Corporate Asset Management

State of Local Infrastructure 2018 Report

BRAMPTON
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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 that maintain current levels of service 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 2018 State of the Local Infrastructure Report (2018 SOLI) provides a snapshot of the estimated overall value and condition of the City's infrastructure to provide various services. The 2018 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 first SOLI report for the City, and as asset data and information is collected, the values in this report will change. The City owns a large number of assets and asset classes that have not yet been reported on due to the maturity of different service areas.

The City's total assets replacement cost is estimated at $5.8 billion. This value is comprised of the major infrastructure service areas of Transportation, Stormwater, Transit, Parks, Recreation, Culture, Corporate Shared Facilities, Information Technology, Fire, Library, Animal Services and Corporate Shared Fleet. Transportation services represents the largest share at 45 per cent, or $2.6 billion, of the total $5.8 billion replacement value.

The majority of the $5.8 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 chapter seeks to establish an understanding of the current state of Brampton's estimated $5.8 billion ($2018) 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:

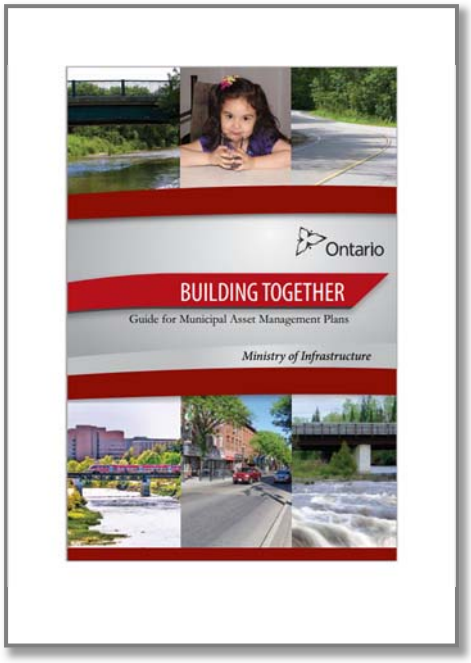
- Details of the Asset Inventory – What do we own?
- Valuation of the Asset Base (Replacement Value) – What is it worth?
- Condition of the Asset Base – What Condition is it in?

This report provides an update to the State of the Local Infrastructure section of the 2016 CAMPlan. 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 the first issue 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 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.

3.2 Overall City-wide Corporate 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 $5.8 billion. This value is comprised of the major infrastructure service areas which includes Transportation, Stormwater, Transit, Parks, Recreation, Culture, Corporate Shared Facilities, Information Technology, Fire, Library, Animal Services and Corporate Shared 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 $5.8 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

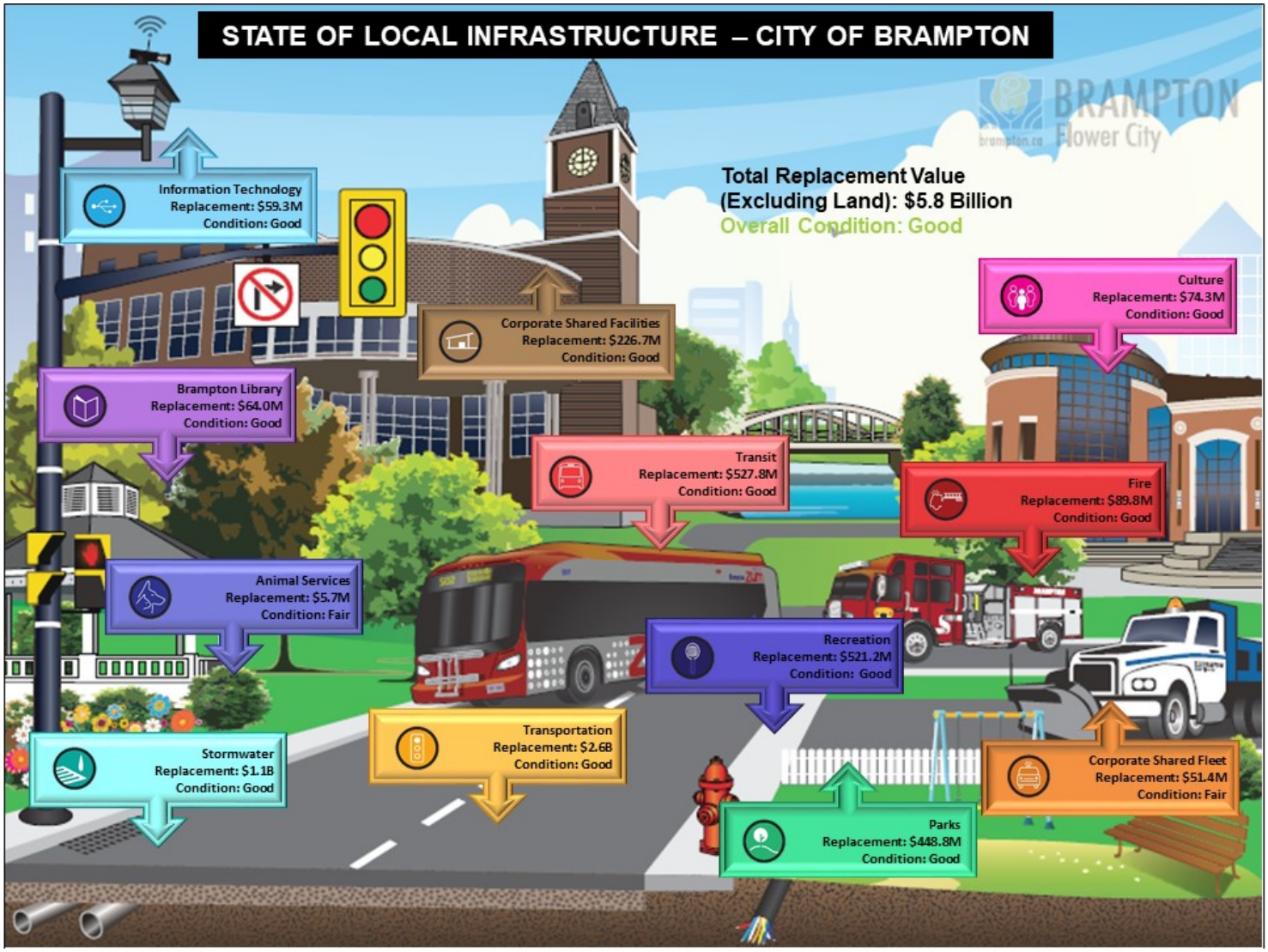
Asset management planning is essential for the future resilience of Ontario communities, as municipalities require effective and robust plans to take care of their infrastructure over the long term. *The Infrastructure for Jobs and Prosperity Act, 2015*, was proclaimed on May 1, 2016 and includes an 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 3.2** define the various measures used to qualify the accuracy and reliability of the information used to develop this plan. 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 CAMPlan. 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
- **All other assets** – Aged Based Assessment

Based on a weighted average of all services and their condition assessments, approximately 55% of assets are assigned a data confidence rating based on condition. **Table 3.1** below provides a detailed outline of how each service category's assets were assessed.

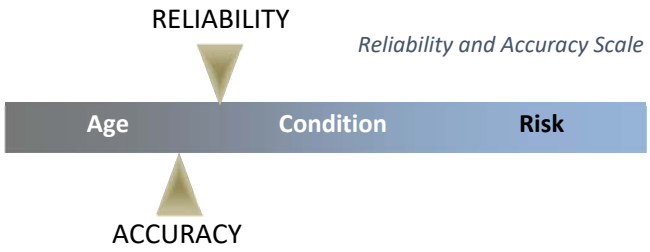


Table 3.1 – Data Confidence Assessment by Service

Service Area	% of Asset Portfolio*	Age	Condition	Risk
Transportation	**45.3%**	✓	✓	
Roadway Network	*24.8%*		✓	
Bridge	*5.2%*		✓	
Pedestrian Bridge	*0.7%*		✓	
Culverts	*4.2%*		✓	
Gateway Features	*0.2%*	✓		
Noise Wall	*0.2%*	✓		

Service Area	% of Asset Portfolio*	Age	Condition	Risk
Retaining Wall	*0.04%*	✓		
Fence	*0.03%*	✓		
Guiderail	*0.1%*	✓		
Handrail	*0.01%*	✓		
Sidewalks	*3.3%*	✓		
Walkways	*0.1%*	✓		
Multi-Use Trails	*0.3%*	✓		
Street Lighting	*3.5%*	✓		
Traffic Signals/Infrastructure	*1.0%*	✓		
Operations Facilities	*1.5%*		✓	
Stormwater	**19.2%**	✓		
Stormwater Management Ponds	*4.5%*	✓		
FDC-WTC	*1.0%*	✓		
Storm Sewers	*13.8%*	✓		
Corporate Shared Facilities	**3.9%**		✓	
Transit	**9.1%**	✓	✓	
All Transit Facilities	*2.2%*		✓	
Heavy Duty Vehicles	*5.7%*		✓	
Light Duty Vehicles	*0.01%*	✓		
Shelters – Conventional Assets	*0.1%*	✓		
Shelters – Zum Assets	*0.4%*	✓		
Shelters – Bike Assets	*0.004%*	✓		
Stops	*0.01%*	✓		
Sandalwood Transit Loop	*0.02%*	✓		
Video Walls	*0.004%*	✓		
Mirra 4 Call Recording	*0.004%*	✓		
Conveyance Systems	*0.1%*	✓		

Service Area	% of Asset Portfolio*	Age	Condition	Risk
Communication Control	*0.2%*	✓		
Fare Systems	*0.2%*	✓		
Presto	*0.1%*	✓		
Maintenance/Admin Small	*0.04%*	✓		
Signage	*0.01%*	✓		
Fueling	*0.003%*	✓		
Stock Room	*0.03%*	✓		
Information Technology	**1.0%**	✓		
Computers	*0.1%*	✓		
Monitors	*0.01%*	✓		
Servers	*0.03%*	✓		
Storage and Back-Up	*0.04%*	✓		
Wireless	*0.04%*	✓		
Cable Plants	*0.2%*	✓		
Network Infrastructure	*0.1%*	✓		
Communications Systems Infrastructure	*0.1%*	✓		
Business Systems Assets (Preliminary)	*0.5%*	✓		
Service Brampton Equipment	*0.002%*	✓		
Fleet	**0.9%**	✓		
Licensed Vehicles	*0.5%*	✓		
Off Road Vehicles	*0.2%*	✓		
Equipment	*0.1%*	✓		
Fire	**1.5%**	✓	✓	
Licensed Vehicles	*0.5%*	✓		
SCBA	*0.02%*	✓		
Bunker Gear	*0.02%*	✓		
Fire Facilities	*1.0%*		✓	

Service Area	% of Asset Portfolio*	Age	Condition	Risk
Parks	**7.7%**	✓	✓	
Open Space Assets	*0.3%*	✓		
Parkland	*5.1%*	✓		
Playgrounds	*0.8%*	✓		
Sports and Facilities Assets	*1.0%*	✓		
Cemetery Equipment	*0.003%*	✓		
Parks Facilities	*0.4%*		✓	
Recreation	**8.9%**	✓	✓	
Equipment	*0.4%*	✓		
Facilities	*8.5%*		✓	
Cultural Services	**1.3%**	✓	✓	
Facilities	*1.2%*		✓	
Equipment	*0.03%*	✓		
Brampton Library	**1.1%**	✓	✓	
Facilities	*0.7%*		✓	
Furniture and Equipment	*0.1%*	✓		
Media Collections	*0.3%*	✓		
Animal Services	**0.1%**	✓	✓	
Facilities	*0.1%*		✓	
Furniture and Equipment	*0.01%*	✓		

Table 3.2 – 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
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	Based upon expert verbal opinion or cursory inspections/ observations
Accuracy	Probable difference between a recorded parameter and its true value	+/- 1%	+/- 10%	+/- 50%

3.2.4 Overall Data Confidence

The overall Data Confidence is assessed as **Low-Medium (Age and Condition Based)**. As this report represents the consolidation of the best available data prior to the implementation of the Corporate Asset Management Program, a portion of the data gathered was primarily 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 inventories.

3.2.5 Data Quality

The State of Local Infrastructure Report used the best available data, as collected by City staff within a restricted timeframe. Future reports will be based on a more robust data collection process specifically tailored for State of Local Infrastructure reporting, 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 collected from the 2016 Tangible Capital Asset (TCA) report, a requirement under the PSAB 3150 legislation. As mentioned, in many instances, information was obtained from the Corporate Asset Management Network and expert opinions.

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 2017 Consolidated Financial Statement reported the Net Book Value of the City's Tangible Capital Assets as of December 31, 2017 at $3.5 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, 2017	Net Additions/ Disposals	Net Amortization Expense	Net Book Value Dec 31, 2017
General Government	$341,923	$30,600	$9,252	$363,271
Protection	$51,949	$10,943	$2,949	$59,943
Transportation	$1,722,122	$97,451	$65,583	$1,753,989
Environmental	$476,314	$26,795	$14,523	$488,585
Health	$977	$2	$77	$902
Social and Family	$5,458	$24	$406	$5,075
Recreation and Cultural Services	$825,203	$13,683	$20,532	$818,353
Planning and Development	$9,004	$281	$697	$8,587
TOTAL	**$3,432,950**	**$179,779**	**$114,022**	**$3,498,707**

Note: Categories/information derived from the 2017 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 Plan is estimated at $5.8 billion.

3.3.1 Replacement Cost Valuation

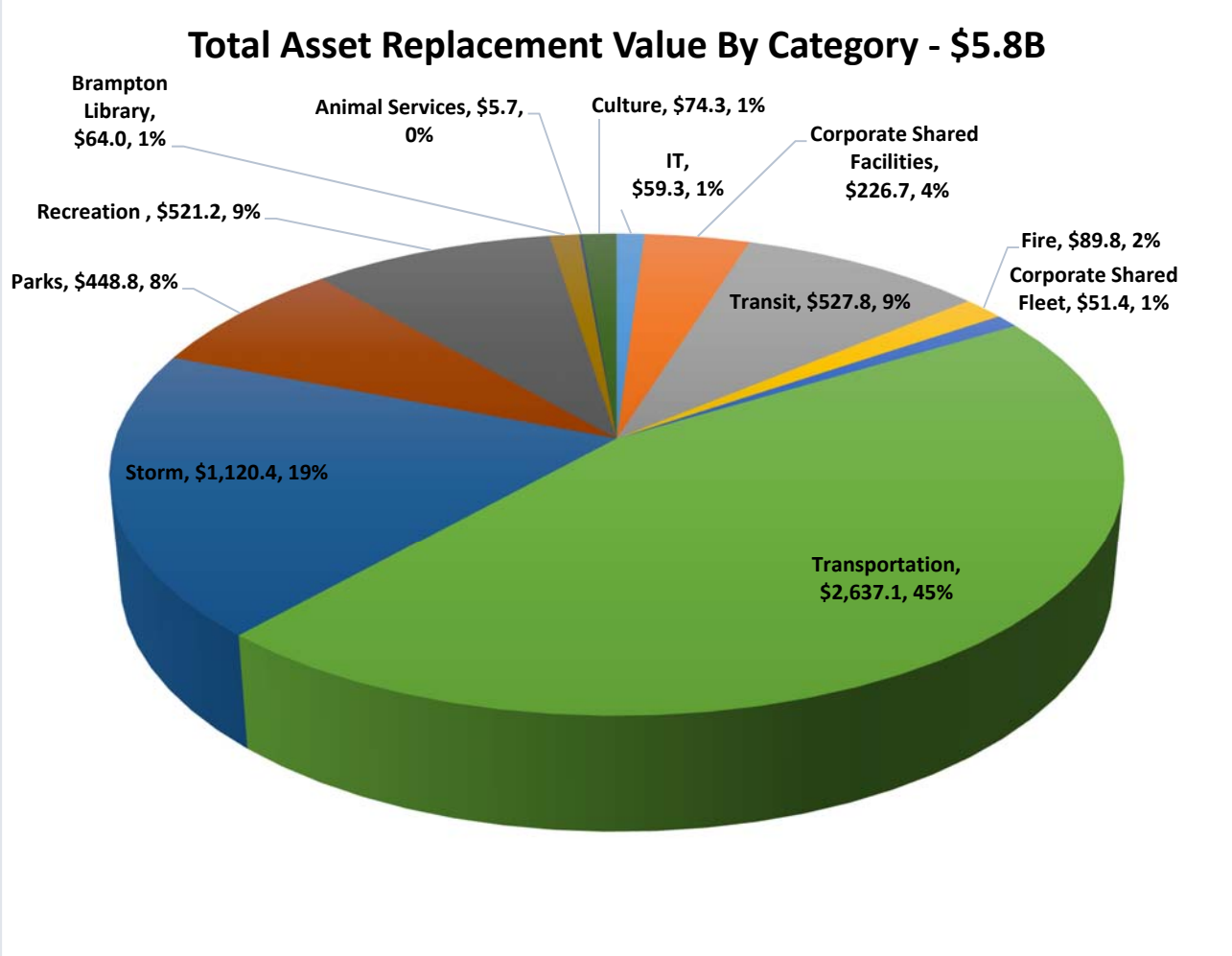
The City uses three basic methods to estimate replacement costs needed for infrastructure renewal planning:

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. **Accounting estimates:** When assets cannot be estimated against either index, the City uses accounting methodology based on historic cost, estimated useful life and inflationary effects to determine replacement value.

The total replacement value of all assets covered under this plan is illustrated by service in figure 3.2 below. Transportation services represents the largest share at 45 per cent, or $2.6 billion, of the total $5.8 billion replacement value.

Figure 3.2 - Total Replacement Value = $5.8 Billion



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		3,184	Lane KM	$1,447,828
	Structures	Bridge	1,621	Meters	$303,155
		Pedestrian Bridge	1,678	Meters	$40,980
		Culvert	5,868	Meters	$246,854
		Gateway Features	1,583	Meters	$9,831
		Noise Wall	4,624	Meters	$9,674
		Retaining Walls	2,706	Meters	$2,104
		Fences	26,745	Meters	$1,669
		Guiderail	23,580	Meters	$4,621
		Handrail	2,909	Meters	$677
	Walkways & Path	Sidewalks	1,768,140	Meters	$193,438
		Walkways	21,104	Meters	$4,569
		Multi-Use Paths	111,590	Meters	$18,763
	Traffic Services	Street Lighting	41,007	Each	$201,916
		Traffic Signals	381	Each	$60,960
	Operations Facilities		16	Each	$90,078
TOTAL					**$2,637,117**

Note: There are 67 bridges and 114 pedestrian bridges.
There are 153 culverts.
There are 265 gateway features.
There are 18 noise walls and 143 retaining walls.
There are 545 guiderails and 94 handrails.

Table 3.5 – Detailed Replacement Values – Stormwater Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Stormwater	Stormwater Management Ponds		200	Each	$260,000
	Storm Sewer System	FDC-WTC	245,125	Meters	$56,220
		Storm Sewers	1,429,641	Meters	$804,222
TOTAL					**$1,120,443**

Table 3.6 – Detailed Replacement Values – Corporate Shared Facilities

Service	Asset	Inventory	Unit	Replacement Value ($000)
Corporate Shared Facilities 	Corporate Shared Facilities	19	Each	$226,738
TOTAL				**$226,738**

Table 3.7 – Detailed Replacement Values – Transit Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Transit 	Facilities	All Transit Facilities	6	Each	$125,944
	Licensed Vehicles	Heavy Duty Assets	442	Each	$334,088
		Light Duty Vehicles	26	Each	$721
	Transit Facilities (On Road)	Shelters – Conventional	666	Each	$5,222
		Shelters – Züm	106	Each	$20,579
		Shelters – Bike	23	Each	$232
		Stops	903	Each	$461
		Sandalwood Transit Loop	1	Each	$1,040
	Transit IT Infrastructure	Video Walls	1	Each	$255
		Mirra 4 Call Recording	1	Each	$255
	Specialty Equipment	Conveyance Systems	106	Each	$7,760
		Comm. Control Systems	8,418	Each	$12,046
		Fare Systems	2,950	Each	$9,031
		Presto	1,257	Each	$5,754
		Maintenance/Admin Small	192	Each	$2,126
		Signage	2,577	Each	$481
		Fueling	189,000	L	$159
		Stock Room	N/A	N/A	$1,627
TOTAL					**$527,780**

Table 3.8 – Detailed Replacement Values – IT Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
IT	End User IT	Computers	2,700	Each	$3,558
		Monitors	2,700	Each	$702
	Infrastructure Assets	Servers	76	Each	$1,568
		Storage and Back-Up	19	Each	$2,215
		Wireless	625	Each	$2,157
		Cable Plants	253,704	Meters	$10,136
		Network Infrastructure	571	Each	$4,557
		Communication System	3,806	Each	$3,129
	Business Systems	Software	90	Each	$31,200
	Service Brampton Equipment		Pooled	N/A	104
TOTAL					**$59,328**

Table 3.9 – Detailed Replacement Values – Corporate Shared Fleet Services

Service	Asset	Inventory	Unit	Replacement Value ($000)
Corporate Shared Fleet	Licensed Vehicles	542	Each	$31,238
	Off Road Vehicles	179	Each	$13,611
	Equipment	1,056	Each	$6,590
TOTAL				**$51,438**

Table 3.10 – Detailed Replacement Values – Fire Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Fire	Licensed Vehicles		102	Each	$26,515
	Fire Equipment	SCBA	130	Each	$1,000
		Bunker Gear	899	Each	$1,324
	Fire Facilities		18	Each	$60,988
TOTAL					**$89,827**

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Table 3.11 – Detailed Replacement Values – Parks Services

Service	Asset		Inventory	Unit	Replacement Value ($000)
Parks	Open Space Assets		1,414	Ha.	$20,388
	Parks Assets	Parkland	2,570	Ha.	$298,748
		Playgrounds	310	Each	$48,723
		Sports Facilities	366	Each	$55,886
	Cemetery Equipment		25	Each	$174
	Parks Facilities		26	Each	$24,836
TOTAL					**$448,755**

Table 3.12 – Detailed Replacement Values – Recreation Services

Service	Asset	Inventory	Unit	Replacement Value ($000)
Recreation	Recreation Facilities	62	Each	$496,987
	Recreation Equipment	2,693	Each	$24,192
TOTAL				**$521,179**

Table 3.13 – Detailed Replacement Values – Culture

Service	Asset	Inventory	Unit	Replacement Value ($000)
Culture 	Facilities	2	Each	$72,486
	Equipment	Pooled	N/A	$1,775
TOTAL				**$74,261**

Table 3.14 – Detailed Replacement Values – Brampton Library

Service	Asset	Inventory	Unit	Replacement Value ($000)
Library 	Facilities	4	Each	$41,428
	Furniture and Equipment	5,453	Each	$7,593
	Media Collections	Pooled	N/A	$14,946
TOTAL				**$63,968**

Table 3.15 – Detailed Replacement Values – Animal Services

Service	Asset	Inventory	Unit	Replacement Value ($000)
Animal Services 	Facilities	1	Each	$4,910
	Furniture and Equipment	Pooled	N/A	$774
TOTAL				**$5,684**

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. For the City, as part of the plan improvement and monitoring CAM Roadmap process, there are plans for the City to develop a full asset condition grading standard along with the continuous improvement of other AM strategies and standards.

Generally, assets may fail prior to the estimated engineered design life of each asset. 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, most of the data gathered was primarily age-based, or based upon the overall estimated useful life of the asset in comparison to its installation date.

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 future iterations of this corporate asset management plan will be prepared to expand the assessments to include other service measures such as adequacy and reliability, to better reflect the ability of the City's assets to deliver services.

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 per cent 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 per cent of the City's infrastructure has been emplaced over the last two decades (see Figure 3.4 – Age Distribution).

Figure 3.3 – Summary of Asset Condition ($ Millions)

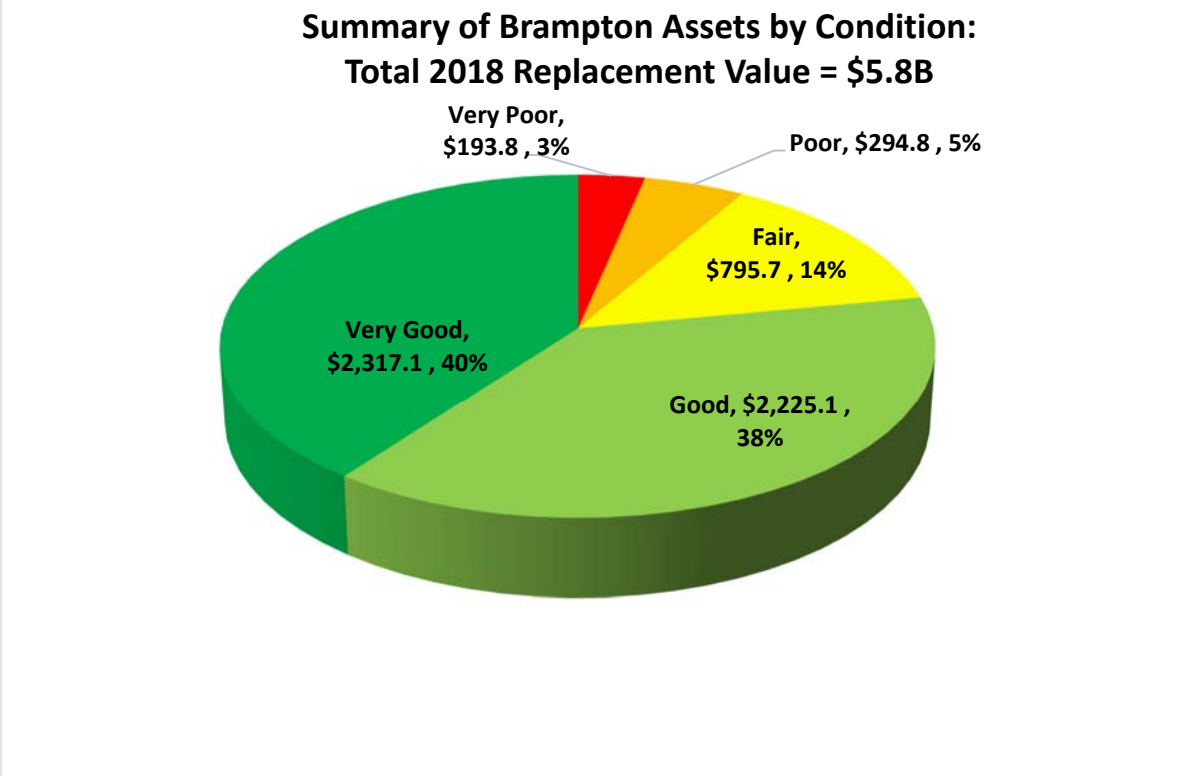
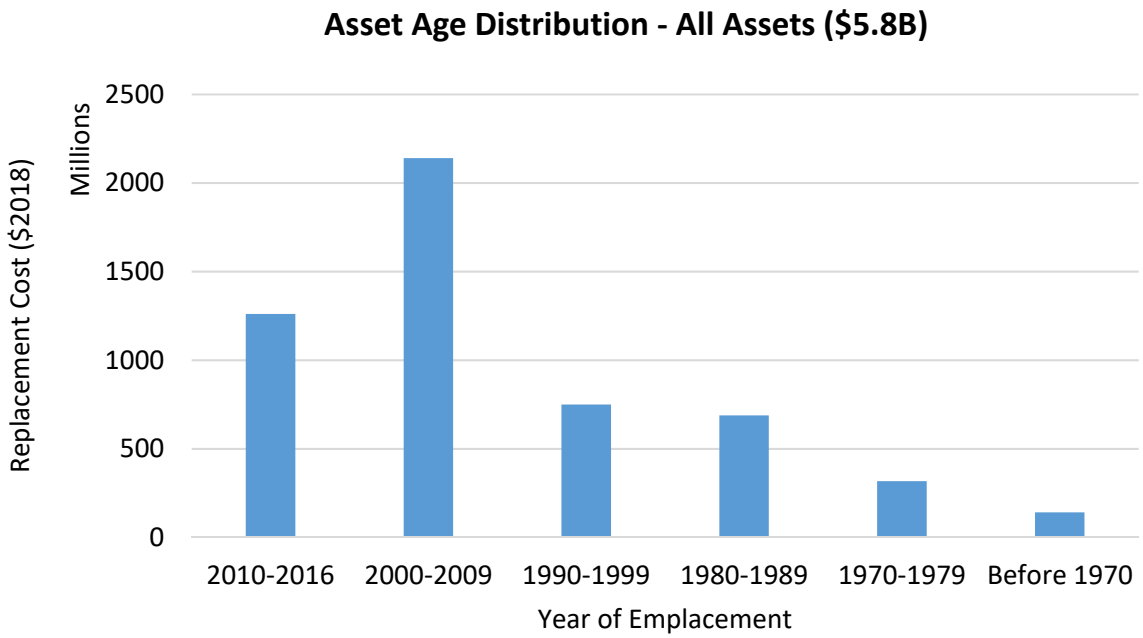


Figure 3.4 – Asset Age Distribution



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. The age and remaining useful life can be related to condition, as shown in the **Table 3.17**; and

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. For example, consider an old pump-house with old piping but a well-maintained relatively new pump representing 80 per cent of the asset value. The data would say the old pump-house was in poor condition 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 meters 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.

3.3.5 Service Area Condition Summary

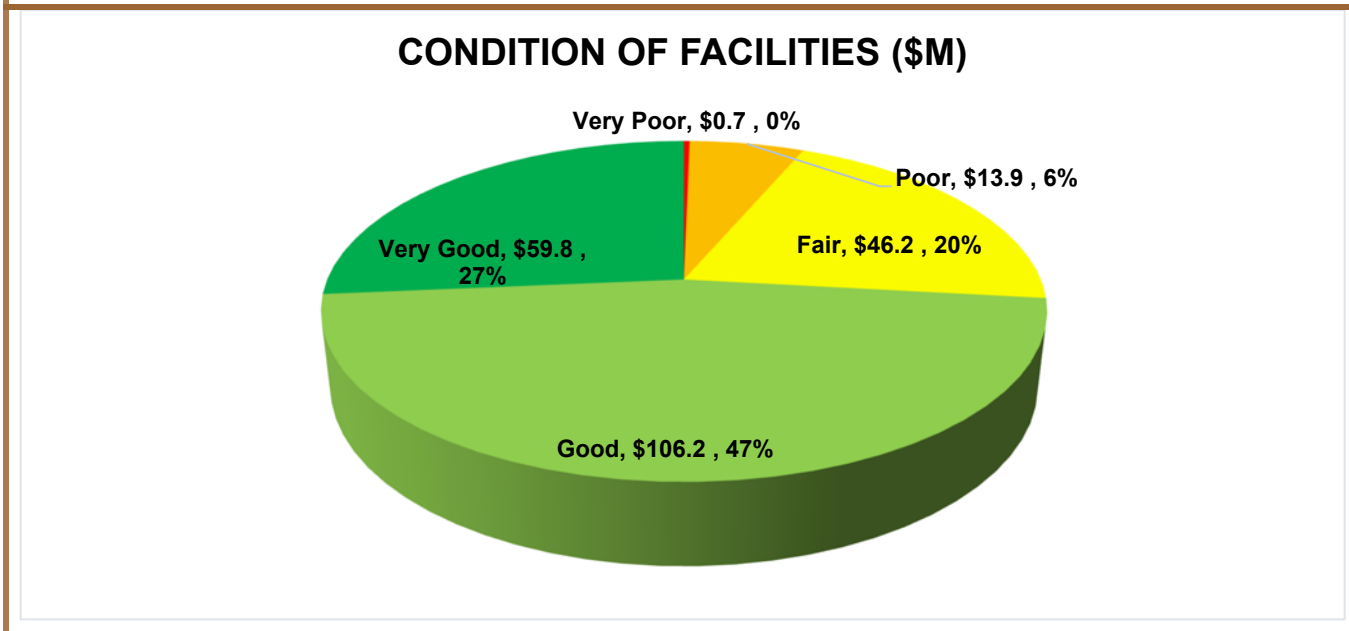
The following section summarizes the available replacement value and condition assessment information specific to the service areas considered under this plan and their major asset types.

Corporate Shared Facilities

GOOD

Total Asset Replacement Value:	$226.7 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining
Asset Management Policy:	To provide adequately maintained, innovative and safe facilities
Assets Included in this Category:	Corporate Shared Facilities
Data Confidence and Reliability:	Medium (Condition Based)

Asset replacement values were derived from the 2016 Facilities Department Asset Management Plan (DAMP); the DAMP utilized the valuations provided in the 2014 Suncorp Valuations Report. Over 70% of the City's facility assets are in Good to Very Good condition, with about 6% of the assets in Poor to Very Poor condition. As the City's 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, Public Works Operations and Transit are now included in their respective divisions.



Data Source: Draft Facilities Departmental Service Area Asset Management Plan

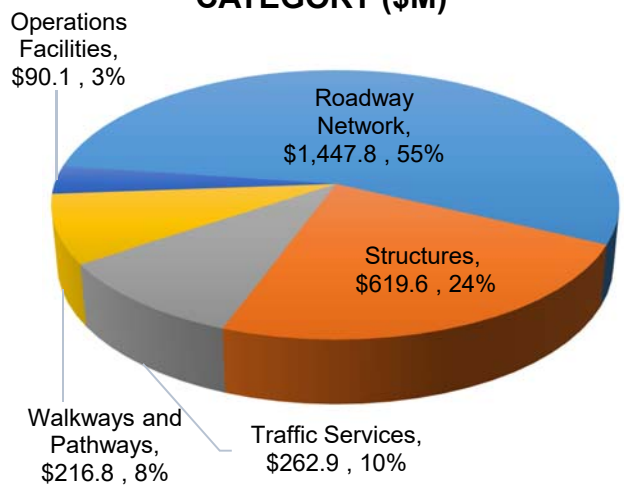
Transportation

GOOD

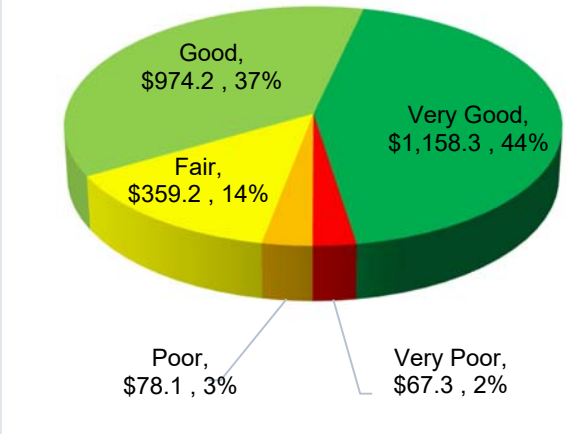
Total Asset Replacement Value:	$2.6 Billion
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining
Asset Management Policy:	To maintain safe roadways and roadsides enabling safe and efficient travel in a cost effective way
Assets Included in this Category:	Roadway Network, Structures, Walkways and Pathways, Traffic Services
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's transportation services infrastructure is $2.6 billion. Of this, the City's roadway network represents the largest component of transportation services, representing 55%, or $1.4 billion, of the total value. The City's transportation services asset base represents 45% of the City's entire $5.8 billion asset portfolio. Overall, the City's transportation services assets are in Good condition with only 5% 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)



CONDITION OF TRANSPORTATION ASSETS ($M)

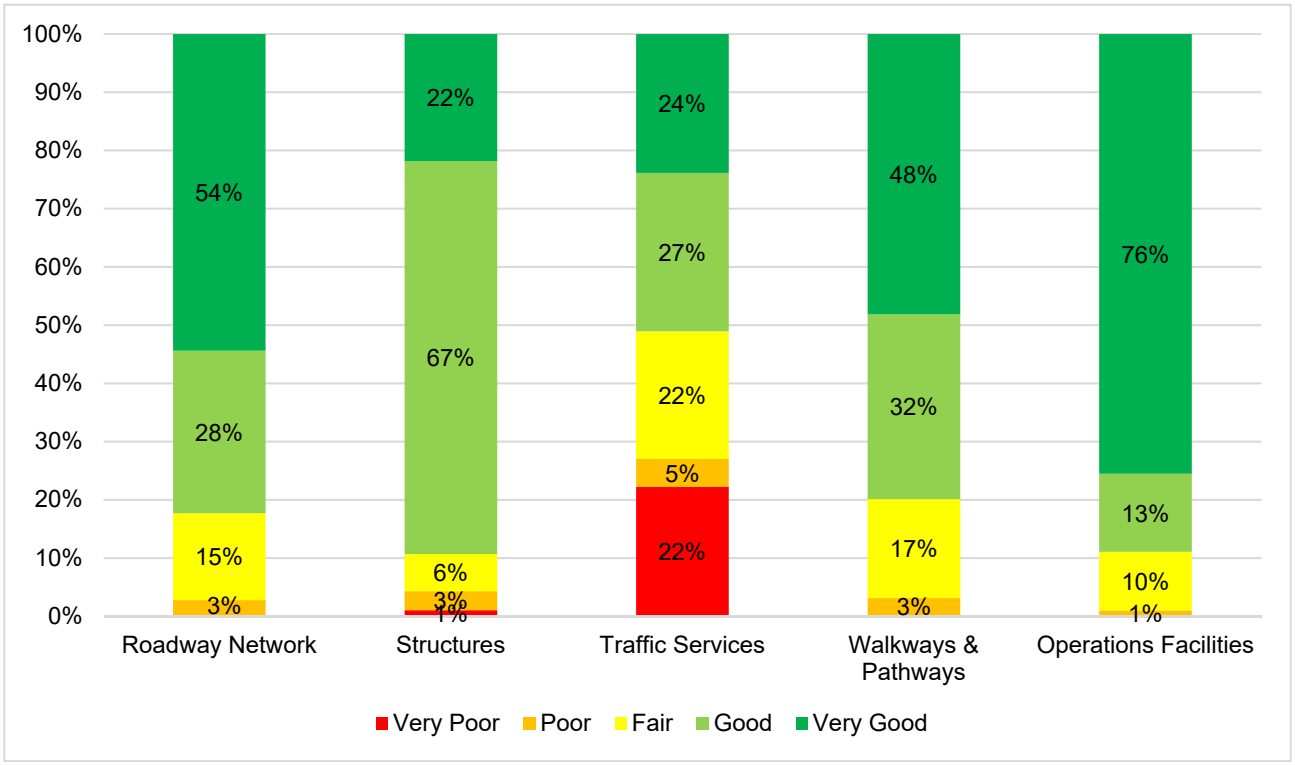


Data Source: Pavement and Bridge Management System, departmental inventories

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 does identify some assets to be in Very Poor condition which may require some attention.



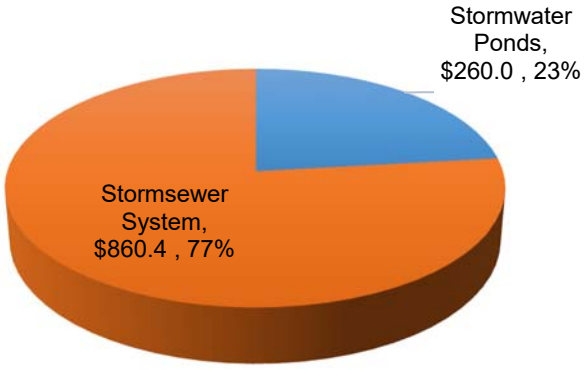
Stormwater

GOOD

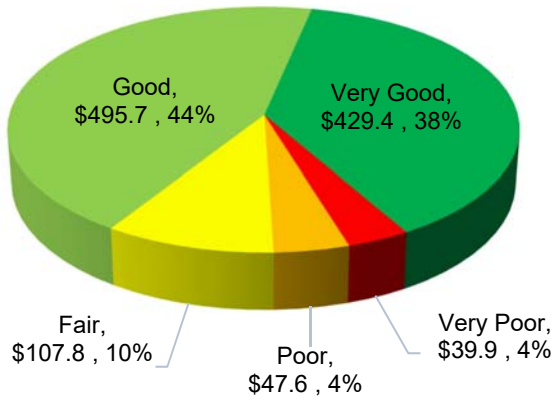
Total Asset Replacement Value:	$1.1 Billion
Current Condition:	Good
Future Condition Trend (next 10 years):	Increasing
Asset Management Policy:	To provide sustainable stormwater management in a safe, effective, and dependable way that ensures the protection of the environment.
Assets Included in this Category:	Stormsewer system and Stormwater Ponds
Data Confidence and Reliability:	Low (Age Based)

The total replacement value of the City's stormwater infrastructure is $1.1 billion. Over three-quarters of this value is related to the City's storm sewer linear network. Over 70% of the City's stormwater assets are in Good to Very Good condition, with the remaining assets close to, or past, the end of Service Life. As the City's stormwater services assets are overall in Good condition, these assets are meeting current needs but aging and may require attention.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)



TOTAL STORM ASSETS ($M)

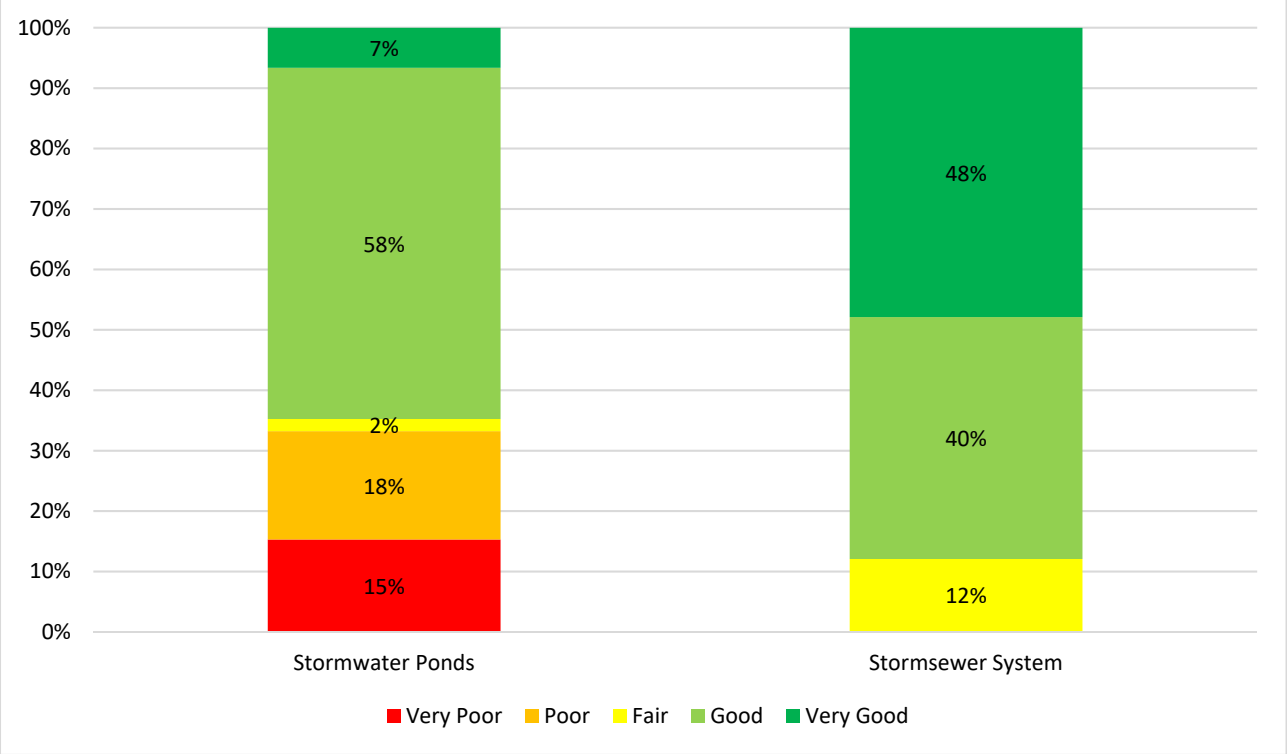


Data Source: Departmental Inventory

Stormwater GOOD

Major Types of Services within Stormwater

The figure below illustrates the condition of the two sub-component assets of stormwater services. Both sub-components are generally in Good to Very Good Condition, however, about 15% of the stormwater ponds are identified to be in Very Poor condition, which may require some attention.



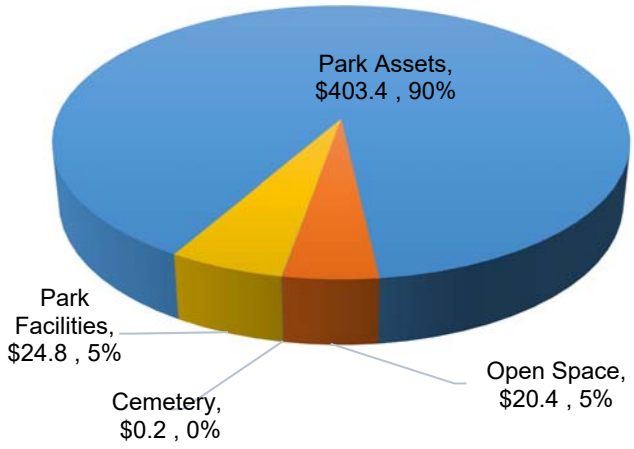
Parks

GOOD

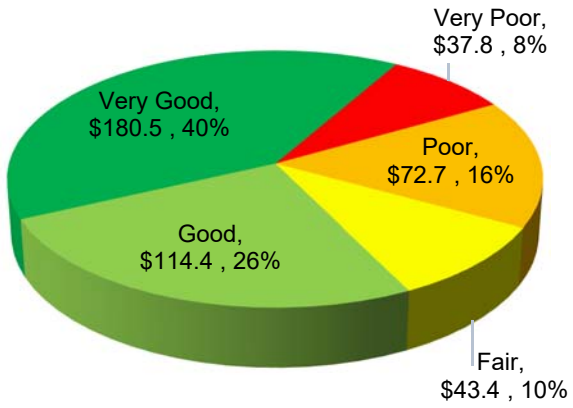
Total Asset Replacement Value:	$448.8 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining
Asset Management Policy:	Provide safe, clean parks and open space systems through proactive property management in a cost effective way
Assets Included in this Category:	Park Assets, Cemetery Assets, Park Facilities, and Open Space.
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's Parks infrastructure is $448.8 million, of which, 90% of the total value is related to the City's park assets. About 66% of the City's Parks 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 Parks assets are overall in Good condition, these assets are meeting current needs. However, these assets may require attention as they age over time.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)



CONDITION OF PARKS ASSETS ($M)



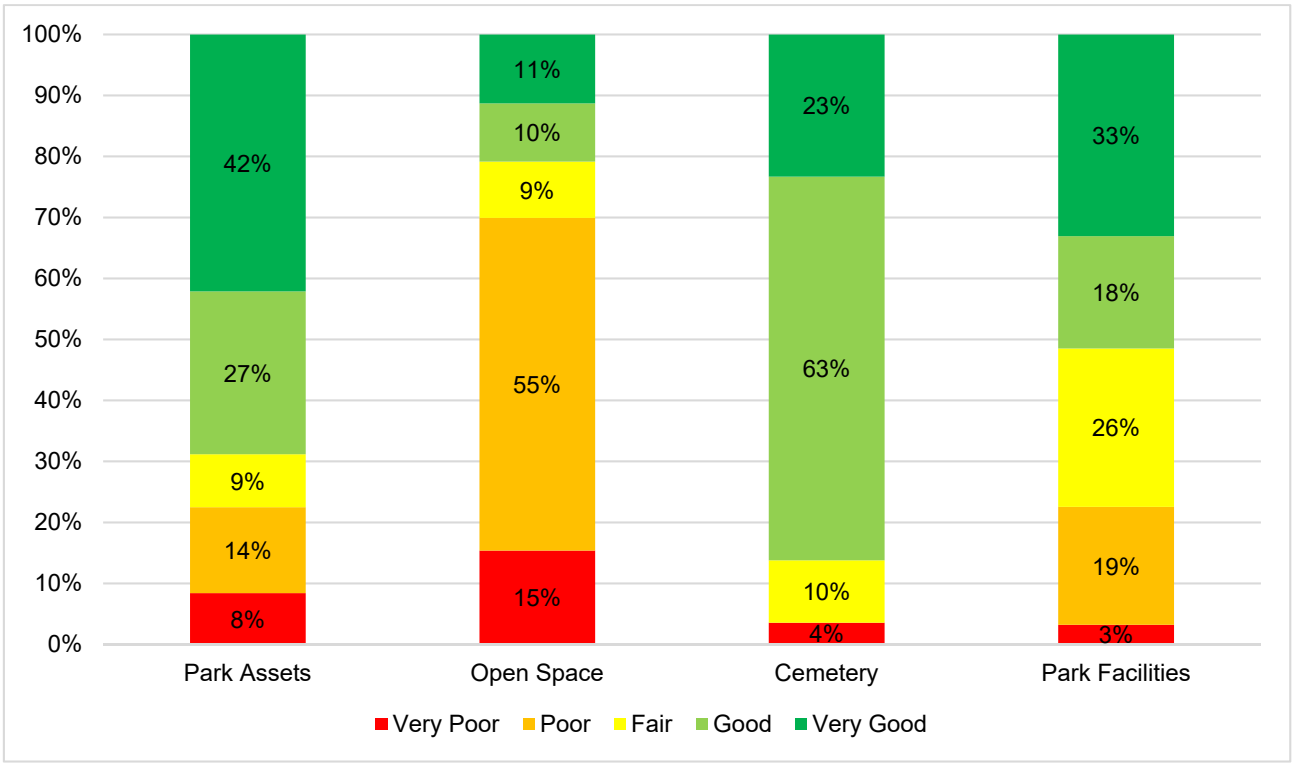
Data Source: departmental inventories, Development Charge Background Study, Parks and Recreation MasterPlan

Parks

GOOD

Major Types of Services within Parks

The figure below illustrates the condition of the four sub-component assets of Parks services. Park, facility, and cemetery assets are generally in Good to Very Good condition while open space properties have a considerable share of assets in poor to very poor condition, these assets may require attention as they continue to age over time.



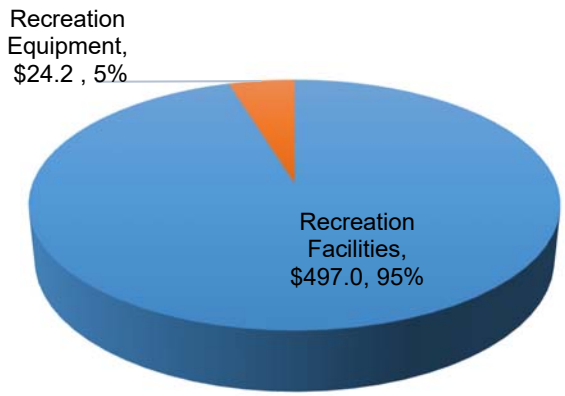
Recreation

GOOD

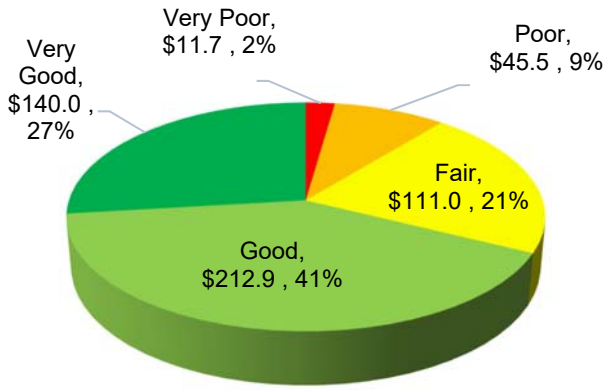
Total Asset Replacement Value:	$521.2 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining
Asset Management Policy:	Provide safe recreation areas to enable residents to have a healthy and active social life
Assets Included in this Category:	Recreation Facilities and Recreation Equipment
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's Recreation infrastructure is $521.2 million, of which, 95% of the total value is related to the City's recreational facilities. About 68% of the City's recreational 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 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)



CONDITION OF RECREATION ASSETS ($M)

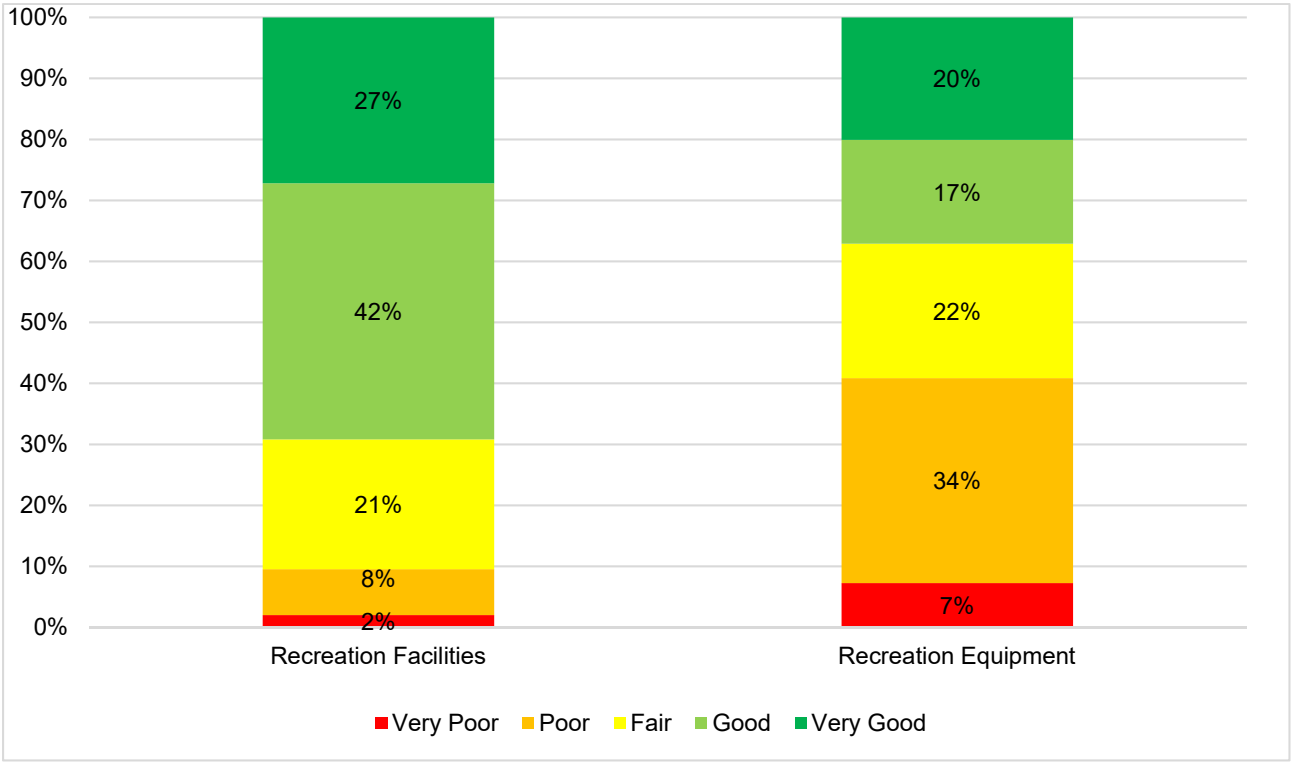


Data Source: departmental inventories, Development Charge Background Study, Parks and Recreation MasterPlan

Recreation GOOD

Major Types of Services within Recreation

The figure below illustrates the condition of the two sub-component assets of Recreation services. Recreation facility assets are generally in Good to Very Good condition while Recreation equipment 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.



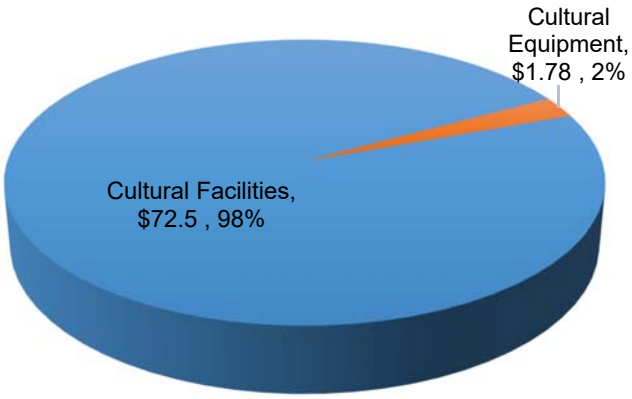
Culture

GOOD

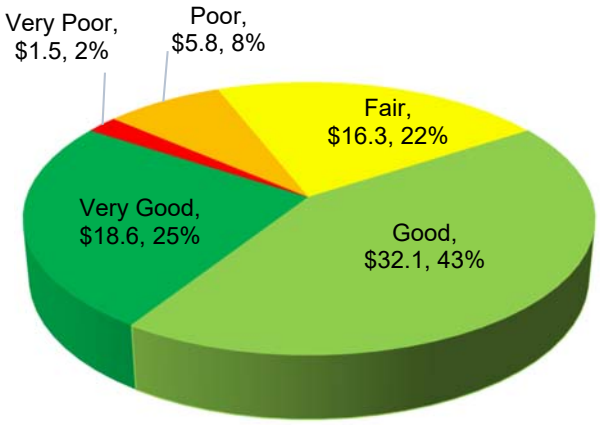
Total Asset Replacement Value:	$74.3 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining
Asset Management Policy:	To provide adequately maintained, innovative and safe facilities
Assets Included in this Category:	Cultural Facilities and Cultural Equipment
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's Cultural infrastructure is $74.3 million, of which, 98% of the total value is related to the City's cultural facilities. About 68% 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)



CONDITION OF CULTURE ASSETS ($M)

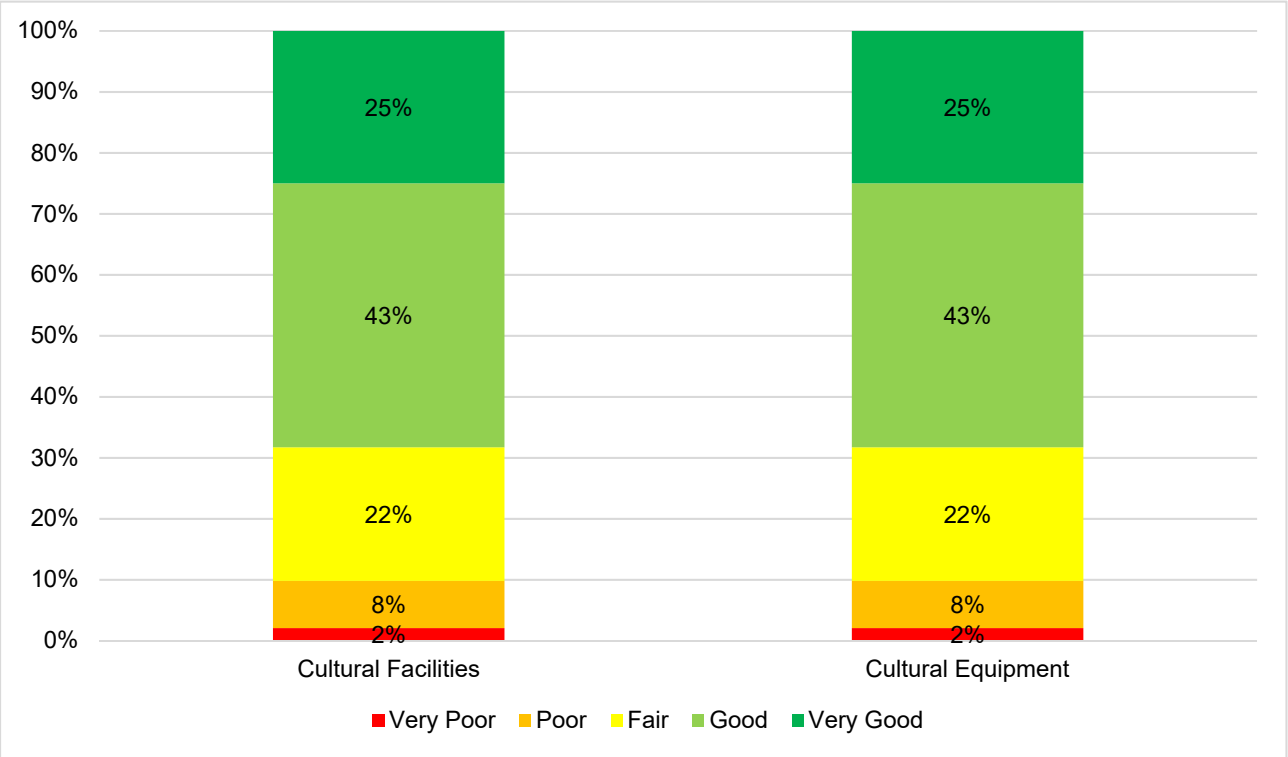


Data Source: departmental inventories and Draft Facilities Departmental Service Area Asset Management Plan

Culture GOOD

Major Types of Services within Culture

The figure below illustrates the condition of the two sub-component assets of Cultural services. Both cultural facilities and equipment assets are generally in Good to Very Good condition.



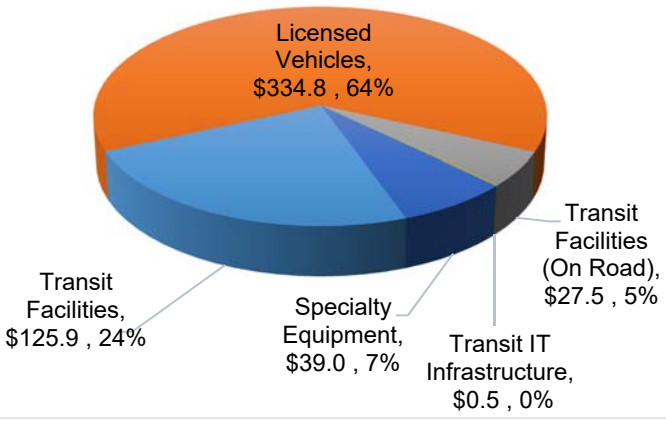
Transit

GOOD

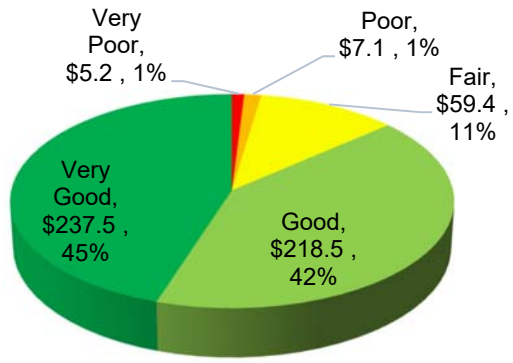
Total Asset Replacement Value:	$527.8 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Stable
Asset Management Policy:	To provide a safe, clean, reliable and cost effective transit service to our customers
Assets Included in this Category:	Facilities, Licensed Vehicles, Transit 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 $527.8 million, which is largely comprised of the City's licensed vehicles (e.g. transit fleet). About 87% 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. 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 stable future condition trend is attributable to the presence of upper level grants which will help to sustain the assets over the next ten years.

REPLACEMENT VALUE OF TRANSIT ASSETS ($M)



CONDITION OF TRANSIT ($M)



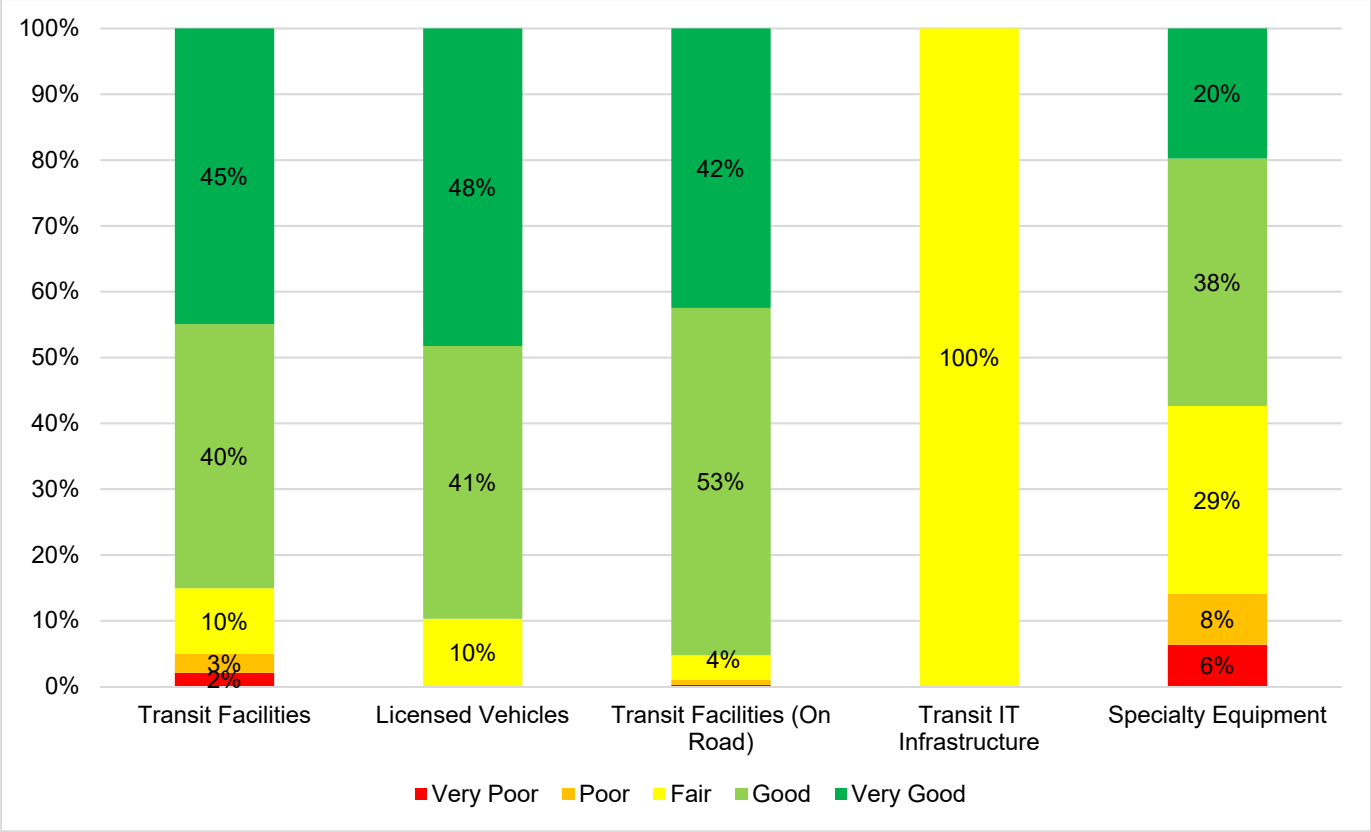
Data Source: Maintenance Management System (M5), Lifecyle Management Plans, departmental inventory

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 Transit IT infrastructure assets are all in Fair condition. Assets in very poor condition are limited and related to transit facilities and some speciality equipment..



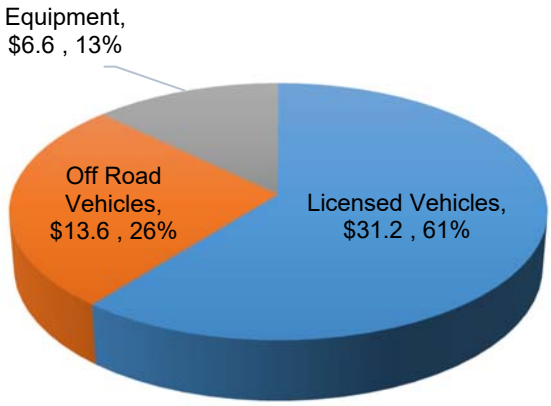
Corporate Shared Fleet

FAIR

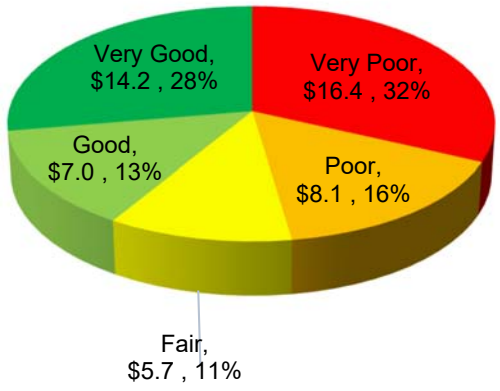
Total Asset Replacement Value:	$51.4 Million
Current Condition:	Fair
Future Condition Trend (next 10 years):	Stable
Asset Management Policy:	Provide cost effective vehicle and equipment management services to efficiently deliver municipal services.
Assets Included in this Category:	Licensed Vehicles, Off Road Vehicles and Equipment
Data Confidence and Reliability:	Low (Age Based)

The total replacement value of the City's shared fleet assets is $51.4 million, of which, over 60% of the total value is related to the City's licensed vehicles. About 41% of the City's assets are considered to be in Good to Very Good condition. However, it is important to note that nearly half of the City's shared fleet are also considered to be in Poor to Very Poor condition indicating widespread signs of deterioration. The City recognizes the current condition of its fleet assets and forthcoming capital budget exercises illustrate a commitment to replace aged assets.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)



CONDITION OF FLEET ($M)



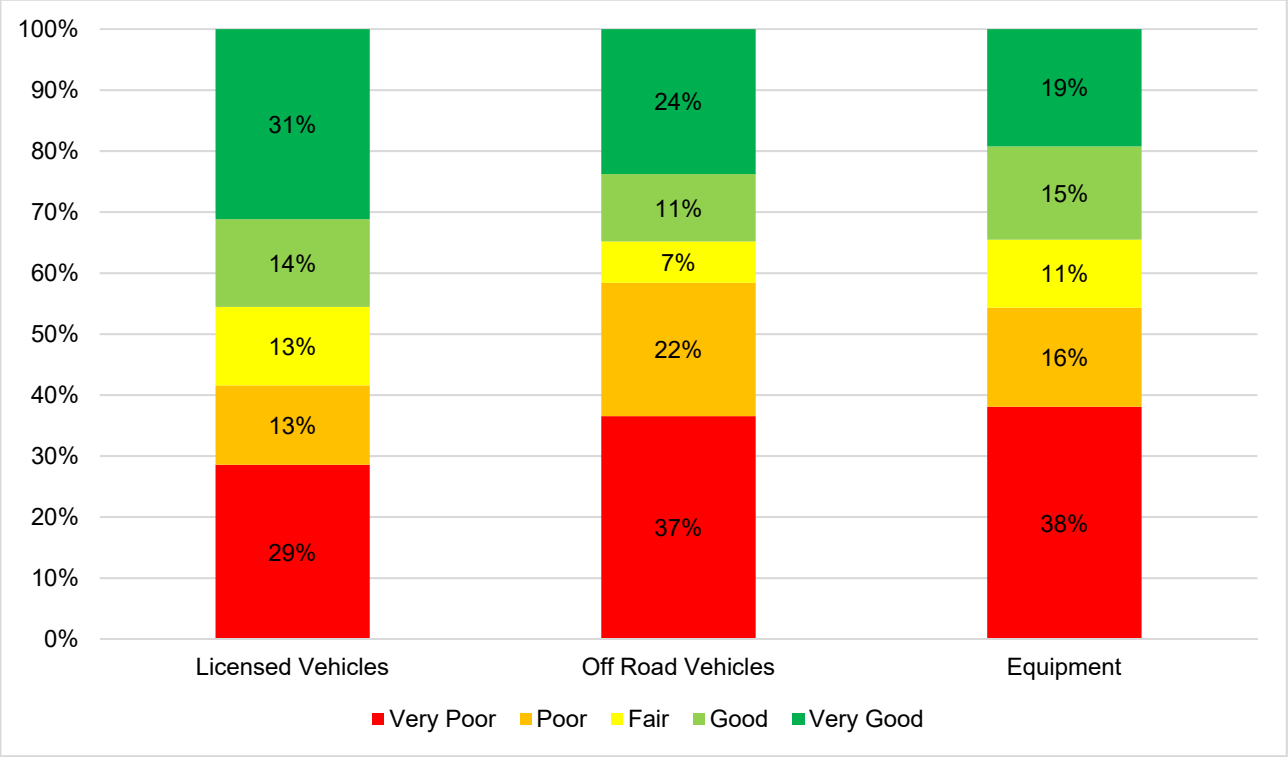
Data Source: M5, Fleet Management Exports

Corporate Shared Fleet

FAIR

Major Types of Services within Corporate Shared Fleet

The figure below illustrates the condition of the three sub-component assets of Corporate Shared Fleet services. Generally, all three sub-components areas indicate a portion of assets to be in Poor to Very Poor condition indicating these assets will likely require attention in the short-term.



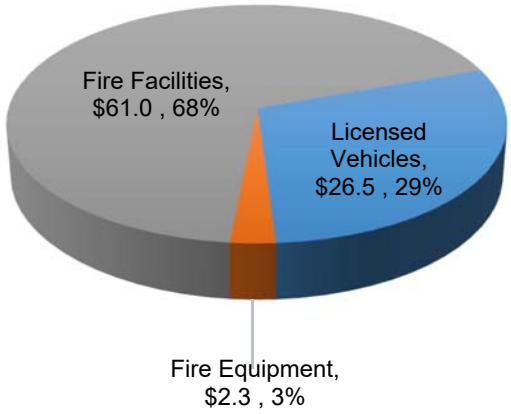
Fire Services

GOOD

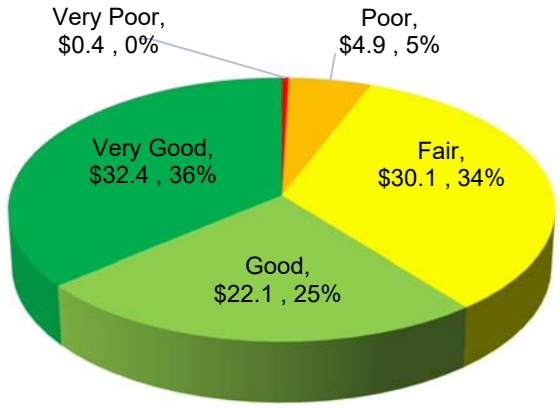
Total Asset Replacement Value:	$89.8 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Stable
Asset Management Policy:	To provide reliable and essential services as it relates to fire protection and emergency preparedness services
Assets Included in this Category:	Fire Facilities, Licensed Vehicles, and Fire Equipment
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's fire assets is $89.8 million, of which, 68% of the total value is related to the City's fire facilities. Around 60% of the City's fire service assets are in Good to Very Good condition and are capable of meeting current and future needs. As the fire fleet and equipment assets are overall in Good condition, this indicates that assets are functional and meeting current needs, but may require attention in the future.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)



TOTAL FIRE ASSETS ($M)



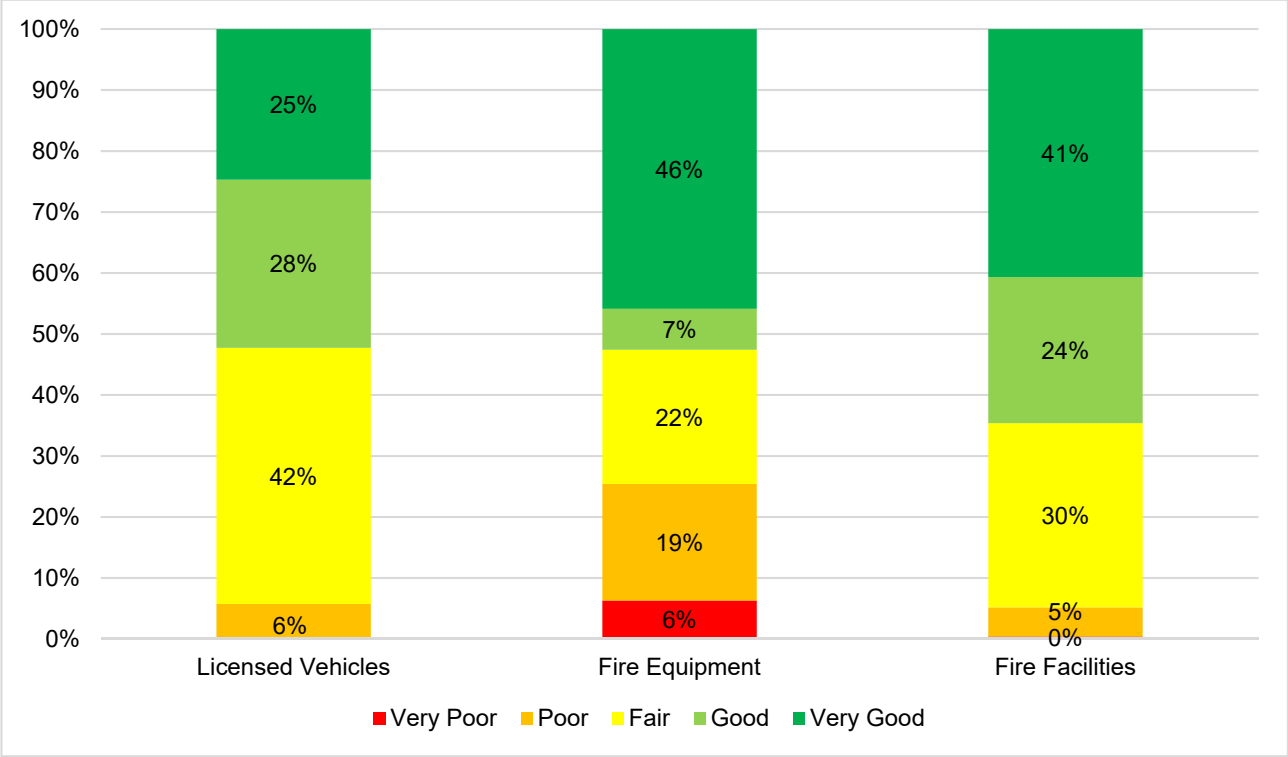
Source: M5, Fleet Management Exports and departmental inventories

Fire Services

GOOD

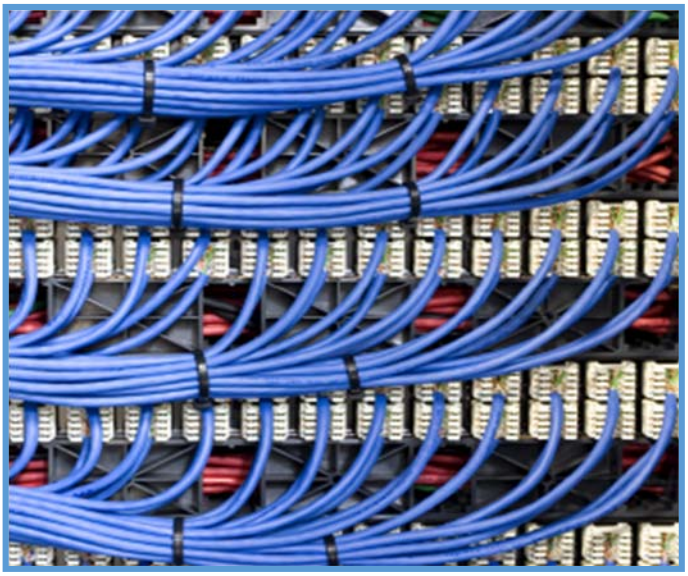
Major Types of Assets in Fire Services

The figure below illustrates the condition of the three sub-component assets of fire services. All sub-component asset categories are generally in Good to Very Good Condition. Fire equipment does indicate about 25% of assets to be in Poor to Very Poor condition, although, given the frequent replacements of fire equipment, the poor assets will likely be addressed in the short-term through the City's regular capital budgeting process.



Information Technology

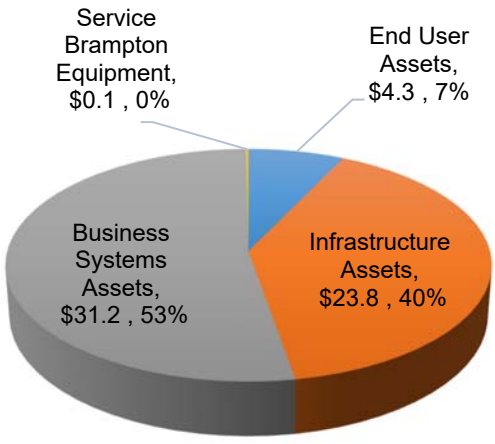
GOOD



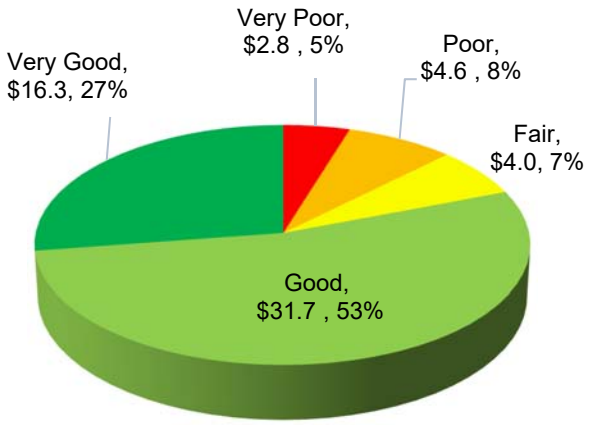
Total Asset Replacement Value:	$59.3 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Stable
Asset Management Policy:	To manage IT in an efficient and cost effective way.
Assets Included in this Category:	Infrastructure Assets, End User Assets, Business System Assets and Service Brampton Equipment.
Data Confidence and Reliability:	Low (Age Based)

The total replacement value of the City's IT assets is $59.3 million, of which, over 50% of the total value is related to the City's business systems assets (e.g. software). Approximately 80% of the City's Information Technology assets are in Good to Very Good condition, although, about 13% of the assets are rated to be in Poor to Very Poor Condition. As IT services continues to transform its business from hardware based to cloud based solutions, the Poor condition assets will likely then be addressed through future capital budgeting exercises. Overall, the City's IT assets are in Good condition and are meeting current needs.

REPLACEMENT VALUE BY ASSET CATEGORY ($M)



CONDITION OF IT ASSETS ($M)



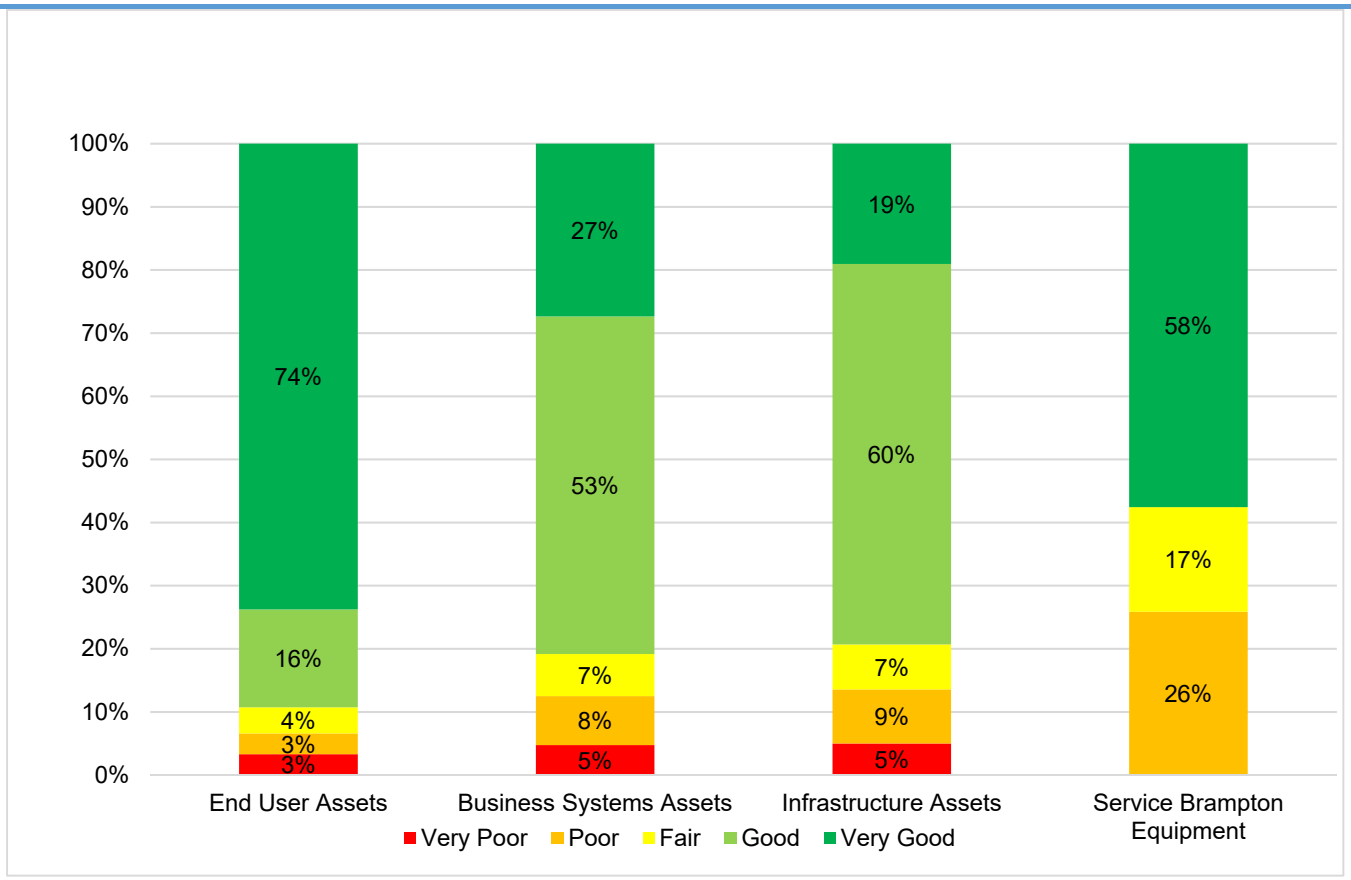
Data Source: Departmental inventory

Information Technology

GOOD

Major Types of Assets within IT

The figure below illustrates the condition of the four sub-component assets of IT services. All sub-component asset categories are generally in Good to Very Good Condition.



Library

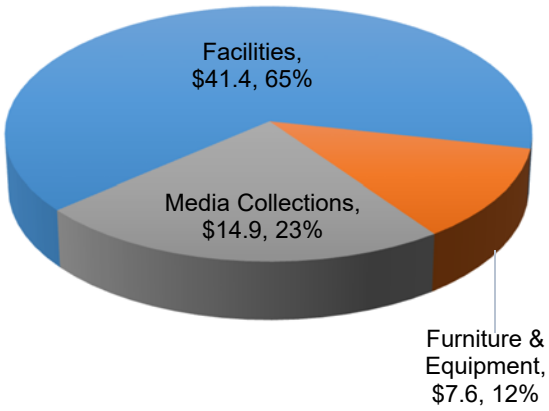
GOOD

Total Asset Replacement Value:	$64.0 Million
Current Condition:	Good
Future Condition Trend (next 10 years):	Declining
Asset Management Policy:	Brampton library services assets ensuring the efficient and effective operation of the Library system
Assets Included in this Category:	Facilities, Media Collections, Furniture & Equipment
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

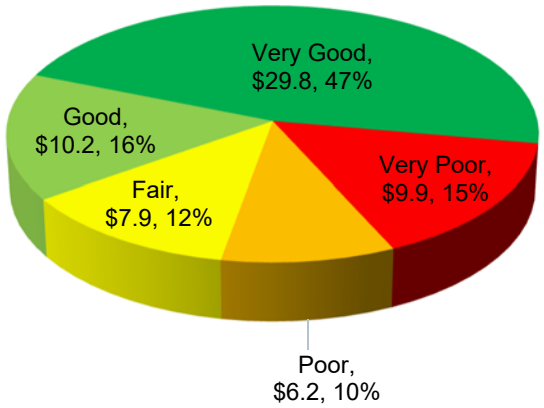
The total replacement value of the library assets is $64.0 million. The asset replacement values were derived from the 2016 Facilities Department Asset Management Plan (DAMP) and the City's PSAB database. The DAMP utilized the valuations provided in the Suncorp Valuations Report. Of the $64.0 million replacement value, about 65%, or $41.4 Million, is attributed to library facilities. Furthermore, about 23%, or $14.9 million is attributed to media collections while the remaining $7.6 million is attributed to furniture and equipment.

About 63% of the library assets are in Good to Very Good condition, however, 25% 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)



LIBRARY SERVICES - CONDITION ANALYSIS ($M)



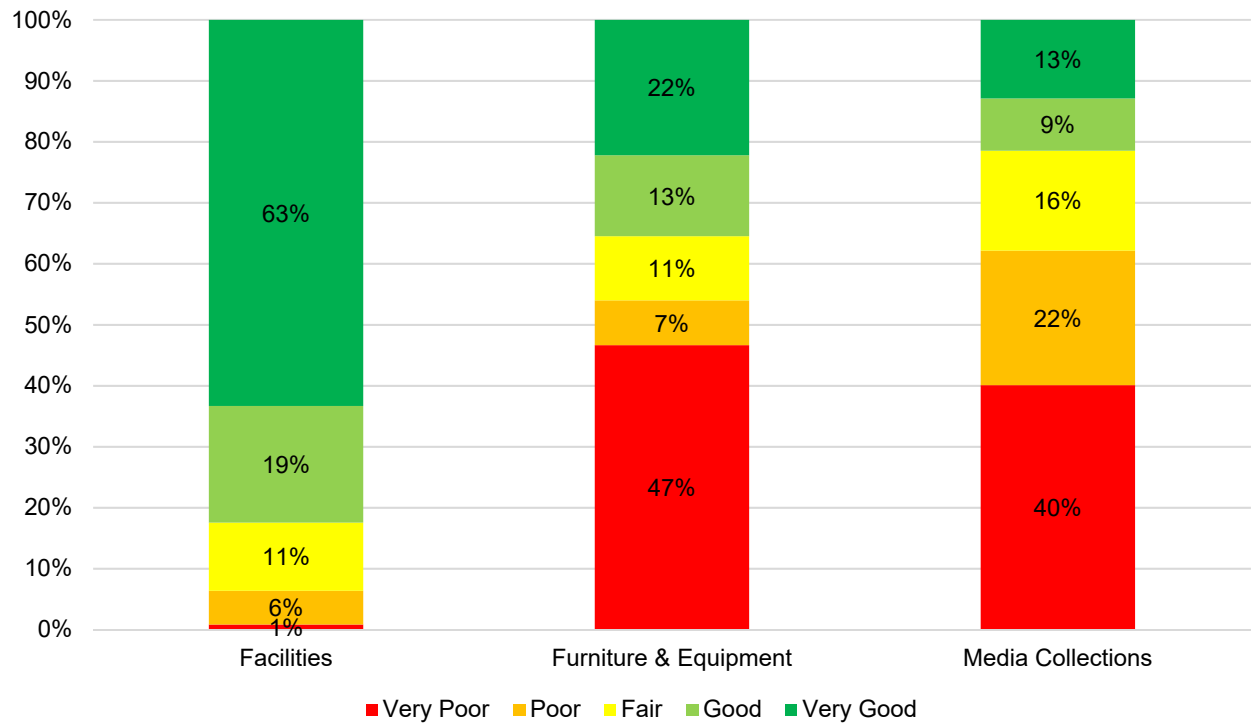
Data Source: Draft Facilities Departmental Service Area Asset Management Plan and PSAB data

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.



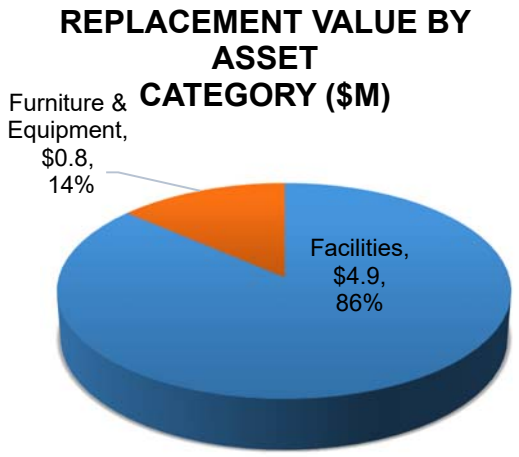
Note: Library Facilities as noted here are only the standalone facilities. The balance of the facilities are captured under Recreational facilities in this current SOLI 2018-edition. The shared facilities include the Chinguacousy Resource Branch, Gore Meadows Branch, Mount Pleasant Village, and South Fletchers Branch.

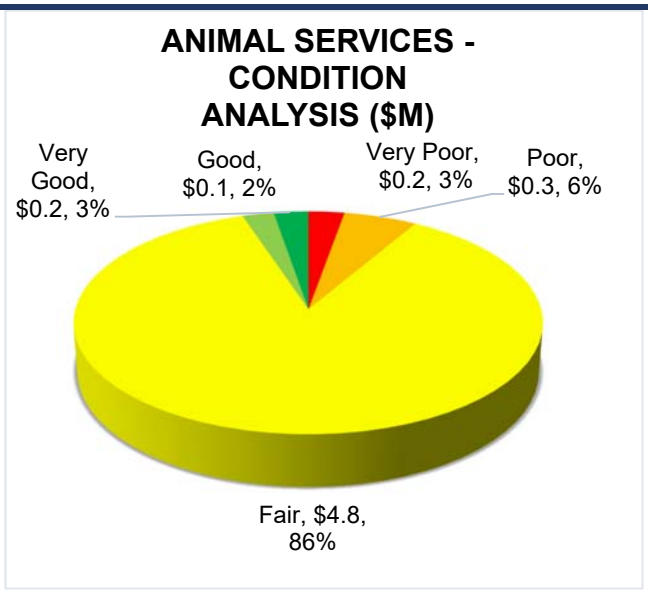
Animals Services

FAIR

Total Asset Replacement Value:	$5.7 Million
Current Condition:	Fair
Future Condition Trend (next 10 years):	Declining
Asset Management Policy:	To manage animal service assets by helping pet owners care responsibly for their domestic pets.
Assets Included in this Category:	Facility, furniture and equipment (including fleet). Leased assets are not included*
Data Confidence and Reliability:	Low-Medium (Age and Condition Based)

The total replacement value of the City's animal service assets is $5.7 million. Of this, the City's animal service facility represents the largest component at 86%, or $4.9 million, of the total value. Animal services fleet (and associated accessories) are included in the equipment category. Overall, the animal service assets are in Fair condition with about 3% of the total asset base rated in Very Poor condition. The very poor condition assets are related to animal services equipment.





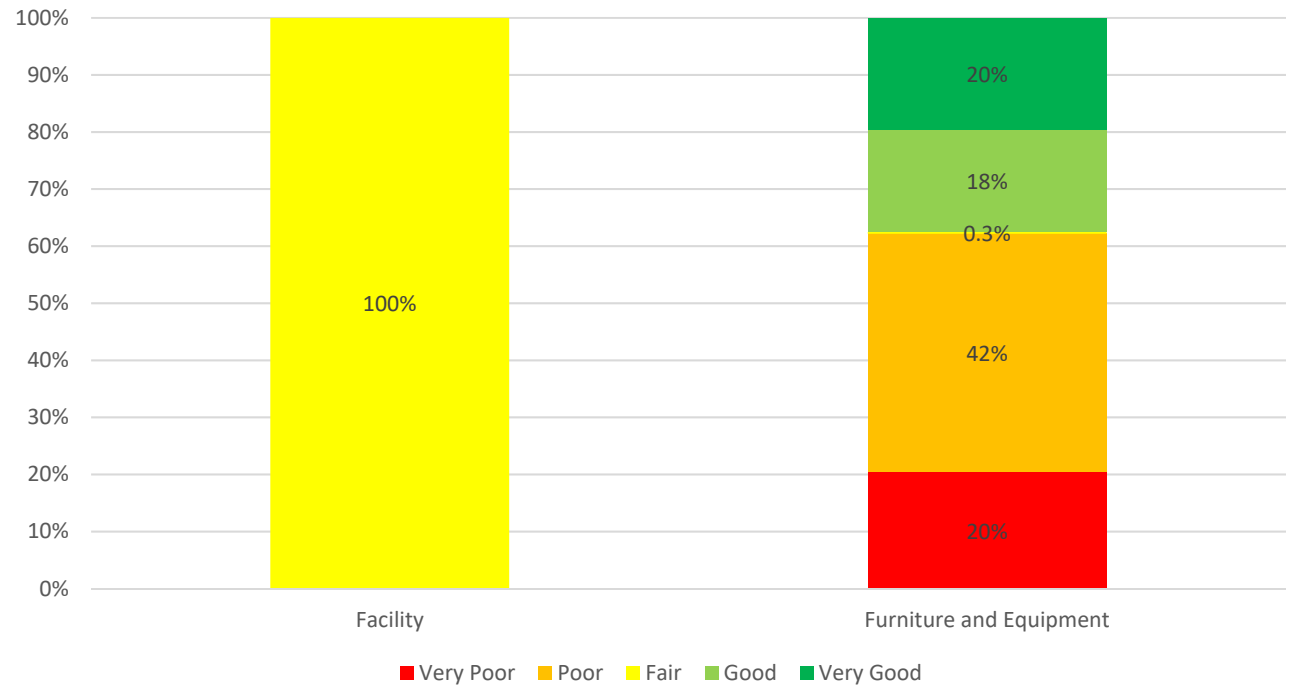
Data Source: Departmental Inventory,PSAB data, M5 Database

**IT assets utilized within this service area are included in the corporate IT services section.*

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 facility is in overall fair condition while the condition of furniture and equipment assets vary by category. Although 38% of furniture and equipment assets are in Good to Very Good condition, about 62% of the assets are considered to be in Poor or Very Poor condition. The very poor condition assets are related to animal service fleet assets, which the condition is estimated on the remaining useful of the asset.



Note 1: Future iterations of the SOLI report can be used to reflect refined datasets and additional inventory information (e.g. specialty equipment) that may not have been captured in this 2018 report.

Note 2: IT assets utilized within this service area are included in the corporate IT services section

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 Corporate Asset Management Plan. 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	M5 Fleet Management Exports
Corporate Shared Fleet	M5 Fleet Management Exports, WebTech/Fleet Centre, TECC
Stormwater	Departmental Inventory (Excel based tracking), SWM Soft.
Parks	Parks and Recreation Master Plan Inventory, Development Charges Study, TCA Inventory (Excel based tracking)
Recreation	Departmental Inventory (Excel based tracking)
Culture	Departmental Inventory (Excel based tracking)
Transit	M5 Fleet Management Exports, Lifecycle Management Plans, Departmental Inventory (Excel based tracking)
Transportation	Pavement and Bridge Management Systems, departmental inventories (excel based tracking), Traffic Signal Control System, Cityworks, Deighton
IT	Departmental inventory (Excel based tracking), HEAT (ITSM),
Corporate Shared Facilities	Departmental Inventory (Excel based tracking)
Library	Departmental Inventory (Excel based tracking)
Animal Services	Departmental Inventory (Excel based tracking)

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

3.4 Infrastructure Deficit

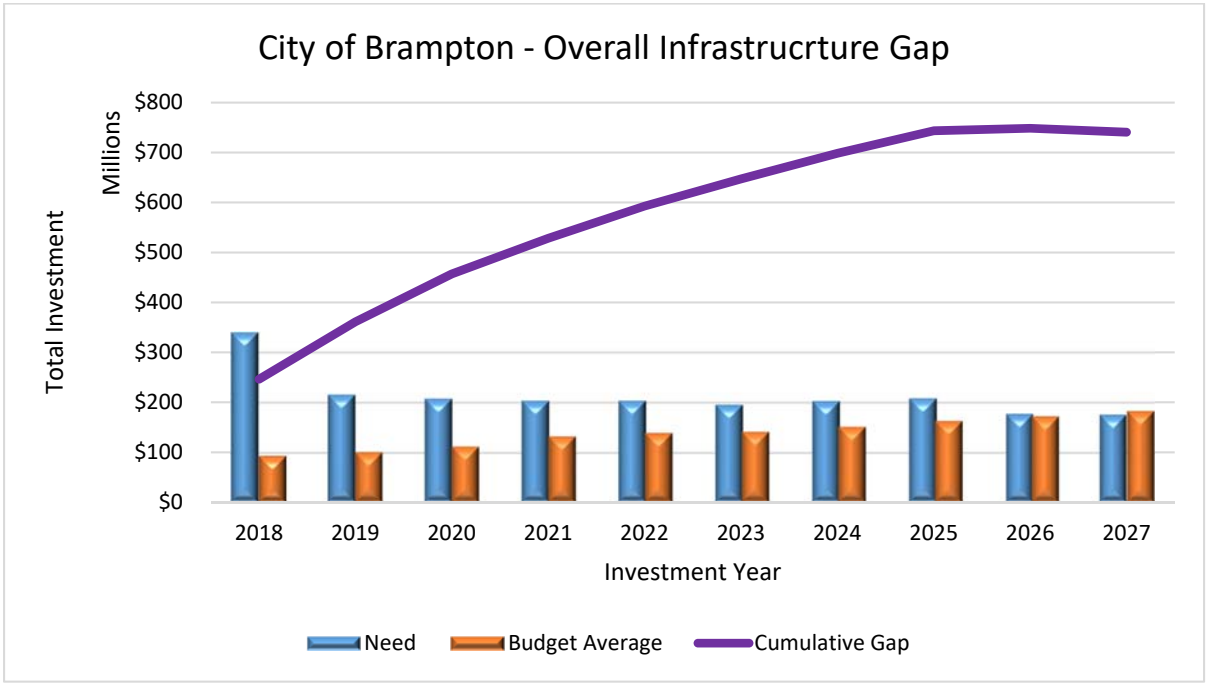
This section describes the City's infrastructure funding gap. The funding gap results from a comparison of forecasted funding levels over the coming decade against calculated capital expenditure needs for asset replacement.

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 a result of annual increase to the infrastructure levy, which is based on 2 per cent of the tax levy.

The infrastructure gap estimate is derived from 2018 data and projected for the next ten years. Over the coming decade, the City of Brampton forecasts spending of about $1.4 billion to address the life cycle needs of its assets. This is comprised of $953 million in infrastructure levy funding, $294 million in Federal Gas Tax funding, $19.0 million in existing reserve fund balances, $47.0 million in the Public Transit Infrastructure Funding (PTIF - Phase 2) for transit replacement, and $73 million in internal financing and other funding. 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 $743 million by 2027, up from its current level of $246 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 existing assets, according to various asset useful life and replacement cost assumptions.

- **Budget Average**: The orange bars represent the total planned 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 amount of investment today that would be required to address the risk represented by assets nearing the end of their estimated useful lives. These needs do not include allowances for growth, inflation or service improvements. Based on current funding plans, the infrastructure gap is projected to grow steadily over the next decade.

The growing infrastructure gap can mainly be attributed to the insufficient investments planned for transportation and stormwater services. It is important to recognize that much of the accumulated infrastructure gap is associated with the existing backlog of "overdue" infrastructure requirements in 2018 and 2019. By the end of the ten-year planning period (in 2027), the City's projected expenditures equal the investment needed thereby mitigating future increases in the cumulative gap.

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 $246 million represents about 4 per cent of the $5.8 billion asset base (land exclusive), the City's gap could be considered well managed.

3.5 Summary of the 2018 State of the Local Infrastructure Report

- The total replacement value of all assets covered under this plan is $5.8 billion. Of the $5.8 billion, transportation services represent the largest share at 45%, or $2.6 billion, of the total value.
- Overall, a high proportion (about 78% or $4.5 billion) of City assets are considered to be in "Good" to "Very Good" condition. Less than 10% ($488.7 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, Recreation and Stormwater assets comprise about 50% of all the "Very Poor" condition assets.
- The overall Data Confidence presented in this report is assessed as "Low-Medium: Age-Condition Based". Therefore, in many areas, the data regarding asset condition needs to be improved so future investment decisions can be better informed.
- This level of investment outlined in this analysis will result in the infrastructure gap reaching approximately $743 million by 2027, up from its current level of $246 million.

- Future reports will be based on a more robust data collection process specifically tailored for SOLI reporting, and will also focus on the performance of the assets in terms of their ability to meet demand/capacity and functional requirements.