

City of Kingston

# 2024 Asset Management Plan

Executive  
Summary and  
Introduction

Volume 1  
Infrastructure,  
Transportation,  
Transit, &  
Emergency  
Services

Volume 2  
Corporate  
Services &  
Parking  
Operations

Volume 3  
Community  
Services

Volume 4  
Parks, Parkland,  
& Trails

Volume 5  
Police,  
Libraries, City  
Real Estate &  
Environment



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## Appendices (Provided in Separate Document)

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A - Expected Useful Life and Replacement Cost Sources

B - Risk Variables

# Acronyms

Acronym	Definition
AMP	Asset Management Plan
BCA	Building Condition Assessment
EUL	Expected Useful Life
FCMS	Facilities Management & Construction Services
GHG	Greenhouse Gas
IS&T	Information Technology
IT	Information Systems & Technology
KFPL	Kingston Frontenac Public Library Board
KM	Kilometre
KP	Kingston Police
LOS	Levels of Service
OLS	Our Livable Solutions
PDU	Power Distribution Unit
PSD	Public Sector Digest
RUL	Remaining Useful Life
SOLI	State of the Local Infrastructure
UPS	Uninterruptible Power Supply



## 1.0 Overview

The asset management project includes 21 service areas, covering all assets owned by the City of Kingston (City) that are not already included in other Asset Management Plans (AMP). This is the first iteration of an AMP for these service areas. Given the extensive range of assets included in the project, the plan is presented in the following six documents:

- Executive Summary and Introduction
- Volume 1: Infrastructure, Transportation, Transit, & Emergency Services
- Volume 2: Corporate Services & Parking Operations
- Volume 3: Community Services
- Volume 4: Parks, Parkland, & Trails
- Volume 5: Police, Libraries, City Real Estate & Environment



## Overview

The Introduction document presents key asset management principles and an overview of how each service area will be presented in its own chapter with the following sections: State of the Local Infrastructure (SOLI); Levels of Service (LOS); Risk Assessment; and Asset Management Strategy. The Introduction also includes a section on Growth and a Roadmap with Next Steps. The following sections are included in the Introduction document:

- Section 1.1 Asset Management
- Section 1.2 Scope of Assets
- Section 1.3 Alignment with Strategic Plan, Policy, and Regulation
- Section 1.4 Governance and Relationship to Other Planning Documents
- Section 1.5 Growth
- Section 1.6 Overview of the AMP
  - State of the Local Infrastructure
  - Levels of Service
  - Risk Assessment
  - Asset Management Strategy
- Section 1.7 Roadmap with Next Steps

## Overview

### 1.1 Scope of Assets in Volume 5

The service areas included in **Volume 5: Police, Libraries, City Real Estate & Environment** are: Police Services; Library Services; and City Real Estate & Environment. See **Table 1-1** for the respective asset classes for each service area and the relevant chapter.

**Table 1-1: Service Areas included in Police, Libraries, City Real Estate & Environment**

Service Area	Asset Classes	Report Chapter
Police Services	<ul style="list-style-type: none"><li>• Facilities</li><li>• Fleet Assets</li><li>• Specialized Equipment</li><li>• Information Technology &amp; Telecommunications</li></ul>	Chapter 2.0
Library Services	<ul style="list-style-type: none"><li>• Facilities</li><li>• Fleet Assets</li><li>• Collections</li><li>• Other Equipment</li><li>• Information Technology</li></ul>	Chapter 3.0
City Real Estate & Environment	<ul style="list-style-type: none"><li>• Sleeping Cabins</li><li>• Other City-Owned Land Assets</li><li>• Environmental Remediation Infrastructure</li></ul>	Chapter 4.0

**Note:** Facilities were included in the 2023 Facilities AMP developed by the City's Facilities Management & Construction Services (FMCS) department in consultation with GM BluePlan Engineering Limited. As a result, the details on the facilities documented for service areas in this AMP are limited to basic inventory information as reported in the 2023 Facilities AMP.

## Overview

### 1.2 Asset Hierarchy

The asset hierarchy that was generated and used for the City’s assets is shown in **Figure 1-1**. The asset group (level 1) is shown in the blue box, the three service areas (level 2) are shown in the light blue boxes, the asset classes are shown in bold (level 3), and where applicable, the asset sub-classes are shown in regular text (level 4).

**Figure 1-1: Asset Hierarchy for Police, Libraries, City Real Estate & Environment**



### 1.3 Asset Inventory and Replacement Costs

An asset inventory was generated for all assets included in this AMP using Microsoft Excel. The inventory organizes assets using the various levels of the asset hierarchy and acts as a central repository for the asset data that can be used to inform asset management planning. It is recommended that the City continually updates the asset information stored within the asset inventory to facilitate asset management planning based on reliable data.

Where replacement costs were provided, the values were inflated based on the Bank of Canada Consumer Price Index (CPI) to estimate the replacement cost in 2023 dollars. If replacement costs were not provided, Dillon leveraged a unit cost model to assign replacement costs based on unit cost estimated for 2023. It is recommended that unit prices should be reviewed annually by the city based on costs observed from local suppliers and contractors.

### 1.4 Establishing Levels of Service

There were four LOS workshops that were held with staff. The service categories for this volume were covered in Workshop 2 and 3.

- Workshop 2 was held on November 10, 2023, and included the stakeholders for Police, Information Systems & Technology and Parking Equipment, Lots, and Structures service categories.
- Workshop 3 was held on November 21, 2023, and included the stakeholders for Public Art and Heritage, Fire and Rescue, Rideaucrest, Library Services, Real Estate and City-Owned Land Assets.

There were City staff from each service area that attended the workshop. The list of attendees is summarized in **Table 1-2**.

## Overview

**Table 1-2: Workshop Attendees - Police, Libraries, City Real Estate & Environment**

Service	Name	Role
Police Services	Scott Fraser	Chief of Police
Police Services	Greg Sands	Inspector, Patrol and Communications
Police Services	Scarlet Eyles	Director of Finance and Procurement
Library Services	Nicole Charles	Director, Facilities and Technology
Library Services	Laura Carter	Chief Librarian/ Chief Executive Officer
Library Services	Tim Stranak	Manager of Facilities
Real Estate	Brandon Forest	Director of Business, Real Estate, and Environment
Community Housing	Rachel Mcgeachie	Project Manager Housing and Homelessness

### 1.5 Growth Related Impacts on Lifecycle of Assets

As the City continues to expand, there are impacts to existing service levels and assets based on these future needs. The growth-related assumptions and potential impact on the lifecycle of the assets is shown in **Table 1-3**.

## Overview

**Table 1-3: Growth Related Impacts on Lifecycle of Assets**

<b>Service Category</b>	<b>Growth Impact Assumptions</b>	<b>How Assumptions Relate to Lifecycle of Assets</b>
Police Services	<ul style="list-style-type: none"><li>• Increase in service demands due to increased operating hours, or capacity covering greater distances</li><li>• Increases to internal capacity (staffing) required to maintain equipment</li></ul>	<ul style="list-style-type: none"><li>• Potential increase in capital expenditures for the purchase of additional assets to meet service needs</li><li>• Potential increase in operational costs to maintain fleet assets</li></ul>
Library Services	<ul style="list-style-type: none"><li>• Increase in service demands to operation or capacity of the services</li><li>• Higher risk of cyberattacks due to increased number of assets required to provide service</li></ul>	<ul style="list-style-type: none"><li>• Potential increase in capital expenditures for facility services and maintenance</li><li>• Potential increased operational costs due to increase in collection and network size</li></ul>
City Real Estate and Environment	<ul style="list-style-type: none"><li>• Increased development will occur as a result of continued growth</li></ul>	<ul style="list-style-type: none"><li>• Potential increase in operational costs due to an increase in the overall real estate portfolio</li></ul>



## 2.0 Police Services

From humble beginnings and representing one of the oldest Canadian police forces in existence, members of the Kingston Police (KP) have established a long and proud tradition of serving the Kingston community since 1841. As outlined in their Strategic Plan 2023 to 2026 they serve to support and protect the safety of everyone in the community. To carry out their services, the Kingston Police operates a diverse range of assets including facilities, vehicles, specialized equipment, and information technology. The following section of the AMP summarizes assets inventoried for the Police Services and applies key asset management principles in accordance with the requirements of O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure.

## Police Services

It is important to note that the KP facilities were included in the 2023 Facilities AMP developed by the City's Facilities Management & Construction Services (FMCS) department in consultation with GM BluePlan Engineering Limited. As a result, the details on the police facilities in this AMP are limited to basic inventory information. The City's FMCS department is comprised of three divisions: Facilities Management, Energy & Asset Management, and Facilities Construction. FMCS maintains the City's diverse portfolio of municipal buildings, thereby supporting departments and agencies such as Kingston Police in providing extensive front-line services to the community. This centralized, shared services collaborative approach has allowed the integration of energy management and sustainability considerations along with other aspects of facilities maintenance, asset management, space planning, design, construction, and demolition across all areas of the City.

For further detail on the facilities including data confidence and lifecycle modeling, please refer to the 2023 Facilities AMP.

**Note on Scope:** At the time of this AMP, no data was available for two asset classes (i.e., Specialized Equipment and Information Technology & Telecommunications), and as a result, these asset classes are not included in this AMP. It is recommended that the City further develops an inventory of these asset classes to be considered in subsequent iterations of this AMP. These discussions have already started with the Director of Finance for Police Services and planning is underway to be able to provide an updated asset registry in 2025.

## 2.1 State of the Local Infrastructure

### 2.1.1 Asset Inventory and Valuation

Kingston Police oversees many vehicles and fleet equipment assets in addition to their facilities and specialized technology. For inventory purposes, the KP asset classes have been further divided into applicable asset types. The asset classes, asset type, a count of assets therein, and the total replacement cost (in 2023 dollars) are shown in **Table 2-1**. The total replacement cost (2023 dollars) is estimated at approximately **\$91.3 million** for the **133 assets** included in the inventory.



## Police Services

### Table 2-1 Notes

<sup>1</sup> As reported in Facilities AMP (2023)

**Table 2-1: Inventory Summary by Asset Type - Police Services**

Asset Class	Asset Type	Asset Count	Total Replacement Cost (2023)
Facilities <sup>1</sup>	Buildings	2	\$81,000,000
Fleet Assets	Light Vehicle – Under 1 Ton	122	\$9,172,500
Fleet Assets	Mobile Response Unit	1	\$972,500
Fleet Assets	Motorcycle	2	\$64,300
Fleet Assets	Trailer	4	\$100,000
Fleet Assets	Utility Vehicle/All-Terrain Vehicle (ATV)	2	\$39,600
<b>Overall</b>	<b>Not Applicable (N/A)</b>	<b>133</b>	<b>\$91,348,900</b>

### 2.1.2 Asset Age Summary

The average age, average condition, expected useful life, and average remaining useful life of the assets pertaining to Police Services are summarized in **Table 2-2**. The overall average age of KP assets is seven years and the average remaining useful life is three years. Refer to the 2023 Facilities AMP for details on the Police Services facilities.

**Note:** In a future update of the AMP, a distinction will be made within the Light Vehicle asset type between front-line patrol vehicles and other support and administrative Fleet Assets deployed in operation.

## Police Services

**Table 2-2: Average Age, Average Condition, Expected Useful Life, and Average Remaining Useful Life - Police Services**

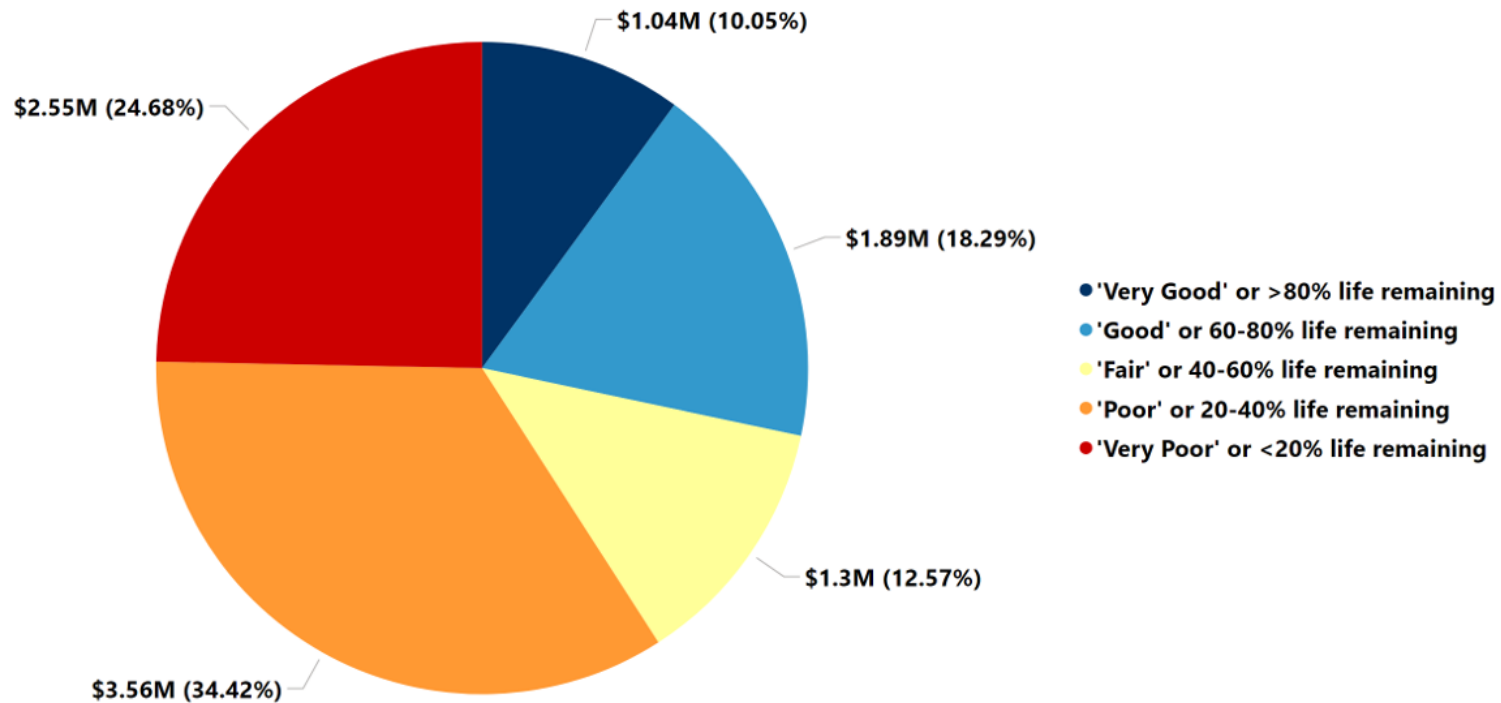
Asset Class	Asset Type	Average Age (Years)	Average Condition Grade	Expected Useful Life (Years)	Average Remaining Useful Life (Years)
Fleet Assets	Light Vehicle	7	Fair	10	3
Fleet Assets	Mobile Response Unit	10	Poor	15	5
Fleet Assets	Motorcycle	10	Very Poor	10	1
Fleet Assets	Trailer	9	Fair	15	6
Fleet Assets	Utility Vehicle/ATV	12	Very Poor	10	0
<b>Overall</b>	<b>N/A</b>	<b>7</b>	<b>Poor</b>	<b>10 to 15</b>	<b>3</b>

### 2.1.3 Asset Condition

An overall condition summary for KP assets by replacement cost (in 2023 dollars) is shown in **Figure 2-1**. About 40.9% of the assets are in very good to fair condition.

## Police Services

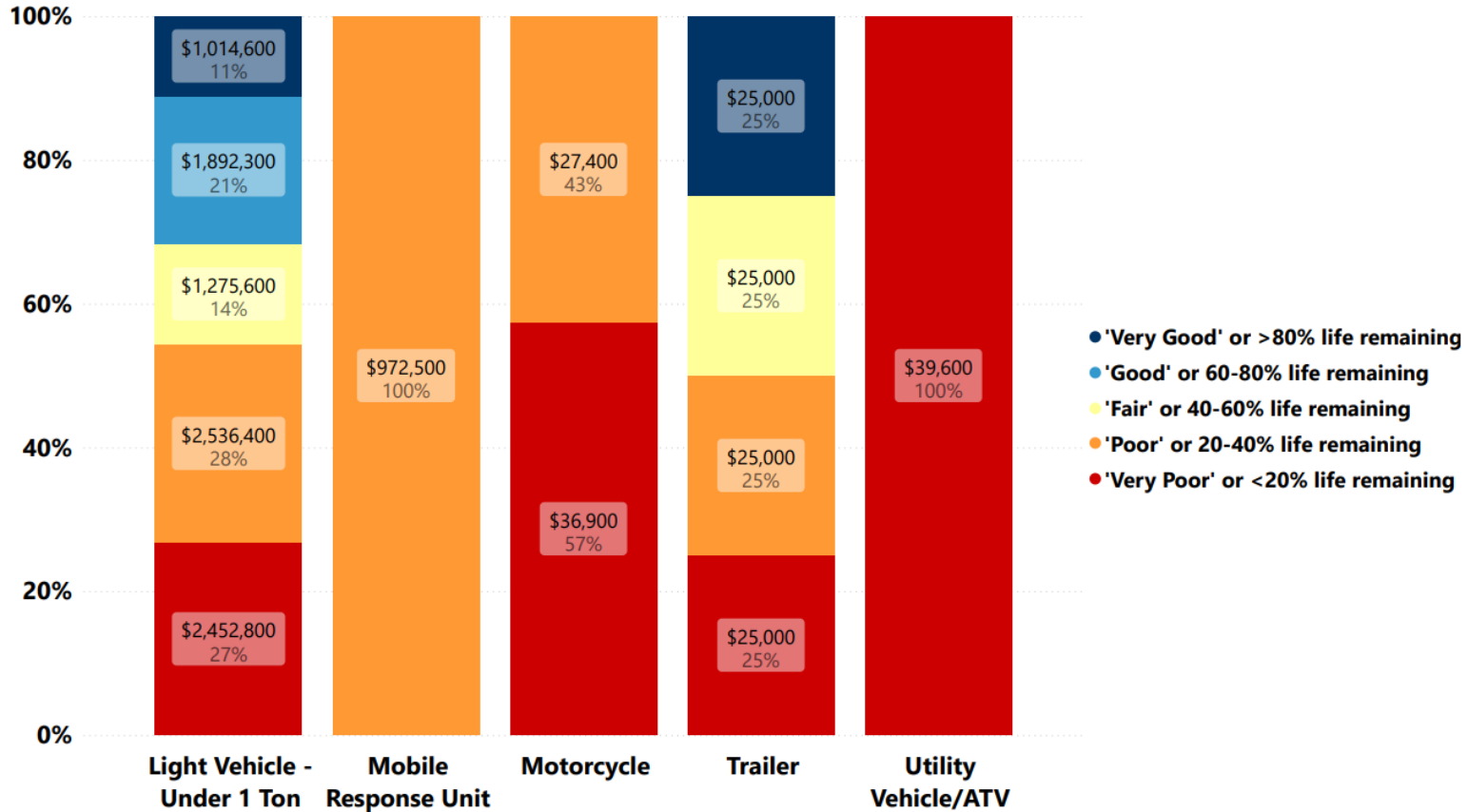
Figure 2-1: Condition Summary by 2023 Replacement Cost - Police Services



A condition summary for the Fleet Assets is provided in **Figure 2-2** by asset type and replacement cost (in 2023 dollars). In the absence of condition assessment data, the condition of the assets has been primarily determined based on age and EUL.

## Police Services

**Figure 2-2: Condition Summary by Asset Type and 2023 Replacement Cost - Police Services (Fleet Assets)**



Based on Figure 14 in the 2023 Facilities AMP, approximately 100% of the total replacement cost of KP facilities is attributed to building and site elements that are in good condition. Further details are included in the Facilities AMP.

## Police Services

### 2.1.4 Data Sources and Confidence

The asset data for KP (Fleet Assets) is maintained by the City in a web-based fleet and equipment management solution from AssetWorks called FleetFocus M5 and served as the main data source of Fleet Assets and Equipment for this AMP. The City has dedicated staff who regularly update the inventory data for Police Services assets hosted within the City’s Enterprise Fleet Management Information System (FMIS). This suggests that the data source can be assumed to be reliable.

Data confidence can be estimated based on the confidence level of various qualifiers and can be presented on a scale from 0% (low) to 100% (high), as shown in **Table 2-3**. The qualifiers chosen for evaluation are specifically targeted for estimating overall confidence of condition reporting within the SOLI.

For discussion on data confidence related to police facilities, please refer to the Facilities AMP (2023).

**Table 2-3: Data Confidence Scale**

Confidence Level	Low	Low/ Moderate	Moderate	Moderate/ High	High
Average of Qualifiers	0% to 19%	20% to 39%	40% to 59%	60% to 79%	80% to 100%

Assuming the data source is reliable, the following qualifiers were considered to estimate data confidence regarding the data utilized in the creation of this SOLI report:

- **Qualifier 1:** The percentage of assets in the asset inventory where construction, installation, or acquisition years are documented (100%);
- **Qualifier 2:** The percentage of assets in the asset inventory that have condition assessment data documented (0%); and,
- **Qualifier 3:** The percentage of the estimated overall replacement value, in 2023 dollars, attributed to assets in the asset inventory with documented condition assessment data (i.e., condition is not solely age-based) (0%).

## Police Services

**Figure 2-3: SOLI Report Data Confidence - Police Services**



As summarized in **Figure 2-3**, the overall asset condition data confidence for KP assets is estimated as Low/Moderate. Presently, all asset conditions for KP Fleet Assets are age-based. Data confidence can be increased by improving the documentation of condition assessment data. For Fleet Assets, this may include adding an additional attribute within FleetFocus to track assigned asset condition ratings which can be assigned or updated when staff perform regularly scheduled maintenance.

### 2.2 Levels of Service

The KP Services Board has developed the Kingston Police Strategic Plan 2023 to 2026 which helps direct the goals of the KP Service. Within the strategic plan, there are five prioritized strategic objectives:

1. Reduce the weighted crime rate by 10 percent, particularly in the downtown core.
2. Improve the KP Service's clearance rate for criminal investigations.
3. Enhance relationships and trust with the Kingston community, with a particular focus on marginalized communities.
4. Improve the morale and retention of members of the KP Service.
5. Increase the efficiency and effectiveness of the KP Service by implementing new technologies and streamlining processes.

Each of these objectives have their own action plans, community safety and statistical drivers, and key performance indicators. These objectives are for the overall services being provided by KP and were considered when reviewing the community Levels of Service (LOS) for the assets in this AMP.

During the workshop, it was decided that Quality and Responsiveness were the key attributes in gauging the performance of fleet, specialized equipment, and information technology assets while the facilities were included under the 2023 Facilities AMP (under a separate cover). **Table 2-4** outlines the current community LOS for KP Services.

## Police Services

Table 2-4: Community LOS - Police Services

LOS Parameter	LOS Statement	Performance Measure	Current LOS (2023)
Quality	Fleet, specialized equipment, and information technology assets are kept in good working condition.	Percentage of assets that are in Poor or better condition.	68%
Reliability	Providing professional and responsive services to all residents, businesses, and visitors.	Average response time in minutes.	10 minutes and 34 seconds

The Kingston Police operates under legislative requirements set by multiple governing bodies. This means they must follow several laws and regulations which guide their technical LOS provided to the community. Below are some key requirements that influence the daily operations:

- **Community Safety and Policing Act (CSPA):** This provincial law sets the standards for how police services in Ontario are structured, governed, and operate.
- **Criminal Code of Canada:** This federal law defines criminal offences and sets out the procedures for investigating and prosecuting them.
- **Highway Traffic Act (HTA):** This provincial law outlines the rules of the road and the enforcement powers of police officers in relation to traffic violations.
- **Provincial Offences Act (POA):** This provincial law covers minor offences that are not considered criminal but still carry penalties.
- **Workplace Health and Safety Act (WHSA):** This provincial law ensures a safe work environment for police officers and staff.



## Police Services

- **Accessibility for Ontarians with Disabilities Act (AODA):** This provincial law requires the police service to provide services in a way that is accessible to people with disabilities.
- **Canadian Charter of Rights and Freedoms:** This federal document guarantees certain fundamental rights and freedoms that police officers must respect in their interactions with the public.
- **Youth Criminal Justice Act (YCJA):** This federal law outlines the unique principles and processes that apply when dealing with young people who have committed crimes.

### 2.3 Risk Assessment

The risk scores were calculated using the risk methodology and approach outlined in the Introduction materials which were provided under a separate document. **Table 2-5** summarizes the risk factors for the Police Services assets.

**Table 2-5: Risk Factors - Police Services**

Factors	Risk Ratings
<b>A - Condition</b>	The condition of the assets was determined either by visual or age-based and can be found in the SOLI section of the AMP.
<b>B - Performance</b>	The performance of the Fleet Assets was identified as being “usually reliable” and assigned a score of 3 for calculating risk score.
<b>C - Climate Change</b>	The climate change ratings were determined at the service category level by identifying climate change hazard interactions. The Fleet Assets were identified as a “high” risk and assigned a rating of 5 for calculating the risk score.
<b>D - Impact</b>	The impact of the asset classes was identified as "moderate" impact and assigned a score of 1 for calculating risk score.
<b>E - Importance</b>	The Fleet Asset class was identified as “high” importance and assigned a score of 3 when calculating risk.

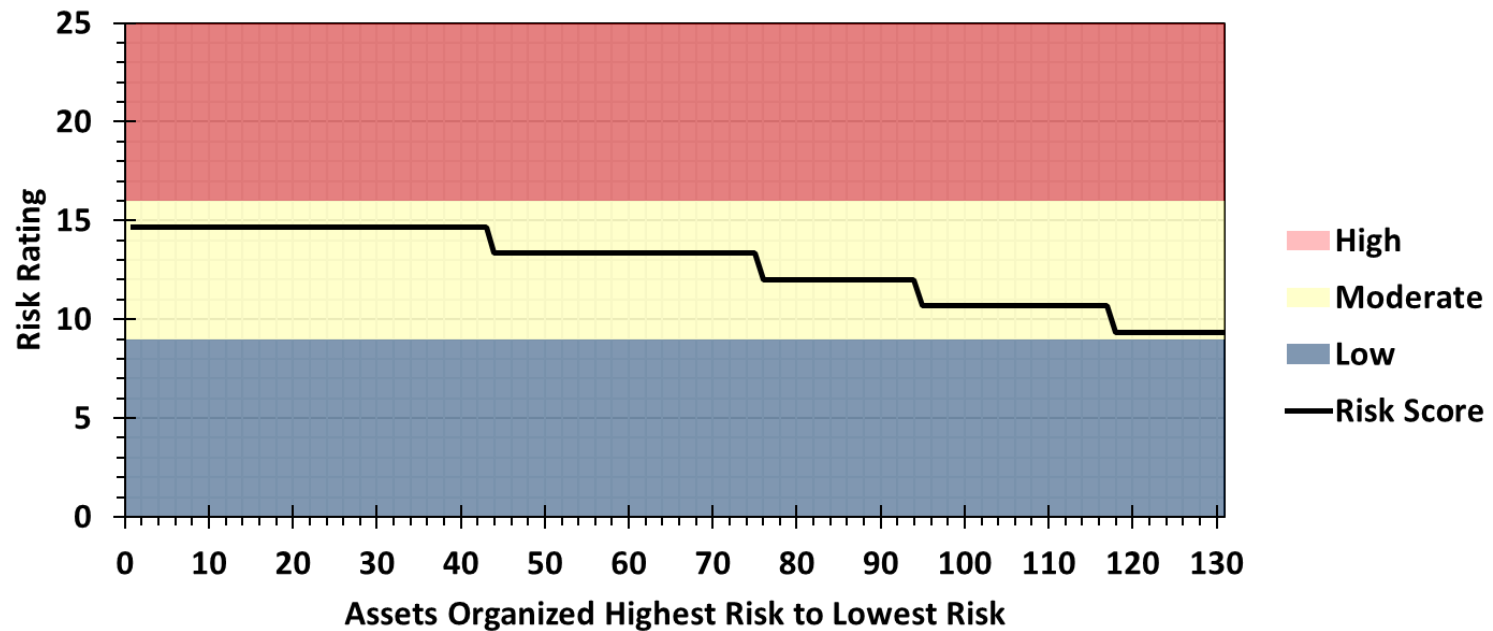
## Police Services

The individual risk ratings were used in calculating the risk score for each of the assets.

### 2.3.1 Risk Profile

The Risk profile of the Fleet Assets is displayed in **Figure 2-4**. All 131 assets tracked in the asset inventory are considered as Moderate risk.

**Figure 2-4: Risk Profile - Police Services (Fleet Assets)**



## 2.4 Asset Management Strategy

### 2.4.1 Lifecycle Activities

The lifecycle activities considered include:

- **Non-Infrastructure Solutions:** Actions or policies that can lower costs and extend useful lives.
- **Maintenance Activities:** Regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- **Renewal / Rehabilitation Activities:** Significant repairs designed to extend the life of the asset.
- **Replacement / Construction Activities:** Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehabilitation is no longer an option.
- **Disposal Activities:** Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed.
- **Expansion / Growth / Service Improvement Activities:** Planned activities required to extend services to previously unserved areas or expand services to meet growth demands.

**Table 2-6** describes the lifecycle activities that can be implemented within the asset management strategy for Kingston Police assets. The lifecycle activities presented below are existing activities performed by the City, identified during a workshop with City staff held in February 2024.

**Table 2-6: Lifecycle Activities - Police Services**

Lifecycle Activity Type	Description of Activity	Frequency / Timing
Maintenance Activities	Regular scheduled maintenance and inspections of fleet	Based on manufacturer's recommendations
Maintenance Activities	Regular maintenance and inspections of buildings	Ongoing

## Police Services

Lifecycle Activity Type	Description of Activity	Frequency / Timing
Renewal / Rehabilitation Activities	Fleet engine and/or transmission replacements	As Needed
Renewal / Rehabilitation Activities	Review opportunities to re-purpose vehicle outfitting and attachments past the lifecycle of the original asset it was installed on	As Needed
Replacement / Construction Activities	Replacement at Expected Useful Life (EUL)	End of EUL or at pre-defined usage limit (kilometres)
Replacement / Construction Activities	Re-deploy fleet based on mileage travelled to other service areas within the department to optimize lifecycle planning (where applicable)	At pre-defined mileage or age
Disposal Activities	Public auction of fleet administered by a Third-Party	At pre-defined mileage or age
Expansion / Growth / Service Improvement Activities	Business Cases to support the addition of Fleet Assets. Guided by: <ul style="list-style-type: none"> <li>Kingston Police Strategic Plan (2023 to 2026)</li> <li>Green Fleet Strategy</li> <li>Watson Population Growth Study &amp; Council Adoption</li> </ul>	As required
Expansion / Growth / Service Improvement Activities	Electrification of fleet vehicles	Planned trials / feasibility studies as required



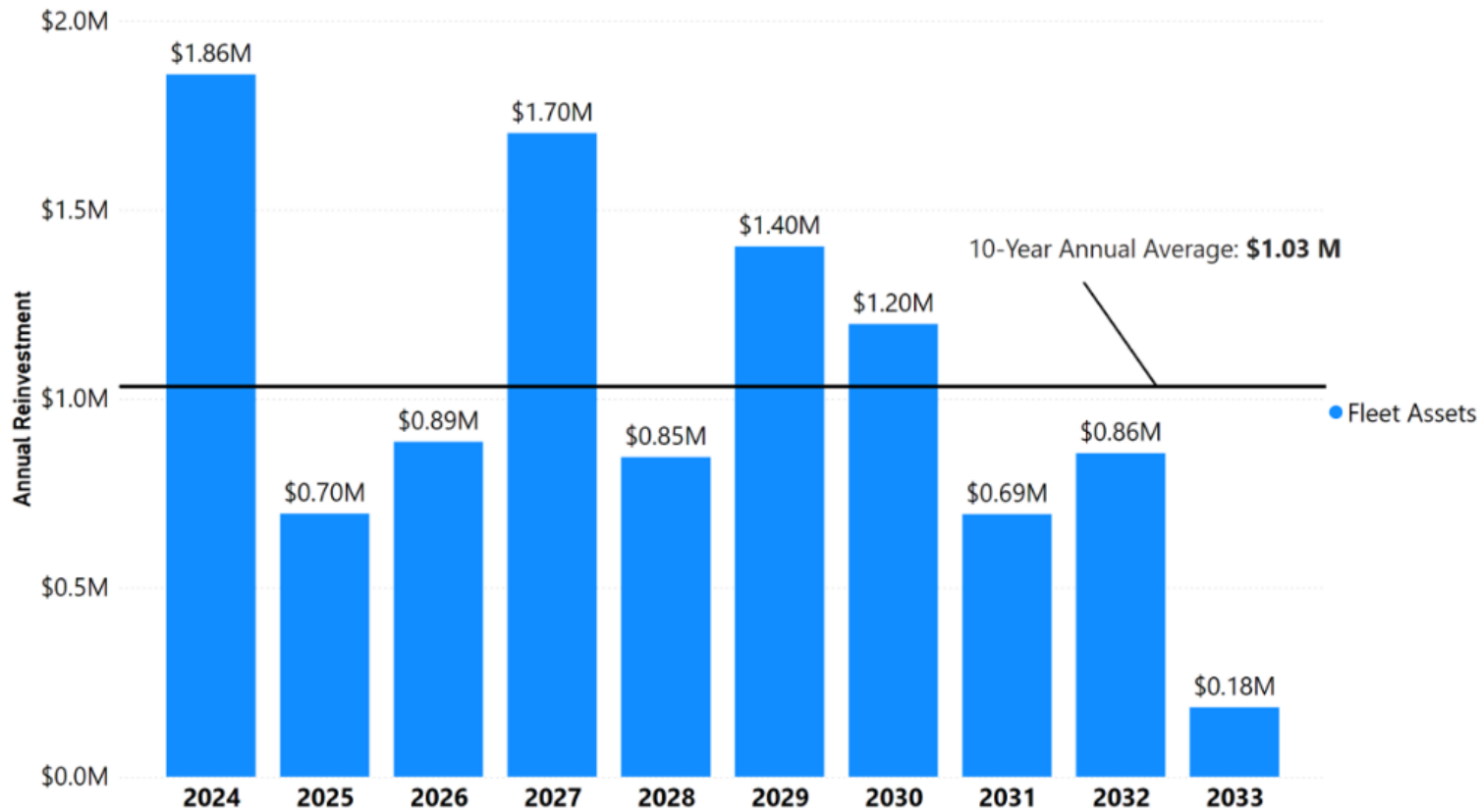
#### 2.4.2 Funding the Lifecycle Activities-Police Services

Lifecycle modeling allows for the City to understand the future reinvestment needs of their existing assets by generating a theoretical asset replacement forecast that considers available asset inventory data. The age, EUL, replacement cost, condition, and risk score of each asset can be leveraged within the lifecycle model to proactively plan for reinvestment over a period of time. Asset replacement forecasts within this subsection estimate the required reinvestment for Police Services assets over the next 10 years based on available asset inventory data.

There is a total of approximately **\$10.3 million** to be reinvested into the KP Fleet Assets over the next 10 years. This amount excludes reinvestment associated with facilities and specialized equipment. This translates an annual average of approximately **\$1.03 million** per year over the 10-year period, as shown in **Figure 2-5**. For details regarding police facilities, refer to the Facilities AMP (2023).

## Police Services

Figure 2-5: 10-Year Capital Reinvestment Needs - Police Services (Fleet Assets)

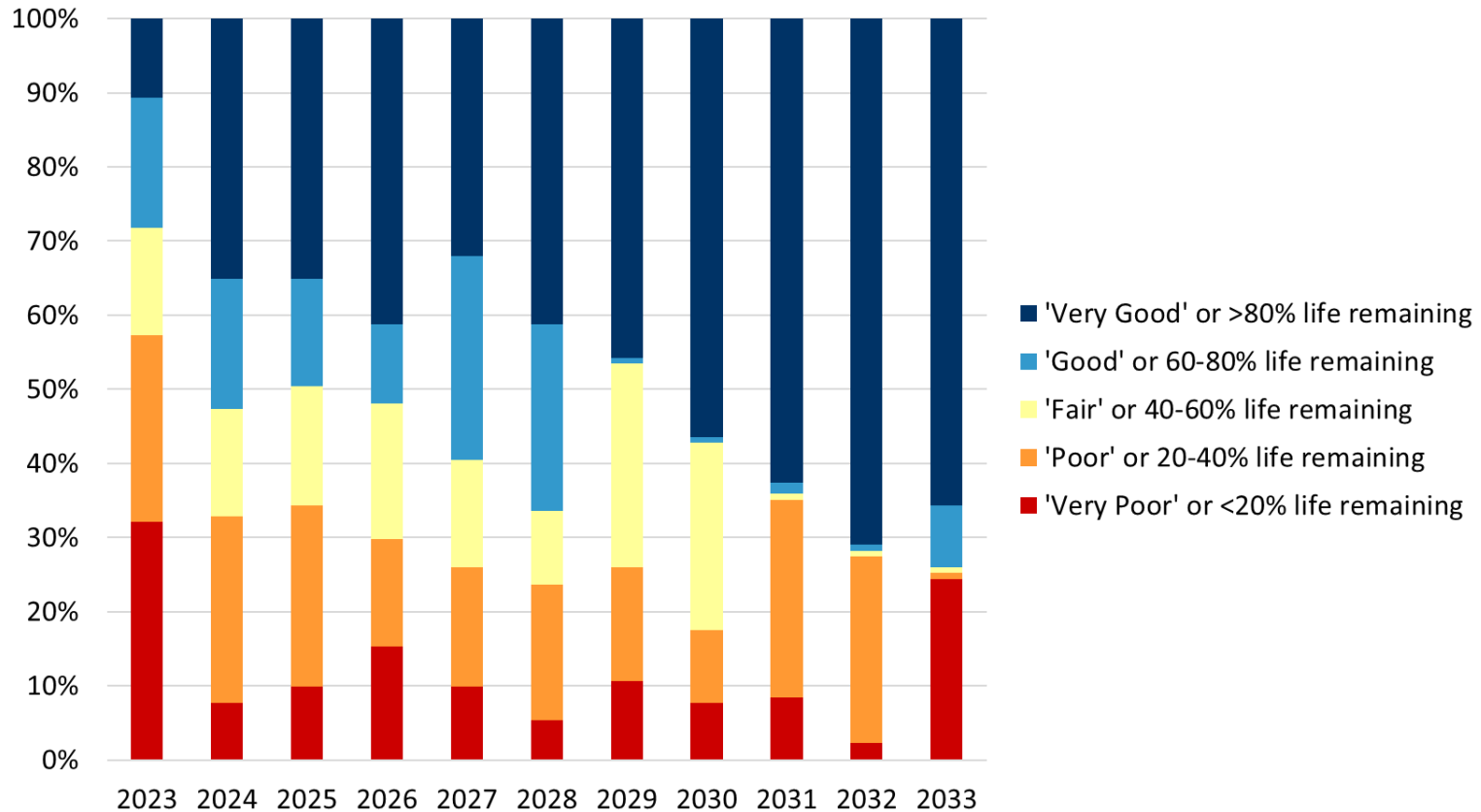


It is important to note that forecasting in this lifecycle model relies heavily on age and EUL to determine renewal or replacement needs. Tracking of condition data for Fleet Assets by staff will be essential for refining forecasted expenditures in the future. The LOS includes maintaining the current percentage of assets in poor or better condition (68%). From the lifecycle model, the percentage of Police Services assets in poor or better condition fluctuates throughout the next 10 years due to the EUL of the assets. Based on the EUL (10 and 15 years) and the age of the Fleet Assets, the forecasted percentage of assets in poor or better condition reaches a high of 98% in 2032 and eventually finishes at 76% in 2033.

## Police Services

**Figure 2-6** shows an overview of the condition of Police over the next 10 years based on the lifecycle model.

**Figure 2-6: Condition Overview by Year Based on Lifecycle Model - Police Services (Fleet Assets)**





### 3.0 Library Services

Kingston Frontenac Public Library (KFPL) is a progressive, innovative, sixteen branch library system with a mission to provide exceptional customer service within the context of a warm and welcoming environment. To carryout services to the community, guided by the Public Libraries Act, KFPL owns and/or operates a range of assets including Facilities, Fleet Vehicles, Equipment, Collections, and Information Technology hardware and software. This section of the AMP summarizes assets inventoried for KFPL and applies key asset management principles in accordance with the requirements of O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure.

The City's FMCS department maintains the City's diverse portfolio of municipal buildings, thereby supporting departments and agencies such as KFPL in providing extensive services to the community. This collaborative approach allows the integration of energy management and sustainability considerations along with other aspects of facilities maintenance such as asset management, space planning, design, construction, and demolition.



## Library Services

It is important to note that the library facilities were included in the dedicated 2023 Facilities AMP developed by the City's FMCS department in consultation with GM BluePlan Engineering Limited. As a result, the details on library facilities in this AMP are limited to basic inventory information. For further detail on the facilities including data confidence and lifecycle modeling, please refer to the 2023 Facilities AMP.

**Note on Scope:** At the time of preparing this AMP, data for Collections assets was limited to high-level summaries of pooled assets. As a result, the condition of these assets and the required reinvestment could not be determined. It is recommended that the City further develops an inventory for this asset class to be included in subsequent iterations of the AMP.

### 3.1 State of the Local Infrastructure

#### 3.1.1 Asset Inventory and Valuation

The assets maintained by Library Services support services to the community. **Table 3-1** summarizes the asset inventory for Library Services by asset class, asset type, asset count, and total replacement cost (in 2023 dollars). It is important to note assets in the Collections, Furniture, Shelving, Information Technology, and Other Equipment asset classes have been pooled within the existing inventory data and counts in the table below reflect total asset quantities. The total replacement cost (2023 dollars) is estimated at **\$85.1 million** for the **338,422 assets** included in the inventory.

## Library Services

### Table 3-1 Notes

<sup>1</sup> As reported in Facilities AMP (2023)

**Table 3-1: Inventory Summary by Asset Class - Library Services**

<b>Asset Class</b>	<b>Count</b>	<b>Total Replacement Cost (2023)</b>
Facilities <sup>1</sup>	5	\$66,200,000
Fleet Assets	3	\$151,000
Collections	336,265	\$12,086,800
Custodial Equipment	21	\$84,900
Other Equipment	3	\$153,900
Automated Materials Handling	11	\$606,700
Furniture	1,205	\$1,707,200
Shelving	4	\$3,350,600
Information Technology	905	\$731,600
<b>Overall</b>	<b>338,422</b>	<b>\$85,072,700</b>

### 3.1.2 Asset Age Summary

**Table 3-2** summarizes the average age, the average condition, the expected useful life, and the average remaining useful life of KFPL assets. Details for the library facilities are included in the Facilities AMP (2023). The overall average age of KFPL assets is seven years and the average remaining useful life is 12 years.

## Library Services

**Table 3-2: Average Age, Average Condition, Expected Useful Life, and Average Remaining Useful Life - Library Services**

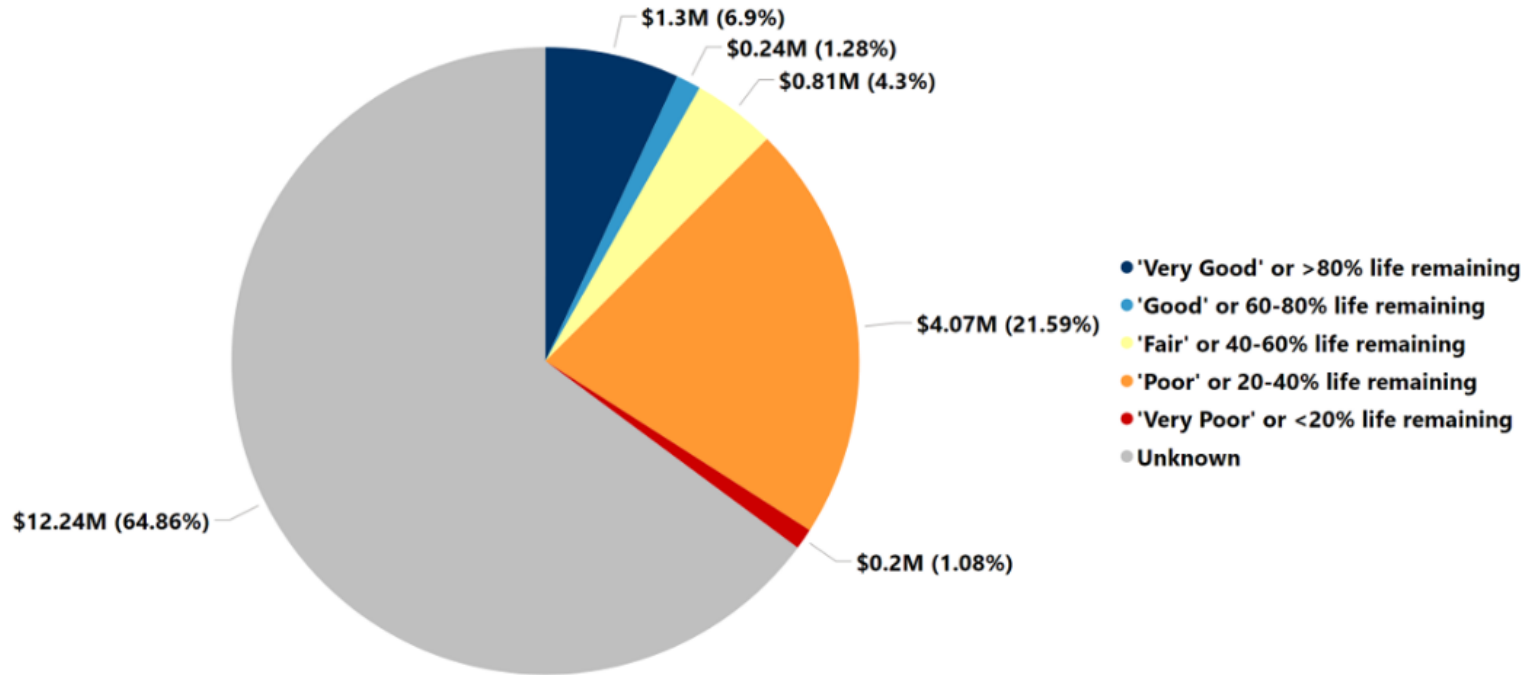
Asset Class	Average Age (Years)	Average Condition Grade	Expected Useful Life (Years)	Average Remaining Useful Life (Years)
Fleet Assets	8	Poor	10	3
Collections	Unknown	Unknown	7	Unknown
Custodial Equipment	8	Good	15	11
Other Equipment	Unknown	Unknown	15	Unknown
Automated Materials Handling	8	Good	10 to 15	7
Furniture	7	Very Good	15	13
Shelving	18	Fair	15	10
Information Technology	4	Fair	7	3
<b>Overall</b>	<b>7</b>	<b>Very Good</b>	<b>7 to 15</b>	<b>12</b>

### 3.1.3 Asset Condition

An overall condition summary for KFPL assets by replacement cost (in 2023 dollars) is shown in **Figure 3-1**. There is approximately 12.4% of the assets that are in very good to fair condition, while 64.9% of the assets with an unknown condition.

## Library Services

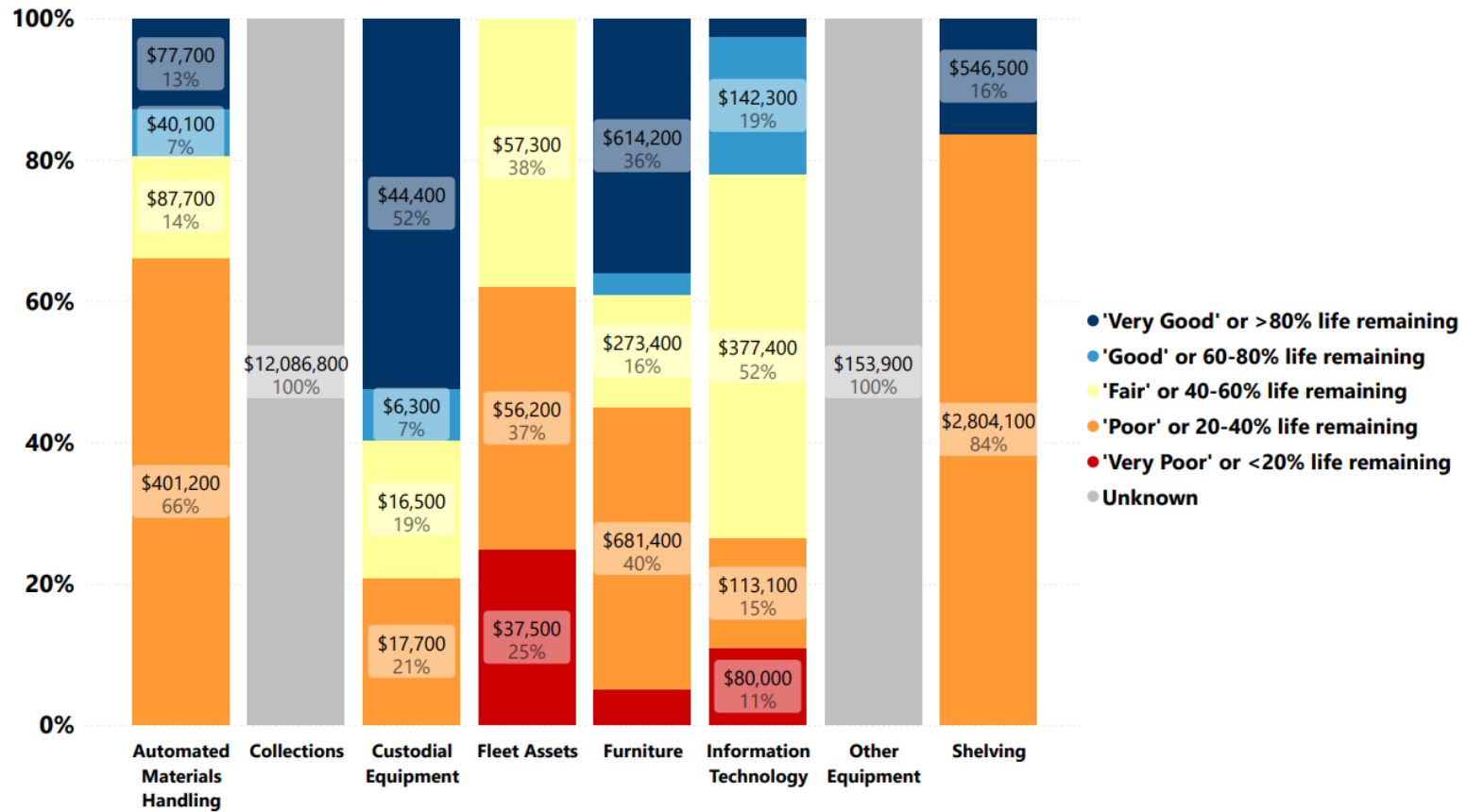
Figure 3-1: Condition Summary by 2023 Replacement Cost – Library Services



A condition summary for Library Services assets is provided in **Figure 3-2** by asset class and replacement cost (in 2023 dollars). With limited condition assessment data, asset conditions have been primarily determined based on age and EUL.

## Library Services

Figure 3-2: Condition Summary by Asset Class and Replacement Cost - Library Services



Based on Figure 14 in the Facilities AMP (2023), approximately 2% of the total replacement value of building elements in library facilities are in poor condition. The remaining building elements are evenly distributed between fair and good condition, representing approximately 98% of the total replacement cost. Additional details regarding the library facilities can be found in the Facilities AMP (2023).

## Library Services

### 3.1.4 Data Sources and Confidence

Asset data for Library Services is maintained by KFPL and data sources vary by asset class. Currently, there is no centralized repository for Library Services asset information. However, KFPL utilizes several platforms to manage their asset inventory. This includes the City’s web-based fleet and equipment management solution from AssetWorks called FleetFocus M5 for its fleet asset inventory and maintenance records, the V-Smart Integrated Library Systems Platform for its Collections, and the Halo ITSM Help Desk System for Information Technology assets. For other asset categories, KFPL staff compiled asset data for the inventories in 2023. Therefore, this AMP assumes that the data source is reliable.

Data confidence can be estimated based on the confidence level of various qualifiers and is presented on a scale from 0% (low) to 100% (high), as shown in **Table 3-3**. The qualifiers chosen for evaluation are specifically targeted to estimate the overall confidence in condition reporting within the SOLI. Applications and software assets are digital in nature and therefore have been excluded from consideration in the following data confidence estimation.

For discussion on data confidence related to library facilities, please refer to the Facilities AMP (2023).

**Table 3-3: Data Confidence Scale**

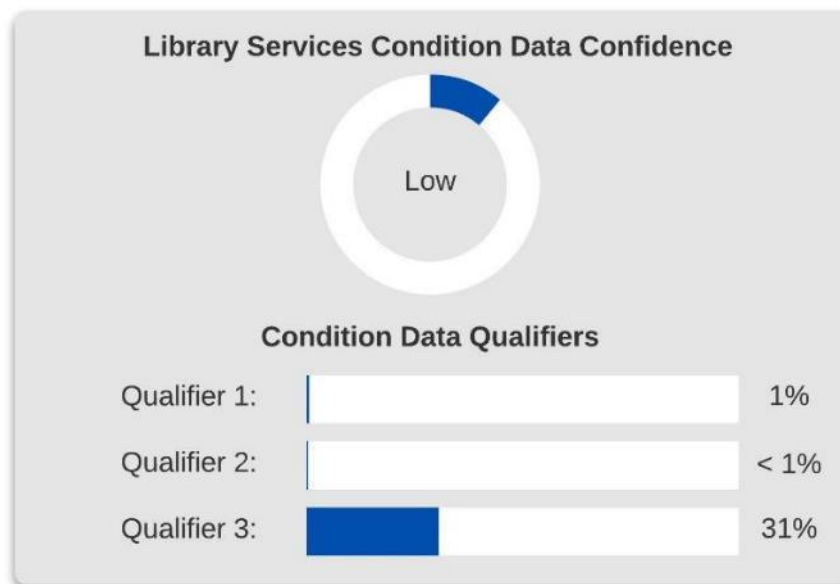
Confidence Level	Low	Low/ Moderate	Moderate	Moderate/ High	High
Average of Qualifiers	0% to 19%	20% to 39%	40% to 59%	60% to 79%	80% to 100%

Assuming the data sources are reliable, the following qualifiers were considered to estimate data confidence regarding the data utilized in the creation of this SOLI report:

## Library Services

- **Qualifier 1:** The percentage of assets in the asset inventory where construction, installation, or acquisition years are documented (1%);
- **Qualifier 2:** The percentage of assets in the asset inventory that have condition assessment data documented (< 1%); and,
- **Qualifier 3:** The percentage of the estimated overall replacement value, in 2023 dollars, attributed to assets in the asset inventory with documented condition assessment data (i.e., condition is not solely age-based) (31%).

**Figure 3-3: SOLI Report Data Confidence – Library Services**



As summarized in **Figure 3-3**, the overall asset condition data confidence for Library Services assets is estimated to be Low. Currently, the condition of Collections assets is unknown. Data confidence can be increased by improving the quality of the data and/or filling data gaps.

## Library Services

### 3.2 Levels of Service

In 2023, KFPL developed a Strategic Plan to help guide priorities and resources for a five-year planning cycle. The Strategic Plan has four strategic directions:

1. Facilitate energizing experiences rooted in inclusivity and diversity;
2. Optimize spaces and services;
3. Strengthen strategic partnerships and operations; and
4. Champion environmental accountability.

In addition to considering the strategic direction, the KFPL's Senior Management team developed and established the community and technical LOS based on input from staff. Many of the core services offered by KFPL and referred to in the Strategic Plan rely on the facilities from which they operate, and on the availability of collection materials. **Table 3-4** and **Table 3-5** outline the current community and technical levels of service for Library Services.

**Table 3-4: Community LOS - Library Services**

LOS Parameter	LOS Statement	Performance Measure	Current LOS (2023)
<b>Capacity/ Availability</b>	Library Collections meet user needs and expectation.	Number of items per capita.	1.9
<b>Capacity/ Availability</b>	Library space meets the needs of the community.	Square foot per capita.	0.87



## Library Services

**Table 3-5: Technical LOS - Library Services**

LOS Parameter	LOS Statement	Performance Measure	Current LOS (2023)
<b>Quality</b>	Fleet, Equipment, Collections, and Information Technology assets are maintained in good working condition.	Percentage of assets that are in poor or better condition.	98%

### 3.3 Risk Assessment

The risk scores were calculated using the risk methodology and approach outlined in the Introduction materials which were provided under a separate document. **Table 3-6** summarizes the risk factors for the Library Services assets.

**Table 3-6: Risk Factors - Library Services**

Factors	Risk Ratings
<b>A - Condition</b>	The condition of the assets was determined either by visual or age-based and can be found in the SOLI section of the AMP.
<b>B - Performance</b>	The performance of all the asset classes, except Collections was identified as "always reliable" and assigned a score of 1 for calculating risk score. Collections was identified as "usually reliable" and assigned a score of 3 for calculating risk score.

## Library Services

Factors	Risk Ratings
<b>C - Climate Change</b>	The climate change ratings were determined at the asset level by identifying climate change hazard interactions. The Fleet Assets were identified as a “high” risk and assigned a rating of 5 for calculating the risk score. The remaining asset classes were identified as a “low” risk and assigned a rating of 1 for calculating the risk score.
<b>D - Impact</b>	The impact for Automated Materials Handling and Shelving assets classes was identified as “high” impact and assigned a score of 2 for calculating risk score. The impact of the Fleet Assets, Custodial Equipment, and Furniture asset classes was identified as "moderate" impact and assigned a score of 1 for calculating risk score. The impact of the Collections, Information Technology, and Other Equipment asset classes was identified as "low" impact and assigned a score of 0 for calculating risk score.
<b>E - Importance</b>	A “high” importance rating was applied to the Fleet Assets, Custodial Equipment, and Shelving asset classes and a score of 3 was assigned for calculating risk score. The Automated Materials Handling asset class was assigned a “moderate” importance and given a score of 2. The Collections, Information Technology, Other Equipment, and Furniture asset classes was identified as “low” importance and assigned a score of 1 when calculating risk.

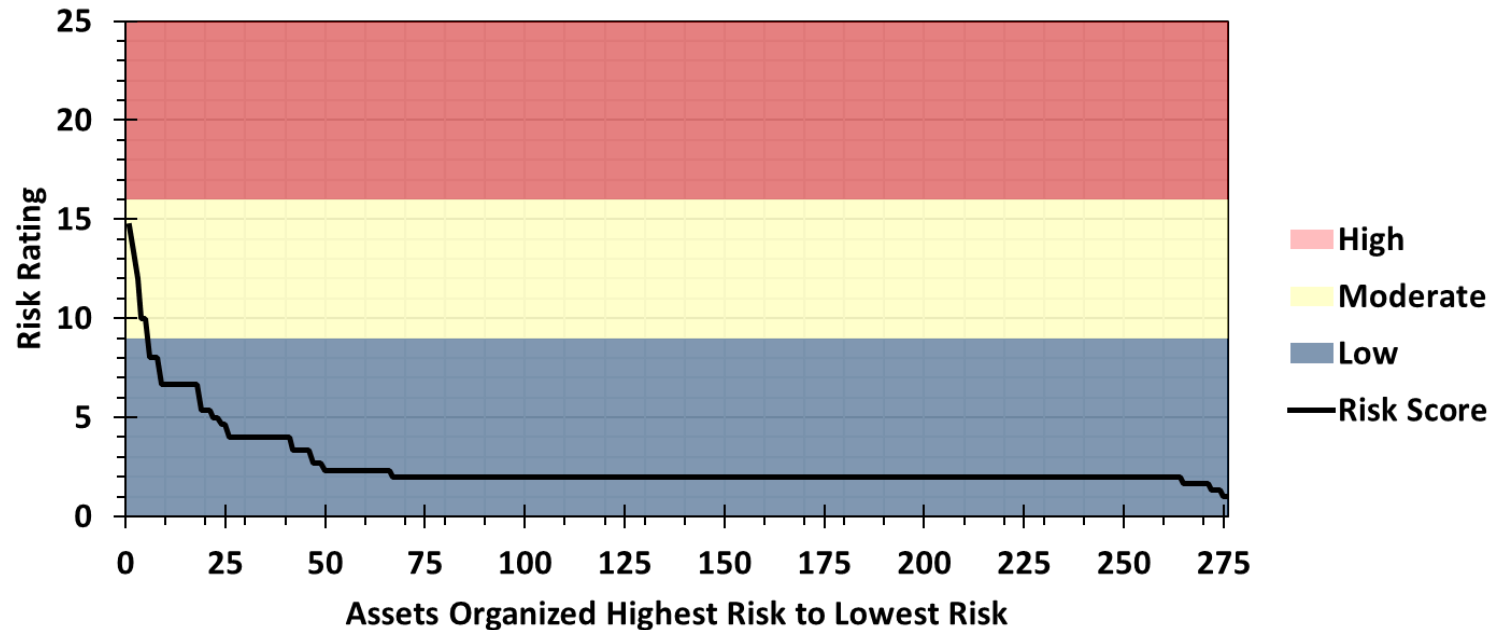
The individual risk ratings were used in calculating the risk score for each of the assets.

## Library Services

### 3.3.1 Risk Profile

The Risk profile of the Library Services assets is displayed in **Figure 3-4**. Based on the risk assessment, about 1.8% (five) of assets are considered Moderate risk and the remaining 98.2% (271) of assets tracked in the asset inventory are considered as Low risk. The assets considered to be Moderate risk include the three Fleet Assets and the Shelving units at the Pittsburgh and Isabel Turner library branches. It is important to note many assets are pooled within the existing inventory data.

**Figure 3-4: Risk Profile - Library Services**



## Library Services

### 3.4 Asset Management Strategy

#### 3.4.1 Lifecycle Activities

The lifecycle activities considered include:

- **Non-Infrastructure Solutions:** Actions or policies that can lower costs and extend useful lives.
- **Maintenance Activities:** Regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- **Renewal / Rehabilitation Activities:** Significant repairs designed to extend the life of the asset.
- **Replacement / Construction Activities:** Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehabilitation is no longer an option.
- **Disposal Activities:** Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed.
- **Expansion / Growth / Service Improvement Activities:** Planned activities required to extend services to previously unserved areas or expand services to meet growth demands.

**Table 3-7** describes the lifecycle activities that can be implemented within the asset management strategy for Library Services assets. The lifecycle activities presented below are existing activities performed by the City, identified during a workshop with City and Library staff in January 2024.

**Table 3-7: Lifecycle Activities - Library Services**

Lifecycle Type	Description of Activity	Frequency / Timing
Non-Infrastructure Solutions	Library Policies including Defined Procedures for Management and Regular Inspections of Buildings	Updated as needed
Non-Infrastructure Solutions	Review and update of 15-Year Capital Plan	Annually

## Library Services

Lifecycle Type	Description of Activity	Frequency / Timing
Non-Infrastructure Solutions	KFPL Strategic Plan	Approximately every 3 years
Maintenance Activities	Building Condition Assessments (facilitated by the FMCS Group)	As per policies
Maintenance Activities	Regular building maintenance	As needed
Replacement / Construction Activities	Replacement at EUL	End of EUL
Disposal Activities	Re-use of assets in a different location or for different staff as appropriate	As per disposal policy
Expansion / Growth / Service Improvement Activities	KFPL Facilities Plan	Approximately every 10 years

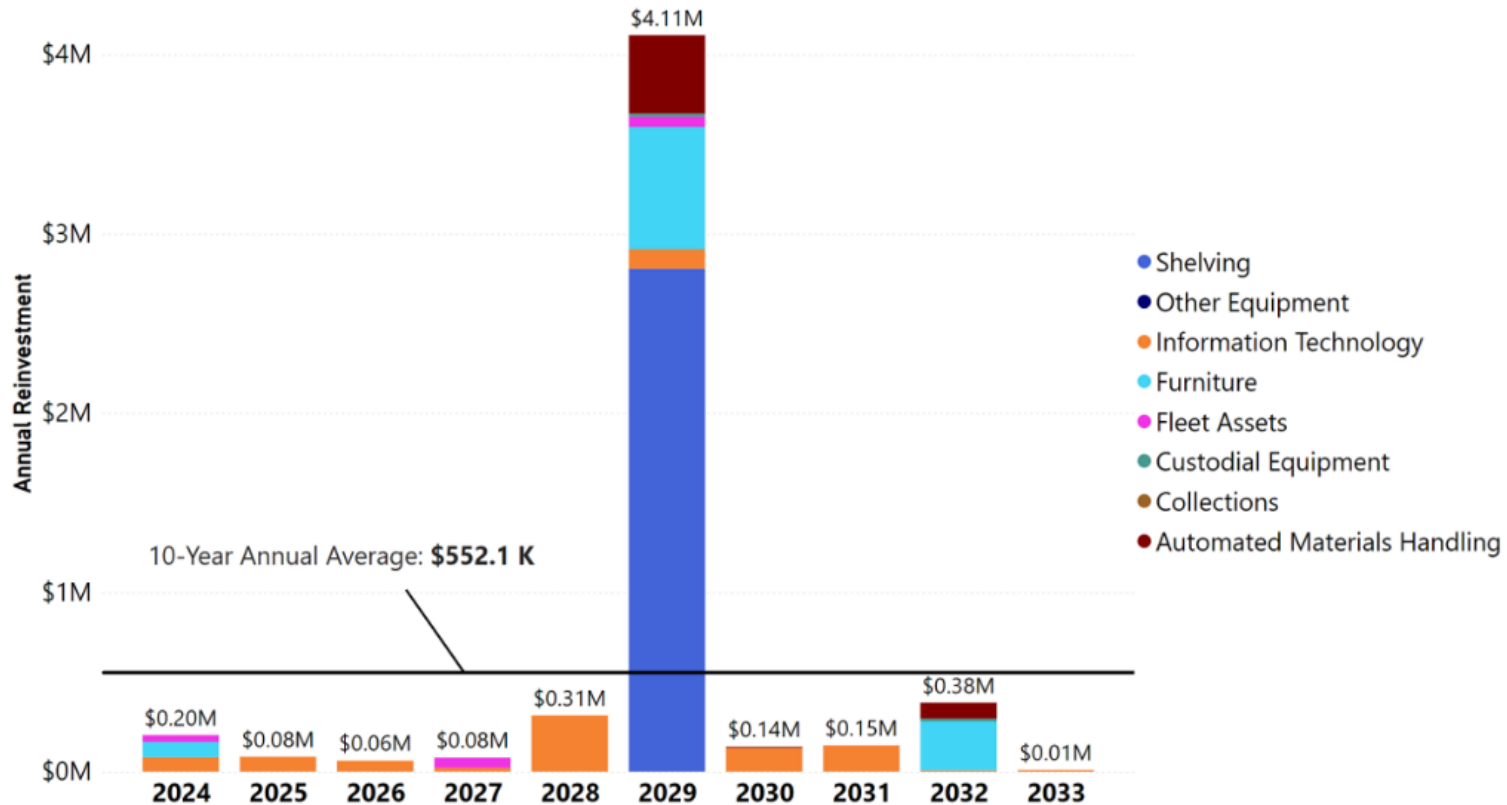
### 3.4.2 Funding the Lifecycle Activities

Lifecycle modeling allows the City and KFPL to understand the future reinvestment needs of their existing assets by generating a theoretical asset replacement forecast based on available asset inventory data. The age, EUL, replacement cost, condition, and risk score of each asset are leveraged within the lifecycle model to proactively plan for reinvestment over a specified period. Asset replacement forecasts within this subsection estimate the required reinvestment for Library Services over the next 10 years based on available asset inventory data.

## Library Services

A total of approximately **\$5.5 M** will need to be reinvested into Library Services over the next 10 years, excluding reinvestment in associated facilities. This translates to an annual average of approximately **\$552.1 K** per year, as presented in **Figure 3-5**. In 2029, significant reinvestment is expected within the Shelving asset class due to the replacement of Shelving units in several libraries.

**Figure 3-5: 10-Year Capital Reinvestment Needs - Library Services**

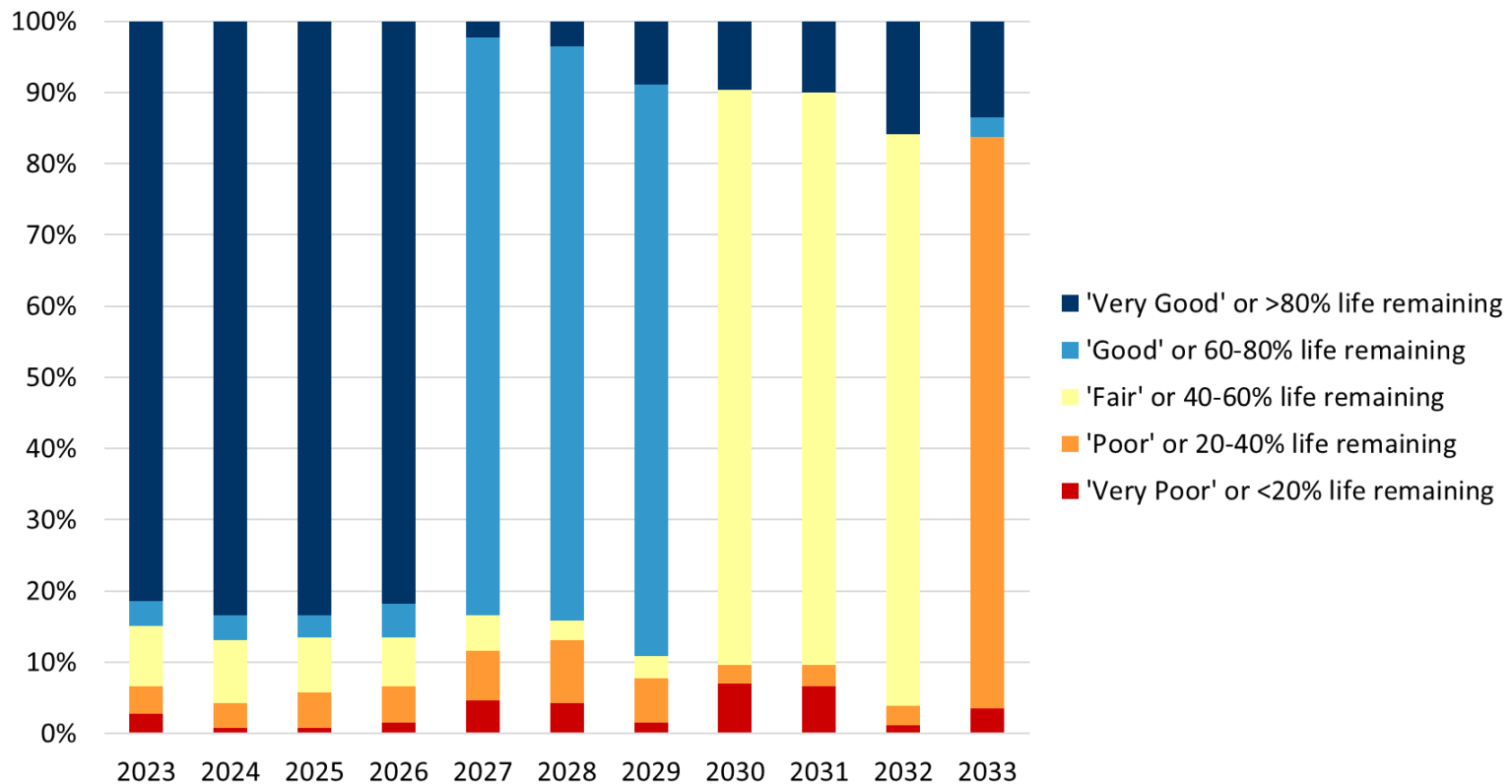


It is important to note that forecasting in this lifecycle model relies heavily on age and EUL to determine renewal or replacement needs.

## Library Services

The LOS defined in this AMP includes maintaining assets in poor or better condition (98%). From the lifecycle model, the percentage of Library Services assets in poor or better condition fluctuates throughout the next 10-years due to the EUL of the assets. With an EUL of 5, 10 and 15 years the assets reach a high of 99% in 2024, 2025, and 2032. For Library Services assets, 97% of assets are expected to be in poor or better condition as of 2033. **Figure 3-6** shows an overview of Library Services asset throughout the next 10 years based on the lifecycle model.

**Figure 3-6: Condition Overview by Year Based on Lifecycle Model - Library Services**





## 4.0 City Real Estate & Environment

The City of Kingston acknowledges that we are on the traditional homeland of the Anishinaabe, Haudenosaunee, and the Huron-Wendat, and thanks these nations for their care and stewardship over this shared land. The City's Real Estate & Environment departments manage and oversee the operation of land and property throughout the City. This includes city-owned land assets and some environmental remediation infrastructure assets. This chapter of the AMP summarizes asset inventories for City Real Estate & Environment and applies key asset management principles in accordance with the requirements of O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure.

**Note on Scope:** During the preparation of this AMP, the market value of City-Owned Land assets could not be ascertained due to existing data gaps. It is recommended that the City enhance its inventory for this asset class to be included in future iterations of the AMP, incorporating current assessed market values.



## City Real Estate & Environment

### 4.1 State of the Local Infrastructure

#### 4.1.1 Asset Inventory and Valuation

**Table 4-1** summarizes the asset inventory for City Real Estate & Environment by asset class, asset type, asset count, and total replacement cost (in 2023 dollars). The total replacement cost (2023 dollars) is estimated at **\$4.2 million** for the **40 assets** included in the inventory.

Although land is a major asset to the City, its value and condition should not be viewed the same as other assets such as buildings, vehicles, or equipment for example. It has value, but not a lifecycle. Land is assessed based on market value and specific characteristics related to zoning. This is very different than other asset types and the associated infrastructure requirements.

**Note:** On July 9<sup>th</sup>, 2024, Council approved a staff recommendation to work with Our Livable Solutions (OLS) to develop terms and conditions for the sale of the sleeping cabins to OLS. However, the asset inventory and replacement values remain in the current asset management plan as it is based on fiscal year 2023 city-owned infrastructure assets.

**Table 4-1: Inventory Summary by Asset Type – City Real Estate & Environment**

Asset Class	Asset Type	Count	Total Replacement Cost (2023)
Environmental Remediation Infrastructure	Leachate Control System	19	\$3,000,000
Environmental Remediation Infrastructure	Passive Reactive Barrier	1	\$750,000
Sleeping Cabins	Sleeping Cabins	20	\$424,000
<b>Overall</b>	<b>N/A</b>	<b>40</b>	<b>\$4,174,000</b>

## City Real Estate & Environment

### 4.1.2 Asset Age Summary

**Table 4-2** summarizes the average age, the average condition, the expected useful life, and the average remaining useful life of assets pertaining to City Real Estate & Environment.

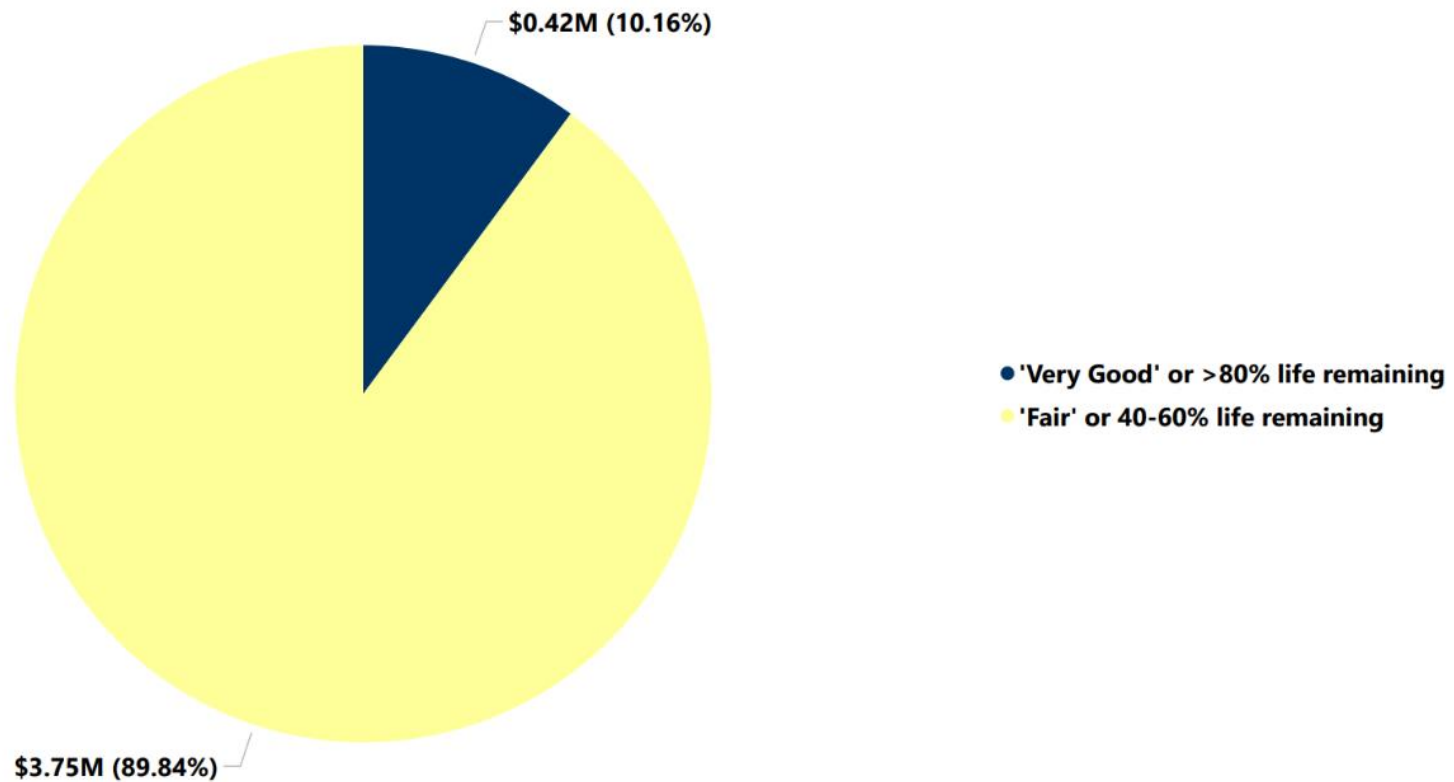
**Table 4-2: Average Age, Average Condition, Expected Useful Life, and Remaining Useful Life – City Real Estate & Environment**

Asset Class	Asset Type	Average Age (Years)	Average Condition Grade	Expected Useful Life (Years)	Average Remaining Useful Life (Years)
Environmental Remediation Infrastructure	Leachate Control System	17	Fair	30	13
Environmental Remediation Infrastructure	Passive Reactive Barrier	11	Fair	20	9
Sleeping Cabins	Sleeping Cabins	3	Very Good	20	18
<b>Overall</b>	<b>N/A</b>	<b>10</b>	<b>Good</b>	<b>20 to 30</b>	<b>13</b>

### 4.1.3 Asset Condition

The overall condition summary for City Real Estate & Environment assets by replacement cost (in 2023 dollars) is shown in **Figure 4-1**. 100% of the assets are in very good to fair condition.

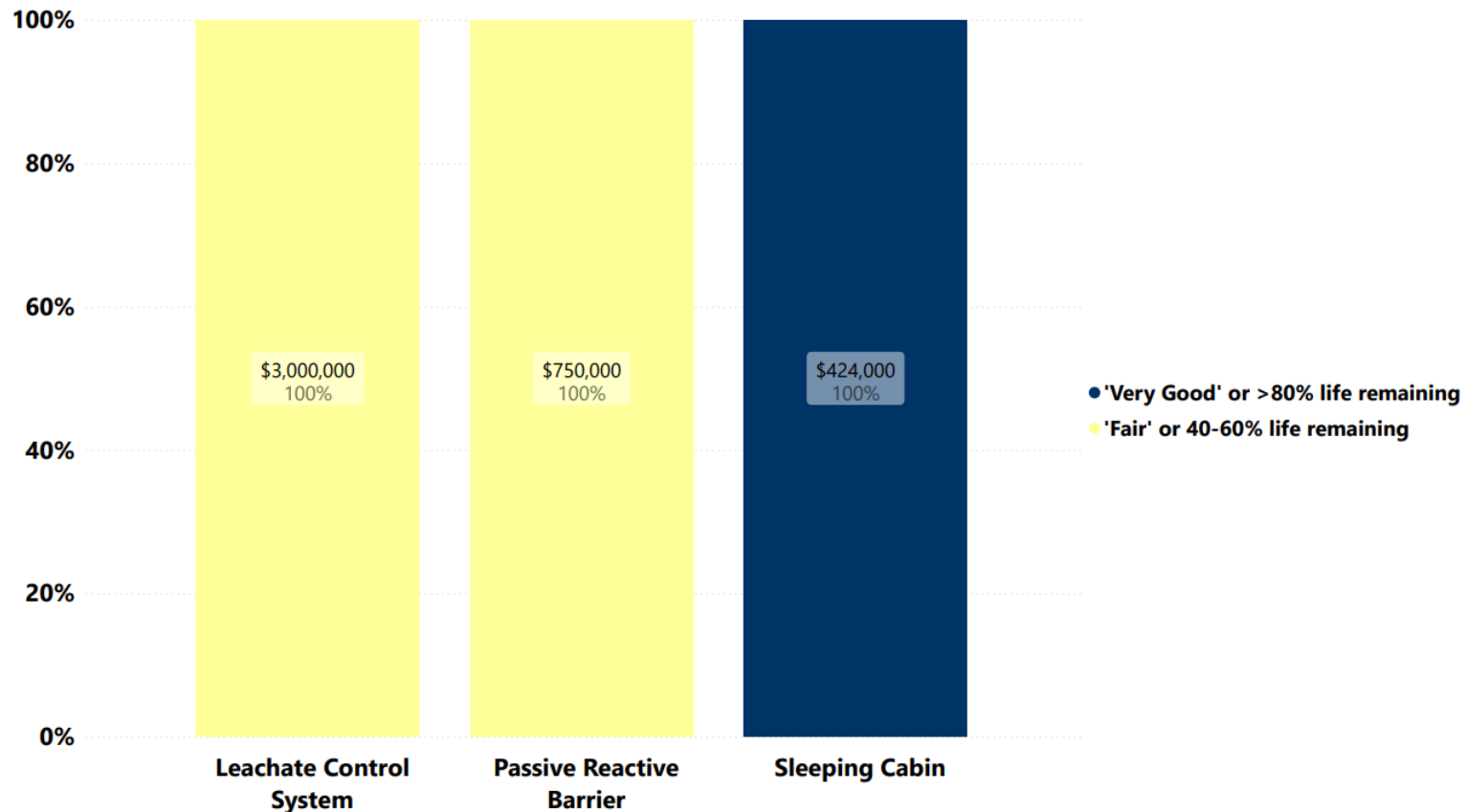
Figure 4-1: Condition Summary by 2023 Replacement Cost – City Real Estate & Environment



A condition summary for Environmental Remediation Infrastructure and Sleeping Cabins assets is provided in **Figure 4-2** by asset type and replacement cost (in 2023 dollars).

## City Real Estate & Environment

Figure 4-2: Condition Summary by Asset Type and Replacement Cost – City Real Estate & Environment (Environmental Remediation Infrastructure and Sleeping Cabins)



### 4.1.4 Data Sources and Confidence

Asset data for City Real Estate & Environment assets, particularly land, is maintained by City staff within the Public Sector Digest (PSD) CityWide application, which at this point serves as the centralized repository for land asset information. City staff provided PSD CityWide exports to inform inventories in 2023, translating to the assumption that the data source for this AMP can be seen as reliable.

## City Real Estate & Environment

There is currently no automated central land data registry within the City beyond the information included in the TCA database and some GIS information. Ownership information can be obtained by performing a title search at the Land Registry Office, Service Ontario, or online. For future AMP updates, the City will explore the opportunity to simplify and consolidate the City-owned land records into a centralized inventory system.

Data confidence can be estimated based on the confidence level of various qualifiers and is presented on a scale from 0% (low) to 100% (high), as shown in **Table 4-3**. The qualifiers chosen for evaluation are specifically targeted for estimating overall confidence of condition reporting within the SOLI.

**Table 4-3: Data Confidence Scale**

Confidence Level	Low	Low/ Moderate	Moderate	Moderate/ High	High
Average of Qualifiers	0% to 19%	20% to 39%	40% to 59%	60% to 79%	80% to 100%

Assuming the data source is reliable, the following qualifiers were considered to estimate data confidence regarding the data utilized in the creation of this SOLI report:

- **Qualifier 1:** The percentage of assets in the asset inventory where construction, installation, or acquisition years are documented (95%);
- **Qualifier 2:** The percentage of assets in the asset inventory that have condition assessment data documented (0%); and,
- **Qualifier 3:** The percentage of the estimated overall replacement value, in 2023 dollars, attributed to assets in the asset inventory with documented condition assessment data (i.e., condition is not solely age-based) (0%).

## City Real Estate & Environment

Figure 4-3: SOLI Report Data Confidence – City Real Estate & Environment



As summarized in **Figure 4-3**, the overall asset condition data confidence for City Real Estate & Environment assets is estimated to be Low/Moderate. Data confidence can be increased by improving the quality of the data and/or filling in data gaps.

### 4.2 Levels of Service

The City has developed technical LOS for the Environmental Remediation Infrastructure. It was decided that Environmental Acceptability was the key attribute in gauging the performance of the assets. **Table 4-4** outlines the City's current technical levels of service for environmental assets.

Table 4-4: Technical LOS – Environment

LOS Parameter	LOS Statement	Performance Measure	Current LOS (2023)
<b>Environmental Acceptability</b>	Ensure protection of the natural environment from closed landfills.	Number of groundwater seeps observed requiring remedial action.	0
<b>Environmental Acceptability</b>	Ensure protection of the natural environment from historical industrial uses.	Percentage of annual monitoring and maintenance of passive reactive barrier to treat groundwater completed.	100%

### 4.3 Risk Assessment

The risk scores were calculated using the risk methodology and approach outlined in the Introduction.

**Table 4-5** summarizes the risk factors for the City Real Estate & Environment assets.

Table 4-5: Risk Factors – City Real Estate & Environment

Factors	Risk Ratings
<b>A - Condition</b>	The condition of the assets was determined either by visual or age-based and can be found in the SOLI section of this AMP.
<b>B - Performance</b>	The performance of the Environmental Remediation Infrastructure assets was identified as “always reliable” and assigned a score of 1 for calculating risk score. The Sleeping Cabins were identified as "usually reliable" and assigned a score of 3 for calculating risk score.

## City Real Estate & Environment

Factors	Risk Ratings
<b>C - Climate Change</b>	The Environmental Remediation Infrastructure assets and Sleeping Cabins were identified as a “high” risk and assigned a rating of 5 for calculating the risk score.
<b>D - Impact</b>	The Sleeping Cabins were recognized as "low" impact and assigned a score of 0 for calculating risk score. The impact of the Environmental Remediation Infrastructure assets was identified as "moderate" impact and assigned a score of 1 for calculating risk score.
<b>E - Importance</b>	The Environmental Remediation Infrastructure assets and Sleeping Cabins were identified as “low” importance and assigned a score of 1 when calculating risk.

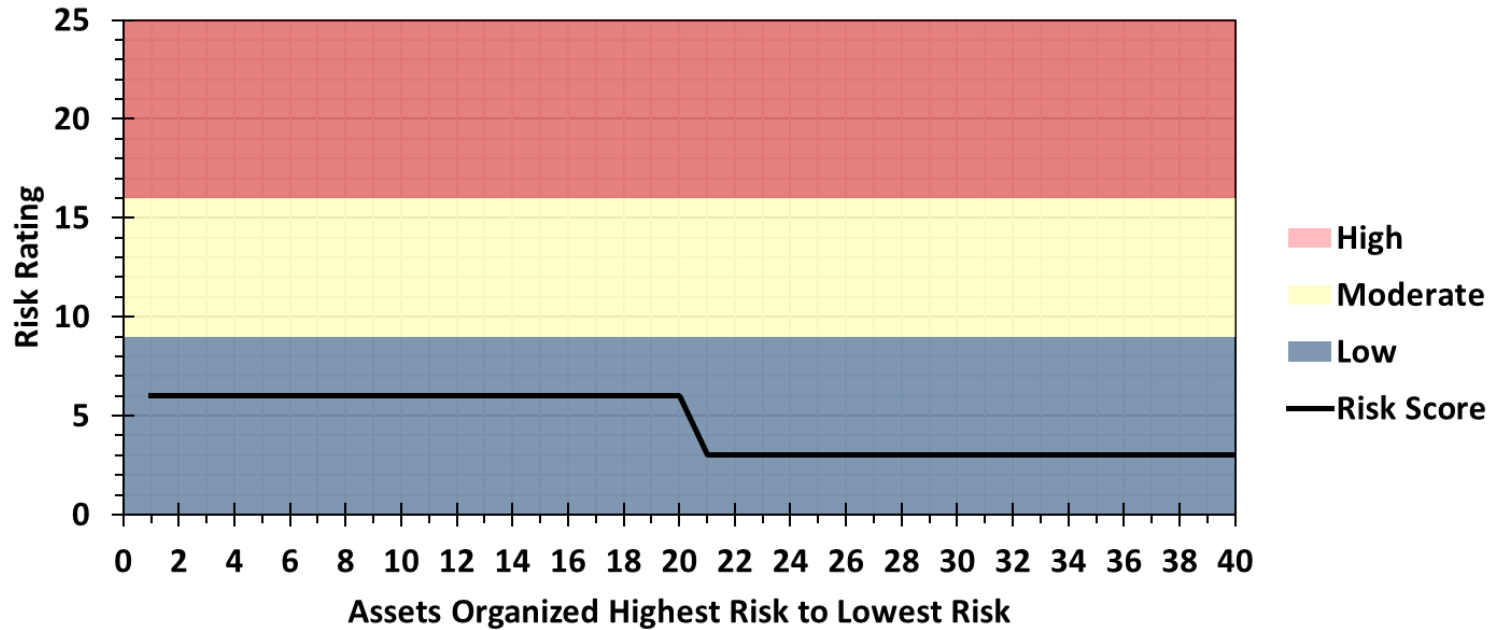
The individual risk ratings were used in calculating the risk score for each of the assets.

### 4.3.1 Risk Profile

The Risk profile of the City Real Estate & Environment assets is displayed in **Figure 4-4**. All 40 (i.e., 100%) of the assets tracked within the asset inventory were assessed as Low risk.



Figure 4-4: Risk Profile – City Real Estate & Environment



## 4.4 Asset Management Strategy

### 4.4.1 Lifecycle Activities

The lifecycle activities considered include:

- **Non-Infrastructure Solutions:** Actions or policies that can lower costs and extend useful lives.
- **Maintenance Activities:** Regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.
- **Renewal / Rehabilitation Activities:** Significant repairs designed to extend the life of the asset.
- **Replacement / Construction Activities:** Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehabilitation is no longer an option.

## City Real Estate & Environment

- **Disposal Activities:** Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed.
- **Expansion / Growth / Service Improvement Activities:** Planned activities required to extend services to previously unserved areas or expand services to meet growth demands.

**Table 4-6** describes the lifecycle activities that can be implemented within the asset management strategy for City Real Estate & Environment assets. The lifecycle activities presented below are existing activities performed by the City and were identified during a workshop with City staff in January 2024.

**Table 4-6: Lifecycle Activities – City Real Estate & Environment**

Lifecycle Type	Description of Activity	Frequency / Timing
Non-Infrastructure Solutions	Development approvals	As needed
Non-Infrastructure Solutions	Policies surrounding operational / asset functioning and improvement	As needed
Non-Infrastructure Solutions	Groundwater sampling program	Annually
Maintenance Activities	Regular maintenance of roads, utilities, maintenance of vacant lands prior to sale	Annually
Maintenance Activities	Monitoring and maintenance of passive reactive barrier to treat groundwater	Annually

## City Real Estate & Environment

Lifecycle Type	Description of Activity	Frequency / Timing
Disposal Activities	Disposition of surplus municipal lands including serviced lands, utility infrastructure, residential development, heritage building redevelopment	As needed
Expansion / Growth / Service Improvement Activities	Acquisition of land, development approvals, servicing (roads/utilities)	As needed (annual review)
Expansion / Growth / Service Improvement Activities	New funding opportunities for creation of more housing stock in community	Annually

### 4.4.2 Funding the Lifecycle Activities

Lifecycle modeling allows the City to understand the future reinvestment needs of their existing assets by generating a theoretical asset replacement forecast based on available asset inventory data. The age, EUL, replacement cost, condition, and risk score of each asset are leveraged within the lifecycle model to proactively plan for reinvestment over a specified period.

Due to existing data gaps pertaining to condition, inventory, and costing, the estimated asset replacement schedule and lifecycle modeling could not be assessed for City Real Estate & Environment assets.