Corporate Asset Management

State of Local Infrastructure
2019 Report

BRAMPTON
Flower City

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1 Executive Summary

As the fourth largest and one of the fastest growing community 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 2016, the City of Brampton established a corporate asset management office and developed its first Corporate Asset Management Plan (CAMPlan) to ensure that infrastructure assets are managed according to an evidence-based decision model. This would ensure that current levels of service are maintained in the most cost-effective manner while demonstrating leadership in municipal asset management planning by adopting the ISO 55000 global standards for asset management.

The City has also adopted an asset management policy that ensures that asset management planning will be customer focused, regulatory driven, sustainable and based on all lifecycle activities required to keep our infrastructure in a state of good repair.

This 2019 State of the Local Infrastructure Report (2019 SOLI) provides a snapshot of the estimated overall value and condition of the City's infrastructure to provide various services. The 2019 SOLI Report is a companion document to the first City of Brampton CAMPlan as it is intended to expand upon some of the information and data identified in the City's first iteration of the Corporate Asset Management Plan. This is the second SOLI report for the City, and as asset data and information is collected, the values in this report will change. Since the completion of the 2018 SOLI Report, the City has undertaken a robust review of their assets, which has increased the confidence, and reliability of the information in this report.

The City's total assets replacement cost is estimated at $6.3 billion. This value is comprised of the major infrastructure service areas of Transportation, Stormwater, Transit, Parks, Recreation, Culture, Corporate Facilities, Corporate Information Technology, Fire Services, Library, Animal Services and Corporate Fleet. Transportation services represents the largest share at 39%, or $2.5 billion, of the total $6.3 billion replacement value. This 2019 SOLI Report represents an increase in value of $340.0 million, or 5.7%, over the $5.9 billion (inflated to $2019 from $5.8 billion in 2018) citywide asset replacement value reported in the 2018 SOLI Report. The increase can largely be attributed to refined costing information, revised inventories and the inclusion of new assets that were not captured in previous versions of this report. A more comprehensive description, for each service category, is outlined in the service area report cards in section 3.3.5 of this report.

The majority of the $6.3 billion in assets currently owned and operated by the City are considered to be in Good condition. The overall "Good" condition rating is representative of the City's infrastructure to be fairly young with over 50% of the assets emplaced over the last twenty years.

It is important to note that the current City-wide data confidence presented in this report is assessed as Low-Medium (Age and Condition Based). It is an overall goal to improve the

reliability and accuracy of all information through future iterations of this SOLI Report and corporate asset management initiatives.

Detailed asset information under each service category can be found within the sections that follow.

2 Glossary

AM	Asset Management
AMP	Asset Management Plan
BCI	Bridge Condition Index
CAM	Corporate Asset Management
CAMPlan	Corporate Asset Management Plan
CIP	Capital Investment Program
City	The City of Brampton
DAMPlan	Department Asset Management Plan
EUL	Estimated Useful Life
FCI	Facilities Condition Index
FMECA	Failure Mode Effects and Criticality Analysis
IT	Information Technology
LOS	Levels of Service
Ministry Guide	Ministry of Infrastructure's Guide for Municipal AMPs
NBV	Net Book Value
PQI	Pavement Quality Index
PSAB	Public Sector Accounting Board
Replacement Value	Valuation of the Asset Base
SOLI	State of Local Infrastructure
SW	Stormwater
TCA	Tangible Capital Asset
TRANS	Transportation Services

3   State of Local Infrastructure (SOLI)

3.1   Purpose

Both globally and across Canada, concerns have been raised as to the ability of gaining municipal infrastructure to continue servicing residents and businesses. The City of Brampton, along with municipalities across the country, is facing the challenge of increased demand for public services within the context of constrained budgets and rising costs, all while dealing with economic uncertainties.

This report seeks to establish an understanding of the current state of Brampton's estimated $6.3 billion ($2019) in infrastructure assets. 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) report is a key building block for Brampton's future management of its infrastructure assets. This section is intended 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 report provides an update to the State of the Local Infrastructure section of the 2016 CAMPlan and subsequent 2018 SOLI Report. This will lay the foundation for ongoing assessment, reporting, and benchmarking of our infrastructure assets. It will also allow the City to communicate publicly on the current state of the City's infrastructure. In this iteration of the report, the focus was on the "major service areas", described generally, as the infrastructure owned and internally 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*. Future iterations of this report will look to include all assets directly and indirectly owned or managed by the City, including those owned or managed by municipal boards and agencies in addition to Brampton Library.

Despite the service areas being consistent with the 2018 SOLI Report, the City has made significant improvements to the datasets and assumptions required to complete this report. Based on a weighted replacement value average of all services and their condition assessments, approximately 69% of assets are assigned a data confidence rating based on condition. This represents an increase of about 14% from the 2018 SOLI Report in which 55% of the asset ratings were based on condition

3.2 Overall City-wide Assets

3.2.1 State of Local Infrastructure Summary

This report covers the City's infrastructure aligned to the services under the direct control of the City as well as those used 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*. This report includes the major service areas, as detailed in the Ministry of Infrastructure's '*Building Together – Guide for Municipal Asset Management Plans*'.

The City's total asset replacement cost is estimated at $6.3 billion. This value is comprised of the major infrastructure service areas that includes Transportation, Stormwater, Transit, Parks, Recreation, Culture, Corporate Facilities, Corporate Information Technology, Fire Services, Library, Animal Services and Corporate Fleet. These services contribute to the City of Brampton's overarching Strategic Plan objective of "Moving Our City Forward".

Figure 3.1 provides a high-level overview of the inventory of various asset types required under the Ministry Guide, including replacement value, and the condition of the City's assets by service area. The majority of the $6.3 billion in assets currently owned and operated by the City are in "Good" condition. Detailed asset information under each service category can be found within the sections that follow.
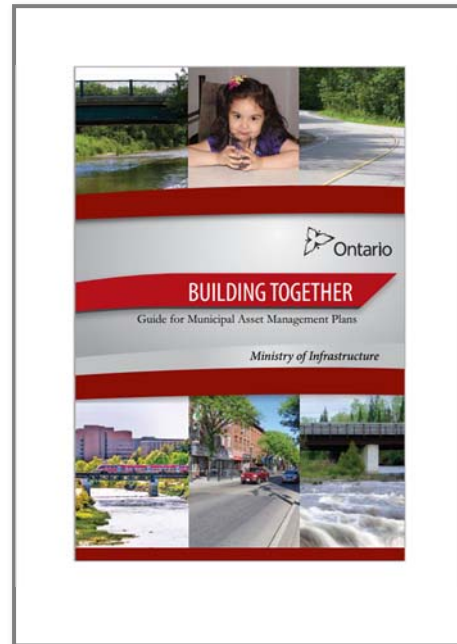
3.2.2 Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure

Asset management planning is essential for the future resilience of Ontario communities, as municipalities require effective and robust plans to take care of their infrastructure over the long term. *The Infrastructure for Jobs and Prosperity Act, 2015*, was proclaimed on May 1, 2016 and 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 Jan 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 (2021-2024) 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. The requirements along with the timelines prescribed in the regulation in the following table:

Phased Requirements	Strategic Asset Management Policy	Asset Management Plan	Progress Review
Timeline	July 1, 2019	July 1, 2021: Core infrastructure assets with costs to maintain current levels of service July 1, 2023: All infrastructure assets with costs to maintain current levels of service July 1, 2024: All infrastructure assets with proposed levels of service and a financial strategy	July 1, 2025
Reporting Cycle	Every five years	Every five years	Every Year

Figure 3.1 – Overall City of Brampton State of Local Infrastructure
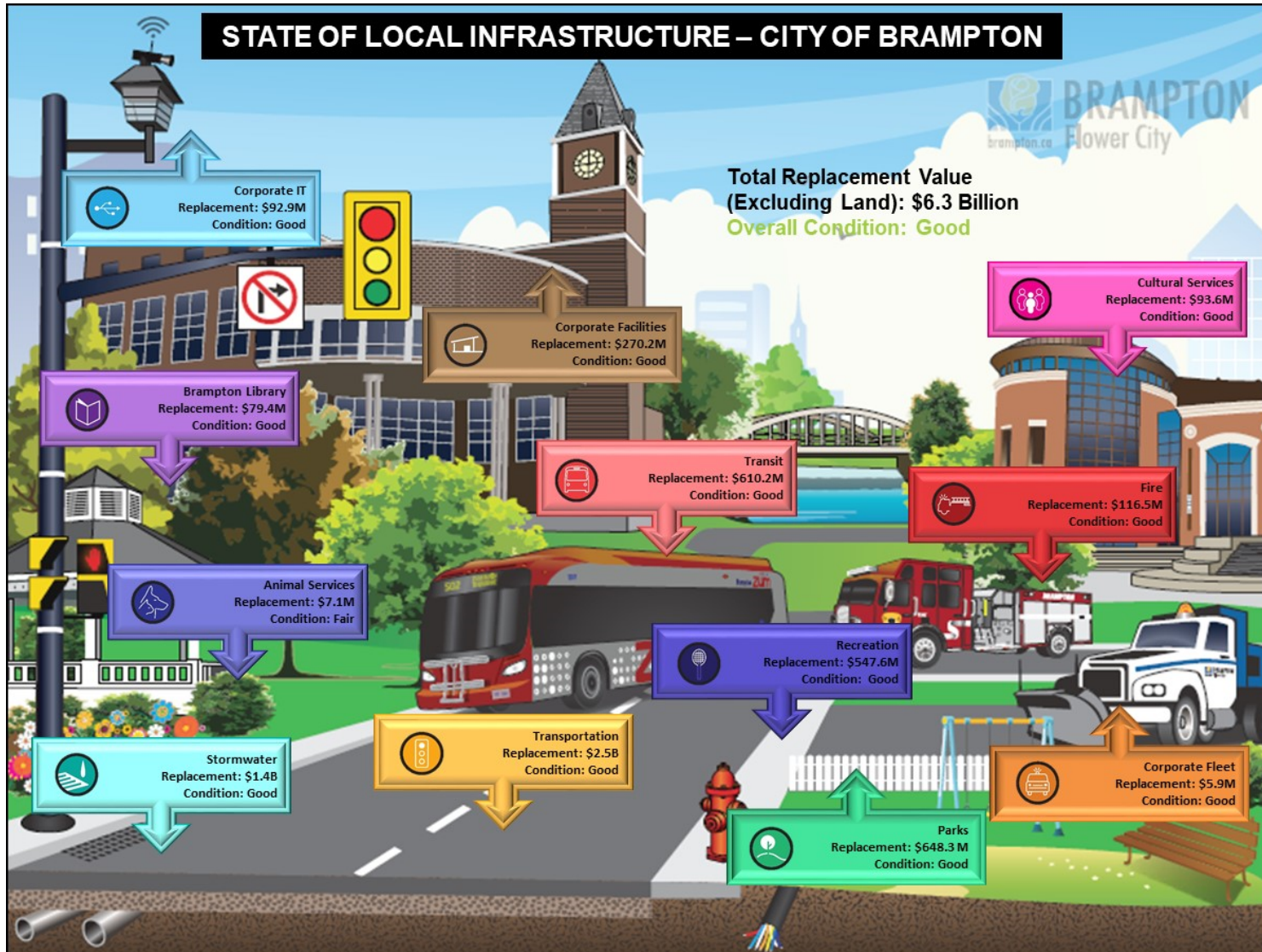
3.2.3 Data Confidence Rating

To aid interpretation, a data confidence rating is assigned to the service area condition summaries in **Section 3.3** of this plan. The data confidence rating scales outlined in **Table 3.1** define the various measures used to qualify the accuracy and reliability of the information used to develop this report, specifically as it relates to condition charts as well as the projection of investment needs and the cumulative funding gap. It should be noted that the data confidence is based on the lower of the Reliability and Accuracy ratings. It is an overall goal to improve the reliability and accuracy of all information through future iterations of this SOLI 2019 Report. While the City should move to a risk-based approach over time, age-based assessments may be appropriate for some assets. The current City-wide Data Confidence is assessed as **Low-Medium (Age and Condition Based)**.

For this SOLI report, the following condition assessments methodologies were implemented:

- **Facilities** – Building Condition Index
- **Roads** – Pavement Quality 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 3.1 –Data Confidence Rating Scales

Measure	Description	High (Risk Based)	Moderate (Condition)	Low (Age)
Approach	Approach undertaken to qualify the current state of the assets as it relates to industry benchmarks and best practices	Based on full understanding of Risks, and a balanced correlation of the asset's (technical) levels of service	A standard industry benchmark that is used to objectively assess the current and projected condition of the asset. (i.e. FCI-Facilities condition indices, PQI- Pavement Quality Index, BCI- Bridge Condition Index)	The age-based condition was evaluated by comparing the age of the asset to its expected useful life

Measure	Description	High (Risk Based)	Moderate (Condition)	Low (Age)
Reliability	Can be trusted to be accurate or to provide a correct result	Based upon sound records, procedures, or analyses that have been acceptably documented, and are recognized as the best method of assessment	Based upon known reasonable procedures, or analyses that have been acceptably documented or expert opinion about condition based on inspection and usage	Based upon expert verbal opinion or manufacturer recommendations on useful life
Accuracy	Probable difference between a recorded parameter and its true value	+/- 1%	+/- 10%	+/- 50%

Based on a weighted replacement value average of all services and their condition assessments, about 69% of assets are assigned a data confidence rating based on condition. This represents an increase of 14% from the 2018 SOLI Report in which 55% of the assets ratings were based on condition. **Table 3.2** below provides a detailed outline of how each service category's assets were assessed. Please note the assets classified to be based on condition are subject to the input received from individual service area experts.
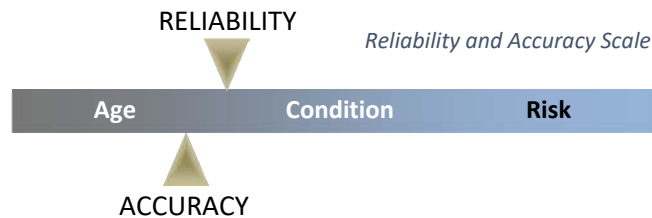
RELIABILITY

Reliability and Accuracy Scale

Age   Condition   **Risk**

ACCURACY

Table 3.2 – Data Confidence Assessment by Service

Service Area	% of Asset Portfolio*	Age	Condition	Risk
Transportation	**39.2%**	✓	✓	
Roads	*17.1%*		✓	
Islands	*0.7%*		✓	
Roadway Bridges & Pedestrian Bridges	*5.3%*		✓	
Roadway Culverts	*5.6%*		✓	
Gateway Features	*0.2%*		✓	

Service Area	% of Asset Portfolio*	Age	Condition	Risk
Noise Walls	0.2%		✓	
Retaining Walls	0.1%		✓	
Fences	0.1%		✓	
Guiderails	0.1%		✓	
Handrails	0.01%		✓	
Steps	0.02%		✓	
Sidewalks	3.4%		✓	
Walkways	0.1%		✓	
Multi-Use Paths	0.2%		✓	
Street Lighting	3.5%	✓		
Traffic Signals	0.9%	✓		
Traffic Signs	0.02%		✓	
Operations Facilities	1.5%		✓	
Licensed Fleet	0.2%		✓	
Off-Road Equipment	0.04%		✓	
Fleet Equipment	0.04%		✓	
Software	0.03%		✓	
Stormwater	**21.5%**	✓	✓	
Stormwater Management Ponds	2.9%		✓	
FDC-WTC	1.1%	✓		
Storm Sewers	13.1%	✓		
Catchbasins	1.8%	✓		
Manholes	2.3%	✓		
FDC-WTC Manholes	0.3%	✓		
Oil & Grit Separators	0.1%	✓		
Corporate Facilities	**4.3%**		✓	
Facilities	4.3%		✓	
Transit	**9.7%**	✓	✓	
Facilities	2.3%		✓	
Heavy Duty Vehicles	5.9%		✓	
Light Duty Vehicles	0.01%	✓		
Shelters – Conventional	0.2%		✓	
Shelters – Zum	0.5%		✓	
Shelters – Bike	0.004%		✓	
Stops	0.1%	✓		
Sandalwood Transit Loop	0.02%	✓		
Video Walls	0.001%	✓		
Smart Bus Systems	0.01%	✓		
True Credential ID Card Application Hardware	0.0002%	✓		
Software	0.02%		✓	

Service Area	% of Asset Portfolio*	Age	Condition	Risk
Conveyance Systems	0.1%	✓		
Communication Control	0.2%	✓		
Fare Systems	0.1%	✓		
PRESTO	0.1%	✓		
Maintenance/Admin Small Equipment	0.01%		✓	
Signage	0.01%	✓		
Fueling	0.02%		✓	
Stock Room	0.04%	✓		
Corporate Information Technology	**1.5%**		✓	
Computers	0.1%		✓	
Monitors	0.01%		✓	
Mobile Phones	0.01%		✓	
Servers	0.03%		✓	
Storage and Back-Up	0.1%		✓	
Wireless	0.04%		✓	
Cable Plants	0.6%		✓	
Network Infrastructure	0.1%		✓	
Communications Systems Infrastructure	0.1%		✓	
Software	0.5%		✓	
Service Brampton Equipment	0.02%		✓	
Corporate Fleet	**0.1%**		✓	
Licensed Fleet	0.1%		✓	
Off-Road Equipment	0.01%		✓	
Fleet Equipment	0.004%		✓	
Software	0.01%		✓	
Fire Services	**1.9%**	✓	✓	
Facilities	1.3%		✓	
Licensed Vehicles & Apparatus	0.5%		✓	
SCBA	0.02%	✓		
Bunker Gear	0.02%	✓		
Software	0.003%		✓	
Parks	**10.3%**	✓	✓	
Open Space Assets	0.3%	✓	✓	
Neighborhood Parks	0.9%	✓		
City & Community Parks	2.5%	✓		
Natural Heritage Lands	0.0%	✓		
Playgrounds	1.3%	✓		
Sports Facilities	1.7%	✓		
Shade Structures	0.4%		✓	
Splash Pads and Outdoor Pools	0.1%	✓		

Service Area	% of Asset Portfolio*	Age	Condition	Risk
Fitness Equipment	0.01%	✓		
Pathways	0.7%	✓		
Skate Parks	0.1%		✓	
Licensed Fleet	0.2%		✓	
Off-Road Equipment	0.1%		✓	
Fleet Equipment	0.04%		✓	
Street Trees	1.7%		✓	
Cemetery Equipment	0.001%		✓	
Facilities	0.3%		✓	
Recreation	**8.7%**	✓	✓	
Facilities	8.2%		✓	
Equipment	0.4%	✓		
Licensed Fleet	0.01%		✓	
Off-Road Equipment	0.04%		✓	
Fleet Equipment	0.01%		✓	
Software	0.01%		✓	
Cultural Services	**1.5%**		✓	
Facilities	1.3%		✓	
Equipment	0.03%		✓	
Specialty Equipment	0.1%	✓		
Licensed Fleet	0.01%		✓	
Off-Road Equipment	0.0004%		✓	
Fleet Equipment	0.0001%		✓	
Brampton Library	**1.3%**	✓	✓	
Facilities	0.9%		✓	
Furniture & Equipment	0.1%	✓		
Media Collections	0.2%	✓		
Licensed Fleet	0.002%		✓	
Fleet Equipment	0.0001%		✓	
Animal Services	**0.1%**		✓	
Facilities	0.1%		✓	
Equipment	0.005%		✓	
Licensed Fleet	0.008%		✓	
Fleet Equipment	0.00004%		✓	
Software	0.002%		✓	
Note: Numbers may not add precisely due to rounding				

The overall Data Confidence is assessed as **Low-Medium (Age and Condition Based)**. As this report represents the consolidation of the best available data, a portion of the information

gathered was age-based, or based upon the overall estimated useful life assets in comparison to its installation date.

Current asset management practices throughout the City vary greatly in terms of their level of sophistication. Due to this variation in asset management practices and the quality of supporting data, the findings of this report are subject to limitations within the network. While much of the data gathered to produce this report is based upon reasonable and sufficiently documented procedures, reliance on the expert verbal opinion of City staff was required where gaps in the data existed. These gaps are largely related to the condition rating assessments, although, in some instances expert staff opinion was also required to complete the asset valuations.

3.2.4 Data Quality

The State of Local Infrastructure Report used the best available data, as collected by City staff with the expectation that future reports will continue to be improved and will also focus on the performance of the assets in terms of their ability to meet demand, capacity, and functional requirements.

Whenever available, information on assets, such as inventory and condition, was pulled from the various service area databases and asset management software. Alternatively, data was also collected from Tangible Capital Asset (TCA) data included in the 2019 financial statements. As mentioned, in many instances, information was obtained from subject matter experts.

3.3 Asset Inventory and Valuation

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

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. It is noted that 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 on 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 3.3** below, the City's 2019 Consolidated Financial Statement reported the Net Book Value of the City's Tangible Capital Assets as of December 31, 2019 at $3.7 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 3.3 – City of Brampton Net Book Value ($000)

FIR Functional Classification	Net Book Value Jan 1, 2019	Net Additions/ Disposals	Net Amortization Expense	Net Book Value Dec 31, 2019
General Government	$362,219	$6,336	$12,946	$355,609
Protection	$66,507	$2,259	$2,349	$66,275
Transportation	$1,819,511	$140,191	$64,804	$1,894,898
Environmental	$503,483	$41,751	$16,241	$528,994
Health	$817	$4	$56	$765
Social and Family	$4,795	$0	($630)	$4,046
Recreation and Cultural Services	$848,925	$19,175	$22,407	$845,593
Planning and Development	$8,374	$0	($1,043)	$8,333
TOTAL	$3,614,631	$209,717	$117,130	$3,704,513

Note: Categories/information derived from the 2019 Financial Information Return. The net amortization figure tends to vary from year-to-year pending 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 $6.3 billion.
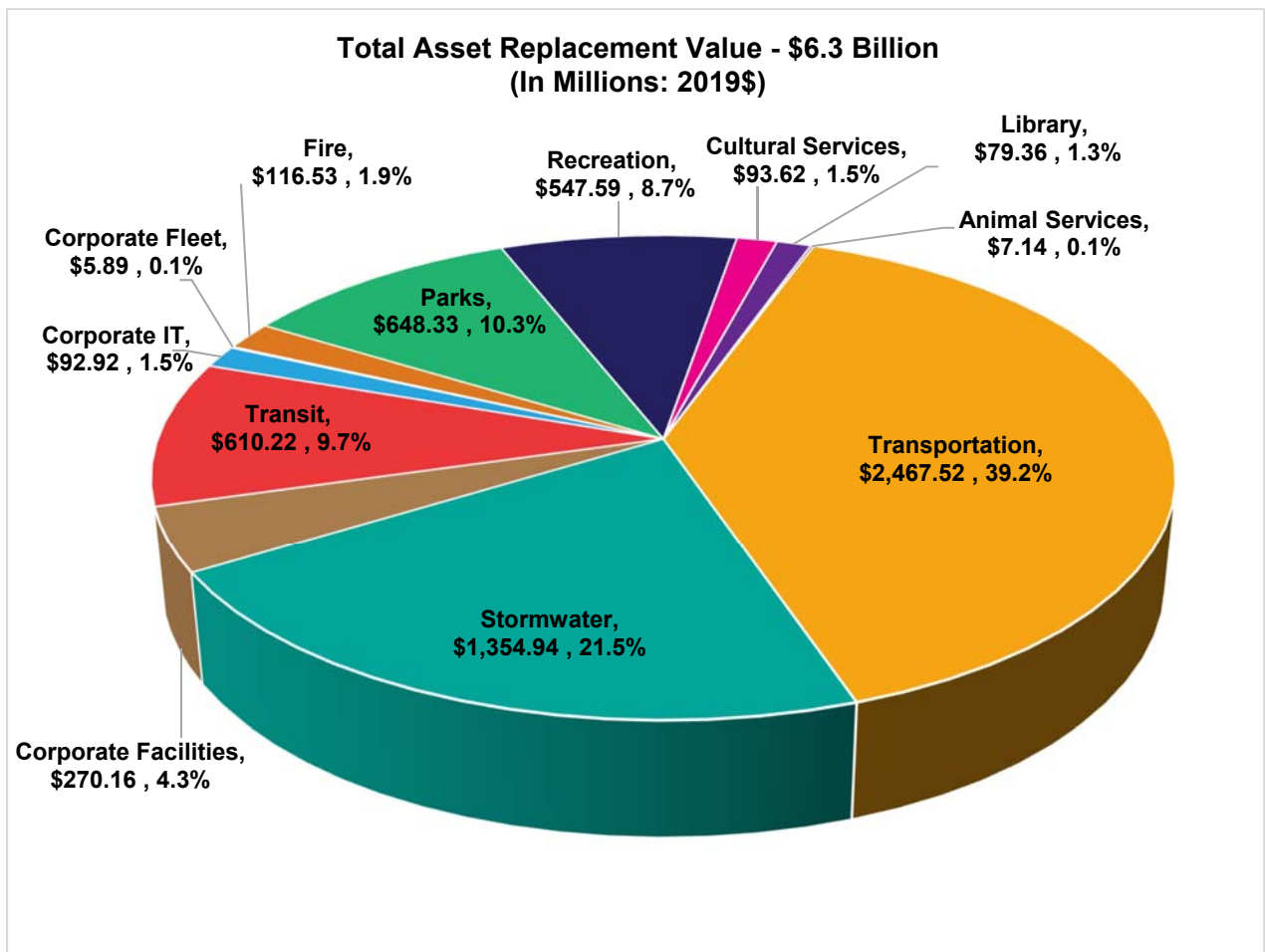
3.3.1 Replacement Cost Valuation

The City uses three basic methods to estimate replacement costs needed for infrastructure renewal planning:

1. **Local price indices**: This is the most accurate method. The City has collected recent acquisition data demonstrating similar replacement activities.

2. **Published price indices:** Where local indices are not available, the City uses published indices which although appropriate and standardized.

3. **Purchasing estimates:** When assets cannot be estimated against either index, the City uses historic cost, asset age and inflationary effects to determine the current replacement value.

Please note the replacement values for facilities used in this 2019 SOLI report relied upon two building appraisal reports developed by Suncorp Valuations: the 2018 Revised Valuation Update Report of Specified Property conducted for insurance purposes and the 2018 Valuation Report of Specified Community Services conducted as part of 2019 Development Charges Background Study. Facilities replacement costs include Building Construction and Services costs associated with the building envelope and general building amenities such as plumbing, electrical, lighting, HVAC, fire protection as well as development costs (e.g. site development and related engineering and project management). The Suncorp valuation does not include any equipment or furniture pertaining to specific services within each facility. Further to this, the facility replacement values currently do not include costs related to removal and disposal as well as specific contract costs that might be incurred (e.g. disruptions and detour related expenses).

The total replacement value of all assets covered under this report is illustrated by service in Figure 3.2 below. Transportation services represents the largest share at 39%, or $2.5 billion, of the total $6.3 billion replacement value.

Figure 3.2 - Total Replacement Value = $6.3 Billion

Total Asset Replacement Value - $6.3 Billion
(In Millions: 2019$)

Fire, $116.53 , 1.9%
Recreation, $547.59 , 8.7%
Cultural Services, $93.62 , 1.5%
Library, $79.36 , 1.3%
Corporate Fleet, $5.89 , 0.1%
Animal Services, $7.14 , 0.1%
Parks, $648.33 , 10.3%
Corporate IT, $92.92 , 1.5%
Transit, $610.22 , 9.7%
Transportation, $2,467.52 , 39.2%
Corporate Facilities, $270.16 , 4.3%
Stormwater, $1,354.94 , 21.5%

3.3.2 Detailed Asset Inventory and Replacement Values

More detailed asset values for each service area are shown in Tables 3.4 to 3.15 below.

Table 3.4 – Detailed Replacement Values – Transportation Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Transportation	Roadway Network	Roads	3,287	Lane KM	$1,078,494
		Islands	565,064	Sq. M.	$46,261
	Structures	Bridges	3,812	Metres	$331,727
		Culverts	6,044	Metres	$350,371
		Gateway Features	2,693	Metres	$12,908
		Noise Walls	4,957	Metres	$9,913
		Retaining Walls	4,870	Metres	$5,972
		Fences	38,467	Metres	$3,899
		Guiderails	31,447	Metres	$4,599
		Handrails	3,272	Metres	$491
		Steps	80	Metres	$967
	Walkways & Path	Sidewalks	1,818,276	Metres	$215,685
		Walkways	14,098	Metres	$3,866
		Multi-Use Paths	117,044	Metres	$10,847
	Traffic Services	Street Lighting	41,840	Each	$219,742
		Traffic Signals	395	Each	$58,840
		Traffic Signs	45,582	Each	$1,100
	Operations Facilities		12	Each	$93,937
	Fleet	Licensed Fleet	100	Each	$10,940
		Off-Road Equipment	18	Each	$2,752
		Fleet Equipment	48	Each	$2,449
	Software		23	Each	$1,756
TOTAL					**$2,467,516**

Note: There are 68 bridges, 112 pedestrian bridges.
There are 157 culverts.
There are 279 gateway features.
There are 20 noise walls and 118 retaining walls.
There are 571 guiderails and 91 handrails.

Table 3.5 – Detailed Replacement Values – Stormwater Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Stormwater	Stormwater Management Ponds		182	Each	$182,000
	Storm Sewer System	FDC-WTC	252,595	Metres	$66,842
		Storm Sewers	1,568,955	Metres	$822,295
		Catchbasins	36,706	Each	$111,535
		Manholes	21,243	Each	$143,656
		FDC-WTC Manholes	3,949	Each	$21,805
	Oil & Grit Separators		92	Units	$6,811
TOTAL					**$1,354,944**

Table 3.6 – Detailed Replacement Values – Corporate Facilities

Service	Asset	Inventory	Unit	Replacement Value ($000)
Corporate Facilities	Facilities	23	Each	$270,159
TOTAL				**$270,159**

Table 3.7 – Detailed Replacement Values – Transit Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Transit	Facilities	All Transit Facilities	8	Each	$142,819
	Licensed Vehicle Assets	Heavy Duty Vehicles	458	Each	$373,771
		Light Duty Vehicles	23	Each	$694
	Transit Facilities (On Road)	Shelters – Conventional	791	Each	$11,501
		Shelters – Züm	131	Each	$28,626
		Shelters – Bike	23	Each	$246
		Stops	1,420	Each	$9,177
		Sandalwood Transit Loop	1	Each	$1,040
	Transit IT Infrastructure	Video Walls	1	Each	$62
		Smart Bus Systems	1	Each	$938
		True Credential ID Card Application Hardware	3	Each	$15
		Software	5	Each	$1,485
	Specialty Equipment	Conveyance Systems	34	Each	$6,250
		Comm. Control	4	Each	$14,151
		Fare Systems	2,950	Each	$9,031
		PRESTO	1,395	Each	$5,929
		Maintenance/Admin Small Equipment	7	Each	$380
		Signage	2,577	Each	$497
		Fueling	180,000	L	$1,160
		Stock Room	N/A	N/A	$2,444
TOTAL					**$610,218**

Table 3.8 – Detailed Replacement Values – IT Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Corporate IT	End User IT	Computers	3,039	Each	$4,539
		Monitors	2,846	Each	$726
		Mobile Phones	1,059	Each	$392
	Infrastructure Assets	Servers	64	Each	$1,763
		Storage and Back-Up	13	Each	$3,246
		Wireless	1,013	Each	$2,709
		Cable Plants	285,544	Metres	$36,890
		Network Infrastructure	581	Each	$5,734
		Communication System	3,809	Each	$3,390
	Software		50	Each	$32,549
	Service Brampton Equipment		Pooled	N/A	$978
TOTAL					**$92,916**

Table 3.9 – Detailed Replacement Values – Corporate Fleet Services

Service	Asset	Inventory	Unit	Replacement Value ($000)
Corporate Fleet	Licensed Vehicles	125	Each	$4,062
	Off-Road Equipment	10	Each	$780
	Fleet Equipment	28	Each	$270
	Software	2	Each	$775
TOTAL				**$5,887**

Table 3.10 – Detailed Replacement Values – Fire Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Fire Services	Licensed Vehicles		101	Each	$33,586
	Fire Equipment	SCBA	144	Each	$1,274
		Bunker Gear	899	Each	$1,226
	Software		5	Each	$158
	Facilities		19	Each	$80,287
TOTAL					**$116,531**

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Table 3.11 – Detailed Replacement Values – Parks Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Parks	Open Space Assets	Walkways to the Park	6,176	Metres	$1,717
		Parking Lots	299	Each	$16,820
	Parks Assets	Neighbourhood Parks	376	Ha.	$54,885
		City & Comm. Parks	669	Ha.	$155,928
		Nat. Heritage Lands	1,255	Ha.	$0
		Playgrounds	326	Each	$79,950
		Shade Structures	246	Each	$27,565
		Splash Pads/Pools	14	Each	$6,600
		Fitness Equipment	33	Each	$900
		Skate Parks	10	Each	$4,300
		Sports Facilities	226	Each	$108,040
		Pathways	279,239	Metres	$43,821
	Fleet	Licensed Fleet	212	Each	$12,343
		Off-Road Equipment	92	Each	$5,615
		Fleet Equipment	292	Each	$2,219
	Street Trees		215,118	Each	$107,559
	Cemetery Equipment		76	Each	$71
	Parks Facilities		29	Each	$19,997
TOTAL					**$648,328**

Table 3.12 – Detailed Replacement Values – Recreation Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Recreation	Recreation Facilities		61	Each	$518,488
	Recreation Equipment		2,693	Each	$24,685
	Fleet	Licensed Fleet	17	Each	$614
		Off-Road Equipment	34	Each	$2,332
		Fleet Equipment	69	Each	$614
	Software		2	Each	$862
TOTAL					**$547,595**

Table 3.13 – Detailed Replacement Values – Cultural Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Cultural Services	Facilities		1	Each	$84,148
	Equipment		Pooled	N/A	$1,811
	Specialty Equipment		Pooled	N/A	$7,150
	Fleet	Licensed Fleet	3	Each	$482
		Off-Road Equipment	1	Each	$25
		Fleet Equipment	4	Each	$5
TOTAL					**$93,620**

Table 3.14 – Detailed Replacement Values – Library Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Library	Facilities		4	Each	$57,335
	Furniture and Equipment		6,703	Each	$7,431
	Media Collections		Pooled	N/A	$14,465
	Fleet	Licensed Fleet	2	Each	$127
		Fleet Equipment	2	Each	$4
TOTAL					**$79,362**

Table 3.15 – Detailed Replacement Values – Animal Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Animal Services	Facilities		1	Each	$6,231
	Equipment		153	Each	$289
	Fleet	Licensed Fleet	10	Each	$518
		Fleet Equipment	1	Each	$2
	Software		1	Each	$103
TOTAL					**$7,143**

3.3.3 Useful Life

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 impacts the life of an asset and its ability to provide service.

Useful life predictions need to be supplemented with other information such as condition assessments, history of upgrades/expansions, and expert judgment. Technical (or engineered) condition assessments generally best inform the timing of asset renewal or replacement.

Generally, assets may fail prior to the estimated engineered design life of each asset or, conversely, provide adequate service beyond their estimated useful life. It is the overall goal that infrastructure renewal be ideally based on condition and use of engineered information rather than the age of the asset. At the time of preparing this document, some of the data gathered was age-based, or based upon the overall estimated useful life of the asset in

comparison to its installation date. However, assets such as the City's roadway network, bridges, culverts, facilities and other are based on condition that increases the confidence in the dataset.
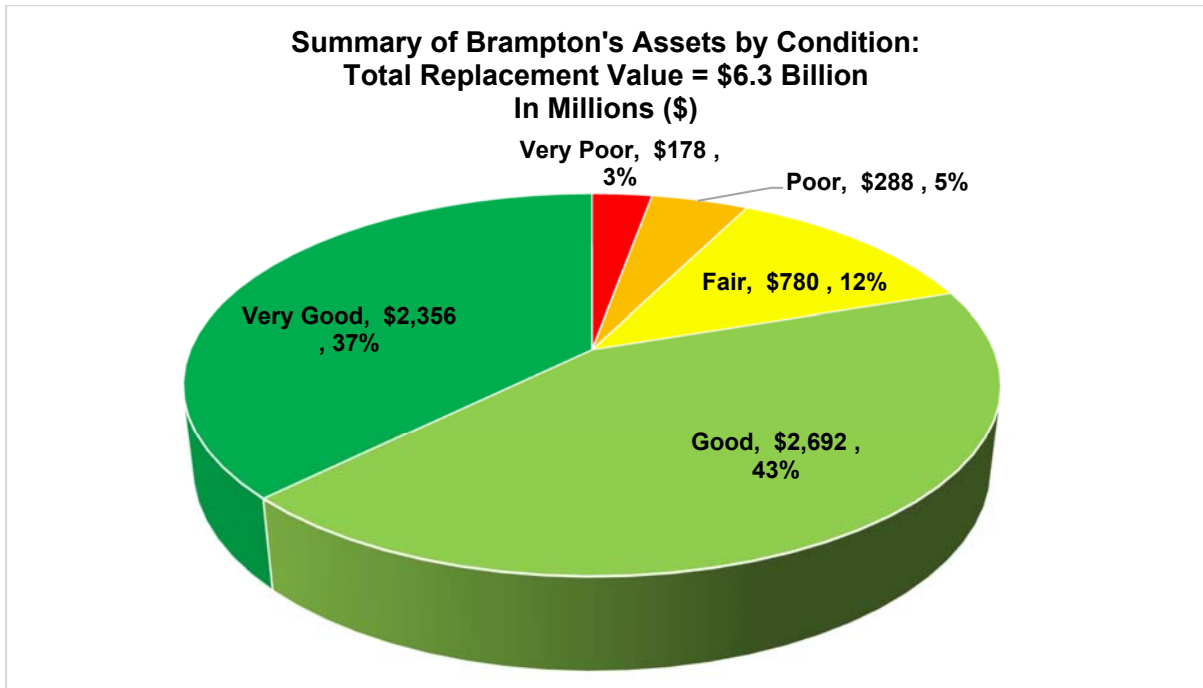
3.3.4 Asset Condition

The condition of each asset group is evaluated to determine the state of the infrastructure to illustrate the current state of the City's infrastructure. 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 3.16**, was used to assign a condition to all assets. It should be noted that City continuously improves 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 3.16 – Five Point Infrastructure Rating Scale

Rank	Condition	Definition
1	**Very Good**	The infrastructure in the system is in generally good condition, typically new or recently rehabilitated. A few elements show signs of deterioration that require attention.
2	**Good**	The infrastructure in the system is in good condition; some elements show signs of deterioration that require attention. A few elements show sign of significant deficiencies
3	**Fair**	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	**Poor**	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	**Very Poor**	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.

As shown in **Figure 3.3**, the overall infrastructure in the City of Brampton is assessed in "Good" condition with less than 10% of the asset base measuring "Very Poor" to "Poor"; requiring more immediate renewal/replacement considerations. The overall "Good" condition rating can largely be attributed to the City's infrastructure being relatively new in age, whereas over 50% of the City's infrastructure has been emplaced over the last two decades. The conditions illustrated in the figure below represent the cumulative value of assets categorized in the five condition areas. As Transportation and Stormwater Infrastructure represent about 60% of the City's total replacement value, the condition of these specific assets provide a greater influence to the overall condition rating identified.

Figure 3.3 – Summary of Asset Condition ($ Millions)

**Summary of Brampton's Assets by Condition:
Total Replacement Value = $6.3 Billion
In Millions ($)**

Very Poor, $178, 3%

Poor, $288, 5%

Fair, $780, 12%

Very Good, $2,356, 37%

Good, $2,692, 43%

The condition of the assets was determined using one of the three methods below based on availability and accuracy:

1. Existing condition rating systems (e.g. Pavement Quality Index, Facility Condition Index);

2. Estimated based on Age and the remaining Estimated Useful Life of the asset. For most assets, the general deterioration curve presented in **Table 3.17** has been applied to derive the condition from the remaining assets useful life and vice versa. However, for some other assets types, such as storm sewers and fleet, a more refined deterioration curve was applied which better represented the lifecycle needs of those assets.

Table 3.17 – Overall City's Condition Grading Standard Framework

Grade	Condition	% of UL
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

3. Estimated based on expert opinion, in the absence of 1) or 2) above or where there was low confidence that age and useful life properly represented a particular 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 following approaches were used to index asset condition to the State of the Local Infrastructure rating scale:

- *Existing Rating System: Building Condition Index (BCI) -* The BCI is a standard facility management benchmark that is used to objectively assess the current and projected condition of a building asset. In accordance with the Corporate Facilities DAMPlan, The Facility Condition Index (FCI) is currently tracked by the Asset Preservation Group using data from the Building Condition Assessments. The Group is currently looking at improving the calculation for this metric using supplemental information from other City reports (structural, ODA, roof audits). One improvement to the metric may be to develop target FCI by facility classification, or by publicly accessible facilities versus facilities with no public access. Currently, an FCI target is set for 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 general public and Council. BCA data was analyzed to determine the overall condition of facility assets. **Table 3.18** below indicates the Facilities Condition Grading System used in the DAMPlan.

Table 3.18 Facilities General Condition Grading System (Source: IIMM, 2011)

Grade	Description	Condition (Criteria)
VG	Very Good	Very Good Condition - Only normal maintenance required
G	Good	Minor Defects only - Minor maintenance required (5%)
F	Fair	Maintenance Required to Return to Accepted Level of Service - Significant maintenance required (10% - 20%)
P	Poor	Requires Renewal - Significant renewal/upgrade required (20-40%)
VP	Very Poor	Asset unserviceable - Over 50% of asset requires replacement

- *Existing Rating System: Pavement Quality Index (PQI) –* The PQI is an industry standard benchmark used to indicate the general condition of pavement. The method to calculate the PQI 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 100, with 100 representing the best possible condition

and 0 representing the worst possible condition. The analysis illustrated in this report is based on the overall road condition (OCI) which accounts for the pavement quality and condition.

- *Existing Rating System: 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 side walls, railings, etc. Each element of the bridge is rated from 1 (the element is on the verge of failure) to 10 (new condition). An overall major for the bridge is then calculated 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.

- *Projected Rating: 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 its 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. The age-based condition was evaluated by comparing the age of the asset to its expected useful life, as per **Table 3.17**.

- *Projected Rating: 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 asset managers/custodians was used to estimate asset condition. The expert opinion condition was evaluated by comparing Staff experience to the definition as noted above.

Based on a weighted average replacement value of all services and their condition assessments, approximately 69% of assets are assigned a data confidence rating based on condition. While Roads, Bridges, Culverts and Facilities used Industry acceptable condition indices, some other assets were assessed not based on specific documented condition protocols, but rather relied upon the expert opinion about condition, so 69% includes the condition assessments from various approaches.

3.3.5 Service Area State of Good Repair Summary

The following section summarizes the available replacement value and condition assessment information specific to the service areas considered under this Report and their major asset types. Each report card presents, a comparison of the capital asset inventory and replacement values from the 2018 SOLI Report with the data utilized to formulate this 2019 SOLI Report. All costs incorporated within the report cards are represented in constant $2019.
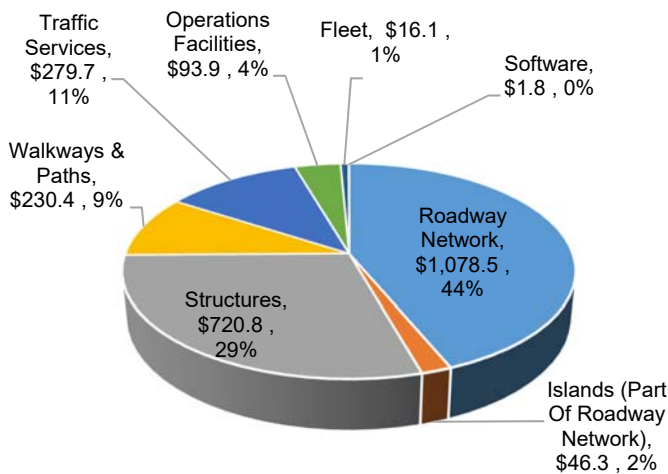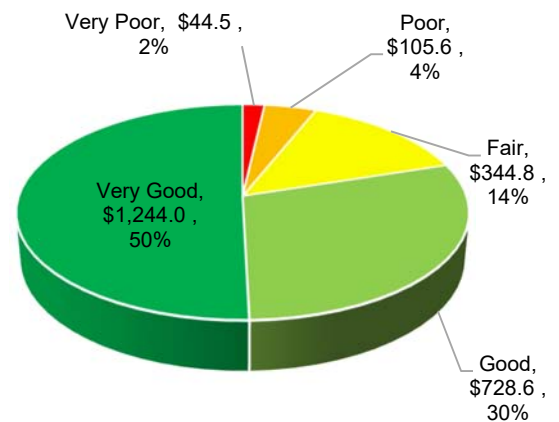
Transportation

 GOOD

Total Asset Replacement Value:	$2.5 Billion
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining – As assets age they may require attention in the future.
Asset Management Policy:	To maintain safe roadways and roadsides enabling safe and efficient travel in a cost effective way
Assets Included in this Category:	Roadway Network, Islands, Structures, Walkways and Pathways, Traffic Services, Operations Facilities, Fleet, Software
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's transportation services infrastructure is $2.5 billion. Of this, the City's roadway network represents the largest component of Transportation services, representing 44%, or $1.1 billion, of the total value. The City's transportation services asset base represents nearly 40% of the City's entire $6.3 billion asset portfolio. Overall, the City's Transportation services assets are in Good condition with only 6% of the total asset base being rated in Poor to Very Poor condition. The City's road network is fairly young with the majority of pavement in the City constructed during the period from 1999 to 2015, and as such, pavements in the City of Brampton are in good condition.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Traffic Services, $279.7, 11%
Operations Facilities, $93.9, 4%
Fleet, $16.1, 1%
Software, $1.8, 0%
Walkways & Paths, $230.4, 9%
Roadway Network, $1,078.5, 44%
Structures, $720.8, 29%
Islands (Part Of Roadway Network), $46.3, 2%

TRANSPORTATION ASSET CONDITION ($M)

Very Poor, $44.5, 2%
Poor, $105.6, 4%
Fair, $344.8, 14%
Very Good, $1,244.0, 50%
Good, $728.6, 30%

Data Source: Pavement and Bridge Management System, Departmental Inventories, dTIMS (by Deighton), GIS (Geographical Information System), PSAB, Parametric Estimating Guide of MTO 2016, Departmental assumptions and estimates City of Brampton's 2019 Development Charges Background Study (facilities)
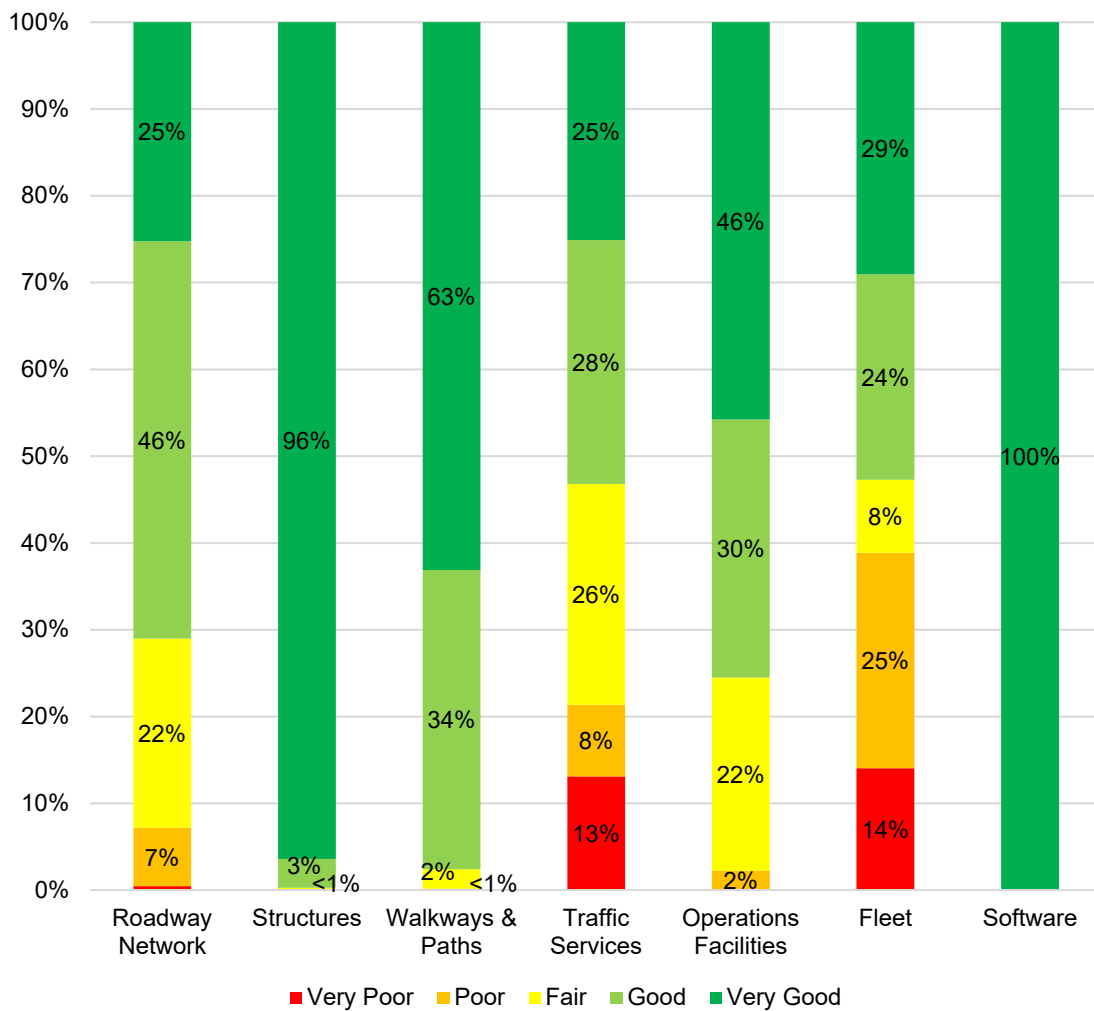
Transportation

GOOD

Major Types of Services within Transportation

The figure below illustrates the condition of the various transportation service assets by key sub-component areas. All components within each area are generally in Good to Very Good Condition. Traffic Services and Fleet does identify some assets to be in Very Poor condition which may require some attention in the near future.

Transportation

GOOD

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)

The table below illustrates the difference between the 2018 and 2019 SOLI replacement value for Transportation. The total value of Transportation services has decreased by 8% from approximately $2.7 billion in 2018 to $2.5 billion in 2019. This decrease is largely attributed to better costing information surrounding the City's roadway network as well as the closure of some operations facilities. The 2018 roadways network replacement values were an estimate based upon 2.5 times the asphalt overlay cost. These costs included sidewalk works, boulevard works, driveway works, sewer repairs, lead repairs, catch basin lid replacement, maintenance hole lid replacement and height adjustment for catch basins and maintenance holes. The 2019 roadways network cost are developed only from the asphalt, base, sub-base and curb costs if applicable for the road class type. Sidewalk costs were double counted under the Roadway Network and Walkways & Paths replacement value in the 2018 SOLI report. This 2019 SOLI report has been corrected and all sidewalks are counted only under Walkways & Paths. All other asset categories within transportation services portfolio has increased in both inventory and value. Additionally, fleet and software in the 2018 report were captured under Fleet and Corporate IT but are now captured under transportation. Also, the 2019 report incorporates islands, which were not captured in previous iterations of the SOLI report. The significant increase in traffic services inventory figures relates to the inclusion of traffic signs (quantity of 45,582) which were not incorporated in the 2018 report.

Transportation: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	**2018 SOLI**		**2019 SOLI**	
	Roadway Network				
	Roads	3,184	Lane KM	3,287	Lane KMs
	Islands	Not Included	Not Included	565,064	Square Metres
Transportation	**Structures**	71,314	Metres	95,642	Metres
	Walkways & Paths	1,900,834	Metres	1,949,418	Metres
	Traffic Services	41,388	Each	87,817	Each
	Operations Facilities	16*	Each	12	Each
	Fleet	Not Included	Not Included	166	Each
	Software	Not Included	Not Included	23	Each

Transportation: 2018 vs. 2019 SOLI Replacement Value Comparison					
	Asset	**2018 SOLI**	**2019 SOLI**	**Difference**	
	Roadway Network				
	Roads	$ 1,476,784,140	$ 1,078,493,961	$ (398,290,179)	-27%
	Islands	$ -	$ 46,260,516	$ 46,260,516	N/A
	Structures	$ 631,955,637	$ 720,847,749	$ 88,892,112	14%
Transportation	**Walkways & Paths**	$ 221,105,283	$ 230,397,855	$ 9,292,572	4%
	Traffic Services	$ 268,133,839	$ 279,681,970	$ 11,548,131	4%
	Operations Facilities	$ 91,879,970	$ 93,936,572	$ 2,056,602	2%
	Fleet	$ -	$ 16,141,322	$ 16,141,322	N/A
	Software	$ -	$ 1,755,675	$ 1,755,675	N/A
	Total	$ 2,689,858,870	$ 2,467,515,619	$ (222,343,250)	-8%

Note: *The number of facilities reported in the 2018 SOLI Report were misrepresented, with the actual number being 15.
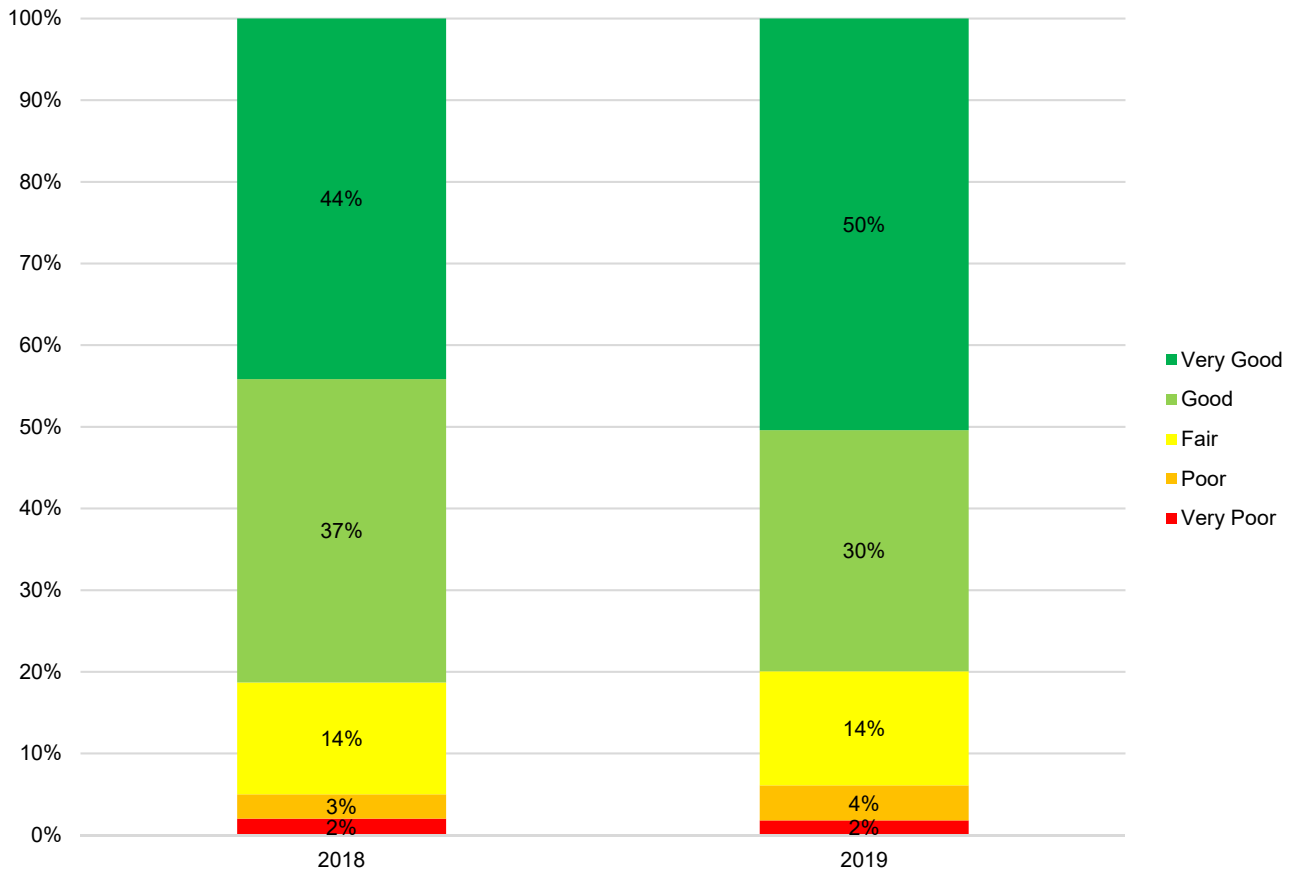
Transportation

GOOD

Comparison of 2018 vs. 2019 Condition Allocations

The overall Good condition of Transportation assets remained the same between 2018 and 2019, however, there has been some shifts between assets in Good and Very Good condition as more assets moved into the Very Good condition category relative to 2018.
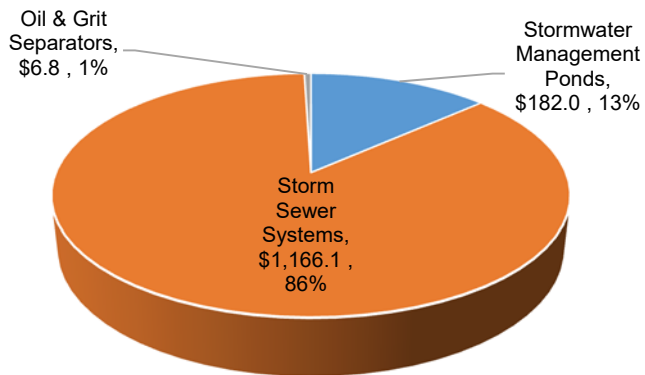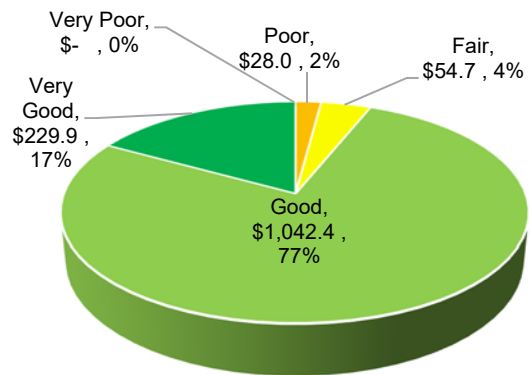
Stormwater

GOOD

Total Asset Replacement Value:	$1.35 Billion
Current Condition:	Good
Future Condition Trend (next 10 years):	Increasing – Introduced a dedicated User Fee to fund operational and asset renewal expenditures.
Asset Management Policy:	To provide sustainable stormwater management in a safe, effective, and dependable way that ensures the protection of the environment.
Assets Included in this Category:	Stormwater Management Ponds, Storm Sewer Systems, Oil & Grit Separators
Data Confidence and Reliability:	Low (Age Based)

The total replacement value of the City's Stormwater infrastructure is $1.35 billion. About 86% of this total is related to the City's storm sewer system with the remaining value largely associated with stormwater management ponds. Nearly 95% of the City's stormwater assets are in Good to Very Good condition with the remaining assets in Fair or Poor condition. The increasing future condition trend is attributable to the recently introduced dedicated stormwater user fee which transfers funding from property taxes to a user-fee program. Revenues derived from the user 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.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Oil & Grit Separators, $6.8 , 1%

Stormwater Management Ponds, $182.0 , 13%

Storm Sewer Systems, $1,166.1 , 86%

STORMWATER ASSET CONDITION ($M)

Very Poor, $- , 0%

Poor, $28.0 , 2%

Fair, $54.7 , 4%

Very Good, $229.9 , 17%

Good, $1,042.4 , 77%

Data Source: GIS database, Departmental Inventory for O&GS (Excel based tracking), Manufacturer pipe price lists and City contracts (cost model)

Stormwater

GOOD

Major Types of Services within Stormwater

The figure below illustrates the condition of the three sub-component assets of Stormwater services. All sub-components are generally in Good to Very Good Condition, however, about 15% of Stormwater Management Ponds are in Poor condition.
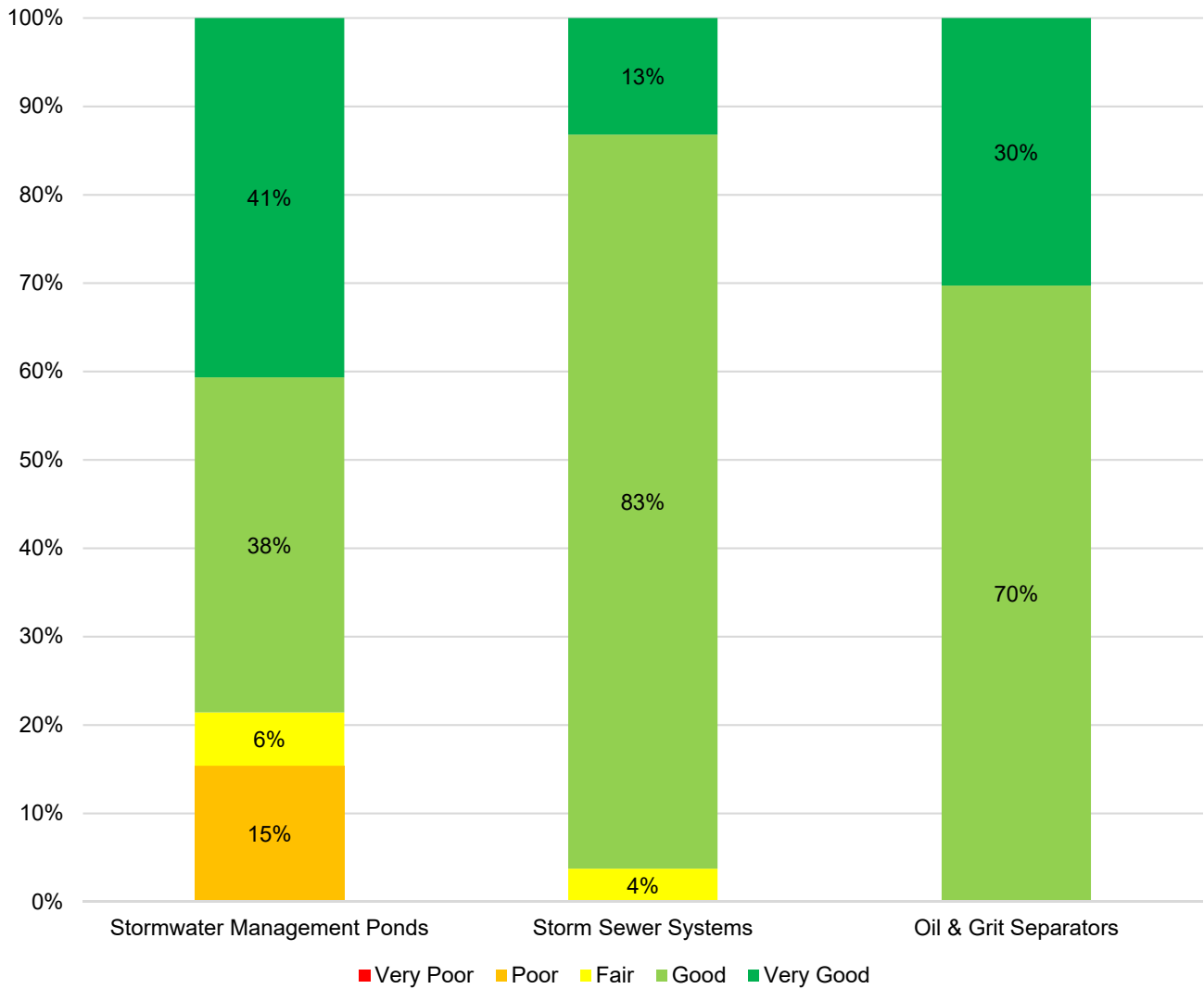
Legend: ■ Very Poor ■ Poor ■ Fair ■ Good ■ Very Good

Stormwater — GOOD

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)

The table below depicts the difference between the 2018 and 2019 SOLI replacement value for stormwater assets. The total value has increased by 19% from approximately $1.14 billion in 2018 to $1.35 billion in 2019. This increase can largely be attributed to better cost and inventory data for the City's storm sewer systems, the inclusion and valuation of manholes and catch basins as separate asset classes as well as the inclusion of oil and grit separator inventories which were not previously captured. In addition, the 2019 report includes a more accurate count of the stormwater management ponds.

Stormwater: 2018 vs. 2019 SOLI Inventory Comparison						
	Asset	**2018 SOLI**		**2019 SOLI**	
Stormwater	Stormwater Management Ponds	200	Each	182	Each
	Storm Sewer Systems - Linear	1,674,766	Metres	1,821,549	Meters
	Storm Sewer Systems - MH/CB	Not identified separately		61,898	Each
	Oil & Grit Separators	Not Included	Not Included	92	Each

Stormwater: 2018 vs. 2019 SOLI Replacement Value Comparison					
	Asset	**2018 SOLI**	**2019 SOLI**	**Difference**	
Stormwater	Stormwater Management Ponds	$ 265,200,000	$ 182,000,000	$ (83,200,000)	-31%
	Storm Sewer Systems - Linear & MH/CB	$ 877,651,395	$ 1,166,133,531	$ 288,482,136	33%
	Oil & Grit Separators	$ -	$ 6,810,881	$ 6,810,881	N/A
	Total	**$ 1,142,851,395**	**$ 1,354,944,412**	**$ 212,093,017**	**19%**

Comparison of 2018 vs. 2019 Condition Allocations

Since the completion of the 2018 SOLI Report, the City has finalized a stormwater asset management plan which was developed to inform the stormwater financing study to implement a dedicated user fee. Furthermore, a stormwater system specific deterioration curve has been applied in the 2019 SOLI analysis while condition data was used to inform the SW ponds compared to age-based approach in 2018. Overall, these data improvements led to a better SW assets condition presentation in this 2019 SOLI Report.
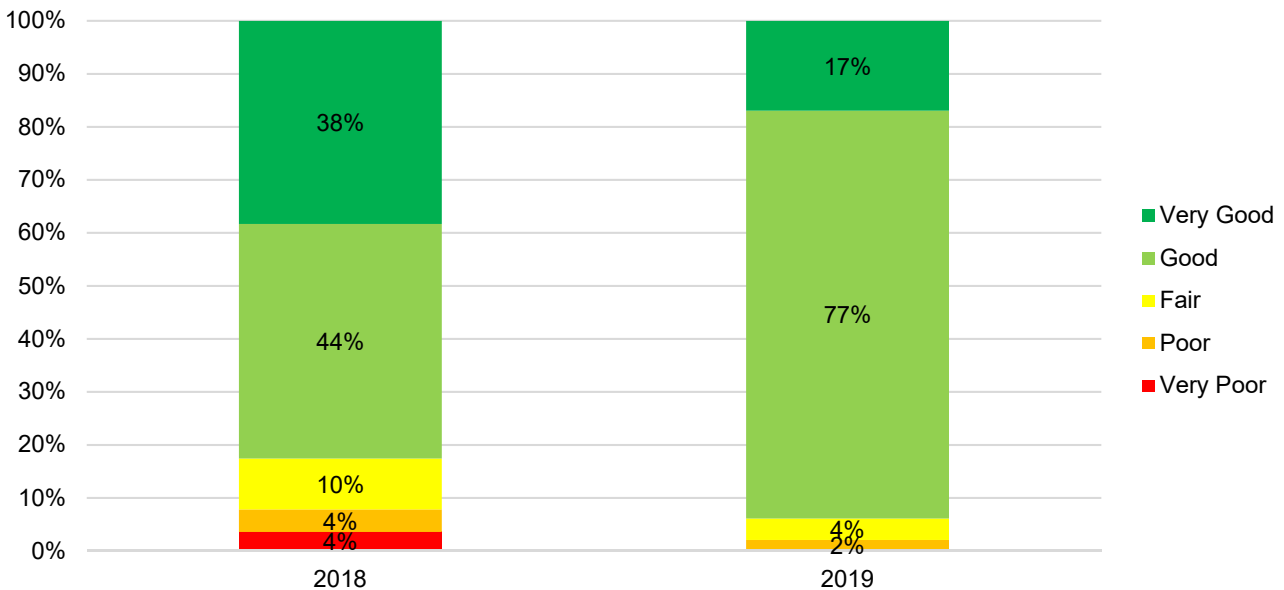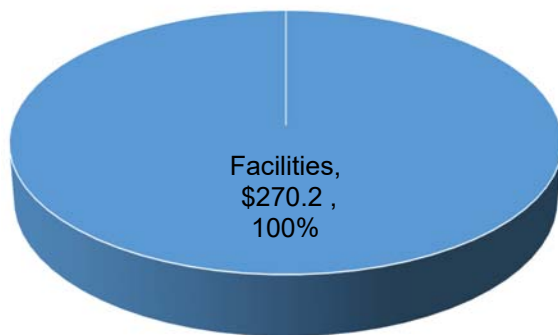
Corporate Facilities

GOOD

Total Asset Replacement Value:	$270.2 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining - As assets age they may require attention in the future
Asset Management Policy:	To provide adequately maintained, innovative and safe facilities
Assets Included in this Category:	Facilities, Software
Data Confidence and Reliability:	Medium (Condition Based)

Asset replacement values were derived from the City's 2019 Development Charges Background Study and the 2018 Suncorp Property Appraisal Report. Over 70% of the Corporate Facility assets are in Good to Very Good condition, with about 6% of the assets in Poor to Very Poor condition. As the Corporate Facility assets are overall in Good condition, these assets are meeting current needs but aging and may require attention. Facility assets related to Library, Fire, Parks, Recreation, Culture, Animal Services, Transportation and Transit are included in their respective divisions.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Facilities, $270.2 , 100%

CORPORATE FACILITIES ASSET CONDITION ($M)
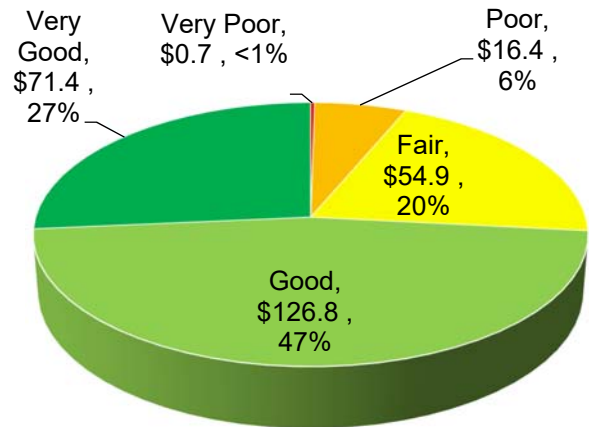
Very Good, $71.4 , 27%

Very Poor, $0.7 , <1%

Poor, $16.4 , 6%

Fair, $54.9 , 20%

Good, $126.8 , 47%

Data Source: Draft Facilities Departmental Service Area Asset Management Plan, City of Brampton 2019 Development Charges Background Study, 2018 Suncorp Property Appraisal Report

Corporate Facilities

GOOD

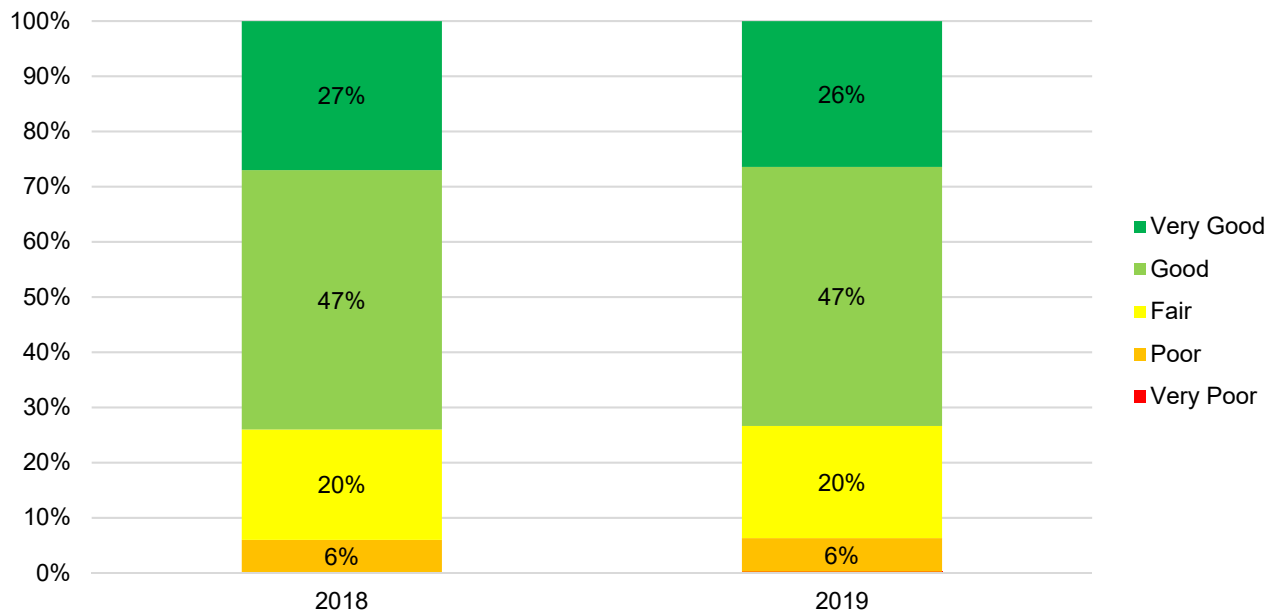**Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)**

The table below depicts the difference between the 2018 and 2019 SOLI replacement value analysis. The total value of Corporate Facilities has increased by 17% overall, from approximately $231.3 million in 2018 to $270.2 million in 2019. This increase can be attributed to the following factors: the addition of facilities and updated facility values from the 2019 Suncorp Valuation for the City's 2019 Development Charges Background Study.

Corporate Facilities: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	2018 SOLI		2019 SOLI	
Facilities	Corporate Facilities	19	Each	23	Each
	Software	Not Included	Not Included	0	Each

Corporate Facilities: 2018 vs. 2019 SOLI Replacement Value Comparison				
	Asset	2018 SOLI	2019	Difference
Facilities	Corporate Facilities	$ 231,272,504	$ 270,159,384	$ 38,886,879	17%
	Software	$ -	$ -	$ -	N/A
	Total	**$ 231,272,504**	**$ 270,159,384**	**$ 38,886,879**	**17%**

Comparison of 2018 vs. 2019 Condition Allocations

The majority of the condition assessment for Corporate Facilities in the 2019 SOLI Report is based on the City's 2016 Facilities Departmental Asset Management Plan (DAMP). As of 2016, approximately 6% of the Corporate Facility assets were in Poor to Very Poor condition. This assessment has been carried forward through to the 2018 and 2019 SOLI analysis. Therefore, there has been no change in the overall condition allocation between 2018 and 2019, as depicted in the graph below.
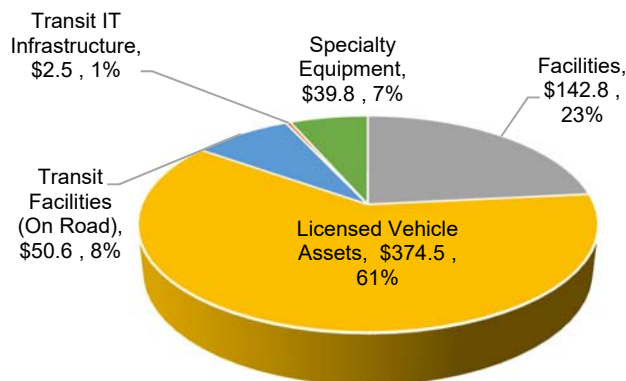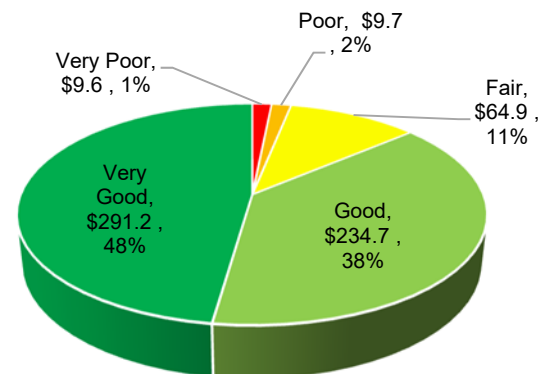
Transit

GOOD

Total Asset Replacement Value:	$610.2 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Increasing – Upper level grants and dedicated 1% Transit levy will help sustain assets over the next ten years
Asset Management Policy:	To provide a safe, clean, reliable and cost effective transit service to our customers
Assets Included in this Category:	Facilities, Licensed Vehicle Assets, Transit Facilities (On Road), Transit IT Infrastructure, Specialty Equipment
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's Transit services assets is $610.2 million, which is largely comprised of the City's licensed vehicles (e.g. transit fleet). About 86% of the City's Transit assets are in Good to Very Good condition, with only a small share of assets in Poor to Very Poor condition. As the City's Transit service assets are overall in Good to Very Good condition, these assets are meeting current needs but aging and may require attention in the future. The overall Good condition is largely representative of the City's Transit fleet which have predominantly been acquired and come into service over the last decade, and are therefore, quite young in age. The increasing future condition trend is attributable to the presence of upper level grants which will help sustain the assets over the next ten years as well as the recently introduced dedicated 1% Transit levy. This levy will be used exclusively towards Transit-related costs and investments. This will in turn help relieve some pressure on the capital budget, and also allowing funds to be re-allocated towards other area (e.g. repairing City roads, parks, fields and other facilities).

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

- Transit IT Infrastructure, $2.5 , 1%
- Specialty Equipment, $39.8 , 7%
- Facilities, $142.8 , 23%
- Transit Facilities (On Road), $50.6 , 8%
- Licensed Vehicle Assets, $374.5 , 61%

TRANSIT ASSET CONDITION ($M)

- Poor, $9.7 , 2%
- Very Poor, $9.6 , 1%
- Fair, $64.9 , 11%
- Very Good, $291.2 , 48%
- Good, $234.7 , 38%

Data Source: Assetworks M5 Fleet Management Solution, Brampton Transit Business Plan 2018-2022, Departmental Inventory, Draft Facilities Departmental Service Area Asset Management Plan and City of Brampton 2019 Development Charges Background Study (facilities)
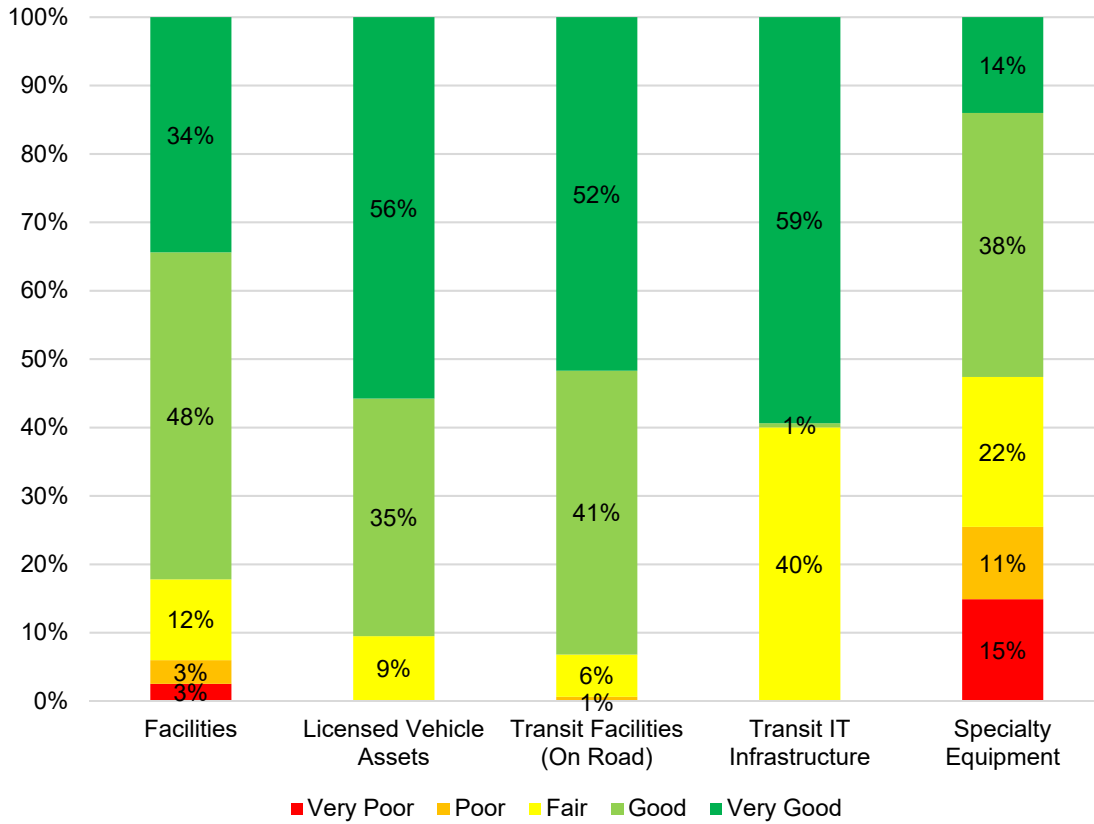
Transit

GOOD

Major Types of Services within Transit

The figure below illustrates the condition of the five sub-component assets of Transit. Most of the assets are rated to be either Good or Very Good condition while specialty equipment does have a larger proportion of assets in Very Poor to Fair condition. Assets in very poor condition are limited and related to transit facilities and some specialty equipment.

Transit   **GOOD**

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)

The table below depicts the difference between the 2018 and 2019 SOLI replacement value of transit services. The total replacement value of Transit infrastructure has increased by 13%, from approximately $538.3 million in 2018 to $610.2 million in 2019. This increase can be attributed to the updated facility values from the 2019 Suncorp Valuation Report prepared for the City's 2019 Development Charges Background Study and better cost information for Transit shelters (which now includes the concrete pads associated with each shelter).

Please note some significant variations in the total inventory of assets occurred in some the smaller asset categories within transit to remove duplicate counts, assets which are no longer in service or account for assets which were excluded from previous counts.

	Transit: 2018 vs. 2019 SOLI Inventory Comparison				
	Asset	**2018 SOLI**		**2019 SOLI**	
	Facilities	6	Each	8	Each
	Licensed Vehicle Assets	468	Each	481	Each
	Transit Facilities (On Road)	1,699	Each	2,366	Each
	Transit Information Technology Infrastructure	2	Each	10	Each
	Specialty Equipment				
Transit	Conveyance Systems	106	Each	34	Each
	Communication Control	8,418	Each	Pooled	N/A
	Fare Systems	2,950	Each	2,950	Each
	PRESTO	1,257	Each	1,395	Each
	Maintenance/Admin Small Equipment	192	Each	Pooled	N/A
	Signage	2,577	Each	2,577	Each
	Fueling	189,000	Litres	180,000	L
	Stock Room	N/A	N/A	N/A	N/A

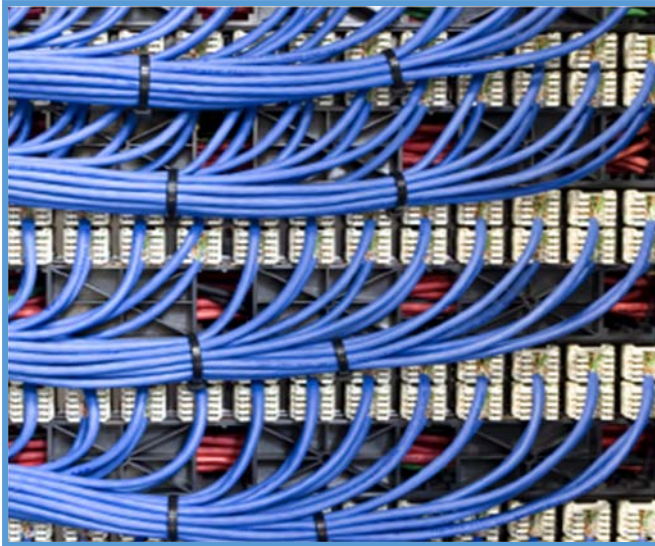|	Transit: 2018 vs. 2019 SOLI Replacement Value Comparison				
	Asset	**2018 SOLI**	**2019 SOLI**	**Difference**	
	Facilities	$ 128,462,777	$ 142,819,111	$ 14,356,334	11%
	Licensed Vehicle Assets	$ 341,505,373	$ 374,464,500	$ 32,959,127	10%
	Transit Facilities (On Road)	$ 28,084,435	$ 50,590,531	$ 22,506,096	80%
	Transit Information Technology Infrastructure	$ 520,200	$ 2,501,002	$ 1,980,802	381%
	Specialty Equipment				
	Conveyance Systems	$ 7,915,408	$ 6,250,000	$ (1,665,408)	-21%
Transit	Communication Control	$ 12,286,508	$ 14,150,561	$ 1,864,053	15%
	Fare Systems	$ 9,212,000	$ 9,031,372	$ (180,628)	-2%
	PRESTO	$ 5,868,776	$ 5,929,450	$ 60,675	1%
	Maintenance/Admin Small Equipment	$ 2,168,136	$ 380,000	$ (1,788,136)	-82%
	Signage	$ 490,643	$ 496,870	$ 6,227	1%
	Fueling	$ 161,713	$ 1,160,000	$ 998,287	617%
	Stock Room	$ 1,659,620	$ 2,444,339	$ 784,719	47%
	Total	**$ 538,335,590**	**$ 610,217,737**	**$ 71,882,147**	**13%**

Transit

Comparison of 2018 vs. 2019 Condition Allocations

There has been a modest shift in the condition allocations for Transit between 2018 and 2019. There are now more assets identified to be in Very Good condition, which is largely attributable to an improvement in the condition of IT infrastructure.
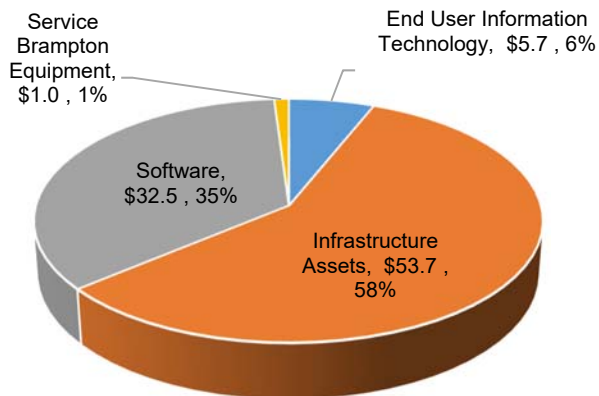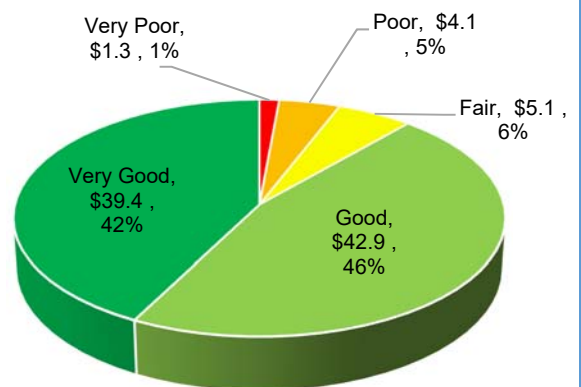
GOOD

	2018	2019
Very Good	45%	48%
Good	42%	38%
Fair	11%	11%
Poor	1%	1%
Very Poor	1%	2%

Legend:
- Very Good
- Good
- Fair
- Poor
- Very Poor

Corporate Information Technology
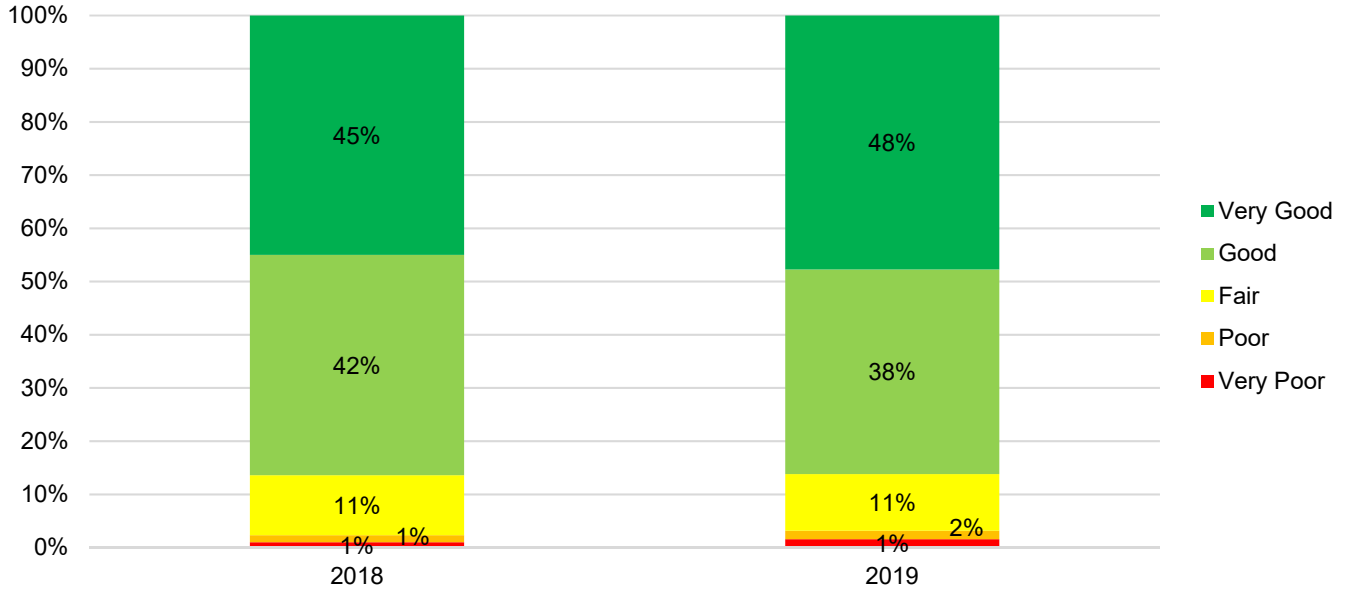
GOOD

Total Asset Replacement Value:	$92.9 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Stable - Assets are replaced frequently and therefore remain in stable condition.
Asset Management Policy:	To manage IT in an efficient and cost effective way.
Assets Included in this Category:	End User IT, Infrastructure Assets, Software, Service Brampton Equipment
Data Confidence and Reliability:	Medium (Condition Based)

The total replacement value of the Corporate IT assets is $92.9 million, of which, over 50% of the total value is related to the City's infrastructure assets. Approximately 88% of the Corporate IT assets are in Good to Very Good condition, with only 6% of assets in Poor to Very Poor condition. As IT assets are replaced frequently their condition will remain stable. Overall, the Corporate IT assets are in Good condition and are meeting current needs.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Service Brampton Equipment, $1.0 , 1%

End User Information Technology, $5.7 , 6%

Software, $32.5 , 35%

Infrastructure Assets, $53.7 , 58%

IT ASSET CONDITION ($M)

Very Poor, $1.3 , 1%

Poor, $4.1 , 5%

Fair, $5.1 , 6%

Very Good, $39.4 , 42%

Good, $42.9 , 46%

Data Source: Departmental Inventory

Corporate Information Technology

GOOD

Major Types of Assets within Corporate IT
The figure below illustrates the condition of the four sub-component assets of Corporate IT services. All sub-component asset categories are mostly in Good to Very Good Condition.

Legend: ■ Very Poor ■ Poor ■ Fair ■ Good ■ Very Good

Corporate Information Technology

GOOD
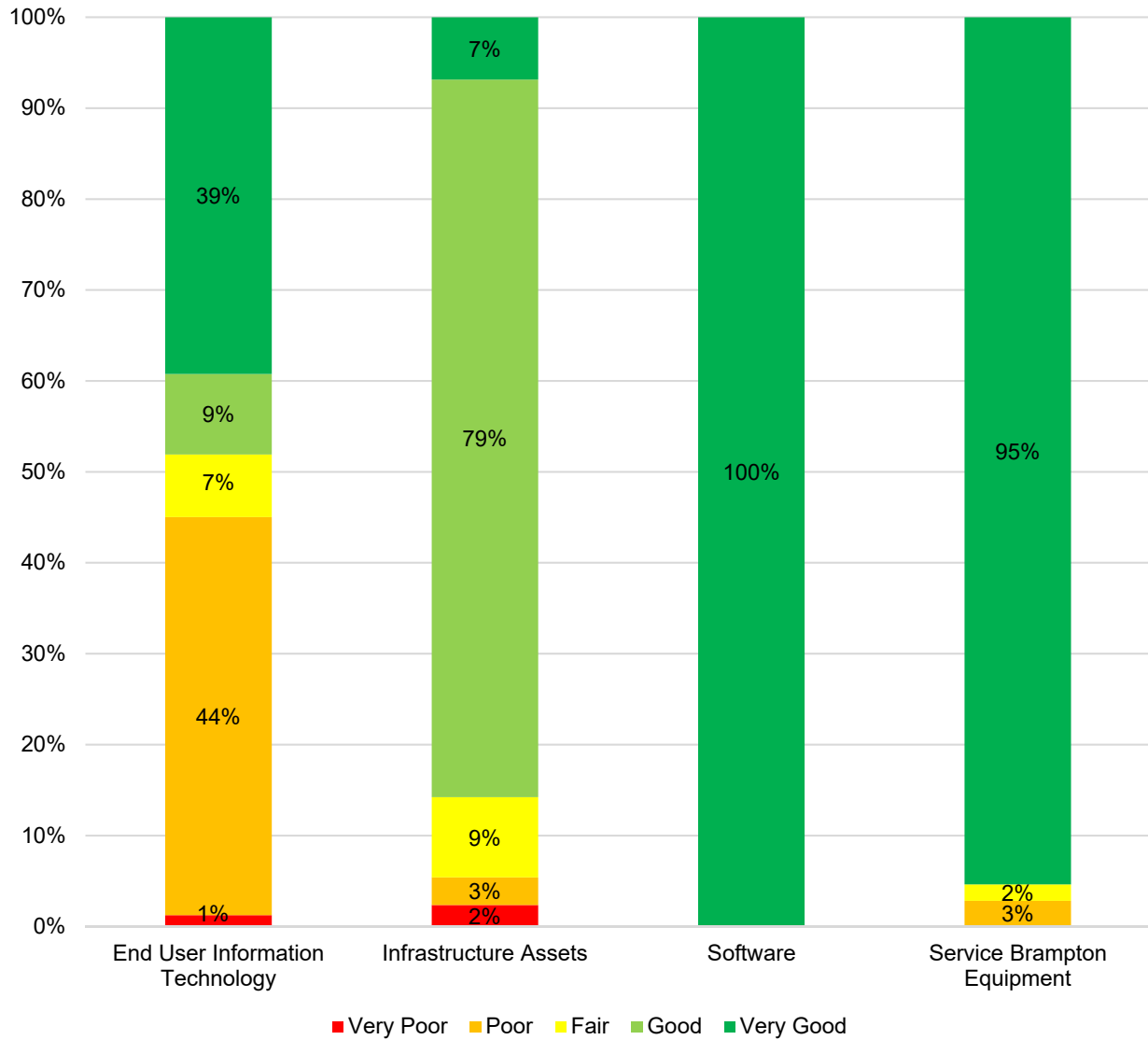
Comparison of 2018 vs. 2019 Inventory Replacement Value ($2019)

The table below depicts the difference between the 2018 and 2019 SOLI replacement value for Infrastructure Technology Assets. The total value of Corporate IT assets has increased by 54% from approximately $60.5 million in 2018 to $92.9 million in 2019. This increase can be attributed to more robust data on cable plants (within the infrastructure assets category) as well as more detailed information related to Service Brampton equipment.

Please note some significant variations in the total inventory of assets occurred in some the smaller asset categories within Information Technology to remove duplicate counts, assets which are no longer in service or account for assets which were excluded from previous counts.

Corporate Information Technology: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	2018 SOLI		2019 SOLI	
	End User Information Technology Assets	5,400	Each	6,944	Each
	Information Technology Infrastructure Assets				
	Servers	76	Each	64	Each
	Storage & Back-Up	19	Each	13	Each
Corporate Information Technology	Wireless	625	Each	1,013	Each
	Cable Plants	253,704	Metres	285,544	Meters
	Network Infrastructure	571	Each	581	Each
	Communications System	3,806	Each	3,809	Each
	Software	90	Each	50	Each
	Service Brampton Equipment	Pooled	N/A	Pooled	N/A

Corporate Information Technology: 2018 vs. 2019 SOLI Replacement Value Comparison					
	Asset	2018 SOLI	2019 SOLI	Difference	
	End User Information Technology Assets	$ 4,345,228	$ 5,657,080	$ 1,311,853	30%
	Information Technology Infrastructure Assets				
	Servers	$ 1,599,368	$ 1,763,451	$ 164,083	10%
	Storage & Back-Up	$ 2,259,702	$ 3,245,844	$ 986,141	44%
Corporate Information Technology	Wireless	$ 2,200,450	$ 2,708,960	$ 508,510	23%
	Cable Plants	$ 10,338,834	$ 36,889,688	$ 26,550,855	257%
	Network Infrastructure	$ 4,648,160	$ 5,733,525	$ 1,085,365	23%
	Communications System	$ 3,191,983	$ 3,390,348	$ 198,364	6%
	Software	$ 31,824,000	$ 32,548,962	$ 724,962	2%
	Service Brampton Equipment	$ 106,534	$ 978,432	$ 871,898	818%
	Total	$ 60,514,259	$ 92,916,290	$ 32,402,031	54%

Corporate Information Technology

GOOD

Comparison of 2018 vs. 2019 Condition Allocation

The majority of the condition assessment for Corporate IT in both 2018 and 2019 are in Good to Very Good condition. Between 2018 and 2019, there has been a shift of assets out of Poor to Very Poor condition towards Good and Very Good.
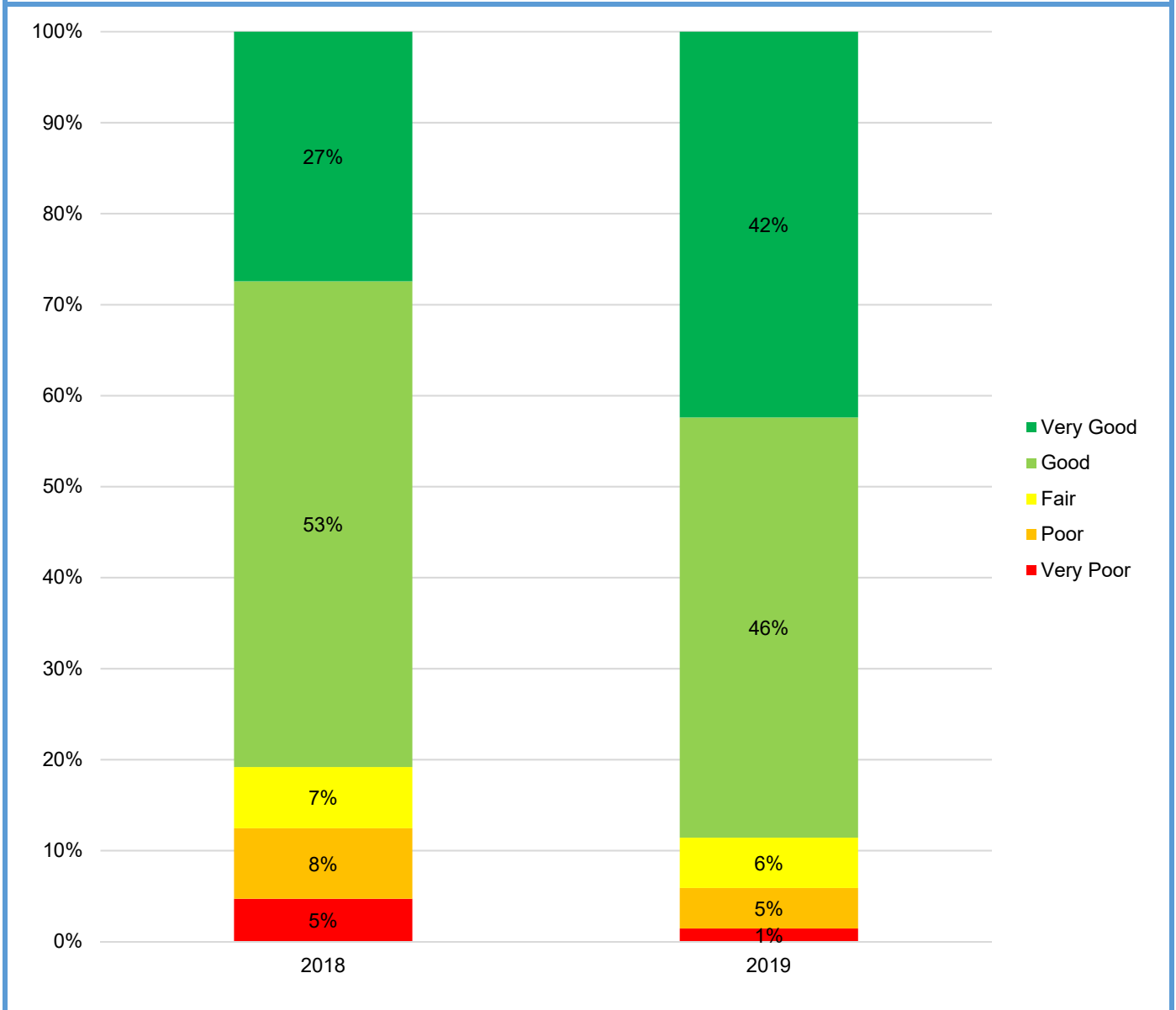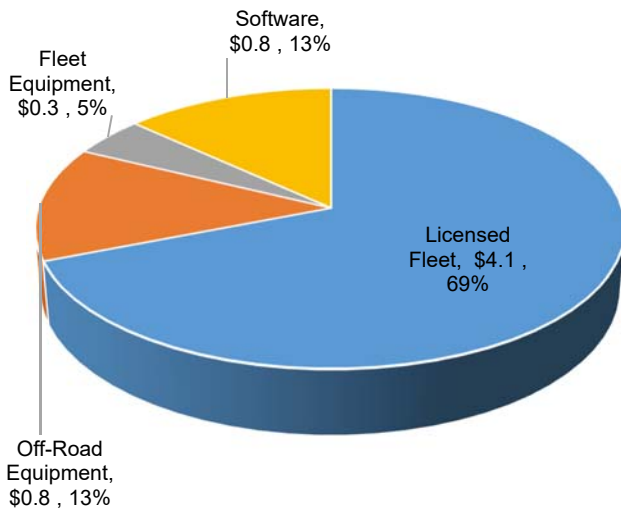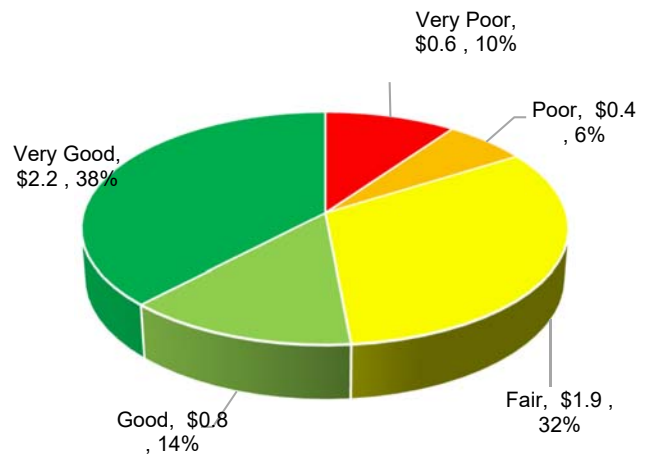
Corporate Fleet

GOOD

Total Asset Replacement Value:	$5.9 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Stable - Assets are replaced frequently and therefore remain in stable condition.
Asset Management Policy:	Provide cost effective vehicle and equipment management services to efficiently deliver municipal services.
Assets Included in this Category:	Licensed Fleet, Off-Road Equipment, Fleet Equipment, Software
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's shared fleet assets is $5.9 million, of which, 69% of the total value is related to the City's licensed vehicles. About 50% of the Corporate Fleet assets are considered to be in Good to Very Good condition. The remaining assets are mostly in Fair condition, however, about 16% remain in Poor to Very Poor condition. The condition of Corporate Fleet assets for the most part is based on age and/or vehicle mileage and not necessarily always reflective of the comprehensive asset condition. This methodology has been applied to all Fleet assets within each service area.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

- Software, $0.8 , 13%
- Fleet Equipment, $0.3 , 5%
- Licensed Fleet, $4.1 , 69%
- Off-Road Equipment, $0.8 , 13%

CORPORATE FLEET ASSET CONDITION ($M)

- Very Poor, $0.6 , 10%
- Poor, $0.4 , 6%
- Very Good, $2.2 , 38%
- Fair, $1.9 , 32%
- Good, $0.8 , 14%

**Data Source: Assetworks M5 Fleet Management Solution**

Corporate Fleet

GOOD

Major Types of Services within Corporate Shared Fleet

The figure below illustrates the condition of the four sub-component assets of Corporate Fleet services. Generally, 4% of the licensed fleet and a sizeable portion of off-road fleet indicate assets to be in Poor to Very Poor condition signifying these assets will likely require attention in the short-term. These assets are generally replaced frequently and therefore will likely be addressed in the short-term through the City's regular capital budgeting process. The City has flagged off-road fleet indicated in Very Poor condition for replacement in the next budget year. Licensed fleet assets are in fair condition overall and will need to continue to be monitored by the City. Lastly, fleet equipment are in Good condition and all software is assumed to be in Very Good condition.
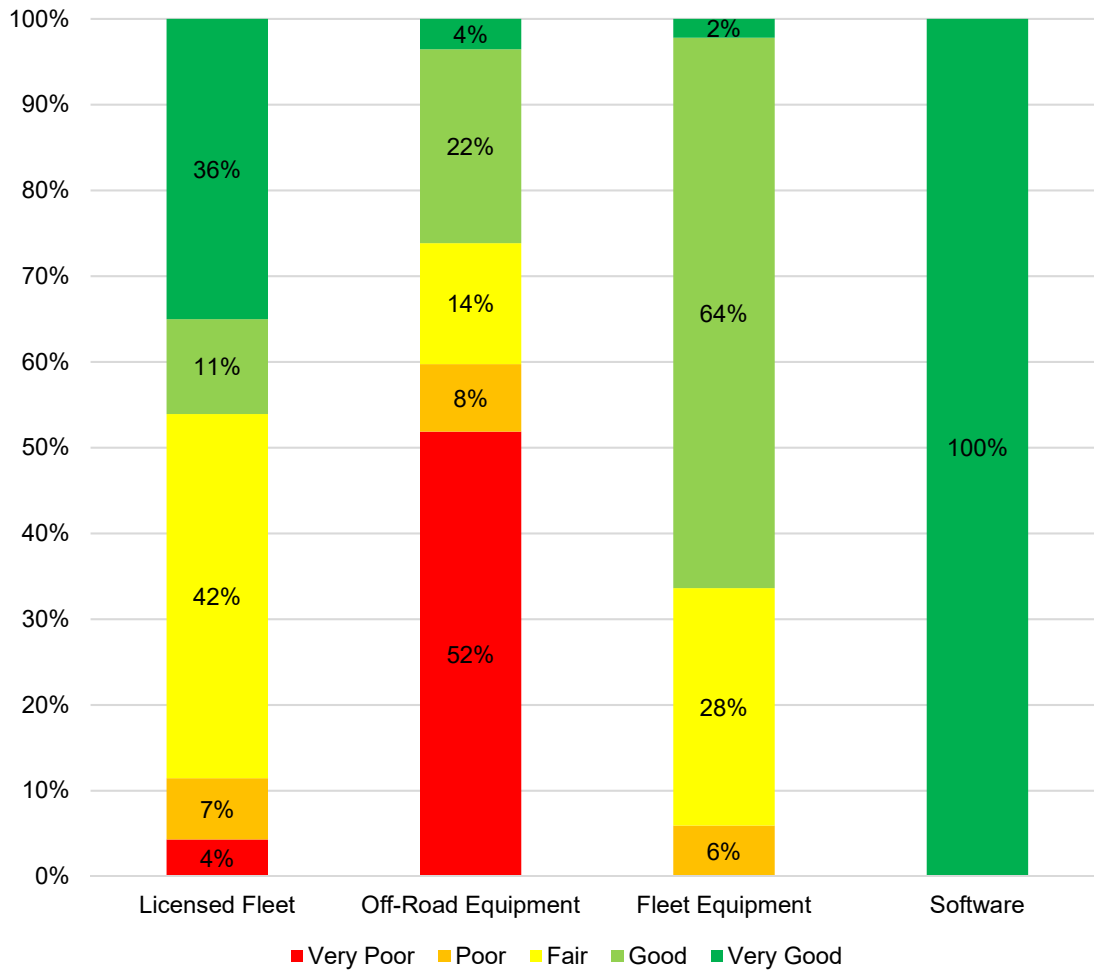
Corporate Fleet

GOOD

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)
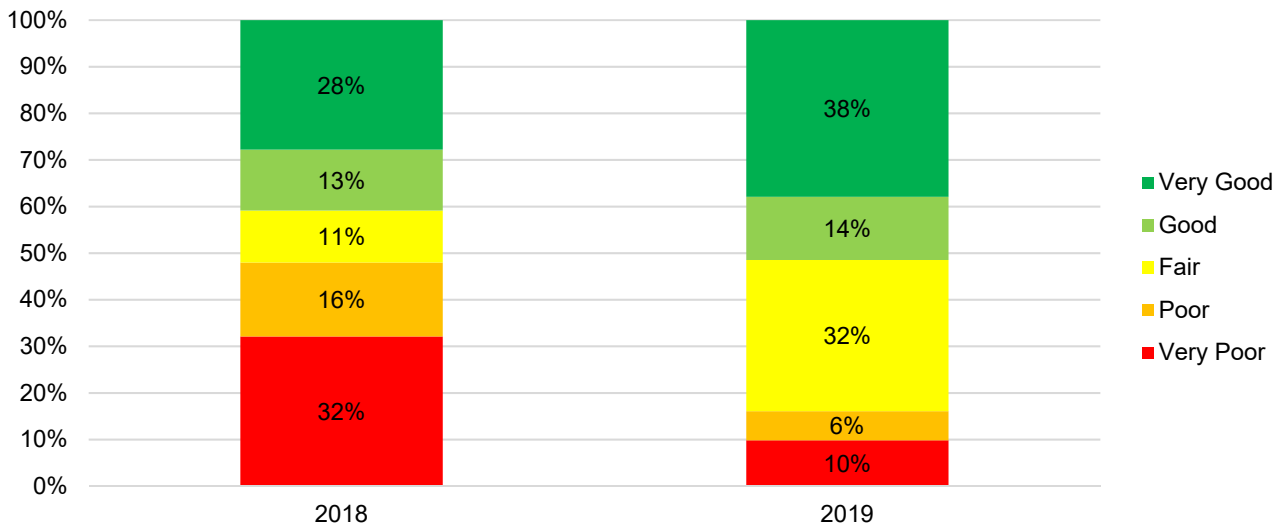
The table below depicts the difference between the 2018 and 2019 SOLI replacement value. Overall, there is a significant decrease in the overall replacement value relative to 2019 as the various fleet assets belonging to specific service areas have been allocated to the respective service category in this 2019 SOLI Report. This change in reporting validates the 89% decrease in the overall replacement value from approximately $52.5 million in 2018 to $5.9 million in 2019.

Corporate Fleet: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	**2018 SOLI**		**2019 SOLI**	
Corporate Fleet	Licensed Fleet	542	Each	125	Each
	Off-Road Equipment	179	Each	10	Each
	Fleet Equipment	1,056	Each	28	Each
	Software	Not Included	Not Included	2	Each

Corporate Fleet: 2018 vs. 2019 SOLI Replacement Value Comparison							
	Asset	**2018 SOLI**		**2019 SOLI**		**Difference**	
Corporate Fleet	Licensed Fleet	$	31,862,307	$	4,061,812	$ (27,800,495)	-87%
	Off-Road Equipment	$	13,882,732	$	780,373	$ (13,102,359)	-94%
	Fleet Equipment	$	6,721,853	$	269,675	$ (6,452,178)	-96%
	Software	$	-	$	775,200	$ 775,200	N/A
	Total	**$**	**52,466,892**	**$**	**5,887,060**	**$ (46,579,833)**	**-89%**

Comparison of 2018 vs. 2019 Condition Allocations

The majority of the assets have been redistributed to their respective service area. Overall, condition of Corporate Fleet assets are now considered to be in Good and Very Good condition. Between 2018 and 2019, there has been a shift of assets out of Poor to Very Poor towards Fair and Very Good, mostly attributed to the updated condition methodology.
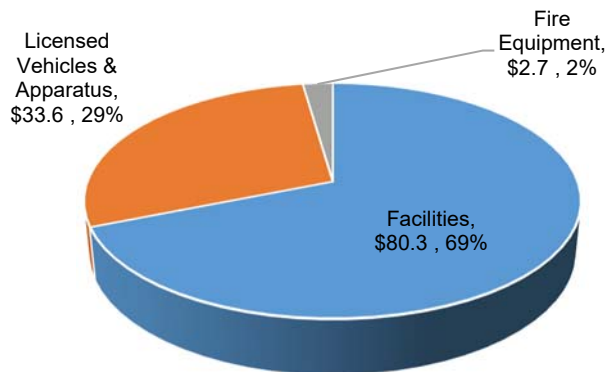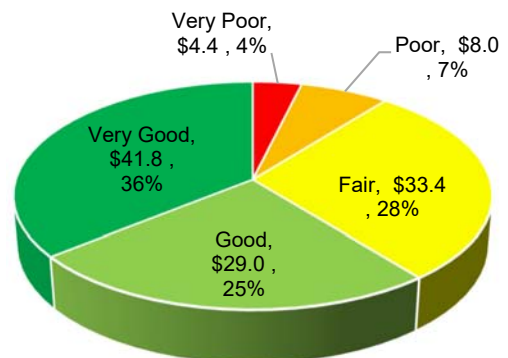
Fire Services

GOOD

Total Asset Replacement Value:	$116.5 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining – As assets age they may require attention in the future
Asset Management Policy:	To provide reliable and essential services as it relates to fire protection and emergency preparedness services
Assets Included in this Category:	Facilities, Licensed Vehicles & Apparatus, and Fire Equipment
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's fire assets is $116.5 million, of which, 69% of the total value is related to the City's Fire facilities. Over 60% of the City's fire service assets are in Good to Very Good condition and are capable of meeting current and future needs, however, about 11% of assets are in Poor to Very Poor condition and will require attention. As the Fire assets are overall in Good condition, this indicates that assets are functional and meeting current needs, but a portion of the assets in Poor and Very Poor condition, may require attention in the future.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Licensed Vehicles & Apparatus, $33.6 , 29%

Fire Equipment, $2.7 , 2%

Facilities, $80.3 , 69%

FIRE ASSET CONDITION ($M)

Very Poor, $4.4 , 4%

Poor, $8.0 , 7%

Very Good, $41.8 , 36%

Fair, $33.4 , 28%

Good, $29.0 , 25%

Source: Assetworks M5 Fleet Management Solution, Departmental Inventories, City of Brampton 2019 Development Charges Background Study (facilities)
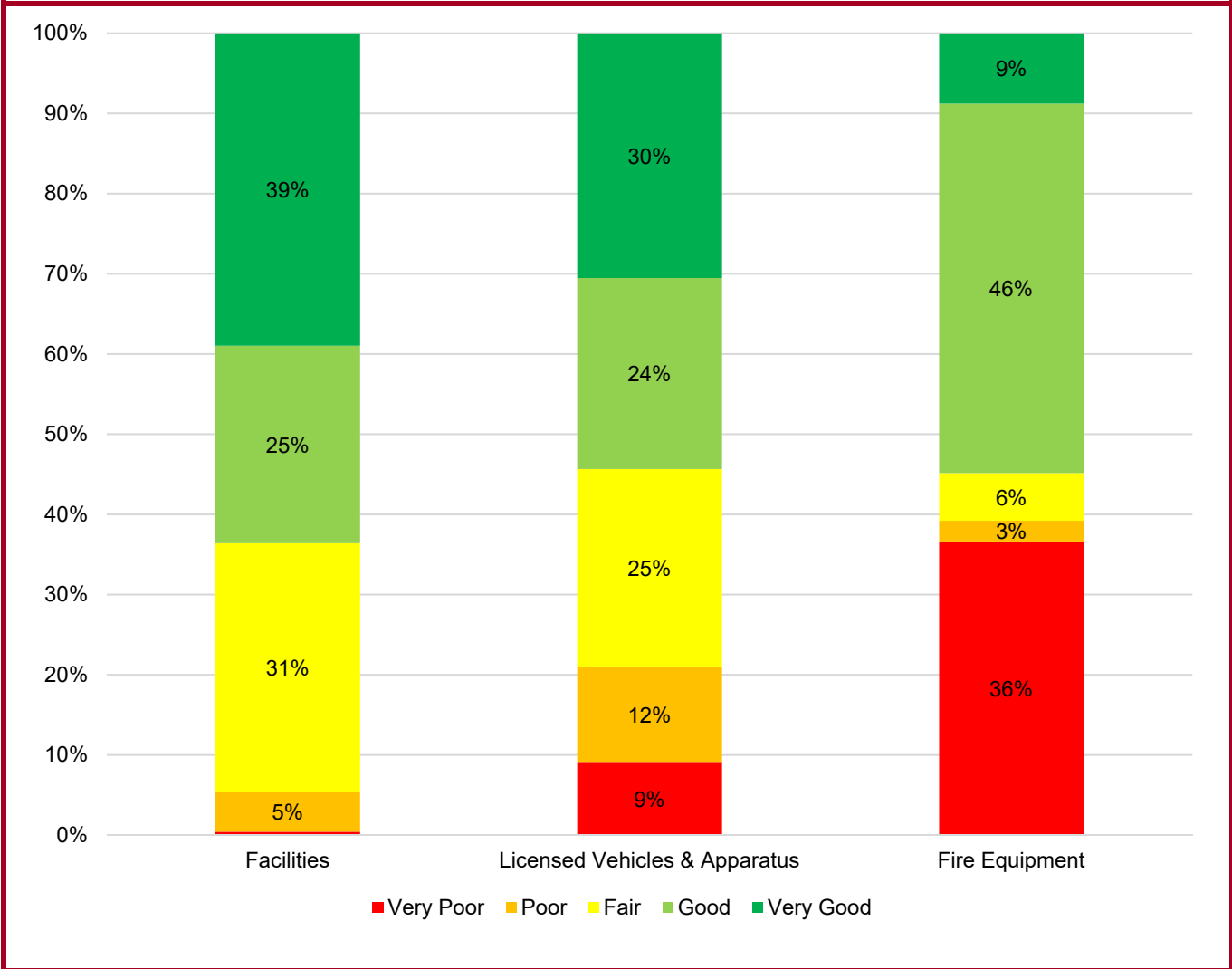
Fire Services

GOOD

Major Types of Assets in Fire Services

The figure below illustrates the condition of the three sub-component assets of fire services. Facilities assets are generally in Good to Very Good condition. About 40% of Fire Equipment assets and less than 10% of Licensed Vehicles and Apparatus assets are in Very Poor condition. These assets generally are replaced frequently and therefore will likely be addressed in the short-term through the City's regular capital budgeting process.

Fire Services   **GOOD**

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)

The table below depicts the difference between the 2018 and 2019 SOLI replacement value for fire services. The total value of Fire Services has increased by 27% overall, from approximately $91.6 million in 2018 to $116.5 million in 2019. This increase can be attributed to the updated facility replacements values obtained from the 2019 Suncorp Valuation report prepared for the City's 2019 Development Charges Background Study as well as updated costing information used in the 2019 report resulted in an increased valuation for both vehicles & apparatus as well as equipment.

Fire: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	2018 SOLI		2019 SOLI	
Fire	Facilities	18	Each	19	Each
	Licensed Vehicles & Apparatus	102	Each	101	Each
	Fire Equipment	1,029	Each	1,048	Each

Fire: 2018 vs. 2019 SOLI Replacement Value Comparison				
	Asset	2018 SOLI	2019 SOLI	Difference
Fire	Facilities	$ 62,208,188	$ 80,287,000	$ 18,078,812	29%
	Licensed Vehicles & Apparatus	$ 27,045,096	$ 33,585,976	$ 6,540,880	24%
	Fire Equipment	$ 2,370,970	$ 2,657,750	$ 286,780	12%
	Total	**$ 91,624,254**	**$ 116,530,725**	**$ 24,906,471**	**27%**

Comparison of 2018 vs. 2019 Condition Allocations

Despite the overall condition of fire service assets remaining in Good condition from 2018 to 2019, there has been a marginal increase in the value of assets in Poor and Very Poor condition due to the aging of the various fire equipment and licensed vehicles & apparatus. Overall, the majority of assets are still in Good to Very Good condition.
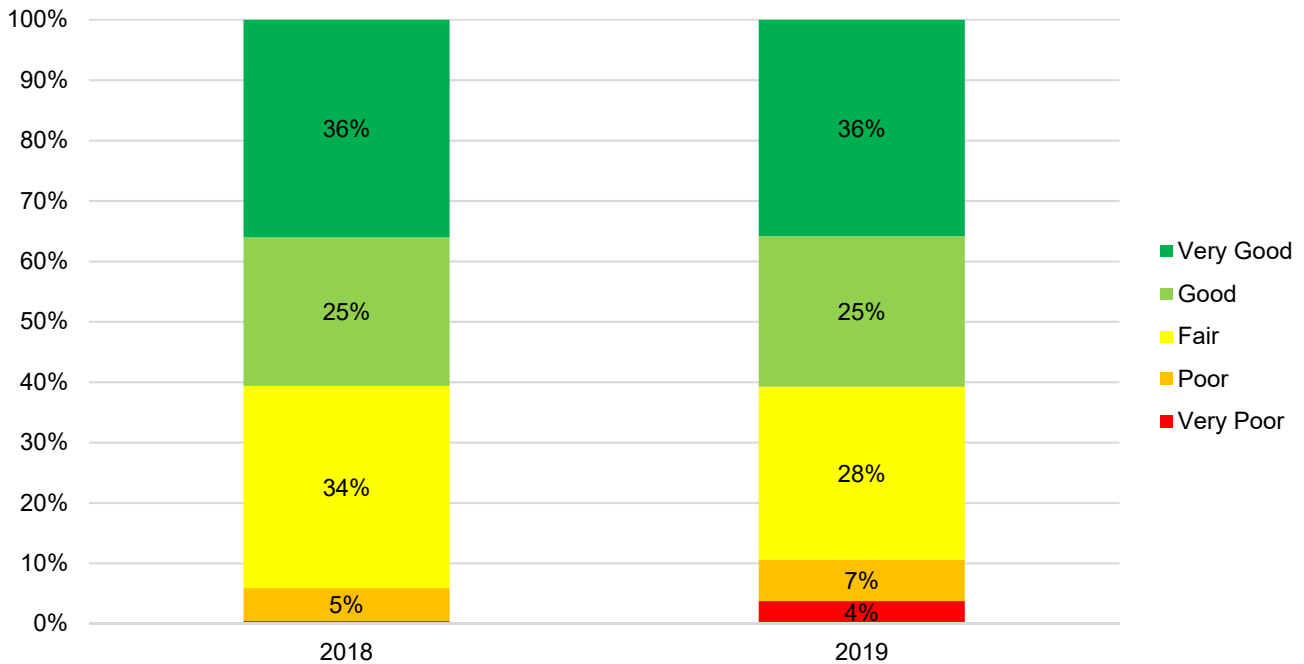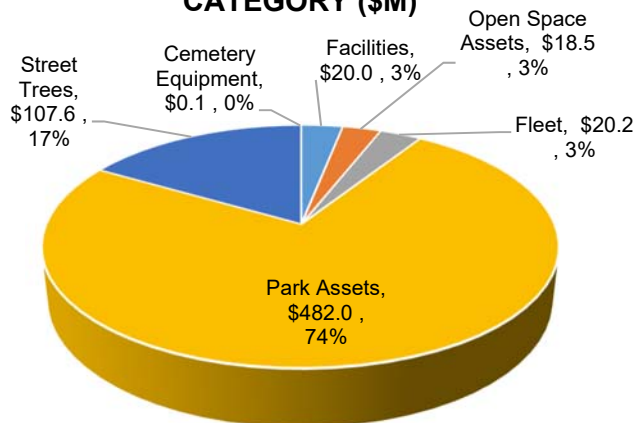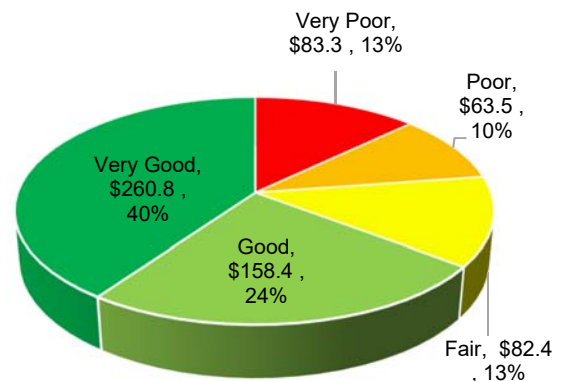
Parks

Total Asset Replacement Value:	$648.3 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining – As assets age they may require attention in the future
Asset Management Policy:	Provide safe, clean parks and open space systems through proactive property management in a cost effective way
Assets Included in this Category:	Facilities, Open Space Assets, Fleet, Park Assets, Street Trees, Cemetery Equipment, Software
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the Parks infrastructure is $648.3 million, of which, 74% of the total value is related to the Parks assets. About 65% of the Parks infrastructure is considered to be in Good to Very Good condition, with the remaining assets close to, or past, the end of their service life. As the Parks infrastructure is overall in Good condition, the infrastructure is meeting current needs. However, these assets may require attention as they age over time.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Street Trees, $107.6 , 17%
Cemetery Equipment, $0.1 , 0%
Facilities, $20.0 , 3%
Open Space Assets, $18.5 , 3%
Fleet, $20.2 , 3%
Park Assets, $482.0 , 74%

PARK ASSET CONDITION ($M)

Very Poor, $83.3 , 13%
Poor, $63.5 , 10%
Very Good, $260.8 , 40%
Good, $158.4 , 24%
Fair, $82.4 , 13%

Data Source: Departmental Inventories, GIS database, City of Brampton 2019 Development Charges Background Study, City contracts (cost model), Draft Facilities Departmental Service Area Asset Management Plan (facilities), Assetworks M5 Fleet Management Solution (fleet and equipment)
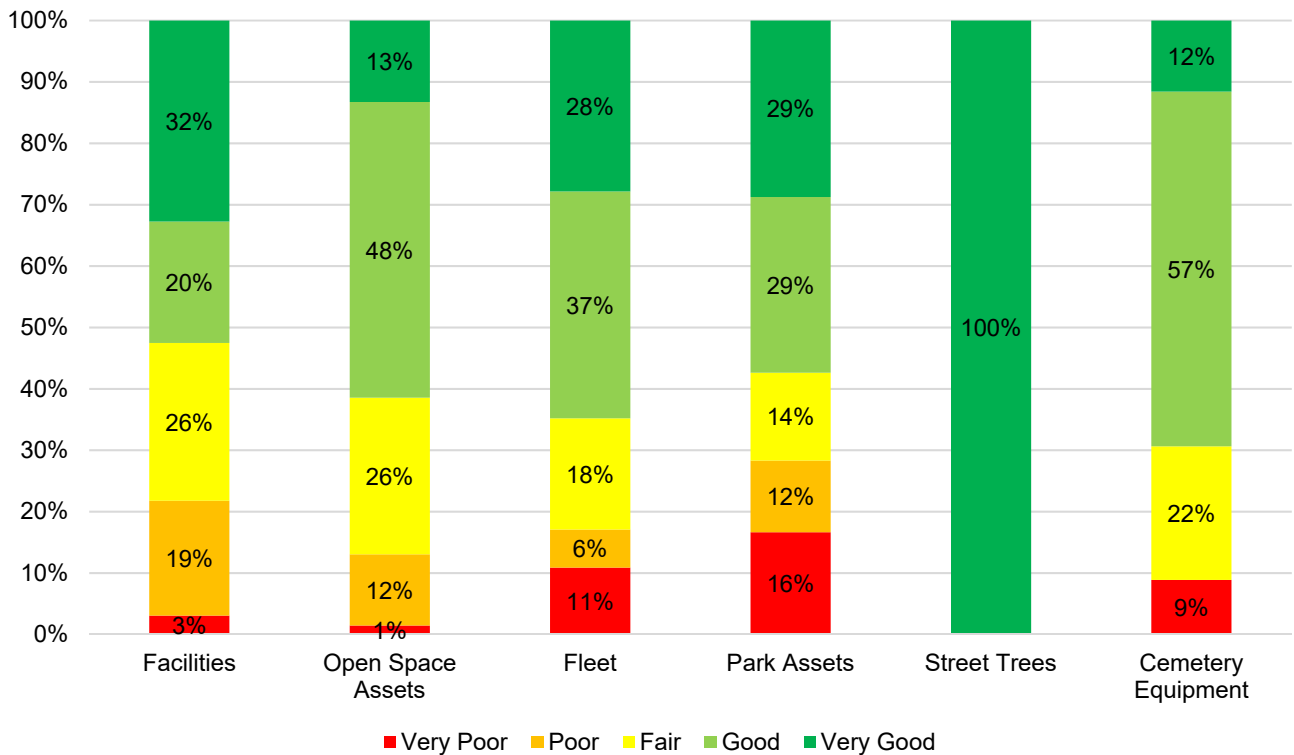
Parks

GOOD

Major Types of Services within Parks

The figure below illustrates the condition of the six sub-component assets of Parks services. Facilities, Open Space Assets, Fleet, Park Assets, and Cemetery Equipment are generally in Good to Very Good condition. Lastly, all street trees are assumed to be in Very Good condition. Please note that although fleet assets have over 10% of assets in very poor condition, these assets are replaced frequently and will likely be addressed in the short-term. For Park assets, most of 16% of assets in Very Poor condition are associated with sports fields as well as neighbourhood, city and community parks. It should be noted that condition of these assets was evaluated based on the remaining engineered useful life and is not necessarily always reflective of comprehensive asset condition.

Chart: Condition of Parks sub-component assets

Condition	Facilities	Open Space Assets	Fleet	Park Assets	Street Trees	Cemetery Equipment
Very Good	32%	13%	28%	29%	100%	12%
Good	20%	48%	37%	29%		57%
Fair	26%	26%	18%	14%		22%
Poor	19%	12%	6%	12%		9%
Very Poor	3%	1%	11%	16%		

Legend: ■ Very Poor ■ Poor ■ Fair ■ Good ■ Very Good

Parks

GOOD

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)

The table below depicts the difference between the 2018 and 2019 SOLI replacement value analysis. The total value of Parks has increased by 42% from approximately $457.7 million in 2018 to $648.3 million in 2019. This increase can be attributed to the addition of street trees and fleet assets to the 2019 SOLI Report as well as increased and more detailed valuations for sports facilities, playgrounds and other park assets.

	Parks: 2018 vs. 2019 SOLI Inventory Comparison				
	Asset	**2018 SOLI**		**2019 SOLI**	
	Open Space Assets				
	Walkways to the Park	Not Identified Separately	Not Identified Separately	6,176	Metres
	Parking Lots	Not Identified Separately	Not Identified Separately	299	Each
	Park Assets				
	Parkland (Neighbourhood, City & Community, Natural Heritage)	2,570	Hectares	2,300	Hectares
	Playgrounds	310	Each	326	Each
Parks	Shade Structures	366	Each	246	Each
	Splash Pads & Outdoor Pools	Not Identified Separately	Not Identified Separately	14	Each
	Fitness Equipment	Not Identified Separately	Not Identified Separately	33	Each
	Skate Parks	Not Identified Separately	Not Identified Separately	10	Each
	Sports Facilities	Not Identified Separately	Not Identified Separately	226	Each
	Pathways	Not Identified Separately	Not Identified Separately	279,239	Metres
	Fleet	Not Included	Not Included	597	Each
	Street Trees	Not Included	Not Included	215,118	Each
	Cemetery Equipment	25	Each	76	Each
	Facilities	26	Each	29	Each
	Software	Not Included	Not Included	2	Each

	Parks: 2018 vs. 2019 SOLI Replacement Value Comparison				
	Asset	**2018 SOLI**	**2019 SOLI**	**Difference**	
	Open Space Assets				
	Walkways to the Park	$ -	$ 1,717,184	$ 1,717,184	N/A
	Parking Lots	$ -	$ 16,819,998	$ 16,819,998	N/A
	Park Assets				
	Parkland (Neighbourhood, City & Community, Natural Heritage)	$ 325,518,202	$ 210,812,720	$ (114,705,481)	-35%
	Playgrounds	$ 49,697,669	$ 79,950,000	$ 30,252,331	61%
	Shade Structures	$ -	$ 27,565,000	$ 27,565,000	N/A
	Splash Pads & Outdoor Pools	$ -	$ 6,600,000	$ 6,600,000	N/A
Parks	Fitness Equipment	$ -	$ 900,000	$ 900,000	N/A
	Skate Parks	$ -	$ 4,300,000	$ 4,300,000	N/A
	Sports Facilities	$ 57,003,700	$ 108,040,000	$ 51,036,300	90%
	Pathways	$ -	$ 43,820,782	$ 43,820,782	N/A
	Fleet	$ -	$ 20,176,199	$ 20,176,199	N/A
	Street Trees	$ -	$ 107,559,000	$ 107,559,000	N/A
	Cemetery Equipment	$ 177,441	$ 70,644	$ (106,798)	-60%
	Facilities	$ 25,332,692	$ 19,997,000	$ (5,335,692)	-21%
	Software	$ -	$ -	$ -	N/A
	Total	**$ 457,729,704**	**$ 648,328,526**	**$ 190,598,822**	**42%**

Parks

GOOD

Comparison of 2018 vs. 2019 Condition Allocations

The condition of Parks assets has adjusted from 2018 to 2019 despite the proportion of assets in Very Good condition remaining relatively unchanged which includes the addition of $107.6 million in street trees all in Very Good condition. As a result, a greater share of other assets (non-tree related) has shifted towards Fair to Very Poor condition in 2019 from 2018. This shift is attributed to the more granular age and condition information for the individual asset classes achieved in 2019 and more reflective of actual asset conditions.

Condition	2018	2019
Very Good	40%	40%
Good	26%	24%
Fair	10%	13%
Poor	16%	10%
Very Poor	8%	13%
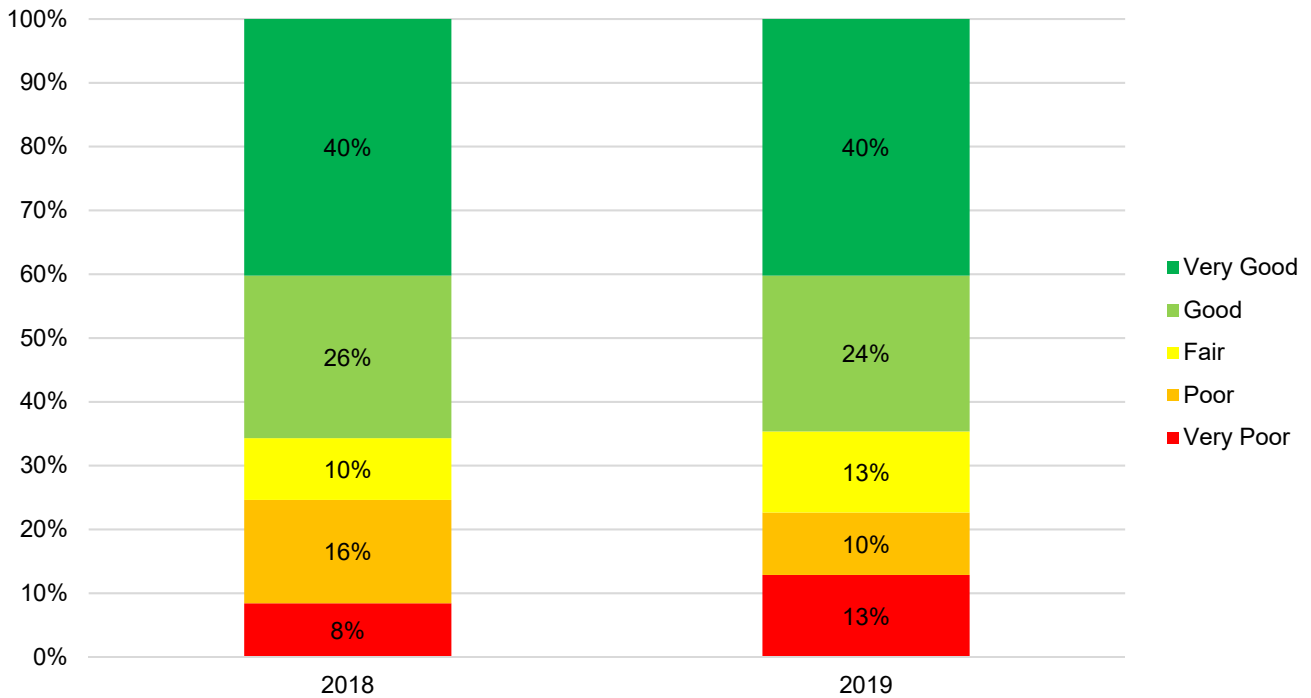
Recreation

>>>> *GOOD*

Total Asset Replacement Value:	$547.6 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining – As assets age they may require attention in the future
Asset Management Policy:	Provide safe recreation areas to enable residents to have a healthy and active social life
Assets Included in this Category:	Facilities, Equipment, Fleet, Software
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's Recreation infrastructure is $547.6 million, of which, 95% of the total value is related to the City's Recreation facilities. About 66% of the City's recreational assets are considered to be in Good to Very Good condition, with the remaining assets mostly in Fair condition, however, about 12% of assets remain in Poor and Very Poor condition. As the City's Recreation assets are overall in Good condition, these assets are meeting current needs, however, may require attention as they age over time.
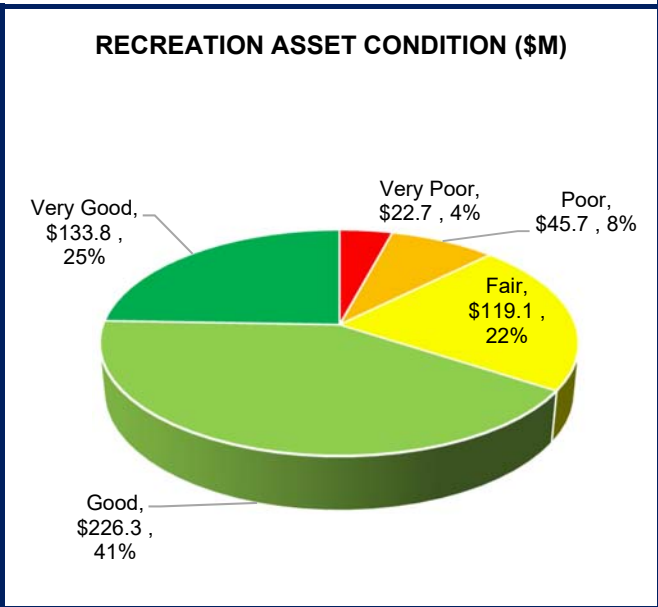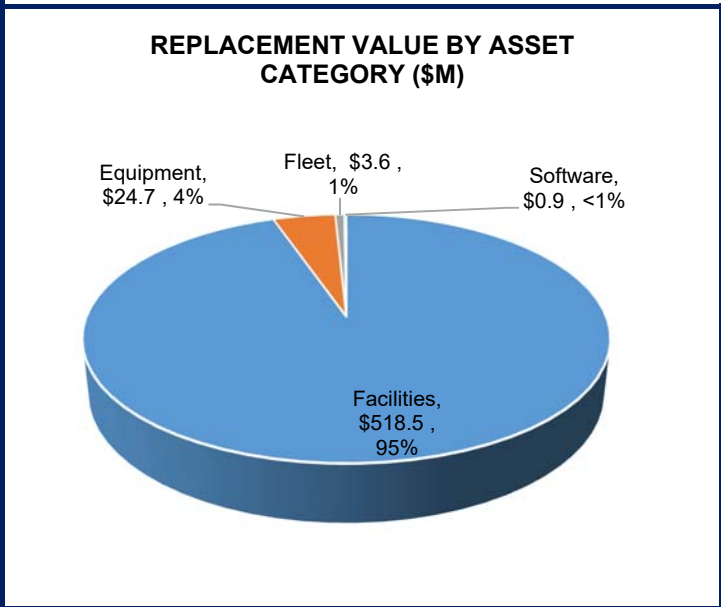
REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Equipment, $24.7 , 4%
Fleet, $3.6 , 1%
Software, $0.9 , <1%
Facilities, $518.5 , 95%

RECREATION ASSET CONDITION ($M)

Very Good, $133.8 , 25%
Very Poor, $22.7 , 4%
Poor, $45.7 , 8%
Fair, $119.1 , 22%
Good, $226.3 , 41%

Data Source: Departmental Inventories, Draft Facilities Departmental Service Area Asset Management Plan, City of Brampton 2019 Development Charge Background Study (facilities)
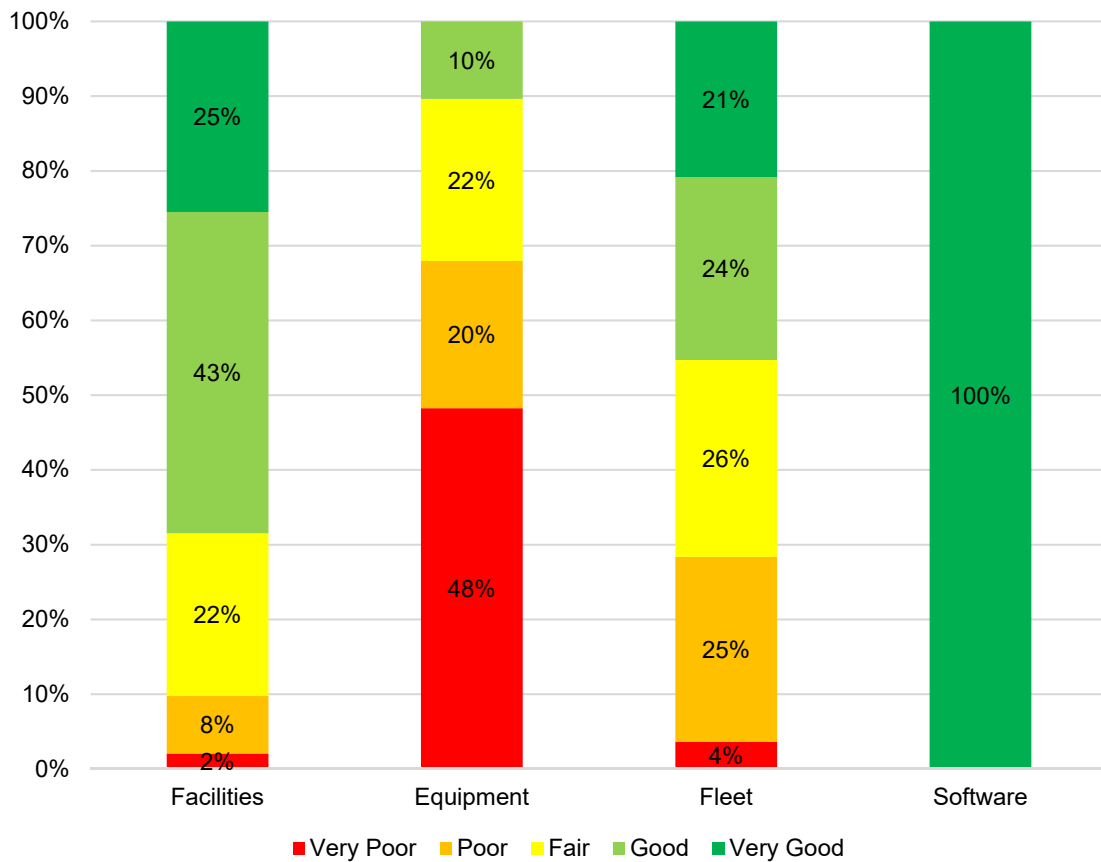
Recreation

GOOD

Major Types of Services within Recreation

The figure below illustrates the condition of the four sub-component assets of Recreation services. Recreation facility assets are generally in Good to Very Good condition while Recreation equipment and fleet assets have a considerable share of assets in Poor to Very Poor condition, these assets may require attention as they continue to age over time. Lastly, all software is considered to be in Very Good condition. The Equipment inventory used in this report is based on the best available information at the time of writing, however, this data set is outdated and is currently being reviewed. It is anticipated that the new dataset be incorporated into future iterations of this report.

Recreation

GOOD

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)

The table below depicts the difference between the replacement values for Recreation Services outlined in the 2018 SOLI report relative to 2019. Overall, the total value of Recreation assets has increased by 3% from approximately $531.6 million in 2018 to $547.6 million in 2019. This increase can be attributed to the updated facility values obtained from the 2019 Suncorp Valuations report prepared for the City's 2019 Development Charges Background Study process.

Recreation: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	**2018 SOLI**		**2019 SOLI**	
Recreation	Facilities	58*	Each	61	Each
	Equipment	2,693	Each	2,693	Each
	Fleet	Not Included	Not Included	120	Each
	Software	Not Included	Not Included	2	Each

Recreation: 2018 vs. 2019 SOLI Replacement Value Comparison					
	Asset	**2018 SOLI**	**2019 SOLI**	**Difference**	
Recreation	Facilities	$ 506,926,572	$ 518,487,566	$ 11,560,995	2%
	Equipment	$ 24,675,712	$ 24,685,203	$ 9,491	0%
	Fleet	$ -	$ 3,559,934	$ 3,559,934	N/A
	Software	$ -	$ 861,900	$ 861,900	N/A
	Total	**$ 531,602,283**	**$ 547,594,603**	**$ 15,992,320**	**3%**

Note*: The number of facilities reported in the 2018 SOLI Report as 62 were misrepresented, with the actual number being 58.

Comparison of 2018 vs. 2019 Condition Allocations

The overall condition between 2018 and 2019 have remained relatively unchanged for Recreation. The addition of fleet and software generally did not shift the overall condition as they represent such a small fraction of the total.
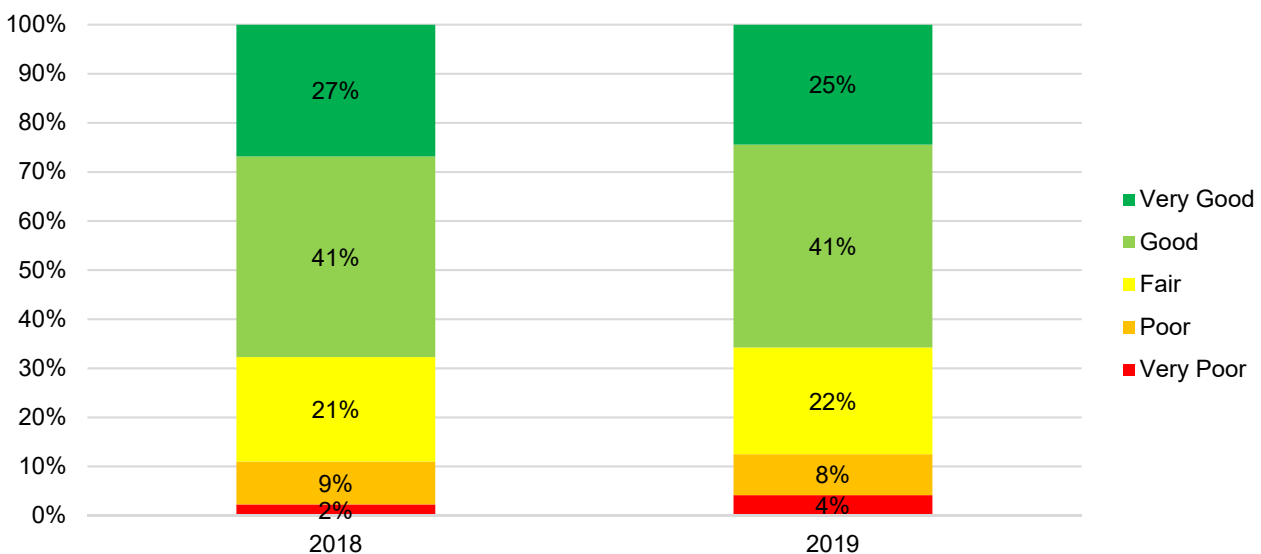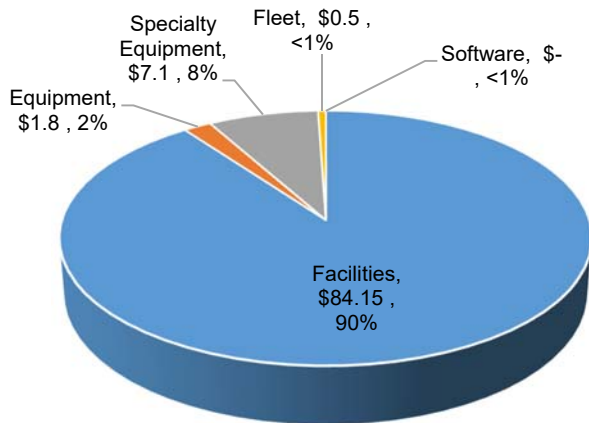
Cultural Services
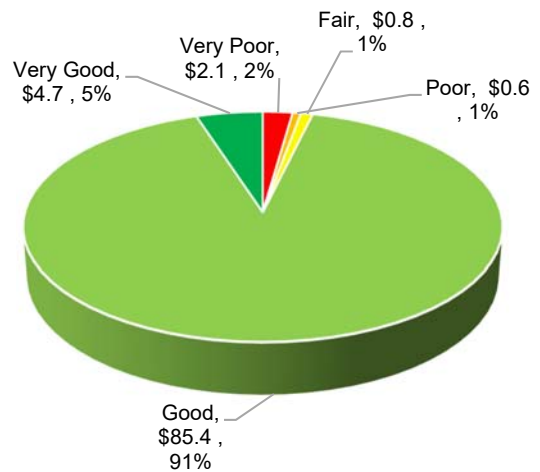
>>>>> *GOOD*

Total Asset Replacement Value:	$93.6 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining - As assets age they may require attention in the future
Asset Management Policy:	To provide adequately maintained, innovative and safe facilities.
Assets Included in this Category:	Facilities, Equipment, Specialty Equipment, Fleet, Software
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's Cultural Services infrastructure is $93.6 million, of which, 90% of the total value is related to the City's cultural facilities. About 96% of the City's culture 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. As the City's cultural assets are overall in Good condition, these assets are meeting current needs.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

- Specialty Equipment, $7.1, 8%
- Fleet, $0.5, <1%
- Software, $-, <1%
- Equipment, $1.8, 2%
- Facilities, $84.15, 90%

CULTURAL SERVICES ASSET CONDITION ($M)

- Very Poor, $2.1, 2%
- Fair, $0.8, 1%
- Very Good, $4.7, 5%
- Poor, $0.6, 1%
- Good, $85.4, 91%

Data Source: Departmental Inventories and Draft Facilities Departmental Service Area Asset Management Plan, 2018 Suncorp Property Appraisal Report

BRAMPTON

Cultural Services

GOOD

Major Types of Services within Cultural Services

The figure below illustrates the condition of the four sub-component assets of Cultural Services. Facilities, Outdoor Equipment and Fleet all tend to be in Good to Very Good condition. The majority of Specialty Equipment is considered to be in Good to Very Good condition, however, nearly 35% of Specialty Equipment is considered to be in Poor to Very Poor condition. The conditions below are largely age-based.

Legend: Very Poor, Poor, Fair, Good, Very Good
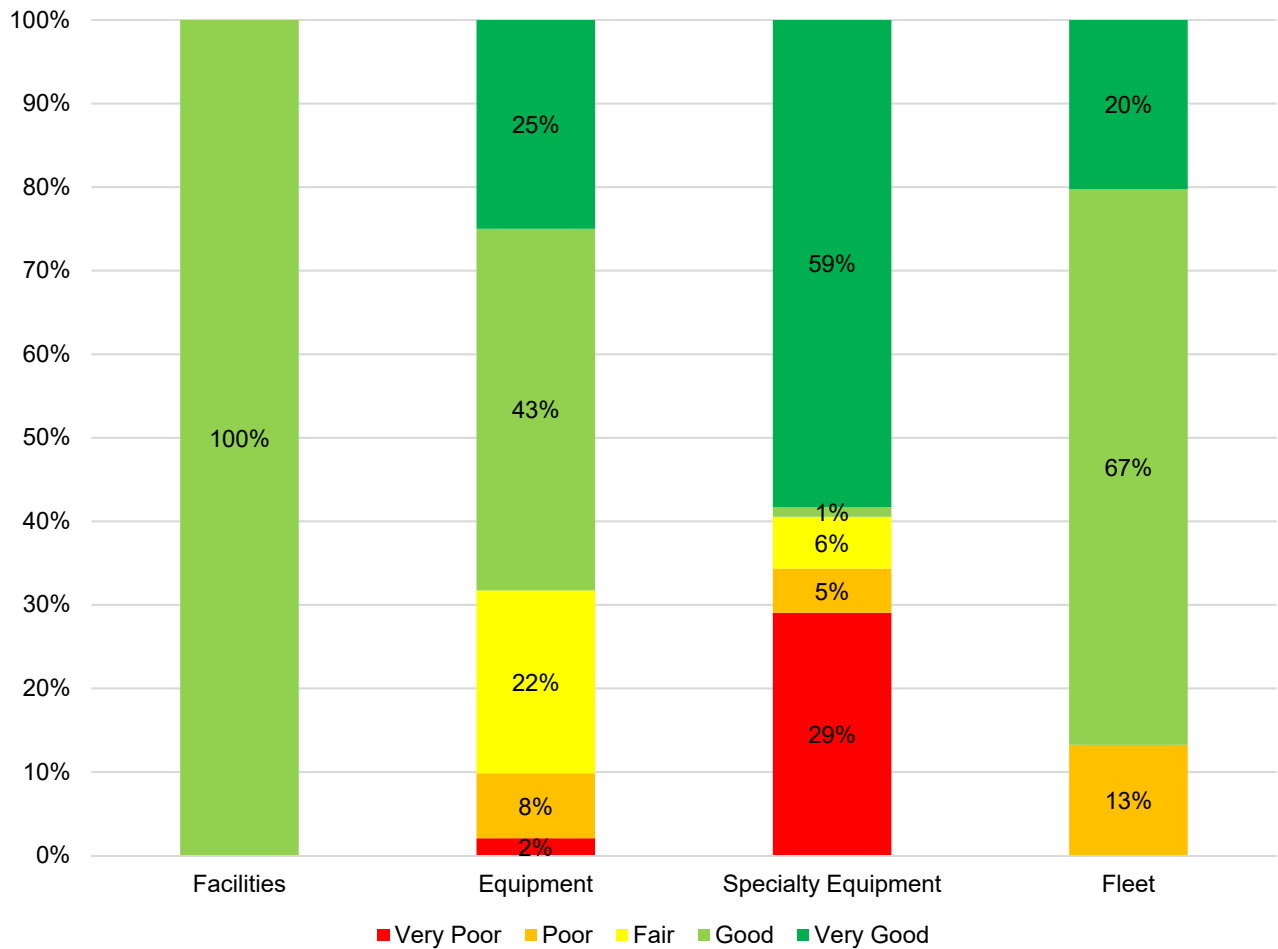
Cultural Services

GOOD

Comparison of 2018 vs. 2019 Inventory Replacement Value (All Costs in $2019)

The table below depicts the difference between the 2018 and 2019 SOLI replacement value for cultural services. The total value of Cultural Services has increased by 24% from approximately $75.7 million in 2018 to $93.6 million in 2019. This increase can be attributed to the following factors: the inclusion of service area specific fleet assets, the addition of specialty equipment as well as updated facility values based on Suncorp's 2018 Valuation Report.

Cultural Services: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	2018 SOLI		2019 SOLI	
Cultural Services	Facilities	2	Each	1	Each
	Equipment	Pooled	N/A	Pooled	N/A
	Specialty Equipment	Not Included	Not Included	Pooled	N/A
	Fleet	Not Included	Not Included	8	Each
	Software	Not Included	Not Included	1	Each

Cultural Services: 2018 vs. 2019 SOLI Replacement Value Comparison					
	Asset	2018 SOLI	2019 SOLI	Difference	
Cultural Services	Facilities	$ 73,935,423	$ 84,147,738	$ 10,212,315	14%
	Outdoor Equipment	$ 1,810,500	$ 1,810,500	$ -	0%
	Specialty Equipment	$ -	$ 7,149,691	$ 7,149,691	N/A
	Fleet	$ -	$ 512,179	$ 512,179	N/A
	Software	$ -	$ -	$ -	N/A
	Total	**$ 75,745,923**	**$ 93,620,108**	**$ 17,874,185**	**24%**

Comparison of 2018 vs. 2019 Condition Allocations

The majority of the assets for Cultural Services in both 2018 and 2019 are in Good to Very Good condition. Between 2018 and 2019, there has been a shift of assets out of Very Good and Fair condition towards Good. This shift is attributed to assessing Cultural facility separately from overall recreation facilities and inclusion of the Specialty equipment inventory in 2019.
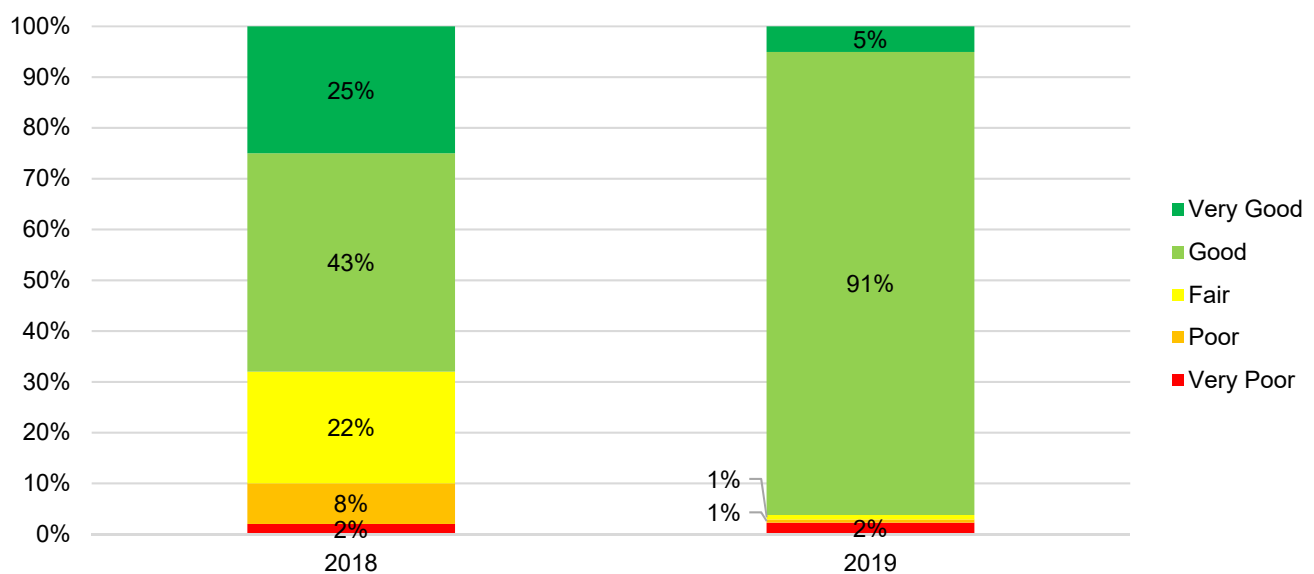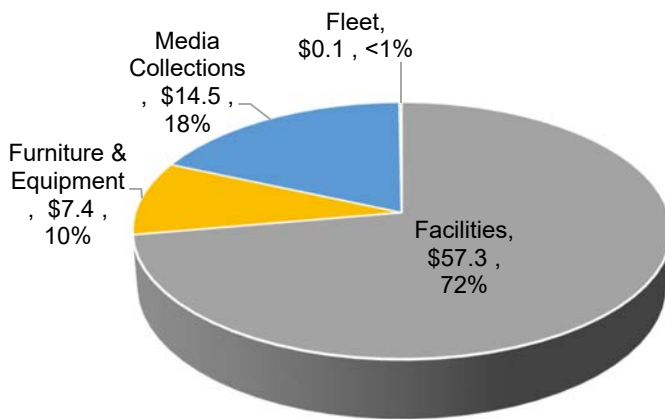
Library

GOOD

Total Asset Replacement Value:	$79.4 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining – As assets age they may require attention in the future
Asset Management Policy:	Brampton library services assets ensuring the efficient and effective operation of the Library system.
Assets Included in this Category:	Facilities, Furniture & Equipment, Media Collections, Fleet
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the Library assets is $79.4 million. The asset replacement values were derived from the City of Brampton 2019 Development Charges Background Study and the City's PSAB database. Of the $79.4 million replacement value, about 72%, or $57.3 Million, is attributed to Library facilities. Furthermore, about 18%, or $14.5 million is attributed to media collections while the remaining $7.6 million is attributed to furniture and equipment ($7.4 million) and fleet ($0.1 million).

About 67% of the Library assets are in Good to Very Good condition, however, nearly 20% of the assets are in Poor to Very Poor condition. The City's library assets are in an overall Good condition, but several assets are aging and require attention.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Media Collections, $14.5, 18%
Fleet, $0.1, <1%
Furniture & Equipment, $7.4, 10%
Facilities, $57.3, 72%

LIBRARY ASSET CONDITION ($M)
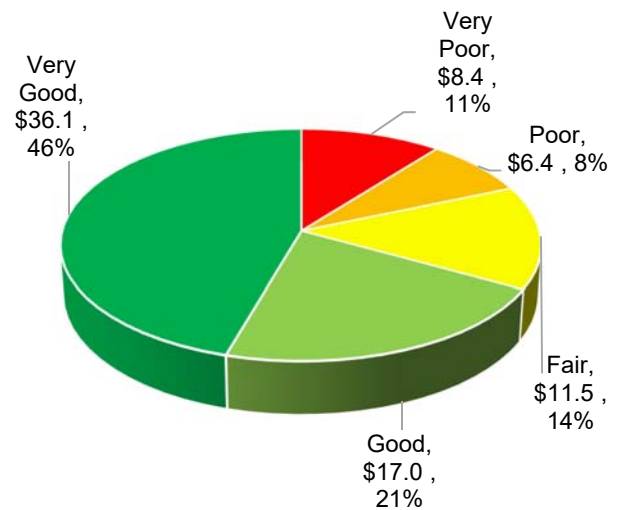
Very Good, $36.1, 46%
Very Poor, $8.4, 11%
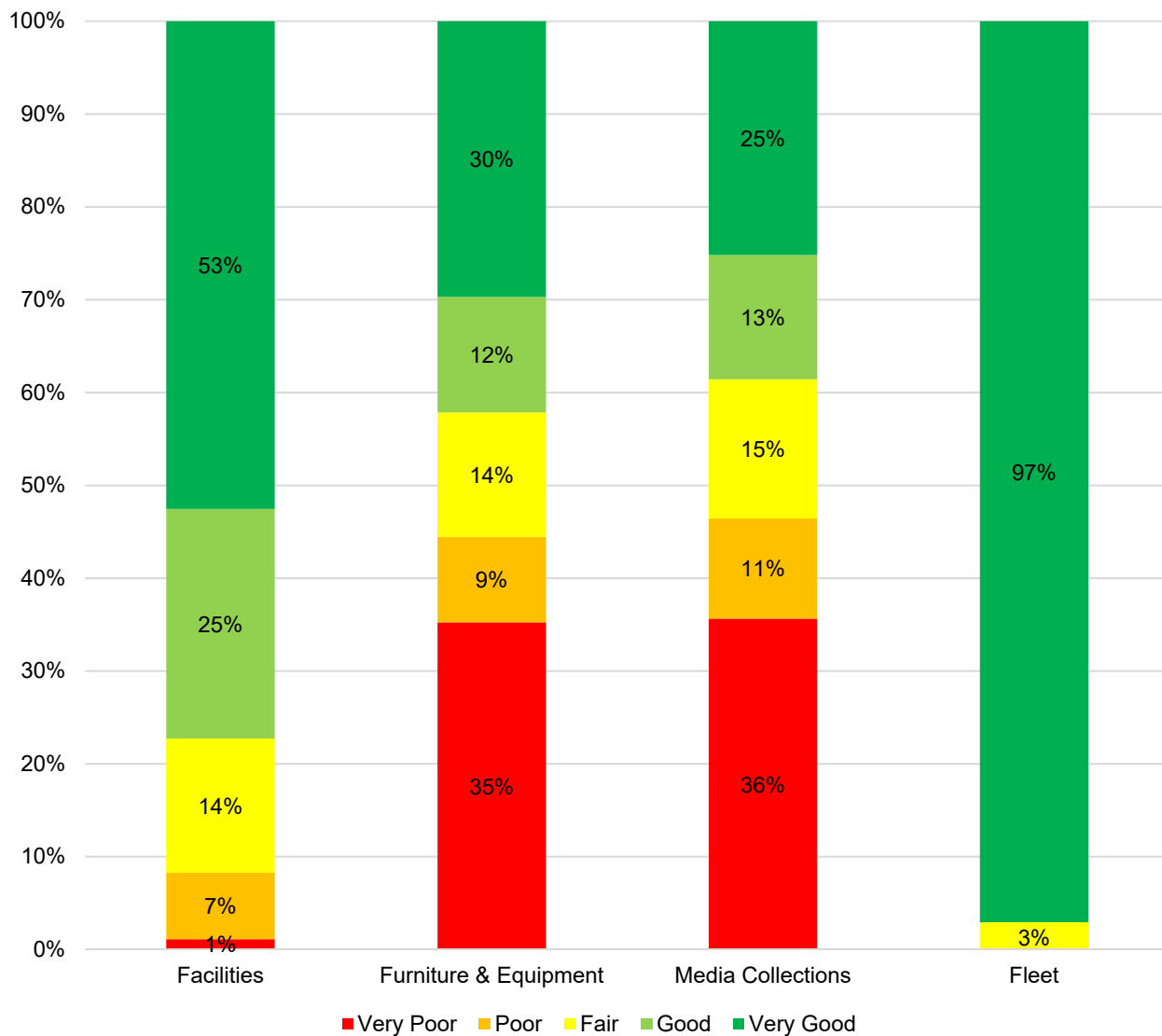Poor, $6.4, 8%
Fair, $11.5, 14%
Good, $17.0, 21%

Data Source: Draft Facilities Departmental Service Area Asset Management Plan and PSAB data, City of Brampton 2019 Development Charges Background Study (facilities)

Library ▶▶▶ *GOOD*

Major Types of Assets within Brampton Library

The figure below illustrates the condition of the various Library service assets by key sub-component areas. Facility assets are generally in Good to Very Good condition while Furniture and Equipment as well as Media Collections have a significant component of assets in Poor or Very Poor condition. Lastly, the majority of the Fleet assets are in Good to Very Good condition.

	Very Poor	Poor	Fair	Good	Very Good
Facilities	1%	7%	14%	25%	53%
Furniture & Equipment	35%	9%	14%	12%	30%
Media Collections	36%	11%	15%	13%	25%
Fleet			3%		97%

Library

GOOD

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)

The table below illustrates the difference between the 2018 and 2019 SOLI replacement value for Library services. The total value of Library services has increased by 4% from approximately $76.4 million in 2018 to $79.4 million in 2019. This increase can be largely attributed to the updated facility values from the 2019 Suncorp Valuation report prepared for the City's 2019 Development Charges Background Study process.

Library: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	2018 SOLI		2019 SOLI	
Library	Facilities*	4*	Each	4	Each
	Furniture & Equipment	5,453	Each	6,703	Each
	Media Collections	Pooled	N/A	Pooled	N/A
	Fleet	Not Included	Not Included	4	Each

Library: 2018 vs. 2019 SOLI Replacement Value Comparison					
	Asset	2018 SOLI	2019 SOLI	Difference	
Library	Facilities*	$ 52,964,724	$ 57,335,000	$ 4,370,276	8%
	Furniture & Equipment	$ 7,900,242	$ 7,431,206	$ (469,036)	-6%
	Media Collections	$ 15,549,853	$ 14,465,332	$ (1,084,520)	-7%
	Fleet	$ -	$ 130,473	$ 130,473	N/A
	Total	**$ 76,414,819**	**$ 79,362,012**	**$ 2,947,193**	**4%**

Note*: The 2018 SOLI Report for Library facilities was misrepresented and has been adjusted to the correct figure of $53.0 million above.

Comparison of 2018 vs. 2019 Condition Allocations

Overall, the condition of library assets has improved since 2018 as an increase share of assets are considered to be in Good to Very Good condition since 2018. This in turn results in reduction in the number of assets in Poor to Very Poor condition. This shift can be attributed to the addition of fleet that is mostly in Good to Very Good condition as well as improved conditions for furniture & equipment and media collections assets.
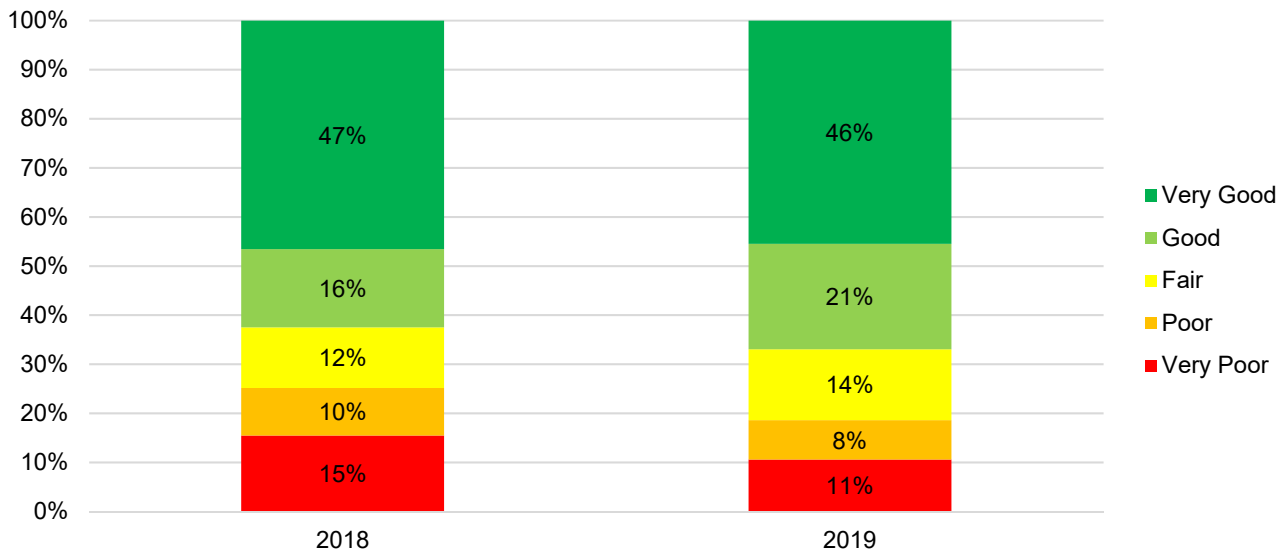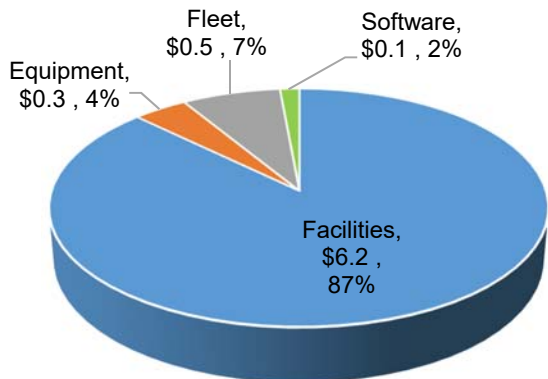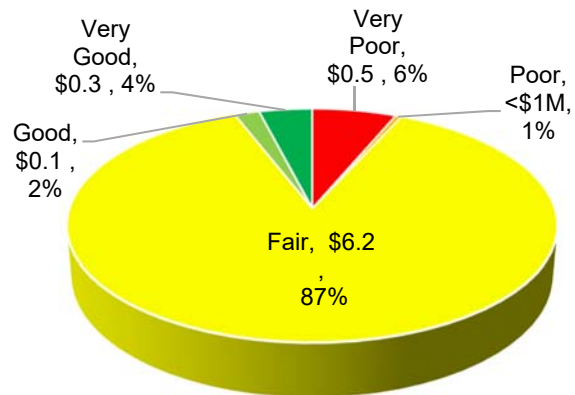
Animals Services

Total Asset Replacement Value:	$7.1 Million
Current Condition:	Fair
Future Condition Trend (next 10 years):	Declining – As assets age they may require attention in the future
Asset Management Policy:	To manage animal service assets by helping pet owners care responsibly for their domestic pets.
Assets Included in this Category:	Facilities, Equipment, Fleet, Software
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's animal service assets is $7.1 million. Of this, the City's Animal Service facility represents the largest component at 87%, or $6.2 million, of the total. Overall, the Animal Service assets are in Fair condition with about 6% of the total asset base rated in Very Poor condition. The very poor condition assets can largely be attributed to fleet.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)

Fleet, $0.5 , 7%
Software, $0.1 , 2%
Equipment, $0.3 , 4%
Facilities, $6.2 , 87%

ANIMAL SERVICES ASSET CONDITION ($M)

Very Good, $0.3 , 4%
Very Poor, $0.5 , 6%
Poor, <$1M, 1%
Good, $0.1 , 2%
Fair, $6.2 , 87%

**Data Source: Departmental Inventory, PSAB data, M5 Database (Fleet), Guelph Humane Society Benchmarking (Animal Shelter).**

Animals Services

>>>>> FAIR

Major Types of Assets within Animal Services

The figure below illustrates the condition of the various animal service assets by key sub-component areas. The Animal Service software, furniture and equipment assets are in Good to Very Good condition. The facility is in overall Fair condition, while most of the fleet are in Poor and Very Poor condition.
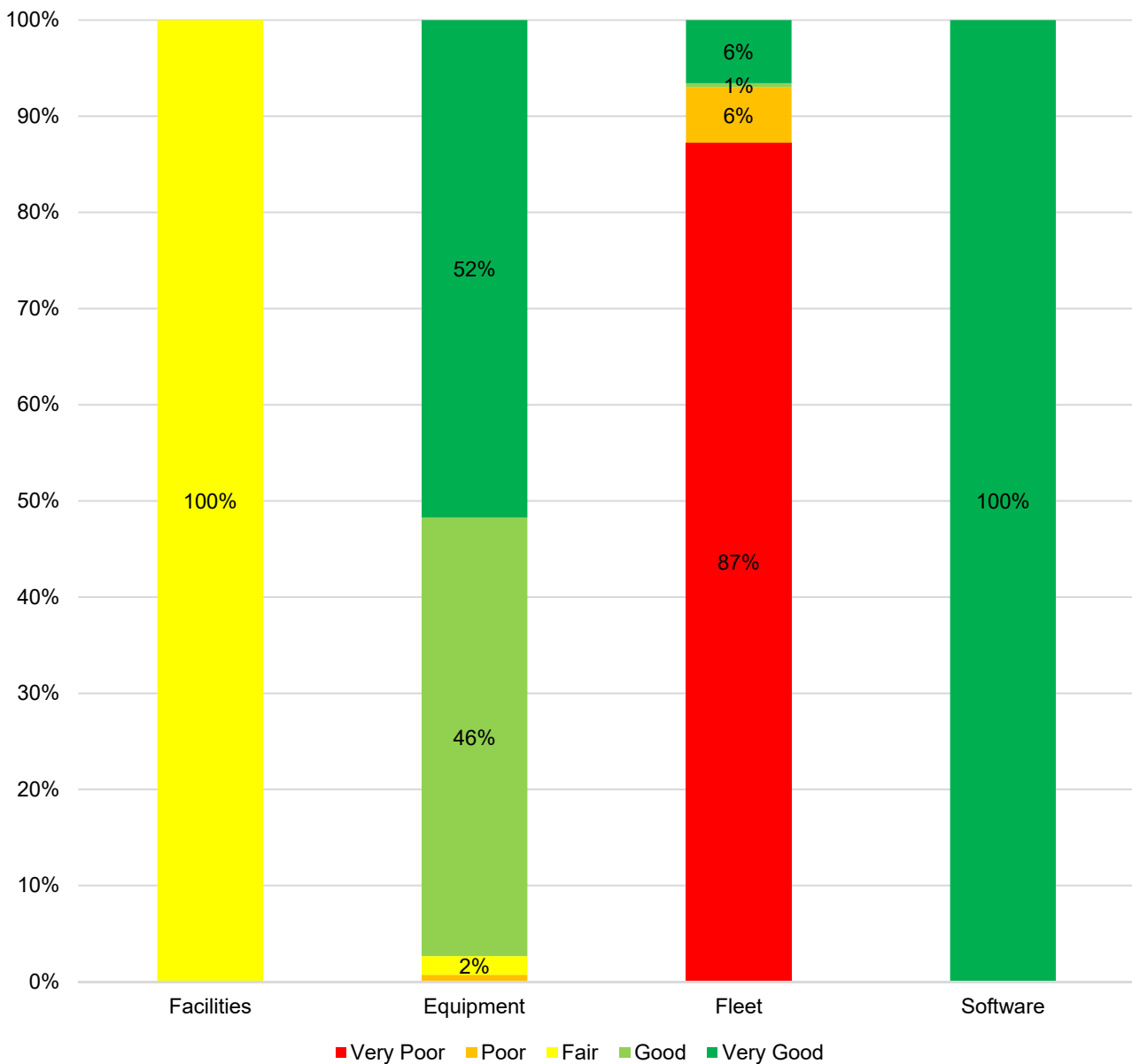
Animals Services

FAIR

Comparison of 2018 vs. 2019 Inventory and Replacement Value (All Costs in $2019)

The table below depicts the difference between the 2018 and 2019 SOLI replacement values. The total value of Animal Services has increased by 23%, from approximately $5.8 million in 2018 to $7.1 million in 2019. This increase can be attributed to the updated facility value relative to similar buildings recently constructed in other jurisdictions as well as the addition of Software to the 2019 SOLI Report. Please note that fleet assets were included in the 2018 SOLI but incorporated into the equipment sub-category – fleet has been redistributed into a standalone sub-category in this 2019 report.

Animal Services: 2018 vs. 2019 SOLI Inventory Comparison					
	Asset	**2018 SOLI**		**2019 SOLI**	
Animal Services	Facilities	1	Each	1	Each
	Equipment	Pooled	N/A	153	Each
	Fleet	Not Included	Not Included	11	Each
	Software	Not Included	Not Included	1	Each

Animal Services: 2018 vs. 2019 SOLI Replacement Value Comparison					
	Asset	**2018 SOLI**	**2019 SOLI**	**Difference**	
Animal Services	Facilities	$ 5,008,173	$ 6,230,900	$ 1,222,727	24%
	Equipment	$ 789,857	$ 288,624	$ (501,233)	-63%
	Fleet	$ -	$ 520,324	$ 520,324	N/A
	Software	$ -	$ 102,816	$ 102,816	N/A
	Total	$ 5,798,030	$ 7,142,664	$ 1,344,633	23%

Comparison of 2018 vs. 2019 Inventory and Replacement Value ($2019)

The condition allocations between 2018 and 2019 have remained relatively unchanged for Animal Services. That said, there has been a minor increase in the value of assets considered to be in Poor and Very Poor condition mainly due to refined fleet condition evaluation.
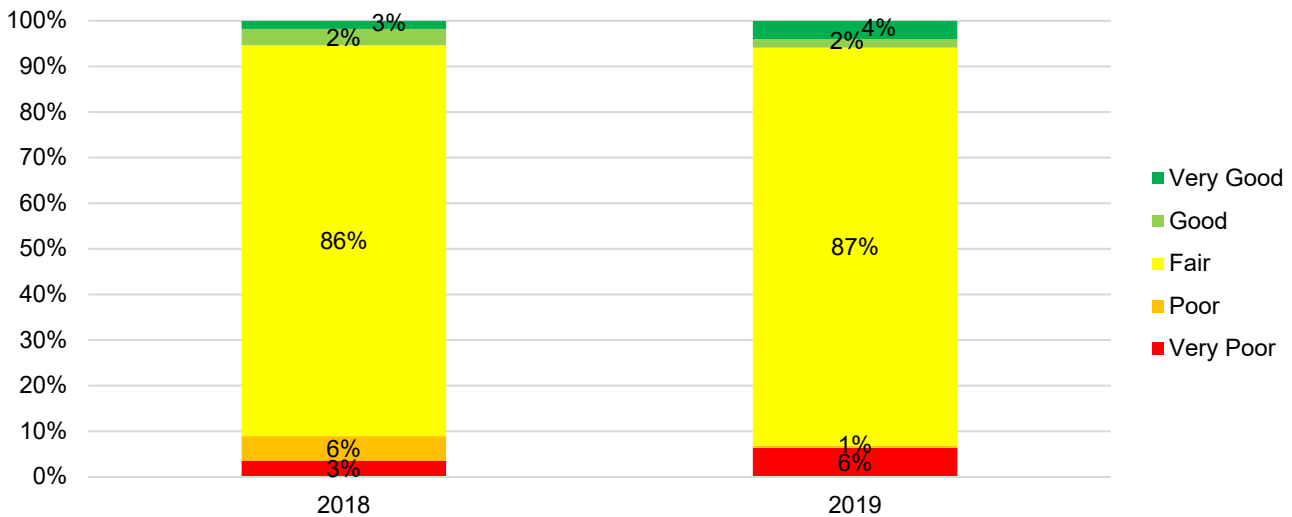
3.3.6 Asset Information Details

The City of Brampton documents infrastructure assets in multiple formats ranging from hard copy to software based systems. **Table 3.19** – Infrastructure Assets, below provides a summary of the data systems used to extract the information utilized in this SOLI Report. Overtime, the City will look to consolidate and refine the warehousing of information applicable to each service area.

Table 3.19 – Infrastructure Assets Key Data System/Sources

Service Area	Key Data Systems/Sources
Fire Services	Assetworks M5 Fleet Management Solution, Departmental Inventories, City of Brampton 2019 Development Charges Background Study (facilities)
Corporate Fleet	Assetworks M5 Fleet Management Solution
Stormwater	GIS database, Departmental Inventory for O&GS (Excel based tracking), Manufacturer pipe price lists and City contracts (cost model)
Parks	Departmental Inventories, GIS database, City of Brampton 2019 Development Charges Background Study, City contracts (cost model), Draft Facilities Departmental Service Area Asset Management Plan (facilities), Assetworks M5 Fleet Management Solution (fleet and equipment)
Recreation	Departmental Inventories, Draft Facilities Departmental Service Area Asset Management Plan, City of Brampton 2019 Development Charge Background Study (facilities)
Cultural Services	Departmental Inventories and Draft Facilities Departmental Service Area Asset Management Plan, 2018 Suncorp Property Appraisal Report
Transit	Assetworks M5 Fleet Management Solution, Brampton Transit Business Plan 2018-2022, Departmental Inventory, Draft Facilities Departmental Service Area Asset Management Plan and City of Brampton 2019 Development Charges Background Study (facilities)
Transportation	Pavement and Bridge Management System, Departmental Inventories, dTIMS (by Deighton), GIS (Geographical Information System), PSAB, Parametric Estimating Guide of MTO 2016, Departmental assumptions and estimates City of Brampton's 2019 Development Charges Background Study (facilities)
Corporate IT	Departmental Inventory and Heat Software
Corporate Facilities	Draft Facilities Departmental Service Area Asset Management Plan, City of Brampton 2019 Development Charges Background Study, 2018 Suncorp Property Appraisal Report
Library	Draft Facilities Departmental Service Area Asset Management Plan and PSAB data, City of Brampton 2019 Development Charges Background Study (facilities)
Animal Services	Departmental Inventory, PSAB data, M5 Database (Fleet), Draft Facilities Departmental Service Area Asset Management Plan, and benchmarking against similar buildings recently constructed (Guelph Humane Society).

In general, the City's Corporate Information Technology service area is responsible for the maintenance and security of the major systems.
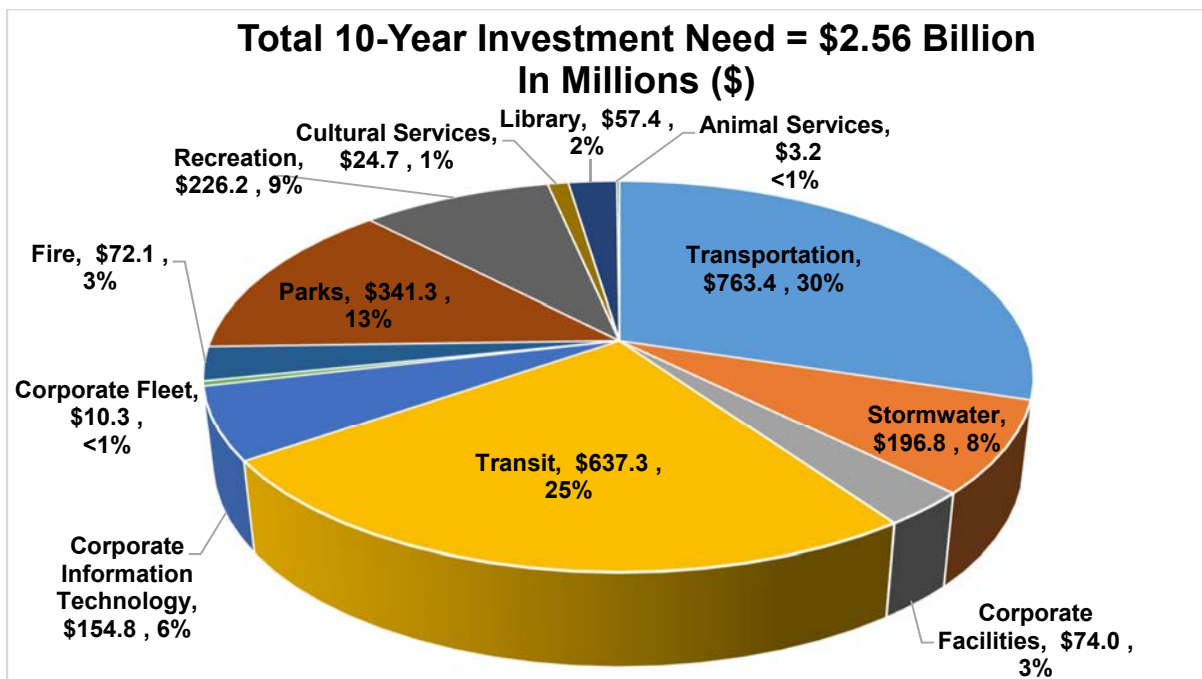
3.4 Infrastructure Deficit

This section describes the City's infrastructure funding gap. The funding gap results from a comparison of forecasted funding levels over the coming decade against calculated capital expenditure needs for asset replacement.

Over the next decade, the analysis indicates a spending need of about $2.56 billion. Figure 3.4 below summarizes the cumulative 10-year investments needs across the service areas, however, a more detailed overview of the investment needs, by service area, can be found in Appendix A. A few notes:

- Transportation services represents the most significant share of the total 10-year needs accounting for 30%, or $763.4 million, of the total $2.56 billion need.
- Interestingly, the cumulative investment needs over the 10-year period for IT services is about 67% higher than the entire replacement value of existing IT assets (valued at $92.6 million as identified in Figure 3.2) as IT infrastructure is replaced more frequently with higher turnover rates than other assets with a longer useful life. As a result, Corporate IT represents about 6% of the total $2.56 billion 10-year investment needs required for all service categories while only representing 1.5% of the total $6.3 billion city-wide asset valuation.
- A similar observation can be made with Transit, as the investment needs over the 10-year period amount to $637 million, which is second to the cumulative needs for Transportation services despite Transit having a replacement value significantly lower than transportation service assets (as identified in Figure 3.2). This is because Transit fleet is required to be replaced more frequently with higher turnover rates and requires frequent and significant mid-life refurbishments costs to ensure proper service delivery.

Figure 3.4 – Summary of 10-Year Investment Needs ($ Millions)

Total 10-Year Investment Need = $2.56 Billion In Millions ($)

- Cultural Services, $24.7, 1%
- Library, $57.4, 2%
- Animal Services, $3.2, <1%
- Recreation, $226.2, 9%
- Fire, $72.1, 3%
- Parks, $341.3, 13%
- Transportation, $763.4, 30%
- Corporate Fleet, $10.3, <1%
- Stormwater, $196.8, 8%
- Transit, $637.3, 25%
- Corporate Information Technology, $154.8, 6%
- Corporate Facilities, $74.0, 3%

The City of Brampton has identified the infrastructure gap as the difference between the investment needs of infrastructure (based on age and condition) and the forecasted capital current funding available for asset renewal. The increase in available capital funding identified in each year is largely a result of annual increase to the infrastructure levy, which is based on 2% of the tax levy. Please note this report has not made any adjustments to account for any potential funding from upper-level governments in an effort to stimulate the economy as a result of the COVID-19 Crisis. That said, any reductions to the City's capital plans has also not been incorporated as the complete effects of this pandemic is not known at the time of writing this report.

The infrastructure gap estimate is derived from 2019 and 2020 budget data and projected for the next ten years. Over the coming decade, the City of Brampton forecasts spending about $1.8 billion to address the life cycle needs of its assets. This is comprised of:

- $1.1 billion in infrastructure levy funding (derived from the dedicated 2% levy);
- $335 million in Federal Gas Tax funding;
- $44.3 million from existing reserve fund balances. This assumes only specific reserves are attributed to asset repair and replacement activities while other key City reserves such as the Legacy fund, Stabilization reserves or other obligatory reserve funds are not incorporated and used for different strategic initiatives;
- $35.0 million from the Investing in Canada Infrastructure Program (ICIP) – Transit Stream (specifically for transit asset replacement);
- $135.5 million in infrastructure levy funding (derived from the dedicated 1% Transit levy). The City recently introduced a 1% dedicated transit levy to help fund Transit capital requirements. Please note that the $135.5 million only represents the portion of the Transit levy allocated to asset replacement activities while the remaining funds generated are used to help fund new Transit infrastructure;
- $177.1 million in user fee revenues for Stormwater services. The City recently introduced a dedicated Stormwater user fee that transfers funding from property taxes to a user-fee program. Revenues derived from the user fees will be used exclusively towards Stormwater-related costs and investments that will in turn help relieve some pressure on the capital budget, and allow funds to be re-allocated towards other service areas. The Stormwater user fee revenues will cover the identified Stormwater asset needs in full over the next 10 year period; and
- Unspent funds in capital replacement work in progress accounts have not been considered.

This level of investment will result in the cumulative infrastructure gap reaching approximately $723 million by 2028, up from its current level of $337 million (Figure 3.5 – City-wide: Net Gap, below). The analysis does not consider expenditures required to address growth, service improvements, or inflation.

Figure 3.5 – City-wide: Net Infrastructure Gap (Current) in 10 years
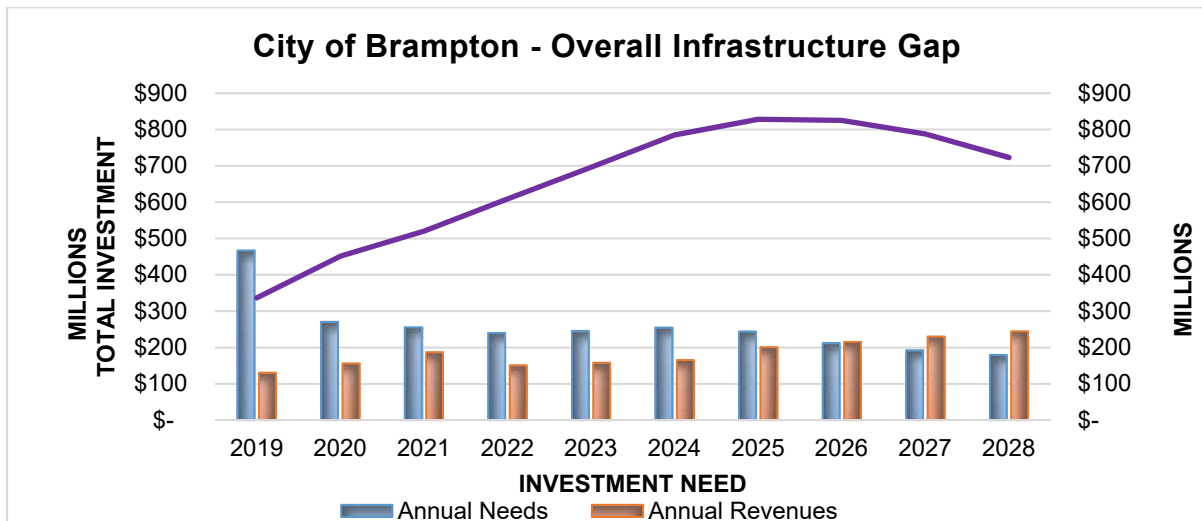
The chart above displays the following information:

- **Need**: The blue bars represent total required investment to maintain or renew existing assets, according to various asset useful life and replacement cost assumptions. The annual provisions for asset repair and replacement are calculated for each asset based on its remaining useful life and/or respective condition, and the anticipated cost of replacement in $2019. The aggregate of all individual provisions, on an asset-by-asset basis, form an annual contribution to reserves. The investment need calculation represented in the figure above accounts for the money required to repair and replace assets within the ten-year period while also saving for asset repair and replacements required beyond 2028.

- **Budget Average**: The orange bars represent the total planned and projected budget for capital asset life cycle funding, based on existing funding commitments.

- **Cumulative Gap:** The purple line represents the sum total of the differences between the total required investment and the total planned budget. The current infrastructure gap represents the deficit that would be required to address the risk represented by assets nearing the end of their estimated useful lives. The cumulative gap represents the infrastructure deficit from overdue assets in 2019 and the in-year deficit accumulated each year when asset investments do not equal the needs. Based on current funding plans, the infrastructure gap is projected to grow over the six years following 2019 before beginning to retreat once asset investments become equal to, or greater, than the identified annual needs. It should be noted that the infrastructure needs do not include allowances for growth, inflation or service improvements.

The growing infrastructure gap is mainly attributed to the insufficient investments planned for Transportation and Parks services. It is important to recognize that much of the accumulated infrastructure gap is associated with the existing backlog of "overdue" infrastructure requirements in 2019 and 2020. Near the end of the ten-year planning period (in 2026), the City's projected expenditures equal the investment needed thereby mitigating future increases

in the cumulative gap. The introduction of both the dedicated Transit levy and Stormwater management user fee program has assisted the City close the in-year funding gap earlier than initially planned, relative to preceding iterations of the SOLI Report. However, this information does reinstate the need for the City to continue the utilization of these funding programs to maintain existing service levels over the long-term.

The concern over an infrastructure gap is not so much that it exists, but how this gap changes over the long-term. In fact, maintaining a controlled "gap" is likely indicative of prudent financial management. There is no standard to evaluate what is an acceptable municipal infrastructure gap. As Brampton's existing infrastructure gap of approximately $337 million represents about 5.3% of the $6.3 billion asset base (land exclusive), the City's gap could be considered well managed.

Although the total change in replacement valuations from 2018 to 2019 increased by 5.7%, the cumulative 10-year investment needs have increased at a greater rate, by approximately 18% (or $388 million) over the forecast period of each report. Through the 2019 process, the City has addressed several data gaps and reevaluated existing data at a more detailed level; this included updating departmental inventories, refined costing analyses, and the inclusion of additional assets that were not previously captured, or conversely, removed duplicate counts and assets which are no longer in service. To further exemplify this point, the 2019 SOLI Report includes playground and sport field in-service dates, useful life data and more refined costing information, while earlier datasets had incomplete records that required a generalized approach to determining the future annual investment requirements. Therefore, the 2018 investment needs were derived from an average cost approach without reference to the in-service date of each asset while the 2019 report calculates the investment needs relative to the age of each individual asset – this approach is more consistent with the methodology applied in the other service categories where sufficient data exists. As a result of the refined methodology, the City has a more accurate representation of the replacement needs of their Parks assets. The following table illustrates the difference in the ten-year investment requirements identified in the 2018 SOLI and the 2019 SOLI Report, and sorted by the difference (in $) for each service area between the two reports.

Table 3.20 – Total 10-year Investment Needs Comparison: 2018 SOLI vs. 2019 SOLI ($2019)

Service Area	2018 SOLI Report	2019 SOLI Report	Difference ($)	Difference (%)
Parks	$139,342,065	$341,305,850	$201,963,785	145%
Transportation	$687,310,366	$763,449,350	$76,138,984	11%
Transit	$565,387,883	$637,332,033	$71,944,149	13%
Corporate IT	$97,835,106	$154,792,448	$56,957,343	58%
Stormwater	$183,277,723	$196,810,576	$13,532,854	7%
Corporate Facilities	$62,816,347	$74,017,050	$11,200,703	18%
Cultural Services	$15,994,085	$24,653,671	$8,659,586	54%
Recreation	$217,729,715	$226,170,433	$8,440,718	4%
Animal Services	$2,000,783	$3,232,402	$1,231,619	62%
Library	$56,744,851	$57,401,553	$656,702	1%
Fire	$66,675,066	$72,058,288	$5,383,222	8%
Corporate Fleet	$78,637,833	$10,302,633	$(68,335,200)	-87%
Total	**$2,173,751,822**	**$2,561,526,286**	**$387,774,465**	**18%**

Some notable changes attributing to the variances described in table 3.20 above:

- **Transportation:** The main contributing factors are the Roads and Streetlights.
  - The City's overall road network is in Good condition and has recently been re-evaluated to provide up-to-date information for the management of the road network along with condition data for the SOLI Report. Although the roads are in good condition, the road network continues to deteriorate which requires additional funding in the short-term to rehabilitate roads conditioned below the City's target standard.
  - The Streetlight information is more accurate and detailed in the 2019 SOLI; however, the investment needs are currently based on age. Many of the Streetlights are identified in Very Poor to Poor condition based on age, and the timing for investment is updated to reflect the install date. As a result of this change, an increase in the investment needs compared to the 2018 SOLI is identified. It should be noted that as the City moves toward condition based reporting for all assets, this approach will provide a more accurate representation of the investment needs required over the long-term for streetlights.
- **Parks:** The 2019 analysis now includes playgrounds and sport field in-service dates, useful data and more refined costing information, while earlier datasets had incomplete records of such, which required a generalized approach to determining the annual investment requirements. The investment needs identified in this report

provide the City with a more accurate representation of the future replacement needs of parks assets.

- **Fleet:** Although the cumulative investment needs illustrate a significant reduction from 2018 to 2019, this service area in 2019 now only represents corporate fleet and all other vehicles and equipment are allocated to their respective service areas (i.e. Recreation also includes fleet associated with Recreation services). The 2018 SOLI Report captured all fleet in this category, and therefore, the differences outlined in the table is generally related to a change in asset reporting.

- **Transit:** Through the 2019 process, the City has reassessed existing transit data at a more detailed level, which included an update to departmental inventories and refined replacement costs. In particular, updated facility valuations and enhanced shelter replacement values (to include the concrete pads) have been incorporated into the long-term funding strategy for the City.

- **Corporate Information Technology:** This increase in investment needs can largely be attributed to a more robust valuation of cable plants as well as more detailed information related to Service Brampton equipment. The replacement value for cable plants increased by $26.6 million and represents about 82% of the total change in value from 2018 to 2019.

- **Stormwater:** Since the completion of the 2018 SOLI Report, the City has finalized a Stormwater Asset Management Plan that was developed to inform the Stormwater financing study in order to introduce a dedicated user fee. There has been an overall refinement to the City's database, which has improved the data from 2018 to 2019. Overall, the increase in investment needs can largely be attributed to better cost and inventory data for the City's storm sewer systems as well as the inclusion of oil and grit separator inventories that were not previously captured.

- **Corporate Facilities:** The increase in investment needs can largely be attributed to the inclusion of new facilities that were not previously captured as well as updated facility replacement values derived from the 2019 Suncorp Valuation Report prepared for the City's 2019 Development Charges Background Study.

3.5 Summary of the 2019 State of the Local Infrastructure Report

- The total replacement value of all assets covered under this report is $6.3 billion. Of the $6.3 billion, transportation services represent the largest share at 39%, or $2.5 billion, of the total value.

- Overall, a high proportion (about 80% or $5.0 billion) of City assets are considered to be in "Good" to "Very Good" condition. Less than 10% ($466.4 million) of infrastructure is considered to be in "Poor" to "Very Poor" condition.

- The overall "Good" condition rating is representative of the City's infrastructure to be fairly young with over 50% of the assets emplaced over the last twenty years.

- Parks and Transportation assets comprise over two-thirds of all the "Very Poor" condition assets. Within transportation, this can largely be related to the City's streetlights; and

within Parks – to Outdoor Sport Facilities. It should be noted that condition of these assets is based on the remaining useful life and may not fully reflect actual asset condition.

- Asset data confidence has increased significantly since the last report with 69% of the assets reported on are based on condition. The overall Data Confidence presented in this report is assessed as "Low-Medium: Age-Condition Based". In many areas, the asset condition data needs to be improved so future investment decisions can be better informed.

- Level of investment outlined in this analysis will result in the infrastructure gap reaching approximately $723 million by 2028, up from its current level of $337 million.

- Future reports will continue to be improved upon to incorporate more comprehensive data and investment requirements.

3.6 Future Improvements

The City of Brampton has made significant progress on further refining and improving their asset management program since the completion of the Corporate AMP in 2016. Moving forward, the City's Corporate Asset Management Team aims to continue to improve upon a number of different areas, with initiatives that will improve data quality and confidence while driving corporate change:

1) **Data Confidence and Reliability:** The State of the Local Infrastructure Report and asset management financial strategy is based upon 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. The following data confidence improvement areas were identified for the four main data input categories:

   a. **Asset Conditions:** Based on a weighted replacement value average of all services and their condition assessments, approximately 69% of assets have a data confidence rating based on condition while the remaining assets use an age based approach. The City has increased the confidence in condition data by nearly 15% from the 2018 report. 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 type deterioration curves as data becomes available from Operations, work orders and other information systems. Improved condition data will provide the foundation for the City to transition to a risk based approach to asset management over the long-term.

   b. **Useful Life:** The useful life of the assets is based on benchmarking, manufacturer recommendations, 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 were 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 indexes 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;

        v. Improving methodologies for perpetual asset valuation; and

        vi. Where applicable, introducing functionality criteria in order to meet desired levels of service into the replacement valuation as opposed to the replacement of assets like-for-like.

    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.

2) **Knowledge Transfer:** Effective communication is an essential aspect of comprehensive asset management. The City implemented robust asset information processes and systems that will continue to be improved upon, however asset data maturity varies between Service Areas. It will be important that the City continue to work on improving in 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. 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) **Further Develop a Level of Service Strategy:** A key objective of Asset Management is to optimize the balance between Levels of Service (LOS), risk and cost with the aim of meeting customer service levels at the lowest lifecycle costs. This SOLI report incorporates the aforementioned concept of lowest life cycle cost for some service

areas. As asset management practices in the City mature, LOS will be defined and quantified for each service area. Accordingly, acceptable LOS will become the driver for the identification of asset needs and the basis for investment decisions for a wide spectrum of assets.

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 can continue addressing overall data gaps or be further enhanced to analyze gaps in data and collection processes specific to each service area to annually identify the progress. This may include internal staff evaluation processes, benchmarking, audit results and assessments of current and best practices. These assessments can be carried out independently of the SOLI Report or integrated within this annual report.

Corporate
Asset Management

State of Local Infrastructure
Appendix A

This Appendix provides a summary of the total required investment to maintain and renew existing assets, according to various asset useful life and replacement cost assumptions and condition evaluations over the 10-year period for each service area. The cumulative investment needs for all twelve service categories amounts to $2.6 billion and informs the calculation of the overall City of Brampton Infrastructure Gap illustrated in Figure 3.5 (in Section 3.4) of this report. The following section provides a detailed review of the investment requirements, by service area, comprising of the total $2.6 billion 10-year need identified.

Transportation Services:

Figure 1 below summarizes the total investment requirements for Transportation Services over the 10-year period. The graph illustrates a few important points:

1. Over the 10-year period, the cumulative investment needs total $763 million to maintain existing assets over their useful life. This represents an average annual investment of $76.3 million per annum.
2. 2019 is markedly higher than other years as it represents the amount of investment today that would be required to address the risk represented by assets which already have reached end of the service life or nearing the end of their estimated useful lives and require immediate refurbishment or replacement. Between 2023 and 2025, there is an increase in investment needs due to increased investment required for resurfacing of the City's roadway network.
3. Of the total $763 million investment, over 50% ($389 million) is related to maintaining the City's roadway network. Traffic Services comprises the next largest investment component representing over 20% ($173 million) of the investment needs for Transportation Services.
4. Overall, Transportation Services represents about 30% of the total $2.6 billion 10-year investment needs required for all service categories.


Figure 1: Transportation Services 10 Year Investment Requirements
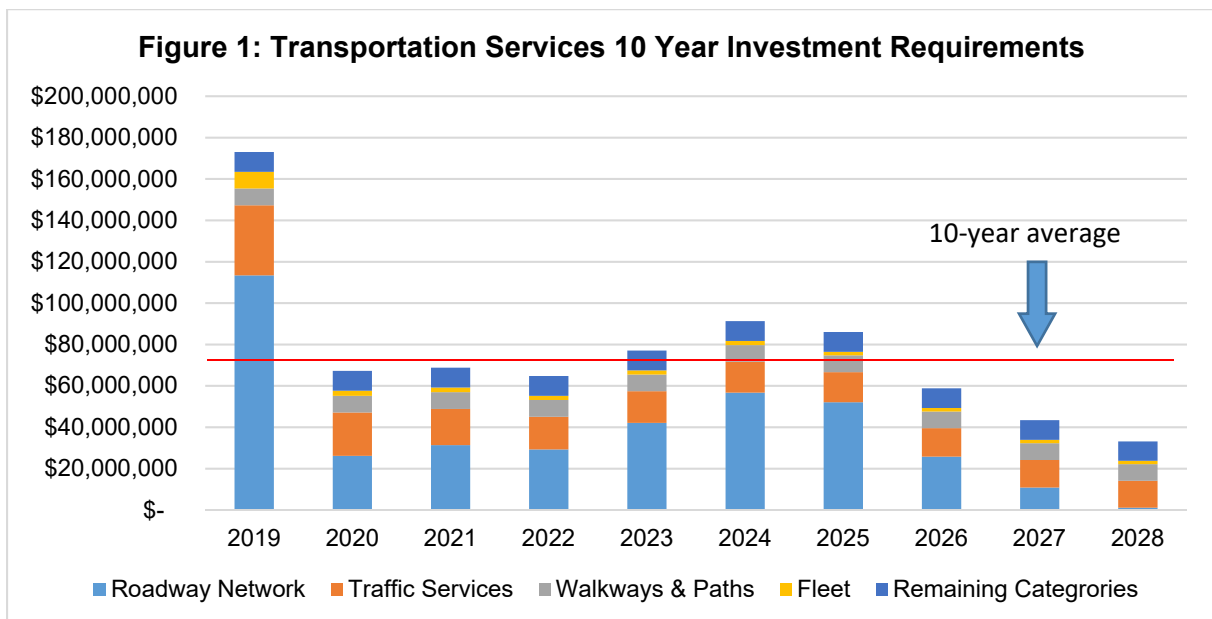
Note: Remaining categories Structures, Operations Facilities and Software.

Stormwater Services:

Figure 2 below summarizes the investment requirements for over the 10-year period for Stormwater Services. A few important points to note:

1. The cumulative investment needs totals $197 million over the 10-year period in order to renew existing assets at the end of their useful life. This represents an average annual investment of $19.7 million per annum.
2. Approximately 80% (or $159 million) of the total $197 million investment is related to replacement of the City's storm sewer systems. Stormwater Management Ponds comprises the next largest investment component representing 18% ($36 million) of the investment needs for Stormwater Services.
3. The current investment needs graph over the 10-year period is based on the overall investment that will be required to replace stormwater assets based on the useful life assumptions, and therefore, the investment needs are assumed to be constant through the years. The City is conducting CCTV condition assessment of the Storm Sewers which will help better identify the proper timing for life cycle interventions and replacement, and in turn, will ultimately improve the investment needs graph going forward.
4. Stormwater Services accounts for about 8% of the total $2.6 billion 10-year investment needs required for all service categories.

Figure 2: Stormwater 10 Year Investment Requirements
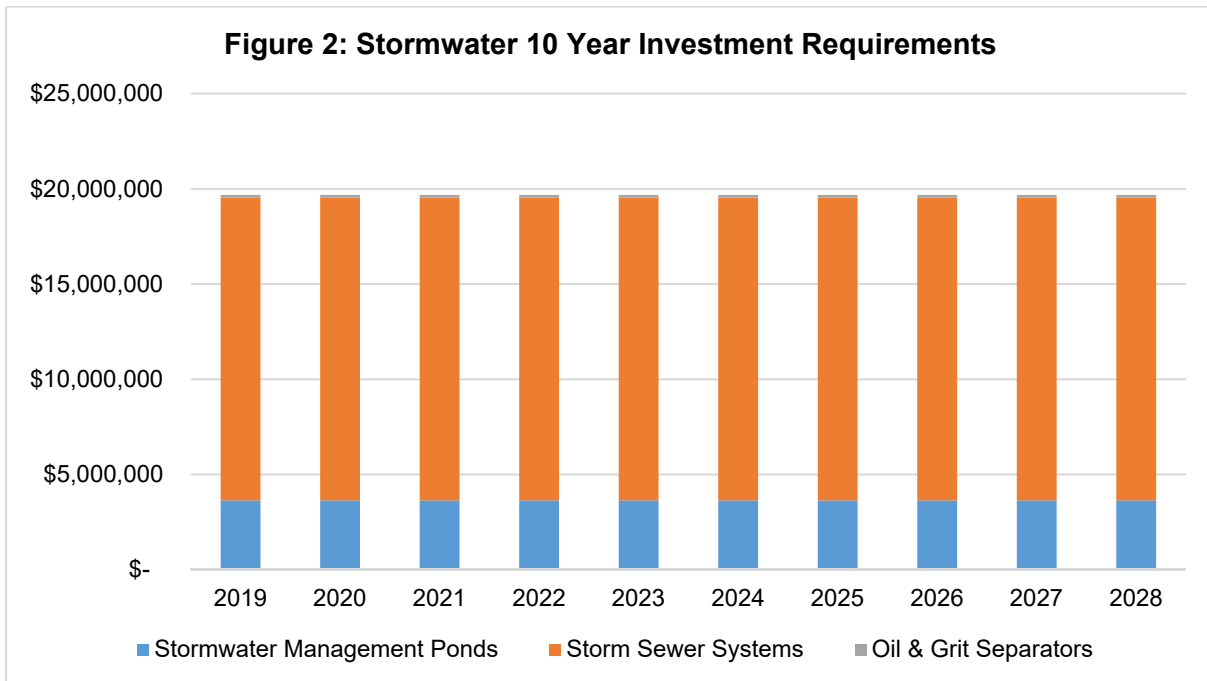
Corporate Facilities

Figure 3 below summarizes the total investment requirements for Corporate Facilities over the 10-year period. This graph demonstrates the following:

1. The cumulative investment needs of Corporate Facilities over the 10-year period total $74 million. This represents an average annual investment of $7.4 million per annum in order to maintain and renew existing assets.
2. Overall, Corporate Facilities represents about 3% of the total $2.6 billion 10-year investment needs required for all service categories.

Figure 3: Corporate Facilities - 10-Year Investment Requirements
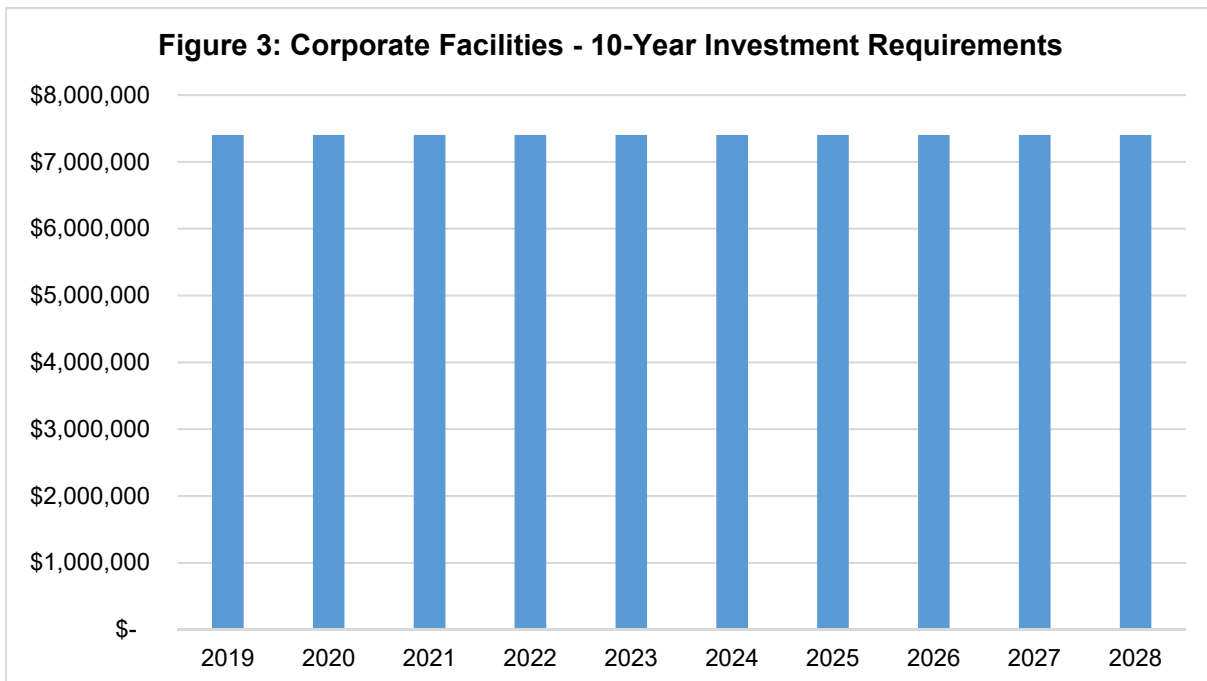
Transit Services

Figure 4 below summarizes the total investment requirements for Transit Services over the 10-year period. The graph summarizes a few important points:

1. Over the 10-year period, the total investment needs required to maintain existing Transit assets over their useful life is $637 million, which translates to an average annual investment of $63.7 million per annum.
2. The first few years of the forecast (between 2019 and 2021) is markedly higher than other years as it represents the amount of investment that would be required to address the risk represented by assets which already reached end of the service life or nearing the end of their estimated useful life. The investment needs also includes contributions to reserve funds for the assets that will require major refurbishment or replacement in the following years.
3. Of the total $637 million investment, about 50% ($327 million) is related to the replacement of the City's licensed vehicle assets at the end of their useful life while the mid-life refurbishment expenses required for heavy duty vehicles (buses) represents a further $186 million (or 29%) of the investment needs for Transit Services.
4. Overall, Transit Services represents about 25% of the total $2.6 billion 10-year investment needs required for all service categories.
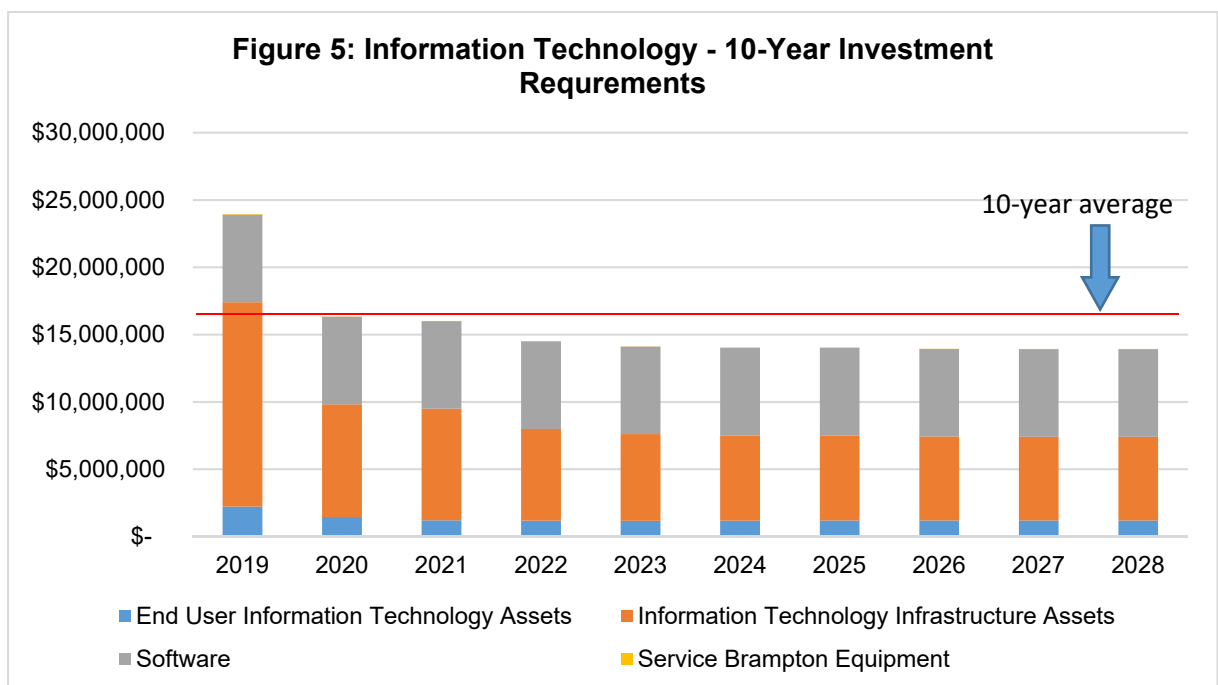

Figure 4: Transit - 10 Year Investment Requirements
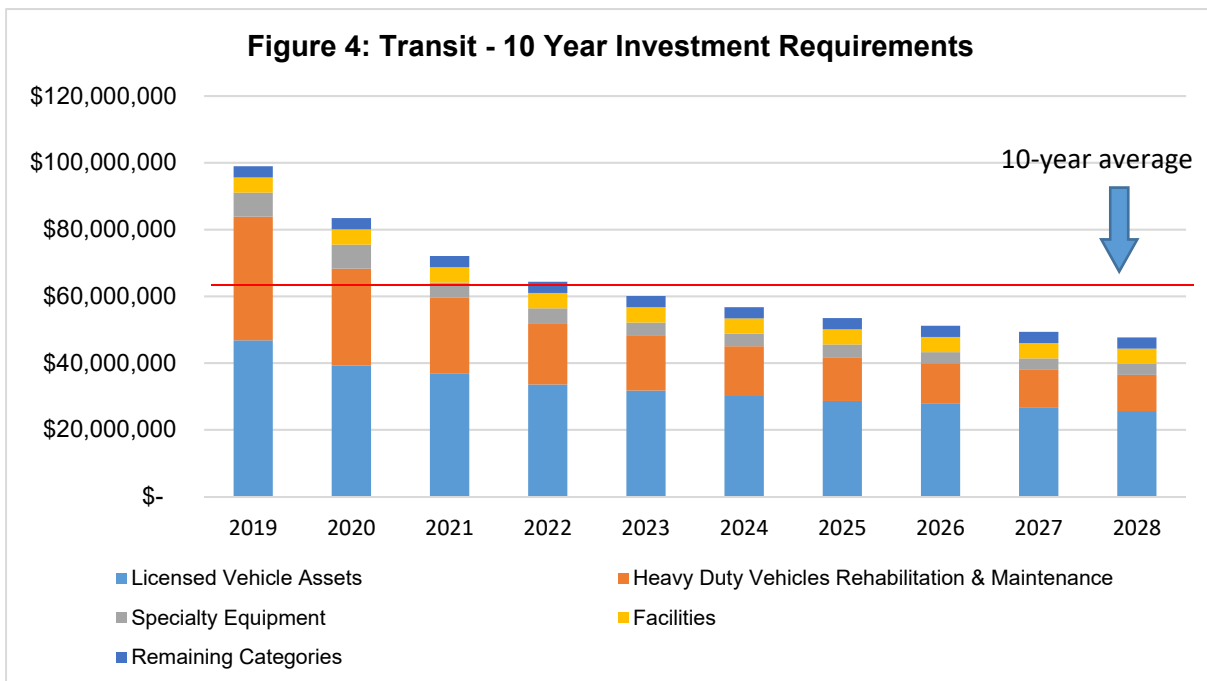
Note: Remaining categories include Transit Facilities (On Road) and Transit IT Infrastructure.

Corporate Information Technology

Figure 5 below summarizes the total investment requirements for Corporate Information Technology (IT) over the 10-year period. This graph demonstrates the following:

1. To renew existing assets at the end of their useful life, the cumulative investment needs total $155 million (an average of $15.5 million per annum) over the 10-year period.
2. Investment needs in 2019 are noticeably higher due to the amount of funding today that would be required to address the risk represented by assets that have reached or are nearing the end of their estimated useful lives.
3. Nearly 50% ($76 million) of the $155 million is related to maintaining and renewing the City's Corporate IT infrastructure. Software assets compromises the next largest investment component representing over 40% ($65 million) of the investment needs for Corporate Information Technology.

Figure 5: Information Technology - 10-Year Investment Requrements

Legend:
- End User Information Technology Assets
- Information Technology Infrastructure Assets
- Software
- Service Brampton Equipment

Corporate Fleet:

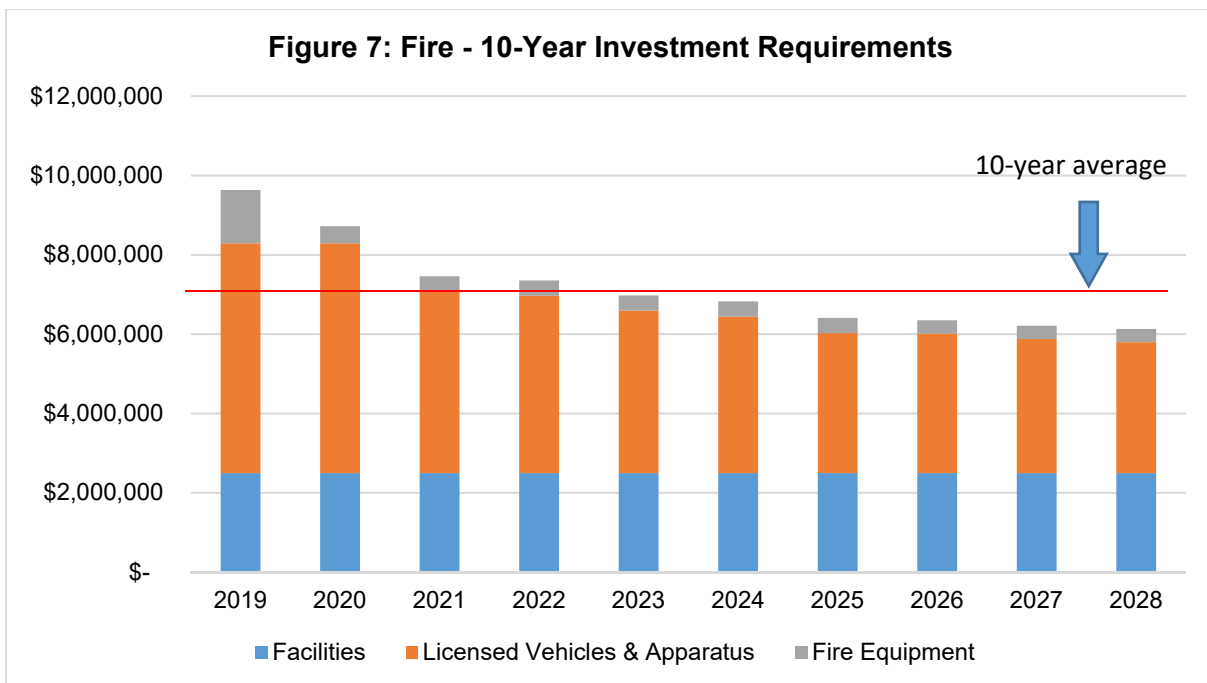Figure 6 summaries the total investment requirements for Corporate Fleet over the 10-year period.

1. The cumulative investment needs total $10 million to maintain existing assets over their useful life over the 10-year period, representing an average annual investment of $1.0 million per annum.
2. In 2019 and 2020, it is noticeably higher than other years as it represents the amount of investment today that would be required to address the risk represented by assets nearing the end of their estimated useful life. The backlog is largely driven by the fact that vehicles tend to have a shorter useful life and require more maintenance to ensure proper functionality.
3. Of the total $10.3 million, about 67% ($7 million) is related to timely replacement of the City's licenced fleet assets. The next largest investment component is software assets, which represents nearly 15% ($1.6 million) of the investment needs for Corporate Fleet.
4. Overall, Corporate Fleet represents less than 1% of the total $2.6 billion 10-year investment needs required for all service categories. It is worthwhile to note that the cumulative investment needs over the 10-year period for corporate fleet is nearly double the entire replacement value of existing Corporate Fleet assets (valued at $5.9 million) as fleet assets are replaced more frequently, with higher turnover rates, than other assets with a longer useful life.

Figure 6: Corporate Fleet - 10 Year Investment Requirements
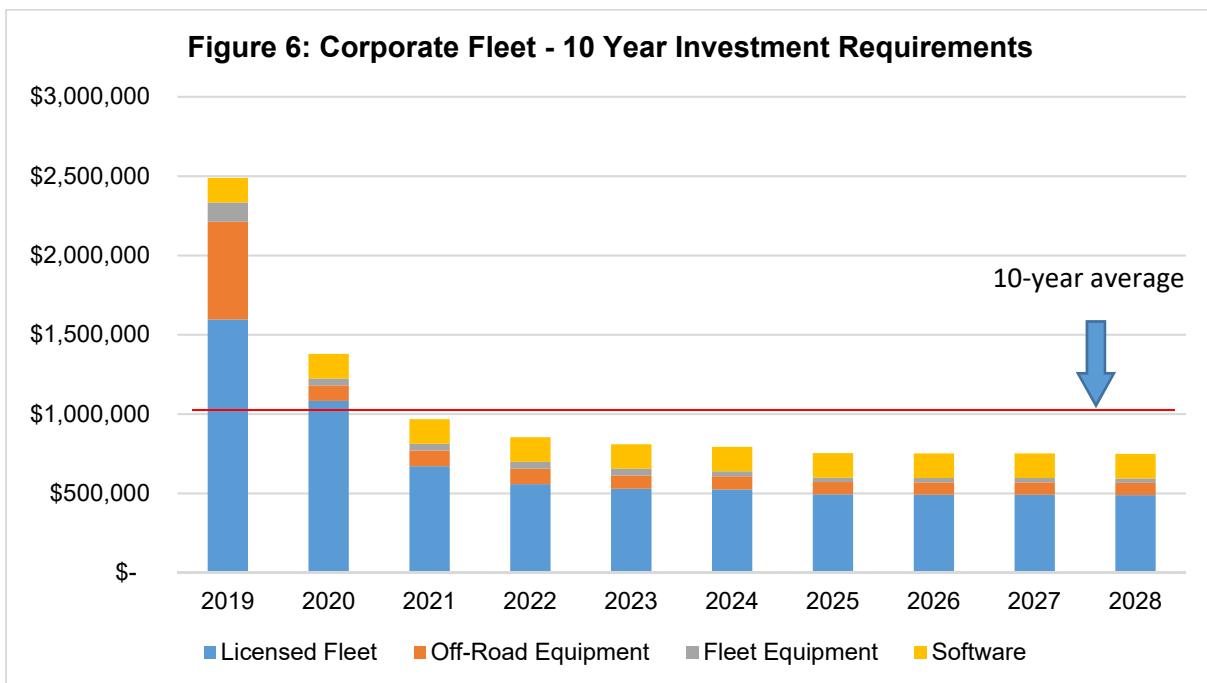
Fire Services

Figure 7 below summaries the total investment requirements for Fire Services over the 10-year period. This graph demonstrates the following:

1. Fire Services assets require a cumulative investment need of $72 million over the 10-year period for assets renewal. This represents an average annual investment of $7.2 million per annum.
2. Investment needs in 2019 and 2020 are higher than other years as it represents the amount of investment that would be required to address the risk represented by assets that have reached or nearing the end of their useful lives.
3. Nearly 60% ($42 million) of the total $72 million investment is related to maintaining the City's licenced vehicles and apparatus. Facilities comprise the next largest investment component representing 35% ($25 million) of the investment needs for Fire.
4. Overall, Fire represents about 3% of the total $2.6 billion 10-year investment needs required for all service categories.

Figure 7: Fire - 10-Year Investment Requirements

Legend: Facilities | Licensed Vehicles & Apparatus | Fire Equipment

Parks

Figure 8 below summaries the total investment requirements for Parks Services over the 10-year period. The graph illustrates a few important points:
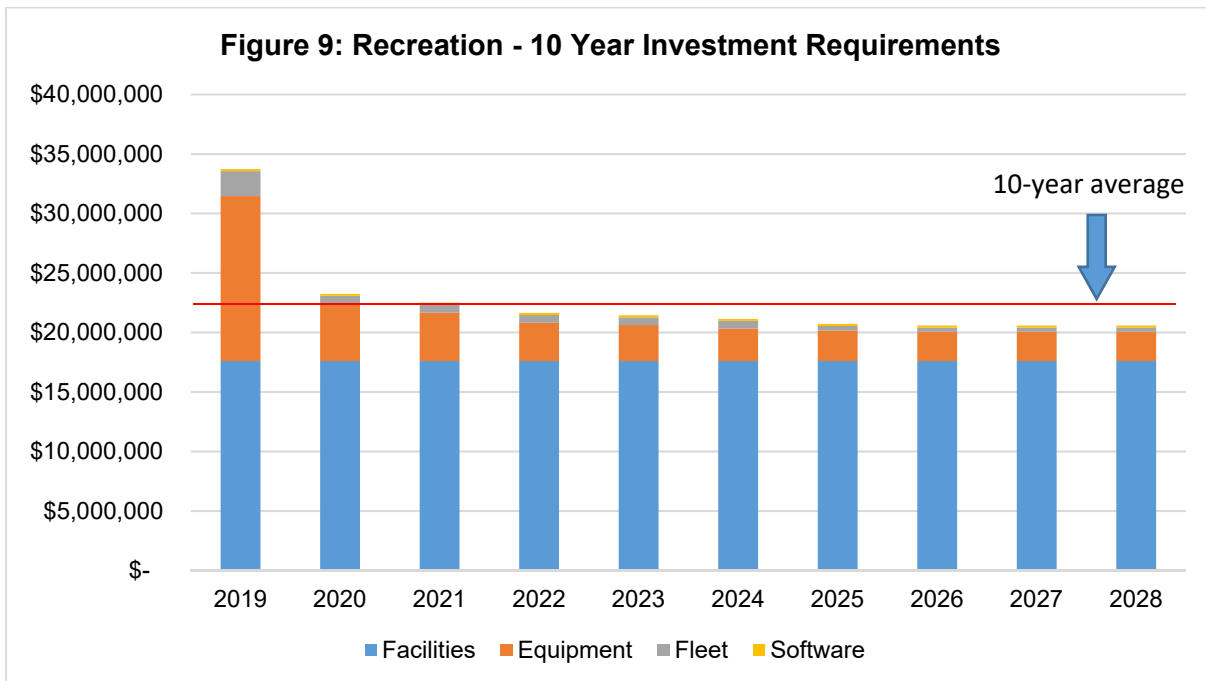
1. Over the 10-year period, the cumulative investment needs total $341 million for renewal of existing assets, representing an average annual investment of $34.1 million per annum.
2. 2019 requires a higher investment need than other years in order to address overdue assets.
3. Of the total $341 million investment, 84% ($287 million) is related to maintaining the City's park assets. Of the park assets, the investment needs are largely driven by playgrounds, sport facilities, pathways, neighborhood and city-wide parks.
4. Overall, Parks represents about 13% of the total $2.6 billion 10-year investment needs required for all service categories.
5. As identified in the Section 3.4 of this report, the investment requirements for parks services has seen a significant increase relative to previous 2018 iteration of this report. The 2019 analysis now includes playgrounds and sport field in-service dates, useful life data and more refined costing information, while earlier datasets had incomplete records of such, which required a generalized approach to determining the annual investment requirements. The investment needs identified in this report provide the City with a more accurate representation of the future replacement needs of parks assets.
6. It should be noted that Street Trees are a new addition to the asset inventory and replacement value of the Park assets in this 2019 SOLI Report. However, the methodologies for evaluating replacement needs of the street trees are currently being developed and adopted and therefore the 10-year investment requirements identified do not include the investments required for maintaining and renewing City owned trees at this time.

Figure 8: Parks - 10-Year Investment Requirements
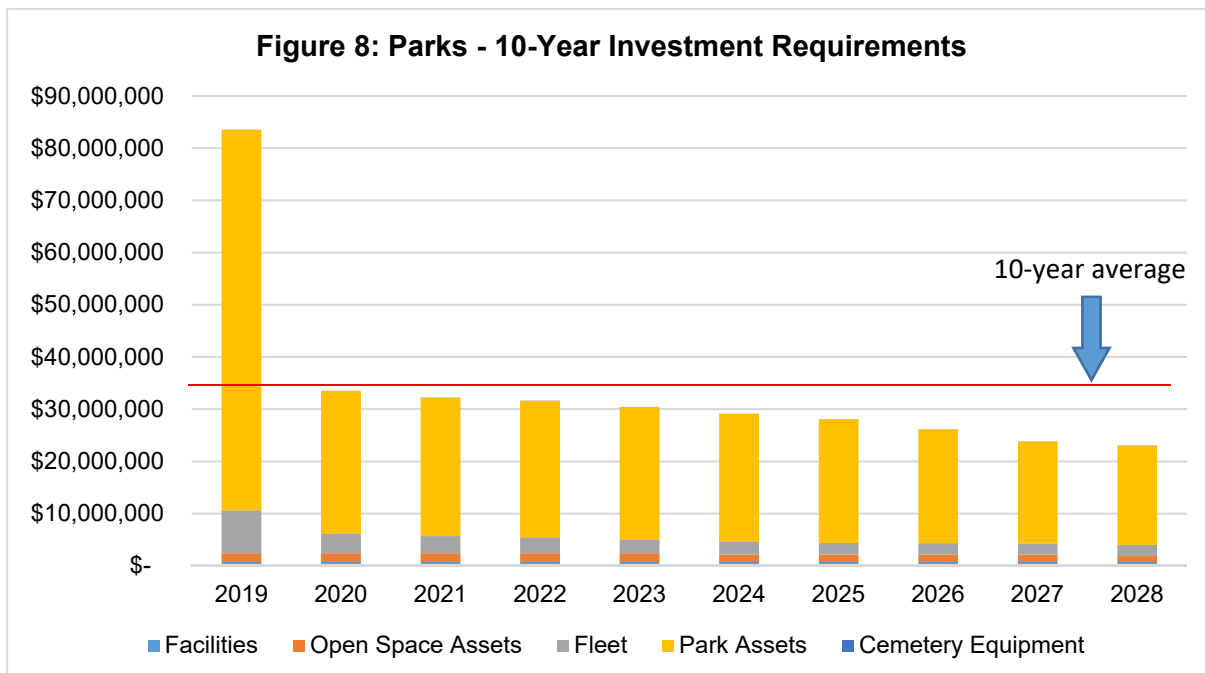
Recreation

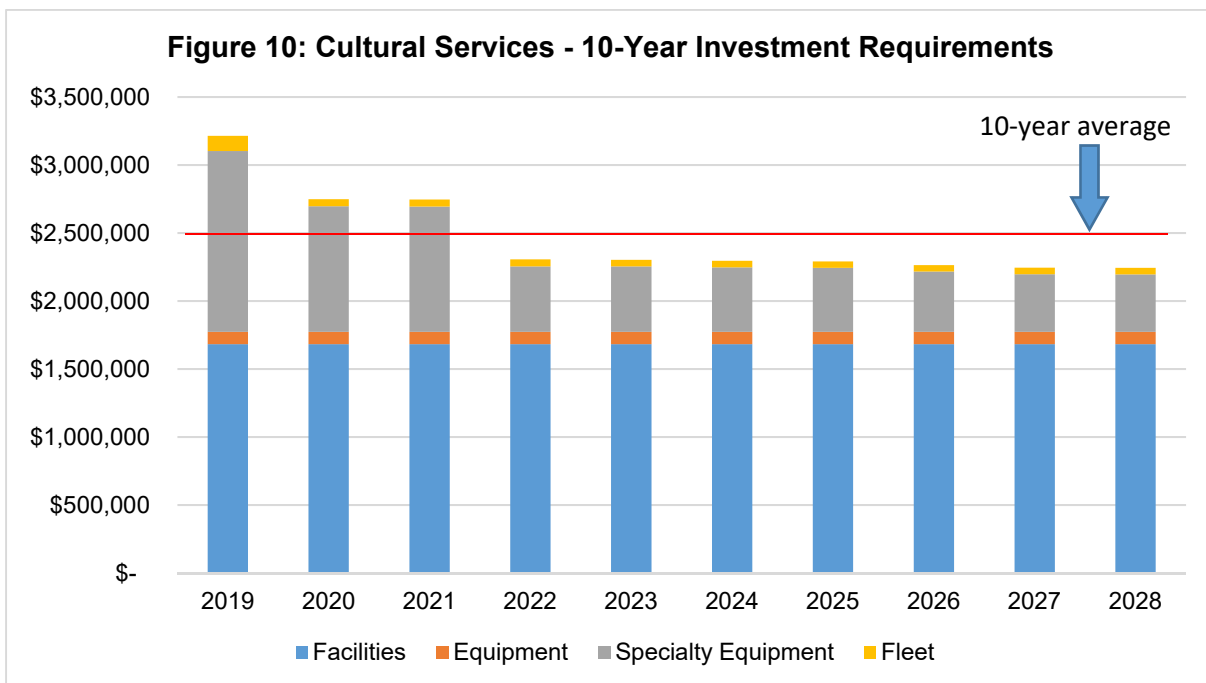Figure 9 below summarizes the total investment requirements for Recreation Services over the 10-year period.

1. The cumulative investment needs total $226 million to maintain existing assets over their useful life over the 10-year period. This represents an average annual investment of $22.6 million per annum.
2. Needs in 2019 are noticeably higher than other years as it represents the amount of investment today that would be required to address the risk represented by assets that have reached or nearing the end of their estimated useful lives.
3. Approximately 78% ($176 million) of the $226 million in investment needs is related to maintaining the City's recreation facilities. Recreation equipment comprises the next largest share totaling $42 million (or 18%) of the investment needs for Recreation Services. It should be noted that the equipment inventory used in this report is based on the best available information at the time of writing, however, this data set is outdated and is currently being reviewed. It is anticipated that the new dataset be incorporated into future iterations of this report and would contribute to more accurate projection of investment needs going forward.
4. Recreation Services represents about 9% of the total $2.6 billion 10-year investment needs required for all service categories.

Figure 9: Recreation - 10 Year Investment Requirements

Cultural Services

Figure 10 below summarizes the total investment requirements for Cultural Services over the 10-year period. This graph demonstrates the following:
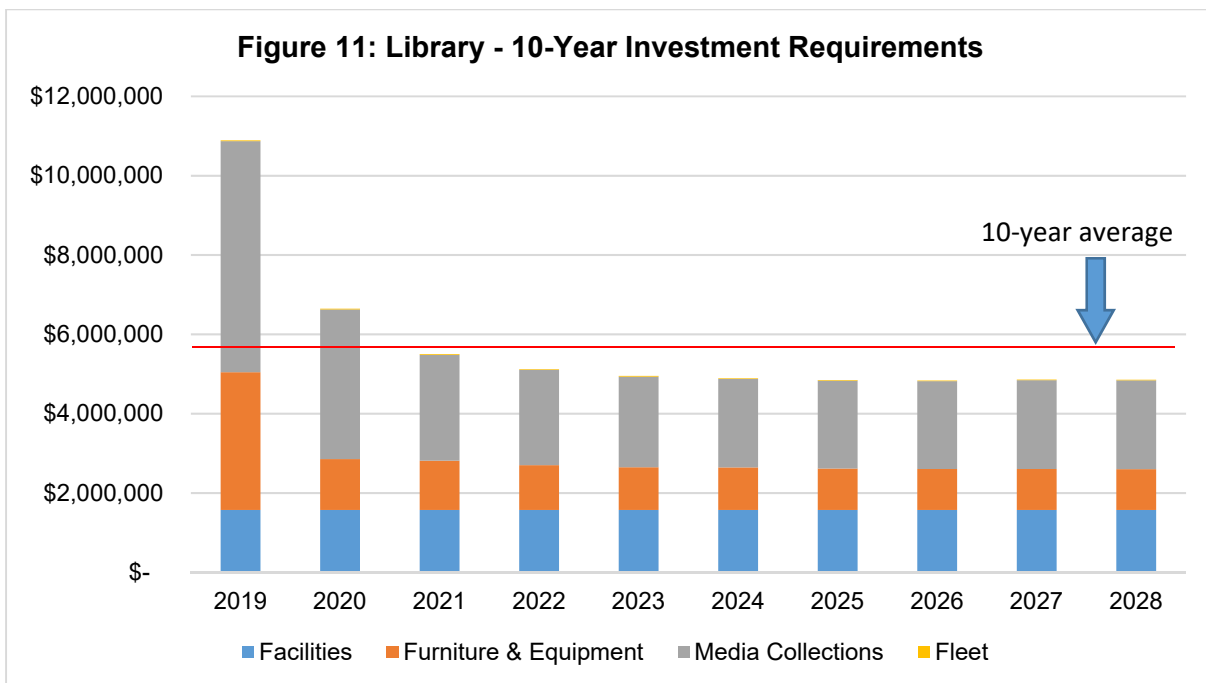
1. Over the 10-year period, the cumulative investment needs total $25 million to maintain existing assets over their useful life. This represents an average annual investment of $2.5 million per annum.
2. Investment needs between 2019 and 2021 are higher than other years as it represents the amount of investment that would be required to address the risk represented by assets that have reached the end of their useful life or nearing the end of their estimated useful life which indicates that many of the assets will require attention in the near future.
3. Nearly 70% ($17 million) of the total $25 million investment is related to maintaining the City's cultural services facilities. Specialty equipment comprises the next largest investment component representing over 25% ($6 million) of the investment needs for Cultural Services.
4. Overall, Cultural Services represents about 1% of the total $2.6 billion 10-year investment needs required for all service categories.

Figure 10: Cultural Services - 10-Year Investment Requirements

Library Services

Figure 11 below summarizes the total investment requirements for Library Services over the 10-year period.

1. Over the 10-year period, the cumulative investment needs total $57 million to renew existing assets, representing an average annual investment of $5.7 million per year.
2. The investment needs between 2019 and 2020 are higher than other years in order to address assets that have reached, or are nearing, the end of their estimated useful lives.
3. Of the total $57 million investment, over 49% ($28 million) is related to maintaining the City's library media collections. Library facilities comprises the next largest investment component representing 27% ($16 million) of the investment needs for Library Services.
4. Overall, Library Services represents about 2% of the total $2.6 billion 10-year investment needs required for all service categories.

Figure 11: Library - 10-Year Investment Requirements

Animal Services

Figure 12 below summarizes the total investment requirements for Animal Services over the 10-year period.

1. The cumulative investment needs total $3.2 million for existing assets renewal over the upcoming 10-year period, representing an average annual investment of $320,000 per annum.
2. Higher levels of investment are required in 2019 as it represents the amount of investment required to address assets that have reached or near the end of their useful lives.
3. Of the total $3.2 million investment, about 44% ($1.4 million) is related to maintaining the City's animal services fleet. Animal Services Facilities comprises the next largest investment component representing 39% ($1.2 million) of the investment needs for Animal Services.
4. Overall, Animal Services represents less than 1% of the total $2.6 billion 10-year investment needs required for all service categories.

Figure 12: Animal Services 10-Year Investment Requirements