

Corporate Asset Management



Appendix A: 2022 State of the Local Infrastructure Report

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Glossary of Terms

AM	Asset Management
AMP	Asset Management Plan
BCA	Building Condition Assessment
BCI	Bridge Condition Index
BDC	Building Design and Construction
CAM	Corporate Asset Management
City	The City of Brampton
Corporate AMP	Corporate Asset Management Plan
CRV	Current Replacement Value
Departmental AMP	Departmental Asset Management Plan
DC	Development Charges
EUL	Expected Useful Life
FCI	Facilities Condition Index
FDC/WTC	Foundation Drain Collector/Weeping Tile Collector
FOM	Facilities Operation and Maintenance
ICIP	Investing in Canada Infrastructure Program
IT	Information Technology
LOS	Levels of Service
Ministry Guide	Ministry of Infrastructure's Guide for Municipal AMPs
NBV	Net Book Value
PCI	Pavement Condition Index
PSAB	Public Sector Accounting Board
PTIF	Public Transit Infrastructure Fund
R&R	Repair & Replacement
Replacement Value	Valuation of the Asset Base
RFID	Radio Frequency Identification
RUL	Remaining Useful Life
SA AMP	Service Area Asset Management Plan
SOLI	State of Local Infrastructure
SW	Stormwater
TCA	Tangible Capital Asset
UL	Useful Life

Introduction

As the fourth largest City in the province and one of the fastest growing communities in Ontario, the City of Brampton owns and operates a substantial portfolio of assets across different service areas. These assets are essential to the well-being of the community and form an integral part of the City's long-term financial and service delivery planning.

In June 2022, the City of Brampton adopted its second Corporate Asset Management Plan at the City-wide level that formed a comprehensive update to the City's first Corporate AMP completed in 2016. Importantly, this 2022 SOLI Report maintains most of the key assumptions and methodology derived through the recent Corporate AMP process. The City approved the asset management plan for its Transportation and Stormwater infrastructure in 2022 and is currently undertaking service area AMPs for all other infrastructure assets. The Service Area AMP (SA AMP) will represent a significant step to maturing the City's overall asset management program, which includes an in depth look at each lifecycle activity to determine the true cost of an asset over its useful life. As a result, the financing strategy section is omitted from this 2022 SOLI report and captured under the SA AMP, which will be presented to Council for approval prior to July 1, 2024.

The 2022 State of the Local Infrastructure Report acts as a supporting document to the City's budgeting process and provides an overview of the following:

- 1) **Asset Management Maturity Assessment:** The overall maturity of the City's asset management data and program;
- 2) **State of the Local Infrastructure:** Estimated age, value and condition of the City's infrastructure;
- 3) **Future Improvements:** An overview of future improvements and initiatives that will improve data quality and confidence while driving corporate change.

The estimated total current replacement value of the City's assets \$9.0 billion (\$2023). This value is comprised of infrastructure assets from Transportation, Stormwater, Transit, Parks, Recreation, Cultural Services, Facilities, Information Technology, Fire Services, Library, Animal Services and City Support Fleet. Transportation services represent the largest share at 43%, or \$3.9 billion, of the total \$9.0 billion replacement value. The total asset replacement value identified in this report represents an increase in value of \$1.3 billion, or 17%, over the \$7.7 billion (\$2022) City-wide asset replacement value stated in the 2021 SOLI Report. This increase is due to refined costing information and inflation, revised inventories and the inclusion of new assets not captured previously. A comprehensive description, and comparative analysis regarding the change in valuation from the previous year for each service category, is in the service area report cards in Appendix I of this report.

The majority of the \$9.0 billion in assets currently owned and operated by the City are in Good condition. The overall "Good" condition rating is attributed to the City's infrastructure being relatively new in age combined with the sound asset management practices the City has employed to date. It is important to note that the current City-wide confidence to use the information presented in this report for investment related decision-making is assessed as **Medium (Condition Based)**. It is an overall goal to improve the reliability and accuracy of all information moving forward.

1 Asset Management Maturity Assessment

This report presents the City of Brampton's current asset management data, frameworks and progress to ensure consistent documentation and measurement of progress going forward. The results of this assessment are to further inform the Asset Management Roadmap and guide the City towards best practices in asset management. The assessment considers a few key components:

- 1) The City's current position relative to the requirements of the legislation;
- 2) Existing data confidence and reliability; and
- 3) Overall asset management data and programs.

Please note, as the City recently adopted the Corporate AMP in June 2022, this maturity level is still relevant for the purposes of this 2022 SOLI Report. An updated maturity assessment will be included in the Service Area AMP in 2024.

1.1 Assessment of Overall Asset Management Programs

Figure 1 below provides a snapshot of the progress and overall maturity of the City's asset management data and program relative to 2016 when the City first launched its Corporate AMP and the 2021 Corporate AMP. The maturity assessment included in the recently published 2021 Corporate AMP is still relevant for the purposes of this 2022 SOLI Report. However, as mentioned previously, the City is in the process of completing Service Area AMP for all assets (excluding Transportation and Stormwater). The completion of these plans will mark a significant milestone in advancing the overall maturity of the City's asset management program. The maturity assessment of the City's progress is informed by several key factors, including the ISO 55000 assessment framework, MFOA Maturity level framework, 2016 Corporate AMP, and a series of discussions with the CAMO team and various service areas.

The major premise of comprehensive corporate asset management is that an organization will seldom have perfect processes and data with which to manage the asset portfolio. Instead, the underlying culture of continuous improvement and reliability is its key to success. These improvements will be part of the continuation of the Corporate Asset Management program and the implementation of the CAM Roadmap moving forward.

The City's overall confidence level rating is approximately three (3), which correlates to a medium ("competent") State of Asset Management maturity. The scores are reflective of the quality and type of data available, current processes and management strategies. The figure indicates two important points:

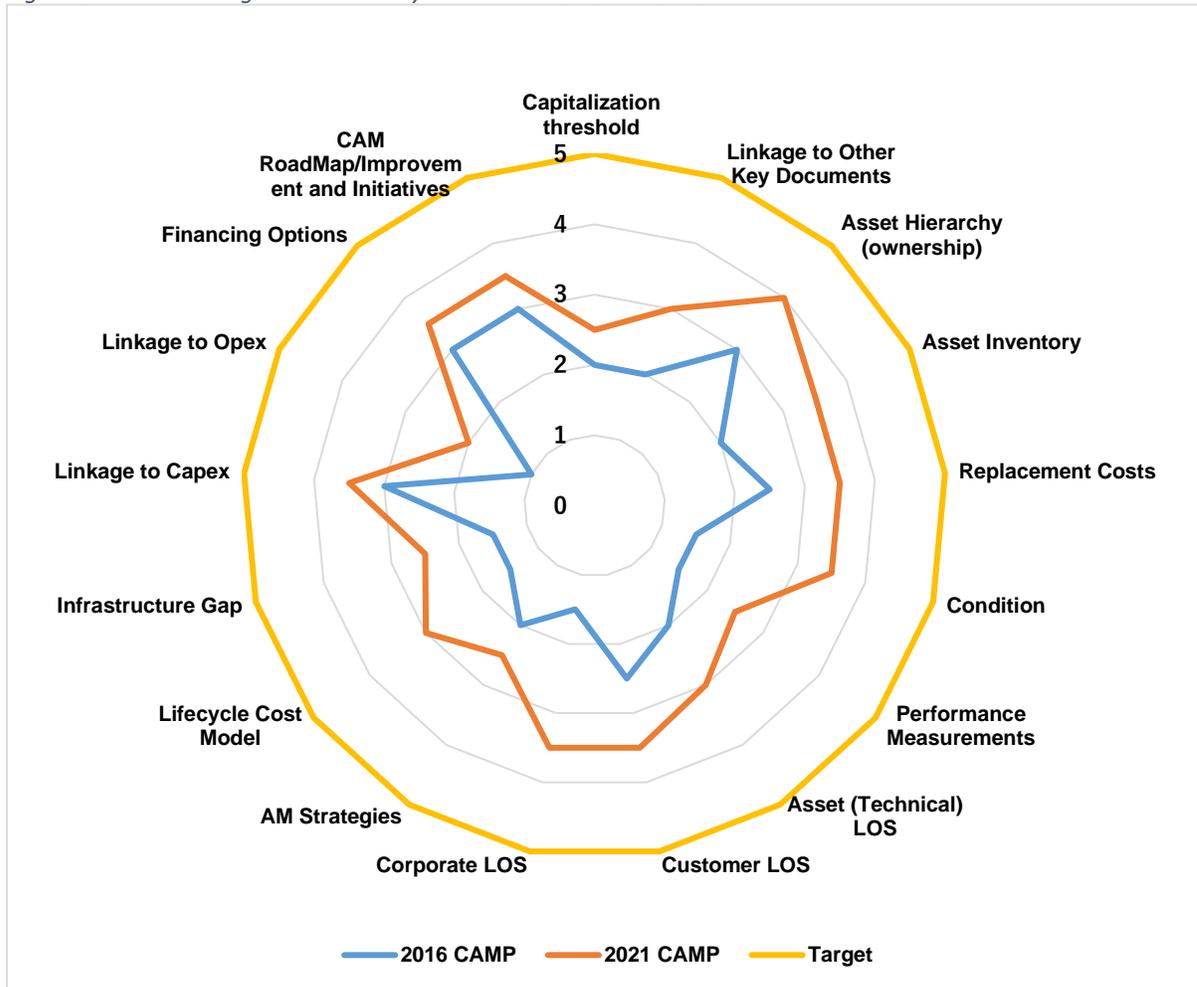
- 1) The City has made significant progress in further developing various components of their Asset Management program since the completion of the 2016 Corporate AMP. The level of advancement varies by different areas;
- 2) Despite the progress made, further work is currently underway and planned to be undertaken over the next few years that will move the City towards the targeted "level 5" assessment in all categories. Some of these activities include but are not limited to:

- a. Completion of the Service Area Asset Management Plans (underway – target completion Q2 2024);
- b. Update to the City's Long-term Financial Master Plan (underway – target completion Q4 2023-Q1 2024);
- c. Updated Condition assessments and replacement valuations;
- d. Level of Service tracking and consultation regarding proposed/target levels of service;
- e. Improved understanding of advanced asset management strategies including asset risk, full lifecycle activities, etc.; and
- f. Integration of various AM strategies to inform investment needs.

Importantly, the target identified in Figure 1 below is expected to occur after full implementation of the regulatory requirements in July 2025. Section 4 of this report identifies a series of future improvements and initiatives that will improve data quality and confidence while driving corporate change. Aside from the regulatory requirement for municipalities to mature their asset management processes, the City can achieve outcomes that are more concrete:

- 1) Evidence based decision making and prioritized investment needs to provide expected levels of service at the lowest cost;
- 2) Integration with Budgeting process, the Long-term Financial Master Plan and other key initiatives;
- 3) Increased coordination with departmental capital plans and corporate funding strategies; and
- 4) Better capital coordination with (and within) the region, and collaboration with other levels of governments and agencies.

Figure 1 - Asset Management Maturity Assessment 2016 vs. 2021



Note: Current maturity continues to be in line with the 2021 Corporate AMP. An updated maturity assessment to follow the completion of the Service Area AMP.

1.2 O.Reg. 588/17: Asset Management Planning for Municipal Infrastructure

Asset management planning is an essential framework to develop in each municipality to ensure proper infrastructure management in the most sustainable way over the long term. The proclamation of *The Infrastructure for Jobs and Prosperity Act, 2015* on May 1, 2016 includes an authority for the province to regulate municipal asset management planning. Municipal asset management planning regulation O. Reg. 588/17 under the *Infrastructure for Jobs and Prosperity Act, 2015* came into effect on January 01, 2018. Building on Ontario’s 2012 Building Together: Guide for Municipal Asset Management Plans, the regulation sets out new requirements for undertaking asset management planning.

The goal of the regulation is to promote continuous improvement in infrastructure asset management planning by requiring Ontario municipalities to develop a Strategic Asset Management Policy aligned with their strategic goals, official plan, master plans, financial planning framework, and the levels of service they intend to provide to their residents.

Municipalities are also required to develop a comprehensive Asset Management Plan in multiple phases (2022-2025) that includes inventory of all assets they own, incorporates the

current and proposed levels of service, identifies investment activities and costs to maintain current service levels, and a supporting financial strategy. Figure 2 presents the requirements along with the timelines prescribed in the regulation:

Figure 2 - Asset Management Regulatory Timelines for Compliance



1.3 Approach to Informed Decision Making

To achieve the objectives of asset management planning, the City utilizes various types of assessments to optimize resource allocation, reduce risks and ensure the efficient and effective management of their diverse portfolio of assets. The data confidence scale outlined in Table 1 defines the various measures used to qualify the accuracy and reliability of the information used to develop this report. The assessment of condition is a key component in determining the projection of investment needs for asset repair and replacement.

Table 1 - Data Confidence Rating Scale

Scale	Confidence rating	Assessment Approach	Data Quality Description
	High Confidence	Risk based assessment based on comprehensive data including inspection based condition where feasible and risk assessment	Robust data, extensive analysis, and rigorous validation. There is a high degree of certainty in the results and they are considered highly reliable.
	Medium Confidence	Inspection-based assessments	Reasonably strong data and analysis but may have some limitations or uncertainties. The results are credible but not without some degree of risk or uncertainty.
	Low Confidence	Age based assessment not accounting for variations in asset performance.	The assessment has significant limitations or uncertainties, and there may be gaps in data or methodology. The results are less reliable and should be interpreted with caution.
	Very Low Confidence	Age based assessment without sufficient records and requiring validation	The assessment is highly unreliable, lacks sufficient data or analysis, or is subject to significant flaws or biases. The results should be viewed skeptically and may not be suitable for decision-making

Note: Slider indicates the City of Brampton’s position on the confidence rating scale (Medium)

The choice of assessment depends on the type of asset. This SOLI report implemented the following condition assessment methodologies:

- **Facilities** – Facility Condition Index
- **Roads** – Pavement Condition Index
- **Bridges** – Bridge Condition Index
- **Software and Some Other IT Assets** – Adequate functionality to provide service
- **All other assets** – Age and Condition Based Assessment

Table 2 provides an outline of the various assessments used for assets across all service categories. The following provides a description of the different approaches used:

1. **Age-Based Assessment** – Relies on the assumption that asset conditions deteriorate with time, and their remaining lifespan estimated based on their age.

Application – Organizations often use age-based assessments as an initial step to establish a baseline understanding of asset conditions. This approach is particularly relevant for assets with well-documented deterioration patterns, allowing organizations to forecast future maintenance and replacement needs where inspection costs outweigh the benefit of actual condition data.

2. **Inspection-Based Assessment** – Involves regular inspections and data collection to assess an asset's current condition, identify maintenance requirements and guide asset management decisions.

Application – Provide up-to-date data on asset conditions that are crucial in targeting and performing lifecycle activities at the right time. Organizations employ this approach to manage assets with variable deterioration rates and to monitor asset health continuously.

3. **Risk-Based Assessment** – Focus on identifying and managing assets that pose the highest risk assets to an organization, considering factors such as criticality, operational impact, safety and financial implications.

Application – Used to prioritize resources and efforts toward assets with the greatest potential impact on safety, service delivery and financial sustainability. This approach ensures the application of resources where needed most.

The current City-wide data confidence to use the information presented in this report for investment related decision-making is assessed as **Medium (Condition Based)**, as indicated on the scale in Table 1. Based on a weighted replacement value of all services and their condition assessments, 79% of assets have utilized inspection-based assessments. For certain asset classes, inspection programs with full condition assessments is not feasible and these assets will continue to use an age-based approach. Therefore, the City is targeting a maturity rating based on inspection assessments of approximately 91%. Over the long-term, the City will move towards the use of risk-based assessments to prioritize resources and efforts toward assets with the greatest potential impact on safety, service delivery and financial sustainability. Table 2 below provides a detailed outline of the assessment of each service category's assets. Please note the basis of the assets classified on condition are in some instances subject to the input received from individual service area experts.

Table 2 - Condition Assessment Approach

Service Area ⁽¹⁾	% of Asset Portfolio ⁽²⁾	Age	Condition	Risk
Transportation	43.20%	✓	✓	
<i>Roads (Includes Islands)</i>	23.67%		✓	
<i>Roadway Bridges & Pedestrian Bridges</i>	4.53%		✓	
<i>Roadway Culverts</i>	5.05%		✓	
<i>Gateway Features</i>	0.20%		✓	
<i>Noise Walls</i>	0.38%		✓	
<i>Retaining Walls on Walkways</i>	0.25%		✓	
<i>Fences</i>	0.13%		✓	
<i>Guiderrails</i>	0.22%		✓	
<i>Handrails</i>	0.01%		✓	
<i>Steps</i>	0.01%		✓	
<i>Sidewalks</i>	4.07%		✓	
<i>Walkways</i>	0.08%		✓	
<i>Multi-Use Paths</i>	0.19%		✓	
<i>Street Lighting</i>	3.14%	✓	✓	
<i>Traffic Signals</i>	1.24%	✓		
<i>Traffic Signs</i>	0.02%		✓	
Stormwater	18.61%	✓	✓	
<i>Stormwater Management Ponds</i>	1.25%		✓	
<i>FDC-WTC</i>	1.00%	✓		
<i>Storm Sewers</i>	11.96%	✓		
<i>Catchbasins</i>	1.73%	✓		
<i>Manholes</i>	2.28%	✓		
<i>FDC-WTC Manholes</i>	0.30%	✓		
<i>Water Quality Units</i>	0.08%	✓		
Facilities	19.38%		✓	
<i>Facilities</i>	19.38%		✓	
Transit	6.88%	✓	✓	
<i>Heavy Duty Vehicles (Buses)</i>	5.51%	✓	✓	
<i>Support Fleet</i>	0.02%	✓		
<i>Shelters – Conventional</i>	0.09%	✓		
<i>Shelters – Zum</i>	0.40%	✓		
<i>Shelters – Bike</i>	0.003%	✓		
<i>Stops</i>	0.19%	✓		
<i>Sandalwood Transit Loop</i>	0.01%	✓		
<i>Video Walls</i>	0.001%		✓	
<i>Smart Bus Systems</i>	0.02%		✓	
<i>True Credential Identification Card Application Hardware</i>	0.0004%		✓	
<i>Bus Lifts</i>	0.13%		✓	
<i>Communication Control</i>	0.19%	✓		
<i>Fare Systems</i>	0.11%		✓	
<i>Presto</i>	0.06%	✓		

Service Area ⁽¹⁾	% of Asset Portfolio ⁽²⁾	Age	Condition	Risk
Maintenance/Admin Small Equipment	0.01%		✓	
Signage	0.02%		✓	
Fueling	0.02%		✓	
Electric Chargers	0.08%	✓		
Information Technology	1.81%	✓	✓	
Computers	0.07%	✓		
Monitors	0.01%	✓		
Mobile Phones	0.01%	✓		
Audio Visual Equipment	0.004%	✓		
Servers	0.03%		✓	
Storage And Back-Up	0.05%	✓		
Wireless	0.02%	✓		
Cable Plants	0.38%	✓		
Network Infrastructure	0.08%	✓		
Communication System	0.05%	✓		
Software	1.11%		✓	
City Support Fleet	0.62%	✓	✓	
Licensed Fleet	0.42%	✓	✓	
Off-Road Vehicles	0.20%	✓	✓	
Fleet Equipment	0.005%	✓	✓	
Fire	0.70%	✓	✓	
Front Line Licensed Vehicles & Apparatus	0.45%	✓	✓	
Support Vehicles & Equipment	0.04%	✓		
Spare Vehicles	0.16%		✓	
Personal Fire Equipment	0.04%		✓	
Specialty Equipment	0.01%		✓	
Parks	7.69%	✓	✓	
Parking Lots	0.56%		✓	
Small Engine Equipment	0.01%		✓	
Parks	1.41%	✓		
Natural Heritage Lands	0.00%		N/A	
Park Furnishing	0.04%		✓	
Playgrounds	1.18%		✓	
Shade Structures	0.42%		✓	
Splash Pads & Outdoor Pools	0.04%	✓		
Fitness Equipment	0.01%		✓	
Skate Parks	0.02%		✓	
Sports Facilities	1.53%	✓	✓	
Pathways	0.80%		✓	
Trees	1.62%		✓	
Flower Beds	0.04%	✓		
Recreation	0.66%	✓	✓	
General Equipment	0.16%	✓		
Major Equipment	0.07%	✓		
Spray Pads & Pools	0.05%	✓		

Service Area ⁽¹⁾	% of Asset Portfolio ⁽²⁾	Age	Condition	Risk
<i>Tennis Courts</i>	0.03%	✓		
<i>Fitness Equipment</i>	0.04%		✓	
<i>Outdoor Fitness Equipment</i>	0.002%		✓	
<i>Skateboard Parks</i>	0.04%		✓	
<i>Artificial Rinks & Tracks</i>	0.12%	✓	✓	
<i>Furniture</i>	0.15%	✓		
Cultural Services	0.18%		✓	
<i>Outdoor Equipment</i>	0.05%		✓	
<i>Specialty Equipment</i>	0.07%		✓	
<i>Furniture</i>	0.002%		✓	
<i>Public Art</i>	0.06%		✓	
Library	0.27%	✓	✓	
<i>Computer Equipment</i>	0.03%	✓		
<i>Furniture</i>	0.04%	✓	✓	
<i>RFID</i>	0.01%	✓		
<i>Security</i>	0.001%	✓		
<i>Shelving</i>	0.012%	✓		
<i>Telecommunications Equipment</i>	0.002%	✓		
<i>Electronic Media</i>	0.03%	✓	✓	
<i>Print Media</i>	0.15%	✓	✓	
<i>Library Software</i>	0.004%		✓	
Animal Services	0.004%		✓	
<i>Equipment</i>	0.004%		✓	
<i>Note 1: Services are structured under the responsibility view (see section 2.2 for more details)</i>				
<i>Note 2: Numbers may not add precisely due to rounding</i>				

2 State of Local Infrastructure (SOLI)

2.1 Purpose

This section of the report seeks to establish an understanding of the current state of Brampton's estimated \$9.0 billion (\$2023) in infrastructure assets. The basis of the estimated valuation is an inventory of capital assets as of year-end 2022. This baseline snapshot of Brampton's assets will help decision-makers prioritize investments in the future; improving their ability to efficiently manage assets and deliver services.

The State of Local Infrastructure (SOLI) is a key building block for Brampton's future management of its infrastructure assets. This section intends to provide the following information:

- Details of the Asset Inventory – What do we own?
- Valuation of the Asset Base (Replacement Value) – What is it worth?
- Condition of the Asset Base – What Condition is it in?

This State of the Local Infrastructure analysis will lay the foundation for ongoing assessment, reporting, benchmarking of the City's infrastructure assets while also publicly communicating the current state of assets. In this iteration of the report, the focus was on the "major service areas", described generally, as the infrastructure owned and directly managed by the City. However, this report does include assets managed by Brampton Library, which is a governing board with the authority to make policy and govern the Library's affairs under the authority of the *Public Libraries Act*. In light of the upcoming dissolution of the Region of Peel at the start of 2025, there may be a significant transition of assets to the City of Brampton. This transition will necessitate a comprehensive reevaluation of our asset management strategies and practices to ensure a smooth and effective integration of these new assets into our portfolio. Future iterations of this report will look to include all assets including the assets acquired from the Region of Peel.

Despite the major service area categories being consistent with the 2021 Corporate AMP and previous iterations of the SOLI Reports, the City has made significant improvements to the datasets, key inputs, assumptions, and reporting views. Please note that updates to the replacement values will continue in future years with recent data that reflects the cost pressures experienced by the City.

2.2 City-wide Asset Representation: User View and Responsibility View

As part of the 2021 Corporate Asset Management Plan, the state of the City infrastructure was reported under two different asset representation perspectives: a “Responsibility View” and a “User View” representation. These two views are defined as follows:

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs.

User View: Shows the assets under the service area that is using them.

To remain consistent, the responsibility and user view is also illustrated in this 2022 SOLI Report. The responsibility view:

- provides a direct line of sight to those assets managed by the service area;
- will help prioritize lifecycle activities managed by the service area;
- aligns with industry best practices; and
- provides guidance to future asset management planning practice and departmental initiatives.

The most notable difference between the responsibility view and the user view becomes evident when considering Facilities, City Support Fleet and Software. These assets play a pivotal role in service delivery and are managed by a department distinct from those utilizing them.

The table below goes through each service area’s assets and their Current Replacement Value (CRV), detailing the differences in reporting based on these two views (differences highlighted in grey). The assets related to certain corporate functions, which are managed by specific service areas but benefit different users within the organization, are individually identified in the table below under the “User View”. As illustrated in the total replacement value below, both views result in the same valuation of \$9.0 billion:

Table 3 - Replacement Value Comparison: Assets under User View and Responsibility View

Service Area	Assets Under Responsibility View		Assets Under User View	
	Asset Type	CRV (\$M)	Asset Type	CRV (\$M)
Transportation	Roads (Includes Islands)	\$2,127.2	Roads (Includes Islands)	\$2,127.2
	Structures (Bridges & Culverts)	\$861.3	Structures (Bridges & Culverts)	\$861.3
	Structures (Other)*	\$108.8	Structures (Other)	\$108.8
	Walkways & Paths	\$389.4	Walkways & Paths	\$389.4
	Traffic Services	\$395.6	Traffic Services	\$395.6
			Facilities	\$95.5
			Fleet	\$18.3
		Software	\$8.5	
Total Transportation		\$3,882.4		\$4,004.7
*Note: Structures (Other) includes gateway features, noise walls, retaining walls, fences, guiderails, handrails and steps				
Stormwater	Stormwater Management Ponds	\$112.6	Stormwater Management Ponds	\$112.6
	Storm Sewer Systems	\$1,552.5	Storm Sewer Systems	\$1,552.5
	Water Quality Units	\$7.2	Water Quality Units	\$7.2

Service Area	Assets Under Responsibility View		Assets Under User View	
	Asset Type	CRV (\$M)	Asset Type	CRV (\$M)
<i>Total Stormwater</i>		<i>\$1,672.3</i>		<i>\$1,672.3</i>
Facilities	Corporate Facilities	\$355.3	Fleet	\$2.0
	Animal Services Facilities	\$9.9	Software	\$4.0
	Cultural Services Facilities	\$102.3		
	Recreation Facilities	\$743.5		
	Parks Facilities	\$24.0		
	Transit Facilities	\$197.1		
	Library Facilities	\$103.8		
	Fire Facilities	\$110.7		
	Work Operations Facilities	\$95.5		
<i>Total Facilities</i>		<i>\$1,742.0</i>		<i>\$6.0</i>
Transit	Licensed Vehicle Assets	\$497.1	Licensed Vehicle Assets	\$497.1
	Transit Facilities (On Road)	\$62.2	Transit Facilities (On Road)	\$62.2
	Transit IT Infrastructure	\$2.3	Transit IT Infrastructure	\$2.3
	Specialty Equipment	\$56.4	Specialty Equipment	\$56.4
			Facilities	\$197.1
			Software	\$5.2
<i>Total Transit</i>		<i>\$618.0</i>		<i>\$820.3</i>
Information Technology (IT)	End User IT	\$8.3		
	Infrastructure Assets	\$54.0		
	Software (Shared Corporate Software)	\$71.6		
	Software (Used by Other Service Areas)	\$28.5		
<i>Total IT</i>		<i>\$162.4</i>		<i>\$0</i>
City Support Fleet	Licensed Fleet (Corporate)	\$5.8	Software	\$3.8
	Off-Road Vehicles (Corporate)	\$1.0		
	Fleet Equipment (Corporate)	\$0.01		
	Licensed Fleet (Used by Other Service Areas)	\$31.5		
	Off-Road Vehicles (Used by Other Service Areas)	\$17.1		
	Fleet Equipment (Used by Other Service Areas)	\$0.4		
<i>Total City Support Fleet</i>		<i>\$55.9</i>		<i>\$3.8</i>
Fire	Front Line Licensed Vehicles & Apparatus	\$40.1	Front Line Licensed Vehicles & Apparatus	\$40.1
	Support Vehicles & Equipment	\$3.6	Support Vehicles & Equipment	\$3.6
	Spare Vehicles	\$14.7	Spare Vehicles	\$14.7

Service Area	Assets Under Responsibility View		Assets Under User View	
	Asset Type	CRV (\$M)	Asset Type	CRV (\$M)
	Personal Fire Equipment	\$3.8	Personal Fire Equipment	\$3.8
	Specialty Equipment	\$0.6	Specialty Equipment	\$0.6
			Facilities	\$110.7
			Software	\$3.5
Total Fire		\$62.8		\$177.0
Parks	Parking Lots	\$50.2	Parking Lots	\$50.2
	Small Engine Equipment	\$0.7	Small Engine Equipment	\$0.7
	Parks	\$127.1	Parks	\$127.1
	Natural Heritage Lands	\$0.0	Natural Heritage Lands	\$0.0
	Park Furnishing	\$3.8	Park Furnishing	\$3.8
	Playgrounds	\$106.4	Playgrounds	\$106.4
	Shade Structures	\$37.7	Shade Structures	\$37.7
	Splash Pads & Outdoor Pools	\$3.6	Splash Pads & Outdoor Pools	\$3.6
	Fitness Equipment	\$1.0	Fitness Equipment	\$1.0
	Skate Parks	\$1.9	Skate Parks	\$1.9
	Sports Facilities	\$137.8	Sports Facilities	\$137.8
	Pathways	\$71.5	Pathways	\$71.5
	Trees	\$145.8	Trees	\$145.8
	Flower Beds	\$3.6	Flower Beds	\$3.6
			Facilities	\$24.0
		Fleet	\$22.7	
		Software	\$0.0	
Total Parks		\$691.0		\$737.7
Recreation	Equipment	\$46.2	Equipment	\$46.2
	Furniture	\$13.1	Furniture	\$13.1
			Facilities	\$743.5
			Fleet	\$4.2
		Software	\$3.4	
Total Recreation		\$59.3		\$810.4
Cultural Services	Outdoor Equipment	\$4.8	Outdoor Equipment	\$4.8
	Specialty Equipment	\$6.5	Specialty Equipment	\$6.5
	Furniture	\$0.1	Furniture	\$0.1
	Public Art	\$5.1	Public Art	\$5.1
			Facilities	\$102.3
			Fleet	\$0.6
		Software	\$0.0	
Total Cultural Services		\$16.5		\$119.4
Library	Furniture and Equipment	\$8.5	Furniture and Equipment	\$8.5
	Media Collections	\$15.8	Media Collections	\$15.8
	Library Software	\$0.4	Library Software	\$0.4
			Facilities	\$103.8
		Fleet	\$0.2	
Total Library		\$24.7		\$128.6
Animal Services	Equipment	\$0.3	Equipment	\$0.3
			Facilities	\$9.9
			Fleet	\$1.1
			Software	\$0.2

Service Area	Assets Under Responsibility View		Assets Under User View	
	Asset Type	CRV (\$M)	Asset Type	CRV (\$M)
<i>Total Animal Services</i>		\$0.3		\$11.6
<i>Corporate Functions (note: not a specific service area)</i>			Licensed Fleet (Corporate Services Fleet)	\$5.8
			Off-Road Vehicles (Corporate Services Fleet)	\$1.0
			Fleet Equipment (Corporate Services Fleet)	\$0.01
			End User IT	\$8.3
			Infrastructure Assets	\$54.0
			Software (Shared Corporate Software)	\$71.6
			Corporate Facilities	\$355.3
<i>Total Corporate Functions</i>		\$0.0		\$496.0
Total CRV (\$M)		\$8,987.7		\$8,987.7

Note: Numbers in the table above may not add exactly due to rounding

2.3 Age Profile Analysis

The age profile of assets is a critical aspect of any comprehensive Asset Management Plan and is required to meet regulatory requirements. In the SOLI, the age profile analysis further facilitates the understanding of the age distribution of assets. This will allow for the adaptation of strategies to address the changing needs of the portfolio.

In conjunction with condition data, an asset's age profile provides valuable insight into the lifecycle management of the City's assets. Details on the age profile of assets are included in the individual service area report cards in Appendix I.

Appendix I provides a summary of the average age (weighted based on replacement value) of the assets within each service area portfolio (under the responsibility view). The result shows that the average age of the City's infrastructure is relatively young. The City's infrastructure is relatively new, with much of the hard service infrastructure coming on line within the last 30 years.

2.4 Asset Inventory and Valuation

As specified in the Ministry Guide, the value of the City's assets is in two different formats: 'Net Book Value' and 'Replacement Value'.

Net Book Value is consistent with the financial accounting practices defined by the Public Sector Accounting Board and is reported on the City's financial statements. The City of Brampton's reported Net Book Value covers the full scope of the City's Tangible Capital Assets, including land. This differs from the scope of assets considered under the Corporate Asset Management program and the State of the Local Infrastructure.

The Net Book Value is the original acquisition cost less accumulated depreciation, depletion or amortization. It is reported annually in accordance with reporting standards established by the Public Sector Accounting Board (PSAB) of the Canadian Institute of Chartered Accountants. As shown on Table 4 below, the City's 2022 Consolidated Financial Statement

reported the Net Book Value of the City's Tangible Capital Assets as of December 31, 2022 at \$4.0 billion, inclusive of land. Under the financial accounting approach many assets may be fully depreciated yet remain in use across the City. Therefore, Net Book Value is not the appropriate methodology to be employed for infrastructure renewal planning.

Table 4 - City of Brampton Net Book Value (\$000)

FIR Functional Classification	Net Book Value Jan 1, 2022	Net Additions/ Disposals	Net Amortization Expense	Net Book Value Dec 31, 2022
General Government	\$354,470	\$5,858	\$11,643	\$348,685
Protection	\$62,311	\$48,928	\$3,891	\$107,349
Transportation	\$2,015,033	\$73,472	\$72,309	\$2,016,195
Environmental	\$582,660	\$33,039	\$19,029	\$596,670
Health	\$692	\$15	\$89	\$617
Social and Family	\$3,522	\$358	\$315	\$3,564
Recreation and Cultural Services	\$911,901	\$24,356	\$23,862	\$912,396
Planning and Development	\$7,669	(\$251)	\$612	\$6,806
TOTAL	\$3,938,258	\$185,774	\$37,796	\$3,992,282

Note: Categories/information derived from the 2022 Financial Information Return. The net amortization figure tends to vary from year-to-year depending on in-year asset disposals.

Replacement Values are used as the basis to estimate the cost of replacing an asset when it reaches the end of its engineered design life. The total replacement cost of all assets covered within this Report is estimated at \$9.0 billion.

2.4.1 Replacement Cost Valuation

For the purposes of this 2022 SOLI Report, Hemson, in conjunction with City staff, have evaluated the replacement cost data provided at the service area level to make necessary inflationary adjustments to the cost reported. In most cases, the service areas had provided most recent cost estimates that correspond to the assets in service as of year-end 2022. However, in some instances, more recent asset valuation data was not available. In such cases, the values included in the 2021 SOLI (in \$2022) were adjusted using a suitable inflation metric to bring them in line with current values, expressed in \$2023.

Table 5 below provides a summary of the inflationary factor applied to the specific asset categories. For assets with recent cost data, a 2% adjustment was made to bring them to \$2023 values. For assets that do not have recent data, the non-residential construction price index or the machinery and equipment price index was applied. Approximately 73% of this year's data was provided in \$2022, including Transportation and Facilities assets which represent a large share of the total asset portfolio. Statistics Canada monitors the two indices below, which will be used in future SOLI report iterations.

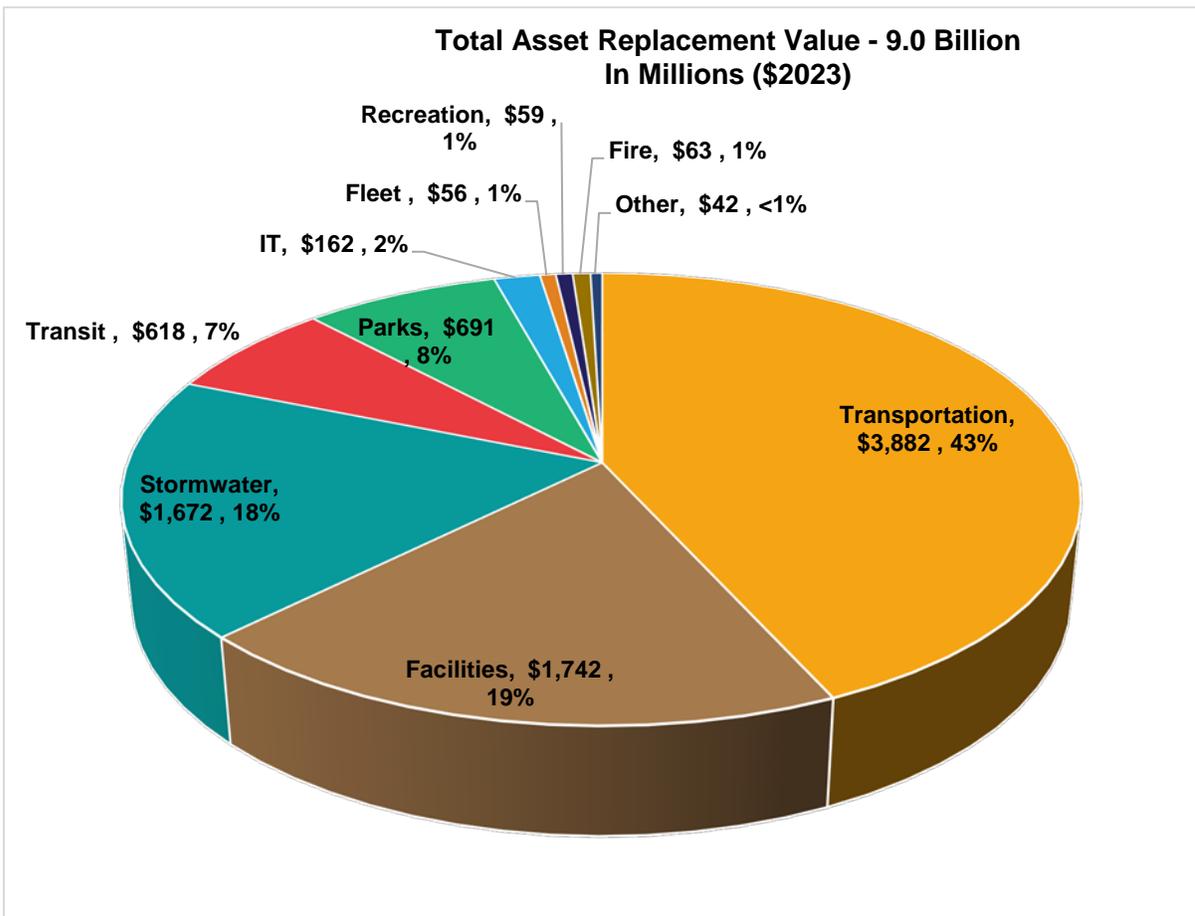
Table 5 - Summary of Inflationary Factors Applied to Specific Assets

Index	Inflationary Factor (Q1 2022 – Q1 2023)	Assets Adjusted
Recent Cost Data provided by the service area in \$2022 ⁽¹⁾	2.0%	<p>Transportation: Roads, Bridges & Culverts, Gateway Features, Noisewalls, Retaining Walls, Fences, Guiderails, Handrails, Steps, Sidewalks, Walkways, Multi-Use Paths, Street Lighting, Traffic Signals, Traffic Signs</p> <p>Stormwater: Water Quality Units</p> <p>Facilities: All Facilities</p> <p>Transit: Heavy Duty Vehicles (Buses), Electric Chargers, Conventional Shelters, Communication Control, Signage</p> <p>IT: Audio Visual Equipment</p> <p>Parks: Parking lots, Playgrounds, Pathways, Trees</p>
Non-Residential Building Construction Price Index (NRCPI)	12.3%	<p>Stormwater: Stormwater Management Ponds, FDC-WTC, Storm Sewers, Catchbasins, Manholes, FDC-WTC Manholes</p> <p>Parks: Parks (Open Space), Shade Structures, Splash Pads & Outdoor Pools, Skate Parks, Sports Facilities</p> <p>Recreation: Spray Pads & Pools, Tennis Courts, Skateboard Parks, Artificial Rinks & Tracks</p>
Machinery & Equipment Price Index (M&E)	11.4%	<p>Transit: Fleet Support, Zum Shelters, Bike Shelters, Stops and Pads, Sandalwood Transit Loop, Video Walls, Smart Bus Systems, True Credential Identification Card Application Software, Bus Lifts, Fare Systems, PRESTO, Maintenance/Admin Small Equipment, Fueling</p> <p>IT: Computers, Monitors, Mobile Phones, Servers, Storage and Back-up, Wireless, Network Infrastructure, Cable Plants, Communication System, Software</p> <p>City Support Fleet: Licensed Fleet, Off-Road Vehicles, Fleet Equipment</p> <p>Fire: Front Line Licensed Vehicles & Apparatus, Support Vehicles & Equipment, Spare Vehicles, SCBA, Bunker Gear</p> <p>Parks: Small Engine Equipment, Park Furnishing, Fitness Equipment, Flower Beds</p> <p>Recreation: General & Major Equipment, Indoor & Outdoor Fitness Equipment, Furniture</p> <p>Cultural Services: Outdoor & Specialty Equipment, Furniture, Public Art</p> <p>Library: Equipment, Media, Software</p> <p>Animal Services: Equipment</p>

¹ Intended to reflect costs as of year-end 2022 and therefore only a simple inflation factor of 2.0% is applied to adjust the values to \$2023. Updated unit and replacement costs for 2023 will be provided to inform the 2023 SOLI Report.

The total replacement value of all assets covered under this report is illustrated by service in Figure 3 below. Transportation, Facilities, and Stormwater, collectively account for over 80% of the asset portfolio by replacement value. Transportation services, with a replacement value of \$3.9 billion, constitute the largest portion at 43% of the total \$9.0 billion. Facilities represent 19% of the portfolio, equivalent to \$1.7 billion, and serve multiple service areas, including Animal Services, Cultural Services, Recreation, Parks, Transit, Library, Fire, and other corporate services. Please note, Recreation Facilities represent the majority within the Facilities category. Stormwater, valued at \$1.7 billion, constitutes 18% of the total replacement value. The replacement value reported in the below figure is represented under the “Responsibility view” framework.

Figure 3 - Total Replacement Value of City Infrastructure = \$9.0 Billion



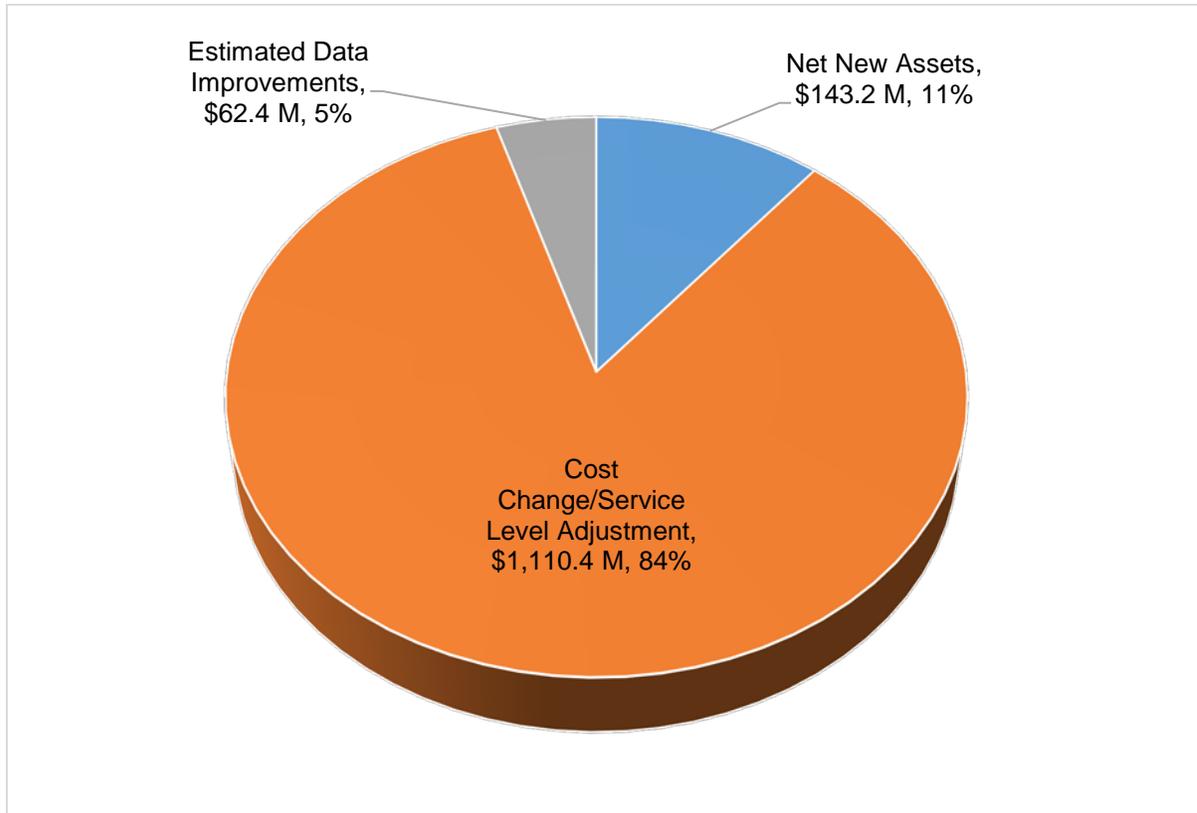
Note: Other category includes Library, Cultural Services and Animal Services

The total \$9.0 billion (\$2023) asset replacement value identified in this report represents an increase in value of \$1.3 billion, or 17%, over the \$7.7 billion (\$2022) City-wide asset replacement value stated in the 2021 SOLI Report. This increase is due to refined costing information and inflation, revised inventories and data improvements and a general growth in assets. More specifically, the change in replacement value can be quantified as follows:

Replacement Value (2021 SOLI)	\$7.7
Cost Change	\$1.10
Net new assets	\$0.14
Data Improvements	\$0.06
Replacement Value (2022 SOLI)	\$9.0
* All figures in Billions	

Figure 4 illustrates the breakdown of factors that contribute to the change in replacement value.

Figure 4 - Factors Driving Replacement Value Increase (\$Millions)



Of particular importance, the \$1.1 Billion in cost changes, primarily from the effects of inflation, is a major driver contributing to the replacement value increase. This change generally tracks in line with the recent year-over-year changes observed from other statistical measurements monitoring price changes on capital expenditures, including the Non-Residential Construction Price Index or the Machinery and Equipment Price Index. Of note, both indices have been used in this analysis to adjust 2022 costs, which were not based on most recent cost estimates that correspond to the assets in service as of year-end 2022.

Table 6 to Table 17 below include a more detailed breakdown of the service area valuations at the sub-asset level and the inventories of assets (as of year-end 2022). The tables represent the valuation under both the user view and responsibility view framework.

Table 6 - Detailed Asset Inventory Replacement Value for Transportation Services

Service	Asset		Inventory	Unit	Total Replacement Value (\$000)	
	1. Assets Managed by Transportation					
	Roadway Network	Roads (Includes Islands)	3,819	Lane KM	\$2,127,196	
	Structures	Bridges	3,990	Metres	\$407,058	
		Culverts	1,237	Metres	\$454,269	
		Gateway Features	2,847	Metres	\$18,216	
		Noise Walls	13,861	Metres	\$33,830	
		Retaining Walls	8,678	Metres	\$22,353	
		Fences	53,511	Metres	\$11,874	
		Guiderails	32,141	Metres	\$20,134	
		Handrails	3,395	Metres	\$1,188	
		Steps	85	Metres	\$1,238	
	Walkways & Path	Sidewalks	1,842	KM	\$365,433	
		Walkways	14	KM	\$7,110	
		Multi-Use Paths	93	KM	\$16,880	
	Traffic Services	Street Lighting	44,211	Each	\$282,554	
		Traffic Signals	831	Each	\$111,626	
		Traffic Signs	52,360	Each	\$1,438	
	Subtotal Assets Managed by Transportation - Responsibility View					\$3,882,397
	2. Assets Managed by Other Service Areas					
	Operations Facilities		11	Each	\$95,479	
Fleet	Licensed Fleet	94	Each	\$12,761		
	Off-Road Equipment	57	Each	\$5,549		
	Fleet Equipment	4	Each	\$23		
Software		20	Each	\$8,484		
Subtotal Assets Managed by Other Service Areas					\$122,295	
TOTAL - USER VIEW (1+2)					\$4,004,693	

Note: There are 71 roadway bridges, 119 pedestrian bridges.
 There are 163 culverts.
 There are 297 gateway features.
 There are 52 noise walls and 207 retaining walls.
 There are 574 guiderails and 100 handrails.

Table 7 - Detailed Replacement Values for Stormwater Services

Service	Asset		Inventory	Unit	Total Replacement Value (\$000)
	Stormwater Management Ponds		189	Each	\$112,614
	Storm Sewer System	FDC-WTC	259,934	Metres	\$89,747
		Storm Sewers	1,718,565	Metres	\$1,075,350
		Catchbasins	40,262	Each	\$155,183
		Manholes	23,470	Each	\$205,327
		FDC-WTC Manholes	4,160	Each	\$26,896
Oil & Grit Separators		127	Units	\$7,160	
TOTAL - USER & RESPONSIBILITY VIEW					\$1,672,277

Table 8 - Detailed Replacement Values for Facilities

Service	Asset		Inventory	Unit	Total Replacement Value (\$000)
	1. Assets Used by Facilities and Managed by Other Service Areas				
	Software		4	Each	\$3,974
	Fleet		67	Each	\$1,951
	Subtotal Assets Used by Facilities and Managed by Other Service Areas – User View				\$5,924
	2. Assets Managed by Facilities and Used by Other Service Areas				
	Corporate Facilities		26	Each	\$355,310
	Animal Services		2	Each	\$9,887
	Cultural Services		1	Each	\$102,302
	Recreation		69	Each	\$743,492
	Parks		18	Each	\$23,959
	Transit		8	Each	\$197,104
	Library		6	Each	\$103,780
	Fire		15	Each	\$110,679
	Work Operations		11	Each	\$95,479
	Subtotal Assets Managed by Facilities and Used by Other Service Areas				\$1,741,992
TOTAL – REPLACEMENT VALUE (USER + RESPONSIBILITY VIEW)					\$1,747,916

Table 9 - Detailed Replacement Values for Transit Services

Service	Asset		Inventory	Unit	Total Replacement Value (\$000)
Transit 	1. Assets Managed by Transit				
	Licensed Vehicle Assets	Heavy Duty Vehicles	475	Each	\$495,251
		Light Duty Vehicles	30	Each	\$1,820
	Transit Facilities (On Road)	Shelters – Conventional	885	Each	\$7,699
		Shelters – Züm	130	Each	\$35,780
		Shelters – Bike Stops	23	Each	\$300
			2,361	Each	\$17,301
		Sandalwood Transit Loop	1	Each	\$1,159
	Transit IT Infrastructure	Video Walls	1	Each	\$74
		Smart Bus Systems	1	Each	\$2,203
		True Credential ID Card Application Hardware	41	Each	\$35
	Specialty Equipment	Bus Lifts	34	Each	\$11,649
		Comm. Control	4	Each	\$17,136
		Fare Systems	498	Each	\$10,127
		PRESTO	1,082	Each	\$5,840
		Maintenance/Admin Small Equipment	9	Each	\$672
		Signage	3,120	Each	\$2,002
		Fueling	5	Each	\$1,564
		Electric Charger	5	Each	\$7,405
	Subtotal Assets Managed by Transit - Responsibility View				\$618,018
	2. Assets Managed by Other Service Areas				
Facilities	All Transit Facilities	8	Each	\$197,104	
Transit IT Infrastructure	Software	2	Each	\$5,196	
Subtotal Assets Managed by Other Service Areas				\$202,299	
TOTAL - USER VIEW (1+2)				\$820,317	

Table 10 - Detailed Replacement Values for IT Services

Service	Asset		Inventory	Unit	Total Replacement Value (\$000)
Information Technology 	1. Assets Managed by Information Technology (IT)				
	End User IT	Computers	3,547	Each	\$6,409
		Monitors	3,200	Each	\$891
		Mobile Phones	1,530	Each	\$637
		Audio Visual Equipment	222	Each	\$365
	Infrastructure Assets	Servers	83	Each	\$2,682
		Storage and Back-Up	22	Each	\$4,103
		Wireless	806	Each	\$2,161
		Cable Plants	284,723	Metres	\$33,889
		Network Infrastructure	671	Each	\$6,809
		Communication System	4,127	Each	\$4,307
		Software	109	Each	\$110,115
TOTAL – REPLACEMENT VALUE (RESPONSIBILITY VIEW)					\$162,368

Table 11 - Detailed Replacement Values for City Support Fleet

Service	Asset		Inventory	Unit	Total Replacement Value (\$000)
	1. Assets Managed by Other Service Areas and Used by City Support Fleet				
		Software	2	Each	\$3,780
	Subtotal Assets Managed by Other Service Areas and Used by City Support Fleet				\$3,780
	2. Assets Used by Other Service Areas and Managed by Fleet				
		Licensed Vehicles	503	Each	\$37,333
		Off-Road Equipment	255	Each	\$18,114
		Fleet Equipment	88	Each	\$439
	Subtotal Assets Used by Other Service Areas				\$55,885
TOTAL – REPLACEMENT VALUE (USER + RESPONSIBILITY VIEW)					\$59,665

Table 12 - Detailed Replacement Values for Fire Services

Service	Asset	Inventory	Unit	Total Replacement Value (\$000)	
	1. Assets Managed by Fire Services				
	Front Line Licensed Vehicles & Apparatus	31	Each	\$40,100	
	Support Vehicles & Equipment	67	Each	\$3,581	
	Spare Vehicles	31	Each	\$14,749	
	Personal Fire Equipment	1,201	Each	\$3,849	
	Specialty Equipment	7	Each	\$568	
	Subtotal Assets Managed by Fire Services - Responsibility View				\$62,848
	2. Assets Managed by Other Service Areas				
	Facilities	15	Each	\$110,679	
	Software	5	Each	\$3,457	
	Subtotal Assets Managed by Other Service Areas				\$114,136
	TOTAL - USER VIEW (1+2)				\$176,984

Table 13 - Detailed Replacement Values for Parks Services

Service	Asset	Inventory	Unit	Total Replacement Value (\$000)		
	1. Assets Managed by Parks Services					
	Park Assets	Parks*	1,119	Ha.	\$127,081	
		Natural Heritage Lands	1,645	Ha.	\$0	
		Park Furnishing	4,728	Each	\$3,767	
		Playgrounds	345	Each	\$106,439	
		Shade Structures	292	Each	\$37,656	
		Splash Pads/Pools	8	Each	\$3,635	
		Fitness Equipment	28	Each	\$1,007	
		Skate Parks	4	Each	\$1,907	
		Sports Facilities	1,172	Each	\$137,767	
		Pathways	296,065	Metres	\$71,512	
		Other Assets	Parking Lots	333	Each	\$50,168
			Trees	249,749	Each	\$145,770
	Flower Beds		1,232	Each	\$3,607	
	Small Equipment		532	Each	\$702	
	Subtotal Assets Managed by Park Services - Responsibility View				\$691,018	
	2. Assets Managed by Other Service Areas					
	Facilities	18	Each	\$23,959		
	Fleet	339	Each	\$22,722		
Software	1	Each	\$0			
Subtotal Assets Managed by Other Service Areas				\$46,681		
TOTAL - USER VIEW (1+2)				\$737,700		

*Note: Parks sub-asset category excludes pathways, sports facilities, playgrounds and other sub-asset classes reported separately as stated in the table

Table 14 - Detailed Replacement Values for Recreation Services

Service	Asset	Inventory	Unit	Total Replacement Value (\$000)	
	1. Assets Managed by Recreation Services				
	Recreation Equipment	General Equipment	2,198	Each	\$14,485
		Major Equipment	206	Each	\$6,214
		Splash Pads & Pools	8	Each	\$4,791
		Tennis Courts	13	Each	\$2,324
		Fitness Equipment	633	Each	\$3,782
		Outdoor Fitness Equipment	10	Each	\$177
		Skateboard Parks	7	Each	\$3,813
		Artificial Rinks & Tracks	12	Each	\$10,628
		Furniture	303	Pooled	\$13,103
		Subtotal Assets Managed by Recreation Services - Responsibility View			
	2. Assets Managed by Other Service Areas				
	Facilities	69	Each	\$743,492	
	Fleet	123	Each	\$4,180	
	Software	3	Each	\$3,362	
Subtotal Assets Managed by Other Service Areas				\$751,035	
TOTAL - USER VIEW (1+2)				\$810,352	

Table 15 - Detailed Replacement Values for Cultural Services

Service	Asset	Inventory	Unit	Total Replacement Value (\$000)	
	1. Assets Managed and Used by Cultural Services				
	Outdoor Equipment	Pooled	N/A	\$4,780	
	Specialty Equipment	5,412	Each	\$6,501	
	Furniture	475	Each	\$138	
	Public Art	28	Each	\$5,093	
	Subtotal Assets Managed by Cultural Services - Responsibility View				\$16,512
	2. Assets Managed by Other Service Areas				
	Facilities	1	Each	\$102,302	
	Fleet	6	Each	\$604	
	Software	1	Each	\$0	
	Subtotal Assets Managed by Other Service Areas				\$102,906
TOTAL - USER VIEW (1+2)				\$119,418	

Table 16 - Detailed Replacement Values for Library Services

Service	Asset	Inventory	Unit	Total Replacement Value (\$000)	
	1. Assets Managed by Library Services				
	Furniture and Equipment	Computer Equipment	1,938	Each	\$2,784
		Furniture	3,943		\$3,780
		RFID	91	Each	\$703
		Security	10	Each	\$69
		Shelving	1,173	Each	\$1,046
		Telecommunications Equipment	4	Each	\$154
	Media Collections	Electronic Media	Pooled	N/A	\$2,683
		Print Media	Pooled	N/A	\$13,086
	Library Software		17	Each	\$387
	Subtotal Assets Managed by Library Services - Responsibility View				\$24,692
	2. Assets Managed by Other Service Areas				
	Facilities (Moved to Facilities)		6	Each	\$103,780
	Fleet (Moved to City Support Fleet)		4	Each	\$154
Subtotal Assets Managed by Other Service Areas				\$103,934	
TOTAL - USER VIEW (1+2)				\$128,627	

Table 17 - Detailed Replacement Values for Animal Services

Service	Asset	Inventory	Unit	Total Replacement Value (\$000)	
	1. Assets Managed by Animal Services				
	Equipment		171	Each	\$346
	Subtotal Assets Managed and Used by Animal Services - Responsibility View				\$346
	2. Assets Managed by Other Service Areas				
	Facilities		2	Each	\$9,887
	Fleet		12	Each	\$1,135
	Software		1	Each	\$233
	Subtotal Managed by Other Service Areas				\$11,255
TOTAL - USER VIEW (1+2)				\$11,600	

2.4.2 Asset Condition

Consistent with the Canadian National Infrastructure Report Card as well as other major organizations and institutions reporting formats, a five-point rating scale, as shown in Table 18, was used to assign a condition to all assets. The City aims to continuously improve its assets condition assessment protocols to bring them in line with industry best practices to better reflect reliability and adequacy of the assets to provide service.

Table 18 - Five Point Infrastructure Rating Scale

Rank	Condition	Definition
1	Very Good	The asset is fit for the future. It is well maintained, in good condition, new or recently rehabilitated.
2	Good	The asset is adequate. It is acceptable and generally within the mid-stage of its expected service life.
3	Fair	The asset requires attention. The asset shows signs of deterioration and some elements exhibit deficiencies.
4	Poor	There is an increasing potential for its condition to affect the service it provides. The asset is approaching the end of its service life, the condition is below the standard and a large portion of the system exhibits significant deterioration.
5	Very Poor	The asset is unfit for sustained service. It is near or beyond its expected service life and shows widespread signs of advanced deterioration. Some assets may be unusable.

Source: Canadian Infrastructure Report Card 2019

The 2022 SOLI uses the following approaches to assess the asset condition in the State of the Local Infrastructure:

- Facility Condition Index (FCI)** - The FCI is a standard facility management benchmark that objectively assesses the current condition of a building asset. This 2022 SOLI continued the use of the Facility Condition Index (FCI) calculation as the primary method to determine the overall condition of each facility. The facilities Condition grade (very good to very poor ratings) goes hand-in-hand with FCI, and is an industry standard way of evaluating asset condition in a way that is understandable to the public and Council. Building Condition Assessment (BCA) data determined the overall condition of facility assets. Table 19 below indicates the Facilities Condition Grading System used in this SOLI Report.

Table 19 - Facilities General Condition Grading System

Grade	Description	Condition (Criteria)
VG	Very Good	Only normal maintenance required (0-2%)
G	Good	Minor Defects only - Minor maintenance required (2%-5%)
F	Fair	Maintenance required to return to accepted Level of Service - Significant maintenance required (5% - 10%)
P	Poor	Requires Renewal - Significant renewal/upgrade required (10-30%)
VP	Very Poor	Over 30% of asset requires replacement

- Pavement Condition Index (PCI)** – The PCI is an industry standard benchmark used to indicate the general condition of pavement. The method to calculate the PCI is based on a technical inspection of the number and types of distresses in a pavement. Pavement distress includes low ride quality, cracking, bleeding, bumps and sags, depressions, potholes, etc. The result of the analysis is a numerical value between 0

and 10, with 10 representing the best possible condition and 0 representing the worst possible condition.

- *Bridge Condition Index (BCI)* – The BCI is a commonly used benchmark that rates the condition of a bridge by evaluating and rating its sub-components, such as foundations, piers, deck structure, sidewalks/curbs/median, abutments or sidewalks, railings, etc. Each element of the bridge is rated from 1 (the element is on the verge of failure) to 100 (condition as new). An overall measure for the bridge is based on the rating of its elements. All bridges with a span greater than 3 Metres are inspected every two years as per the Provincial mandate.
- *Age and Expected Useful Life* – When no formal condition assessment was available, the Age of the asset and its Expected Useful Life (EUL) were used to estimate the current condition. The EUL is the average amount of time in years that an asset is estimated to function when installed new and assuming routine maintenance is practiced.

For most assets, the general deterioration curve presented in Table 20 has been applied to derive the condition from the remaining assets useful life and vice versa. However, for some other asset types, such as storm sewers and fleet, a more refined deterioration curve was applied which better represented the lifecycle needs of those assets. The estimated engineered useful life of an asset is the period of time the asset is expected to provide service. The use of an asset ultimately influences the life of the infrastructure and its ability to provide service.

Table 20 - Overall City’s Condition Grading Standard Framework

Grade	Condition	% of RUL
Grade 1	Very Good	80-100
Grade 2	Good	60-80
Grade 3	Fair	40-60
Grade 4	Poor	20-40
Grade 5	Very Poor	0-20

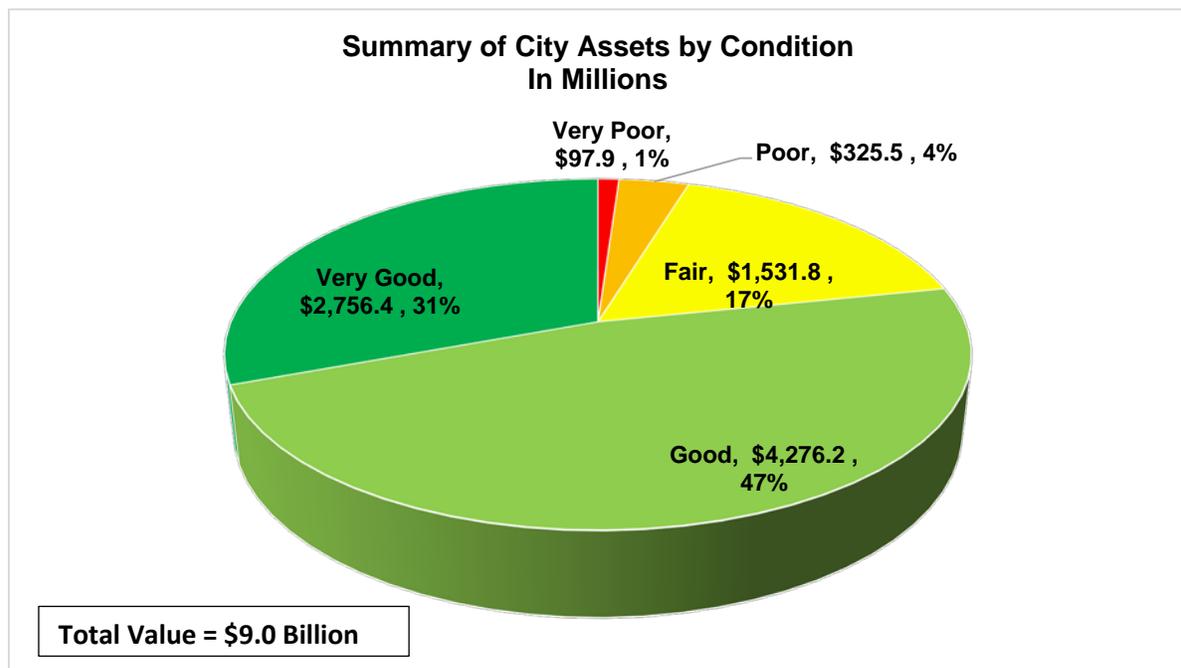
- *Expert Opinion* – Where formal condition assessment, reliable age data, or the results of the Age & EUL analysis failed to represent actual condition observed by Staff, expert opinion of the City of Brampton service area experts were used to estimate asset condition. For example, all software incorporated into this report is considered to be in very good condition despite the age of the asset. The data would say some software is in poor or very poor condition, relative to the year it may have been acquired, while the expert knows the asset is overall in good condition. The opinion of the expert would override age and useful life in this circumstance. The expert opinion condition was evaluated by comparing Staff experience to the definition as noted above.

Based on the inputs described above, Figure 5 below provides a snapshot of the overall condition of municipal infrastructure in the City of Brampton. In general, the assets considered

in this report are assessed in “Good” condition with roughly 5% of the asset base measuring “Very Poor” to “Poor” indicating some assets in these categories may require more immediate renewal/replacement considerations. The overall “Good” condition rating can largely be attributed to the City’s infrastructure being relatively new in age combined with the sound asset management practices the City has employed to date.

The conditions illustrated in the figure below represent the cumulative value of assets categorized in the five condition areas. As Transportation, Facilities, and Stormwater Infrastructure represent about 81% of the City’s total replacement value, the condition of these specific assets has a greater influence to the overall condition rating identified. Another key consideration is the number of assets classified as being in Very Poor condition. Based on the current data presented, these assets make up around 1% of the total.

Figure 5 - Summary of Brampton’s Asset by Condition (\$ Millions)



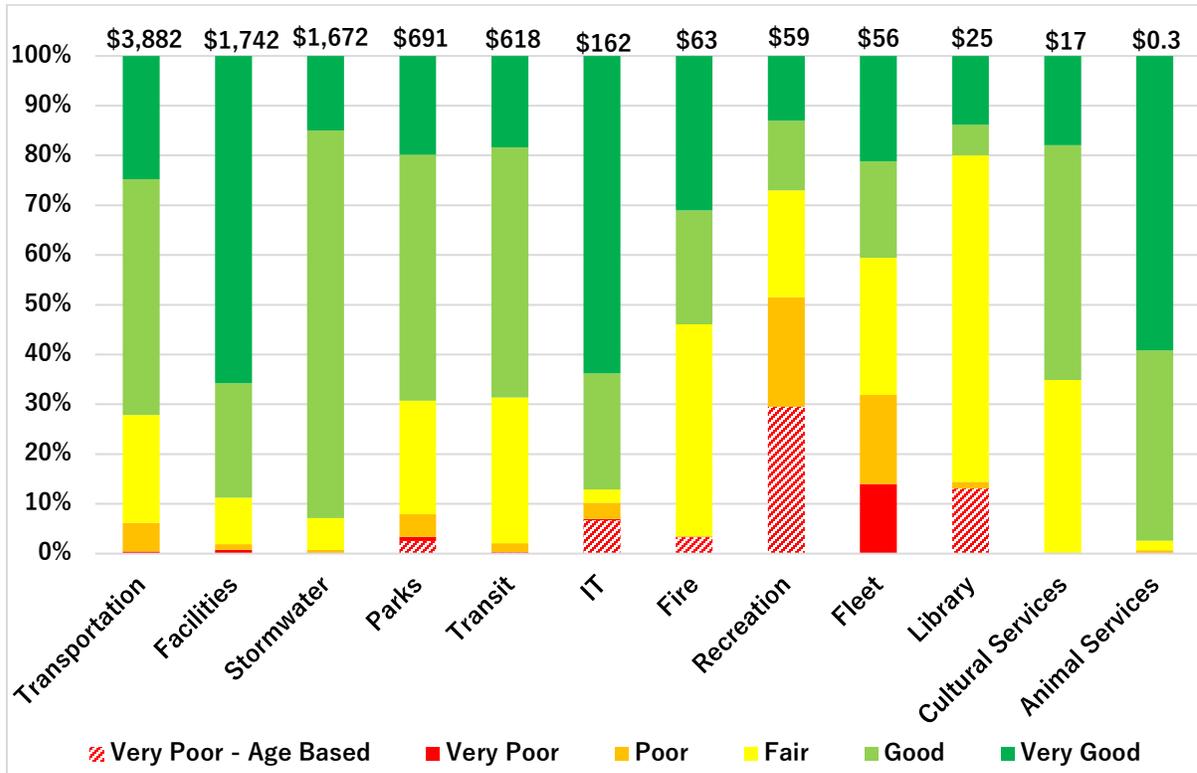
The available replacement value and condition assessment information specific to the service areas is presented in individual report cards. Each report card presents a comparison of the capital asset inventory and replacement values from the 2021 SOLI Report with the results of this year’s analysis. Please note, for comparison purposes, the valuations illustrated from the 2021 SOLI Report remain in \$2022 while the 2022 SOLI report figures are represented in constant \$2023. Figure 6 below provides a more detailed review of the condition assessment by service area. A few notes for consideration:

- The service areas identified below are shown within the responsibility view framework. This means that all assets related to Facilities, Fleet and IT reside under the respective service areas mentioned below. For example, Recreation does not include the recreation centres themselves – the centres would be reported under Facilities.
- The majority of assets in Very Poor condition were assessed based on the “age” of the asset relative to the useful life and may not accurately reflect actual asset

condition. The assets continue to remain in service and are functional. In addition, those service areas represent a small share of the City’s overall asset portfolio.

- For some service areas, such as Fleet, an age-based assessment is used. This assessment is complimented with inspection protocols to better understand asset condition to evaluate the replacement needs.
- Please note, the service area report cards in Appendix I only illustrate the overall asset conditions and do not differentiate Very Poor assets between age and condition based.

Figure 6 - Summary of Asset Condition by Service Area (\$ Millions)



Note: Values identified at the top of each bar represents the replacement value of infrastructure under the “Responsibility View” for each service area (in Millions). The red-hashed sections reflect age based Very Poor assets and does not truly reflect the condition of the asset – as the City matures its practices, progress is expected in better reporting of these assets.

Table 21 below provides qualifications, by service area, of the assets within each service area that are in Very Poor Condition.

Table 21 - Qualification of Very Poor Assets

Service Area	Description	Action Plan
Transportation (\$17.8M)	<ul style="list-style-type: none"> • Only 25 lane KM of roadway, some fences, noise walls, retaining walls, guiderails and walkways/pathways • Mostly condition based assessments • Very Poor assets represent a small portion of the total base 	<ul style="list-style-type: none"> • Very poor assets are either being renewed or will be addressed through the upcoming budget
Stormwater (\$0.2M)	<ul style="list-style-type: none"> • Related to storm sewer network • Represents only a very small share of total stormwater assets • Age based assessment 	<ul style="list-style-type: none"> • Condition is evaluated based on “age” relative to the useful life of the asset and does not necessarily reflect the actual asset condition. CCTV condition assessment is currently underway to confirm and validate asset condition • No safety issue or impacts to levels of service are identified
Facilities (\$12.7M)	<ul style="list-style-type: none"> • 5 Recreation facilities, 2 Corporate facilities and 4 Park facilities in Very Poor condition • Conditions developed using an FCI based calculation 	<ul style="list-style-type: none"> • None of the facilities represent a safety issue or preclude Facilities from delivering services • Future budgets to address the condition through individual repair or replacement
Transit (\$1.8M)	<ul style="list-style-type: none"> • Largely related to fleet support vehicles, transit facilities (on road and Specialty Equipment (Bus Lift and maintenance/ small equipment). 	<ul style="list-style-type: none"> • Condition for some assets are evaluated based on “age” relative to the useful life of the asset and does not necessarily reflect the actual asset condition • Most Very Poor assets are monitored by the Transit staff and addressed through the budget
IT (\$11.3M)	<ul style="list-style-type: none"> • Related to end-user information technology and infrastructure assets • Frequent replacements due to short asset UL and to keep pace with emerging technology 	<ul style="list-style-type: none"> • Condition of majority of the IT assets is evaluated based on “age” relative to the useful life of the asset and does not necessarily reflect the actual asset condition • Very poor IT assets will be upgraded through the future budgets • Some assets (i.e. monitors) are replaced upon their failure
City Support Fleet (\$7.8M)	<ul style="list-style-type: none"> • Mostly related to licensed fleet and off road vehicles. • Licensed fleet based on vehicle useful life, high mileage and engine hours • Maintained in good and safe working order with increased maintenance costs 	<ul style="list-style-type: none"> • Due to budgetary pressures, some very poor assets will be replaced through the upcoming budget and the remaining will receive enhanced maintenance to provide delivery of services. • Very poor assets are replaced through the multi-year capital budgeting and in line with the recommendations of the Brampton Sustainable Fleet Strategy.
Fire (\$2.1M)	<ul style="list-style-type: none"> • Mostly related to fire support vehicles that includes one support Tanker. • Condition assigned for these assets are based on Age. 	<ul style="list-style-type: none"> • Condition for support vehicles are evaluated based on “age” relative to the useful life of the asset and does not necessarily reflect the actual asset condition

Service Area	Description	Action Plan
		<ul style="list-style-type: none"> Very Poor assets are monitored by the Fire staff and addressed through the budget
Parks (\$23.4M)	<ul style="list-style-type: none"> Very Poor assets represent a small portion of the total base None of the playgrounds, shade structures or fitness equipment are in VP condition Mostly age based assessments with limited data on actual asset upgrades. All assets are safe and working condition. 	<ul style="list-style-type: none"> Condition of the majority of the Park assets is evaluated based on “age” relative to the useful life of the asset and does not necessarily reflect the actual asset condition Trees in very poor condition continue to be monitored by our Forestry staff and are either already removed or will be removed when required.
Recreation (\$17.5M)	<ul style="list-style-type: none"> Related to furniture, general and major equipment (no outdoor amenities – spray pads, tennis, fitness equipment, etc. - is in the Very Poor condition) Very Poor condition is based on estimated age and useful life of category, not necessarily reflective of the actual asset condition No safety issues or effect on levels of service 	<ul style="list-style-type: none"> Condition reporting of Very Poor assets is based on best available information and needs to be matured for completeness and accuracy Assets continue to be replaced through multi-year capital budgeting
Library (\$3.2M)	<ul style="list-style-type: none"> Related to furniture/equipment but about 60% of the very poor value attributed to computer equipment Frequent replacements due to short asset UL. All assets are in safe and working order. Age based assessment 	<ul style="list-style-type: none"> No safety issue or effect on levels of service VP assets are either being replaced or will be addressed through the upcoming budget

Note: Numbers may not add exactly to the very poor total due to rounding. For consistency, the order of service area is listed in the same order as reporting tables. Above table shows the very poor assets under the service area responsible for managing them.

2.5 Financing Strategy

As part of the Corporate Asset Management Plan and previous version of the SOLI Report, the City, along with Hemson, had identified the total full life cycle costs of an asset that corresponds to the requirements of the regulation. This would entail a cost estimation throughout the assets’ life including planning, design, construction, acquisition, operation, maintenance, renewal, replacement (and disposal). In addition, the analysis also takes into consideration the inclusion of expansion related infrastructure into the lifecycle management strategy. This approach ensures that the additional lifecycle costs associated with newly constructed/acquired assets are accounted for in the long-term forecast. The initial first round capital to acquire the asset is not considered in the asset management provision.

Lifecycle Management in asset management planning not only includes estimating future lifecycle costs, but also intends to adopt best practices in order to maximize the life of an asset at the lowest cost while managing risks and providing expected levels of service.

Lifecycle activities of an asset are segmented into six (6) categories: non-infrastructure solutions, operations/maintenance, renewal/rehabilitation, replacement, disposal, and expansion activities. As the City is in the process of completing the service area AMPs for all assets (with exception of Transportation and Stormwater), which takes a more in depth look at each lifecycle activity to strengthen and improve the expenditure outlook, the financing strategy has been omitted from this 2022 SOLI report. It is expected that the Service Area AMP will be completed prior to July 1 2024 and will inform the financing strategy. Despite the financing strategy being omitted from this SOLI Report, the various approaches the City can address the funding shortfall to maintain existing infrastructure have been provided. The table below outlines the various strategies that the City has available to address the growing infrastructure needs. The strategies combine both data improvements and other budgetary and non-budgetary solutions.

Table 22 – Addressing the funding shortfalls

Strategy	Approach
2% Infrastructure Levy	To continue bridging the funding gap and improve financial sustainability, the City should maintain their existing infrastructure levy dedicated towards management of assets and monitor the revenues derived.
1% Transit Levy	The City of Brampton has placed great importance on creating a reliable and well-operated transit system, as it is vital to a thriving City. Having a strong transit infrastructure is important to reducing road congestion, attracting businesses and investments and helping to connect people and job. The City should continue to implement this levy, which will help strengthen new services, but it will also ensure existing transit assets are well maintained.
Improved Data Confidence	As the City matures its asset management practices, better data by service will help to achieve a proper assessment of the condition of assets. Further, some assets are currently assessed on an age-based approach that does not necessarily reflect the actual condition of the asset.
Levels of Service Measures	As part of the recently completed Transportation and Stormwater AMPs and the ongoing Service Area AMP, levels of services measures by service area have been established. Levels of Service measures provide clear line of sight between City strategic priorities and lifecycle activities, and allows to identify areas where funding needs could be recalibrated. This could result in reductions in current funding needs.
Develop Annual Capital Reinvestment Targets	Targets should be set for various assets to determine if the current reinvestment rates are reasonable and allow new targets to be developed in order to meet current or proposed levels of service.
Implement a Standardized Risk Framework	A standardized risk framework for asset classes would help to establish the risk tolerance level of individual asset classes in order to help prioritize investment needs and adjust levels of service, with the potential for reduced funding needs.
Seek Funding Support from Upper Levels of Government	The City of Brampton is demonstrating a significant commitment to asset management and developing a set of renewal practices to ensure that services are delivered in the most cost efficient manner. Despite the efforts, upper level of government support is required to supplement the city's practices to balance affordability.
Continued Project Co-ordination with Region of Peel and Utility Companies	In exploring opportunities with the Region and Utility service providers, overall cost efficiencies may be achieved during linear asset rehabilitation and replacement (e.g. storm sewers, roads, bridges, culverts) by better aligning capital ventures.

3 Future Improvements

Moving forward, the City's Corporate Asset Management Office aims to continue to improve upon a number of different areas in collaboration with the stakeholders, with initiatives that will improve data quality and confidence while driving corporate change:

- 1) **Data Confidence and Reliability:** The basis of the information contained within this report is a series of data inputs such as asset conditions, useful life, replacement valuations and asset in-service dates. Over the past number of years, the City has made significant progress in further refining the database of existing assets to annually prepare the SOLI Reports and help facilitate capital budget discussions. As part of the 2021 Corporate AMP, the City developed an Asset Information Strategy (AIMS) that aims to improve asset information used to support AM practices in the City. An AIMS implementation plan that identifies a detailed action plan to advance Asset Information Maturity for each service area will be developed in the Service Area AMP. The following describes data confidence improvement areas for the four main data input categories as it relates to SOLI reporting:
 - a. **Asset Conditions:** Based on a weighted replacement value of all services and their condition assessments, approximately 79% of assets have a data confidence rating based on condition while most of the remaining assets use an age-based approach. The City intends to continue improving upon condition assessment methodologies to increase the share of assets based on condition over the coming years. This will include improvements to the condition grading standards and further development of specific asset deterioration curves as data becomes available from Operations, work orders and other information systems. Improved condition data will provide a foundation for the City to transition to a risk based approach to asset management over the long-term, specifically for the financing strategy. As previously stated, for certain asset classes, inspection programs with full condition assessments is not feasible, therefore the City will not be targeting a 100% data confidence rating based on condition assessments. When considering assets that will continue to use an age-based approach, the City is targeting a maturity rating based on condition of approximately 91%.
 - b. **Useful Life:** The basis of the useful life of the assets is benchmarking, manufacturer recommendations, and history of the City's owned assets and/or expert opinion. The City plans to improve useful life data reliability in the future by continuing to validate useful life assumptions against the City's specific data for similar assets.
 - c. **Replacement Valuations:** The following improvements are identified for refining the current replacement value of the City's assets:
 - i. Desegregation of the larger complex assets and increasing granularity of inventories and costing;

- ii. Inclusion of new asset categories into the City's overall asset replacement valuation process while continuously improving asset inventories and building upon existing data collection systems;
 - iii. Further benchmarking against local (City) price indices based on the improved Asset Information Systems and minimizing use of an asset's inflated purchase price and expert opinions;
 - iv. Inclusion of whole life cycle costs as opposed to straight forward replacement costs; and
 - v. Improving methodologies for perpetual asset valuation.
- d. **Asset In-Service Dates:** The in-service date of an asset is very important in estimating the timing of investment needs. While the in-service date for most of the newly acquired, installed or built assets is properly recorded, this information is lacking for some older asset categories. As the City's asset database is renewed, the share of assets missing an in-service date will naturally decline. Data collection processes should be improved to properly capture the acquisition, renewal, disposal and other dates related to life cycle interventions. This includes further improving the City's Asset Information Systems and processes to include unique asset identification for all assets.
- e. **Monitoring:** Continue to monitor and investigate the estimated infrastructure gap at the service area level, this tracking may help facilitate a more mature level of integrated infrastructure planning and financial sustainability.
- 2) **Knowledge Transfer:** Effective communication is an essential aspect of comprehensive asset management. The City implemented robust asset information processes and systems that will improve through the development of the Asset Information Management Strategy. However, asset data maturity varies between Service Areas. It will be important that the City continues to work on improving this area and engage key subject matter experts to facilitate data and key inputs transfer into a computerized database to better inform future iterations of this report. Completeness of centralized asset inventories residing in the overall Enterprise solution will enable access to accurate asset information. This includes continuous enhancement of communication and data transparency.
- 3) **Leading Change:** Comprehensive asset management across the City is about introducing new corporate practices and behaviours, coordination and consolidation of efforts, and standardization in order to aid informed decision making at the corporate level. It is therefore important that City staff within the Corporate Asset Management office lead this process of change.
- 4) **Continue to Develop Service Area Specific Asset Management Plans in Line with O.Reg 588/17:** The City of Brampton has prepared departmental AMPs for core infrastructure and is actively preparing departmental plans for the remaining service areas. Departmental plans review the full life cycle activities and policies, specific to that service area, in more detail than what is included in the Corporate AMP and, by extension, the SOLI Reports. The departmental plans are extremely important as they are intended to be more "forward looking" to consider the service level changes and different service delivery models for each area. Furthermore, the departmental plans

and future Corporate AMP iterations (and by extension SOLI Reports) will continue to explore the proper accounting of shared facilities between city boards (Library) and facilities as well as leasehold improvement expenditures undertaken that have not traditionally accounted for within previous SOLI Reports.

- 5) **Continue to Enhance Annual Reports:** Annual review of the data gaps can be undertaken as it relates to the four main data categories included in the SOLI report; namely asset inventory, replacement value, useful life and condition. This review will continue to address overall data gaps, asset-related lifecycle information and resulting financing strategy for an accurate estimation of the infrastructure deficit. Additional enhancement measures can be achieved through the analysis of any gaps in data and collection processes specific to each service area annually. This may include internal staff evaluation processes, benchmarking, audit results and assessments of current and best practices. These assessments can be carried out independently or integrated within this annual report.

Appendix I – Report Cards



Total Asset Replacement Value:	\$3.9 Billion
Total Asset Replacement Value Including Facilities, Fleet and Software:	\$4.0 Billion
Future Condition Trend (Next 10 Years):	Declining - As assets age they require close monitoring in the future
Data Confidence & Reliability:	Age and Condition Based

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: "**Responsibility View**" and "**User View**" representation

- Responsibility View:** Shows the assets under the service area that is responsible for managing the capital needs
- User View:** Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

The table below illustrates the replacement value (in \$2023) under the two different views.

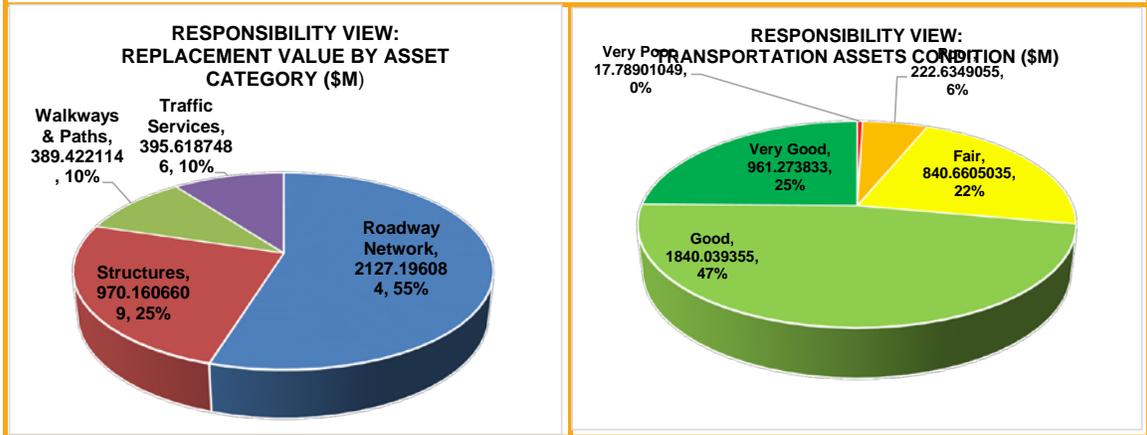
Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Transportation Services		
Roadway Network (Includes Islands)	\$2,127.2	3,819 Lane KMs
Structures (Bridges & Culverts)	\$861.3	5 KM
Structures (Other)	\$108.8	115 KM
Walkways & Paths	\$389.4	1,948 KM
Traffic Services	\$395.6	97,402 Each
<i>Subtotal Assets Managed by Transportation Services (Responsibility View)</i>	<i>\$3,882.4</i>	<i>-</i>
Assets Managed by Other Service Areas		
Operations Facilities	\$95.5	11
Fleet	\$18.3	156
Software	\$8.5	20
Total Replacement Value (User View)	\$4,004.7	-

*Other structures include: gateway features, noise walls, retaining walls on walkways, fences, guiderails, handrails and steps



Major Types of Assets within Transportation Services - Responsibility View

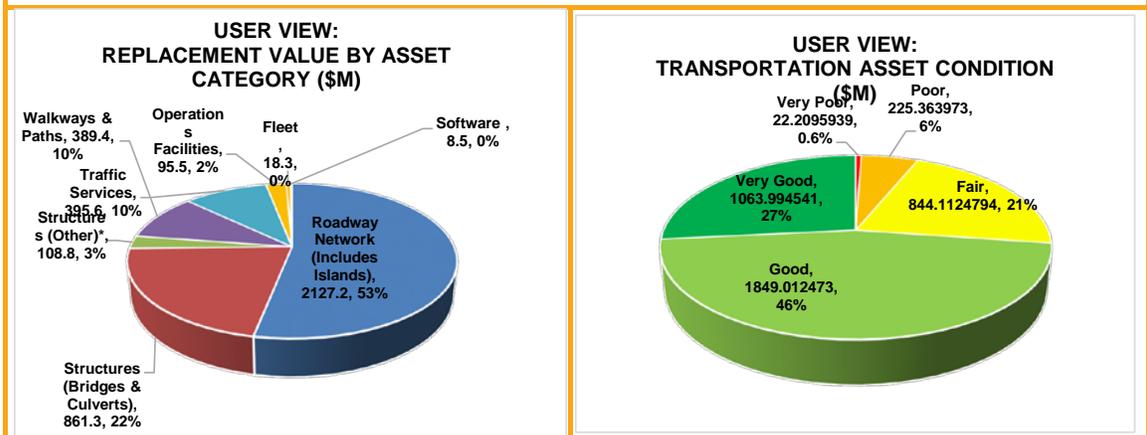
The figure below illustrates the replacement value and condition of Transportation Services assets under the responsibility view. Under this view, the total replacement value of assets is \$3.9 billion. Of this total, roughly 55% is related to the roadway network (including islands). About 72% of the assets are considered to be in Good to Very Good condition. Approximately 6% of assets are in Poor condition and less than 1% of assets are in Very Poor condition - of which a portion of the assets belongs to traffic services which the condition is assessed relative to the age and design life of the asset.



Data Source: Pavement and Bridge Management System, Departmental Inventories, dTIMS BA, GIS (Geographical Information System), PSAB, Parametric Estimating Guide of MTO 2016, City Works, Infor

Major Types of Assets within Transportation Services - User View

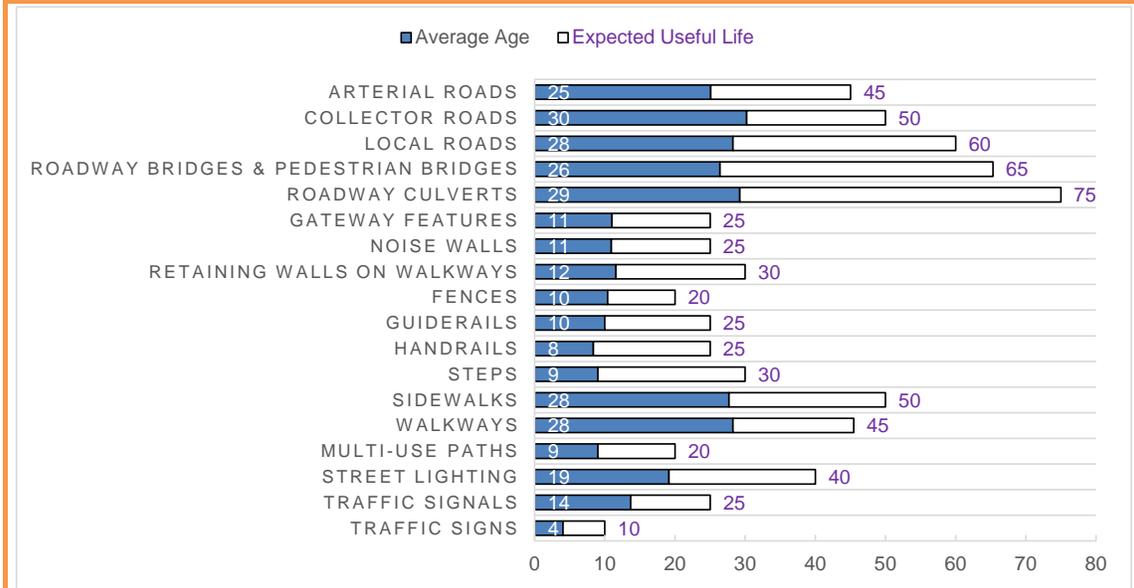
The figures below illustrate the replacement value and condition of Transportation Services assets under the user view. Under the user view illustration which also captures facilities, fleet and software, the replacement value is about \$4.0 billion. Approximately 73% of the assets are considered to be in Good to Very Good Condition.





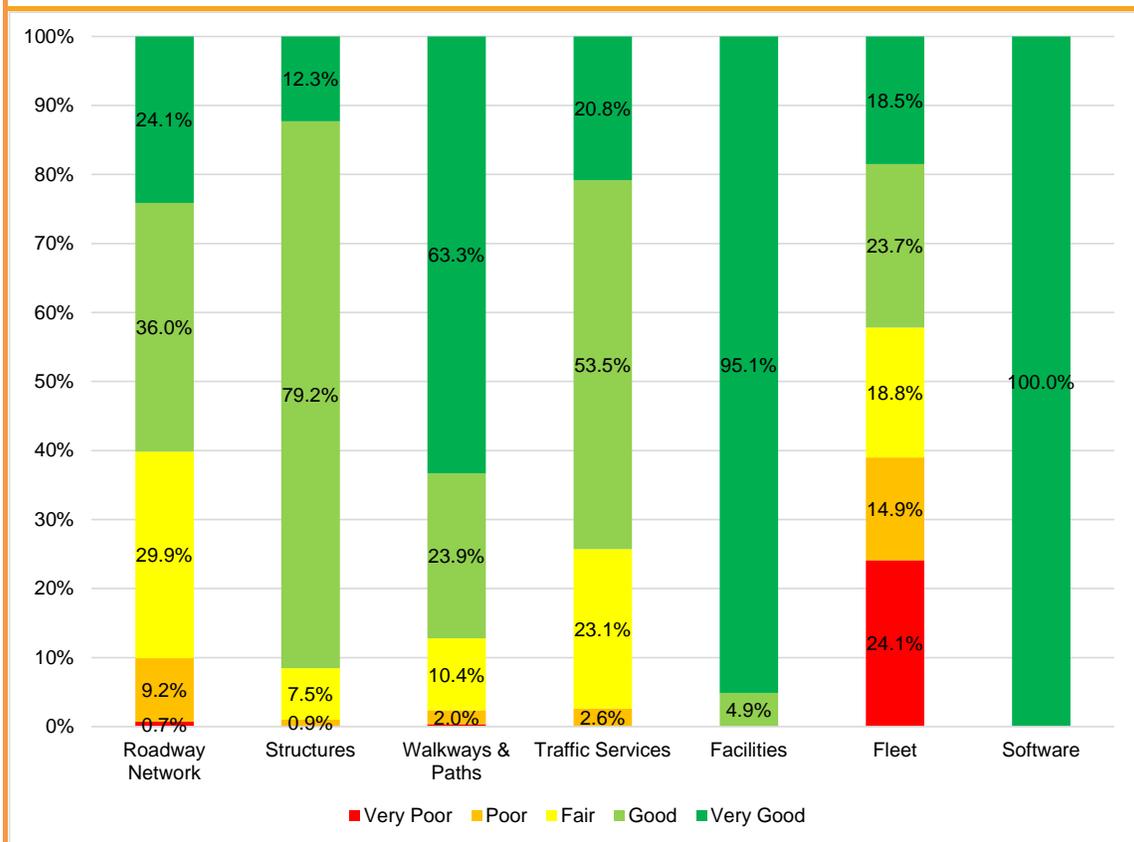
Age Summary

The following figure summarizes the average age of the City's Transportation assets compared to the useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated.



Condition Summary

The figure below illustrates the condition of the seven sub-component assets of Transportation Services. The majority of assets are in Good to Very Good condition, although, a small portion of assets pertaining to the Roadway Network, Structures, Walkways & Paths, Traffic Services and Fleet are in Poor and Very Poor condition.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outlines the difference in Transportation Services assets in the 2022 SOLI relative to the 2021 SOLI while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the value of Transportation Services assets has increased by 18% from approximately \$3.3 billion to \$3.9 billion. This increase is attributed to the growth of asset base and overall cost increases for these assets. Recent cost data has been provided and used to inform this analysis. Another notable change is the decrease in total kilometres of Walkways & Paths, as sidewalks owned by the Region that were previously included have been removed as part of the 2022 SOLI.

When considering the Transportation Services Facilities, Fleet and Software, the total asset value for Transportation Services has increased proportionately with the inclusion of these assets. Furthermore, the total value of Transportation Services assets represents an increase of 18% (or \$612.6 million) from the value reported in 2021 after inflationary adjustments.

Please note, the Facilities, City Support Fleet and IT report cards will include additional information (including the inflation measure applied) on those assets used by Transportation Services but maintained and managed by a different City department.

Asset	2021 SOLI		2022 SOLI	
Roadway Network (Includes Islands)	3,756	Lane KM	3,819	Lane KM
Structures (Bridges & Culverts)	5	KM	5	KM
Structures (Other)*	94	KM	115	KM
Walkways & Paths	2,079	KM	1,948	KM
Traffic Services	95,578	Each	97,402	Each
Operations Facilities	9	Each	11	Each
Fleet	167	Each	156	Each
Software	20	Each	20	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas***				
Operations Facilities	\$ 74,768,505	\$ 95,478,671	\$ 20,710,166	28%
Fleet	\$ 16,706,591	\$ 18,332,582	\$ 1,625,991	10%
Software	\$ 7,350,537	\$ 8,484,200	\$ 1,133,663	15%
Subtotal Assets Managed by Other Service Areas	\$ 98,825,633	\$ 122,295,453	\$ 23,469,820	24%
2. Assets Managed by Transportation Services				
Roadway Network (Includes Islands)	\$ 1,758,353,151	\$ 2,127,196,084	\$ 368,842,933	21%
Structures (Bridges & Culverts)	\$ 806,954,248	\$ 861,326,109	\$ 54,371,861	7%
Structures (Other)*	\$ 73,402,882	\$ 108,834,552	\$ 35,431,670	48%
Walkways & Paths	\$ 279,289,233	\$ 389,422,114	\$ 110,132,881	39%
Traffic Services	\$ 375,254,352	\$ 395,618,749	\$ 20,364,397	5%
Subtotal Assets Managed by Transportation Services (Responsibility View)	\$ 3,293,253,865	\$ 3,882,397,608	\$ 589,143,742	18%
Total Replacement Value: User View (1+2)	\$ 3,392,079,498	\$ 4,004,693,061	\$ 612,613,562	18%

* Other structures include: gateway features, noise walls, retaining walls on walkways, fences, guiderails, handrails and steps

** Responsibility of managing the assets lies with another service area, but assets are used by Transportation



Asset Replacement Value:	\$1.7 Billion
Future Condition Trend (Next 10 Years):	Stable - City employs a dedicated Service Fee to fund operational and asset renewal expenditures.
Data Confidence & Reliability:	Age and Condition Based*

* The City is undertaking a fulsome assessment of all stormwater assets which will be used to update the state of repair, valuations, and lifecycle costs over time

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: "Responsibility View" and "User View"

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs

User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

The table below illustrates the replacement value (in \$2023) under the two different views.

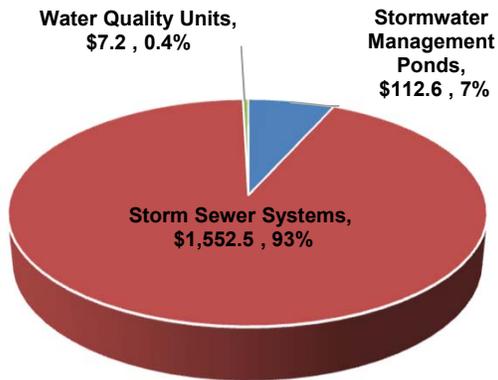
Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Stormwater		
Stormwater Management Ponds	\$112.6	189
Storm Sewer Systems	\$1,552.5	Pooled
Water Quality Units	\$7.2	127
Total Replacement Value (Responsibility View)	\$1,672.2	-



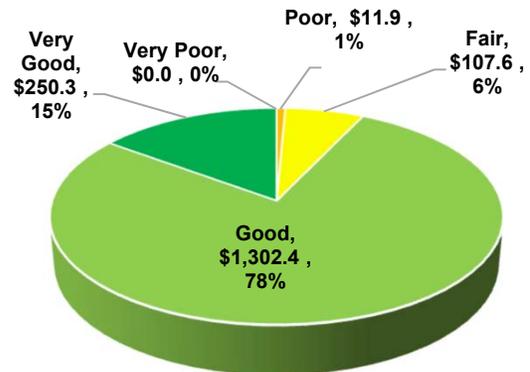
Major Types of Assets within Stormwater Services - Responsibility View

The figures below illustrate the replacement value and condition of Stormwater assets under the responsibility view. The total replacement value of assets is \$1.7 billion. About 93% of this total is related to the City's storm sewer system with the remaining value largely associated with stormwater management ponds. About 93% of the City's stormwater assets are Good to Very Good condition with most of the remaining assets in Fair or Poor condition, and a small portion in Very Poor condition. The stable future condition trend is attributable to the fact that the majority of Stormwater assets are relatively new and have a long useful life and therefore have a long remaining useful life. In addition to this, the City introduced a dedicated stormwater service fee, which transfers funding from property taxes to a service fee program. Revenues derived from the service fees will be used exclusively towards Stormwater-related costs and investments, which will in turn help relieve some pressure on the capital budget, and allow funds to be re-allocated towards other service areas.

**RESPONSIBILITY VIEW:
REPLACEMENT VALUE BY ASSET
CATEGORY (\$M)**



**RESPONSIBILITY VIEW:
STORMWATER ASSET CONDITION
(\$M)***



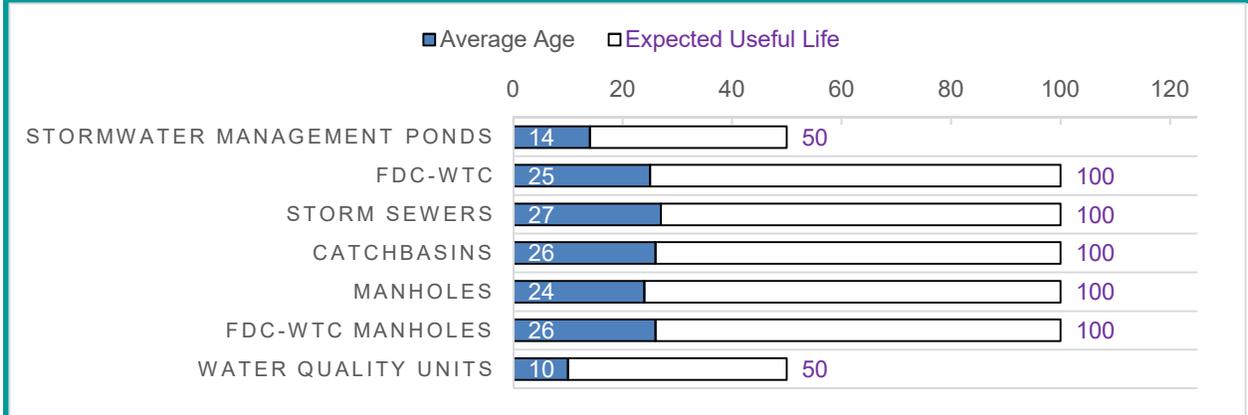
*The City is undertaking a fulsome assessment of all stormwater assets which will be used to update the state of repair, valuations, and lifecycle costs over time

Data Source: GIS database, Departmental Inventory for Water Quality Units (Excel based tracking), Manufacturer pipe price lists and City contracts (cost model)



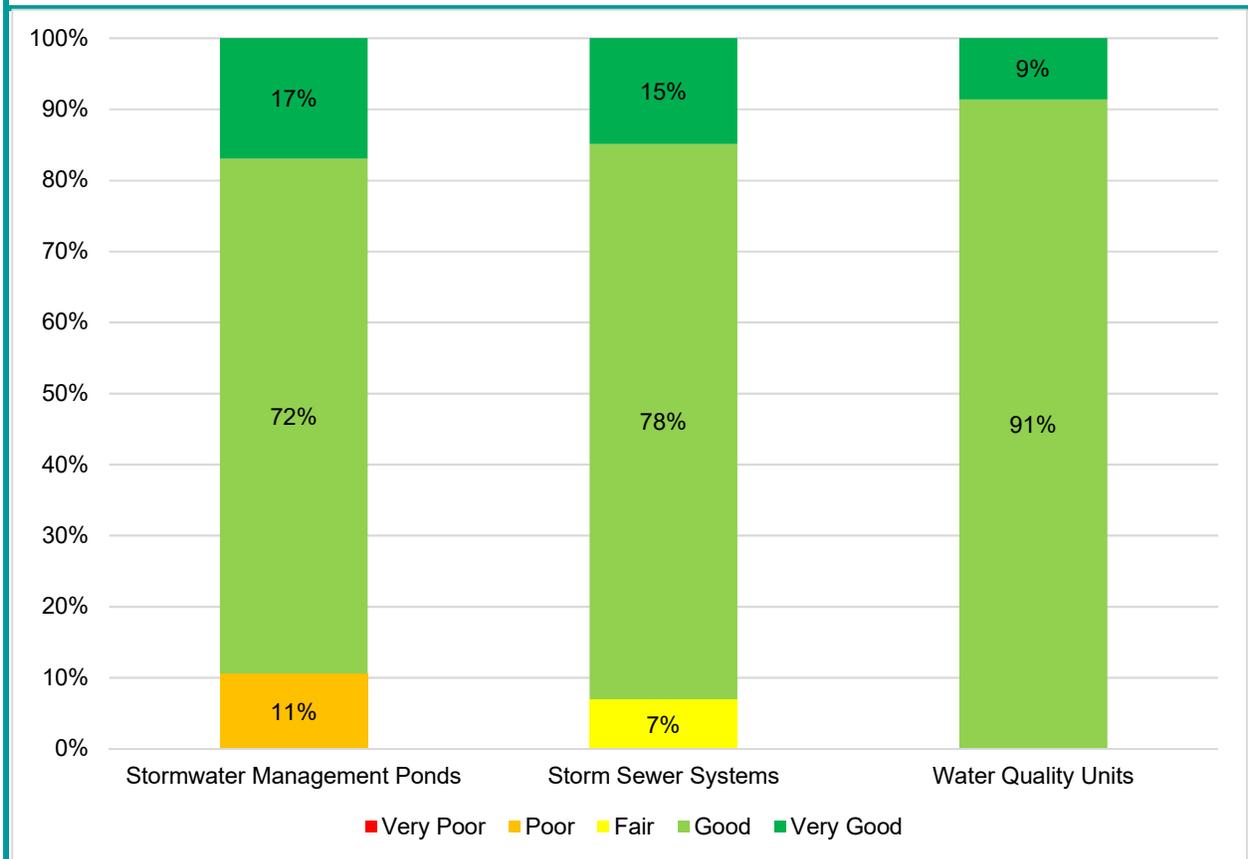
Age Summary

The following figure summarizes the average age of the City's Stormwater Assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated. It is important to emphasize that the age of an asset relative to its useful life does not always provide a complete picture of its actual condition.



Condition Summary

The figure below illustrates the condition of the four sub-component assets of Stormwater services. All sub-components are generally in Good to Very Good Condition, however, about 11% of Stormwater Management Ponds are in Poor condition.



*The City is undertaking a fulsome assessment of all stormwater assets which will be used to update the state of repair, valuations, and lifecycle costs over time



Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in Stormwater assets in the 2022 SOLI relative to the 2021 SOLI. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the total value of Stormwater assets has increased from \$1.4 billion to \$1.7 billion. The increase in value can largely be attributed to cost increases since the last report. Where available, recent costing data was used for Water Quality Units, while the remaining asset replacement values were inflated by the Non-Residential Building Construction Price Index (NRCPI) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report. In addition, the increase in overall count and value can be attributed to data improvements as part of the 2022 SOLI that captures assets that were previously not reported under the SOLI and the growth of the stormwater drainage system due to development.

Asset	2021 SOLI		2022 SOLI	
Stormwater Management Ponds	186	Each	189	Each
Storm Sewer Systems - Linear	1,902,124	Meters	1,978,499	Meters
Storm Sewer Systems - MH/CB	65,059	Each	67,892	Each
Water Quality Units	128	Each	127	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
Stormwater Management Ponds	\$ 98,692,344	\$ 112,614,175	\$ 13,921,831	14%
Storm Sewer Systems - Linear & MH/CB	\$ 1,287,783,826	\$ 1,552,502,031	\$ 264,718,205	21%
Water Quality Units	\$ 7,471,680	\$ 7,160,318	\$ (311,362)	-4%
Subtotal Assets Considered in 2022 SOLI	\$ 1,393,947,850	\$ 1,672,276,525	\$ 278,328,674	20%



Total Asset Replacement Value (User View - Software & Fleet): \$5.9 Million

Total Asset Replacement Value (All Facilities): \$1.7 Billion

Future Condition Trend (Next 10 Years): Stable - Assets are renewed as needed and therefore remain in stable condition

Data Confidence & Reliability: Condition Based

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: **"Responsibility View"** and a **"User View"**

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs

User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

The table below illustrates the replacement value (in 2023\$) under the two different views.

Asset Type	Replacement Value (\$Millions)	Asset Inventory
1. Assets Used by Facilities and Managed by Other Service Areas		
Software	\$4.0	4
Fleet	\$2.0	67
<i>Subtotal (User View)</i>	<i>\$5.9</i>	<i>-</i>
2. Assets Used by Other Service Areas and Managed by Facilities		
Corporate Facilities	\$355.3	26
Animal Services Facilities	\$9.9	2
Cultural Services Facilities	\$102.3	1
Recreation Facilities	\$743.5	69
Parks Facilities	\$24.0	18
Transit Facilities	\$197.1	8
Library Facilities*	\$103.8	6
Fire Facilities	\$110.7	15
Work Operations Facilities*	\$95.5	11
<i>Subtotal (Responsibility View)</i>	<i>\$1,742.0</i>	<i>156</i>
Total Replacement Value (User + Responsibility View)	\$1,747.9	-

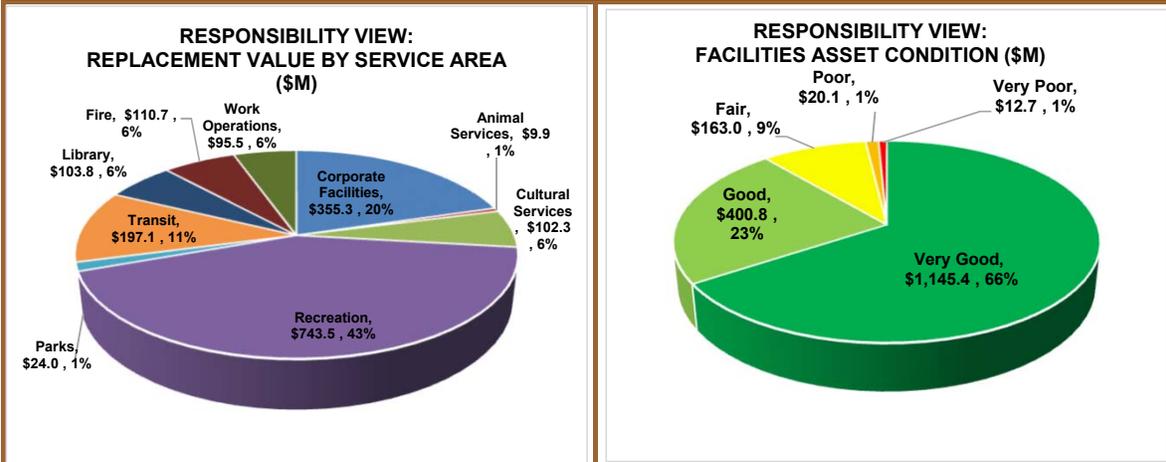
* Work Operations include facilities associated with Fleet, Stormwater and Transportation

* Four (4) library facilities are standalone buildings while two (2) of the Library facilities are shared facilities with Recreation



Major Types of Assets within Facilities - Responsibility View

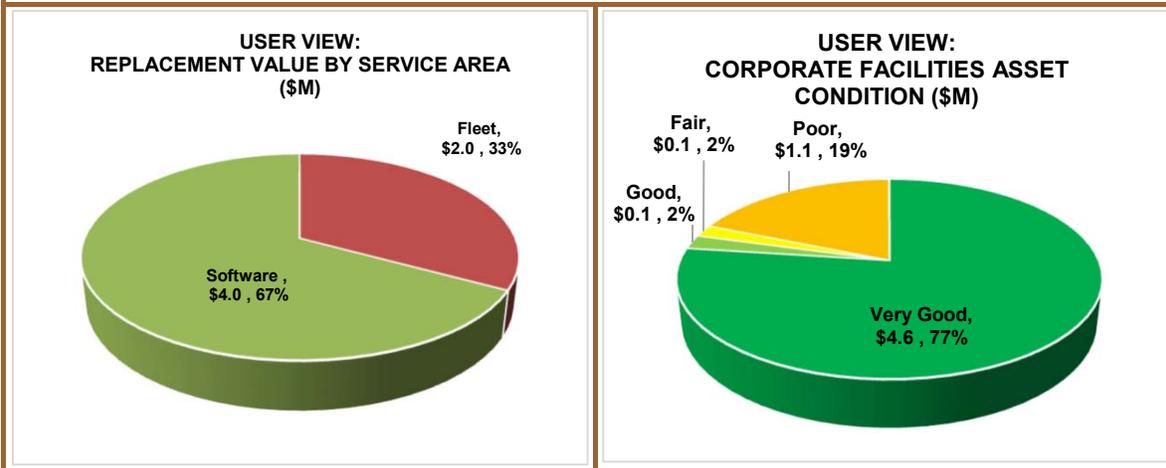
The figure below illustrates the replacement value and condition of Facilities assets under the responsibility view. Under this view, the total replacement value of assets is \$1.7 billion. This includes all facilities used across various service areas in addition to Corporate Facilities. As depicted in the figure below, Recreation Facilities are the largest portion representing 43% (or \$743.5 million) of the total facilities replacement value. Overall, the facilities are in Good condition, with 89% of assets classified to be in Good or Very Good condition. Approximately 2% of assets are in Poor or Very Poor condition. The facilities condition reporting is set on an FCI calculation basis which considers the cost of immediate repair work required at each facility relative to the replacement value of the facility. In this report, the FCI rating of facilities was updated as an overall improvement to the condition reporting. At the same time, the condition facilities in Poor and Very Poor state of repair were addressed through the inclusion of recent completion of capital projects. Poor and Very Poor condition reporting does not represent a safety issue or preclude service areas from delivering services to meet the needs of residents.



Source: Building Condition Assessments, Suncorp Valuation Report

Major Types of Assets within Facilities - User View

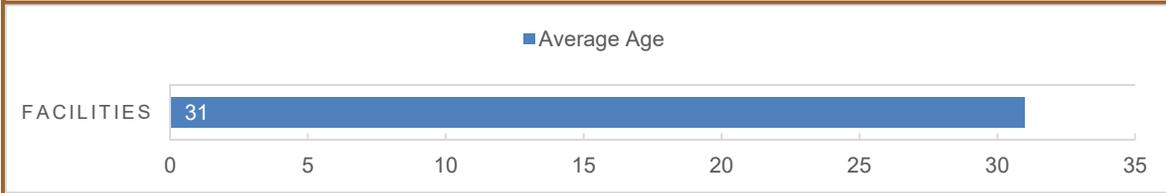
The figures below illustrate the replacement value and condition of assets used by Facilities under the user view. The user view for Facilities captures Software and Fleet, with a total replacement value of \$5.9 million. Approximately 79% of Facilities user view assets are considered to be in Good to Very Good Condition with 19% of assets in Poor condition. Assets classified in "Poor" condition are not considered to be unsafe; the condition indicates that these assets need immediate repair work to avoid inflated maintenance costs and provide desired levels of service.





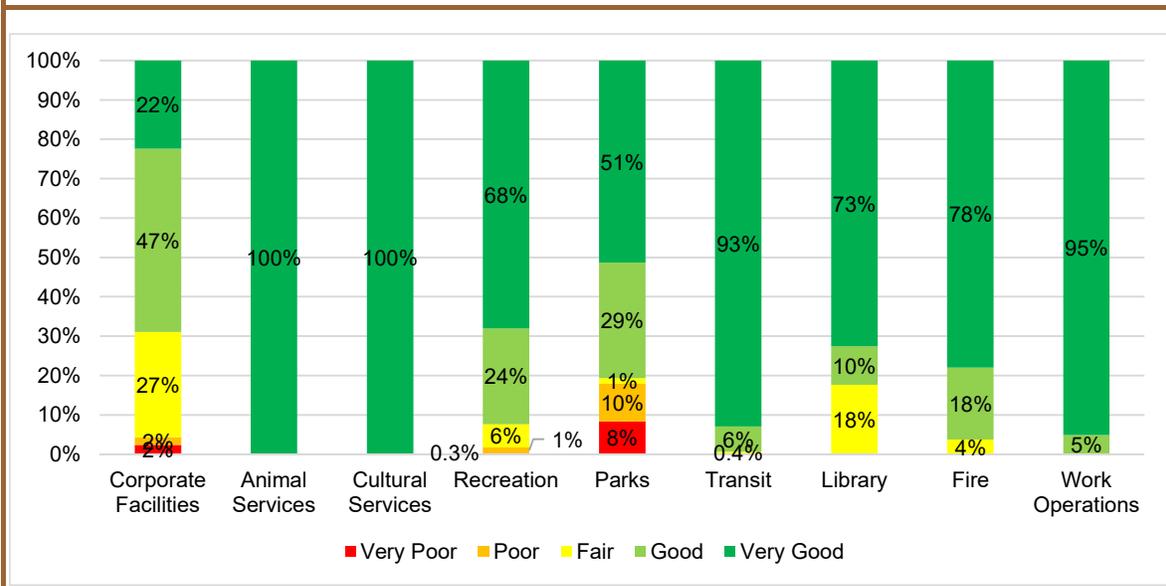
Age Summary

The following figure summarizes the average age of the City's Facilities assets. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age illustrated.



Condition Summary

The figure below illustrates the condition of all facilities assets by service area based on the responsibility view. While the assets are generally in Good to Very Good condition, the overall condition makeup varies by service area. Corporate Facilities, Parks and Recreation all have a small portion of facilities in Poor or Very Poor condition. Again, the condition assessment are determined on an FCI calculation basis which considers the cost of upcoming repair works required at a facility relative to its replacement value. Poor and Very Poor condition reporting does not represent a safety issue or preclude service areas from delivering services to meet the needs of residents.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in Facilities assets in the 2022 SOLI relative to the 2021 SOLI while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the user view framework, which only considers Software and Fleet, the total value of assets has increased by \$567,000 to \$5.9 million in the 2022 SOLI. The increase can be attributed to cost increases experienced by most asset types.

When considering all Facilities under the responsibility view, the value of all assets increased by 16% (or \$237.8 million) from the value in 2021. The increase can be attributed to the cost changes since the last report. Recent costing data was available and used to value the facilities included in this report. The valuations are largely based on the 2022 valuation report prepared by Suncorp, with some adjustments to each facility value to better capture soft costs excluded from Suncorp reports. Note the reduction in the overall value of Fire Facilities is generally related to the decommissioning of Fire Station 3.

Asset	2021 SOLI		2022 SOLI	
Corporate Facilities	26	Each	26	Each
Animal Services	2	Each	2	Each
Cultural Services	1	Each	1	Each
Recreation	68	Each	69	Each
Parks	18	Each	18	Each
Transit	8	Each	8	Each
Library	6	Each	6	Each
Fire	16	Each	15	Each
Work Operations	9	Each	11	Each
Software	1	Each	4	Each
Fleet	66	Each	67	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Used by Facilities and Managed by Other Service Areas*				
Software	\$ 3,637,626	\$ 3,973,584	\$ 335,958	9%
Fleet	\$ 1,719,259	\$ 1,950,593	\$ 231,333	13%
Subtotal Assets Used by Facilities - User View	\$ 5,356,885	\$ 5,924,176	\$ 567,291	11%
2. Assets Used by Other Service Areas and Managed by Facilities				
Corporate Facilities	\$ 310,434,809	\$ 355,309,853	\$ 44,875,044	14%
Animal Services	\$ 9,444,949	\$ 9,887,046	\$ 442,097	5%
Cultural Services	\$ 90,902,704	\$ 102,301,865	\$ 11,399,161	13%
Recreation	\$ 626,924,411	\$ 743,492,116	\$ 116,567,706	19%
Parks	\$ 20,723,422	\$ 23,959,029	\$ 3,235,607	16%
Transit	\$ 170,064,733	\$ 197,103,902	\$ 27,039,170	16%
Library	\$ 88,728,313	\$ 103,780,112	\$ 15,051,799	17%
Fire	\$ 118,123,549	\$ 110,679,460	\$ (7,444,090)	-6%
Work Operations	\$ 74,768,505	\$ 95,478,671	\$ 20,710,166	28%
Subtotal Assets Managed by Facilities - Responsibility View	\$ 1,199,680,585	\$ 1,741,992,054	\$ 542,311,468	45%
Total Replacement Value (User + Responsibility View)	\$ 1,510,115,394	\$ 1,747,916,230	\$ 237,800,836	16%

Note 1: Valuations for service areas of Animal and Fire are based on staff discussions which reflect costing from more recent tenders

*Responsibility of managing the assets lies with another service area, but assets are used by Facilities



Asset Replacement Value:	\$618.0 Million
Total Asset Replacement Value Including Facilities and Software:	\$820.3 Million
Future Condition Trend (Next 10 Years):	Stable
Data Confidence & Reliability:	Age and Condition Based

The 2022 SOLI analysis is being reported under two different asset representation perspectives: **"Responsibility View"** and **"User View"** representation

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs
User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

The table below illustrates the replacement value (in \$2023) under the two different views.

Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Transit		
Licensed Vehicle Assets	\$497.1	505
Transit Facilities (On Road)*	\$62.2	3,400
Transit IT Infrastructure**	\$2.3	43
Specialty Equipment***	\$56.4	4,757
Subtotal Assets Managed by Transit (Responsibility View)	\$618.0	-
Assets Managed by Other Service Areas		
Transit Facilities	\$197.1	8
Software Used by Transit	\$5.2	2
Total Replacement Value (User View)	\$820.3	-

* Transit Facilities (On Road) include Conventional Shelters, Bike Shelters, Zum Shelters, Bus Stops (with Concrete Pads), and Sandalwood Loop

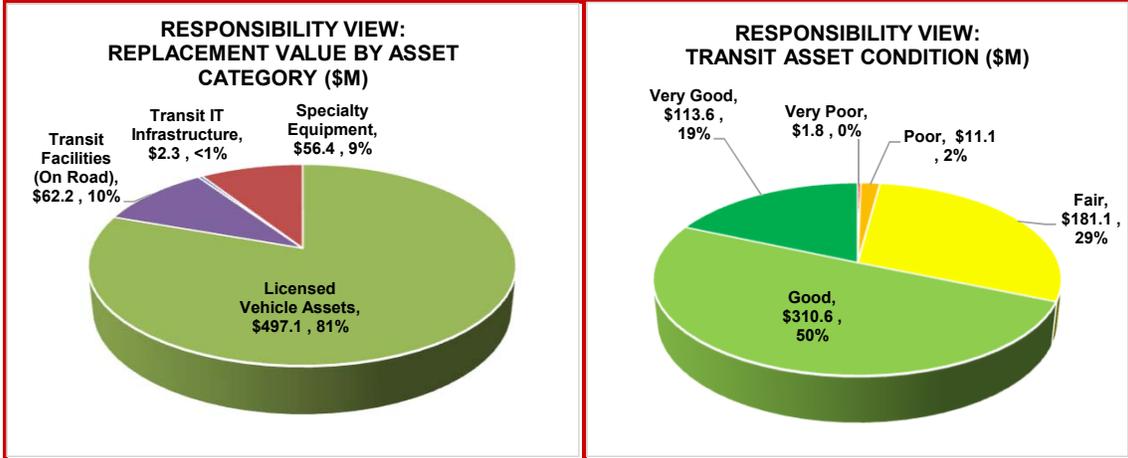
** Transit IT Infrastructure includes Video Walls, Smart Bus Systems & True Credential ID Card Application Hardware

*** The assets included under specialty equipment are detailed under the "Comparison of 2022 vs. 2021 Inventory and Replacement Value" below



Major Types of Assets within Transit - Responsibility View

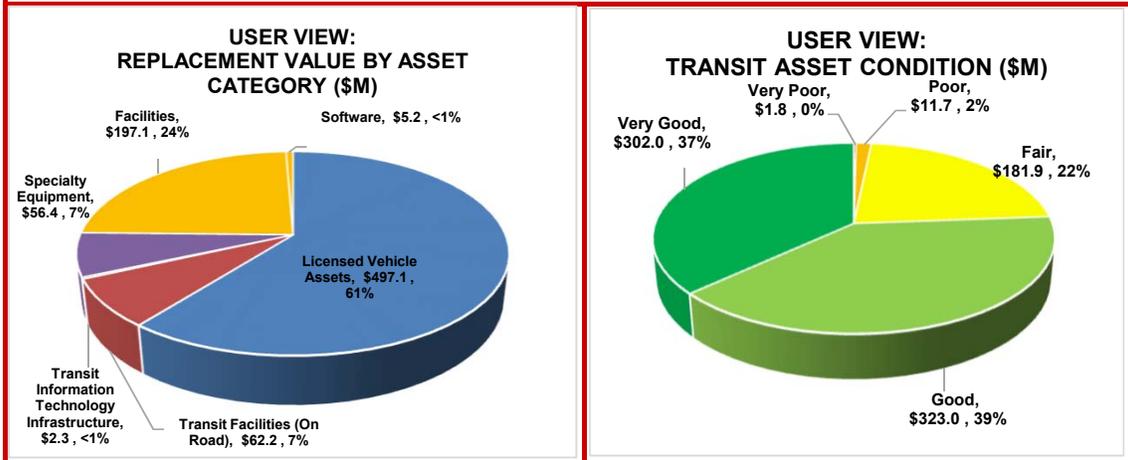
The figures below illustrate the replacement value and condition of Transit assets under the responsibility view. Under this view, the total replacement value of assets is \$618.0 million. Consistent with the 2021 SOLI, Transit licensed vehicle assets, on road transit facilities, Transit IT infrastructure and specialty equipment are considered under the management of this service area. Overall, the Transit assets are in Good condition with only about 2% (\$11.1 million) of the total asset base rated in Poor condition and less than 1% (\$1.8 million) in Very Poor condition. It is important to note that assets classified in "Poor" and "Very Poor" condition are not considered to be unsafe; the condition indicates only that assets are nearing the end of an engineered useful life and may need to be replaced to avoid inflated maintenance costs.



Data Source: Departmental Inventory and Asset Works (M5)

Major Types of Assets within Transit - User View

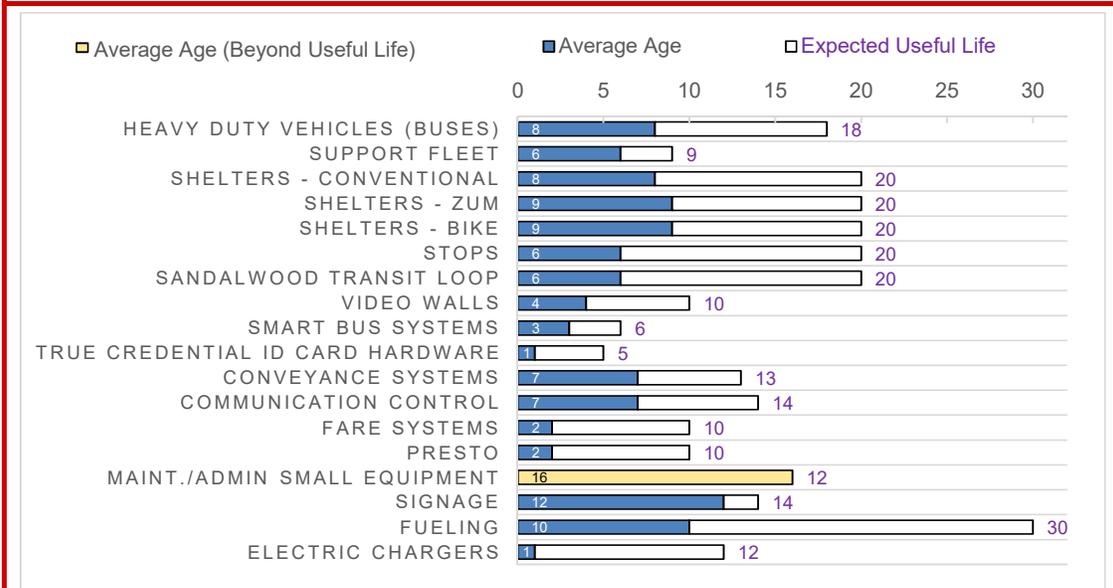
The figures below illustrate the replacement value and condition of Transit assets under the user view. Under the user view illustration, which also captures transit facilities and software, the replacement value is about \$820.3 million. Of this total, licensed vehicles continue to represent the largest share at \$497.1 million. Over 75% of the assets are considered to be in Good to Very Good Condition. Less than 3% of assets are in Poor and Very Poor condition. As above, assets classified in "Poor" and "Very Poor" condition are not considered to be unsafe; the condition indicates only that assets are nearing the end of an engineered useful life and may need to be replaced to avoid inflated maintenance costs.





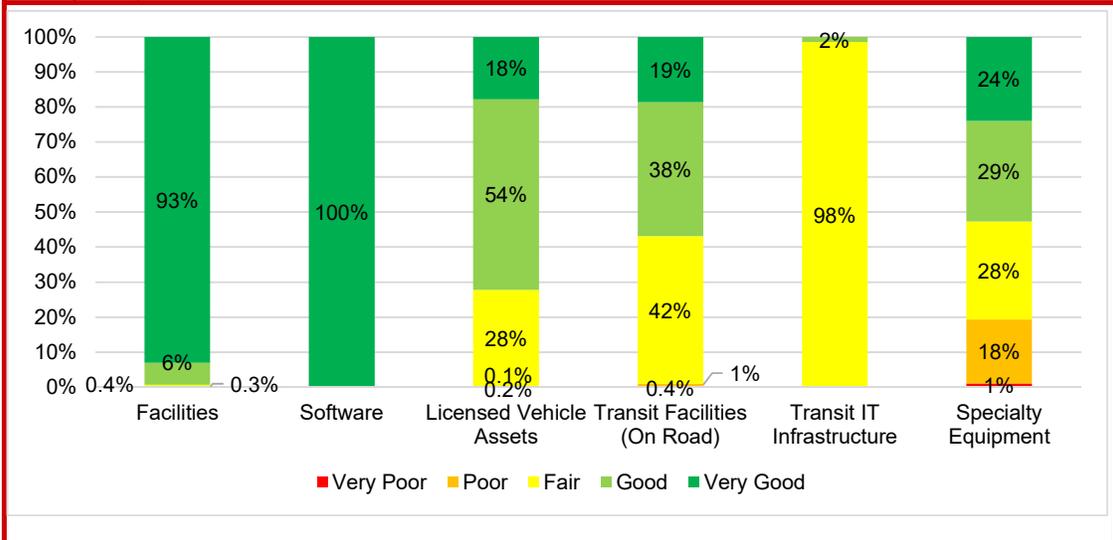
Age Summary

The following figure summarizes the average age of the City's Transit Assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated. It is important to emphasize that the age of an asset relative to its useful life does not always provide a complete picture of its actual condition, and an asset can often perform at an expected level to meet service requirements as is the case with Maintenance/Admin Small Equipment.



Condition Summary

The figure below illustrates the condition of the various Transit assets by key sub-component areas based on the user view. While the assets are generally in Good to Very Good condition, specialty equipment has 1% of assets in Very Poor condition and a further 17% in Poor condition. Additionally, there is a small percentage of Transit on-road facilities which are reported in Poor and Very Poor condition. These assets are regularly inspected and continue to be operational and in working order while anticipated to be serviced over the short-term. One Bus Lift is in Very Poor condition and has been taken out of operation. The small portion of Very Poor assets under Licensed Vehicle Assets pertain to Support Fleet vehicles. The condition analysis for these assets is based on age, and not necessarily reflective of actual asset condition (these are not public facing assets and are closely monitored to maintain safe, working order).





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in Transit assets in the 2022 SOLI relative to the 2021 SOLI while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the total replacement value of Transit assets has increased by 13% from approximately \$550.0 million to \$618.0 million. The increase in value can largely be attributed to cost increases since the last report. Specifically, recent costing data was provided and used for Heavy Duty Vehicles, Electric Chargers, Conventional Shelters, Communication Control and Signage, while the remaining asset replacement values were inflated by the Machinery & Equipment Price Index (M&E) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report. Furthermore, data improvements related to the costing of software assets have been made as part of this SOLI and are contributing to the overall increase.

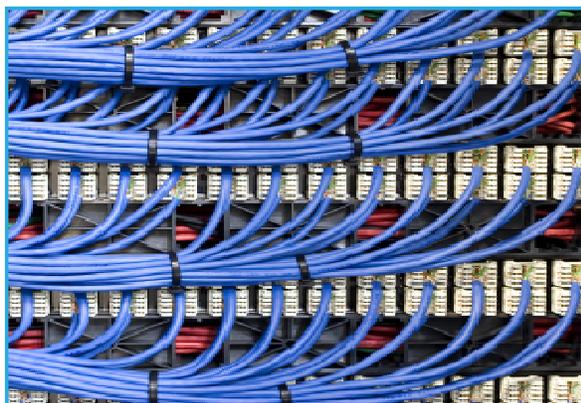
When considering the Transit Facilities and Software, the value of Transit assets increased by 14% (or \$99.1 million) from the value reported in 2021 after inflationary adjustments. This increase is also attributable to the use of updated indices to reflect the cost to replace assets in current dollars.

Please note, the Facilities and IT report cards include additional information (including the inflation measure applied) on those assets used by Transit Services but maintained and managed by a different City department.

Asset	2021 SOLI		2022 SOLI	
Licensed Vehicle Assets	501	Each	505	Each
Transit Facilities (On Road)	3,351	Each	3,400	Each
Transit Information Technology Infrastructure	43	Each	43	Each
Specialty Equipment				
Conveyance Systems	34	Each	34	Each
Communication Control	4	Each	4	Each
Fare Systems	498	Each	498	Each
Presto	1,082	Each	1,082	Each
Maintenance/Admin Small Equipment	7	Each	9	Each
Signage	3,093	Each	3,120	Each
Fueling	5	Each	5	Each
Electric Chargers	5	Each	5	Each
Facilities	8	Each	8	Each
Software	2	Each	2	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas*				
Facilities	\$ 170,064,733	\$ 197,103,902	\$ 27,039,170	16%
Software	\$ 1,222,470	\$ 5,195,531	\$ 3,973,061	325%
Subtotal Assets Managed by Other Service Areas	\$ 171,287,203	\$ 202,299,433	\$ 31,012,231	18%
2. Assets Managed by Transit Services				
Licensed Vehicle Assets	\$ 438,919,651	\$ 497,071,246	\$ 58,151,596	13%
Transit Facilities (On Road)	\$ 56,774,260	\$ 62,239,746	\$ 5,465,486	10%
Transit Information Technology Infrastructure	\$ 2,074,231	\$ 2,311,800	\$ 237,569	11%
Specialty Equipment				
Conveyance Systems	\$ 10,455,000	\$ 11,648,997	\$ 1,193,997	11%
Communication Control	\$ 15,158,000	\$ 17,136,000	\$ 1,978,000	13%
Fare Systems	\$ 9,088,674	\$ 10,126,632	\$ 1,037,958	11%
Presto	\$ 5,241,000	\$ 5,839,540	\$ 598,540	11%
Maintenance/Admin Small Equipment	\$ 478,584	\$ 672,346	\$ 193,762	40%
Signage	\$ 3,102,473	\$ 2,002,030	\$ (1,100,443)	-35%
Fueling	\$ 1,404,000	\$ 1,564,342	\$ 160,342	11%
Electric Chargers	\$ 7,260,000	\$ 7,405,200	\$ 145,200	2%
Subtotal Assets Managed by Transit Services (Responsibility View)	\$ 549,955,873	\$ 618,017,880	\$ 68,062,007	12%
Total Replacement Value: User View (1+2)	\$ 721,243,075	\$ 820,317,313	\$ 99,074,238	14%

* Responsibility of managing the assets lies with another service area, but assets are used by Transit



Asset Replacement Value:	\$162.4 Million
Future Condition Trend (Next 10 Years):	Stable - Assets are replaced frequently and therefore remain in stable condition
Data Confidence & Reliability:	Medium (Condition Based)

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: "**Responsibility View**" and a "**User View**"

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs
User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

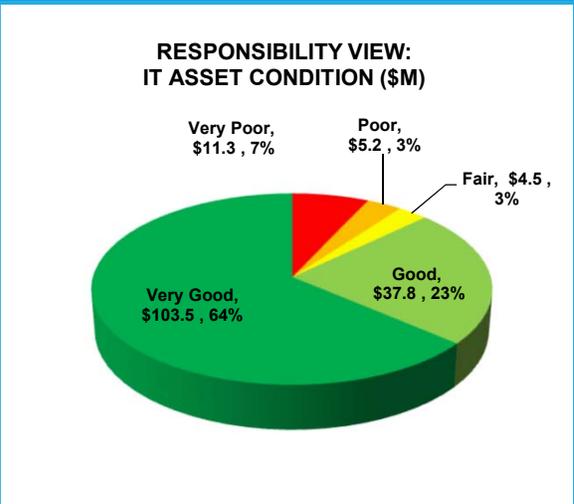
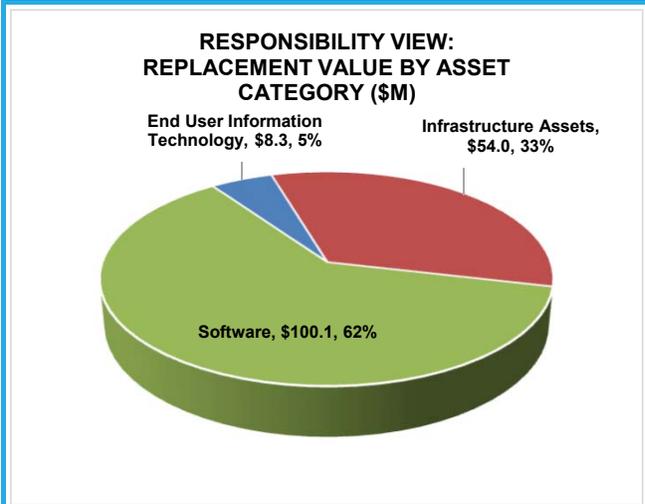
For IT, all assets are captured under the responsibility view as shown below (in \$2023).

Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by IT		
End User Information Technology	\$8.3	8,499
Infrastructure Assets	\$54.0	Pooled
Software	\$100.1	109
Total Replacement Value (Responsibility View)	\$162.4	-



Major Types of Assets within IT - Responsibility View

The figure below illustrates the replacement value and condition of IT services under the responsibility view. The total replacement value of IT assets is \$162.4 million, of which, over 60% of the total value is related to the City's software assets (both Corporate and those used by other service areas). Nearly 90% of IT assets are in Good or Very Good condition, with only 10% of assets in Poor to Very Poor condition. As IT assets are replaced and serviced frequently, their condition will remain stable. Overall, the Corporate IT assets are in Good condition and are meeting current needs.

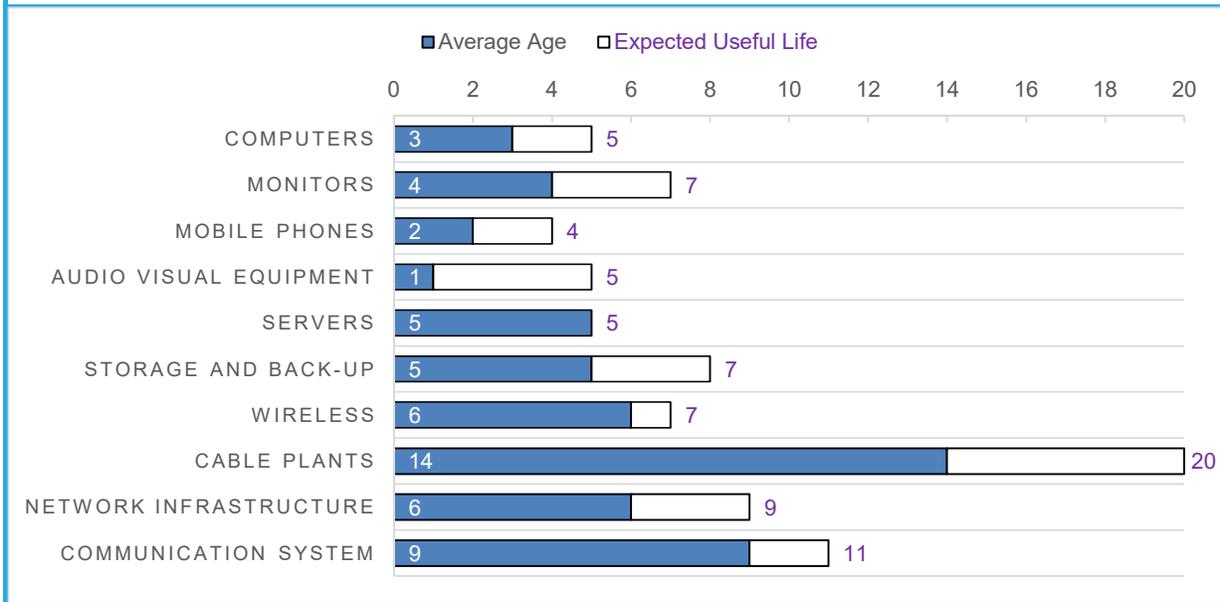


Data Source: Departmental Inventory



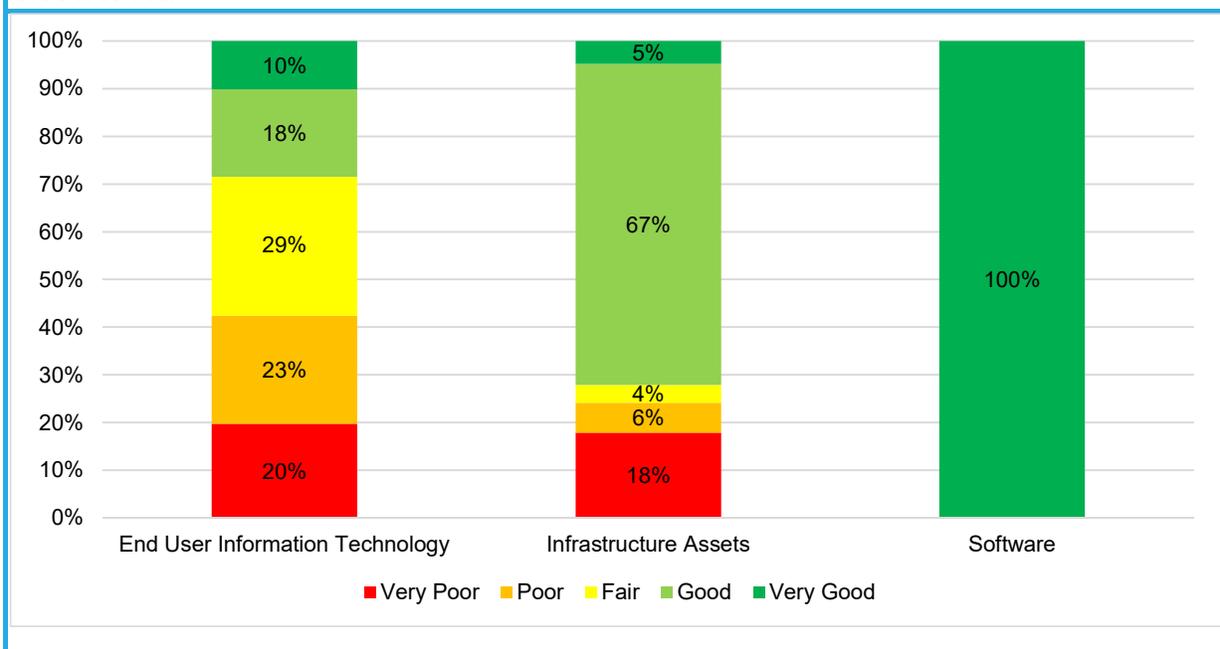
Age Summary

The following figure summarizes the average age of the City's IT Assets compared to the estimated useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated. It is important to emphasize that the age of an asset relative to its useful life does not always provide a complete picture of its actual condition. Software has been left out of the age analysis below as it is a unique asset type.



Condition Summary

The figure below illustrates the condition of the three sub-component assets of Information Technology services under the responsibility view. Software and Infrastructure Assets are mostly in Good to Very Good Condition. With this said about 43% of End User IT assets are in Poor and Very Poor condition. This condition mostly relates to computers and mobile phones which is based on age and indicates that these assets are nearing the end of an engineered useful life. In practice, these assets continue to be in good working condition and stay in use until they break or are unable to provide the desired levels of service.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in IT assets in the 2022 SOLI relative to the 2021 SOLI, while considering reporting under the responsibility view. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

The total value of IT assets has increased from approximately \$126.1 million to \$162.4 million. The increase in value can largely be attributed to cost increases since the last report. Where available, recent costing data was used such as for Audio Visual Equipment, while the remaining asset replacement values were inflated by the Machinery & Equipment Price Index (M&E) from the values identified in the 2021 SOLI (which were reported in \$2022). Further information on the indices applied to each asset class can be found in Table 5 of this report. Additionally, the inclusion of a more robust valuation for software (i.e. the workforce (employment scheduling, time/attendance, etc.) and other software accounts for some of the variance.

Asset	2021 SOLI		2022 SOLI	
End User Information Technology				
Computers	3,700	Each	3,547	Each
Monitors	2,843	Each	3,200	Each
Mobile Phones	1,249	Each	1,530	Each
Audio Visual Equipment	144	Each	222	Each
Infrastructure Assets				
Servers	83	Each	83	Each
Storage And Back-Up	22	Each	22	Each
Wireless	806	Each	806	Each
Cable Plants	284,723	Meters	284,723	Metres
Network Infrastructure	671	Each	671	Each
Communication System	4,127	Each	4,127	Each
Software	102	Each	109	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
Assets Managed by IT				
End User Information Technology				
Computers	\$ 6,112,146	\$ 6,408,564	\$ 296,418	5%
Monitors	\$ 724,965	\$ 891,363	\$ 166,398	23%
Mobile Phones	\$ 456,106	\$ 637,291	\$ 181,185	40%
Audio Visual Equipment	\$ 228,588	\$ 364,634	\$ 136,046	60%
Infrastructure Assets				
Servers	\$ 2,407,491	\$ 2,682,435	\$ 274,944	11%
Storage And Back-Up	\$ 4,093,406	\$ 4,102,673	\$ 9,268	0%
Wireless	\$ 1,939,127	\$ 2,160,582	\$ 221,455	11%
Cable Plants	\$ 30,415,876	\$ 33,889,474	\$ 3,473,598	11%
Network Infrastructure	\$ 6,111,292	\$ 6,809,222	\$ 697,931	11%
Communication System	\$ 3,865,483	\$ 4,306,935	\$ 441,452	11%
Software	\$ 69,766,763	\$ 100,114,855	\$ 30,348,092	43%
Total Replacement Value - Responsibility View	\$ 126,121,243	\$ 162,368,028	\$ 36,246,785	29%



Total Asset Replacement Value (excl. Software):	\$55.9 Million
Future Condition Trend (Next 10 Years):	Stable - Assets are replaced frequently and therefore remain in stable condition
Data Confidence & Reliability:	Low-Medium (Age and Condition Based)

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: **"Responsibility View"** and **"User View"**

Responsibility View: Shows the asset under the service area that is responsible for managing the capital needs

User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

The table below illustrates the replacement value (in \$2023) under the two different views.

Asset Type	Replacement Value (\$Millions)	Asset Inventory
1. Assets Managed by Other Service Areas but used by City Support Fleet		
Software (Moved to IT)	\$3.8	2
<i>Subtotal (User View)</i>	\$3.8	2
2. Assets Managed by Fleet and Used by Other Service Areas		
Licensed Fleet	\$37.3	503
Off-Road Vehicles	\$18.1	255
Fleet Equipment	\$0.4	88
<i>Subtotal (Responsibility View)</i>	\$55.9	846
Total Replacement Value (User + Responsibility View)	\$59.7	-

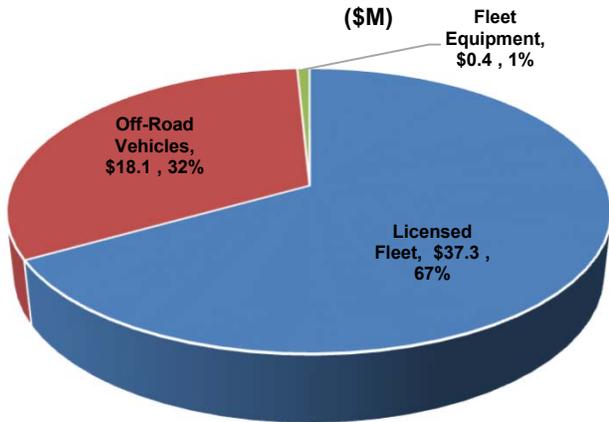
City Support Fleet excludes Transit and Fire Assets and Parks Fleet Equipment which are managed by their respective service areas.



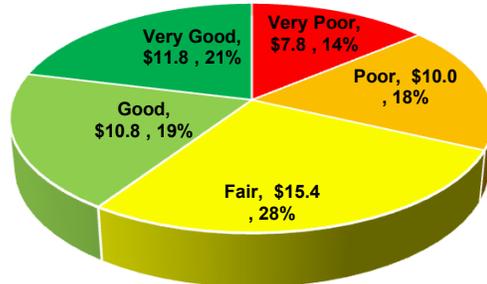
Major Types of Assets within City Support Fleet - Responsibility View

The figure below illustrates the replacement value and condition of City Support Fleet assets under the responsibility view. Under this view, the total replacement value of assets is \$55.9 million. Approximately 67% of the total value is related to the City's licensed fleet. About 40% of assets are considered to be in Good to Very Good condition. However, about 32% remain in Poor to Very Poor condition. The condition of City Support Fleet assets for the most part is based on age and/or vehicle mileage and not necessarily always reflective of the comprehensive asset condition. Assets classified in "Poor" and "Very Poor" condition are not considered to be unsafe; the condition indicates only that assets are nearing the end of an engineered UL (with higher mileage) and may need to be replaced to avoid inflated maintenance costs.

RESPONSIBILITY VIEW: REPLACEMENT VALUE BY ASSET CATEGORY (\$M)



RESPONSIBILITY VIEW: CITY SUPPORT FLEET ASSET CONDITION (\$M)



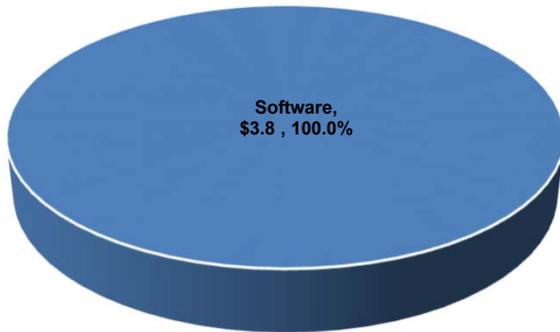
Assets classified in "Poor" and "Very Poor" condition are not considered to be unsafe; the condition indicates only that assets are nearing the end of an engineered UL (with higher mileage) and may need to be replaced to avoid inflated maintenance costs.

Data Source: Assetworks M5-Fleet Management Solution

Major Types of Assets within City Support Fleet - User View

The figures below illustrate the replacement value and condition of City Support Fleet assets under the user view. Under the user view illustration, which captures software, the replacement value is about \$3.8 million. All software assets are considered to be in Very Good condition.

USER VIEW: REPLACEMENT VALUE BY ASSET CATEGORY (\$M)



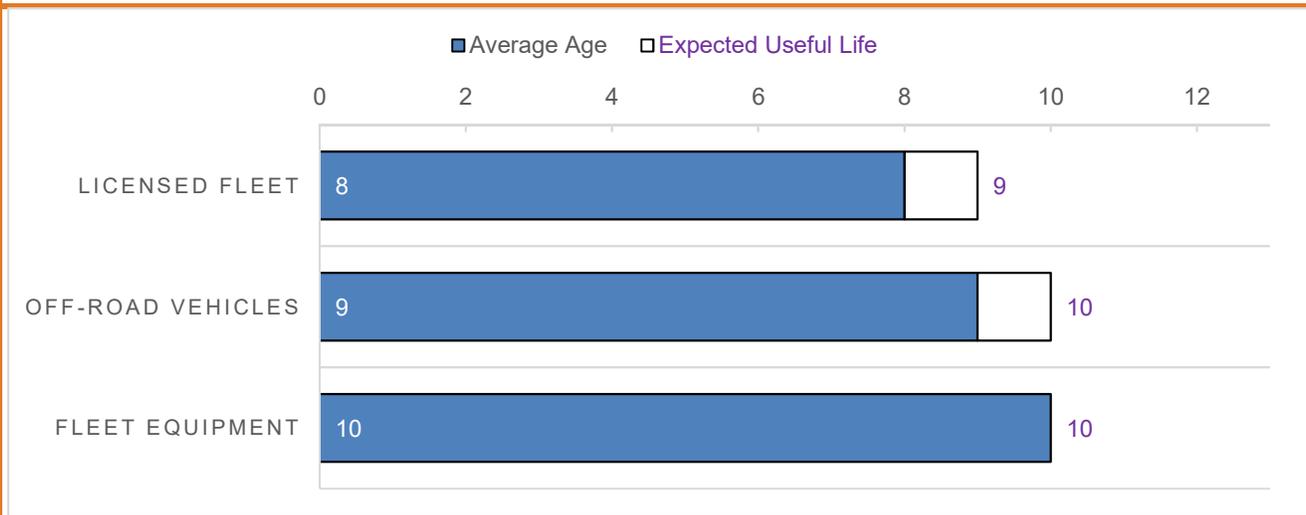
USER VIEW: CITY SUPPORT FLEET ASSET CONDITION (\$M)





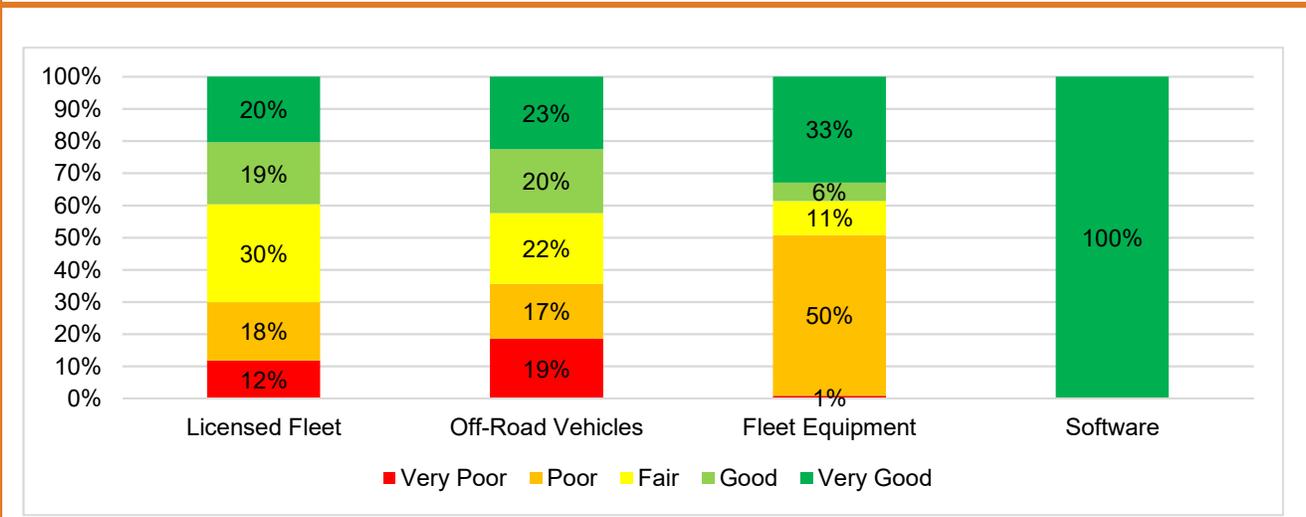
Age Summary

The following figure summarizes the average age of the City Support Fleet assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated.



Condition Summary

The figure below illustrates the condition of the various City Support Fleet assets by key sub-component areas based on the user and responsibility views. While a portion of the assets are in Good to Very Good condition, a share of the Licensed Fleet, Off-Road Vehicles and Fleet Equipment are in Poor or Very Poor condition. It is important to note that assets classified in "Poor" and "Very Poor" condition are not considered to be unsafe; the condition indicates only that assets are nearing the end of an engineered UL (with higher mileage) and may need to be replaced to avoid inflated maintenance costs.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in City Support Fleet assets in the 2022 SOLI relative to the 2021 SOLI while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the total value of City Support Fleet assets has increased by 13% from approximately \$49.3 million to \$55.9 million. The increase in value can largely be attributed to cost increases since the last report. As recent costing data was not available, the Fleet asset replacement values were inflated by the Machinery & Equipment Price Index (M&E) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report. Conversely, when considering assets only used by City Support Fleet (i.e. Software), the total asset value is equal to \$3.8 million, which does represent a significant increase when compared to 2021. This variance can be attributed to overall increases in costs and data improvements on software asset valuations.

Please note the IT report card will include additional information (including the inflation measure applied) on those assets used by City Support Fleet but maintained and managed by a different City department.

Asset	2021 SOLI		2022 SOLI	
Licensed Fleet	500	Each	503	Each
Off-Road Vehicles	295	Each	255	Each
Fleet Equipment	88	Each	88	Each
Software	2	Each	2	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas and Used by City Support Fleet*				
Software	\$ 790,704	\$ 3,780,158	\$ 2,989,454	378%
Subtotal Replacement Value - User View	\$ 790,704	\$ 3,780,158	\$ 2,989,454	378%
2. Assets Managed by City Support Fleet and Used by Other Service Areas				
Licensed Fleet	\$ 32,928,555	\$ 37,333,003	\$ 4,404,448	13%
Off-Road Vehicles	\$ 15,992,716	\$ 18,113,857	\$ 2,121,142	13%
Fleet Equipment	\$ 371,534	\$ 438,528	\$ 66,993	18%
Subtotal Replacement Value - Responsibility View	\$ 49,292,805	\$ 55,885,388	\$ 6,592,583	13%
Total Replacement Value (User + Responsibility View)	\$ 50,083,509	\$ 59,665,546	\$ 9,582,037	19%

*Responsibility of managing the assets lies with another service area, but assets are used by City Support Fleet



Total Asset Replacement Value:	\$62.8 Million
Total Asset Replacement Value Including Facilities:	\$177.0 Million
Future Condition Trend (Next 10 Years):	Declining - As assets age they may require attention in the future
Data Confidence & Reliability:	Age and Condition Based

The 2022 SOLI analysis is being reported under two different asset representation perspectives: **"Responsibility View"** and **"User View"** representation

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs

User View: Shows the assets under the service area that is using them

The responsibility view is also being illustrated in this 2022 SOLI as it is an important viewpoint from an Asset Management Planning perspective. The responsibility view:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

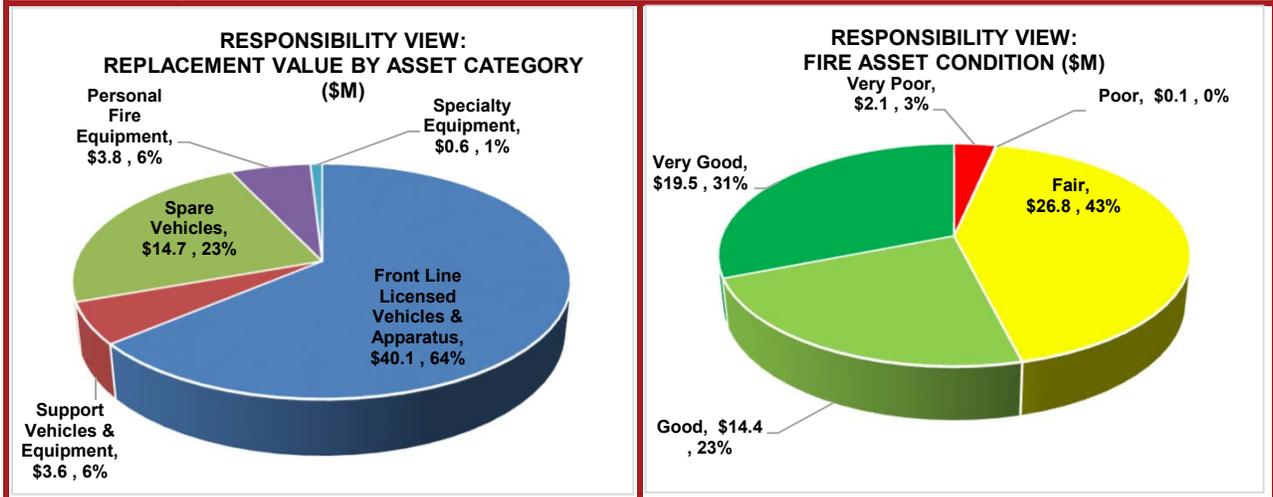
The table below illustrates the replacement value (in \$2023) under the two different views.

Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Fire Services		
Front Line Licensed Vehicles & Apparatus	\$40.1	31
Support Vehicles & Equipment	\$3.6	67
Spare Vehicles	\$14.7	31
Personal Fire Equipment	\$3.8	1,201
Specialty Equipment	\$0.6	7
<i>Subtotal Assets Managed by Fire Services (Responsibility View)</i>	<i>\$62.8</i>	<i>-</i>
Assets Managed by Other Service Areas		
<i>Fire Services Facilities</i>	<i>\$110.7</i>	<i>15</i>
<i>Fire Services Software</i>	<i>\$3.5</i>	<i>5</i>
Total Replacement Value (User View)	\$177.0	-



Major Types of Assets within Fire Services - Responsibility View

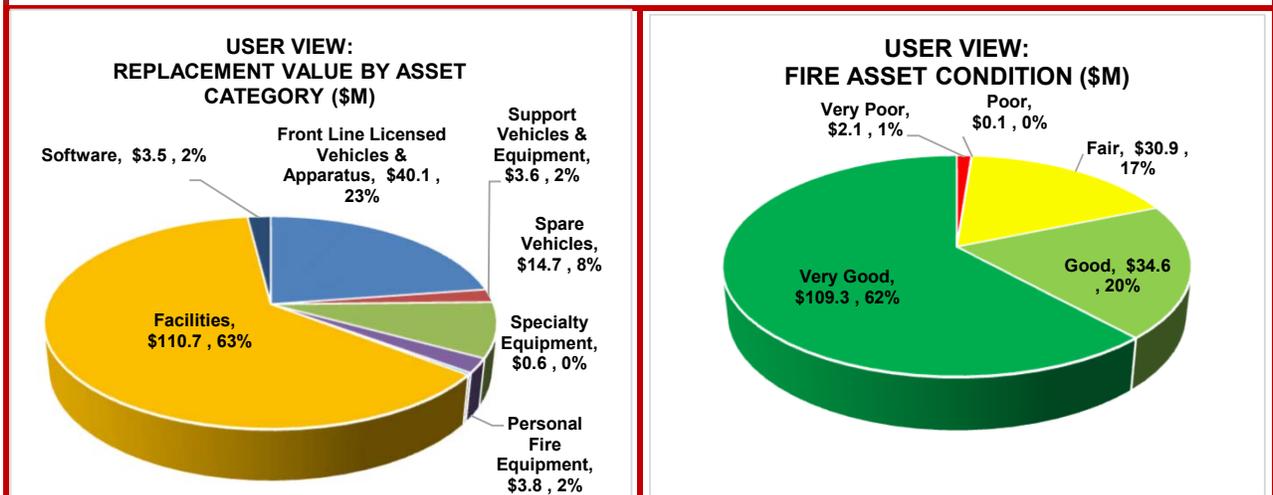
The figure below illustrates the replacement value and condition of Fire Services assets under the responsibility view. Under this view, the total replacement value of assets is \$62.8 million. Of this total, more than 90% is related to the Fire fleet (including front line licensed vehicles & apparatus, support vehicles & equipment and spare vehicles). About 54% of the assets are considered to be in Good to Very Good condition, with the majority of the remaining assets in Fair condition. Approximately 3% of the assets for Fire Services are in Very Poor condition, represented almost entirely by aging support vehicles reaching the end of their useful lives.



Data Source: M5 and City Databases

Major Types of Assets within Fire Services - User View

The figures below illustrate the replacement value and condition of Fire Services assets under the user view. Under the user view illustration which also captures facilities, the replacement value is about \$177 million. Approximately 82% of the assets are considered to be in Good to Very Good Condition.

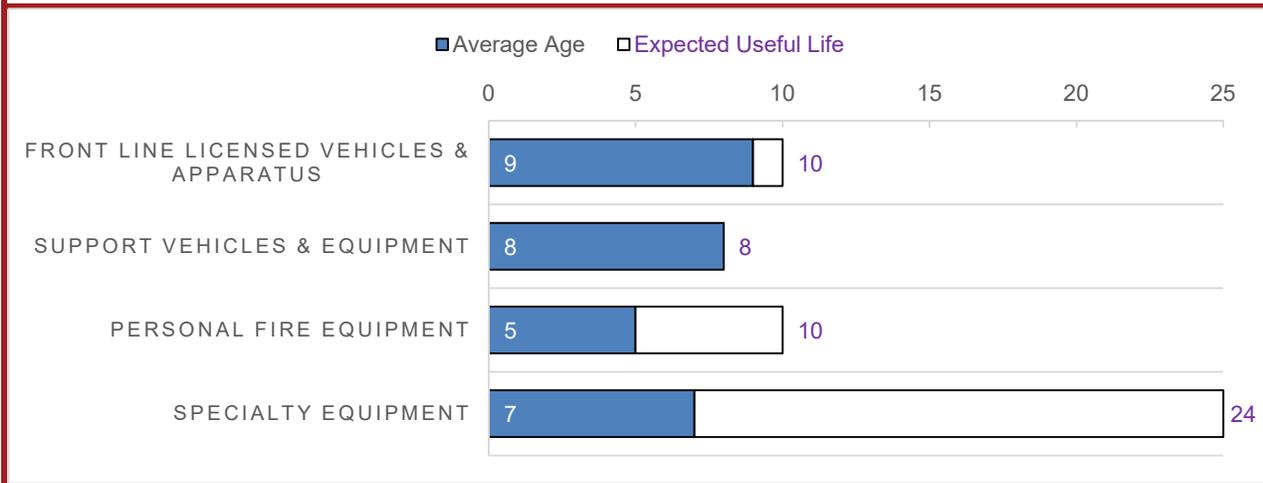


Data Source: M5, City Databases, Suncorp valuations report and recent tenders (for facilities)



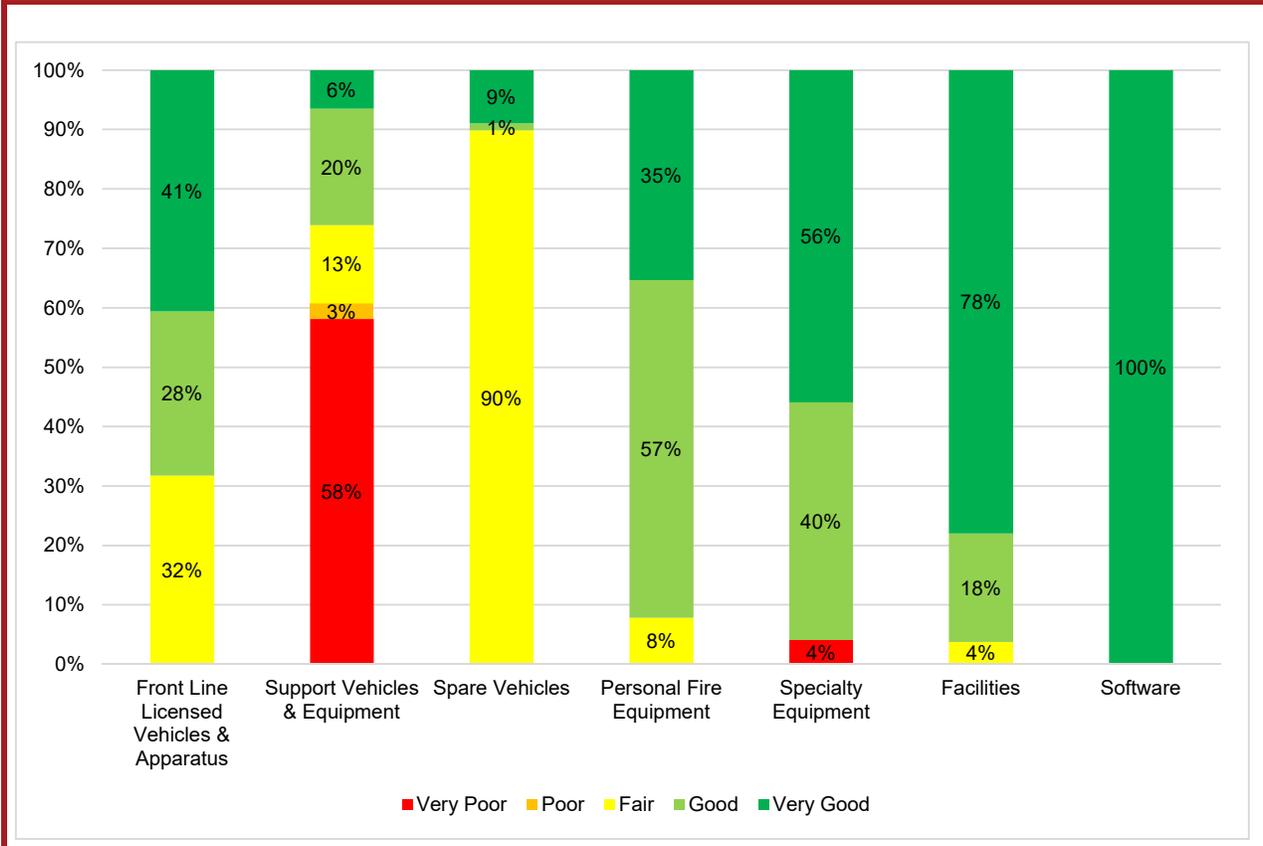
Age Summary

The following figure summarizes the average age of the City's Fire Assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated. It is important to emphasize that the age of an asset relative to its useful life does not always provide a complete picture of its actual condition. Spare vehicles have been left out of the age analysis below.



Condition Summary

The figure below illustrates the condition of the five sub-component assets of Fire Services. Facilities are generally in Good to Very Good condition. Almost all assets in Very Poor condition are attributable to Support Vehicles, but do not represent a safety issue or preclude Fire Services from delivering services to meet the needs of residents.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outlines the difference in Fire Services assets in the 2021 SOLI relative to the 2022 SOLI, while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the value of Fire Services assets has increased by 70% from approximately \$36.9 million to \$62.8 million. This increase can be attributed to better asset data and updated costing information, taking into account the large increase in overall prices seen over the last few years. As recent costing data was not available, the asset replacement values were inflated by the Machinery & Equipment Price Index (M&E) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report.

When considering the Fire Services Facilities and Software, the total asset value for Fire Services increases proportionately with the inclusion of these assets. The decrease in facilities valuation is related to the decommissioning of Fire Station 3. Furthermore, the total value of Fire Services assets represents an increase of 12% (or \$18.8 million) from the value reported in 2021 before any inflationary adjustments.

Please note, the Facilities and IT report cards will include additional information (including the inflation measure applied) on those assets used by Fire Services but maintained and managed by a different City department.

Asset	2021 SOLI		2022 SOLI	
Front Line Licensed Vehicles & Apparatus	21	Each	31	Each
Support Vehicles & Equipment	65	Each	67	Each
Spare Vehicles	31	Each	31	Each
Personal Fire Equipment	1,078	Each	1,201	Each
Specialty Equipment	6	Each	7	Each
Facilities	16	Each	15	Each
Software	5	Each	5	Each

Note: the reduction in number of facilities is related to the exclusion of station 203.

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas*				
Facilities	\$ 118,123,549	\$ 110,679,460	\$ (7,444,090)	-6%
Software	\$ 3,164,595	\$ 3,456,865	\$ 292,270	9%
Subtotal Assets Managed by Other Service Areas	\$ 121,288,144	\$ 114,136,325	\$ (7,151,819)	-6%
2. Assets Managed by Fire Services				
Front Line Licensed Vehicles & Apparatus	\$ 19,648,682	\$ 40,099,773	\$ 20,451,090	104%
Support Vehicles & Equipment	\$ 6,640,669	\$ 3,581,324	\$ (3,059,344)	-46%
Spare Vehicles	\$ 7,056,097	\$ 14,749,259	\$ 7,693,162	109%
Personal Fire Equipment	\$ 3,019,328	\$ 3,849,179	\$ 829,851	27%
Specialty Equipment	\$ 501,840	\$ 568,030	\$ 66,190	13%
Subtotal Assets Managed by Fire Services (Responsibility View)	\$ 36,866,616	\$ 62,847,565	\$ 25,980,950	70%
Total Replacement Value: User View (1+2)	\$ 158,154,760	\$ 176,983,890	\$ 18,829,130	12%

*Responsibility of managing the assets lies with another service area, but assets are used by Fire Services



Total Asset Replacement Value:	\$691.0 Million
Total Asset Replacement Value Including Facilities, City Support Fleet and Software	\$737.7 Million
Future Condition Trend (Next 10 Years):	Declining - As assets age they may require attention in the future
Data Confidence & Reliability:	Age & Condition Based

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: "**Responsibility View**" and a "**User View**" representation

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs
User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

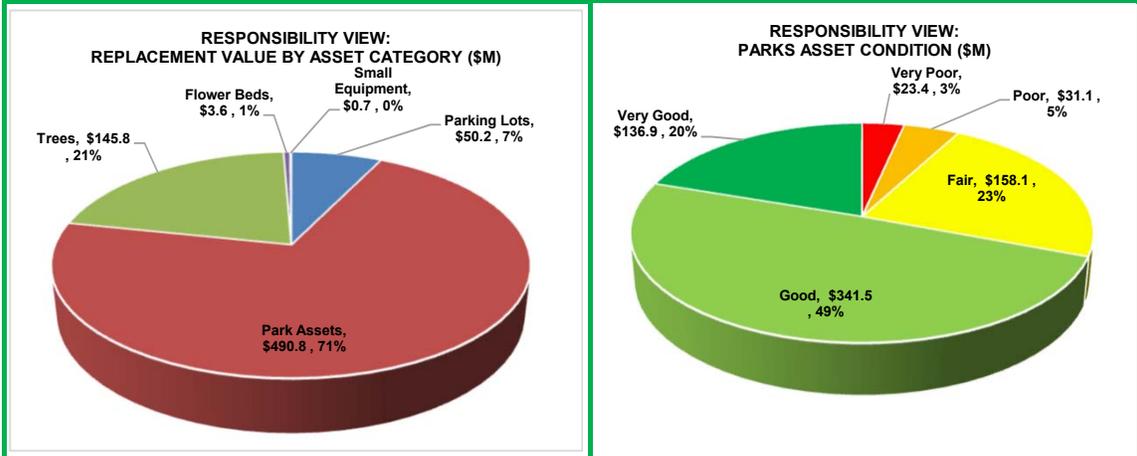
The table below illustrates the replacement value (in \$2023) under the two different views.

Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Parks Services		
Parking Lots	\$50.2	333
Small Engine Equipment	\$0.7	532
Trees	\$145.8	249,749
Flower Beds	\$3.6	1,232
Park Assets		
Parks	\$127.1	1,119 Hectares
Natural Heritage Lands	\$0.0	1,645 Hectares
Park Furnishing	\$3.8	4,728
Playgrounds	\$106.4	345
Shade Structures	\$37.7	292
Splash Pads & Outdoor Pools	\$3.6	8
Fitness Equipment	\$1.0	28
Skate Parks	\$1.9	4
Sports Facilities	\$137.8	7,430
Pathways	\$71.5	296,065 Metres
<i>Subtotal Assets Managed by Parks (Responsibility View)</i>	\$691.0	-
Assets Managed by Other Service Areas		
Parks Facilities	\$24.0	18
City Support Fleet Used by Parks	\$22.7	339
Software Used by Parks	\$0.0	1
Total Replacement Value (User View)	\$737.7	-



Major Types of Assets within Parks - Responsibility View

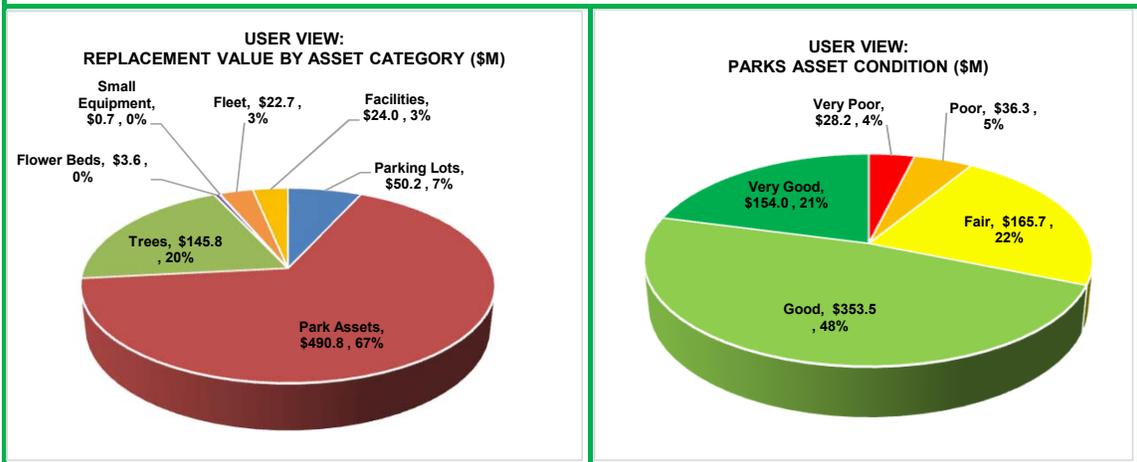
The figure on the below illustrates the replacement value and condition of Parks assets under the responsibility view. Under the responsibility view, the total replacement value of the Parks assets is \$691.0 million. Of the \$691.0 million replacement value, about 71%, or \$490.8 million, is attributed to park assets, which include sports facilities infrastructure, pathways, playgrounds, etc. Furthermore, about 21%, or \$145.8 million is attributed to trees. The remaining assets are valued as detailed below. As the Parks infrastructure is in overall Good condition, the infrastructure is meeting current needs, however, these assets may require attention as they age over time. Only about 8% of assets are considered to be in Poor and Very Poor Condition.



Data Source: Departmental Inventories, GIS database, City of Brampton 2019 DC Background Study

Major Types of Assets within Parks - User View

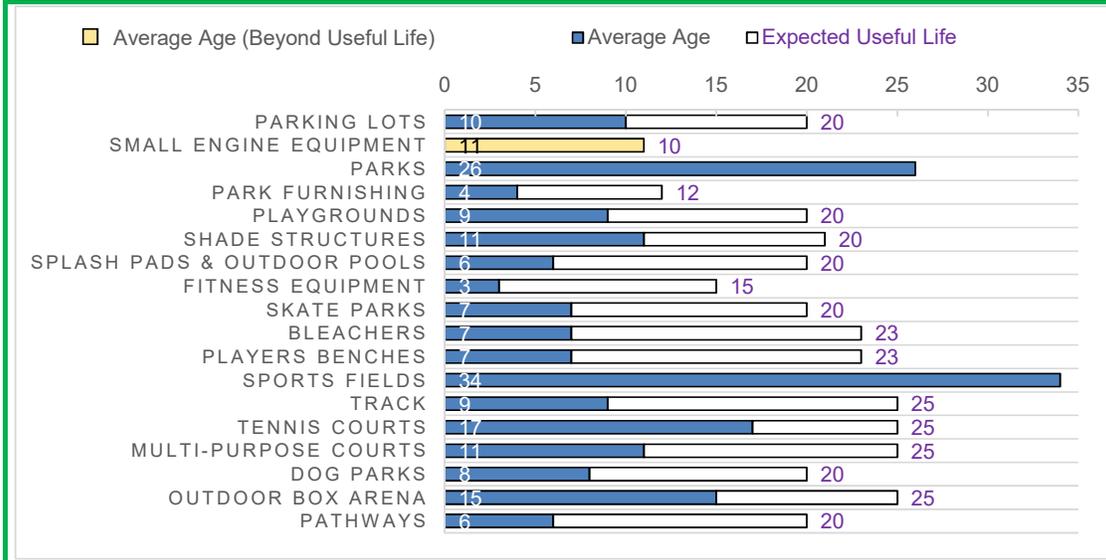
The figures below illustrate the replacement value and condition of Parks assets under the user view. Under the user view illustration which also captures facilities, fleet and software, the replacement value is about \$737.7 million. Of this total, the Park Assets continue to represent the largest share at \$490.8 million of the assets considered. Facilities assets add \$24.0 million to the total replacement value while Fleet adds \$22.7 million. Approximately 69% of the assets used by Parks are considered to be in Good to Very Good Condition. Only 4% of assets are in Very Poor condition - this does not mean the assets are unsafe.





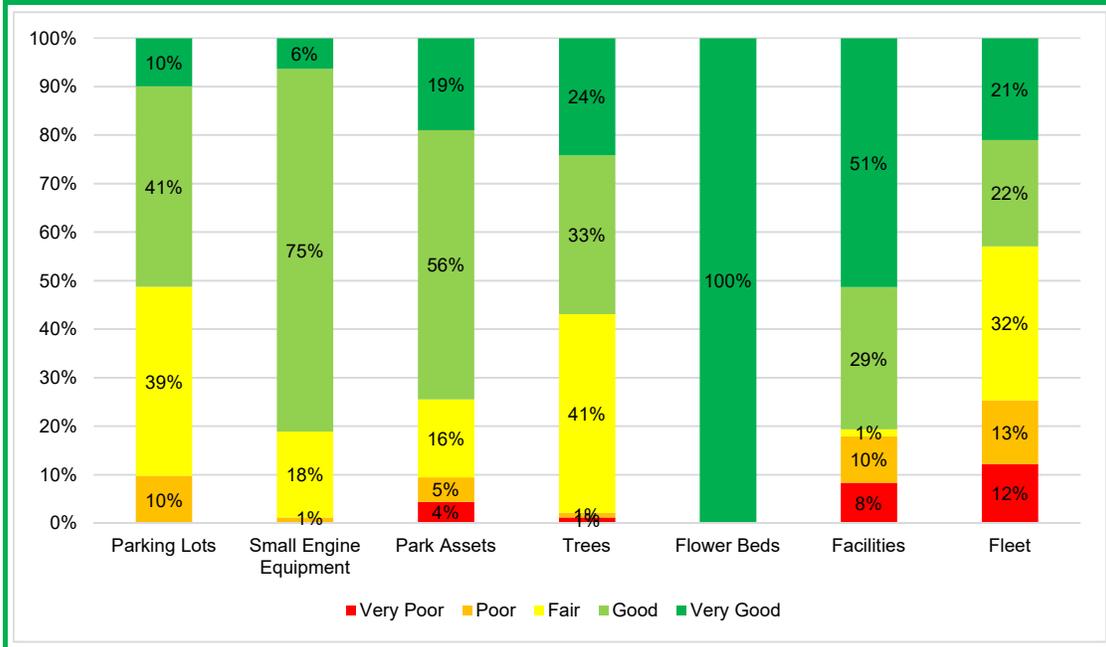
Age Summary

The following figure summarizes the average age of the City's Parks Assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated. It is important to emphasize that the age of an asset relative to its useful life does not always provide a complete picture of its actual condition.



Condition Summary

The figure below illustrates the condition of the various Parks assets by key sub-component areas based on the user view. While the assets are generally in Good to Very Good condition, a small portion of Park Assets, Trees, Facilities and Fleet are in Very Poor condition. These condition assessments do not indicate that the assets are unsafe; generally these assets are nearing the end of their useful life and are due for replacement in the near future. Poor and Very Poor assets do not represent a safety issue or preclude service areas from delivering services to meet the needs of residents and will be addressed through the budget.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in Parks assets in the 2022 SOLI relative to the 2021 SOLI while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the total value of Parks assets has increased by 11% from approximately \$623.2 million to \$737.7 million. The increase in value can largely be attributed to cost increases since the last report. Where available, recent costing data was used such as for Parking Lots, Playgrounds, Pathways & Trees, while the remaining asset replacement values were inflated by either the Non-Residential Building Construction Price Index (NRCPI) or the Machinery & Equipment Price Index (M&E) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report.

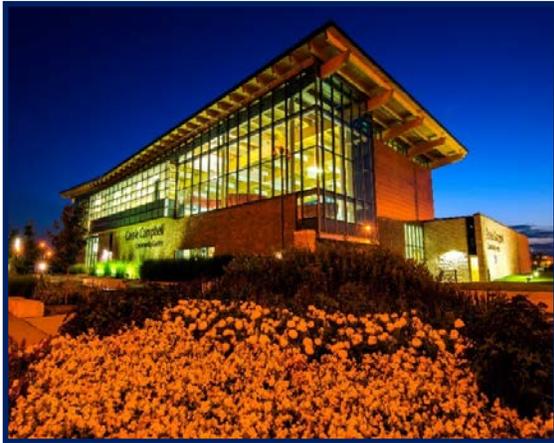
When considering the facilities, fleet and IT assets, the total value has increased by \$73.4 million from the value reported in 2021 after inflationary adjustments. This again is attributed to better asset valuations to reflect replacement costs in current dollars.

Please note that Facilities, City Support Fleet and IT report cards include additional information (including the inflation measure applied) on those assets used by Parks but maintained and managed by different City departments.

Asset	2021 SOLI		2022 SOLI	
Parking Lots	333	Pooled	333	Pooled
Small Equipment	892	Each	532	Each
Trees	249,749	Each	249,749	Each
Flower Beds	1,200	Each	1,232	Each
Park Assets				
Parkland (Excluding Natural Heritage Lands)	1,119	Hectares	1,119	Hectares
Natural Heritage Lands	1,645	Hectares	1,645	Hectares
Park Furnishing	4,898	Each	4,728	Each
Playgrounds	340	Each	345	Each
Shade Structures	290	Each	292	Each
Splash Pads & Outdoor Pools	8	Each	8	Each
Fitness Equipment	18	Each	28	Each
Skate Parks	4	Each	4	Each
Sports Facilities	1,181	Each	1,172	Each
Pathways	278,379	Metres	296,065	Metres
Facilities	18	Each	18	Each
Fleet	357	Each	339	Each
Software	1	Each	1	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas*				
Facilities	\$ 20,723,422	\$ 23,959,029	\$ 3,235,607	16%
Fleet	\$ 20,350,325	\$ 22,722,433	\$ 2,372,108	12%
Software	\$ -	\$ -	\$ -	0%
Subtotal Assets Managed by Other Service Areas	\$ 41,073,747	\$ 46,681,461	\$ 5,607,715	14%
2. Assets Managed by Parks Services				
Parking Lots	\$ 43,646,809	\$ 50,168,380	\$ 6,521,571	15%
Small Equipment	\$ 2,761,877	\$ 702,499	\$ (2,059,378)	-75%
Trees	\$ 142,911,373	\$ 145,769,600	\$ 2,858,227	2%
Flower Beds	\$ 3,870,288	\$ 3,607,484	\$ (262,804)	-7%
Park Assets				
Parkland (Excluding Natural Heritage Lands)	\$ 115,371,049	\$ 127,081,185	\$ 11,710,136	10%
Natural Heritage Lands	\$ -	\$ -	\$ -	0%
Park Furnishing	\$ 3,557,856	\$ 3,767,108	\$ 209,252	6%
Playgrounds	\$ 101,288,280	\$ 106,438,750	\$ 5,150,471	5%
Shade Structures	\$ 34,382,396	\$ 37,656,393	\$ 3,273,996	10%
Splash Pads & Outdoor Pools	\$ 3,236,684	\$ 3,634,637	\$ 397,953	12%
Fitness Equipment	\$ 795,906	\$ 1,007,060	\$ 211,154	27%
Skate Parks	\$ 1,697,933	\$ 1,906,695	\$ 208,762	12%
Sports Facilities	\$ 127,425,724	\$ 137,766,643	\$ 10,340,920	8%
Pathways	\$ 42,270,713	\$ 71,511,673	\$ 29,240,960	69%
Subtotal Assets Managed by Parks Services (Responsibility View)	\$ 623,216,887	\$ 691,018,109	\$ 67,801,222	11%
Total Replacement Value: User View (1+2)	\$ 664,290,634	\$ 737,699,571	\$ 73,408,937	11%

*Responsibility of managing the assets lies with another service area, but assets are used by Parks



Total Asset Replacement Value:	\$59.30 Million
Total Asset Replacement Value Including Facilities, City Support Fleet and Software:	\$810.4 Million
Future Condition Trend (Next 10 Years):	Declining - As assets age they may require attention in the future
Data Confidence & Reliability:	Age & Condition Based

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: "**Responsibility View**" and "**User View**" representation

- Responsibility View:** Shows the assets under the service area that is responsible for managing the capital needs
- User View:** Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

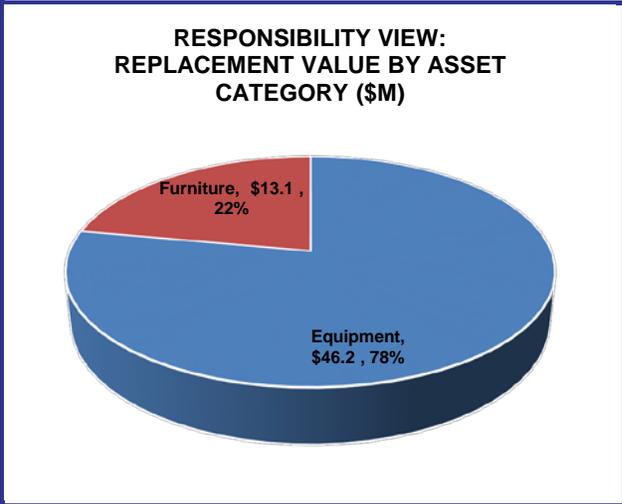
The table below illustrates the replacement value (in \$2023) under the two different views.

Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Recreation		
Equipment	\$46.2	3,087
Furniture	\$13.1	303
<i>Subtotal Assets Managed by Recreation (Responsibility View)</i>	\$59.3	3,390
Assets Managed by Other Service Areas		
<i>Recreation Facilities</i>	\$743.5	69
<i>City Support Fleet Used by Recreation</i>	\$4.2	123
<i>Software Used by Recreation</i>	\$3.4	3
Total Replacement Value (User View)	\$810.4	-



Major Types of Assets within Recreation - Responsibility View

The figures below illustrate the replacement value and condition of Recreation assets under the responsibility view. Under this view, the total replacement value of assets is \$59.3 million. Consistent with the 2021 SOLI, only equipment and furniture are considered under the management of this service area. Overall, the Recreation assets are in Fair condition, although, about 52% of the total asset base is rated in Poor to Very Poor condition. The determination of condition for recreation assets is mainly "age based" meaning the condition is set relative to the remaining useful life of the asset. It is expected that future iterations of the SOLI will look to further incorporate condition based assessments which may improve the overall confidence and reliability of the identified condition ratings.

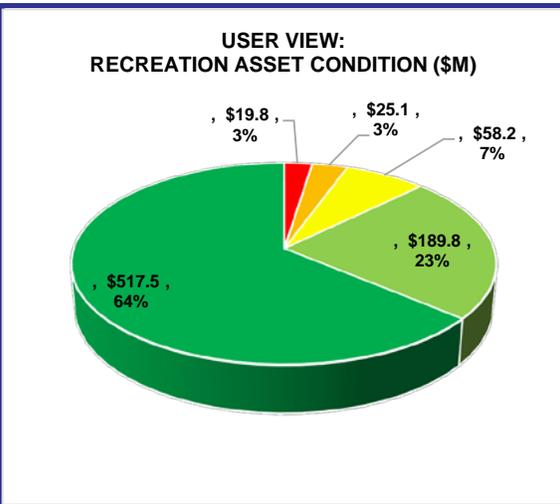
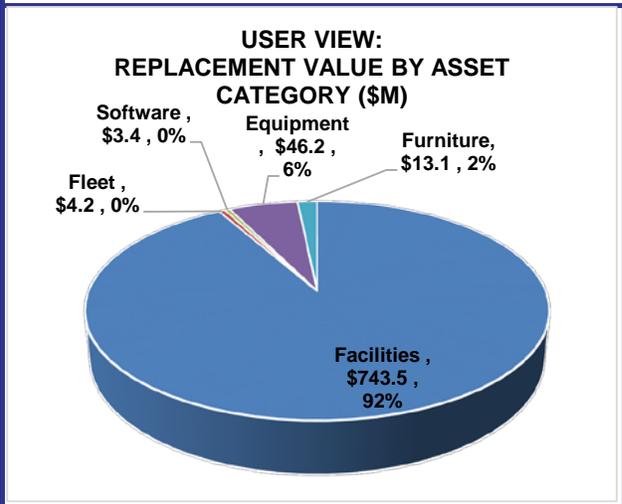


Data Source: PSAB data and historical budgets

Major Types of Assets within Recreation - User View

The figures below illustrate the replacement value and condition of Recreation assets under the user view. Under the user view illustration, which also captures facilities, fleet and software, the replacement value is about \$810.4 million. Of this total, the Recreation facilities represent the largest share at \$743.5 million. Approximately 87% of the assets are considered to be in Good to Very Good Condition. Only 3% of assets are in Very Poor condition.

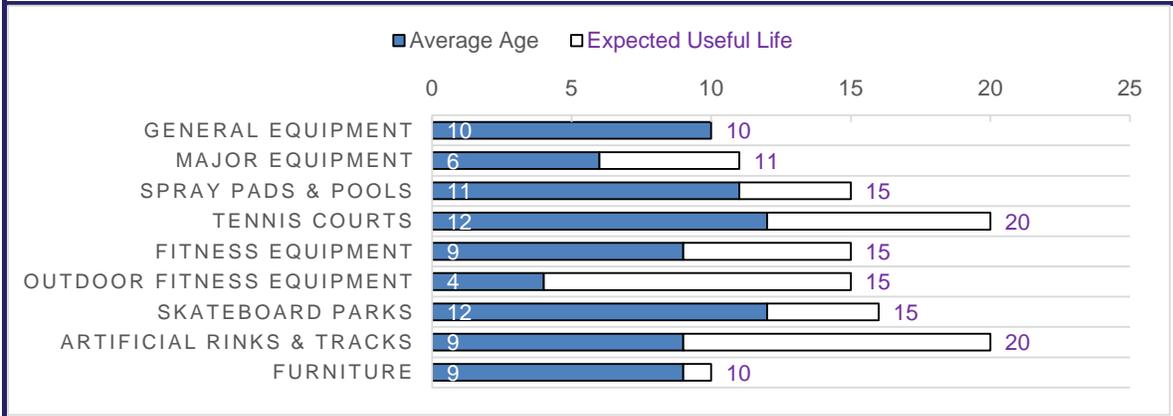
It is important to note, that the proportion of assets considered to be in Poor condition can be attributed to some of the Recreation facilities, although, the facilities continue to be operational and safe for use and these facilities will be addressed through the budget as required.





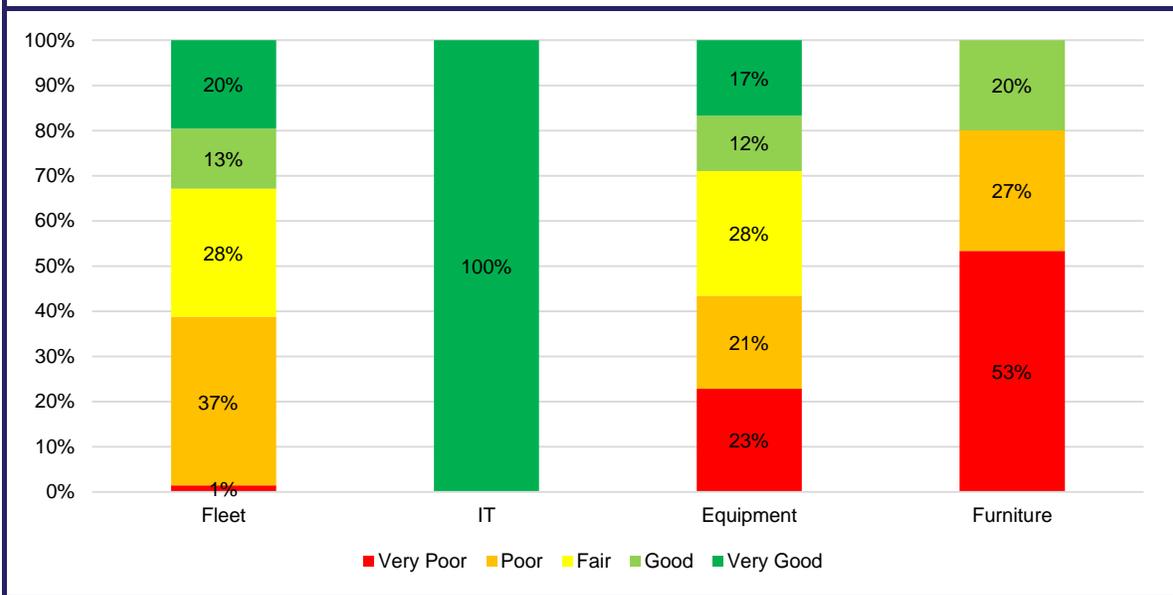
Age Summary

The following figure summarizes the average age of the City's Recreation Assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated. It is important to emphasize that the age of an asset relative to its useful life does not always provide a complete picture of its actual condition.



Condition Summary

The figure below illustrates the condition of the various Recreation assets by key sub-component areas based on the user view. While the assets are generally in Good to Very Good condition, Equipment & Furniture have assets in Poor and Very Poor condition based on age. Approximately 38% of Fleet are also in Poor or Very Poor condition. Assets that are reported in Very Poor condition are based on the age of the asset and not necessarily reflect the actual asset condition. The City is implementing Asset Information Management Strategy (AIMS) project which will advance its asset management practices and improve confidence and reliability in data including condition.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in Recreation assets in the 2022 SOLI relative to the 2021 SOLI, while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the total value of Recreation assets has increased by 29% from approximately \$46.0 million to \$59.3 million. As recent costing data was not available, the asset replacement values were inflated by either the Machinery & Equipment Price Index (M&E) or the Non-Residential Building Construction Price Index (NRCPI) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report. In addition to the inflation there are other factors that affected CRV, including data improvement. For example, in the Equipment category, this report included Artificial Rink valued at \$6M which was not included in previous SOLI reports. Data improvements were also made in regards to software values which were previously understated, which is why a large increase is seen.

When considering the Recreation Facilities, City Support Fleet and IT assets, the total asset value for Recreation has increased proportionately with the inclusion of these assets. In total, the value of Recreation assets increased by 20% (or \$133.4 million) from the value reported in 2021 after inflationary adjustments.

Please note, the Facilities, City Support Fleet and IT report cards will include additional information (including the inflation measure applied) on those assets used by Recreation but maintained and managed by these different City departments.

Asset	2021 SOLI*		2022 SOLI	
Facilities	68	Each	69	Each
Fleet	129	Each	123	Each
Software	3	Each	3	Each
Equipment	3,012	Each	3,087	Each
Furniture	303	Pooled	303	Pooled

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas*				
Facilities	\$ 626,924,411	\$ 743,492,116	\$ 116,567,706	19%
Fleet	\$ 3,752,966	\$ 4,180,260	\$ 427,294	11%
Software	\$ 309,519	\$ 3,362,499	\$ 3,052,980	986%
Subtotal Assets Managed by Other Service Areas	\$ 630,986,896	\$ 751,034,875	\$ 120,047,979	22%
2. Assets Managed by Recreation				
Equipment	\$ 34,190,648	\$ 46,214,452	\$ 12,023,804	35%
Furniture	\$ 11,759,592	\$ 13,102,578	\$ 1,342,986	11%
Subtotal Assets Managed by Recreation - Responsibility View	\$ 45,950,240	\$ 59,317,029	\$ 13,366,790	29%
Total Replacement Value - User View (1+2)	\$ 676,937,135	\$ 810,351,904	\$ 133,414,769	20%

*Responsibility of managing the assets lies with another service area, but assets are used by Recreation



Cultural Services



Total Asset Replacement Value:	\$16.5 Million
Total Asset Replacement Value Including Facilities, City Support Fleet and Software:	\$119.4 Million
Future Condition Trend (Next 10 Years):	Declining - As assets age they may require attention in the future
Data Confidence & Reliability:	Age and Condition Based

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: "**Responsibility View**" and a "**User View**".

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs

User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

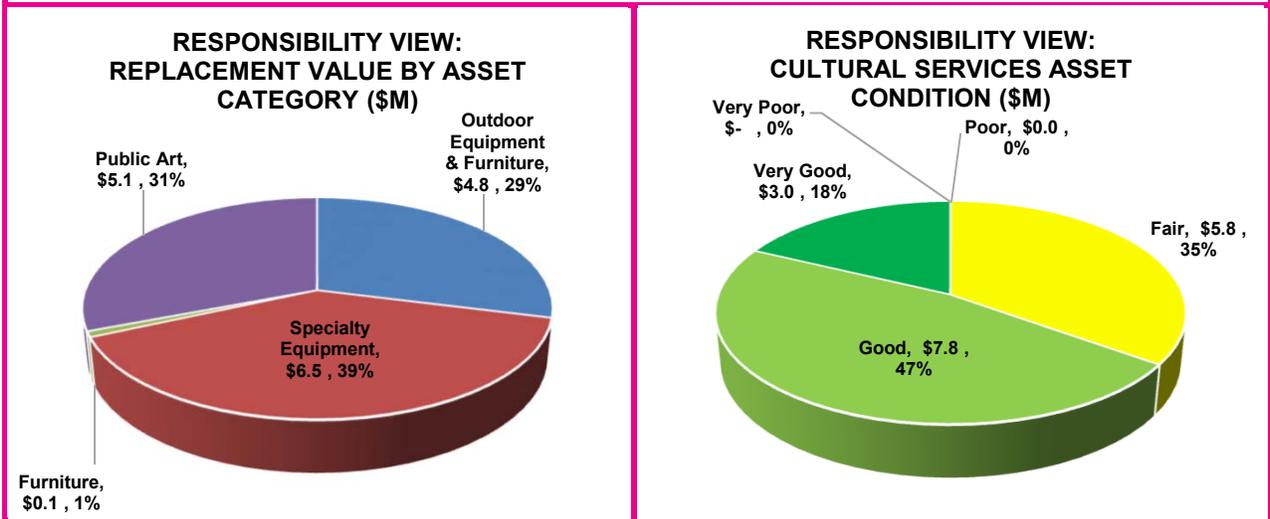
The table below illustrates the replacement value (in \$2023) under the two different views.

Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Cultural Services		
Outdoor Equipment & Furniture	\$4.8	Pooled
Specialty Equipment	\$6.5	5,412
Furniture	\$0.1	475
Public Art	\$5.1	28
<i>Subtotal Assets Managed by Cultural Services (Responsibility View)</i>	<i>\$16.5</i>	<i>-</i>
Assets Managed by Other Service Areas		
<i>Cultural Services Facilities</i>	<i>\$102.3</i>	<i>2</i>
<i>City Support Fleet Used by Cultural Services</i>	<i>\$0.6</i>	<i>14</i>
Total Replacement Value (User View)	\$119.4	-



Major Types of Assets within Cultural Services - Responsibility View

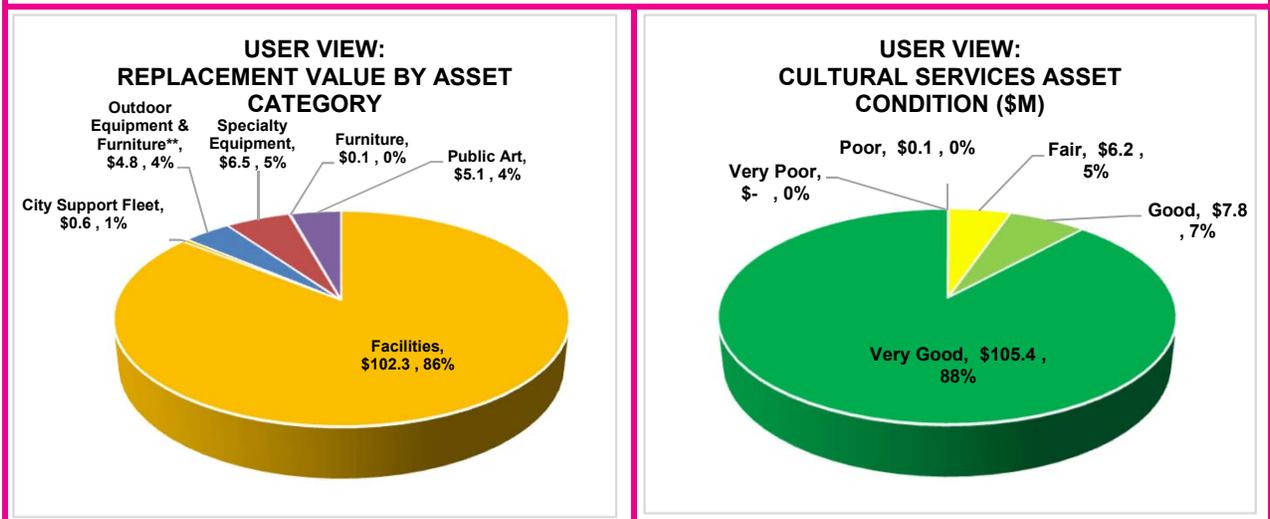
The figure below illustrates the replacement value and condition of Cultural Services assets under the responsibility view. Under this responsibility view, the total replacement value of assets is \$16.5 million. Of this total, approximately 39% is associated with specialty equipment with a further 29% related to outdoor equipment. About 65% of assets are considered to be in Good to Very Good condition, with the remaining assets in Fair condition. As the City's Cultural Services assets are overall in Good condition, these assets are meeting current needs.



Data Source: Departmental Inventory

Major Types of Assets within Cultural Services - User View

The figures below illustrate the replacement value and condition of Cultural Services assets under the user view. Under the user view illustration, which also captures facilities, City support fleet and software, the replacement value is about \$119.4 million. Of this total, the Cultural Services facilities represent the largest share at \$102.3 million. Approximately 95% of the assets are considered to be in Good to Very Good Condition. No assets are in Very Poor condition.

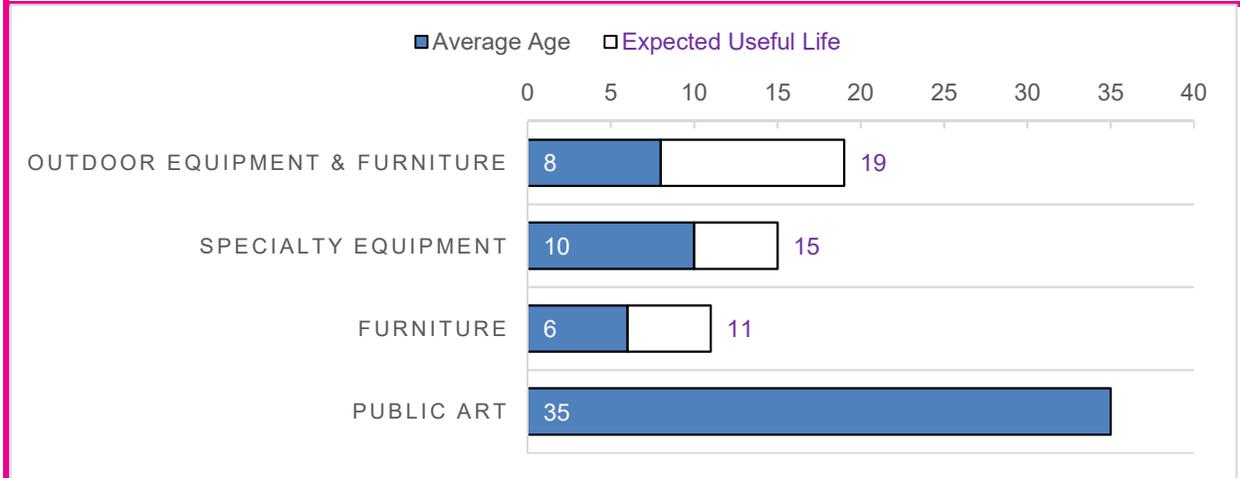




Cultural Services

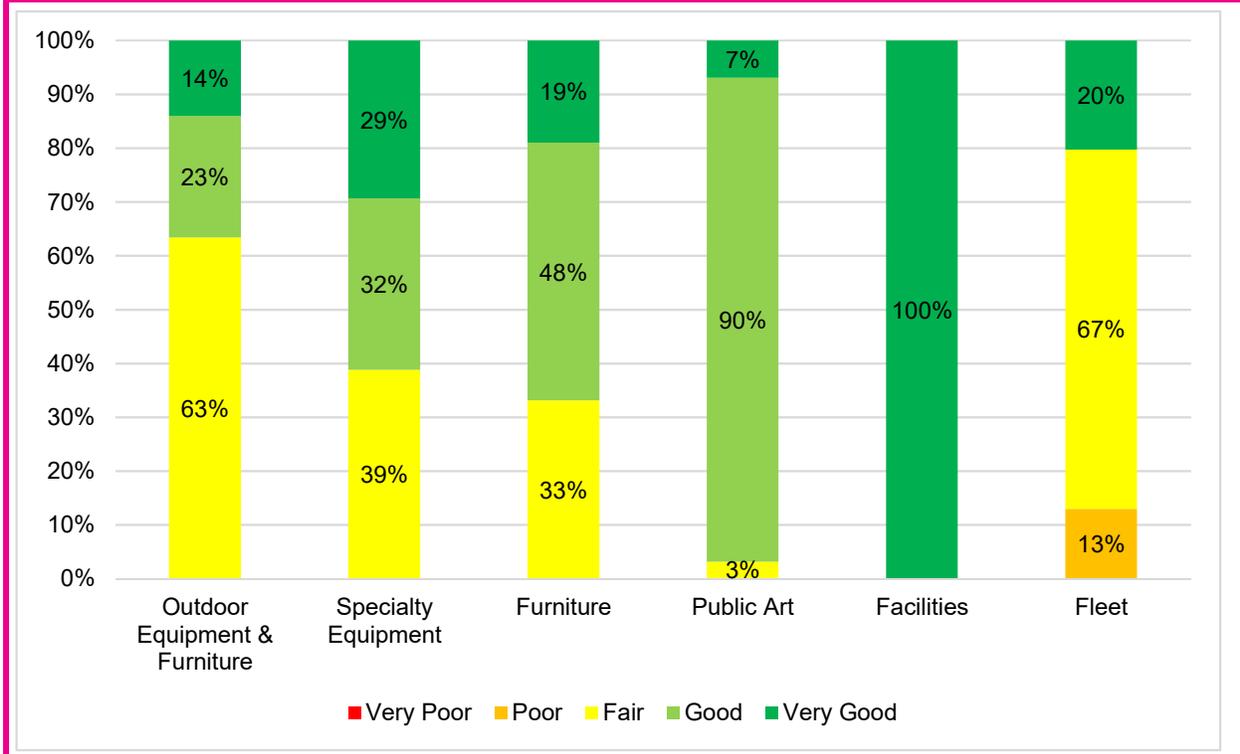
Age Summary

The following figure summarizes the average age of the City's Cultural Services assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated.



Condition Summary

The figure below illustrates the condition of the various Cultural Services assets by key sub-component areas based on the user view. Most asset categories are all generally considered to be in Good or Very Good Condition. About 13% of Fleet assets are considered to be in Poor condition as they reach the end of their service life and will be





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in Cultural Services assets in the 2022 SOLI relative to the 2021 SOLI, while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the total value of Cultural Services assets has increased by 23% from approximately \$13.4 million to \$16.5 million. The increase in value can largely be attributed to cost increases since the last report.. As recent costing data was not available, the Cultural Services asset replacement values were inflated by the Machinery & Equipment Price Index (M&E) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report.

When considering the Cultural Services Facilities, City Support Fleet and IT assets, the total asset value for Cultural Services has increased proportionately with the inclusion of these assets. The total value of Cultural Services assets increased by about 14% from the value reported in 2021.

Please note, the Facilities, City Support Fleet and IT report cards will include additional information (including the inflation measure applied) on those assets used by Cultural Services but maintained and managed by a different City department.

Asset	2021 SOLI		2022 SOLI	
Outdoor Equipment & Furniture	Pooled		Pooled	
Specialty Equipment	5,283	Each	5,412	Each
Furniture	614	Each	475	Each
Public Art	28	Each	28	Each
Facilities	1	Each	1	Each
Fleet	7	Each	6	Each
Software	1	Each	1	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas*				
Facilities	\$ 90,902,704	\$ 102,301,865	11,399,161	13%
City Support Fleet	\$ 542,048	\$ 603,951	61,904	11%
IT	\$ -	\$ -	-	N/A
Subtotal Assets Managed by Other Service Areas	\$ 91,444,752	\$ 102,905,816	11,461,065	13%
2. Assets Managed by Cultural Services				
Outdoor Equipment & Furniture	\$ 2,801,422	\$ 4,780,497	\$ 1,979,075	71%
Specialty Equipment	\$ 5,803,313	\$ 6,500,525	\$ 697,212	12%
Furniture	\$ 219,203	\$ 138,483	\$ (80,720)	-37%
Public Art	\$ 4,570,582	\$ 5,092,558	\$ 521,976	11%
Subtotal Assets Managed by Cultural Services (Responsibility View)	\$ 13,394,519	\$ 16,512,062	\$ 3,117,543	23%
Total Replacement Value: User View (1+2)	\$ 104,839,271	\$ 119,417,879	\$ 14,578,607	14%

*Responsibility of managing the assets lies with another service area, but assets are used by Cultural Services

**The 2021 SOLI overstated the value of Outdoor Equipment and has been adjusted to accurately reflect the asset portfolio



Asset Replacement Value:	\$24.7 Million
Total Asset Replacement Value including Facilities and City-Support Fleet:	\$128.6 Million
Future Condition Trend (Next 10 Years):	Declining – As assets age they may require attention in the future
Data Confidence & Reliability:	Age and Condition Based

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: **"Responsibility View"** and **"User View"**

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs

User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View:

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

The table below illustrates the replacement value (in \$2023) under the two different views.

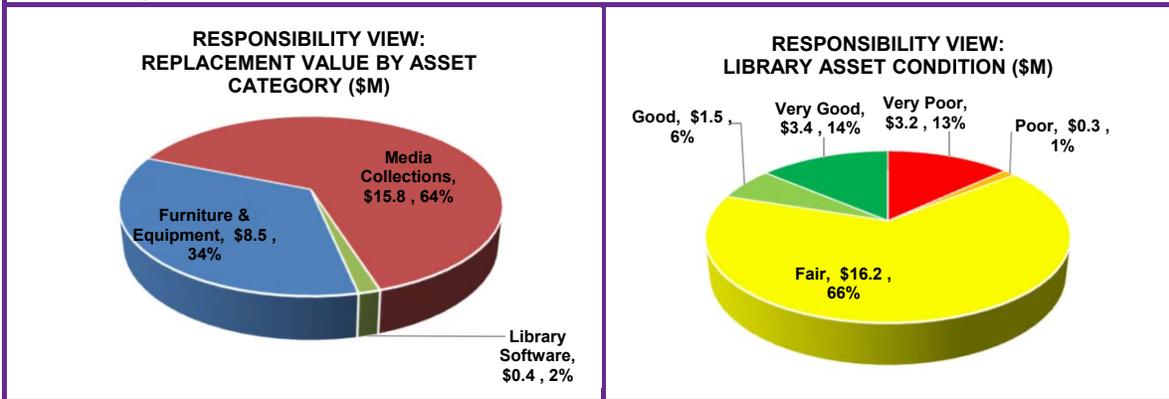
Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Library		
Furniture and Equipment	\$8.5	7,159
Media Collections	\$15.8	Pooled
Library Software	\$0.4	17
<i>Subtotal Assets Managed by Library (Responsibility View)</i>	<i>\$24.7</i>	<i>-</i>
Assets Managed by Other Service Areas		
<i>Library Facilities</i>	<i>\$103.8</i>	<i>6</i>
<i>City Support Fleet Used by Library</i>	<i>\$0.2</i>	<i>4</i>
Total Replacement Value (User View)	\$128.6	-

The Library facility figure reported includes the four (4) standalone library branches as well as two (2) libraries located within Recreation Facilities (Gore Meadows Community Centre and Susan Fennel Sportsplex (formerly South Fletchers Sports Complex)). The library portion of those shared facilities are included in the above facilities total of \$103.8 million.



Major Types of Assets within Brampton Library - Responsibility View

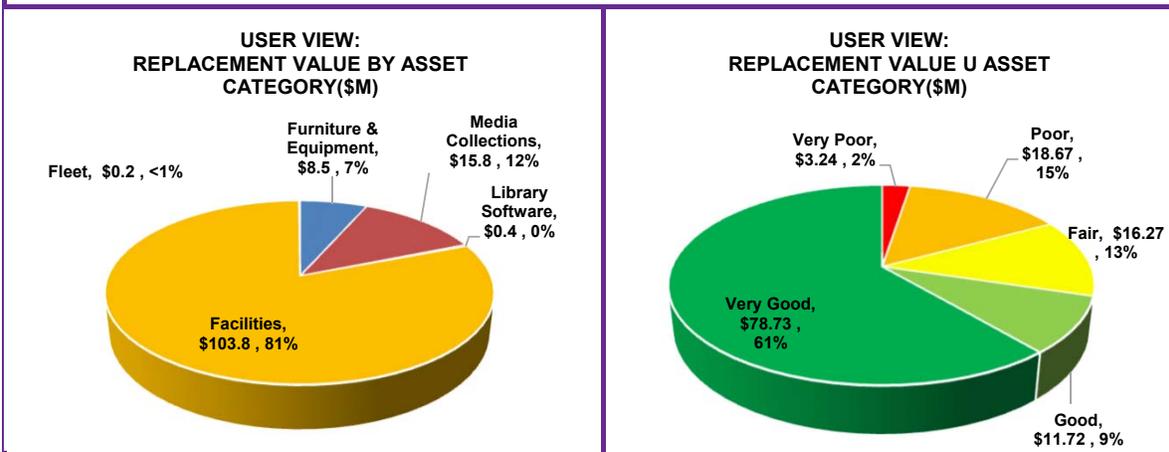
The figure below illustrates the replacement value and condition of Library service assets under the responsibility view. Under the responsibility view, the total replacement value of the Library assets is \$24.7 million. Of the \$24.7 million replacement value, about 64%, or \$15.8 million, is attributed to Media Collections. Furthermore, about 35%, or \$8.5 million is attributed to Furniture and Equipment, while the remaining \$387,000 is related to Library Software. Approximately 14% of total assets managed by Library services are identified in Very Poor or Poor condition. This condition of a small subset of the total Library assets does not represent a safety issue or preclude Brampton Library from delivering services to meet the needs of residents



Data Source: PSAB data and consultation with Library staff

Major Types of Assets within Brampton Library - User View

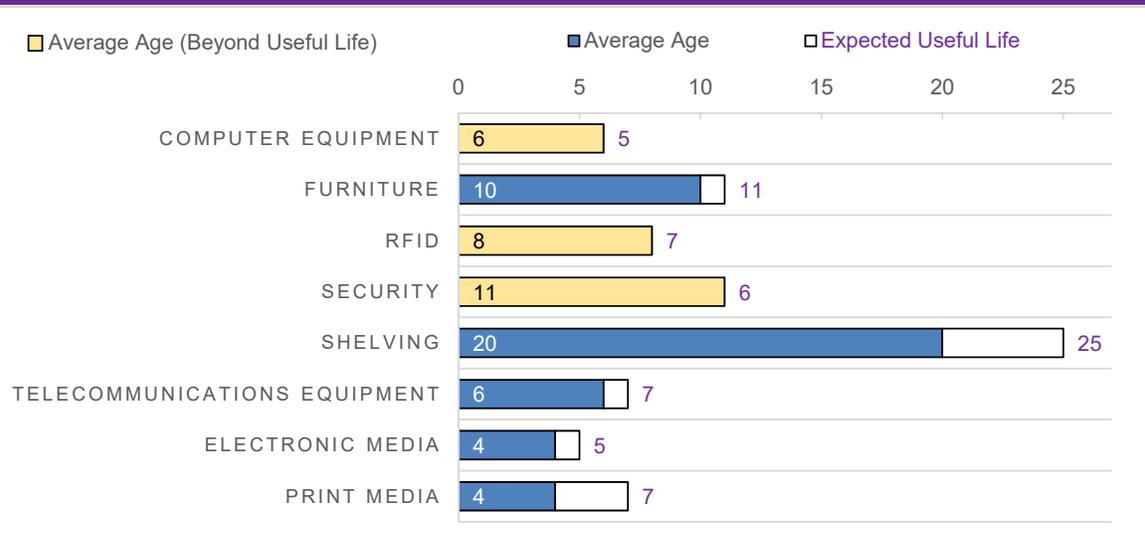
The figures below illustrates the replacement value and condition of Library service assets under the user view. Under the user view, which captures facilities and City support fleet, the replacement value is about \$128.6 million. Of this total \$128.6 million, the Library facilities represent the largest component at \$103.8 million. Approximately 70% of the Library's assets are considered to be in Good to Very Good condition, with the remaining assets close to, or past, the end of their service life.





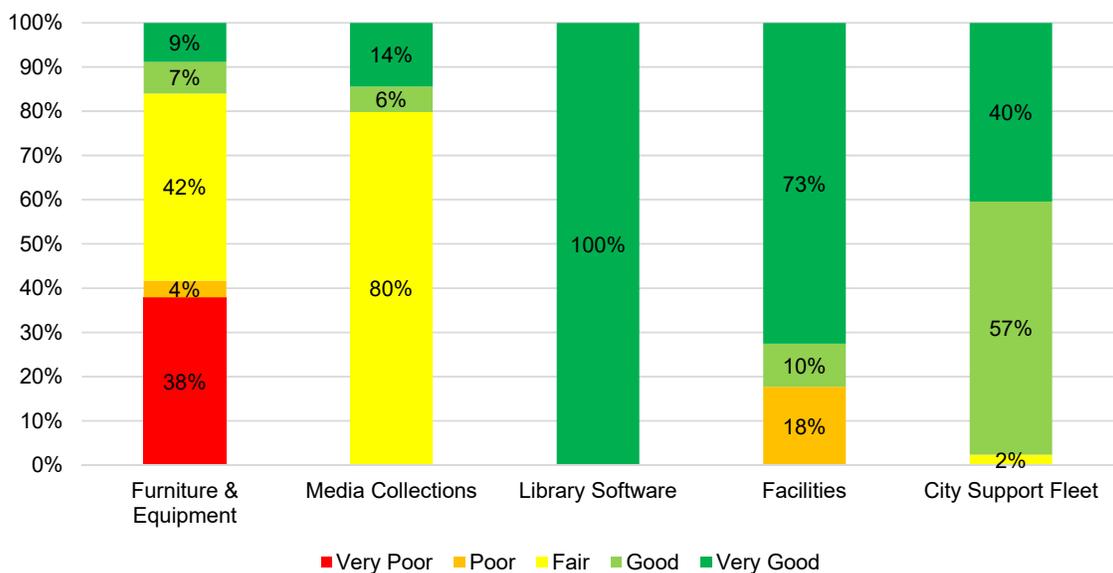
Age Summary

The following figure summarizes the average age of the City's Library Assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated. It is important to emphasize that the age of an asset relative to its useful life does not always provide a complete picture of its actual condition, and an asset can often perform at the expected level to meet service requirements, despite being beyond it's useful life, as is the case with Library assets (RFID, Security and Computer Equipment).



Condition Summary

The figure below illustrates the condition of the various Library service assets by key sub-component areas. While the assets are cumulatively in Fair or higher condition, Furniture and Equipment have a significant component of assets in Poor or Very Poor condition. Library Software assets and the majority of facilities are in Good or Very Good Condition, except for 18% of facilities, which are in Poor condition.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in Library assets in the 2022 SOLI relative to the 2021 SOLI while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Looking only at those assets included under the responsibility view framework, the total value of Library Services has increased by 20% from approximately \$20.5 million to \$24.7 million. The increase in value can largely be attributed to cost increases since the last report. Recent cost data was used for Library Software, while the remaining Library asset replacement values were inflated by the Machinery & Equipment Price Index (M&E) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report.

Including the Library Facility and City Support Fleet assets, the total asset value for Library Services has increased proportionately with those assets. In total, the value of library assets has increased by 18% (or \$19.2 million) from 2021. This increase can largely be attributed to the increased valuations of City Library facilities.

Please note, the Facilities and City Support Fleet report cards will include additional information on those assets used by Library but maintained and managed by a different city department.

Asset	2021 SOLI		2022 SOLI	
Furniture & Equipment	6,842	Each	7,159	Each
Media Collections		Pooled		Pooled
Library Software	18	Each	17	Each
Facilities	6	Each	6	Each
Fleet	4	Each	4	Each

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas*				
Facilities	\$ 88,728,313	\$ 103,780,112	\$ 15,051,799	17%
Fleet	\$ 138,459	\$ 154,271	\$ 15,812	11%
Subtotal Assets Managed by Other Service Areas	\$ 88,866,771	\$ 103,934,383	\$ 15,067,612	17%
2. Assets Managed by Library				
Furniture & Equipment	\$ 7,794,516	\$ 8,535,526	\$ 741,010	10%
Media Collections	\$ 12,406,648	\$ 15,769,724	\$ 3,363,076	27%
Library Software	\$ 305,420	\$ 387,249	\$ 81,829	27%
Subtotal Assets Managed by Library (Responsibility View)	\$ 20,506,584	\$ 24,692,499	\$ 4,185,916	20%
Total Replacement Value: User View (1+2)	\$ 109,373,355	\$ 128,626,882	\$ 19,253,527	18%

*Responsibility of managing the assets lies with another service area, but assets are used by Library Services



Total Asset Replacement Value:	\$345,600
Total Asset Replacement Value Including Facilities, City Support Fleet and Software	\$11.6 Million
Future Condition Trend (Next 10 Years):	Declining - As assets age they may require attention in the future
Data Confidence & Reliability:	Medium (Condition Based)

The 2022 SOLI analysis continues to report assets under two different asset representation perspectives: "**Responsibility View**" and a "**User View**" representation

Responsibility View: Shows the assets under the service area that is responsible for managing the capital needs

User View: Shows the assets under the service area that is using them

While the User View shows the use of assets, the Responsibility View

- ✓ provides a direct line of sight to those assets managed by the service area;
- ✓ will help prioritize lifecycle activities managed by the service area;
- ✓ aligns with industry best practices; and
- ✓ provides guidance to future asset management planning practice and departmental initiatives.

The table below illustrates the replacement value (in \$2023) under the two different views.

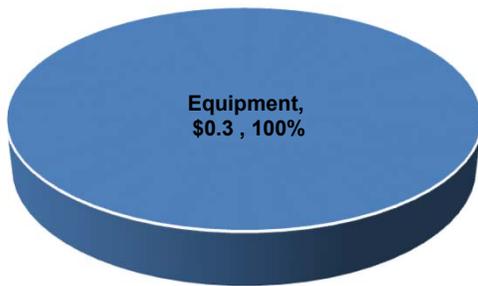
Asset Type	Replacement Value (\$Millions)	Asset Inventory
Assets Managed by Animal Services		
Equipment	\$0.3	171
<i>Subtotal Assets Managed by Animal Services (Responsibility View)</i>	\$0.3	171
Assets Managed by Other Service Areas		
<i>Animal Services Facilities ⁽¹⁾</i>	\$9.9	2
<i>City Support Fleet Used by Animal Services</i>	\$1.1	12
<i>Software Used by Animal Services</i>	\$0.2	1
Total Replacement Value (User View)	\$11.6	-



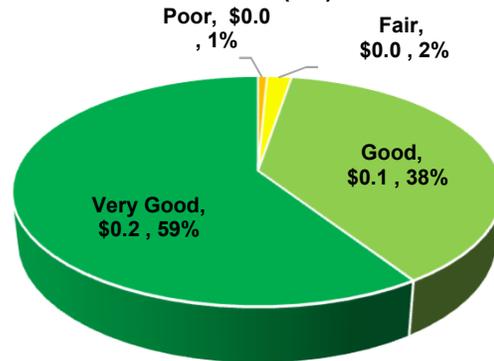
Major Types of Assets within Animal Services - Responsibility View

The figure below illustrates the replacement value and condition of Animal Services assets under the responsibility view. Under this view, the total replacement value of assets is \$345,600. Consistent with the 2021 SOLI, only Animal Services equipment is considered under the management of the service area and therefore makes up the entire replacement value. Overall, the Animal Services assets are in Very Good condition with about 1% of the total asset rated in Poor condition.

**RESPONSIBILITY VIEW:
REPLACEMENT VALUE BY ASSET
CATEGORY (\$M)**



**RESPONSIBILITY VIEW:
ANIMAL SERVICES ASSET
CONDITION (\$M)**

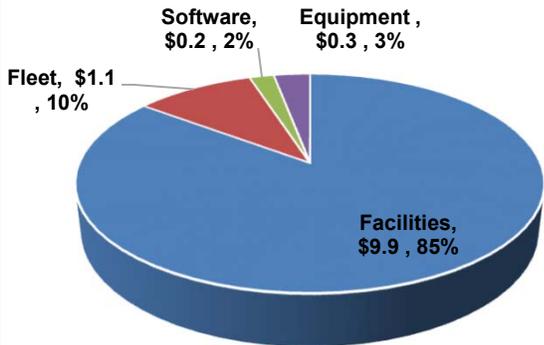


Data Source: Departmental Inventory, PSAB data as of year-end 2021

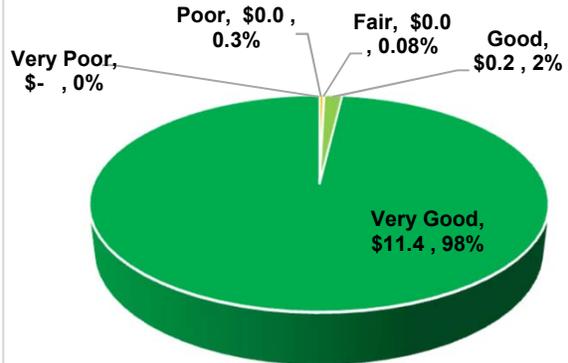
Major Types of Assets within Animal Services - User View

The figures below illustrate the replacement value and condition of Animal Services assets under the user view. Under the user view illustration, which also captures facilities, City support fleet and software, the replacement value is about \$11.6 million. Of this total, the Animal Services facilities represent the largest share at \$9.9 million. Nearly all of the City's assets are considered to be in Good to Very Good condition with marginal amounts in Poor and Fair condition. Overall improvements have been made to the Animal Services facilities which have increased the condition of the facilities compared to previous reporting under the SOLI.

**USER VIEW:
REPLACEMENT VALUE BY ASSET
CATEGORY (\$M)**



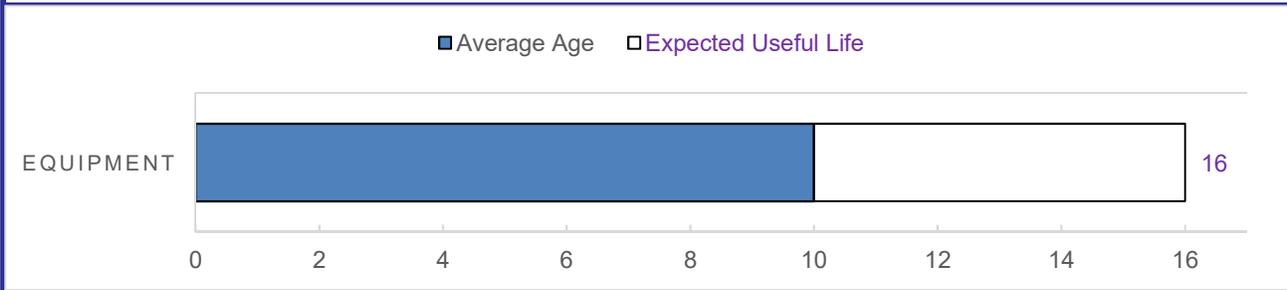
**USER VIEW:
ANIMAL SERVICES ASSET
CONDITION (\$M)**





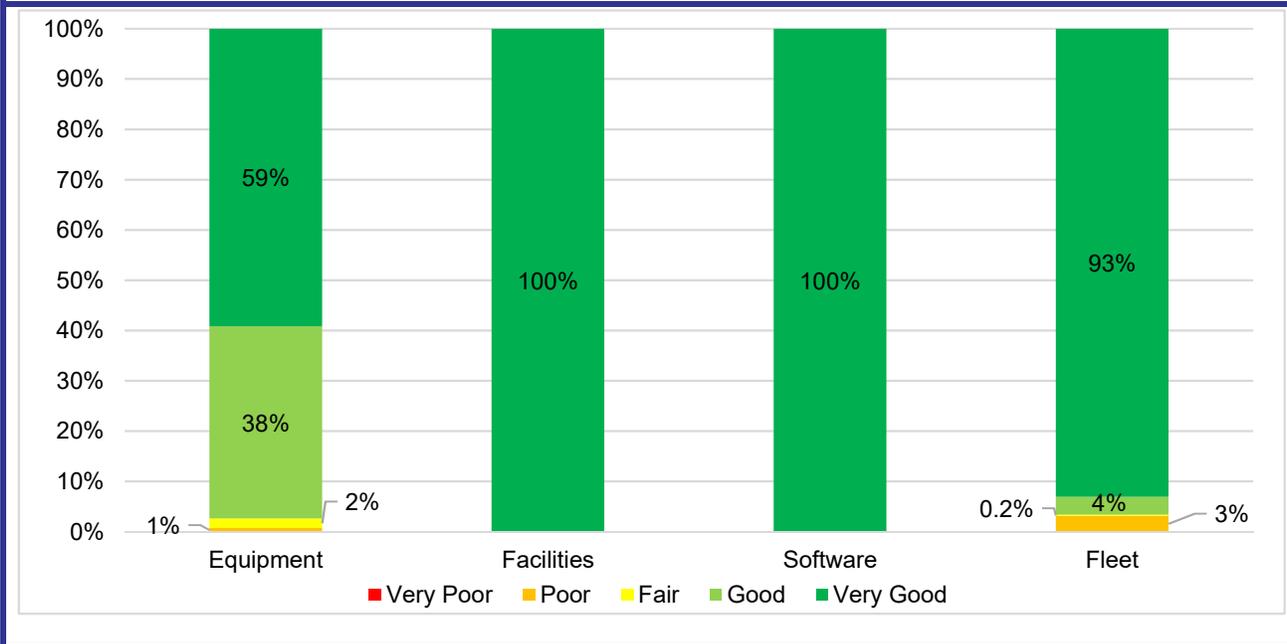
Age Summary

The following figure summarizes the average age of the City's Animal Services assets compared to the expected useful life of each asset category. The methodology applied to undertake the average age profile analysis considers the age weighted by replacement value of each asset, which influences average asset age and remaining useful life illustrated.



Condition Summary

The figure below illustrates the condition of the various Animal Services assets by key sub-component areas based on the user view. While the assets are generally in Good to Very Good condition, a small portion of Fleet and Equipment assets are in Fair and Poor condition.





Comparison of 2022 vs. 2021 Inventory and Replacement Value

The tables below outline the difference in Animal Services assets in the 2021 SOLI relative to the 2020 SOLI, while considering reporting under the two different views. Please note, the 2021 SOLI is shown as it was reported (i.e. in \$2022). The values for the 2022 SOLI are in \$2023.

Under the responsibility view framework, the total value of Animal Services assets has increased from \$300,400 to \$345,600. The increase in value can largely be attributed to cost increases since the last report. As no recent costing data was available, the asset replacement values for Animal Services Equipment were inflated by the Machinery & Equipment Price Index (M&E) from the values identified in the 2021 SOLI (which were reported in \$2022). Additional information on the indices applied to each asset class can be found in Table 5 of this report.

When considering the Animal Services Facilities, City Support Fleet and IT assets, the total asset value for Animal Services increased proportionately with the inclusion of these assets. The overall increases can be attributed to updated costing as part of the 2022 SOLI through the increased inflation factors.

Please note, the Facilities, City Support Fleet and IT report cards include additional information (including the inflation measure applied) on those assets used by Animal Services but maintained and managed by a different City department.

Asset	2021 SOLI			2022 SOLI		
Facilities	2	Each		2	Each	
Fleet	13	Each		12	Each	
Software	1	Each		1	Each	
Equipment	143	Each		171	Each	

Asset	2021 SOLI (\$2022)	2022 SOLI (\$2023)	Difference	
1. Assets Managed by Other Service Areas*				
Facilities	\$ 9,444,949	\$ 9,887,046	\$ 442,097	5%
Fleet	\$ 1,018,233	\$ 1,134,519	\$ 116,286	11%
Software	\$ 213,282	\$ 232,980	\$ 19,698	9%
Subtotal Assets Managed by Other Service Areas	\$ 10,676,464	\$ 11,254,544	\$ 578,080	5%
2. Assets Managed by Animal Services				
Equipment	\$ 300,353	\$ 345,646	\$ 45,292	15%
Subtotal Assets Managed by Animal Services (Responsibility View)	\$ 300,353	\$ 345,646	\$ 45,292	15%
Total Replacement Value: User View (1+2)	\$ 10,976,817	\$ 11,600,190	\$ 623,373	6%

*Responsibility of managing the assets lies with another service area, but assets are used by Animal Services