Government Services and Information Technology
Asset Management Plan

May 2024

Version 1.1

Introduction

1.1   Background

Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure requires all municipalities to prepare baseline asset management plans for all their assets. The purpose of this legislation is to have municipalities demonstrate they can maintain their assets, balancing affordability, risk, and service levels to sustain them in their present state, with no change to the service level for the next ten years.

To meet the provincial requirements, the City has created this first version of its Government Services and Information Technology Asset Management Plan. It reports the current state of the assets, levels of service provided, strategies and activities applied by the City, historical and forecasted financial details, and potential improvement actions. It is a strategic document that provides a snapshot of current conditions and establishes a basis for future asset management planning and decision making. The Asset Management Plan is based on asset data and financial information from 2023.

1.2 Asset Classes and Types

The Government Services and Information Technology Asset Management Plan includes assets that support the provision of administrative and corporate services and technology solutions that support service delivery.

Government Services and Information Technology Asset Classes and Types

Government Services Facilities

- Facilities

Government Services Fleet

- Fleet

Information Technology

- Appliances
- Audio Visual
- Data Centre
- Desktop Devices

- Laptop Devices
- Mobile Devices
- Network Infrastructure
- Servers

- IT Storage
- Telecom Equipment
- Software (applications)

Note: The inventory reported does not capture all IT assets owned by the City because comprehensive reliable asset data was not available.

State of Local Infrastructure

2.1   Asset Inventory and Valuation

The total replacement cost of government services and information technology assets is approximately $424 million as summarized in the table below.

Government Services and Information Technology Asset Inventory and Replacement Cost

| Asset Class	Inventory	Replacement Cost
Government Services Facilities	6	$293 M
Government Services Fleet	243	$28 M
Information Technology[1]	36,836	$103 M

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1 IT asset data is a "snapshot"; inventories and asset attributes change rapidly due to the nature of the industry.

2.2 Age and Condition

The age of an asset gives a sense of how close it is to the end of its service life and what renewal interventions may be appropriate. The average age of the City's government services and information technology assets is shown in the figure below.

Average Age of Government Services and Information Technology Assets
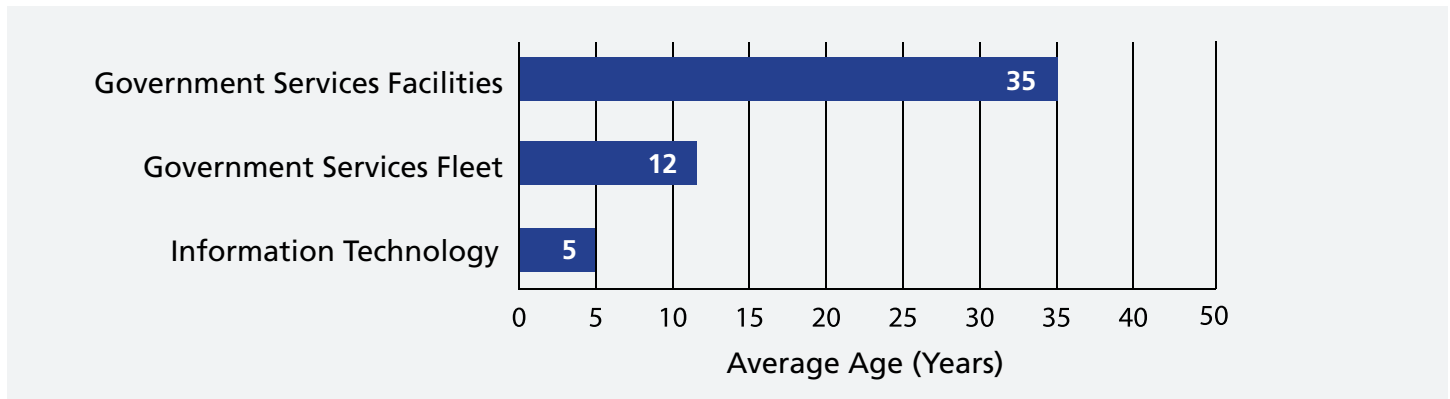
The City uses a range of techniques and solutions to collect and assess condition data, and at various frequencies, which is summarized in the table below.

Condition Data Collection Methods for Government Services and Information Technology Assets

Asset Type	Condition Data Collection Technique	Frequency
Government Services Facilities	Building Condition Audit	10 years
Government Services Fleet	Inspection and maintenance	6 months and original equipment manufacturer maintenance schedule
Information Technology	Age-based	Annually

Based on condition data, supplemented by subject matter expert knowledge and professional judgment, the condition of assets is rated on a scale from "Very Good" to "Very Poor" as shown in the table below.

Five-point Scale for Government Services and Information Technology Asset Condition

Rating	Rating Description	Facility Condition Index (FCI)[1]	Life Remaining	Subject Matter Expert Opinion (based on Life Consumed)
		(Government Services Facilities)	(Government Services Fleet)	(Information Technology)
Very Good	**Sound Physical Condition** No short-term failure risk and no work required.	< 0.02	>75%	Subject Matter Expert Opinion (based on life consumed)
Good	**Adequate for Now** Acceptable, generally in mid stage of expected service life	0.02 – 0.05	51% - 75%	
Fair	**Requires Attention** Signs of deterioration, requires attention, some elements exhibit deficiencies	0.05 – 0.15	26% - 50%	
Poor	**Increasing Potential of Affecting Service** Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration	0.15 – 0.30	1% - 25%	
Very Poor	**Unfit for Sustained Service (built infrastructure) / Nearing end of life (fleet)** Near or beyond expected service life, widespread signs of advanced deterioration, some built assets may be unusable.	> 0.30	<1% (outside of lifecycle)	

(1) Where FCI = 0, or no deferred maintenance is reported, or required maintenance is reported but has not yet been deferred, condition is reported based on typical useful life consumed as follows:

	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**
Typical Useful Life Consumed	<40%	40% - 70%	70% - 90%	90% - 100%	≥100%

The overall condition of library services assets is "Good to Fair" and a breakdown of the various asset classes are shown in the figures below.

Overall Condition Profile of Government Services and Information Technology Assets
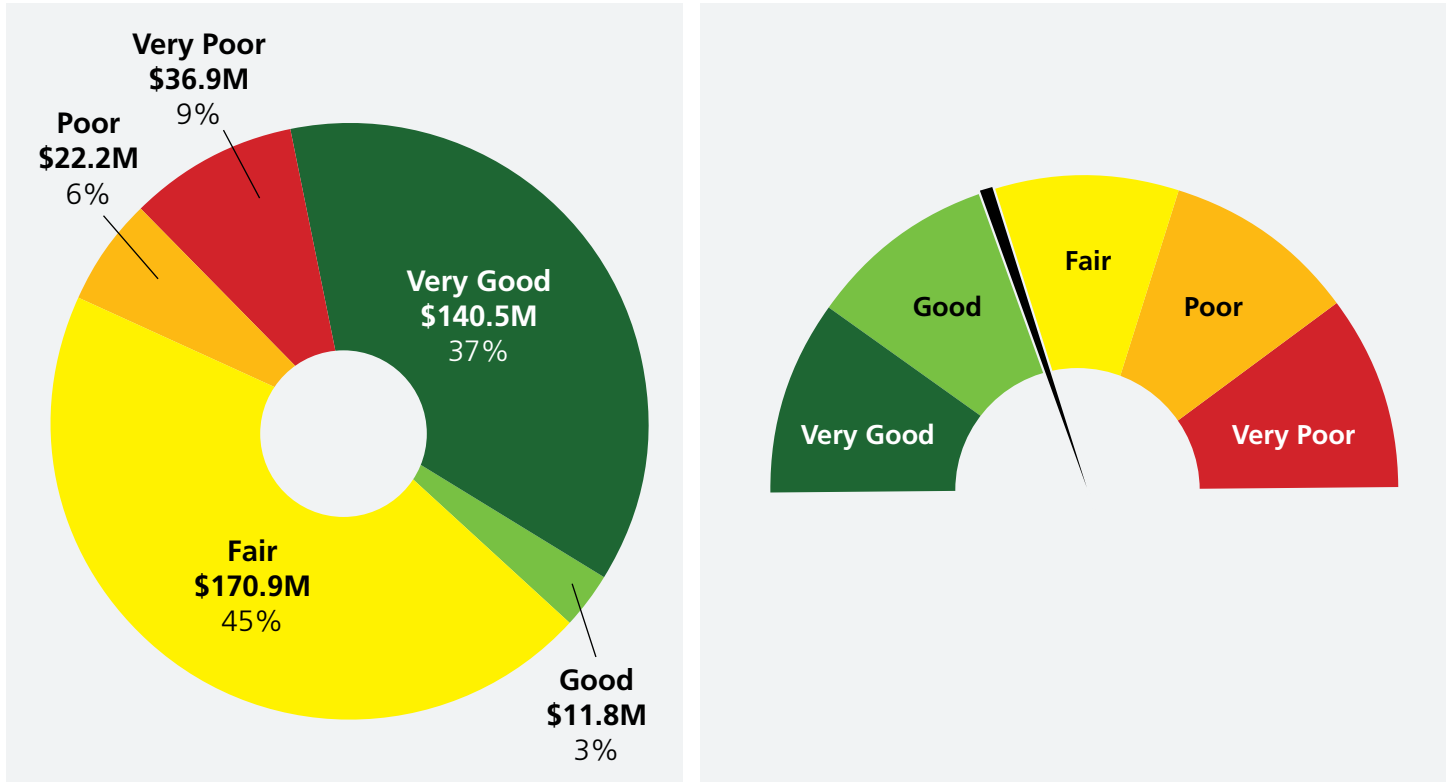
Very Poor
$36.9M
9%

Poor
$22.2M
6%

Very Good
$140.5M
37%

Fair
$170.9M
45%

Good
$11.8M
3%

Fair

Good

Poor

Very Good

Very Poor

Condition Profile of Government Services and Information Technology Assets

	Very Good	Good	Fair	Poor	Very Poor

Government Services Facilities: Very Good 43%, Fair 55%, Poor 2%, 6%

Government Services Fleet: Very Good 7%, Poor 19%, Very Poor 66%, 2%

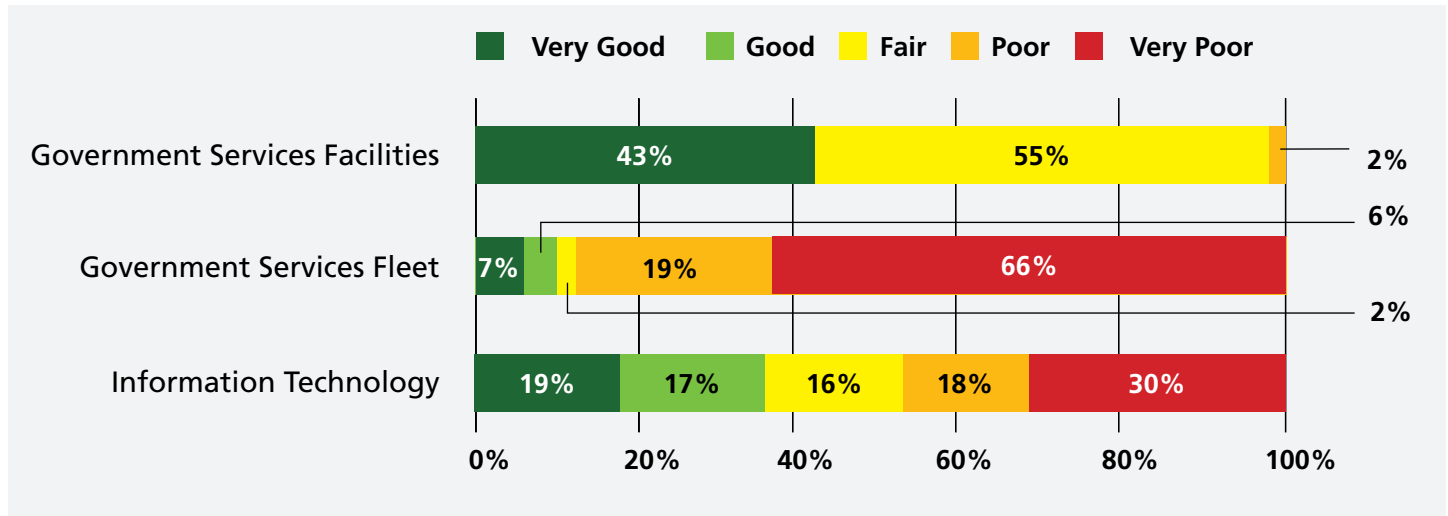Information Technology: Very Good 19%, Good 17%, Fair 16%, Poor 18%, Very Poor 30%

(0% — 20% — 40% — 60% — 80% — 100%)

Approximately two-thirds of fleet assets are shown to be in "Very Poor" condition because of the inclusion of "motor pool" vehicles, which are deemed acceptable for continued service despite being aged beyond their expected useful life (which results in them being assessed as "Very Poor" condition). Once "motor pool" vehicles are deemed no longer fit for service, they are disposed by the City and no renewal or replacement is required.

Nearly one-third of Information Technology asset are shown to be in "Very Poor" condition because condition is approximated based on age and expected useful life, rather than directly observed condition assessment, so confidence in this finding is therefore low.

The calculations presented by ITS are based on an industry standard TIME (Tolerate, Invest, Migrate and Eliminate) model which evaluates infrastructure, application, and assets on criteria such as age, replacement cost, support and warranty, business criticality and risk.

Levels of Service

The City's assets exist to deliver service to customers. Levels of service measure the actual service delivered so that decisions can be made about the assets based on the service that they provide rather than simply on their condition.

The Government Services and Information Technology Asset Management Plan establishes level of service measures and reports the current levels of service being provided. The measures align with City goals and recognize that government services and information technology assets should be managed in a way that:

- Reduces emissions associated with the City's operations and facilities
- Increases resiliency to extreme weather and changing climate conditions
- Provides accessible facilities
- Maintains assets in a state of good repair
- Provides sustainable and affordable services over the long-term

The level of service measures for government services and information technology are shown in the table below.

Level of Service Measures for Government Services and Information Technology

Service Attribute	Community Level of Service	Technical Level of Service	Current Performance (2022)
Function	Reduce emissions associated with the City's operations and facilities	GHG emissions per thousand square feet	2.5 tonnes CO2e
		GHG emissions per total fleet	1,940 tonnes CO2e
	Increase resiliency to extreme weather and changing climate conditions	Percent of facilities with backup power for critical building systems	31%
	Provide accessible facilities	Percent of facilities with accessibility audit completed	62%
Reliability	Maintain assets in a state of good repair	Number of computer incident responses to hardware events	1
		Number of major internet outages	1
		Percent of assets in fair or better condition	85%
Affordability	Provide sustainable and affordable services over the long-term	Asset Renewal Funding Ratio	63%
		Average Annual Renewal Investment	$7.1M

Asset Management Strategy

4.1 Practices, Procedures and Tools

One of the key objectives of asset management is to recognize the objectives of the City and align them with the City's long term financial plans. This will allow Council to make informed decisions and provide clear direction on how the City will balance service levels, risks, and costs. The City has well-established practices to assess the risk of not meeting community and technical level of service standards and to determine the lowest lifecycle cost activities to reduce the risks to acceptable levels and the associated costs of undertaking them. The Asset Management Plan provides the needs forecast associated with maintaining current levels of service and compares it to the planned budget to determine funding gaps or surpluses.

4.2   Future Demand and Service Enhancement

In developing the Government Services and Information Technology Asset Management Plan, a preliminary estimate was prepared of the cost of maintaining all of the assets that support the City's government services and IT at their current level of service over the next 10 years. The estimate includes forecasts of:

- Growth needs, based on IT Services' forecast of growth needs for IT assets (there are no growth needs identified for government services assets).

- Enhancement needs based on accessibility audits, building condition assessments and input from subject matter experts, required to improve services, meet new or updated standards, or address accessibility.

- Renewal needs based on building condition audits for facilities, forecasted lifecycle renewal needs for Fleet and input from subject matter experts for IT assets, required to maintain assets in a state of good repair.

Ottawa's population is expected to increase to 1.4 million people by 2046, a significant increase of 40% since 2018, as summarized in the table below. This growth will put pressure on existing assets and services, and may require new or expanded assets to meet growing needs.

City of Ottawa Future Demand Projections for 2046

	2046 Projection	Growth Since 2018
Population	1,409,650	402,150
Private Households	590,600	194,800
Jobs	827,000	189,500

Source: New Official Plan report to Council (ACS2021-PIE-EDP-0036), October 2021

The table below summarizes the future growth, enhancement and renewal needs forecast for community and social services assets.

ITS has designated an 'indeterminate' enhancement forecast for the next 10 years due to ongoing initiatives within the Finance and Corporate Services Department. The Department has developed an Enterprise Business Management roadmap aligned with the recently released Technology Rationalization policy. This roadmap emphasizes utilizing existing enterprise solutions, reducing technical debt, and enhancing our security posture during application procurement, deployment, and retirement.

Future Demand and Service Enhancement Needs Forecast for Government Services and Information Technology

Asset Class	10-Year Growth Needs ($ Millions)	10-Year Enhancement Needs ($ Millions)	10-Year Renewal Needs ($ Millions)	10-Year Total Needs ($ Millions)
Government Services Facilities	$0	$6.4	$50.3[2]	$56.7
Government Services Fleet	$0	Not applicable	$10.2	$10.2
Information Technology[3]	$43.4	Indeterminate[4]	$102.2	Indeterminate
Total	**$43.4**	**Indeterminate**	**$162.7**	**Indeterminate**

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[2] The capital renewal needs identified for buildings are underestimated by approximately $115M across all City services. The underestimation is due to: i) limitations with the asset management software utilized by Buildings & Parks Asset Management; ii) business process and timelines for acquiring projections and entering inventory data within the asset management software; and iii) data rationalization impacting accuracy at the point and time when the data was acquired from the asset management software.

[3] Some IT assets are not captured in the Asset Management Plan; the values shown include only needs for assets captured in the Asset Management Plan.

[4] Enhancement needs for IT assets are indeterminate due to the inability to predict shifts in corporate priority, term of council priorities, audit response, and other strategy priorities or disruptions.

Asset management planning also needs to consider the City's Climate Change Master Plan goals for both mitigation strategies to slow climate change impacts, such as reducing greenhouse gas emissions, and adaptation strategies to reduce negative impacts associated with existing and future climate change. The Asset Management Plan estimates the additional future costs due to climate change shown in the table below. These are preliminary estimates based on the latest information available, which will be refined over time.

Estimated Additional Future Costs Due to Climate Change for Government Services and Information Technology

Additional Costs due to Climate Change	Estimated 10-year Total Additional Cost ($ Millions)
Increased operations and maintenance and capital renewal costs for buildings due to gradual, long-term impacts of climate change	2.5 (operating & maintenance) $1.9 (capital renewal)
Increased operations and maintenance costs due to extreme weather events	$0.9
Increased capital costs to implement climate change mitigation actions including municipal fleet electrification and building retrofits	$20.5
Total	**$25.9**

Some climate change costs have been or are expected in future to be at least partially recovered from upper levels of government; these recoveries are not factored into the estimates. Also, the estimates do not capture damage to capital infrastructure due to catastrophic/extreme weather events (e.g., tornadoes); increased capital renewal needs due to accelerated asset deterioration; increased capital renewal costs for assets other than buildings (such as fleet and equipment); and gradual, long-term impacts due to climate hazards other than extreme heat, extreme rainfall, and freeze-thaw cycles (such as drought, ice storms and wildfires).

4.3   Lifecycle Management and Risk

Lifecyle management activities refer to the set of planned activities and actions undertaken to maintain the current levels of service and achieve good economic life of the assets. The activities undertaken range from operations and maintenance activities, including planned and reactive maintenance, renewal activities (such as condition assessments and rehabilitations), disposal activities and non-infrastructure solutions (such as policies and processes that reduce costs, mitigate risks or maintain/enhance service delivery).

The City applies a risk-based approach to prioritizing asset renewals. The risk assessment frameworks and methods vary across the different types of assets, but are generally based on the importance of each asset in terms of service delivery/continuity and the number of users who could be impacted.

Financing Strategy

The City continues to invest responsibly in maintaining infrastructure and has been increasing its capital investments to align with long-range financial plans. Funding targets recommended in the 2017 Comprehensive Asset Management Program were focused on maintaining critical infrastructure in a state of good repair. There will be a need to update the long range financial plans once new service levels are defined to ensure financial sustainability.

5.1 Expenditure History

For information on historical operating and capital expenditures, refer to the City's historical annual budget documents.

5.2 Expenditure Forecast

Over the next 10 years, the City will continue investing in infrastructure to support operational expenses, respond to renewal needs, serve growth, and provide enhancements. The planned operating budget is based on Financial Planning's operating budget forecast for Service Ottawa and Information Technology Services, and the planned capital budget is based on the City's 2023 10-year capital budget forecast (for facilities), Fleet Services' 2024 forecast (for fleet renewal) and the City's 2024 10-year budget forecast and input from IT Services (for IT assets).

Budget Forecast for Government Services

Component	Expenditure/Budget Forecast ($ Millions)									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Operating Budget[5]	$12.7	$13.9	$14.7	$15.5	$16.4	$17.4	$18.4	$19.6	$20.9	$22.3
Capital Budget – Growth	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Capital Budget – Enhancement	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2
Capital Budget – Renewal	$4.4	$3.2	$1.50	$2.00	$1.40	$1.90	$1.80	$2.50	$3.00	$2.40

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[5] Values shown are net operating budget requirement after expenditure recoveries and revenues.

Budget Forecast for Information Technology Services

Component	Expenditure/Budget Forecast ($ Millions)									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Operating Budget[6]	$80.7	$81.7	$83.4	$85.0	$86.7	$88.5	$90.3	$92.1	$93.9	$95.8
Capital Budget – Growth	$1.8	$3.0	$3.4	$4.2	$4.8	$3.1	$3.3	$3.5	$3.7	$3.8
Capital Budget – Enhancement	$2.7	$4.5	$5.1	$6.3	$7.2	$4.7	$5.0	$5.3	$5.6	$5.7
Capital Budget – Renewal	$3.0	$3.3	$3.7	$4.1	$4.5	$4.9	$5.3	$5.7	$6.1	$6.2

[6] Values shown are net operating budget requirement after expenditure recoveries and revenues.
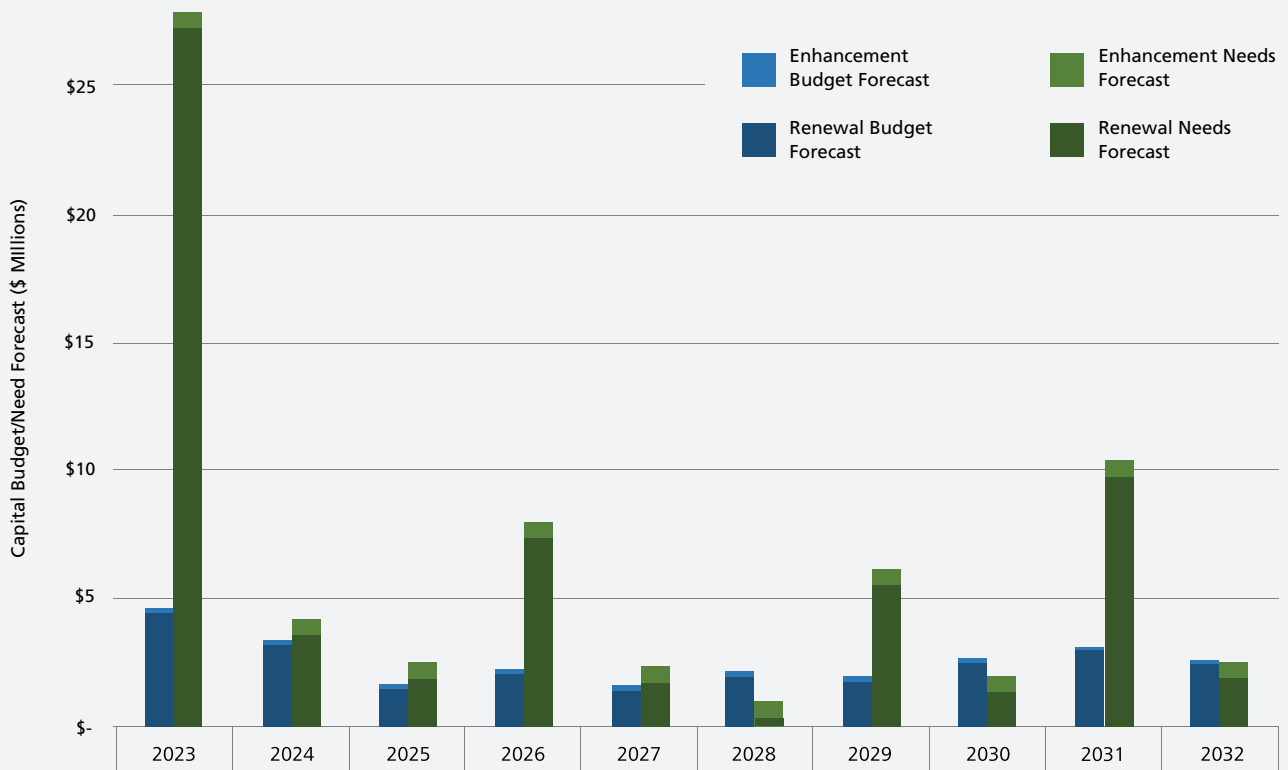
5.3 Funding Gap

The funding gap is the difference between the forecasted asset needs and the planned capital budget. Over the next 10 years, the total needs for government services and information technology is $162.5 million, while the planned budget is $107.1 million, leading to a funding gap of $55.4 million. The projected service enhancement needs for information technology are considered indeterminate due to ever-evolving technology and thus not included in this evaluation. The forecasted investment needs, planned budgets and funding gaps for government services and information technology assets are summarized in the table and figure below.

Funding Gap for Government Services

Asset Class	10-Year Need ($ Millions)	10-Year Funding ($ Millions)	10-Year Gap ($ Millions)
Growth			
Government Services Facilities	$0	$0	$0
Government Services Fleet	Not Applicable	Not Applicable	Not Applicable
Subtotal	**$0.0**	**$0.0**	**$0.0**
Enhancement			
Government Services Facilities	$6.4	$2.0	($4.4)
Government Services Fleet	Not Applicable	Not Applicable	Not Applicable
Subtotal	**$6.4**	**$2.0**	**($4.4)**
Renewal			
Government Services Facilities	$50.3	$17.4	($32.9)
Government Services Fleet	$10.2	$6.5	($3.7)
Subtotal	**$60.5**	**$23.9**	**($36.6)**
Total	**$66.9**	**$25.9**	**($41.0)**

Government Services and Information Technology
Asset Management Plan

Budget and Needs Forecast for Government Services

Legend:
- Enhancement Budget Forecast
- Renewal Budget Forecast
- Enhancement Needs Forecast
- Renewal Needs Forecast

Y-axis: Capital Budget/Need Forecast ($ Millions)

Cumulative Funding Gap for for Government Services

Y-axis: Cumulative Funding Gap ($ Millions)

Funding Gap for Information Technology[7]

Asset Class	10-Year Need ($ Millions)	10-Year Funding ($ Millions)	10-Year Gap ($ Millions)
Growth			
Information Technology Assets	$43.4	$34.7	($8.7)
Enhancement			
Information Technology Assets	Indeterminate[8]	$52.1	Indeterminate
Renewal			
Information Technology Assets	$102.2	$46.5	($55.7)

[7]   Some IT assets are not captured in the Asset Management Plan; the values shown include only needs and funding for assets captured in the Asset Management Plan.

[8]   Enhancement needs for IT assets are indeterminate due to the inability to predict shifts in corporate priority, term of council priorities, audit response, and other strategy priorities or disruptions.

Budget and Needs Forecast for Information Technology[9]

Capital Budget/Need Forecast ($ Millions)

Legend:
- Growth Budget Forecast
- Growth Needs Forecast
- Renewal Budget Forecast
- Renewal Needs Forecast

Cumulative Funding Gap for Information Technology[9]
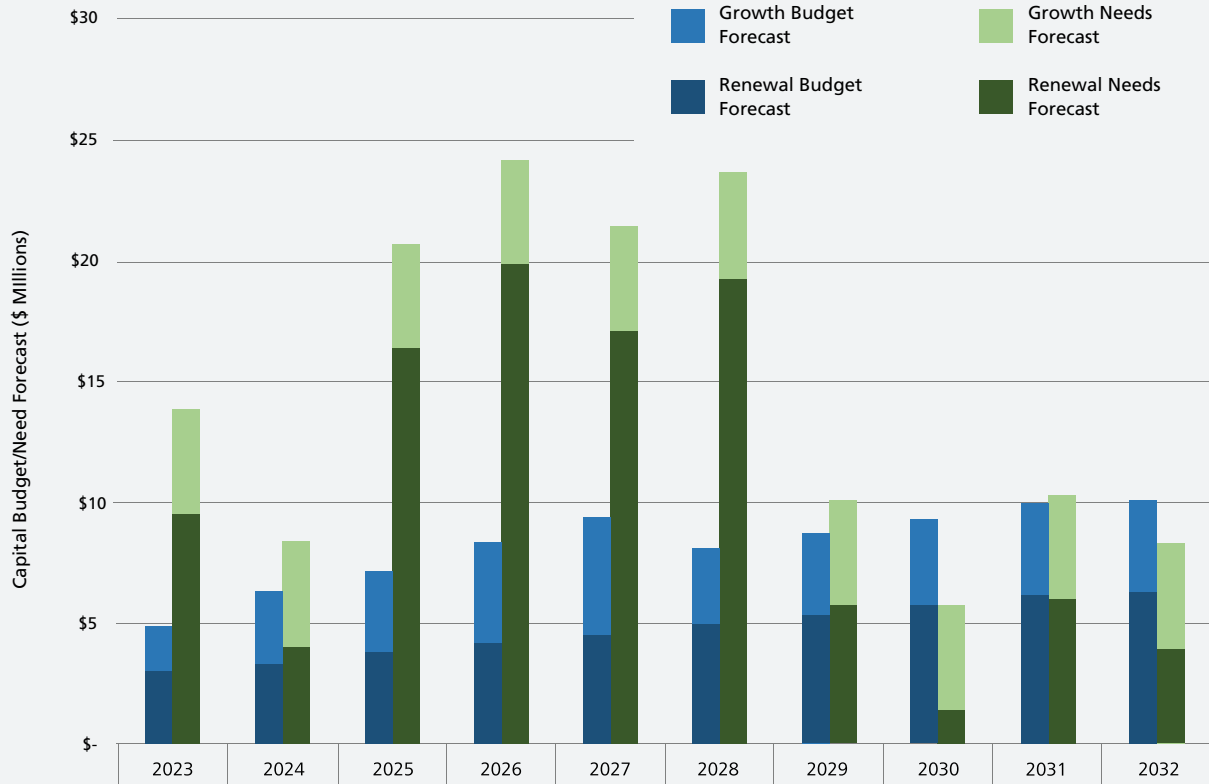
Cumulative Funding Gap ($ Millions)

[9] Some IT assets are not captured in the Asset Management Plan; the values shown include only needs and funding for assets captured in the Asset Management Plan.
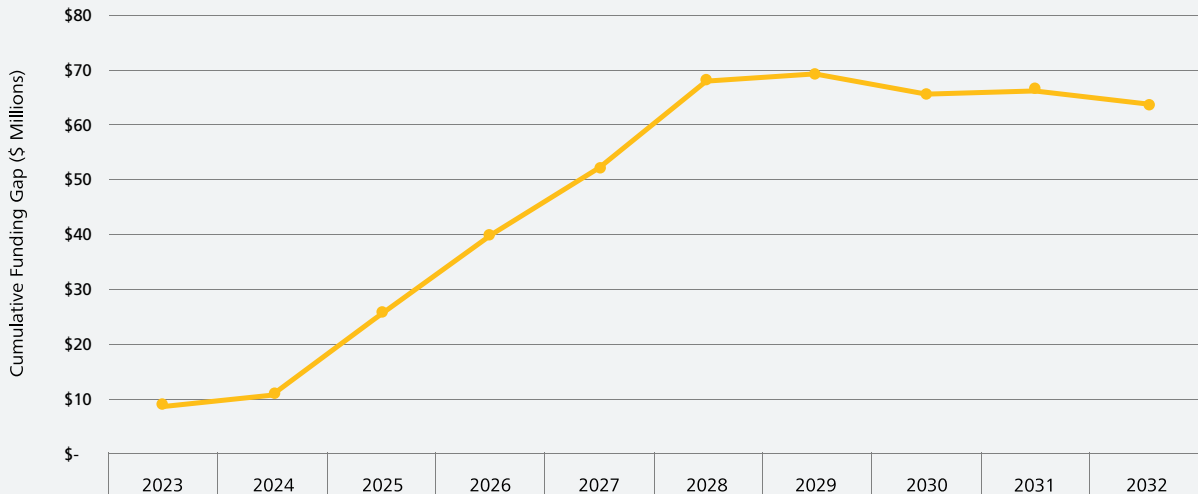
The City has planned dedicated funding over the next 10 years to address climate change needs. The funding supports not only emergency and protective services, but various other services provided by the City. The climate change capital funding needs identified for the various City services and the total planned capital funding for climate change initiatives are summarized in the table below. These are preliminary estimates that are being refined through various initiatives, but they give a sense of the order-of-magnitude of future planned budget and potential needs.

Estimated Future Climate Change Capital Budgets and Capital Needs for All City Services*

Capital Program	10-Year Total Capital Budget ($ Millions)	Service/Asset Needs Supported	10-Year Total Climate Change Capital Needs ($ Millions)	10-Year Total Capital Funding Gap/Surplus ($ Millions)
Climate Change Master Plan	$190.0	All		
Emergency Reception Lodging Generators	$4.1	Buildings	$401.9	($179.1)
Energy Management & Investment Strategy	$28.7	Buildings		
Total	**$222.8**		**$401.9**	**($179.1)**

*Excludes:
(1) Core assets (refer to Drinking Water, Stormwater, Transportation and Wastewater Asset Management Plans).
(2) Transit services (all needs and budgets for transit services are covered by the Transit Long Range Financial Plan).

Improvement and Monitoring Plan

Based on the snapshot of current conditions and existing plans presented in the Government Services and Information Technology Asset Management Plan, areas of potential improvement include:

- Data gaps, data management, and record keeping
- Cost estimating
- Level of service measures and targets
- Inspection, condition assessment, corrective maintenance, and risk assessment
- Asset maintenance practices for facilities
- Climate change resiliency
- Applying an equity and inclusion lens

The Government Services and Information Technology Asset Management Plan will be reviewed and updated on a regular basis and over time these improvements will be reflected in future versions of the Asset Management Plan.

More Information

For more information about comprehensive asset management, or to learn more about the City's Comprehensive Asset Management Program, please visit Ottawa.ca.