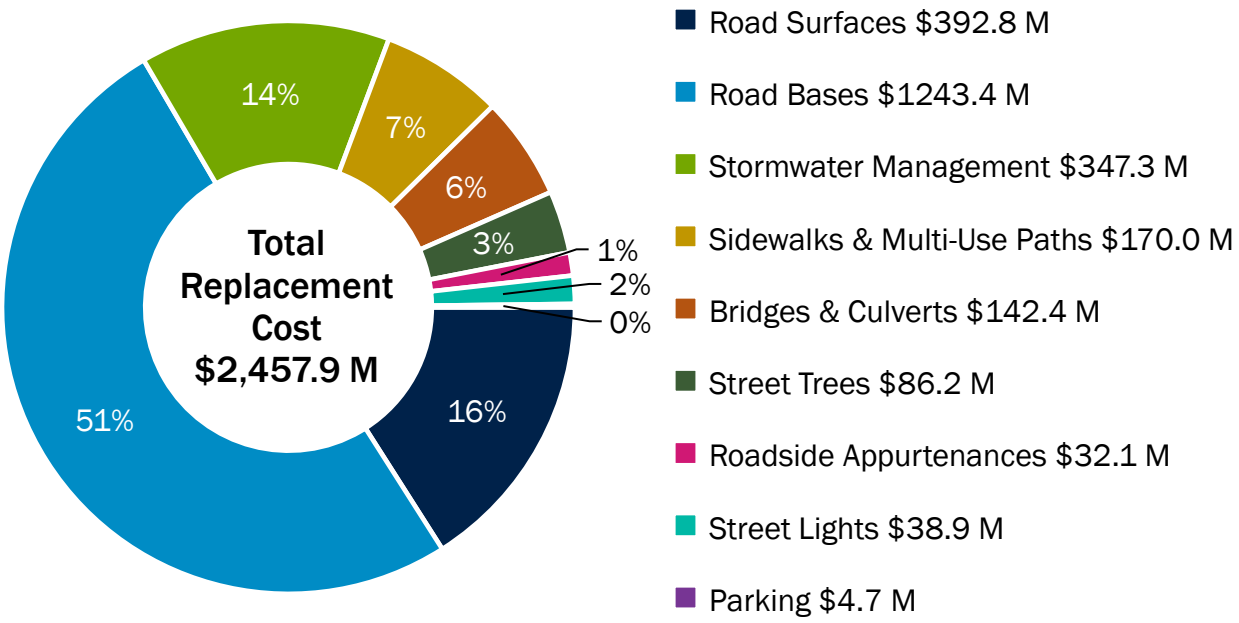
Replacement Cost of Roads Right-of-way

The replacement cost represents the amount to replace the portfolio of assets in the year of publication (2025). Where possible and practical, replacement costs have been based on budgeted amounts for new assets, or the recent actual cost of purchased assets in previous years, inflated to 2025 dollars. The total replacement cost of Roads Right-of-way is $2,457.9 M.

% of Town's Asset Portfolio in Roads ROW

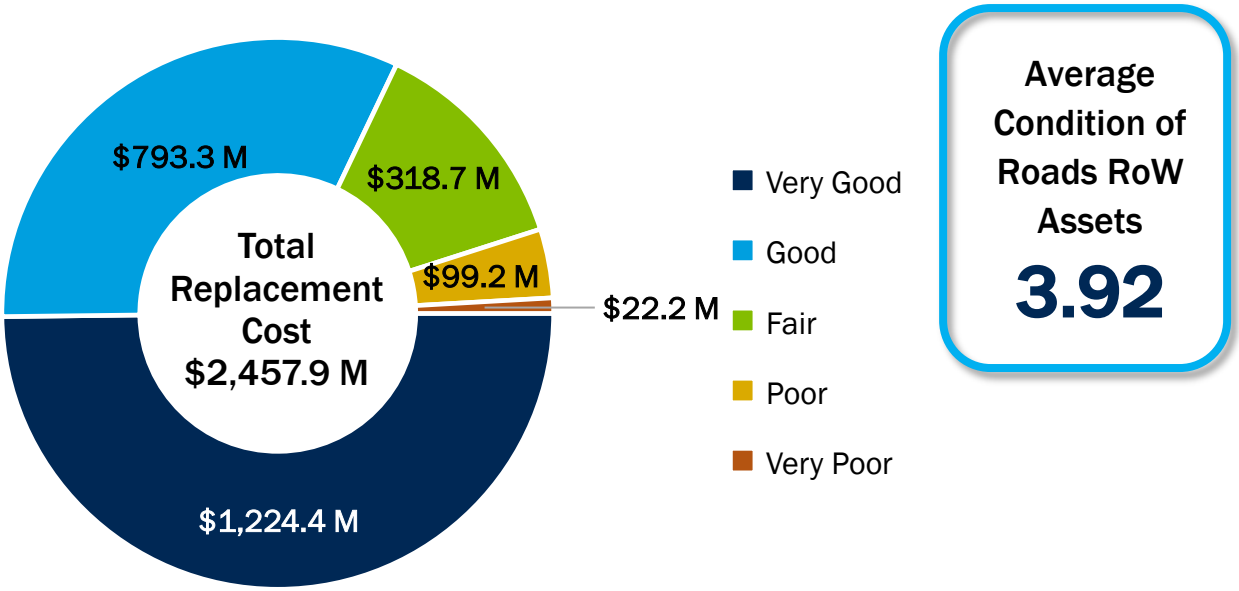
74.9%

Figure 42 – Asset Classes as Portions of Roads Right-of-way Portfolio



Condition Distribution by Replacement Cost

Figure 43 - Condition Distribution by Replacement Cost



95% of Roads Right-of-Way assets by replacement cost ($2,336.5 M) are currently in Fair or better condition, and 82% of Roads Right-of-Way assets by replacement cost are in Good or better condition.

Table 51 - Condition Legend

5	Very Good	Components have no defects and are in as-new condition.
4	Good	Minor defects are becoming apparent in superficial finishes.
3	Fair	Elements likely to become poor within a few years if not addressed.
2	Poor	Components are failing and require constant repairs and parts.
1	Very Poor	Elements have failed and are at the end of their useful life.

Condition Distribution by Asset Class

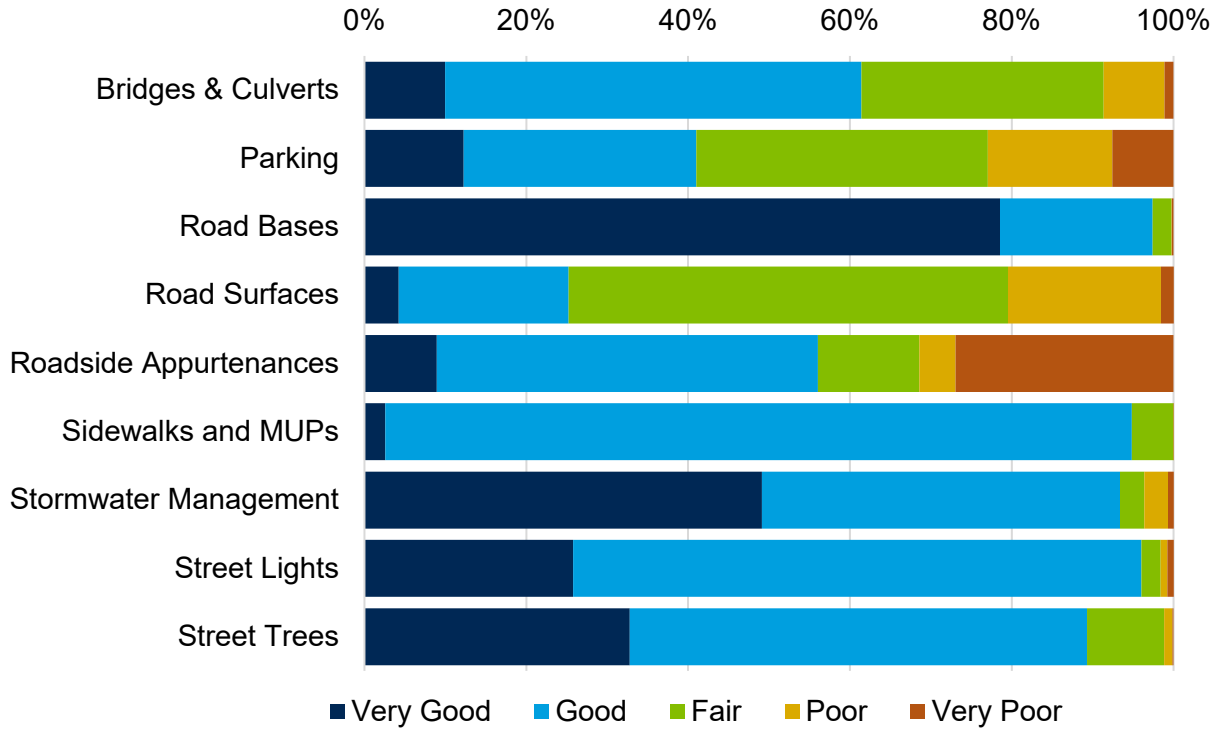


Figure 44 - Condition Distribution by Asset Class

Examples of road surfaces in various conditions:

Very Good:

Good:

Fair:

Poor:

Very Poor:

Levels of Service

The Town is proposing the following LoS for the Roads-right-of-way portfolio:

Table 52 - Roads Right-of-way Levels of Service

<table>
<tr><th>Scope</th><th>Community LoS</th><th>Technical LoS</th></tr>
<tr><td>Condition</td><td>Maintain roads right-of-way portfolio of assets in an average overall condition of good.</td><td>Proposed: The overall average condition of the roads right-of-way portfolio is good or better
Constrained: The overall average condition of the roads right-of-way portfolio is fair or better.</td></tr>
<tr><td rowspan="2">Road Quality</td><td>Increase the surface quality of roads over the next 10 years to optimize life cycle and drivability.</td><td>Increase road surfaces average pavement condition rating from 55.9 to 60 (fair to good) over the next ten years.</td></tr>
<tr><td>Maintain gravel/unpaved roads in an average condition of good.</td><td>Gravel roads have an average surface condition of good</td></tr>
<tr><td>Road Network</td><td>The Town’s road network will continue to be well-served and well-connected through a series of Arterial, Collector, Local, LCB, and Gravel Roads, that will continue to the meet the needs of the community, now and in the future.</td><td>The Town of Whitby will continue to host three (3) 400-series highways, Highway 7, Highway 12, and its road network and the networks of neighbouring municipalities continues to be connected via 933.9 lane kilometres of Town roads.

Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality:
<table>
<tr><th></th><th>Sum of Lane KMs</th><th>Lane KM / land area</th></tr>
<tr><td>Type</td><td>Total: 933.88</td><td>6.37</td></tr>
<tr><td>A</td><td>0.95</td><td>0.01</td></tr>
<tr><td>B</td><td>47.98</td><td>0.33</td></tr>
<tr><td>C</td><td>82.22</td><td>0.56</td></tr>
<tr><td>Collector</td><td>167.88</td><td>1.14</td></tr>
<tr><td>Local</td><td>634.85</td><td>4.33</td></tr>
</table></td></tr>
<tr><td>Stormwater Network Resiliency</td><td>Build stormwater infrastructure that is resilient to foreseeable storm events.</td><td>97% of Properties in the Town of Whitby are resilient to a 100-year storm

96% of Properties in the Town of Whitby are resilient to a Regional flood</td></tr>
</table>

		79% of the storm network (by length) is resilient to the 5-year storm (21% of network was built before 1982)
Traffic	Percentage of bridges in the municipality with load restrictions	**8.7%** of bridges in the Whitby with load restrictions.
	1. Description of the condition of bridges and how this would affect use of the bridges. 2. Description of the condition of culverts and how this would affect use of the culverts.	Road Bridges have an average condition of **72.6%** Large Culverts (> 3 m) have an average condition of **74.31%**

Alternatives

Road Surface Network

An objective to achieve an average road surface condition of good in under ten years, or an average surface condition of very good in 10 years is not financially achievable for the Town.

An objective to continue with an average road network condition of fair jeopardizes a greater portion of the road base network, risking structural deterioration and resulting in more road reconstruction activity. Road construction costs approximately 206% more than resurfacing. This is neither a financially responsible nor an achievable approach.

Any realized shortfalls in funding the roads right-of-way proposed LoS will be addressed through prioritizing the maintenance and replacement of critical vehicles while the least critical assets continue to be used, maintained, and age beyond their useful lives. Typical inspections and checks will continue to detect and for any unsafe assets flag for removal.

Inspections of Roads Right-of-way Assets

Table 53 below describes the various inspection processes conducted by staff to determine the conditions of Roads Right-of-Way assets.

Table 53 - Inspection Details and Frequencies for Roads Right-of-Way Assets

Asset Type	Frequency of Inspection	Inspection Details
Roadways	Triennially	Roadways undergo a LiDAR and camera inspection to assess the condition of road surfaces.
Bridges & Culverts	Biennially	Contractor inspects all structures visually and submits a report.
Stormwater Management Ponds	Biannual and as-needed inspections In-depth inspections every 4-5 years	Operations staff inspect ponds for blockages and flooding in the Spring, Fall, and after major storms. Contractors perform in-depth pond studies to determine sedimentation rates, soil conditions, etc.
Storm Lines	A portion inspected annually on a 9-year cycle	Contractor inspects using a CCTV robot and cleaning performed as needed.
Sidewalks & Multi-Use Paths	Annually	Summer students ride a tricycle capturing videos and deficiencies on a web map.
Streetlights	Every 7 years	Contractor visually inspects street lights.
Signs	Annually	Summer students inspect regulatory and warning signs with a retro-reflectometer.
Pedestrian Bridges	Biennially	Contractor inspects pedestrian bridges and submits a report.
Retaining Walls	Biennially	Contractor performs visual inspection of all retaining walls.
Fences	Every 5 years	Summer students / contractor visually inspects fences.
Guiderails	Every 5 years	Contractor inspects all guiderails.
Street Trees	Every 7 years	Contractor inspects all boulevard trees visually.

Useful Life Consumption of Roads Right-of-way Assets

3.7% of Roads right-of-way assets have exceeded their useful lives. Assets that have exceeded their estimated useful lives may still be in good condition through continual monitoring and maintenance practices. 91% of Roads right-of-way assets have more than 10 years remaining of their useful lives.

Staff continually reevaluate useful lives to ensure they continue to be accurate and appropriate as assets change.

% of Roads ROW assets beyond their useful lives

3.7%

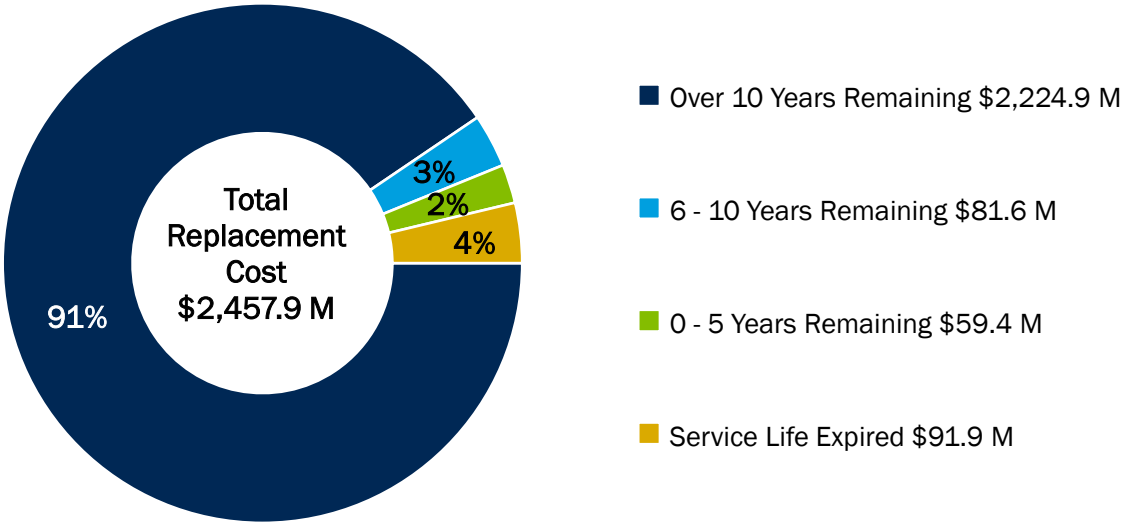
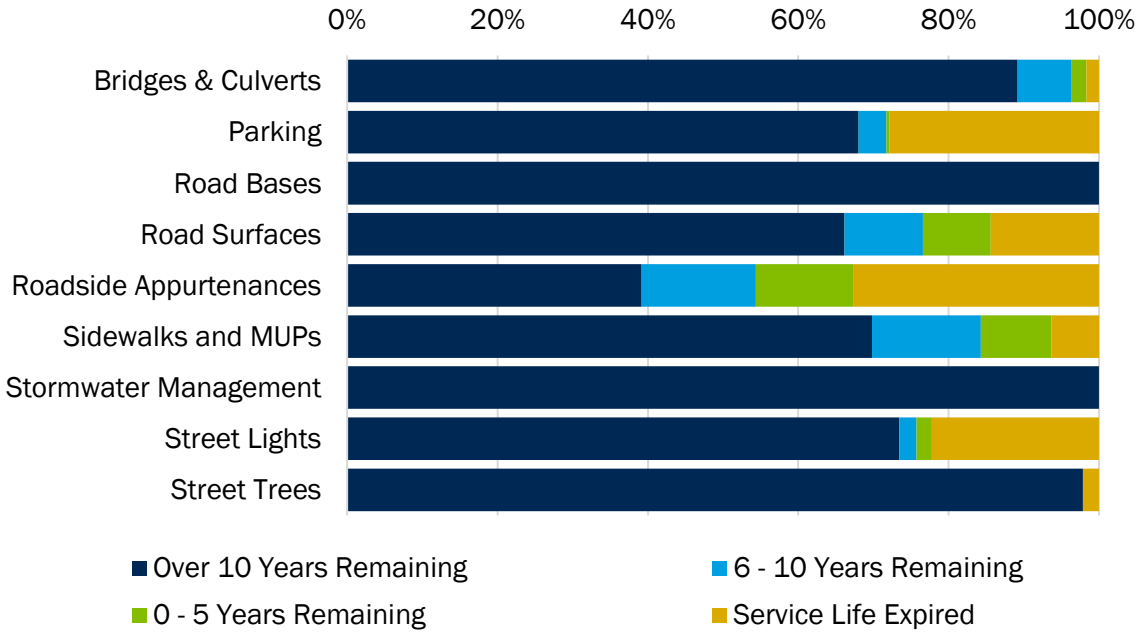


Figure 45 - Useful Life Consumption of Roads Right-of-way Assets

Figure 46 - Useful Life Consumption of Roads Right-of-way Assets by Class



Risk Levels for Roads Right-of-way Assets

Risk Levels for Roads right-of-way assets depend on the operational purpose of the asset (consequence of failure) and the condition of the asset (probability of failure). An asset with a high consequence of failure, such as an Arterial Road Surface, would appear near the top right of the risk matrix, if its probability of failure was also high (poor or very poor condition).

% of Roads ROW assets considered very high-risk

1.67%

Table 54 - Roads Right-of-way Asset Risk Matrix

Consequence of Failure	1	2	3	4	5
5	749 Assets $103.6 M 4.24%	474 Assets $111.5 M 4.56%	37 Assets $16.0 M 0.65%	28 Assets $14.6 M 0.60%	1 Asset $0.5 M 0.02%
4	1701 Assets $41.7 M 1.71%	225 Assets $106.8 M 4.37%	8327 Assets $28.3 M 1.16%	64 Assets $7.1 M 0.29%	84 Assets $1.7 M 0.07%
3	15112 Assets $178.8 M 6.98%	31608 Assets $262.8 M 10.76%	4730 Assets $54.7 M 2.24%	814 Assets $15.0 M 0.62%	569 Assets $1.0 M 0.04%
2	1,502 Assets $212.6 M 8.70%	813 Assets $87.9 M 3.60%	483 Assets $60.0 M 2.45%	249 Assets $16.0 M 0.65%	52 Assets $2.0 M 0.08%
1	14748 Assets $686.3 M 28.09%	9000 Assets $228.8 M 9.36%	2162 Assets $153.3 M 6.28%	1604 Assets $44.5 M 1.82%	874 Assets $16.4 M 0.67%

Probability of Failure

Very Low Risk | Low Risk | Medium Risk | High Risk | Very High Risk

For assets considered low risk, with low consequences of failure and low probabilities of failure, preventative maintenance and consistent monitoring of these assets will help to ensure that they continue to remain near the bottom-left of the risk matrix and continue to perform as expected.

For assets considered medium-risk, preventative or rehabilitative maintenance is required on some of these assets, as well as more frequent monitoring, to ensure that they do not become high-risk assets.

Finally, high- and very high-risk assets have high consequences of failure and high probabilities of failure, and may require budgeting for asset replacement, more frequent rehabilitative maintenance, and very consistent monitoring.

Table 55 - Risk Levels and Examples of Possible Impacts for Roads Right-of-way

Risk Level	Potential Risks	Asset Examples
Low	Reduction in the quality of service received by some users. Little impact on other assets' functionality. The potential for minor claims and/or embarrassment within the department or municipality is possible.	Select storm lines, sign poles, and select fences
Medium	Reduction in the quality of service received by many users. Other assets' functionalities will be reduced. Opportunities for moderate life extending rehabilitation will be missed. Could lead indirectly to loss of life or injury.	Select sign posts, roadside trees, and select road surfaces
High and Very High	Service could be unavailable to many users. Other assets may not function or could deteriorate quicker. Opportunities for significant life extending rehabilitation will be missed. Could lead directly to loss of life or injury.	Select road surfaces, guiderails, and retaining walls

Probabilities of failure are informed regularly through inspections and condition assessments of assets. Consequences of Failure should continue to be reevaluated, and new metrics incorporated, as required.

The current state of Roads right-of-way assets, the Town's management of risk, and the impacts of various strategic documents and regulations inform the proposed levels of service.

Roads Right-of-way Life Cycle Management

The life Cycle of Roads right-of-way assets encompasses all activities relating to the acquisition, monitoring, maintenance and rehabilitation, renewal, replacement, disposal of roads and assets within the road right-of-way, including roadside appurtenances, bridges and culverts, streetlighting, boulevard trees, stormwater management system assets, and municipal parking assets. In addition to these, the planning and acquisition of additional municipal roadways and parking lots and the accompanying services within new roadways or stormwater management facilities supplementary to the Town's current inventory, to meet the needs of a growing community, are addressed through growth-related life cycle activities. The types of life cycle activities, examples of events within these life cycle activities, and the risks associated with not completing the different life cycle events are further discussed in Table 56 below.

Table 56 - Roads right-of-way Life Cycle Activity Types, Activities, and Examples of Associated Risks with Not Completing the Activities

Life Cycle Activity	Included Events	Risks
Renewal, Rehabilitation, Replacement (Capital)	- Planning and purchase of roads, stormwater management, bridges and culverts, streetlighting, street trees, or roadside appurtenances to replace or rehabilitate existing inventory, in order to continue to provide expected or proposed service levels. - Includes annual resurfacings of roadways, bridge and culvert rehabilitation works, roadside appurtenance replacement, and other works.	- Reduction of service levels and greater potential for amenities being unavailable to the public. - Increased maintenance and inspection costs.
Growth	- Acquisition of additional roadways, bridges and culverts, roadside appurtenances, streetlighting, street	- Reduction in service levels, higher rates of traffic or usage of the existing transportation or

Life Cycle Activity	Included Events	Risks
	trees, or stormwater management system assets through municipal construction or subdivision assumption, to meet the needs of community growth.	stormwater management systems, as the community grows. - Higher rates of use for existing assets to manage larger demand volumes could result in increased maintenance costs and earlier need for replacement.
Operations and Maintenance	- Regular and routine maintenance activities associated with ensuring assets continue to perform as expected within their useful lives. - Activities include roadway patching, miscellaneous sidewalk bay replacements, road allowance weed clearing, culvert and catch basin cleanouts, street sweeping, and other related events such as snow plowing.	- Reduction of service levels, including more rapid deterioration of roadway and roads-related asset conditions, beyond expected life cycle forecasting. - Poor visual appearance of many roads and related assets. - Unexpected major expenses associated with replacements of assets in advance of their expected replacement dates. Potential need for reactive over proactive spending on asset renewal.
Non-Infrastructure Solutions	- Activities including Master Plans, Risk Assessments, which could extend the lives or efficiency of Roads and Road right-of-way assets' life cycle management, not through direct capital investment. - Includes the Active Transportation Plan, Stormwater Management Facility Needs Study, and	- Asset life cycles are less efficiently managed, resulting in potentially higher expenditures due to a less coordinated approach to life cycle management. - Growth, renewal, replacement and maintenance are less accurately planned and captured, resulting in the potential for service disruptions or service level decreases, if events are missed.

Life Cycle Activity	Included Events	Risks
	Municipal Parking Lot Design Study, as well as various Roads Right-of-way asset inspection programmes.	

The activities detailed and costed in this Asset Management Plan correspond to the activities required to meet the proposed levels of service for Roads Right-of-way. These activities and events were determined through input from Engineering, Right-of-way Services, Parks Operations, and Roads Maintenance subject matter experts, Financial Services staff, and the Town's operating budget and capital forecasting.

Funding Requirements

Capital Renewal, Rehabilitation, and Replacement

Table 57 below outlines the five-year and 10-year rehabilitation, renewal, and replacement needs for Roads Right-of-way asset classes in order to meet the proposed service levels.

The 10-year requirement for the proposed recommended LoS is $221.7 M, resulting in an average annual requirement of $22.2 M. This represents an increase in average annual funding over the past five years.

However, the approved 10-year funding plan allocates $179 M for renewal, rehabilitation and replacement life cycle activities.

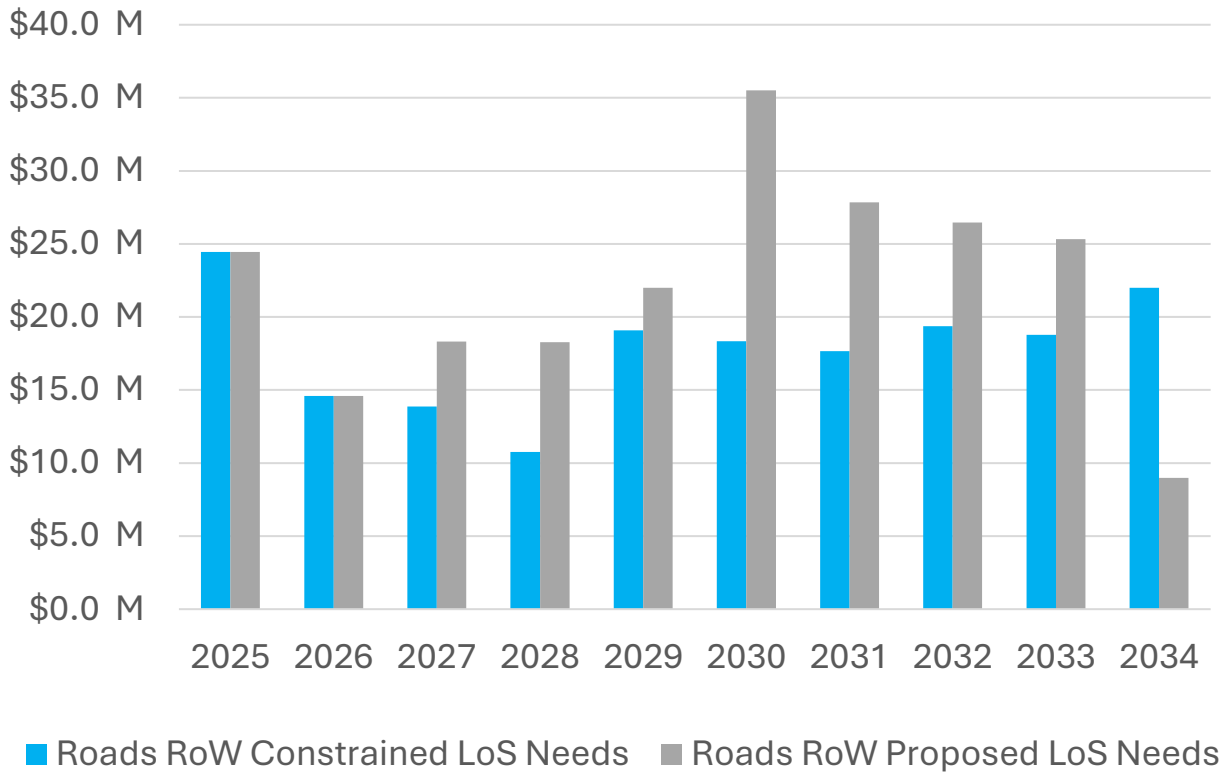
Table 57 - Five-year and 10-year Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels

Asset Class	5-Year Needs	10-Year Needs	
Bridges & Culverts	$3.1 M	$4.2 M	
Road Bases	$6 M	$9.8 M	
Road Surfaces	$60 M	$151 M	
Roadside Appurtenances	$6.4 M	$10.2 M	
Parking	$3.8 M	$6.9 M	
Sidewalks & MUPs	$5.7 M	$12.3 M	
Storm Water Management	$11.6 M	$24.3 M	
Streetlights	$0.22 M	$0.41 M	10-Year Constrained
Street Trees	$1.2 M	$2.2 M	
Roads Right-of-way Total	**$97 M**	**$221.7 M**	**$179 M**

* Values are in 2025 Dollars

The notable increase in 2030 in Figure 47 below is for a substantial culvert replacement, a significant urban and rural road resurfacing initiative, some right-of-way fencing replacements, and some stormwater management pond rehabilitative work.

Figure 47 - Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels for Each of the Next 10 Years



Growth

Growth-related projects are funded by development charges rather than the Asset Management Reserve Fund.

Table 58 below details the growth-related projects planned for the Roads Right-of-way service area.

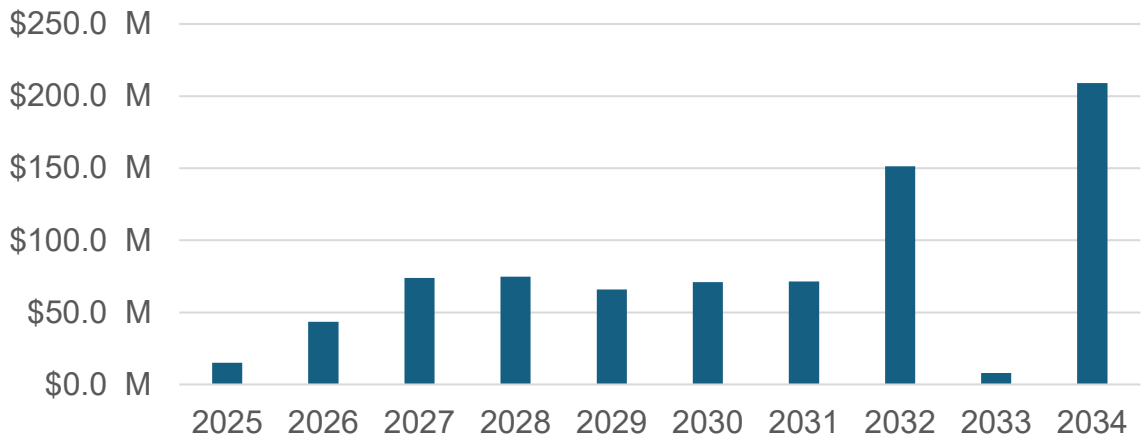
Table 58 - Growth-related Funding Needs for Roads Right-of-way Services

Growth Investment Period	Needs
Five years	$273 M
10 years	$783.9 M

* Values are in 2025 Dollars

Figure 48 below details the growth-related funding needs for each of the next ten years.

Figure 48 - Growth-related Funding Needs for Each of the Next Ten Years



Operations and Maintenance

Table 59 - 10-year Maintenance & Repair Needs

Investment Period	Needs
10 years	$24 M

Figure 49 below details the expected maintenance and repair needs each year for the Roads Right-of-way portfolio. Over ten years, these needs are expected to total $24 million.

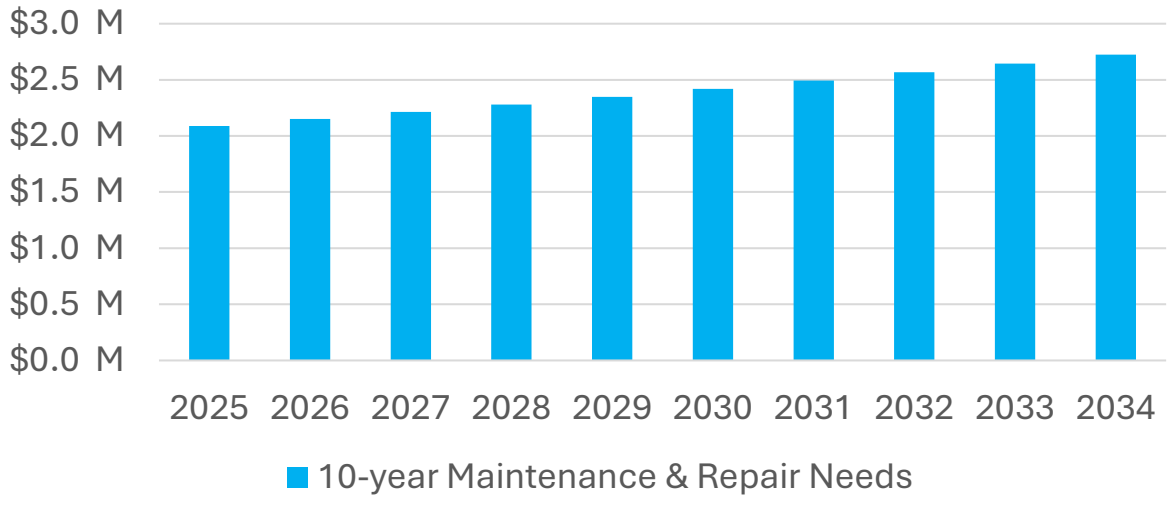


Figure 49 - Roads RoW 10-year Maintenance and Repair Needs

Non-Infrastructure Solutions

Non-infrastructure solutions for Roads Right-of-way encompasses various Master Plans, Studies, Needs Analyses, and asset inspection programmes. Current non-infrastructure solutions for Roads right-of-way include:

- Active Transportation Plan
- Lynde Creek Study Update
- Municipal Engineering Growth Studies/Design Reviews
- Municipal Parking Lot Design Study
- Salt Management Plan
- Stormwater Management Facility Needs Study
- Stormwater Management Quality and Erosion Control Enhancement Study
- Stormwater Management Utility Study
- Traffic & Transportation Studies
- Transportation Master Plan Study Update

Technology & Innovation Service (TIS)

Asset Portfolio Health Rating

Fair

"C"

About the Service Area

The Technology & Innovation Services Service Area comprises all information technology devices and infrastructure used and owned by the Town, including network hardware, peripherals, servers, telecommunications assets, staff workstations, and cabling infrastructure. TIS manages the full life cycle of information technology assets, from procurement to end-of-life disposal, including life cycle needs planning, system maintenance and support, integration and interoperability, data management, and security. TIS also ensures employees are trained on device and software use, and it looks to drive efficiencies corporation-wide, to ensure enhanced service for staff and residents.

Current Inventory

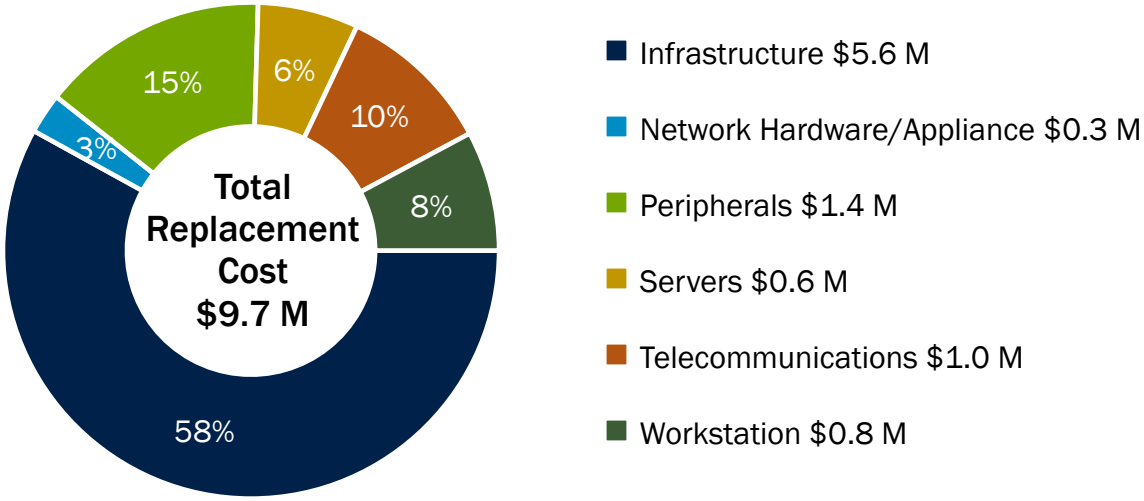
Table 60 - Current Inventory of TIS Assets by Asset Class

Asset Type	Total Replacement Cost	Average Condition
Infrastructure	$5,645,727	Poor
Network Hardware / Appliances	$255,697	Good
Peripherals	$1,441,726	Fair
Servers	$639,046	Poor
Telecommunications	$987,610	Fair
Workstations	$761,658	Fair
TIS Total	**$9,731,463.73**	**Fair**

Replacement Cost of TIS Assets

The replacement cost represents the amount to replace the portfolio of assets in the year of publication (2025). Where possible and practical, replacement costs have been based on budgeted amounts for new assets, or the recent actual cost of purchased assets in previous years, inflated to 2025 dollars. The total replacement cost of TIS assets is $9.7 M.

Figure 50 - Asset Classes as Portions of TIS Portfolio



Condition Distribution by Replacement Cost

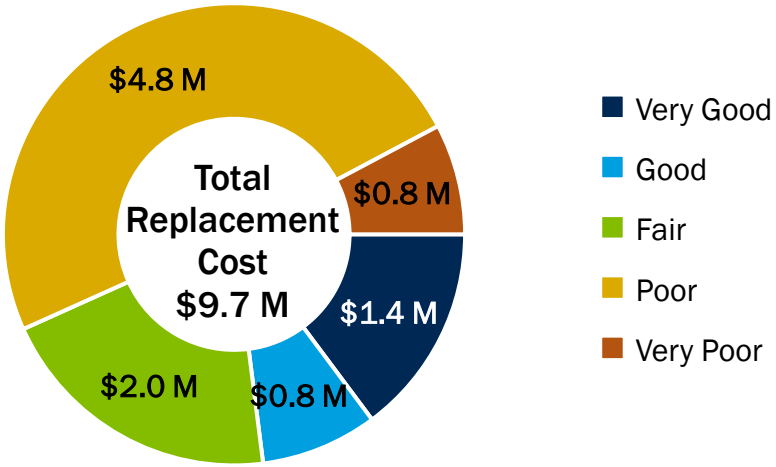


Figure 51 - Condition Distribution by Replacement Cost

43% of TIS assets by replacement cost ($4.2) M are currently in Fair or better condition, and 23% of TIS assets by replacement cost are in good or better condition.

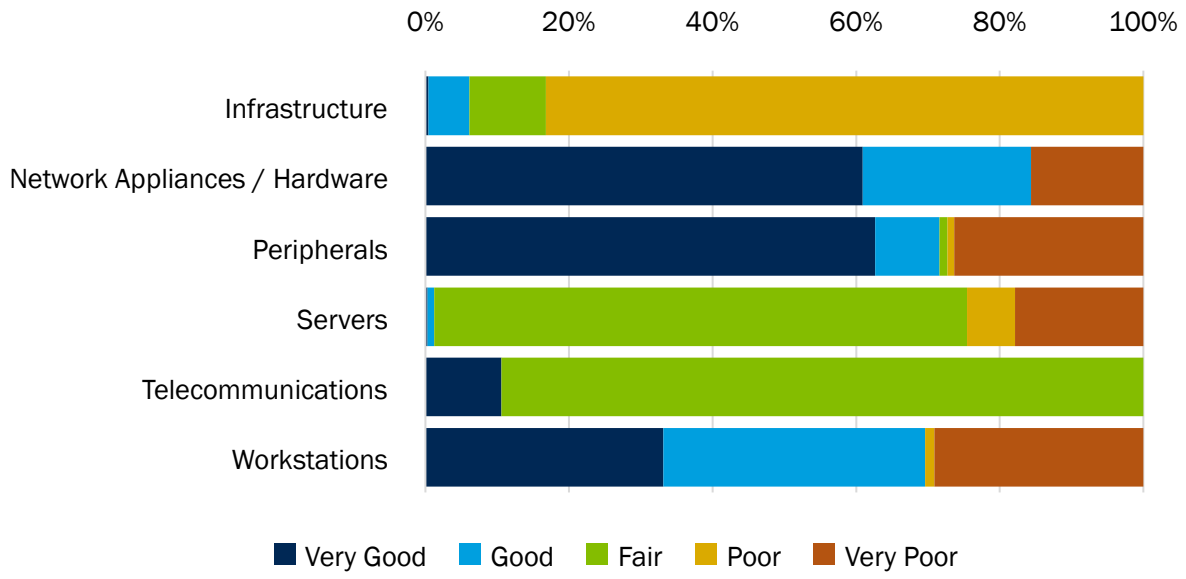
Average Condition of TIS Assets

2.73

Table 61 - Condition Legend

5	Very Good	Asset is typically new or recently rehabilitated.
4	Good	Asset is meeting the operational needs.
3	Fair	Asset likely to become poor if not improved.
2	Poor	Assets are decommissioned at this level.
1	Very Poor	Assets do not reach this level while in service.

Figure 52 - Condition Distribution by Asset Class



Useful Life Consumption of TIS Assets

The Estimated Useful Lives of TIS Assets are continually reevaluated to ensure they continue to be accurate, aligned with LoS objective, and appropriate as assets change, and technology evolves. Additionally, many TIS assets are not necessarily replaced on a schedule, but rather when the asset no longer performs as needed. For many TIS assets, the Estimated Useful Lives serve as guidelines on when TIS expects assets to need replacement, but many assets could need replacement before, or after their EUL timelines.

% of TIS assets beyond their useful lives

17%

Figure 53 - Useful Life Consumption of TIS Assets

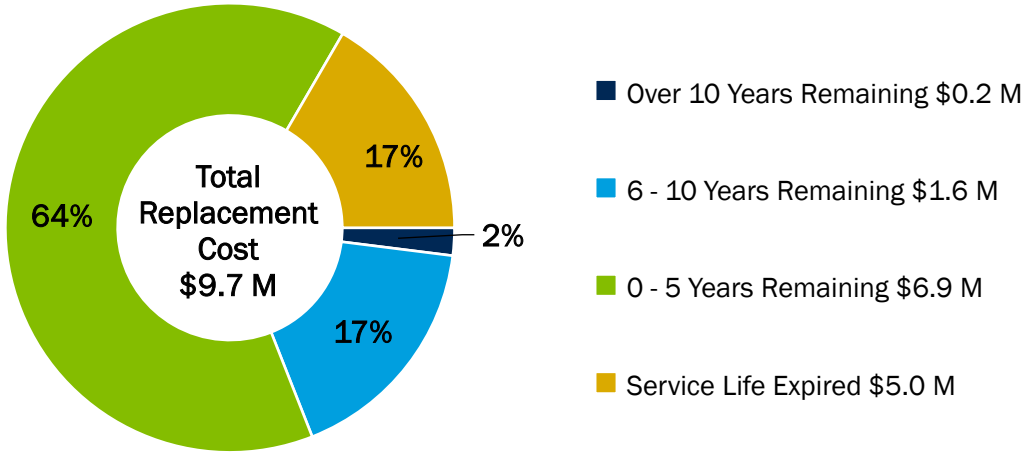
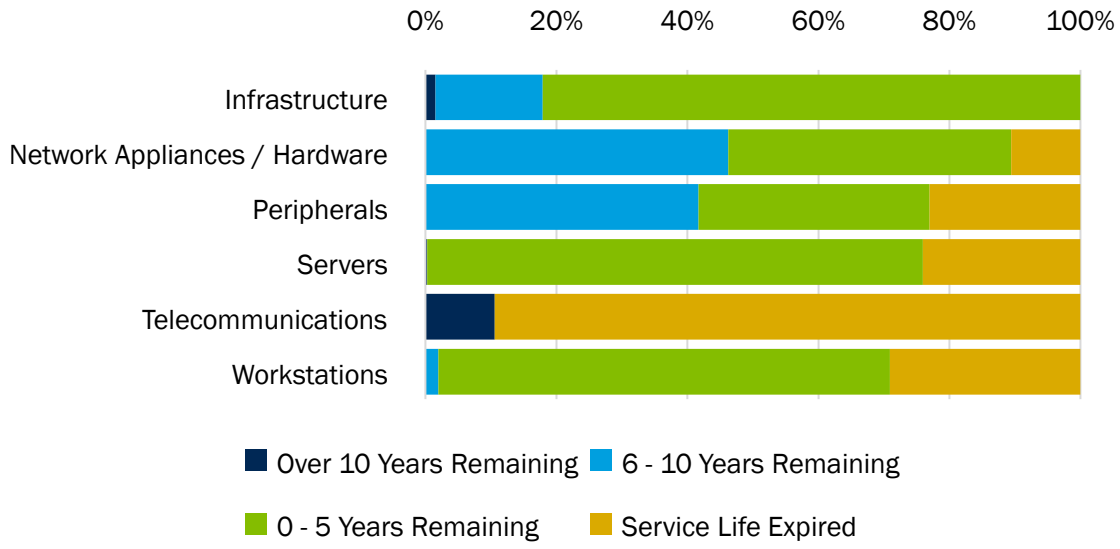


Figure 54 - Useful Life Consumption of TIS Assets by Class



17% of TIS assets have exceeded their useful lives. Most TIS assets have useful lives of 10 years or less. 2% of TIS assets have more than 10 years remaining of their useful lives.

Levels of Service

The Town is proposing the following LoS objectives:

Table 62 - TIS Levels of Service

Scope	Community LoS	Technical LoS
Condition	TIS Equipment Assets are kept in a good state of repair for use by staff and the public, where applicable.	65% of TIS Equipment Assets are in Fair or Better Condition
Useful Life Consumption	TIS Equipment Assets should be nearly all within their designated life cycles, to ensure optimal performance and security.	65% of TIS Equipment Assets should be within their Estimated Useful Lives
Reliability	TIS Equipment Assets should be reliable for staff use and regularly operational.	TIS Assets should be running and available 95% of the operational year.
Service Consistency	Service and Incident requests are handled promptly and resolved quickly, to ensure consistent delivery of TIS asset services.	Service/Incident Requests should be resolved in 5 days.

Alternatives

Any reduction in levels of service will result in an increase in service disruptions. Given the important enabling role of TIS in the delivery of critical Town services, the objective is to maximize the number of assets in a condition of fair or better.

A change in LoS through asset management funding that would increase the fair or better percentage of TIS assets is not financially achievable.

Any realized shortfalls in funding the proposed LoS will be addressed through prioritizing the maintenance and replacement of critical vehicles while the least critical assets continue to be used, maintained, and age beyond their useful lives. Typical inspections will continue to detect and flag for removal any obsolete and/or unreliable assets.

Inspections of TIS Assets

Table 63 below describes the various inspection processes conducted by staff and external contractors to determine the conditions of TIS assets.

Table 63 - Inspection Types and Frequencies for TIS Assets

Asset Type	Frequency of Inspection	Inspection Details
Initial Quality Inspection	When hardware is acquired	TIS Staff inspect assets for deficiencies
Service Inspection	Intermittent / As-Needed	TIS Staff perform deficiency inspections when hardware assets are in for servicing, from service requests
End-of-Life Inspection	When hardware is returned to TIS for decommissioning	TIS Staff inspect assets for deficiencies or other performance issues when hardware is prepared for decommissioning

Service Area Spotlight – Modernizing Enterprise Resource Planning

Workday is an Enterprise Resource Planning (ERP) system that will modernize many of the town's functional backend and frontend systems, including finance, procurement, payroll, HR, and training, with the capability to integrate additional services in the future. Workday will give the town and its staff greater visibility, flexibility and manageability over day-to-day operational tasks, as well as future planning of things like capital projects, staffing and resourcing, as well as council directed priorities.

Risk Levels for TIS Assets

Risk Levels for TIS assets depend on the operational purpose of the asset (consequence of failure) and the condition of the asset (probability of failure). An asset with a high consequence of failure, such as a Server, would appear near the top right of the risk matrix, if its probability of failure was also high (poor or very poor condition).

% of TIS assets considered very high-risk

6.9%

Table 64 - TIS Assets Risk Matrix

Consequence of Failure	1	2	3	4	5
5	100 Assets $0.2 M 1.62%	39 Assets $0.1 M 0.68%	35 Assets $0.5 M 4.87%	3 Assets $0.043 M 0.44%	22 Assets $2.1 M 1.58%
4	36 Assets $0.1 M 1.07%		6 Assets $0.9 M 9.08%		
3	2 Assets $0.023 M 0.24%	2 Asset $0.324 M 3.32%	2 Assets $0.6 M 6.17%	12 Assets $4.7 M 48.29%	
2	163 Assets $0.3 M 2.59%	163 Assets $0.3 M 2.85%		23 Assets $0.01 M 0.10%	150 Assets $0.6 M 2.28%
1	982 Assets $0.9 M 9.28%	349 Assets $0.1 M 1.32%	1 Assets $0.1 M 0.17%	50 Assets $0.01 0.13	194 Assets $0.8 M 3.90%

Probability of Failure

Very Low Risk | Low Risk | Medium Risk | High Risk | Very High Risk

Assets considered low risk, with low consequences of failure and low probabilities of failure, preventative maintenance and consistent monitoring of these assets will help ensure they continue to remain near the bottom-left of the risk matrix and continue to perform as expected.

The Town's TIS assets considered medium-risk, preventative or rehabilitative maintenance is required on some of these assets, as well as more frequent monitoring, to ensure that they do not become high-risk assets.

Finally, the Town's TIS assets considered high-risk and very high-risk have high consequences of failure and high probabilities of failure and may require budgeting for asset replacement and very consistent monitoring. More details on these risk levels can be found in Table 65 below.

Table 65 - Risk Levels and Examples of Possible Impacts for TIS

Risk Level	Potential Risks	Asset Examples
Low	Reduction in the quality of service received by some users. Little impact on other assets' functionality. The potential for minor claims and/or embarrassment within the department or municipality is possible.	Monitors, general laptops, and cell phones
Medium	Reduction in the quality of service received by many users. Other assets' functionalities will be reduced. Opportunities for moderate life extending rehabilitation will be missed. Could lead indirectly to loss of life or injury.	Fiberoptic cables and UPSs
High and Very High	Service could be unavailable to many users. Other assets may not function or could deteriorate quicker. Opportunities for significant life extending rehabilitation will be missed. Could lead directly to loss of life or injury.	Network Switches, servers, wireless access points

Probabilities of failure are informed regularly through inspections of assets. Consequences of Failure should continue to be reevaluated, and new metrics incorporated into the Consequences of Failure of assets, including network and data security.

The current state of TIS' assets, the Town's management of risk, and the impacts of various strategic documents and regulations informed the proposed levels of service provided by TIS.

TIS Life Cycle Management

The life cycle of TIS assets encompasses all activities relating to the acquisition, monitoring, maintenance and rehabilitation, renewal, replacement, disposal of information technology equipment. In addition to these activities, the planning and acquisition of additional TIS equipment supplementary to the Town's current information technology inventory to meet the needs of a growing community, are addressed through growth-related life cycle activities. The types of life cycle activities, examples of events within these life cycle activities, and the risks associated with not completing the different life cycle events are further discussed in Table 66 below.

Table 66 - TIS Life Cycle Activity Types, Activities, and Examples of Associated Risks with Not Completing the Activities

Life Cycle Activity	Included Events	Risks
Renewal, Rehabilitation, Replacement (Capital)	- Planning and purchase of TIS equipment to replace existing assets, to continue to provide expected or proposed service levels.	- Reduction of service levels and greater potential for unplanned downtime. - Increased maintenance and inspection costs.
Growth	- Acquisition of additional information technology equipment to supplement the Town's current inventory and meet the needs of community and organizational growth.	- Reduction in service levels and availability of equipment for staff, resulting in the potential reduction of service levels across the organization to the community. - Higher rates of use for existing equipment to manage larger workload volumes could result in increased maintenance costs and earlier need for replacement.
Operations and Maintenance	- Regular and routine maintenance activities associated with ensuring assets continue to perform as expected within their useful lives. - Includes troubleshooting and issue support, as well	- Reduction of service levels, including increased downtime. - TIS equipment may not last as long as their expected useful lives, requiring greater capital renewal and replacement investment. - Unexpected major expenses associated with replacements of

Life Cycle Activity	Included Events	Risks
	as planned and unplanned downtime for system and asset maintenance.	assets in advance of their expected replacement dates.
Non-Infrastructure Solutions	- Activities including Master Plans, Risk Assessments, which could extend the lives or efficiency of vehicles and equipment life cycle management, not through direct capital investment. - Includes the Current State Analysis and Data Management Strategy, the GIS Master Plan, as well as the IT Master Plan.	- Asset life cycles are less efficiently managed, resulting in potentially higher expenditures due to a less coordinated approach to life cycle management. - Growth, renewal, replacement and maintenance are less accurately planned and captured, resulting in the potential for service disruptions or service level decreases, if events are missed.

The activities detailed and costed in this Asset Management Plan correspond to the activities required to meet the proposed levels of service for TIS. These activities and events were determined through input from Technology & Innovation Services subject matter experts, Financial Services staff, and the Town's operating budget and capital forecasting.

Funding Requirements

Capital Renewal, Rehabilitation, and Replacement

Table 67 below outlines the five-year and 10-year rehabilitation, renewal, and replacement needs for TIS asset classes in order to meet the proposed service levels.

Table 67 - Five-year and 10-year Rehabilitation, Renewal, and Replacement Needs to Meet the Proposed Service Levels

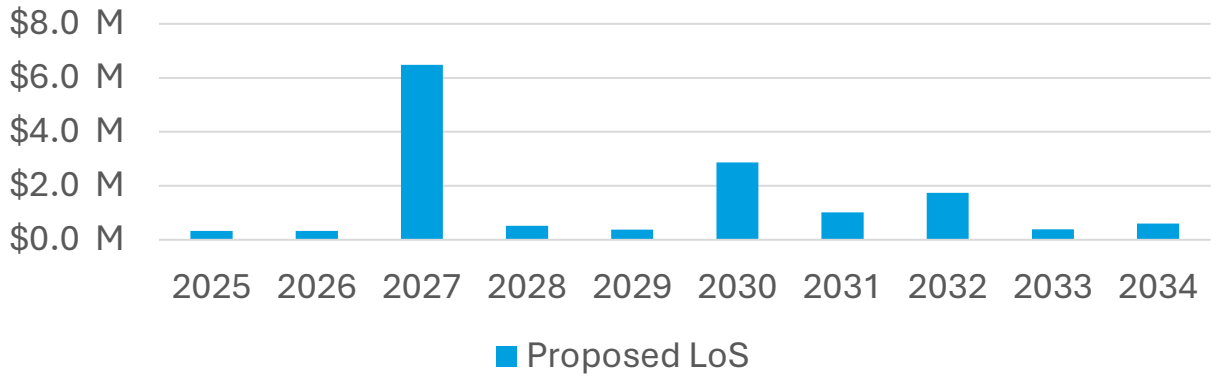
Asset Reinvestment Period	Needs
Five years	**$8 M**
10 years	**$14.6 M**

* Values are in 2025 Dollars

Figure 55 below details the rehabilitation, renewal, and replacement needs for TIS assets to meet the proposed service levels.

The notable increases in 2027 and 2030 are for the replacement of critical IT infrastructure which also includes servers. Some of these asset replacements due in 2029 can be smoothed out over 2028 and 2029 if preferable.

Figure 55 – 10-year Asset Management Funding Needs for TIS



Growth

Growth-related projects are funded by development charges rather than the Asset Management Reserve Fund.

Table 68 below details the growth-related projects planned for TIS.

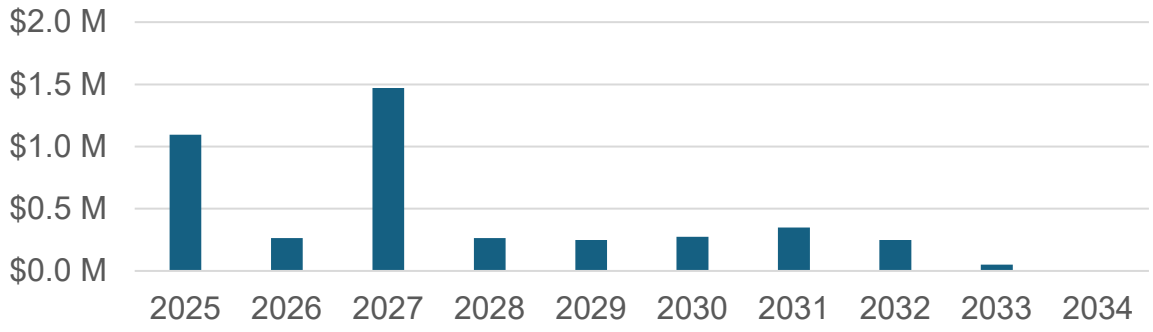
Table 68 - Growth-related Funding Needs for TIS

Growth Investment Period	Needs
Five years	**$3.3 M**
10 years	**$4.3 M**

* Values are in 2025 Dollars

Figure 56 below details the growth-related funding needs for each of the next ten years.

Figure 56 - Growth-related Funding Needs for Each of the Next Ten Years



Appendix: Parks Condition Legend

Condition	Value	Description	Physically Sound?	Functioning as Intended?	Can be Repaired?	Examples
Very Good	5	Asset is physically sound, appears new and is functioning as originally intended. Typically, new or recently rehabilitated. No damage or signs of wear and tear.	Yes	Yes	Yes	 
Good	4	Asset is physically sound and is functioning as originally intended. Minor signs of aging or wear and tear may be present, and areas that will require future rehabilitation or repairs can be identified.	Yes	Yes	Yes	 

Fair	3	Asset is physically sound but is beginning to function at a lower level than originally intended. Will require repairs within the next 1 or 2 years. Obvious signs of wear and tear are present and if untreated will begin to impact user safety and comfort.	Yes	Yes	Yes	 
Poor	2	Asset is no longer physically sound and is functioning at a significantly lower level than originally intended. Requires immediate repair as appearance, user safety and comfort are no longer being provided at desired service level.	No	No	Yes	 
Very Poor	1	Asset is at the end of its useful life and rehabilitation is no longer an option, replacement is required. Asset does not perform its intended function and is not safe or comfortable for the user.	No	No	No