CITY OF BRANTFORD

2025 Asset Management Plan

Fleet and Transit
City of Brantford, Ontario

Prepared by: Infrastructure Planning Asset Management, Public Works
Corporation of the City of Brantford, June 2025

RECORD SHEET

ROLE	NAME
WRITERS:	Nora Fleming, C.E.T., rcji Asset Management Specialist Public Works – Engineering Services
CONTRIBUTORS:	**Infrastructure Planning** Sharon Anderson, P.Eng., Supervisor of Asset Management Jeff Bellhouse, Infrastructure Planning Technologist **Fleet and Transit Services** Shane Pepper, Fleet Manager Gerry McIlhone, Manager of Transit
REVIEWERS:	Mike Abraham, C.E.T., Manager of Infrastructure Planning
RECOMMENDED BY:	Michael Bradley, Chief Administrative Officer
APPROVED BY:	Brantford City Council – Report No. 2025-28

2025 Asset Management Plan	**Publishing Date**
Council Review	June 3, 2025
Council Approval	June 24, 2025

Asset Management Document Set	Asset Group	First Issuance	Current Issuance
Strategic Asset Management Policy	All	May 2019	May 2019
Asset Management Plan Overview	Core & Non-Core Assets	June 2024	June 2025
Asset Management Plan, Core Assets	Environmental Services Transportation	September 2021	June 2025
Asset Management Plan, Non-Core Assets	Police	June 2024	This Document
Asset Management Plan, Non-Core Assets	Airport Cemetery Clerks Services Economic Development & Tourism Facilities Fire Fleet & Transit Forestry & Horticulture Golf Housing Human Resources IT Services Library Parking Parks & Recreation Records & Printing Solid Waste	June 2024	June 2025
Asset Management Plan, Non-Core Assets	JNH	TBD	TBD

ASSET MANAGEMENT PLAN
FLEET & TRANSIT SERVICES

TABLE OF CONTENTS

RECORD SHEET **1**

FLEET AND TRANSIT INTRODUCTION **8**

1. FLEET **9**

1.1. INTRODUCTION 9

1.2. FLEET ASSETS' DATA INVENTORY AND CONDITION APPROACH 9

1.2.1. SERVICE LIFE 12

1.2.2. CONDITION SCORING 13

1.3. SUMMARY OF FLEET ASSETS 14

1.3.1. TOTAL SUMMARY OF ASSETS 14

1.3.2. LIGHT-DUTY VEHICLES 16

1.3.3. HEAVY-DUTY VEHICLES 17

1.3.4. TRANSIT BUSES 18

1.3.5. OFF-ROAD VEHICLES 19

1.3.6. ACCESSORIES AND PERIPHERALS 20

1.4. LIFECYCLE OF FLEET ASSETS 22

1.4.1. KEY LIFECYCLE STAGES OF FLEET ASSETS 22

1.4.2. LIFECYCLE ACTIVITIES 24

1.4.3. RISKS OF LIFECYCLE ACTIVITIES 26

1.4.4. 10 YEAR LIFECYCLE COSTS OF FLEET ASSETS 27

1.5. CURRENT LEVELS OF SERVICE 31

1.5.1. O. REG. 588/17 CUSTOMER LEVELS OF SERVICE 31

1.5.2. O. REG. 588/17 TECHNICAL LEVELS OF SERVICE 31

1.5.3. MUNICIPALLY DEFINED CUSTOMER LEVELS OF SERVICE 32

1.5.4. MUNICIPALLY DEFINED TECHNICAL LEVELS OF SERVICE 33

1.5.5. PROPOSED FUTURE LEVEL OF SERVICE TARGETS 34

1.5.6. AFFORDABILITY AND ACHEIVABILITY CONFIDENCE 36

1.5.7. LEVEL OF SERVICE LIFECYCLE COST CONSIDERATIONS 38

1.6. CURRENT ASSET PERFORMANCE 41
1.6.1. FLEET CURRENT ENERGY PERFORMANCE 41
1.6.2. FLEET CURRENT OPERATING PERFORMANCE 42
1.6.3. FLEET SUSTAINABILITY PERFORMANCE 43
1.7. DISCUSSION & CONCLUSIONS 44
2. TRANSIT SERVICES ASSETS 46
2.1. INTRODUCTION 46
2.2. TRANSIT SERVICES ASSETS' DATA INVENTORY AND CONDITION APPROACH 46
2.2.1. SERVICE LIFE 49
2.2.2. CONDITION SCORING 50
2.3. SUMMARY OF TRANSIT SERVICES ASSETS 51
2.3.1. TOTAL SUMMARY OF ASSETS 51
2.3.2. BUS SIGNAGE 52
2.3.3. BUS SHELTERS 53
2.3.4. BUS PADS 54
2.4. LIFECYCLE OF TRANSIT SERVICES ASSETS 56
2.4.1. KEY LIFECYCLE STAGES OF TRANSIT SERVICES ASSETS 56
2.4.2. LIFECYCLE ACTIVITIES 58
2.4.3. RISKS OF LIFECYCLE ACTIVITIES 59
2.4.4. 10 YEAR LIFECYCLE COSTS OF TRANSIT SERVICES ASSETS 60
2.5. CURRENT LEVELS OF SERVICE 64
2.5.1. O. REG. 588/17 CUSTOMER LEVELS OF SERVICE 64
2.5.2. O. REG. 588/17 TECHNICAL LEVELS OF SERVICE 64
2.5.3. MUNICIPALLY DEFINED CUSTOMER LEVELS OF SERVICE 65
2.5.4. MUNICIPALLY DEFINED TECHNICAL LEVELS OF SERVICE 66
2.5.5. PROPOSED FUTURE LEVEL OF SERVICE TARGETS 68
2.5.6. AFFORDABILITY AND ACHEIVABILITY CONFIDENCE 70
2.5.7. LEVEL OF SERVICE LIFECYCLE COST CONSIDERATIONS 71
2.6. CURRENT ASSET PERFOMANCE 73
2.6.1. TRANSIT SERVICES CURRENT ENERGY PERFORMANCE 73

2.6.2. TRANSIT SERVICES CURRENT OPERATING PERFORMANCE 73
2.6.3. TRANSIT SUSTAINABILITY PERFORMANCE 74
2.7. DISCUSSION & CONCLUSIONS 75

TABLE OF TABLES

Table 1: Asset Type Breakdown 8
Table 2: Fleet Assets' Data Origin and Confidence Level 10
Table 3: Fleet Assets' Estimated Service Life 12
Table 4: Condition Score Description 13
Table 5: Total Summary of Fleet Assets 15
Table 6: Lifecycle Activities for Fleet Assets 24
Table 7: Municipally Defined Customer Levels of Service 32
Table 8: Levels of Service KPIs 33
Table 9: Technical Levels of Service KPIs 34
Table 10 Affordability and Achievability Confidence 36
Table 11: Lifecycle Options and Associated Risks 38
Table 12: Current Energy Performance for Fleet assets 41
Table 13: Current Operating Performance for Fleet assets 42
Table 14: Asset Sustainability Index 43
Table 15: Transit Services Assets' Data Origin and Confidence Levels 47
Table 16: Transit Services Assets' Estimated Service Life 49
Table 17: Condition Score Description 50
Table 18: Total Summary of Transit Services Assets 51
Table 19: Lifecycle Activities for Transit Services Assets 58
Table 20: Municipally Defined Customer Levels of Service 65
Table 21: Levels of Service KPIs 67
Table 22: Technical Levels of Service KPIs 68
Table 23: Affordability and Achievability Confidence 70
Table 24: Lifecycle Options and Associated Risks 71
Table 14: Asset Sustainability Index 74

TABLE OF FIGURES

Figure 1: Light-Duty Vehicle Asset Summary 16
Figure 2: Heavy-Duty Vehicle Asset Summary 17
Figure 3: Transit Buses Asset Summary 18
Figure 4: Off-Road Vehicle Asset Summary 19
Figure 5: Accessories and Peripherals Asset Summary 21
Figure 6: Lifecycle Stages of Fleet Assets 22
Figure 7: 10-Year Lifecycle Cost per Fleet Asset Type for Current & Proposed Levels of Service 28
Figure 8: Existing Capital Budget Forecast from 2025–2034 for Fleet Assets 30
Figure 9: Bus Signage Asset Summary 52
Figure 10: Bus Shelter Asset Summary 53
Figure 11: Bus Pad Asset Summary 55

Figure 12: Lifecycle Stages of Transit Services Assets 56
Figure 13: 10-Year Lifecycle Cost For Current & Proposed Levels of Service 61
Figure 14: Existing Capital Budget Forecast from 2025-2034 for Transit Services Assets 63

FLEET AND TRANSIT INTRODUCTION

Per O. Reg. 588/17 all municipal infrastructure assets which fall outside of the core asset categories (water, wastewater and stormwater) and their respective subcategories, shall be non-core or “other” infrastructure assets. These assets shall have qualitative descriptions and technical metrics established by the municipality.

Table 1 below outlines which Asset Types are included under each Asset Class and will be reported on in this AMP. In addition, it is important to note that the AMP only includes assets owned by the City or Local Boards and does not include assets that are owned privately or by other organizations.

Fleet Facilities are included within the Facilities Asset Management Plan.

Table 1: Asset Type Breakdown

	Asset Class	
	Fleet	**Transit Services**
Asset Type:	Light-Duty Vehicles	Bus Signage
	Heavy-Duty Vehicles	Bus Shelters
	Transit Buses	Bus Pads
	Off-Road Vehicles	
	Accessories and Peripherals	

1. FLEET

1.1. INTRODUCTION

The City of Brantford owns and maintains several assets under the Fleet asset class. The purpose of this section is to present specific information about the Fleet asset class to answer the questions posed in **Section 2** of the **Asset Management Plan (AMP) Overview Document**, and includes the following:

- Fleet Assets' Data Inventory and Condition Approach;
- Summary of Fleet Assets;
- Lifecycle Activities and Cost of Fleet Assets;
- Current and Proposed Fleet Assets' Levels of Service;
- Current and Proposed Fleet Assets' Performance; and
- Conclusion.

1.2. FLEET ASSETS' DATA INVENTORY AND CONDITION APPROACH

Information related to the City's data collection methodologies as well as data confidence level definitions are defined in the **Asset Management Plan Overview Document**.

The City of Brantford currently has two (2) different approaches to establishing the condition for Fleet assets due to available resources, technologies, and budget restrictions:

- Regular inspection programs conducted by City staff; and
- Estimated condition based on asset specific information.

A list of all condition assessments for all core assets can be found in **Table 7** in the **Asset Management Plan Overview Document**.

The origin of the Fleet asset data for inventory, replacement cost, and condition, as well as data confidence in each are provided in **Table 2** below.

Table 2: Fleet Assets' Data Origin and Confidence Level

	Inventory			Replacement Cost			Condition			Level of Service		
Asset Type	**Inventory (incl. Quantity and Age) From**	**Data Confidence Level**	**Data Confidence Description**	**Replacement Cost From**	**Data Confidence Level**	**Data Confidence Description**	**Condition From**	**Data Confidence Level**	**Data Confidence Description**	**Level of Service From**	**Data Confidence Level**	**Data Confidence Description**
Light-Duty Vehicles	TCA List from City Finance Department	High	Formal inventory with few unknowns.	TCA List from City Finance Department	Medium	Formal inventory with dated costing.	Determined based on age.	Medium	Informal assessment based on assumptions from age of assets	2024 Internal Staff Survey	Medium	Level of Service based on high response rate from internal staff surveys
Heavy-Duty Vehicles	TCA List from City Finance Department	High	Formal inventory with few unknowns.	TCA List from City Finance Department	Medium	Formal inventory with dated costing.	Determined based on age.	Medium	Informal assessment based on assumptions from age of assets	2024 Internal Staff Survey	Medium	Level of Service based on high response rate from internal staff surveys
Transit Buses	TCA List from City Finance Department	High	Formal inventory with few unknowns.	TCA List from City Finance Department	Medium	Formal inventory with dated costing.	Determined based on age.	Medium	Informal assessment based on assumptions from age of assets	2024 Internal Staff Survey	Medium	Level of Service based on high response rate from internal staff surveys
Off-Road Vehicles	TCA List from City Finance Department	High	Formal inventory with few unknowns.	TCA List from City Finance Department	Medium	Formal inventory with dated costing.	Determined based on age.	Medium	Informal assessment based on assumptions from age of assets	2024 Internal Staff Survey	Medium	Level of Service based on high response rate from internal staff surveys
Accessories and Peripherals	TCA List from City Finance Department	High	Formal inventory with few unknowns.	TCA List from City Finance Department	Medium	Formal inventory with dated costing.	Determined based on age.	Medium	Informal assessment based on assumptions from age of assets	2024 Internal Staff Survey	Medium	Level of Service based on high response rate from internal staff surveys

Per **Table 2** above, Fleet assets' inventory and condition data are typically at a Medium to High confidence level with an overall average confidence level of Medium.

Inventory data related to Fleet assets is at a High confidence level due to formal inventories that are completed by staff and reviewed regularly, as well as regular inspections of assets.

Replacement cost data is typically at a Medium confidence level, as cost are estimated based on original assets costs and adjusted to current year prices. Additionally, replacement cost estimates were further refined to account for economic and supply chain issues that continue to affect the industry due to the COVID-19 pandemic. These variable market conditions affect the confidence of the replacement cost estimates.

Condition data related to Fleet assets is at a Medium confidence level, as the condition of these assets is estimated based on age and service life assumptions by City staff.

Levels of Service data is at a Medium confidence as it based on the 2024 Internal Staff Survey which had a high response rate from City staff.

Improvements to the inventories and inspection programs will be ongoing as a result of the AIM project explained in **Section 7** of the **Asset Management Overview document**.

1.2.1. SERVICE LIFE

Where condition assessments have not been completed, the condition has been estimated based on the estimated service life of the asset shown below in **Table 3**. The average overall estimated service life for assets can be found in **Table 5**.

Table 3: Fleet Assets' Estimated Service Life

Asset	Estimated Service Life
Light-Duty Vehicles	7 years
Heavy-Duty Vehicles	10 years
Transit Buses	14 years for Brantford Transit Buses 7 years for Brantford Lift Buses
Off-Road Vehicles	15 years
Accessories and Peripherals	15 years

1.2.2. CONDITION SCORING

For the purpose of this report and standardizing condition scores across all assets in the Asset Management Plan, the Condition Rating is defined by three (3) Condition Scores as defined in the table below. For assets with formal consultant condition assessments, the conditions have been modified to fit into this model.

Table 4: Condition Score Description

Condition Score	Condition Rating	Description
1 - 1.4	Good	Assets are in working order, have no or minor deficiencies. Where condition data is not available, this category applies to assets which are within the first 40% of their estimated service life.
1.5 - 2.4	Fair	Assets show general signs of deterioration, some elements may have significant deficiencies, and asset will likely require repairs in the next 10 years. Where condition data is not available, this category applies to assets which are within 41% - 80% of their estimated service life.
2.5 - 3	Poor	Asset is below standard showing signs of significant deterioration, is in danger of imminent failure, and will require repair or replacement within the next year. Where condition data is not available, this category applies to assets which have exceeded 80% of their estimated service life.

1.3. SUMMARY OF FLEET ASSETS

The summary of assets for the Fleet Asset Class can be found below. The summary of assets includes: Quantity, Replacement Cost, Average Age, and Average Condition Score for each asset type in accordance with O. Reg. 588/17.

1.3.1. TOTAL SUMMARY OF ASSETS

A table summarizing all Fleet assets is included in **Table 5** below. Detailed information about each asset is included in individual sections. Calculations of averages have been weighted by the overall replacement value of assets; this means that assets of higher estimated replacement value will have a stronger influence on the average than if the average was calculated based on the number of assets.

The total replacement cost for all Fleet assets is approximately $68.4M and they are an average of 9 years old, which is 75% of the overall average estimated service life of 12 years. The average condition scores are shown to one decimal place to illustrate how close the scores are to being on a cusp of another rating and were used to calculate the weighted overall average condition score for the asset group, but are shown rounded to the nearest whole number in subsequent sections. Overall, Fleet assets are in Fair condition with a weighted average condition score of 2.3.

Table 5: Total Summary of Fleet Assets

Asset	Quantity	Unit	Replacement Cost	Weighted Average Age (years)	Weighted Average Estimated Service Life (years)	% of Estimated Service Life Expended	Weighted Average Condition Score	Weighted Average Condition Description
Fleet Assets Total			**$68.4M**	**9**	**12**	**75%**	**2.3**	**FAIR**
Light-Duty Vehicles	127	ea	$9.5M	8	7	100%	2.9	POOR
Heavy-Duty Vehicles	51	ea	$20.9M	10	10	100%	2.7	POOR
Transit Buses	48	ea	$23.6M	8	13	62%	2.1	FAIR
Off-Road Vehicles	96	ea	$9.6M	8	15	53%	1.7	FAIR
Accessories and Peripherals	80	ea	$4.8M	10	15	67%	2.1	FAIR

1.3.2. LIGHT-DUTY VEHICLES

Light-duty vehicles are utilized across multiple City of Brantford departments and are comprised of five (5) smaller subsets by vehicle type: EV, SUV, Truck, Utility and Van. Per **Figure 1** below, the total replacement costs for the Light-Duty Vehicle assets is $9.5M and the assets are typically in Poor condition, with an average condition score of 3.

It should be noted that vehicles are categorized in Poor condition when their average age exceeds 80% or more of their estimated service life; however, this does not mean that the vehicles are unsafe to operate. City vehicles undergo regular maintenance to ensure they are safe to operate on City roadways.

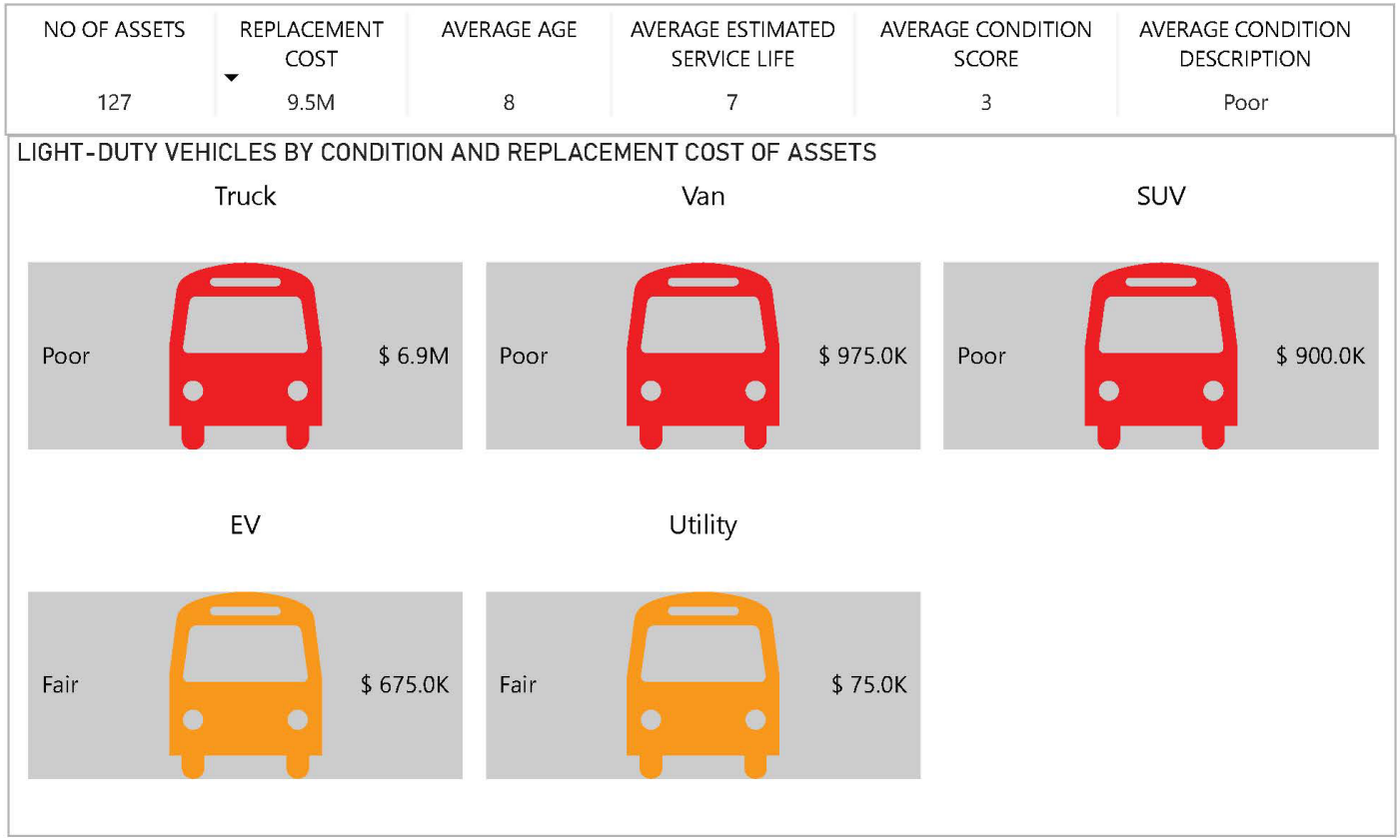

Figure 1: Light-Duty Vehicle Asset Summary

1.3.3. HEAVY-DUTY VEHICLES

Heavy-duty vehicles are utilized across multiple departments in the Public Works commission, and are comprised of three (3) smaller subsets by vehicle type: Heavy Construction Equipment, Truck, and Utility. Per **Figure 2** below, the total replacement cost for the Heavy-Duty Vehicle assets is $20.9M and the assets are typically in Poor condition, with an average condition score of 3.

NO OF ASSETS	REPLACEMENT COST	AVERAGE AGE	AVERAGE ESTIMATED SERVICE LIFE	AVERAGE CONDITION SCORE	AVERAGE CONDITION DESCRIPTION
51	20.9M	10	10	3	Poor

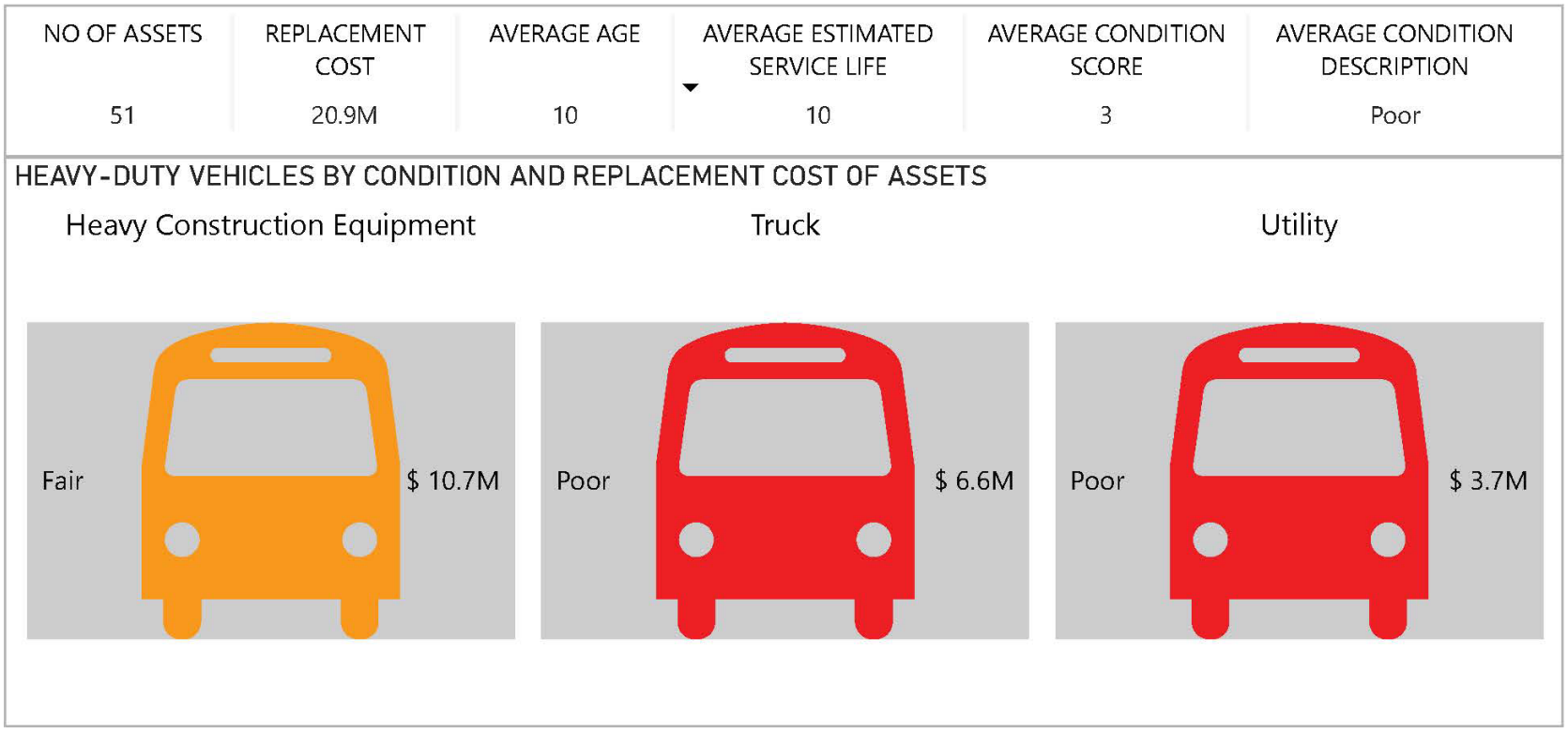

Figure 2: Heavy-Duty Vehicle Asset Summary

1.3.4. TRANSIT BUSES

Transit Buses are utilized by Fleet and Transit Services, and are comprised of two (2) smaller subsets by vehicle type: Brantford Transit Buses, and Brantford Lift Buses. Per **Figure 3** below, the total replacement cost for the Transit Buses assets is $23.6M and the assets are typically in Fair condition, with an average condition score of 2.

NO OF ASSETS	REPLACEMENT COST	AVERAGE AGE	AVERAGE ESTIMATED SERVICE LIFE	AVERAGE CONDITION SCORE	AVERAGE CONDITION DESCRIPTION
48	23.6M	8	13	2	Fair

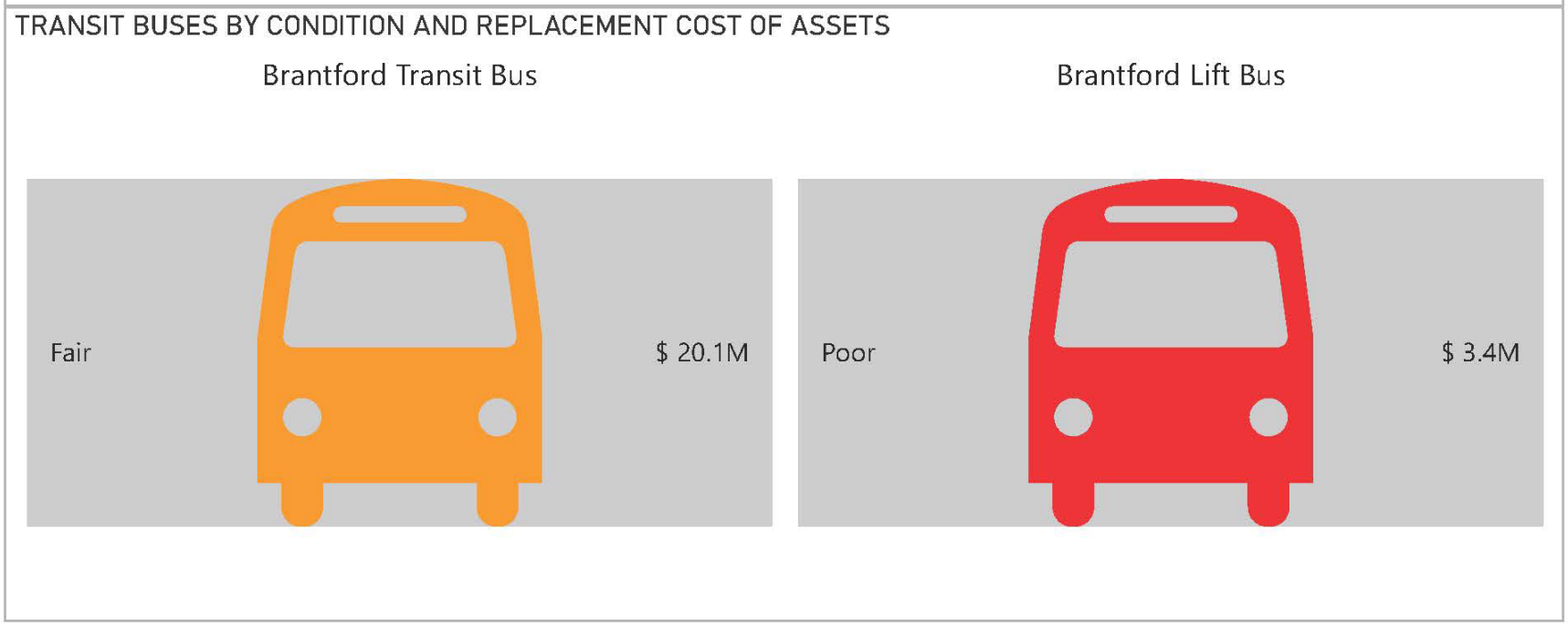

Figure 3: Transit Buses Asset Summary

1.3.5. OFF-ROAD VEHICLES

Heavy-duty vehicles are utilized across multiple departments in the Public Works commission, and are comprised of four (4) smaller subsets by vehicle type: Heavy Construction Equipment, Mowers/Tractors, Tools/Shop/Garage Equipment, and Ice Resurfacer. Per **Figure 4** below, the total replacement cost for the Off-Road Vehicle assets is $9.6M and the assets are typically in Fair condition, with an average condition score of 2.

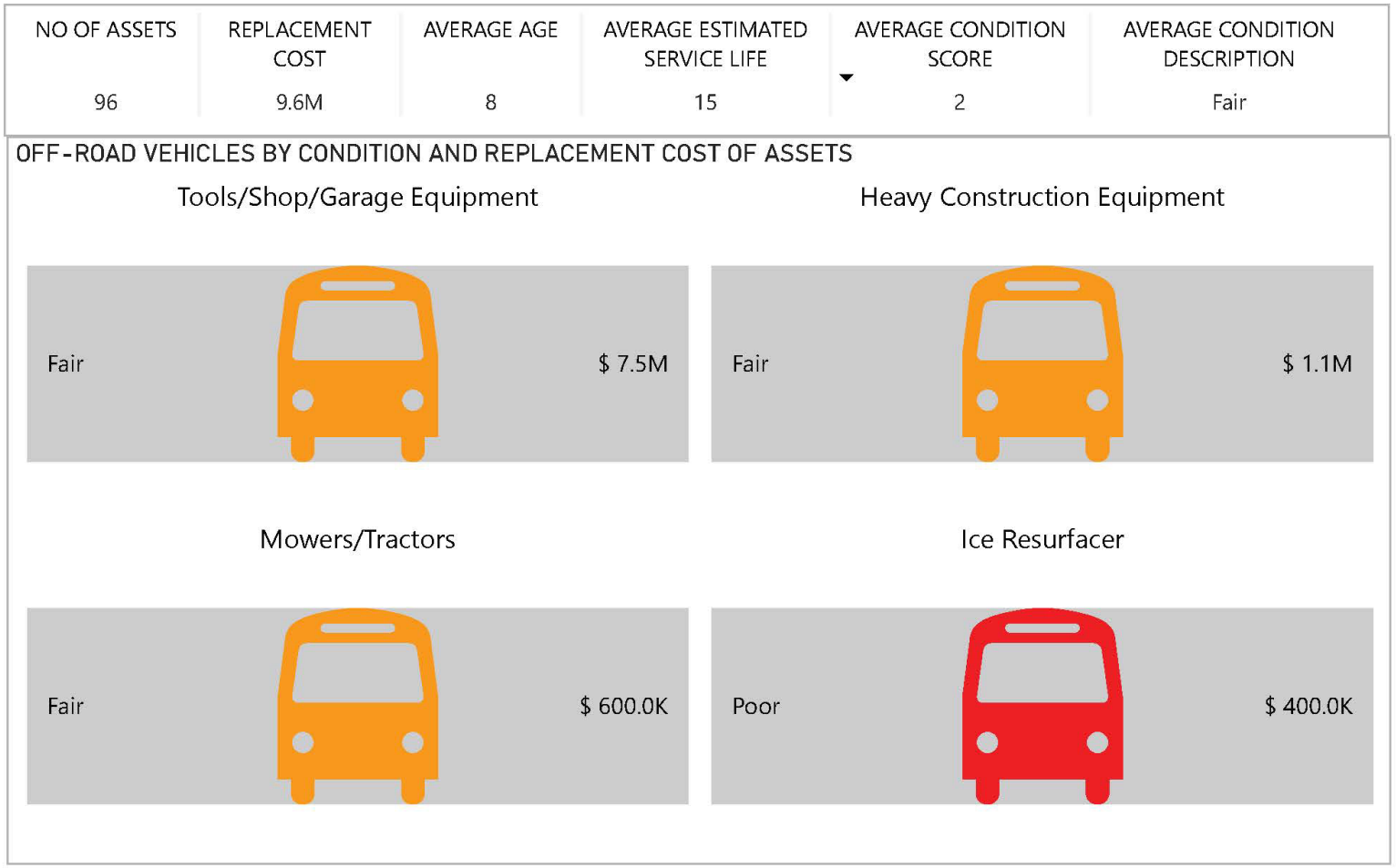

Figure 4: Off-Road Vehicle Asset Summary

1.3.6. ACCESSORIES AND PERIPHERALS

Accessories and Peripherals includes all assets that are not classified in the above categories, and is comprised of eight (8) smaller subsets by asset type: Communication Systems, Computer Hardware, Computer Software, Control Systems, Mowers/Tractors, Tools/Shop/Garage Equipment, Trailers/Golf Carts, and Turf Equipment. Per **Figure 5** below, the total replacement cost for the Accessories and Peripherals assets is $4.8M and the assets are typically in Fair condition, with an average condition score of 2.

NO OF ASSETS	REPLACEMENT COST	AVERAGE AGE	AVERAGE ESTIMATED SERVICE LIFE	AVERAGE CONDITION SCORE	AVERAGE CONDITION DESCRIPTION
80	4.8M	10	15	2	Fair

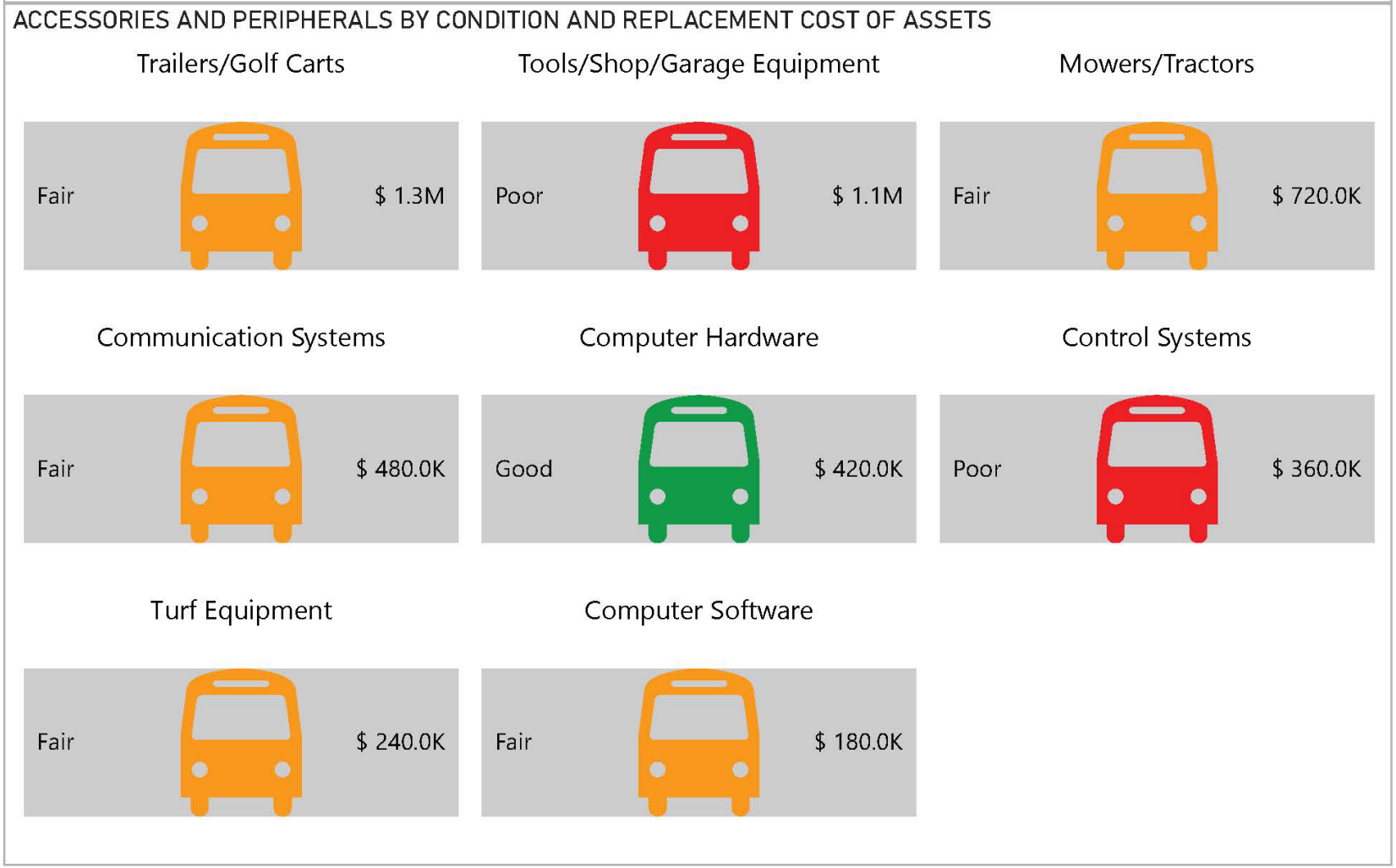

Figure 5: Accessories and Peripherals Asset Summary

1.4. LIFECYCLE OF FLEET ASSETS

The lifecycle of fleet assets is described under four (4) categories which are described in this section:

- Key Lifecycle Stages of Fleet Assets;
- Lifecycle Activities;
- Risks of Lifecycle Activities; and
- 10 Year Lifecycle Costs of Fleet Assets.

1.4.1. KEY LIFECYCLE STAGES OF FLEET ASSETS

The lifecycle of an asset refers to the following stages: Planning, Creation/Acquisition, Operations and Maintenance, Renewal/Disposal which are defined in the Main Body of the report. For Fleet assets specifically our general process is as follows:

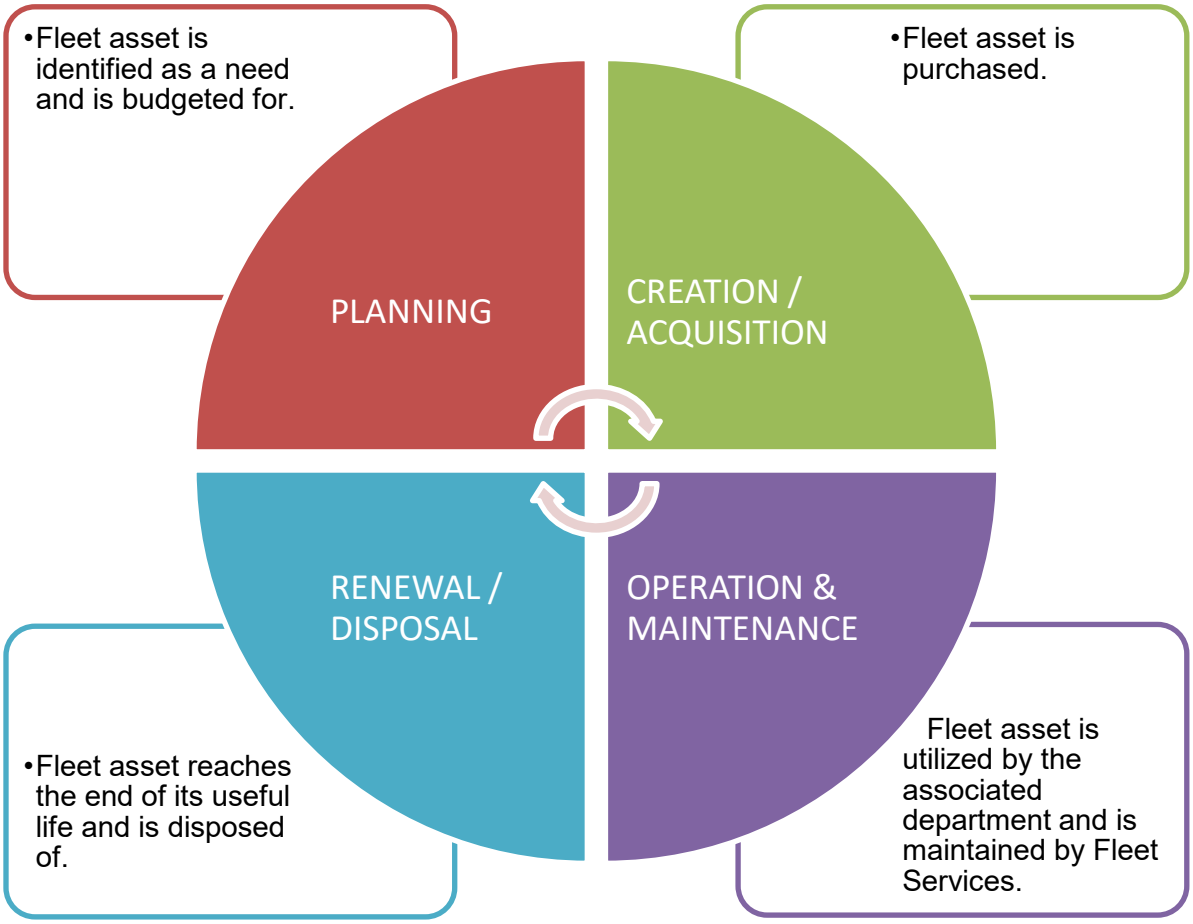

Figure 6: Lifecycle Stages of Fleet Assets

1. **Planning** –The Fleet asset has been identified as a need by a City department due to an increase in need for City services or an existing Fleet asset has reached the end of its useful life. The replacement asset is selected based on the departments need and Fleet Services support and approval. The process considers the available funding, an assessment through the Vehicle Right Sizing process as well as the City's Climate Change Policy and Green Fleet Policy.
2. **Creation / Acquisition / Replacement** – The cost and requirements for retention of the new or replacement records asset are defined. The asset is received and inspected upon delivery. Assets are outfitted with the necessary accessories, decals, and onboard equipment before being placed into service.
3. **Operation and Maintenance** – The Fleet asset is operating and delivering services to customers. Maintenance (Lifecycle) Activities are completed regularly to prevent premature failures of the asset and to meet legislative requirements and manufacturers recommendations to comply with warranties. Additional monitoring and potential increases in maintenance activities are evaluated during this process.
4. **Renewal / Disposal** – The Fleet asset has reached the end of its useful life, is in poor condition, and/or is underperforming, and requires disposal. The disposal considers the effect on customers such as delay or service disruptions which are taken into account in the Planning stage thereby restarting the cycle. The City follows industry standards when disposing of these assets.

1.4.2. LIFECYCLE ACTIVITIES

A list of the planned Lifecycle Activities, annual cost, and frequency for Fleet assets can be found in **Table 6** below. These activities are currently being undertaken to maintain Fleet assets and therefore maintain the current levels of service. In review of the 2024 internal staff survey, Fleet meets the service expectations of Fleet asset users. Therefore, these lifecycle activities will remain the same for the proposed levels of service. Further discussion regarding Fleet proposed Levels of Service can be found in **Section1.5.5 Proposed Levels of Service Discussion**. Due to data limitations at this time, the City will maintain the lifecycle activities which have been performed in the past and activities listed will be updated as improved data becomes available.

Table 6: Lifecycle Activities for Fleet Assets

Asset Type	Lifecycle Activity	2024 Annual Cost*	Frequency	Completed by
Fleet Assets	Parts and Maintenance	$1.67M	Varies, including scheduled works ranging from every 6 weeks to annually, or ad hoc parts/maintenance as required.	Fleet Services Staff

*2024 Annual Cost is typically based on estimates presented in the 2024 Operating Budget.

Lifecycle activities occur on all Fleet assets to maintain a good state of repair. Vehicle assets are currently typically tracked through Avantis.

The City's Avantis software system has reached the end of its useful lifecycle and the City is in the process of migrating asset management activities and inventory into AIM. It is anticipated that Fleet will be implemented into the new system by July 2024. Further details regarding AIM implementation is explained in **Section 7** of the **Asset Management Plan Overview Document**. Information related to Avantis can be found in **Section 4.2** of the **Asset Management Plan Overview Document**.

When these activities are integrated into AIM, the frequency and cost associated with these activities will be better represented. At this time, the costs associated with the O&M activities on these assets are estimated based on the 2024 Operating Budget and are not formally recorded, but future updates of the AMP should include actual costs, frequency, and time associated with these activities which will be recorded through AIM.

1.4.3. RISKS OF LIFECYCLE ACTIVITIES

The identified lifecycle activities in **Table 6** above are the current and proposed activities taken on by Fleet Services. Some risks associated with these activities include:

- **Operator Error** – When operators are operating equipment, there is a risk of an operator related accident. This risk is mitigated by ensuring all operators have the required licenses and are trained on equipment.
- **Equipment Failure -** Equipment failure can occur during maintenance activities, and this is mitigated by ensuring preventative maintenance is completed at regular intervals to prevent this from occurring.

However, if these activities were not completed, the risks would include:

- **Service Disruptions** due to unavailable vehicles and equipment for departments to provide their level of service to the public;
- **Fines** due to being non-compliant with regulations and requirements under the Ministry of Transportation and Highway Traffic Act.
- **Suspension or Loss of Commercial Vehicle Operators Registration (CVOR)** due to being non-compliant with regulations under the Ministry of Transportation and Highway Traffic Act and the City would lose the right to operate heavy duty vehicles.
- **Suspension of Loss of Motor Vehicle Inspection Stations (MVIS)** due to being non-compliant with regulations under the Ministry of Transportation and Highway Traffic Act and the City would lose the right to inspect and certify City vehicles.
- **Increased Cost** due to reactive repairs which could have been prevented with preventative maintenance.

1.4.4. 10 YEAR LIFECYCLE COSTS OF FLEET ASSETS

Figure 7 below outlines the 10 year lifecycle costs of Fleet assets. This graph includes the lifecycle cost for the assets which support the Current Levels of Service (LOS) and the assets required to support the Proposed LOS.

The 10-year annual capital cost is slightly higher than the average annual cost for operations and maintenance.

Based on the information presented in **Figure 7**, the total annual average capital costs for the next 10 years needed to maintain the current LOS of these Fleet assets are $6.88M. The total annual average capital costs for the next 10 years needed to achieve the proposed LOS are $1.34M. The average annual Operation and Maintenance costs to maintain the current level of service are $7.28M. The average annual additional Operation and Maintenance costs to maintain the proposed level of service are $0.0M.

To determine the total estimated operating costs in a given year, the proposed LOS operating costs should be added to the current LOS operating costs. Therefore, it is recommended that the City invest $8.22M in Fleet assets annually for capital work to maintain the current LOS and achieve the proposed LOS. It is recommended that $7.28M be invested annually in operating costs to maintain the current LOS and achieve the proposed LOS.

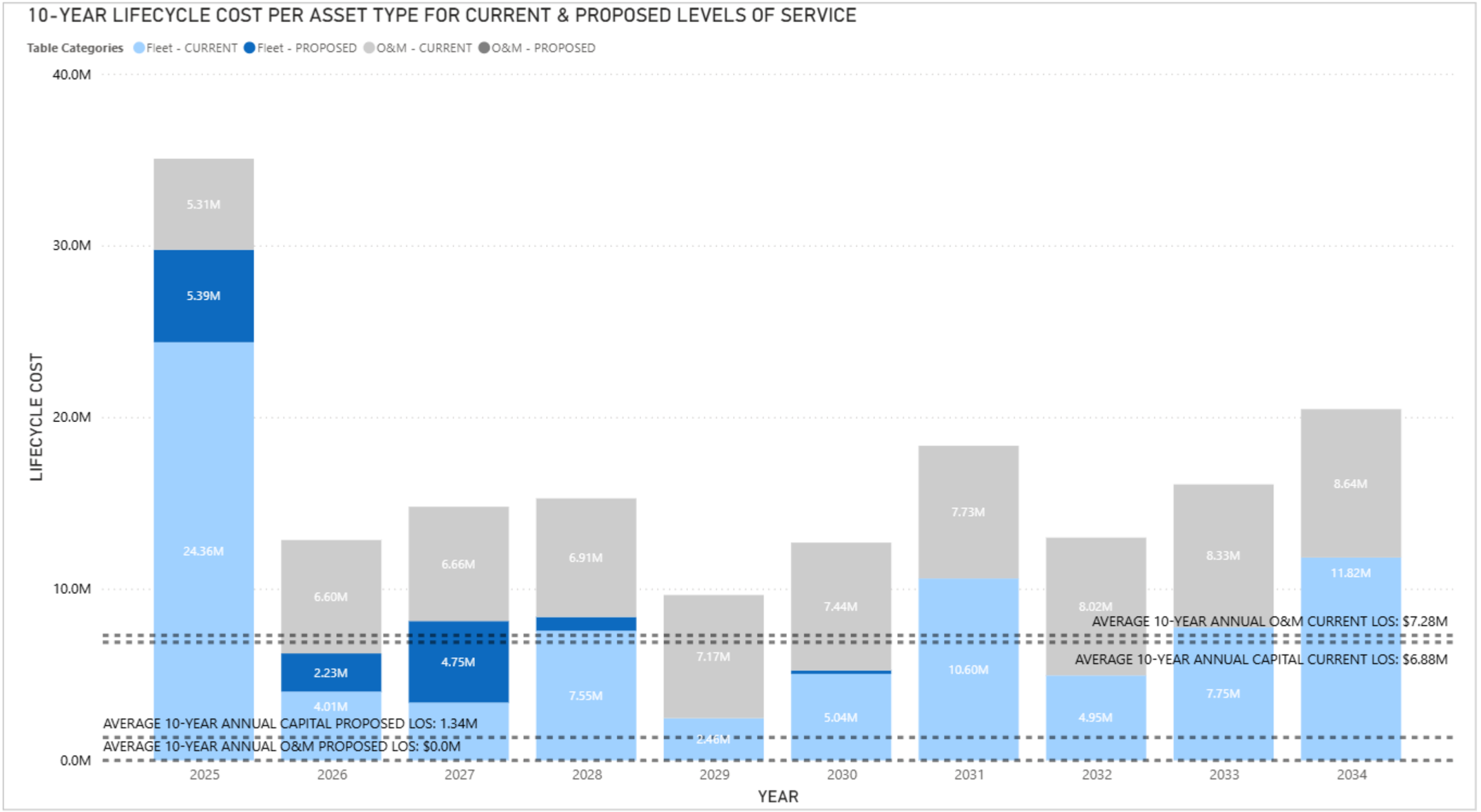

Figure 7: 10-Year Lifecycle Cost per Fleet Asset Type for Current & Proposed Levels of Service

Notes:

1. O&M costs are estimated based on the 2025 Operating Budget. O&M costs beyond 2027 are estimated by 3.8% inflation each year.
2. Capital costs and lifecycle are estimated based on values and methodology identified in **Section 1.3**.

Per **Figure 8** below, the existing 10-year forecast from 2025 – 2034, further explained in **Section 8.3 of the Asset Management Plan Overview Document**, indicates that the City is currently planning to spend an average of $8.22M on Fleet assets capital work annually, and as noted above, the required 10-year average amount is $8.22M for these assets, which indicates that Fleet assets are being funded appropriately. Fleet assets generally have a shorter lifecycle when compared to other City owned assets and many departments rely on Fleet assets to maintain levels of service. As a result, Fleet asset replacement is well-planned within the capital budget to reduce unexpected downtime, improve operational efficiency, and meet the expected levels of service. However, there are factors that may influence capital costs such as asset type, supply chain issues/availability, market volatility, etc. which may affect the City's ability to meet the required funding in future years.

The City of Brantford has moved to a four (4) year budget cycle and departments will complete long-term planning as opposed to annual planning for projects within this time period. The Prioritization Matrix explained in **Section 9** of the **Asset Management Plan Overview Document** has also been implemented which will help departments confirm priority projects. It is anticipated that the new process for the City's 2024 budget cycle will help departments prepare and request funding in advance of significant replacement costs for assets reaching the end of their useful life.

It is important to note that currently the City does not have access to detailed data on Capital or Operation and Maintenance costs for Fleet assets, on a single job basis but with the implementation of new work tracking software and department initiatives, it is anticipated this information will improve in future iterations of the AMP.

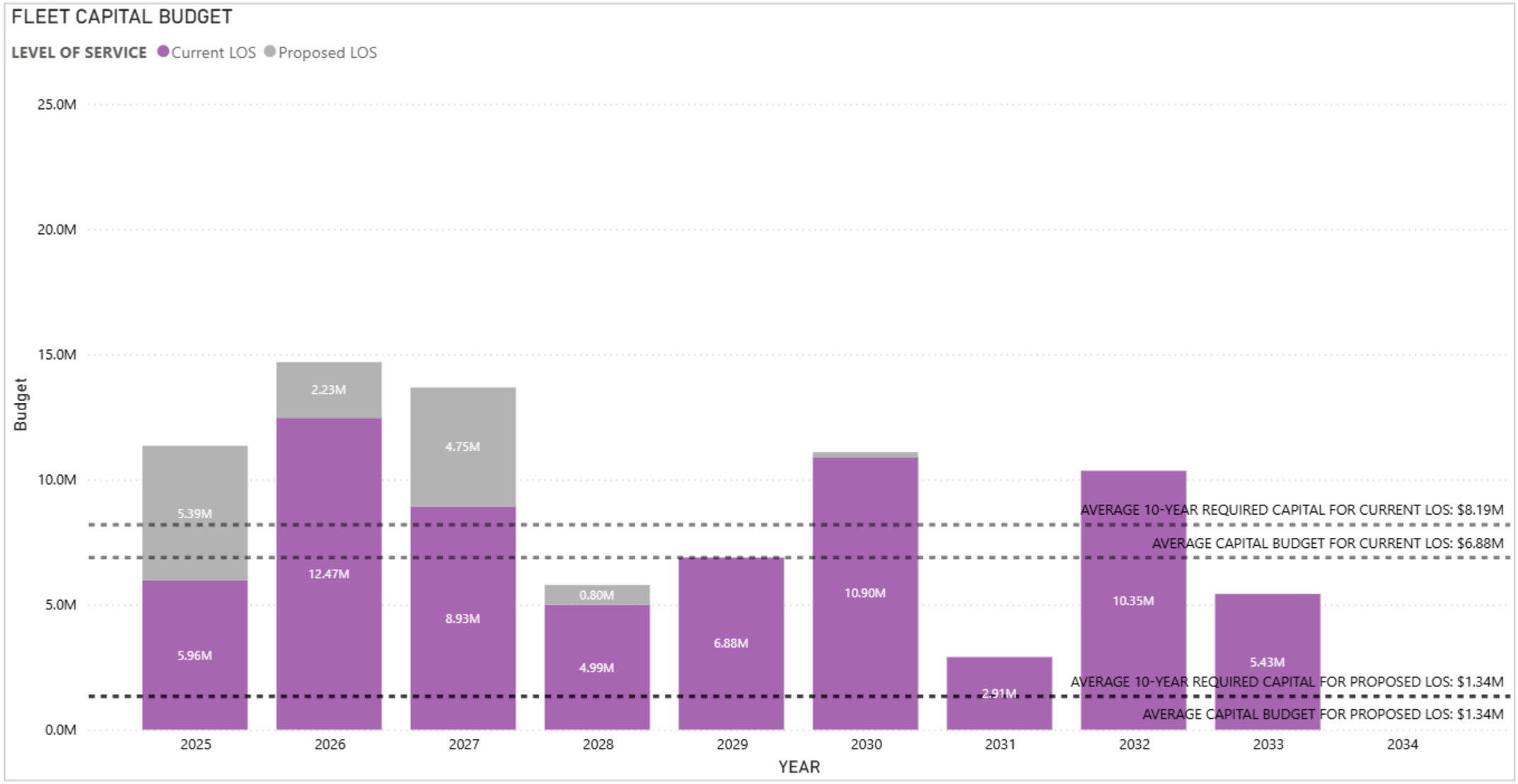

Figure 8: Existing Capital Budget Forecast from 2025–2034 for Fleet Assets

1.5. CURRENT LEVELS OF SERVICE

1.5.1. O. REG. 588/17 CUSTOMER LEVELS OF SERVICE

O. Reg. 588/17 does not currently have defined customer levels of service for this asset class that must be reported in this plan. This section will be kept for future iterations in case O. Reg. 588/17 requires defined customer levels of service be reported.

1.5.2. O. REG. 588/17 TECHNICAL LEVELS OF SERVICE

O. Reg. 588/17 does not currently have defined technical levels of service for this asset class that must be reported within this plan. This section will be kept for future plan iterations should O. Reg. 588/17 be updated and require defined technical levels of service be reported.

1.5.3. MUNICIPALLY DEFINED CUSTOMER LEVELS OF SERVICE

The customer levels of service are defined in **Section 6.2** of the **Asset Management Plan Overview**. For Fleet assets, the asset specific interpretation of these levels of service is defined below in **Table 7**.

Table 7: Municipally Defined Customer Levels of Service

Customer Level of Service	Definition
Accessibility	Fleet assets should be accessible to staff and customers without barriers in place.
Quality	Fleet assets should deliver their intended purpose at a certain quality.
Cost Efficiency	Fleet assets should be operated efficiently with extra care to minimize costs.
Safety	Fleet assets should be both safe to use and promote community safety. Staff and customers should feel safe using these assets.
Environmental Sustainability	Fleet assets should be operating as environmentally as possible and also be promoting sustainable lifestyles.
Reliability	Fleet assets should function and be available to staff and customers as scheduled.
Responsiveness	Fleet assets should be repaired promptly when unavoidable service disruptions occur. Responsiveness should account for the relative risk to the public, the surrounding property, the asset itself and to the staff completing the response.

1.5.4. MUNICIPALLY DEFINED TECHNICAL LEVELS OF SERVICE

The technical levels of service for Fleet Assets have been adopted based on the customer levels of service defined in **Table 7**. The currently available customer levels of service with the corresponding technical levels of service and KPI metrics are defined in **Table 8**.

The need for additional KPIs and KPI targets has been identified and future iterations of this AMP will look for opportunities to gather and include this information.

Table 8: Levels of Service KPIs

				Proposed Future Performance										
Customer Level of Service	**Technical LOS**	**Units**	**Current Actual Performance (2024 Values)**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**LOS Option**
Accessibility*	Percent of Employees who feel comfortable accessing Fleet vehicles at various locations.	% of Employees	87%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	Maintain
Quality	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cost Efficiency	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Safety*	Percent of Employees who agree Fleet vehicles are clean and safe to operate.	% of Employees	76%	75%	80%	80%	85%	85%	90%	90%	90%	90%	90%	Increase
	Percent of Employees who feel comfortable operating Fleet vehicles following repair or service.		95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	Maintain
Environmental Sustainability	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reliability	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Responsiveness*	Percent of Employees who agree Fleet vehicles are repaired in a timely manner.	% of Employees	75%	75%	80%	80%	85%	85%	90%	90%	90%	90%	90%	Increase

*Information obtained from staff surveys conducted in 2024, more details available in Overview Document

1.5.5. PROPOSED FUTURE LEVEL OF SERVICE TARGETS

For the purpose of this report and the discussion surrounding proposed future levels of service targets, there are three (3) possible options defined in **Table 9** including the risks associated with those options to the long term sustainability of the municipality.

Table 9: Technical Levels of Service KPIs

Level of Service Development Options	Description	Risk Associated with Options
Decrease Level of Service	Decreasing the level of service should result in cost savings. E.g. Garbage can emptying in parks is decreased to once every two weeks.	In some circumstances, decreasing the level of service may have little impact to the overall customer experience. In others, decreasing the level of service may result in a decreased level of customer satisfaction and could lead to safety concerns and possible damage to the City's reputation. Decreasing the level of service too much for an extended period of time may result in higher costs for repairs or closure of certain assets over the long-term.
Maintain Level of Service	Maintaining the level of service should maintain costs with increases anticipated to reflect inflation. Customer experience would also be anticipated to remain the same as well as the City's reputation. Costs would be anticipated to increase minimally over time due to inflation or growth factors. E.g. Garbage can emptying in parks is maintained at once per week.	If the current levels of service match customer expectation and regulatory requirement, maintaining them would typically be the recommended approach. However if the current levels of service do not match customer expectations or regulatory requirements, then maintaining them may not be the recommended approach. Similarly, City reputation may not match with what the City would prefer. If a low level of service is maintained for too long it may lead to health and safety concerns.
Increase Level of Service	Increasing the level of service should result in enhanced customer experience and City reputation.	Increasing service would involve increased costs. Increasing the level of service too much, for an extended period of time, may become financially unsustainable for the City.

	E.g. Garbage cans emptying in parks is increased to twice a week	

Each of the technical levels of service have been examined to see if and/or how the proposed levels of service differ from the current levels of service:

The Percent of Employees who feel comfortable accessing Fleet vehicles at various locations is currently at 87% and staff plan to maintain this service level over the next ten (10) years. This level of service is planned to be maintained through current Fleet policy and practices.

The Percent of Employees who agree Fleet vehicles are clean and safe to operate is currently at 76% and staff will work to gradually increase this level of service over the next six (6) years to 90% and then maintained for the remaining four (4) years. Staff are currently reviewing how this can be achieved through changes to current practices and will involve communicating with staff again through surveys and other forms of engagement.

The Percent of Employees who feel comfortable operating Fleet vehicles following repair or service is currently at 95% and staff plan to maintain this service level over the next ten (10) years. This level of service is planned to be maintained through current Fleet policy and practices.

Percent of Employees who agree Fleet vehicles are repaired in a timely manner is currently at 75% and staff will work to gradually increase this level of service over the next six (6) years to 90% and then maintained for the remaining four (4) years. Staff are currently reviewing how this can be achieved through changes to current practices and will involve communicating with staff again through surveys and other forms of engagement.

It is important to note that customer preferences and expectations do not always align with internal technical targets. A consideration of this section is linking the customer and technical levels of service to determine areas where different levels of service could be proposed. As the 2024 survey results have only a low level of data confidence, it is difficult to make any conclusive decisions based on this initial survey. The Parks & Recreation Master Plan provides strategic direction as it relates to the provisioning and guidance for decision-making and should be referred to in conjunction with these survey results when considering any change in the level of service.

1.5.6. AFFORDABILITY AND ACHEIVABILITY CONFIDENCE

To determine whether the proposed levels of service are achievable and if the City can afford the proposed level of service **Table 10** has been developed to review confidence in the proposed levels of service.

Table 10 Affordability and Achievability Confidence

Customer Level of Service	Technical LOS	Achievability Confidence	Achievability Description	Affordability Confidence	Affordability Description
Accessibility	Percent of Employees who feel comfortable accessing Fleet vehicles at various locations	High	High achievability confidence has been selected for Percent of Employees who feel comfortable accessing Fleet vehicles at various locations as this level of service is proposed to be maintained through can be completed through current policy and practices.	High	High achievability confidence has been selected for Percent of Employees who feel comfortable accessing Fleet vehicles at various locations as this level of service is proposed to be maintained through current policy and practices. Therefore, no additional/increased costs are expected to be incurred to meet this level of service.
Quality*	N/A	N/A	N/A	N/A	N/A
Cost Efficiency	N/A	N/A	N/A	N/A	N/A
Safety	Percent of Employees who agree Fleet vehicles are clean and safe to operate	Medium	Medium achievability has been selected for the Percent of Employees who agree Fleet vehicles are clean and safe to operate as this level of service is proposed to be increased and will require continued consultation with staff through an additional survey and may require review of current policies and practices. Staff will continue to review this proposed service level for future iterations of this plan.	Medium	Medium affordability has been selected for the Percent of Employees who agree Fleet vehicles are clean and safe to operate as this level of service is proposed to be increased and will require continued consultation with staff through an additional survey and may require review of current policies and practices. Staff will continue to review this proposed service level for future iterations of this plan. Changes to polices or practices may result in increased costs.
	Percent of Employees who feel comfortable operating Fleet vehicles following repair or service	High	High achievability confidence has been selected for Percent of Employees who feel comfortable operating Fleet vehicles following repair or service as this level of service is proposed to be maintained through can be completed through current policy and practices.	High	High achievability confidence has been selected for Percent of Employees who feel comfortable operating Fleet vehicles following repair or service as this level of service is proposed to be maintained through current policy and practices. Therefore, no additional/increased costs are expected to be incurred to meet this level of service.
Environmental Sustainability	N/A	N/A	N/A	N/A	N/A
Reliability	N/A	N/A	N/A	N/A	N/A
Responsiveness	Percent of Employees who agree Fleet vehicles are repaired in a timely manner	Medium	Medium achievability has been selected for the Percent of Employees who agree Fleet vehicles are repaired in a timely manner as this level of service is proposed to be increased and will require continued consultation with staff through an additional survey and may require review of current policies and practices. Staff will continue to review this proposed service level for future iterations of this plan.	Medium	Medium affordability has been selected for the Percent of Employees who agree Fleet vehicles are repaired in a timely manner as this level of service is proposed to be increased and will require continued consultation with staff through an additional survey and may require review of current policies and practices. Staff will continue to review this proposed service level for future iterations of this plan. Changes to polices or practices may result in increased costs.

It is important to note that while the proposed service level change may appear affordable when viewed in isolation of this plan specifically, when it is examined in the context of the overall budget, these levels may not be achievable and would be considered unaffordable. As service level data continues to be collected, staff will also continue to review the achievability and affordability of the levels of service proposed within the future iterations of this plan.

1.5.7. LEVEL OF SERVICE LIFECYCLE COST CONSIDERATIONS

Proper consideration should be made for the most cost-effective methods that can be undertaken to achieve the lowest cost associated with a chosen level of service. **Table 11** below includes the lifecycle options available and the associated risks with the chosen options.

Table 11: Lifecycle Options and Associated Risks

Lifecycle Options	Description	Risks Associated if Undertaken	Risks Associated if Not Undertaken
Planning	Consideration is made regarding the asset involving City Master plans and the needs of internal and/or external customers.	Planning activities may extend project timeline.	If planning activities were not undertaken there is a risk missing something that we needed
Operation & Maintenance	The asset is providing benefits to the community and operation and maintenance activities (see **Table 6**) are completed on the asset at specific time intervals to prevent premature failures of the asset.	Completing operation & maintenance activities may mean that there is limited or no access to the asset for a period of time.	If O&M activities were note undertaken the asset would have premature failures, become unsafe and would cost the City more to repair or would have to be closed/removed.
Repair	The asset or a portion of the asset is no longer functioning appropriately, and a repair is needed.	Completing repair activities may mean that there is limited or no access to the asset for a period of time.	If repair activities were not undertaken the asset would no longer function as it should and would affect service levels. The asset would eventually deteriorate and need to be closed.
Replace	The asset has reached the end of its useful life and needs to be replaced to maintain service levels.	Replacing the asset may mean limited or no access to the asset during a period of time.	If replacement activities were not undertaken the asset would no longer function as it should and would affect service levels. The asset would need to be closed and eventually removed.
Remove	The asset has reached the end of its useful life or is no longer required to meet the appropriate service level and is removed.	Removing the asset may lead to a reduction in service levels.	The asset may be unsafe and could lead to health and safety concerns if not removed.

Install New/Expand	A new asset or extension to an existing asset is purchased and installed.	Installing a new asset may lead to increase costs which could lower service levels.	If a new asset is not installed this may lead to an eventual reduction in service levels.

Note: The full lifecycle stages for these assets can be found in Section 1.4.1 and the list of specific lifecycle activity options is located in Section 1.4.2 of this AMP.

Depending on the level of service being considered, the most cost-effective method that should be undertaken to achieve the lowest cost associated with the specific level of service may actually be a combination of lifecycle activities. The combination selected will be based on that specific asset and the activities that are likely to give the lowest cost while maintaining the chosen service level.

The Percent of Employees who feel comfortable accessing Fleet vehicles at various locations involves communicating with the customer through surveys and other forms of engagement. This lifecycle activity will require planning to discuss the need for continued engagement and the budget required to generate and execute the next survey needed to re-assess satisfaction levels. It may also involve a combination of operation and maintenance activities and repairs to the existing asset.

The Percent of Employees who agree Fleet vehicles are clean and safe to operate involves communicating with the customer through surveys and other forms of engagement. This lifecycle activity will require planning to discuss the need for continued engagement and the budget required to generate and execute the next survey needed to re-assess satisfaction levels. It would also involve a combination of operation and maintenance activities, repairs to the existing asset and replacement when the asset has reached the end of its useful life.

The Percent of Employees who feel comfortable operating Fleet vehicles following repair or service involves communicating with the customer through surveys and other forms of engagement. This lifecycle activity will require planning to discuss the need for continued engagement and the budget required to generate and execute the next survey needed to re-assess satisfaction levels. It would also involve a combination of operation and maintenance activities, repairs to the existing asset and replacement when the asset has reached the end of its useful life.

The Percent of Employees who agree Fleet vehicles are repaired in a timely manner involves communicating with the customer through surveys and other forms of engagement. This lifecycle activity will require planning to discuss the need for continued engagement and the budget required to generate and execute the next survey needed to re-assess satisfaction levels. It would also involve a combination of operation and maintenance activities, repairs to the existing asset and replacement when the asset has reached the end of its useful life.

It is important to note that customer preferences and expectations do not always align with internal technical targets. A consideration of this section is linking the customer and technical levels of service to determine areas where different levels of service could be proposed.

1.6. CURRENT ASSET PERFORMANCE

The current asset performance for Fleet assets has been separated into two (2) categories for this section of the report:

- Energy Performance;
- Operating Performance; and
- Sustainability Performance

1.6.1. FLEET CURRENT ENERGY PERFORMANCE

The City of Brantford has a Corporate Energy Management Plan (CEMP) which emphasizes energy efficiency within the City. The CEMP includes goals to reduce energy use, energy intensity, and greenhouse gas (GHG) emissions in the City's transportation fleets. In addition, through the City's Climate Change Action Plan and Climate Lens Tool explained in **Section 10** of the **Asset Management Plan Overview Document**, the City will be working to improve energy efficiency and reduce the associated carbon footprint.

The City of Brantford also conducted a Corporate and Community Greenhouse Gas Emissions Inventory, which allows the City to track its progress towards meeting its GHG emissions reduction targets. Emissions are tracked annually and consolidated into a report every second year. Current energy performance for Fleet assets was obtained from the Greenhouse Gas Emissions Inventory, summarized in **Table 12** below.

Table 12: Current Energy Performance for Fleet assets

Service Type	2018 Emissions (T CO_2 e)*	2021 Emissions (T CO_2 e)*	2022 Emissions (T CO_2 e)*	2023 Emissions (T CO_2 e)*	2024 Emissions (T CO_2 e)*
Transit & Lift	3,358	3,034	2,939	3,139	3,276
Environmental Services	975	1,259	1,860	1,303	1,511
Operational Services	825	757	817	721	639
Parks & Recreation	330	382	361	374	371
Remainder of Fleet	103	49	89	122	159
Total	**5,591**	**5,481**	**6,066**	**5,659**	**5,956**
Change from 2018 Baseline		**- 2%**	**+ 8%**	**+ 1%**	**+ 6%**

* Based on information provided in the Consolidated GHG Inventory Data from 2025.

1.6.2. FLEET CURRENT OPERATING PERFORMANCE

The City of Brantford deployed a new automated vehicle locator software in late 2023, which will provide data over the coming years to better characterize trends in operating performance of Fleet assets. Current fuel efficiency of Fleet assets was obtained from the software and summarized in **Table 13** below.

Table 13: Current Operating Performance for Fleet assets

			Proposed Future Performance									
Vehicle Type	**2023 Average Fuel Economy***	**2024 Average Fuel Economy***	**2025 Average Fuel Economy**	**2026 Average Fuel Economy**	**2027 Average Fuel Economy**	**2028 Average Fuel Economy**	**2029 Average Fuel Economy**	**2030 Average Fuel Economy**	**2031 Average Fuel Economy**	**2032 Average Fuel Economy**	**2033 Average Fuel Economy**	**2034 Average Fuel Economy**
Electric Vehicles	2.0 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km	2.3 Le/100 km
Internal Combustion Engine Vehicles	30.5 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km	29.0 L/100 km

* Based on information extracted from GeoTAB AVL in 2024.

It is important to note that there are many factors which can affect the fuel efficiency of fleet assets including, but not limited to, variations in snowfall, grass wetness, number of times a transit vehicle must make stops, variations in the type and quantity of vehicles, etc. Due to data limitations at this time, the City proposes to maintain the current Operating Performance metrics for Fleet assets and, with the implementation of new asset tracking software and department initiatives, additional methods and data to track Operating Performance for this asset class will continue to be explored in future iterations of this document. Future tracking may include a review of fuel efficiency, maintenance incidents, etc. It is anticipated this information will improve in future iterations of the AMP

1.6.3. FLEET SUSTAINABILITY PERFORMANCE

To determine if the City is able to provide sustainable service delivery for the Fleet assets, the **Asset Sustainability Index** (ASI) is utilized. It is calculated by taking the amount the City is proposing to spend on Levels of Service (LOS) and dividing it by the amount the City is projected as needing to spend to maintain the LOS. The ASI can be calculated for the Current LOS, the Proposed LOS or the combination of the two. It can be for Capital costs, Operating & Maintenance (O&M) costs or a combination of the two.

Table 14 shows the ASI for the various scenarios and the final combined for the different asset categories. The ASI is used as a high-level assessment of whether the City is accommodating asset renewals in an optimal and cost-effective manner based on timing and relative to financial constraints. It is also an indicator of the risk the City is accepting and targeted service levels it wishes to maintain.

Table 14: Asset Sustainability Index

	Current LOS	Proposed LOS	Combined LOS
Capital Costs	84%	100%	86%
O&M Costs*	N/A	N/A	N/A
Combined Costs	-	-	86%

* Due to the way the O&M costs are derived at this time, the ASI for O&M costs has not been included in this iteration of the AMP. It is expected to be included in future iterations as the O&M data tracking on an asset class specific basis improves.

To ease understanding the ASI is reported as a percentage:

- An ASI of 100% is considered to be the best as it indicates that expenditures match what is needed to sustain levels of service. This is more efficient as it preserves infrastructure for the lowest cost over time.
- Above 100% funding should be reviewed as it suggests that the City is spending more than necessary, which may be an inefficient distribution of resources. In some circumstances this may be appropriate on a temporary basis to reduce backlogs of overdue repairs and/or replacements.
- Below 100% indicates a funding shortfall, meaning the City is not investing enough to maintain levels of service. If not addressed, this gap can lead to declines in levels of service over time.

The Fleet Combined Capital ASI of 86% is above the Combined Capital LOS ASI for all assets of 61%.

1.7. DISCUSSION & CONCLUSIONS

In conclusion, the City of Brantford operates and maintains many Fleet assets. These assets are in overall Fair condition with a total estimated replacement cost of approximately $68.4M. Inventory, condition and service level data for Fleet assets are typically at a Medium to High confidence level, with an overall average confidence level of Medium.

The lifecycle stages for Fleet assets includes: Planning, Creation, O&M, and Disposal. During the Planning stage, the City identifies the need to obtain a Fleet asset; during the Creation stage, the Fleet asset is purchased; during the O&M stage, the Fleet asset is in use by staff/customers and maintained by Fleet; and in the Disposal stage, the fleet asset has reached the end of its useful life and requires disposal.

Lifecycle activities are currently completed by City staff. At this time, detailed tracking and costs associated with these activities are not available and are estimated based on staff knowledge and the 2024 Operating Budget.

It is estimated based on the average annual cost in the 10 Year Life Cycle Costing that the City should be spending an average of $8.22M annually on capital Fleet asset costs and will be spending an average of $7.28M on Operating and Maintenance activities. The City is currently proposing to spend an average of $8.22M annually on capital for Fleet assets which fully funds Fleet asset capital activities identified in the 2025 AMP. The City is currently proposing to spend $7.28M annually on the Operating and Maintenance which fully funds Fleet operating activities identified in the 2025 AMP.

Current and Proposed Levels of Service have been identified for Fleet assets. All Municipally defined Levels of Service will be following the Maintain option for the next 10 years. Brantford is working to continue to develop the process to track these metrics which will assist in tracking these and any further identified KPIs for future iterations.

Considered in isolation, the Proposed Levels of Service have a Medium to High Confidence for Achievability and Affordability. When examined in the context of the overall budget, these levels of service may not be achievable and may be considered unaffordable.

Asset performance is separated into energy, operating and sustainability performance in the City’s AMPs. For current energy performance, data from the 2021-2022 Corporate and Community Greenhouse Gas Emissions Inventory concluded that Fleet assets emissions were approximately **5,659** T CO_2e in 2023 and **5,956** T CO_2e in 2024. This equated to a one (1) percent increase in greenhouse gas emissions in 2023 and a six (6) percent increase in greenhouse gas emissions in 2024 in comparison to 2018 benchmark levels.

Current and proposed operating performance metrics have been identified for the next 10 years. It is important to note that there are many factors which can affect operating performance metrics. Due to data limitations at this time, the City proposes to maintain the current Operating Performance metrics for Fleet assets and, with the implementation of new asset tracking software and department initiatives, additional methods and data to track operating performance for this asset class will continue to be explored in future iterations of this document. Future tracking may include a review of fuel efficiency, maintenance incidents, etc. It is anticipated this information will improve in future iterations of the AMP

For Sustainability performance, the Combined Capital Level of Service Asset Sustainability Index (ASI) is 86%. This is above the Combined Capital LOS ASI for all assets of 61%.

The next iteration of this Fleet AMP document, due in 2030, will be revised to include updated and new information obtained over the next five years.

2. TRANSIT SERVICES ASSETS

2.1. INTRODUCTION

The City of Brantford owns and maintains several assets under the Transit Services asset class. The purpose of this section is to present specific information about the Transit Services asset class so that we can answer the questions posed in **Section 2** of the **Asset Management Plan (AMP) Overview Document**, and includes the following:

- Transit Services Assets' Data Inventory and Condition Approach;
- Summary of Transit Services Assets;
- Lifecycle Activities and Cost of Transit Services Assets;
- Current and Proposed Transit Services Assets' Levels of Service;
- Current and Proposed Transit Services Asset Performance; and
- Conclusion.

2.2. TRANSIT SERVICES ASSETS' DATA INVENTORY AND CONDITION APPROACH

The City of Brantford has different approaches to establishing the condition for each Transit Services asset due to available resources, technologies, and budget restrictions.

There are currently three (3) approaches we use to assess the condition of our Transit Services assets:

- Outsourced condition assessments to consultants;
- Regular inspection programs conducted by City employees; and
- Estimated condition based on asset specific information.

A list of all condition assessments for all non-core assets can be found in **Table 6** in the **Asset Management Plan Overview Document**.

The origin of the Transit Services asset data for inventory, replacement cost, condition as well as data confidence are provided in **Table 15** below.

Table 15: Transit Services Assets' Data Origin and Confidence Levels

	Inventory			Replacement Cost			Condition			Levels of Service		
Asset Type	**Inventory (incl. Quantity and Age) From**	**Data Confidence Level**	**Data Confidence Description**	**Replacement Cost From**	**Data Confidence Level**	**Data Confidence Description**	**Condition From**	**Data Confidence Level**	**Data Confidence Description**	**Level of Service From**	**Data Confidence Level**	**Data Confidence Description**
Bus Signage	Bus Stop Inventory List	High	Formal inventory with few unknowns.	City staff and 2023 capital projects	High	Estimate based on staff knowledge and capital construction unit rates.	2018 Transit Stop Condition Assessments by KSGS Engineering Corp.	Medium	Formal condition assessment with few unknowns, but possibly outdated.	2024 Customer Levels of Service Survey	Low	Level of Service based on low response rate from 2024 Customer Levels of Service Survey
Bus Shelters	Bus Stop Inventory List	High	Formal inventory with few unknowns.	2022 Bus Pad and Shelter Replacement capital project	High	Estimate based on capital construction units rates.	2018 Transit Stop Condition Assessments by KSGS Engineering Corp.	Medium	Formal condition assessment with few unknowns, but possibly outdated.	2024 Customer Levels of Service Survey Staff Knowledge	Low	Level of Service based on low response rate from 2024 Customer Levels of Service Survey or from staff knowledge
Bus Pads	Bus Stop Inventory List	High	Formal inventory with few unknowns.	2022 Bus Pad and Shelter Replacement capital project	High	Estimate based on capital construction unit rates.	2018 Transit Stop Condition Assessments by KSGS Engineering Corp.	Medium	Formal condition assessment with few unknowns, but possibly outdated.	2024 Customer Levels of Service Survey	Low	Level of Service based on low response rate from 2024 Customer Levels of Service Survey

Per **Table 11** above, Transit Service assets' inventory and condition data have a Low to High confidence level with an overall average confidence level of Medium.

Inventory and condition data related to Transit Services assets are at a Medium to High confidence level due to the formal condition assessment completed by consultants in 2018, and on-going maintenance of inventory information by staff.

Replacement cost data is at a High confidence level. Bus Signage replacement costs are based on various 2023 capital construction costs for sign post installation, and staff knowledge for bus sign installation costs. Bus Shelter and Bus Pad replacement costs are based on capital construction costs for the Bus Pad and Shelter Replacement capital project, which included the removal and replacement of 33 pads and shelters throughout the City in 2022. These costs reflect increases due to COVID-19 and supply chain shortages.

Levels of Service are based on staff knowledge or the 2024 Customer Levels of Service Survey that was completed by the public. The survey had low response rates and the data confidence level is therefore low.

Improvements to the inventories and inspection programs will also be ongoing as a result of the AIM project explained in **Section 7** of the **Asset Management Plan Overview document**.

2.2.1. SERVICE LIFE

Where condition assessments have not been completed, the condition has been estimated based on the estimated service life of the asset presented in **Table 16** below. The average overall estimated service life for assets can be found in **Table 18**.

Table 16: Transit Services Assets' Estimated Service Life

Asset	Estimated Service Life
Bus Shelters	15 years
Bus Pads	30 years

2.2.2. CONDITION SCORING

For the purpose of this report and standardizing condition scores across all assets in the Asset Management Plan, the Condition Rating is defined by three (3) Condition Scores as defined in **Table 17** below. For assets with formal consultant condition assessments, the conditions have been modified to fit into this model.

Table 17: Condition Score Description

Condition Score	Condition Rating	Description
1 – 1.4	Good	Assets are in working order, have no or minor deficiencies. Where condition data is not available, this category applies to assets which are within the first 40% of their estimated service life.
1.5 – 2.4	Fair	Asset show general signs of deterioration, some elements may have significant deficiencies, and asset will likely require repairs in the next 10 years. Where condition data is not available, this category applies to assets which are within 41% - 80% of their estimated service life.
2.5 – 3	Poor	Asset is below standard showing signs of significant deterioration, are in danger of imminent failure, and will require repair or replacement within the next year. Where condition data is not available, this category applies to assets which have exceeded 80% of their estimated service life.

2.3. SUMMARY OF TRANSIT SERVICES ASSETS

The summary of assets for the Transit Services asset class can be found below. The summary of assets includes: Quantity, Replacement Cost, Average Age, and Average Condition Score for each asset type.

2.3.1. TOTAL SUMMARY OF ASSETS

A table summarizing all Transit Services assets is included in **Table 18** below. Detailed information about each asset is included in individual sections. Calculations of averages have been weighted by the overall replacement value of assets; this means that assets of higher estimated replacement value will have a stronger influence on the average then if the average was calculated based on the number of assets. The total replacement cost for Transit Services assets is approximately $2.8M. The average condition scores are shown to one decimal place to illustrate how close the scores are to being on a cusp of another rating and were used to calculate the weighted overall average condition score for the asset group, but are shown rounded to the nearest whole number in subsequent sections. Overall, Transit Services assets are in Fair condition, with a weighted average condition score of 1.7.

Table 18: Total Summary of Transit Services Assets

Asset	Quantity	Unit	Replacement Cost	Weighted Average Age (years)	Weighted Average Estimated Service Life (years)	% of Estimated Service Life Expended	Weighted Average Condition Score	Weighted Average Condition Description
Transit Services Total			**$2.8M**	**Unknown**	**22**	**N/A**	**1.7**	**FAIR**
Bus Signage	485	ea	$216K	Unknown	10	N/A	1.4	GOOD
Bus Shelters	67	ea	$1.3M	Unknown	15	N/A	1.5	FAIR
Bus Pads	470	ea	$1.3M	Unknown	30	N/A	2.0	FAIR

2.3.2. BUS SIGNAGE

Bus Signs are installed at all bus stops to communicate information such as bus stop location, stop number, route number, etc. Per **Figure 9** below, the City owns and maintains approximately 485 bus signs throughout the City. The total replacement cost for these signs is $216K, and the signs are typically in Good condition with an average condition score of 1. The average age of bus signs has not been identified as this information is not recorded, and signs are typically replaced on an ad hoc basis due to damage or deterioration, or if relocation is required.

The 2018 Transit Stop Condition Assessment prepared by KSGS Engineering identified 51 signs that require replacement or relocation within a 2-year maintenance program, from 2018-2020. These signs are considered to be in Poor condition with an estimated condition score of 3, while the remaining signs not identified for replacement or relocation are considered to be in Good condition with an estimated condition score of 1.

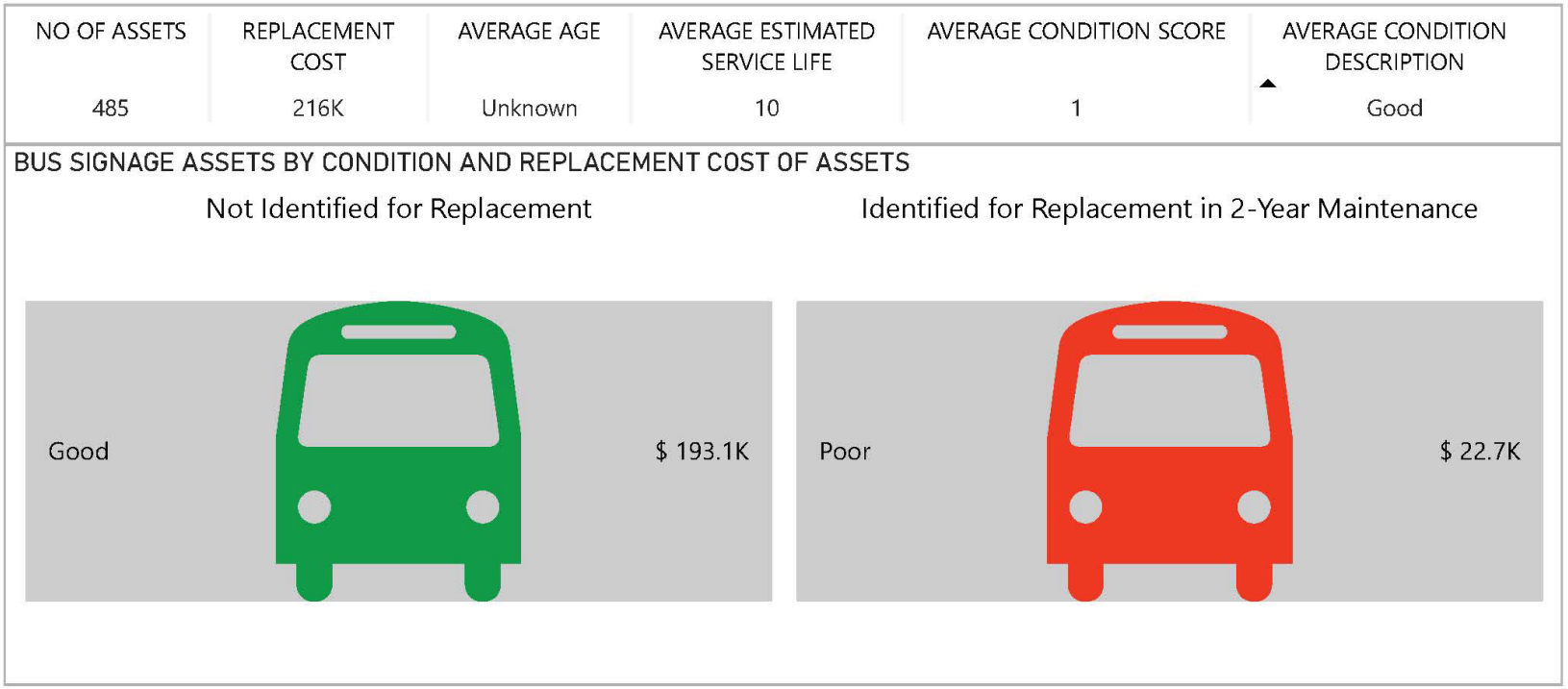

Figure 9: Bus Signage Asset Summary

2.3.3. BUS SHELTERS

Bus shelters are included at 67 bus stops throughout the City to provide additional comfort for riders as they await their bus. Per **Figure 10** below, the total replacement cost for these shelters is estimated at $1.3M and the shelters are typically in Fair condition with an average condition score of 2.

The 2018 Transit Stop Condition Assessment prepared by KSGS Engineering identified bus shelters that require replacement within a 10-year capital program, from 2018-2028. Of those shelters, 33 shelters were replaced in 2022 as part of the Bus Pad and Shelter Replacement capital project, and are in Good condition with an estimated condition score of 1. An additional 27 shelters were identified for replacement before 2028, and are in Fair condition with an estimated condition score of 2. Seven (7) shelters were not identified for replacement by the condition assessment, and are in Good condition with an estimated condition score of 1.

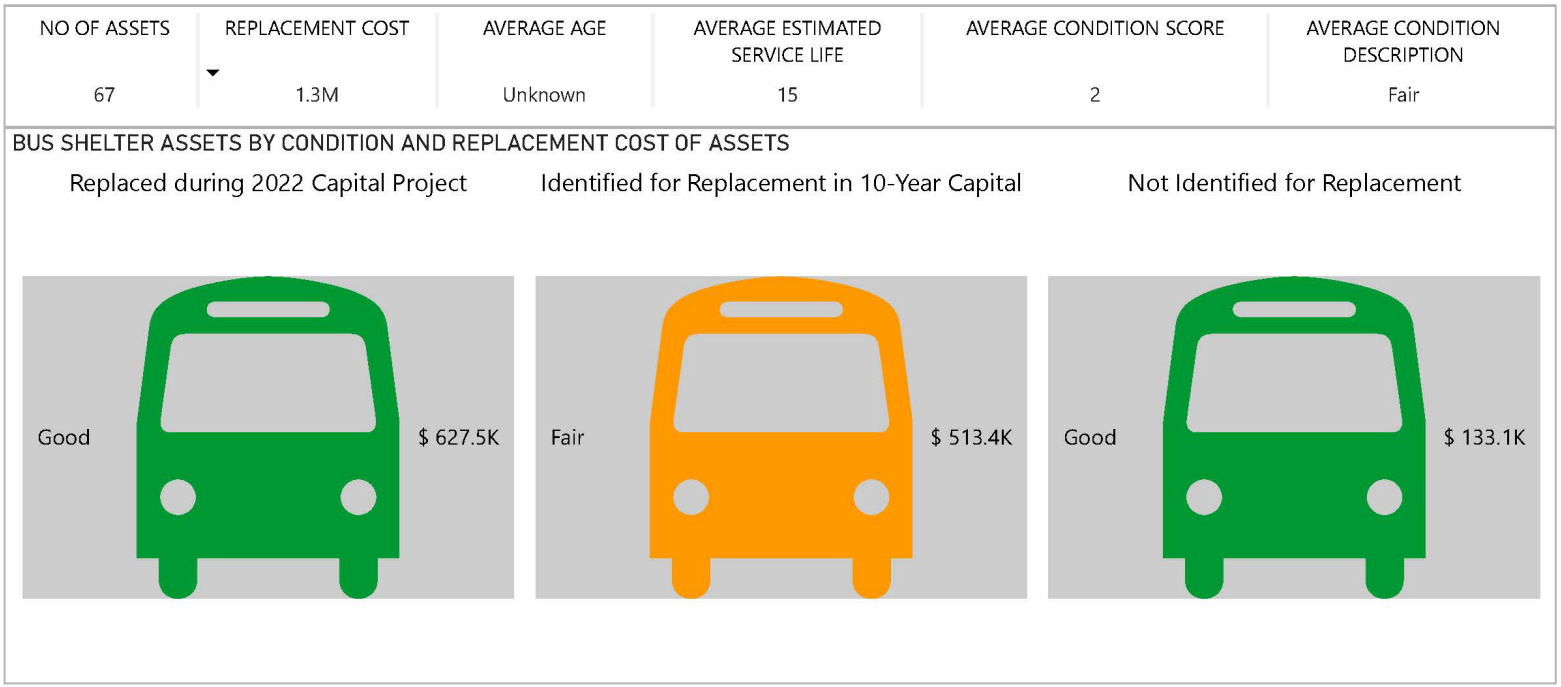

Figure 10: Bus Shelter Asset Summary

2.3.4. BUS PADS

Bus pads are included at 470 bus stops throughout the City to provide safe and accessible ingress and egress for riders to and from buses. Per **Figure 11** below, the total replacement cost for these bus pads is estimated at $1.3M and the pads are typically in Fair condition with an average condition score of 2.

The 2018 Transit Stop Condition Assessment prepared by KSGS Engineering identified bus pads that require replacement within the 2-year maintenance program (2018-2020) and within the 10-year capital program (2018-2028). 33 bus pads were replaced in 2022 as part of the Bus Pad and Shelter Replacement capital project and are in Good condition with an estimated condition score of 1. 154 bus pads were identified for replacement within the 2-year maintenance program and are in Poor condition with an estimated condition score of 3. 163 bus pads were identified for replacement within the 10-year capital program and are in Fair condition with an estimated condition score of 2. 120 bus pads were not identified for replacement by the condition assessment and are in Good condition with an estimated condition score of 1.

NO OF ASSETS	REPLACEMENT COST	AVERAGE AGE	AVERAGE ESTIMATED SERVICE LIFE	AVERAGE CONDITION SCORE	AVERAGE CONDITION DESCRIPTION
470	1.3M	Unknown	30	2	Fair

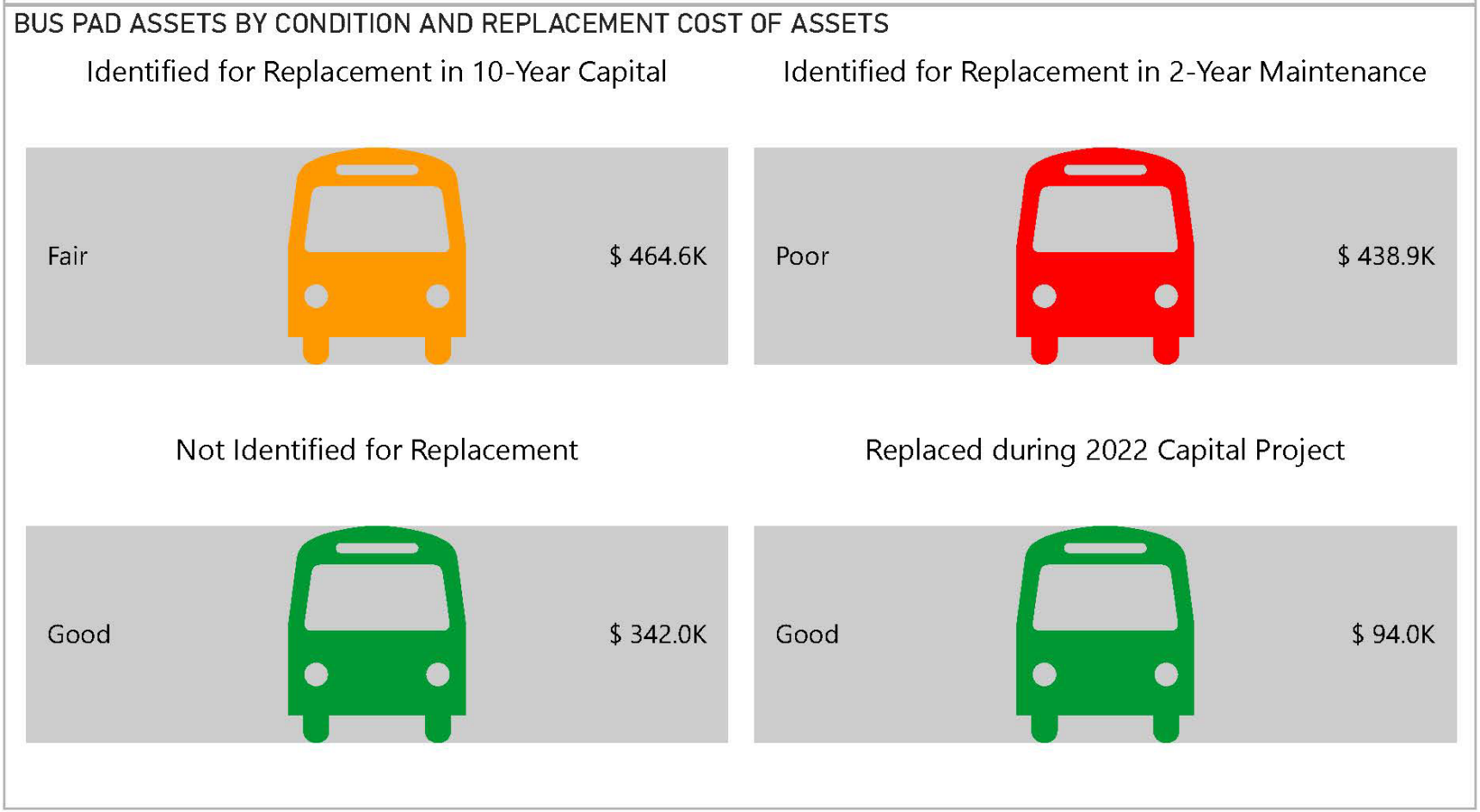

Figure 11: Bus Pad Asset Summary

2.4. LIFECYCLE OF TRANSIT SERVICES ASSETS

The lifecycle of Transit Services assets consists of four (4) categories which are described in this section:

- Key Lifecycle Stages of Transit Services Assets;
- Lifecycle Activities;
- Risks of Lifecycle Activities; and
- 10 Year Lifecycle Costs of Transit Services Assets.

2.4.1. KEY LIFECYCLE STAGES OF TRANSIT SERVICES ASSETS

The lifecycle of an asset refers to the following stages: Planning, Creation/Acquisition, Operations and Maintenance, Renewal/Disposal which are further defined in the Asset Management Plan Overview Document. For Transit Services assets specifically our general process is as follows:

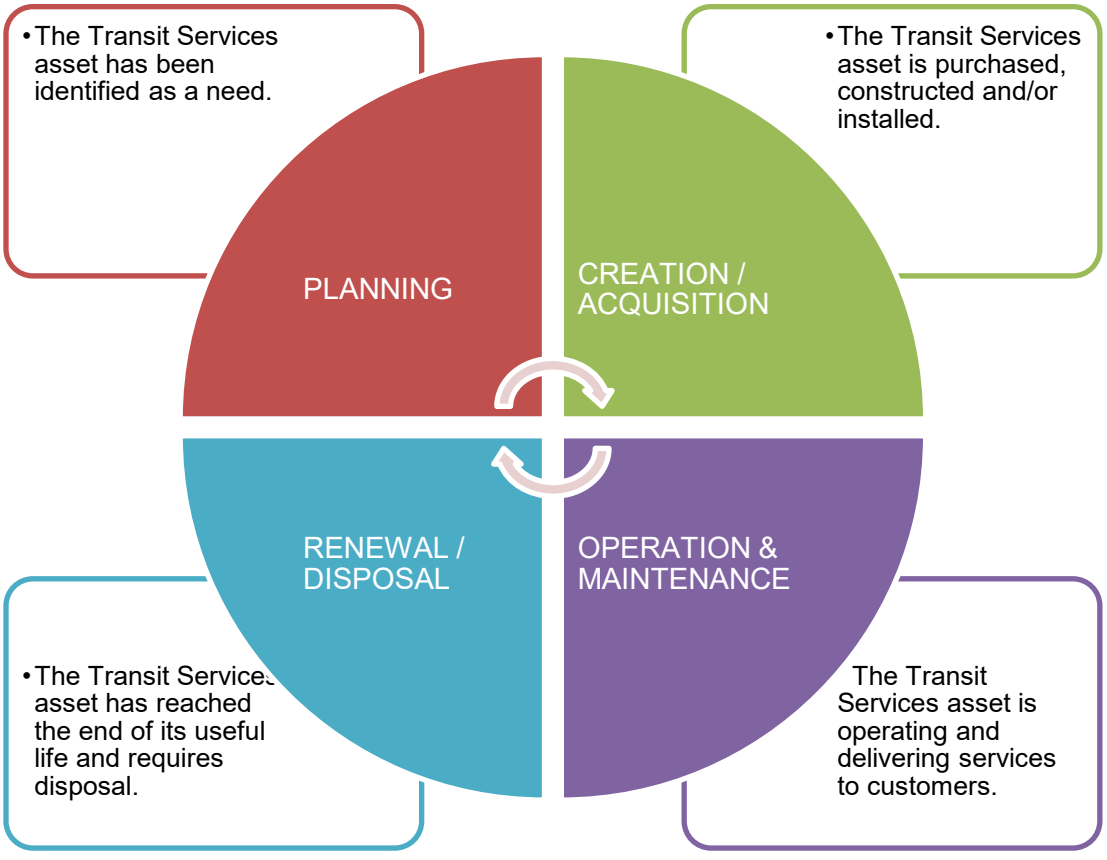

Figure 12: Lifecycle Stages of Transit Services Assets

1. **Planning** – The Transit Services asset has been identified as a need, and is reviewed to ensure that it complies with all necessary regulations and standards.
2. **Creation / Acquisition / Replacement** – The cost and requirements for the new or replacement Transit Services asset are defined. The asset is purchased, constructed and/or installed. Extra care is taken at this stage to ensure the asset is constructed properly using all appropriate design standards and guidelines to avoid any premature repairs or replacements due to installation errors.
3. **Operation and Maintenance** – The Transit Services asset is operating and delivering services to customers. Maintenance (Lifecycle) Activities are completed on the asset at specific time intervals as indicated in **Section 2.4.2** below to prevent premature failures of the asset.
4. **Renewal / Disposal** – The Transit Services asset has reached the end of its useful life, is in poor condition, and/or is underperforming, and requires disposal. The disposal considers the effect on customers such as required detouring or service disruptions which are taken into account in the Planning stage thereby restarting the cycle. The City follows industry standards when disposing of these assets.

2.4.2. LIFECYCLE ACTIVITIES

A list of the planned Lifecycle Activities, annual cost, and frequency for each Transit Services Asset Class can be found in **Table 19** below. These activities are currently being undertaken to maintain Transit assets and therefore maintain the current levels of service. In review of the 2024 Customer Levels of Service survey, Transit generally meets the service expectations of Transit asset users. Therefore, these lifecycle activities will remain the same for the proposed levels of service. Further discussion regarding Transit proposed Levels of Service can be found in **Section 2.5.5 Proposed Levels of Service Discussion**. Due to data limitations at this time, the City will maintain the lifecycle activities which have been performed in the past and activities listed will be updated as improved data becomes available.

Table 19: Lifecycle Activities for Transit Services Assets

Asset Type	Lifecycle Activity	2024 Annual Cost*	Frequency	Completed by
Bus Shelters	Repairs and Maintenance	$20,000	As needed	Contracted Service
Bus Pads	Show Clearing	$66,950	As needed	Contracted Service

*2024 Annual Cost is typically based on estimates presented in the 2024 Operating Budget.

Lifecycle activities occur on each of our Transit Services assets to maintain the state of good repair (SOGR). When these activities are integrated into AIM, the frequency and cost associated with these activities will be better represented. At this time, the costs associated with the O&M activities on these assets are estimated based on 2024 Operating Budget and are not formally recorded, but future updates of the AMP should include actual costs, frequency, and time associated with these activities which will be recorded through AIM.

2.4.3. RISKS OF LIFECYCLE ACTIVITIES

The identified lifecycle activities in **Table 15** above are the current and proposed activities taken on by Transit Services. However, some risks with these activities include:

- **Traffic Accidents** - when performing maintenance in the vicinity of traffic vehicles, there is a risk of a traffic accident. This is mitigated by implementing a traffic control plan and wearing high visibility clothing during maintenance activities in the right of way;
- **Operator Error** – When operators are operating equipment, there is a risk of an operator related accident. This risk is mitigated by ensuring all operators have the required licenses and are trained on equipment.
- **Equipment Failure -** Equipment failure can occur during maintenance activities and this is mitigated by ensuring preventative maintenance is completed at regular intervals to prevent this from occurring.

However, if these activities were not completed, the risks would include:

- **Increased Complaints** due to buildup of debris, garbage, broken glass and graffiti at bus stops or within shelters;
- **Service Disruptions** due to asset failures and inaccessible assets that could have been mitigated with preventative maintenance;
- **Health and Safety Hazards** to customers due to debris and broken glass that could have been mitigated with proper cleaning and maintenance;
- **Increased Cost** due to reactive repairs which could have been prevented with preventative maintenance.

2.4.4. 10 YEAR LIFECYCLE COSTS OF TRANSIT SERVICES ASSETS

Figure 13 below outlines the 10 year lifecycle costs of Transit assets. This graph includes the lifecycle cost for the assets which support the Current Levels of Service (LOS) and the assets required to support the Proposed LOS.

The 10-year annual capital cost is slightly higher than the average annual cost for operations and maintenance.

Based on the information presented in **Figure 13**, the total annual average capital costs for the next 10 years needed to maintain the current LOS of these Transit assets are $150,200. The total annual average capital costs for the next 10 years needed to achieve the proposed LOS are $44,400. The average annual Operation and Maintenance costs to maintain the current level of service are $187,200. The average annual additional Operation and Maintenance costs to maintain the proposed level of service are $4,000.

To determine the total estimated operating costs in a given year, the proposed LOS operating costs should be added to the current LOS operating costs. Therefore, it is recommended that the City invest $194,600 in Transit assets annually for capital work to maintain the current LOS and achieve the proposed LOS. It is recommended that $191,200 be invested annually in operating costs to maintain the current LOS and achieve the proposed LOS.

.

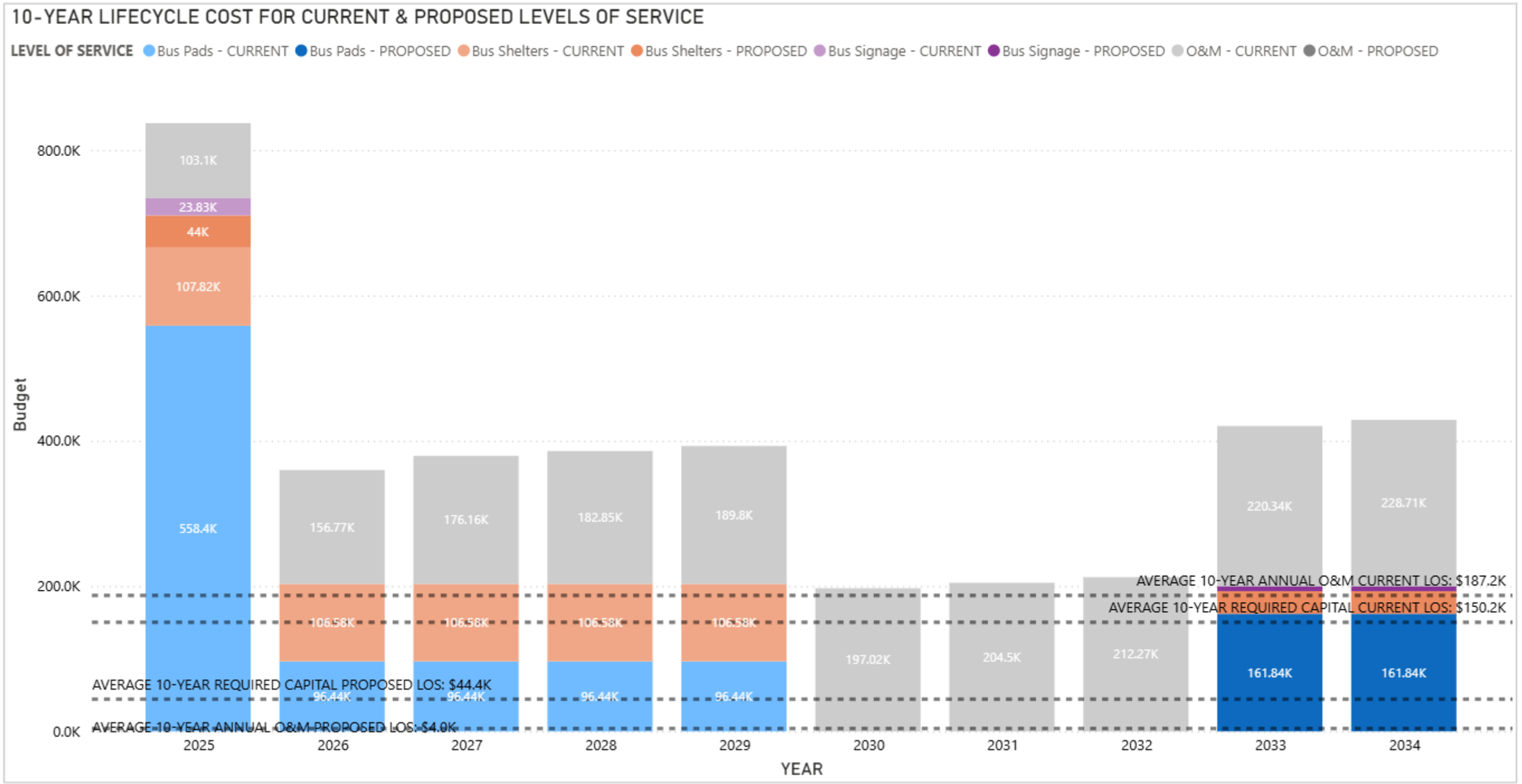

Figure 13: 10-Year Lifecycle Cost For Current & Proposed Levels of Service

Notes:

1. O&M Costs are estimated based on the 2025-2027 Operating Budget. Values beyond 2027 are estimated by 3.8% inflation each year. These O&M Costs are associated with the lifecycle activities identified in **Table 15.**
2. Capital costs and lifecycle are estimated based on values and methodology identified in **Section 2.3**.

Per **Figure 14** below, the existing 10-year forecast from 2025 – 2034, further explained in **Section 8.3** of the **Asset Management Plan Overview Document**, indicates that the City is currently planning to spend an average of $26,500 on Transit assets capital work annually, and as noted above, the required 10-year average amount is $194,600 to maintain the current LOS and achieve the proposed LOS for these assets. Therefore, there is an annual funding gap of $168,100 for Transit assets. The impacts resulting from these funding gaps will be monitored and reported as appropriate.

The City of Brantford is currently moving to a four (4) year budget cycle and departments will complete long-term planning as opposed to annual planning for projects within this time period. The Prioritization Matrix explained in **Section 9** of the **Asset Management Plan Overview Document** has also been implemented which will help departments confirm priority projects. It is anticipated that the new process for the City's 2024 budget cycle will help departments prepare and request funding in advance of significant replacement costs for assets reaching the end of their useful life.

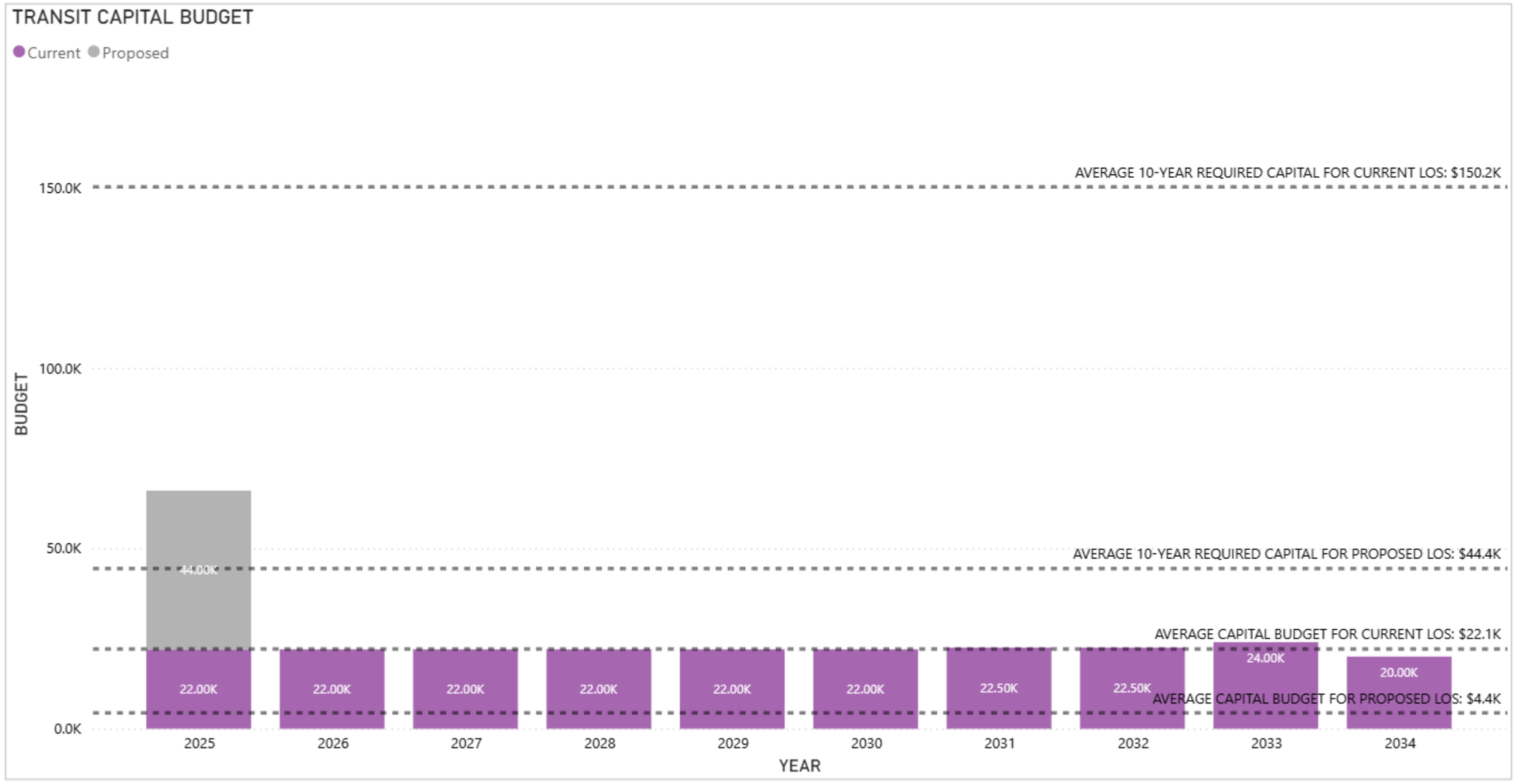

Figure 14: Existing Capital Budget Forecast from 2025-2034 for Transit Services Assets

Notes:

1. Capital budget forecast is estimated based on the 2024-2027 Capital Budget. Capital budget beyond 2027 is estimated by 3.8% inflation each year.

2.5. CURRENT LEVELS OF SERVICE

2.5.1. O. REG. 588/17 CUSTOMER LEVELS OF SERVICE

O. Reg. 588/17 does not currently have defined customer levels of service for this asset class that must be reported in this plan. This section will be kept for future iterations in case O. Reg. 588/17 requires defined customer levels of service be reported.

2.5.2. O. REG. 588/17 TECHNICAL LEVELS OF SERVICE

O. Reg. 588/17 does not currently have defined technical levels of service for this asset class that must be reported in this plan. This section will be kept for future iterations in case O. Reg. 588/17 requires defined technical levels of service be reported.

2.5.3. MUNICIPALLY DEFINED CUSTOMER LEVELS OF SERVICE

The customer levels of service are defined in **Section 6.2** of the **Asset Management Plan Overview**. For Transit Services assets, the asset specific interpretation of these levels of service is defined below in **Table 16**.

Table 20: Municipally Defined Customer Levels of Service

Customer Level of Service	Definition
Accessibility	Transit Services assets should be accessible to all customers without barriers in place.
Quality	Transit Services assets should deliver their intended purpose at a certain quality, and assets should have sufficient capacity.
Cost Efficiency	Transit Services assets should be operated efficiently with extra care to minimize costs.
Safety	Transit Services assets should be both safe to use and promote community safety, and customers should feel safe using these services.
Environmental Sustainability	Transit Services assets should be operating as environmentally as possible and also be promoting sustainable lifestyles.
Reliability	Transit Services assets should be available during service hours and care should be taken to avoid closures or service disruptions.
Responsiveness	Transit Services assets should be maintained and repaired promptly to avoid service disruptions. Responsiveness should account for the relative risk to the public, the surrounding property, the asset itself and to the staff completing the response.

2.5.4. MUNICIPALLY DEFINED TECHNICAL LEVELS OF SERVICE

The technical levels of service for Transit Services Assets have been adopted based on the customer levels of service defined in **Table 16**. The currently available customer levels of service with the corresponding technical levels of service and KPI metrics are defined in **Table 17**.

Due to a low response rate on customer surveys conducted in 2023/2024, the confidence level in the applicability of the KPIs derived from the survey data, to the wider population, is Low. The need for additional KPIs and KPI targets has been identified and future iterations of this AMP will look for opportunities to gather and include this information.

Table 21: Levels of Service KPIs

				Proposed Future Performance										
Customer Level of Service	**Technical LOS**	**Units**	**Current Actual Performance (2024 Values)**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**LOS Option**
Accessibility*	Number of Bus Shelters installed/replaced each year	# of Bus Shelters	5	5	5	5	5	5	5	5	5	5	5	Maintain
Quality**	Percentage of Customers who rate overall Brantford Transit performance as Average or above	% of Customers	78%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	Maintain
Cost Efficiency	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Safety**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Environmental Sustainability	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reliability**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Responsiveness	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Note: Information based on data from 2018 Transit Stop Condition Assessment prepared by KSGS Engineering and 2022 Bus Pad and Shelter Replacement Capital Project.
**Note: Information obtained from customer surveys conducted in 2023/2024, more details available in Overview Document. Due to a low response rate, the confidence level in the applicability of the information to the wider population is Low.

2.5.5. PROPOSED FUTURE LEVEL OF SERVICE TARGETS

For the purpose of this report and the discussion surrounding proposed future levels of service targets, there are three (3) possible options defined in **Table 22** including the risks associated with those options to the long term sustainability of the municipality.

Table 22: Technical Levels of Service KPIs

Level of Service Development Options	Description	Risk Associated with Options
Decrease Level of Service	Decreasing the level of service should result in cost savings. E.g. Garbage can emptying in parks is decreased to once every two weeks.	In some circumstances, decreasing the level of service may have little impact to the overall customer experience. In others, decreasing the level of service may result in a decreased level of customer satisfaction and could lead to safety concerns and possible damage to the City's reputation. Decreasing the level of service too much for an extended period of time may result in higher costs for repairs or closure of certain assets over the long-term.
Maintain Level of Service	Maintaining the level of service should maintain costs with increases anticipated to reflect inflation. Customer experience would also be anticipated to remain the same as well as the City's reputation. Costs would be anticipated to increase minimally over time due to inflation or growth factors. E.g. Garbage can emptying in parks is maintained at once per week.	If the current levels of service match customer expectation and regulatory requirement, maintaining them would typically be the recommended approach. However if the current levels of service do not match customer expectations or regulatory requirements, then maintaining them may not be the recommended approach. Similarly, City reputation may not match with what the City would prefer. If a low level of service is maintained for too long it may lead to health and safety concerns.
Increase Level of Service	Increasing the level of service should result in enhanced customer experience and City reputation.	Increasing service would involve increased costs. Increasing the level of service too much, for an extended period of time, may become financially unsustainable for the City.

	E.g. Garbage cans emptying in parks is increased to twice a week	

Each of the technical levels of service have been examined to see if and/or how the proposed levels of service differ from the current levels of service:

The Number of Bus Shelters installed/replaced each year is currently at five (5) shelters per year and this service level will be maintained for the next ten (10) years. This level of service is planned to be maintained through current Transit policy and practices.

The Percentage of Customers who rate overall Brantford Transit performance as Average or above is currently 78% and is proposed to be maintained over the next ten (10) years at 75%. This will involve communicating with customers again through surveys and other forms of engagement.

It is important to note that customer preferences and expectations do not always align with internal technical targets. A consideration of this section is linking the customer and technical levels of service to determine areas where different levels of service could be proposed. As the 2024 survey results have only a low level of data confidence, it is difficult to make any conclusive decisions based on this initial survey. The Parks & Recreation Master Plan provides strategic direction as it relates to the provisioning and guidance for decision-making and should be referred to in conjunction with these survey results when considering any change in the level of service.

2.5.6. AFFORDABILITY AND ACHEIVABILITY CONFIDENCE

To determine whether the proposed levels of service are achievable and if the City can afford the proposed level of service **Table 23** has been developed to review confidence in the proposed levels of service.

Table 23: Affordability and Achievability Confidence

Customer Level of Service	Technical LOS	Achievability Confidence	Achievability Description	Affordability Confidence	Affordability Description
Accessibility	Number of Bus Shelters installed/replaced each year	High	High achievability confidence has been selected for the Number of Bus Shelters installed/replaced each year as this level of service is proposed to be maintained through current policy and practices.	High	High affordability confidence has been selected for the Number of Bus Shelters installed/replaced each year as this level of service is proposed to be maintained through current policy and practices. Therefore, no additional/increased costs are expected to be incurred to meet this level of service.
Quality*	Percentage of Customers who rate overall Brantford Transit performance as Average or above	Medium	Medium achievability confidence has been selected for the Percentage of Customers who rate overall Brantford Transit performance as Average or above as this level of service is proposed to be maintained through current policy and practices. This will require continued consultation with customers through an additional survey or other forms of engagement and may lead to fluctuations in the reported service level.	High	Medium affordability confidence has been selected for the Percentage of Customers who rate overall Brantford Transit performance as Average or above as this level of service is proposed to be maintained through current policy and practices. This will require continued consultation with customers through an additional survey or other forms of engagement and may lead to changes in policies/practices, bus routes, frequency of buses, etc. which could result in increased costs.
Cost Efficiency	N/A	N/A	N/A	N/A	N/A
Safety	N/A	N/A	N/A	N/A	N/A
Environmental Sustainability	N/A	N/A	N/A	N/A	N/A
Reliability	N/A	N/A	N/A	N/A	N/A
Responsiveness	N/A	N/A	N/A	N/A	N/A

It is important to note that while the proposed service level change may appear affordable when viewed in isolation of this plan specifically, when it is examined in the context of the overall budget, these levels may not be achievable and would be considered unaffordable. As service level data continues to be collected, staff will also continue to review the achievability and affordability of the levels of service proposed within the future iterations of this plan.

2.5.7. LEVEL OF SERVICE LIFECYCLE COST CONSIDERATIONS

Proper consideration should be made for the most cost-effective methods that can be undertaken to achieve the lowest cost associated with a chosen level of service. **Table 24 below** includes the lifecycle options available and the associated risks with the chosen options.

Table 24: Lifecycle Options and Associated Risks

Lifecycle Options	Description	Risks Associated if Undertaken	Risks Associated if Not Undertaken
Planning	Consideration is made regarding the asset involving City Master plans and the needs of internal and/or external customers.	Planning activities may extend project timeline.	If planning activities were not undertaken there is a risk missing something that we needed
Operation & Maintenance	The asset is providing benefits to the community and operation and maintenance activities (see **Table 6**) are completed on the asset at specific time intervals to prevent premature failures of the asset.	Completing operation & maintenance activities may mean that there is limited or no access to the asset for a period of time.	If O&M activities were note undertaken the asset would have premature failures, become unsafe and would cost the City more to repair or would have to be closed/removed.
Repair	The asset or a portion of the asset is no longer functioning appropriately, and a repair is needed.	Completing repair activities may mean that there is limited or no access to the asset for a period of time.	If repair activities were not undertaken the asset would no longer function as it should and would affect service levels. The asset would eventually deteriorate and need to be closed.
Replace	The asset has reached the end of its useful life and needs to be replaced to maintain service levels.	Replacing the asset may mean limited or no access to the asset during a period of time.	If replacement activities were not undertaken the asset would no longer function as it should and would affect service levels. The asset would need to be closed and eventually removed.
Remove	The asset has reached the end of its useful life or is no longer required to meet the appropriate service level and is removed.	Removing the asset may lead to a reduction in service levels.	The asset may be unsafe and could lead to health and safety concerns if not removed.

Install New/Expand	A new asset or extension to an existing asset is purchased and installed.	Installing a new asset may lead to increase costs which could lower service levels.	If a new asset is not installed this may lead to an eventual reduction in service levels.

Note: The full lifecycle stages for these assets can be found in Section 1.4.1 and the list of specific lifecycle activity options is located in Section 1.4.2 of this AMP.

Depending on the level of service being considered, the most cost-effective method that should be undertaken to achieve the lowest cost associated with the specific level of service may actually be a combination of lifecycle activities. The combination selected will be based on that specific asset and the activities that are likely to give the lowest cost while maintaining the chosen service level.

The Number of Bus Shelters installed/replaced each year will require a combination of operation and maintenance activities, repairs and replacing of assets or installing new assets as necessary.

The Percentage of Customers who rate overall Brantford Transit performance as Average or above involves communicating with the customer through surveys and other forms of engagement. This lifecycle activity will require planning to discuss the need for continued engagement and the budget required to generate and execute the next survey needed to re-assess satisfaction levels. It may also involve a combination of operation and maintenance activities, repairs and replacement of the existing asset when it reaches the end of it’s useful life.

2.6. CURRENT ASSET PERFOMANCE

The current asset performance for Transit Services assets has been separated into three (3) categories for this section of the report:

- Energy Performance;
- Operating Performance; and
- Sustainability Performance

2.6.1. TRANSIT SERVICES CURRENT ENERGY PERFORMANCE

The City of Brantford has a Corporate Energy Management Plan (CEMP) which emphasizes energy efficiency within the City. The goals of the CEMP are to reduce energy use, energy intensity, and greenhouse gas (GHG) emissions in our Facilities. In addition, through the City's Climate Change Action Plan and Climate Lens Tool explained in **Section 10** of the **Asset Management Plan Overview Document**, the City has been working to improve our facilities' energy efficiency and reduce the associated carbon footprint.

Currently, the City does not have a method to track Energy Performance for the Transit Services asset class. This section will be kept for future iterations as ways to track Energy Performance for this asset class are explored.

2.6.2. TRANSIT SERVICES CURRENT OPERATING PERFORMANCE

Currently, the City does not have a method to track Operating Performance for the Transit Services asset class. This section will be kept for future iterations as ways to track Operating Performance for this asset class are explored.

2.6.3. TRANSIT SUSTAINABILITY PERFORMANCE

To determine if the City is able to provide sustainable service delivery for the Transit assets, the **Asset Sustainability Index** (ASI) is utilized. It is calculated by taking the amount the City is proposing to spend on Levels of Service (LOS) and dividing it by the amount the City is projected as needing to spend to maintain the LOS. The ASI can be calculated for the Current LOS, the Proposed LOS or the combination of the two. It can be for Capital costs, Operating & Maintenance (O&M) costs or a combination of the two.

Table 14 shows the ASI for the various scenarios and the final combined for the different asset categories. The ASI is used as a high-level assessment of whether the City is accommodating asset renewals in an optimal and cost-effective manner based on timing and relative to financial constraints. It is also an indicator of the risk the City is accepting and targeted service levels it wishes to maintain.

Table 25: Asset Sustainability Index

	Current LOS	Proposed LOS	Combined LOS
Capital Costs	15%	10%	14%
O&M Costs*	N/A	N/A	N/A
Combined Costs	-	-	14%

* Due to the way the O&M costs are derived at this time, the ASI for O&M costs has not been included in this iteration of the AMP. It is expected to be included in future iterations as the O&M data tracking on an asset class specific basis improves.

To ease understanding the ASI is reported as a percentage:

- An ASI of 100% is considered to be the best as it indicates that expenditures match what is needed to sustain levels of service. This is more efficient as it preserves infrastructure for the lowest cost over time.
- Above 100% funding should be reviewed as it suggests that the City is spending more than necessary, which may be an inefficient distribution of resources. In some circumstances this may be appropriate on a temporary basis to reduce backlogs of overdue repairs and/or replacements.
- Below 100% indicates a funding shortfall, meaning the City is not investing enough to maintain levels of service. If not addressed, this gap can lead to declines in levels of service over time.

The Transit Combined Capital ASI of 14% is below the Combined Capital LOS ASI for all assets of 61%.

2.7. DISCUSSION & CONCLUSIONS

In conclusion, the City of Brantford operates and maintains Transit Services assets. These assets are in Fair condition with a total estimated replacement cost of approximately $2.8M. The asset inventory, condition and levels of service data for Transit Services assets range from Low to Medium to High confidence levels, with an overall average confidence level of Medium.

The lifecycle stages for Transit Services assets includes: Planning, Creation, O&M, and Disposal. During the Planning stage, the City identifies the need to obtain a Transit asset; during the Creation stage, the Transit asset is installed or constructed; during the O&M stage, the Transit asset is in use by customers; and in the Disposal stage, the Transit asset has reached the end of its useful life and requires disposal.

Lifecycle activities are currently completed by suppliers/contractors to maintain state of good repair. At this time, detailed tracking and costs associated with these activities are not available and are estimated based on staff knowledge and the 2024 Operating Budget.

It is estimated based on the average annual cost in the 10 Year Life Cycle Costing that the City should be spending an average $194,600 annually for capital Transit asset costs and should be spending an average of $191,200 annually on Operating and Maintenance on these assets. The City is currently proposing to spend an average of $26,500 annually on capital for Transit assets. This results in a funding gap of $168,100 from the forecasted capital need for Current and Proposed LOS. The City is currently proposing to spend $187,200 annually on Operating and Maintenance resulting in a funding gap of $4,000.

While some Current and Proposed Levels of Service have been identified, additional metrics have been identified as a need for Transit assets. Brantford is working to continue to develop the process to track these metrics which will assist in tracking these and any further identified KPIs for future iterations.

Considered in isolation the Proposed Levels of Service have a Medium to High Confidence for Achievability and Affordability. When examined in the context of the overall budget, these levels of service may not be achievable and may be considered unaffordable.

Asset performance is separated into energy, operating and sustainability performance in the Transit Asset Management Plan (AMP). However, due to limited tracking for assets, the City is not able to provide information related to energy and operating performance for the Transit asset class in this iteration of the AMP. Opportunities to track energy and

operating performance may be considered to provide updated information in future iterations of this plan.

For Sustainability performance, the Combined Capital Level of Service Asset Sustainability Index (ASI) is 14%. This is low compared to the ASI for all assets of 61%.

The next iteration of this Transit Waste AMP document, due in 2030, will be revised to include updated and new information obtained over the next five years.