



# 2024 Asset Management Plan

Airport  
Non-Core Assets  
City of Brantford, Ontario



## RECORD SHEET

ROLE	NAME
<b>WRITERS:</b>	Sharon Anderson, P.Eng. Supervisor of Asset Management Public Works – Engineering Services
<b>CONTRIBUTORS:</b>	<p><b>Infrastructure Planning</b> Nora Fleming, Asset Management Specialist</p> <p><b>Airport</b> Shawn Broughton, Brantford Flying Club</p> <p><b>Facility Services</b> Kim Wyskiel, Manager of Facilities Operations &amp; Maintenance</p>
<b>REVIEWERS:</b>	Mike Abraham, C.E.T., Manager of Infrastructure Planning
<b>RECOMMENDED BY:</b>	Brian Hutchings, Chief Administrative Officer
<b>APPROVED BY:</b>	Brantford City Council
<b>2024 Asset Management Plan</b>	<b>Publishing Date</b>
<b>Council Review</b>	June 4, 2024
<b>Council Approval</b>	June 25, 2024

## RECORD SHEET

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

# ASSET MANAGEMENT PLAN

## AIRPORT

---

### TABLE OF CONTENTS

- RECORD SHEET..... 1**
- RECORD SHEET..... 2**
- AIRPORT OPERATIONS INTRODUCTION ..... 5**
- 1. AIRPORT ASSETS..... 6**
  - 1.1. INTRODUCTION ..... 6
  - 1.2. AIRPORT ASSETS' DATA INVENTORY AND CONDITION APPROACH ..... 6
    - 1.2.1 SERVICE LIFE ..... 9
    - 1.2.2 CONDITION SCORING..... 10
  - 1.3. SUMMARY OF AIRPORT ASSETS..... 11
    - 1.3.1 TOTAL SUMMARY OF ASSETS..... 11
    - 1.3.2 BUILDINGS ..... 13
    - 1.3.3 FITTINGS & EQUIPMENT..... 17
    - 1.3.4 AIRSIDE SITE WORKS..... 18
    - 1.3.5 GROUNDSIDE SITE WORKS..... 20
  - 1.4. LIFECYCLE OF AIRPORT ASSETS ..... 22
    - 1.4.1 KEY LIFECYCLE STAGES OF AIRPORT ASSETS ..... 22
    - 1.4.2 LIFECYCLE ACTIVITIES..... 24
    - 1.4.3 RISKS OF LIFECYCLE ACTIVITIES..... 25
    - 1.4.4 10 YEAR LIFECYCLE COSTS OF AIRPORT ASSETS ..... 26
  - 1.5. CURRENT LEVELS OF SERVICE ..... 32
    - 1.5.1 O. REG 588/17 CUSTOMER LEVELS OF SERVICE ..... 32
    - 1.5.2 O. REG 588/17 TECHNICAL LEVELS OF SERVICE..... 32
    - 1.5.3 MUNICIPALLY DEFINED CUSTOMER LEVELS OF SERVICE ..... 33
    - 1.5.4. MUNICIPALLY DEFINED TECHNICAL LEVELS OF SERVICE ..... 34
  - 1.6. CURRENT ASSET PERFORMANCE..... 35
    - 1.6.1 AIRPORT ASSETS CURRENT ENERGY PERFORMANCE ..... 35
    - 1.6.2 AIRPORT ASSETS CURRENT OPERATING PERFORMANCE ..... 36

1.7. DISCUSSION AND CONCLUSIONS ..... 37

**TABLE OF TABLES**

Table 1: Asset Type Breakdown ..... 5  
Table 2: Airport Assets' Data Origin and Confidence Level..... 7  
Table 3: Airport Assets' Estimated Service Life ..... 9  
Table 4: Condition Score Description ..... 10  
Table 5: Total Summary of Airport Assets ..... 12  
Table 6: Lifecycle Activities for Airport Assets ..... 24  
Table 7: Municipally Defined Customer Levels of Service..... 33  
Table 8 Technical Levels of Service KPIs ..... 34  
Table 9: Current Energy Performance of Airport Facilities\* ..... 35  
Table 10: Airport Operating Performance..... 36

**TABLE OF FIGURES**

Figure 1: Buildings Asset Summary by Structure ..... 16  
Figure 2: HOLD for Future AMP ..... 17  
Figure 3 Airside Asset Summary by Condition and Number of Assets ..... 19  
Figure 4 Groundside Assets Summary by Condition and Number of Assets ..... 21  
Figure 5: Lifecycle Stages of Airport Assets ..... 22  
Figure 6: 10-Year Lifecycle Cost Per Airport Asset Type ..... 27  
Figure 7: Existing Capital Budget Forecast from 2024 – 2033 for Airport Assets ..... 31

# AIRPORT OPERATIONS INTRODUCTION

Per O.Reg 588/17 all municipal infrastructure assets which fall outside of the core asset categories (water, wastewater, stormwater and roads) 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 document. 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.

Airport assets are managed by a combination of City staff from the Airport Operations department and the 3<sup>rd</sup> party who maintains daily operations of the airside.

**Table 1: Asset Type Breakdown**

	<b>Asset Class</b>
	<b>Airport</b>
	Buildings
<b>Asset Type:</b>	Fittings & Equipment
	Airside Site Works
	Groundside Site Works

# 1. AIRPORT ASSETS

## 1.1. INTRODUCTION

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

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

## 1.2. AIRPORT 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 three (3) approaches to establishing the inventory and condition of Airport assets due to available resources, technologies, and budget restrictions:

- Condition assessments outsourced to consultants;
- Periodic inspection programs conducted by City staff; and
- Estimated condition based on asset specific information.

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

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

Table 2: Airport Assets' Data Origin and Confidence Level

	Inventory			Replacement Cost			Condition		
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
<b>Buildings</b>	Inventory from GIS, Staff Knowledge, and Consultant Condition Assessment	Medium	Condition Assessments are from 2017	Industry Reference	Medium	Estimated costs based on known units	Age and Condition Assessment	Medium	Condition Assessments from 2017 and not completed for all buildings
<b>Fittings &amp; Equipment</b>	Not Available	Low	Not Available	Industry Reference	Low	Estimated costs based on actual unit cost	Not Available	Low	Not Available
<b>Airside Site Works</b>	Inventory from GIS and Staff Knowledge	Medium	GIS requires updated field verification	.Tangible Capital Asset Registry .Industry Reference .Staff Knowledge	Medium	Estimated costs	Age and Staff Knowledge	Low	Informal assessment by Staff
<b>Groundside Site Works</b>	Inventory from GIS and Staff Knowledge	Medium	GIS Listing	.Tangible Capital Asset Registry .Industry Reference .Staff Knowledge	Medium	Estimated costs	Age and Staff Knowledge	Low	Informal assessment by Staff



Per **Table 2** above, Airport assets' data are typically at a Low or Medium confidence level with an overall average confidence level of Medium for the Buildings and Site Works and Low for Fittings & Equipment. The number of fittings & equipment assets is lower than would typically be expected at a City facility as most of the Airport buildings are rented unfurnished to 3<sup>rd</sup> parties.

Replacement costing for Buildings, Fittings & Equipment and Groundside Site Works is based on an industry standard cost guide published by a third party. While the costs are accurate they are an average over multiple geographic areas, this is expected to result in some variance at a City specific level and is why the confidence level is not marked as High.

Replacement costing for Airside Site Works is primarily based on Tangible Capital Asset records.

### 1.2.1 SERVICE LIFE

Formal condition assessments are periodically completed on Airport assets. 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**. Provided that assets are maintained they are expected to remain structurally sound and functional under normal conditions for the Estimated Service Lives outlined below before replacement or significant rehabilitation is required. Environmental conditions and operating practices may result in a shorter or longer useful lifetime.

**Table 3: Airport Assets' Estimated Service Life**

<b>Asset</b>	<b>Estimated Service Life</b>
<b>Buildings</b>	Buildings are composed of various sub-systems including structure, mechanical and electrical with different service lives. The different sub-system Estimated Service Lives are as follows: Structure & Substructure: 80 years Mechanical: 30 years Electrical: 25 years Interior: 15 years
<b>Fittings &amp; Equipment</b>	10 years
<b>Airside Site Works</b>	Runway Lighting: 20 years Runways & Taxiways: 50 years Aprons: 50 years Instruments: 45 years Airside Signage: 40 years Aircraft Tie Downs: 50 years Wiring: 25 years
<b>Groundside Site Works</b>	Parking Lots: 30 years Pathways: 30 years Lighting: 25 years Light Supports: 40 years Fencing: 20 years Signs: 10 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**

<b>Condition Score</b>	<b>Condition Rating</b>	<b>Description</b>
<b>1 – 1.4</b>	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.
<b>1.5 – 2.4</b>	Fair	Assets show general signs of deterioration/age, some elements may have significant deficiencies, and asset will likely require repairs/removal 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.
<b>2.5 - 3</b>	Poor	Asset is below standard showing signs of significant deterioration, is in danger of imminent failure, and will require repair, replacement or removal 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 AIRPORT ASSETS**

The summary of assets for the Airport 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 Airport 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 Airport assets is approximately \$78.4M and they are an average of 54 years old which is greater than the overall average estimated service life of 54 years. Overall Airport assets are in Good condition with a weighted average condition score of 1.2.

**Table 5: Total Summary of Airport Assets**

Asset	Quantity	Unit	Replacement Cost	Average Age (years)	Average Estimated Service Life (years)	% of Estimated Service Life Expended	Average Condition Score	Average Condition Description
<b>Airport Assets Total</b>			<b>\$78.4M</b>	<b>55</b>	<b>48</b>	<b>100</b>	<b>1.2</b>	<b>GOOD</b>
<b>Buildings</b>	10	Ea	\$60.7M	60	49	100%	1.0	GOOD
<b>Fittings &amp; Equipment</b>	N/A	Ea	\$1.3M	N/A	N/A	N/A	N/A	N/A
<b>Airside Site Works</b>	Varies	Varies	\$16.2M	37	43	86%	1.9	FAIR
<b>Groundside Site Works</b>	Varies	Varies	\$1.5M	68	28	100%	2.7	POOR

### **1.3.2 BUILDINGS**

Assets within the Buildings group consist mostly of airplane hanger buildings which are rented out to airport users who wish to store and maintain their airplanes. There is also a maintenance building and a building used for the storage of physical records. There are other buildings along the airport airside which are constructed on land leases where the building is privately owned and maintained. As these building assets are privately held, they are not included in this Asset Management Plan.

It can be seen in

AREA OF BUILDINGS (sq m)	REPLACEMENT COST (\$)	WEIGHTED AVG AGE (YEARS)	WEIGHTED AVG ESTIMATED SERVICE LIFE (YEARS)	WEIGHTED AVG CONDITION SCORE	WEIGHTED AVG CONDITION DESCRIPTION
16.1K	59.4M	60	49	1.0	Good

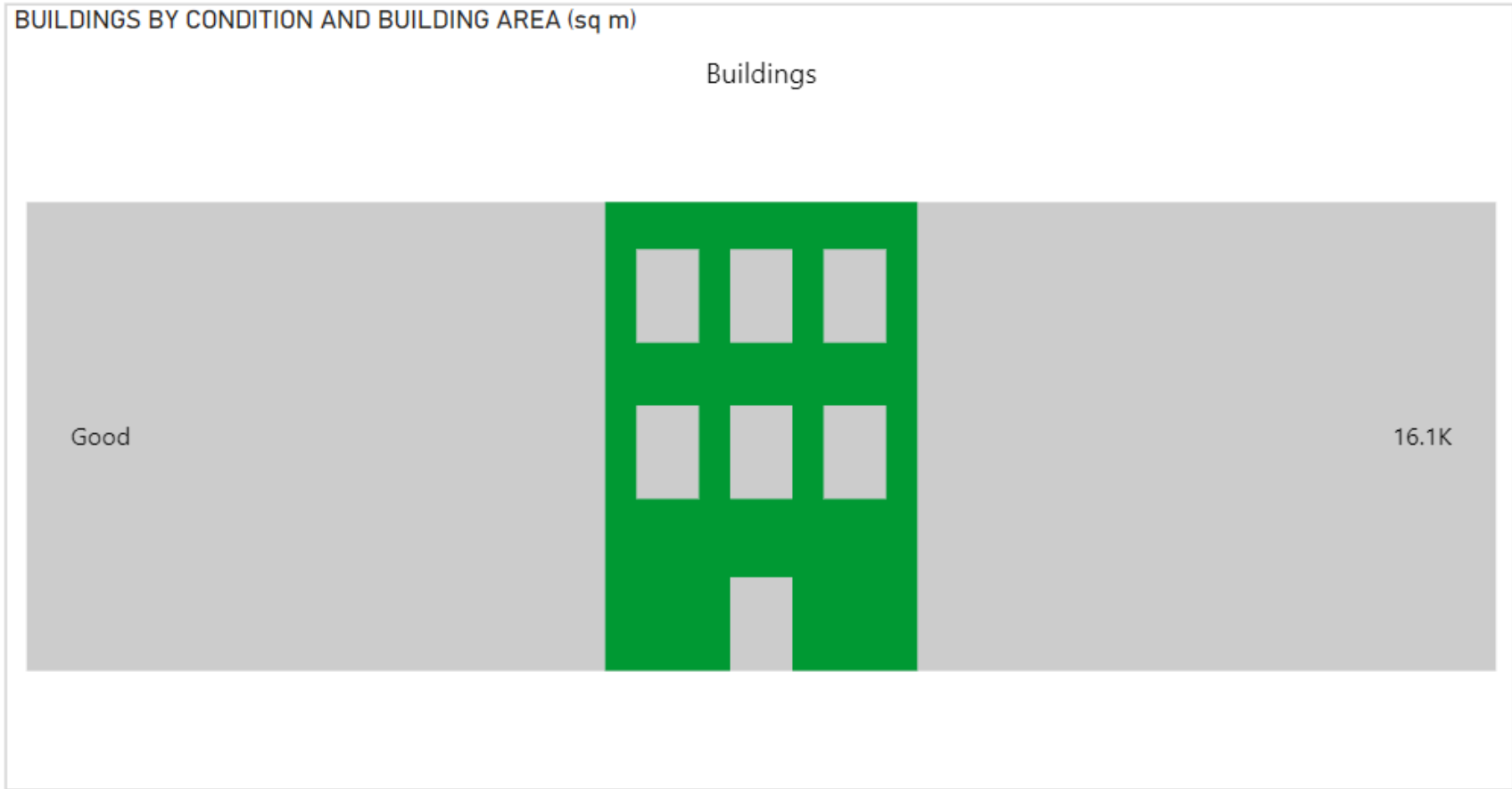


Figure 1 that there is estimated to be over 16,100 sq. m. of area with a total replacement cost of \$59.4M. Assets are typically in Good condition with a weighted average condition score of 1.0. Six (6) of the ten (10) City owned buildings at

Airport AMP  
June 2024

the airport have had condition assessments completed within the last 10 years. The others are anticipated to have assessments completed within the next 10 years. The values are weighted based on estimated replacement value.

The average age for the City's Airport Buildings is 60 years which is greater than the average estimated service life of 49 years for all buildings. However, as the condition rating for the six buildings formally assessed was Good, the overall weighted average condition of this asset type is Good rather than Poor.



AREA OF BUILDINGS (sq m)	REPLACEMENT COST (\$)	WEIGHTED AVG AGE (YEARS)	WEIGHTED AVG ESTIMATED SERVICE LIFE (YEARS)	WEIGHTED AVG CONDITION SCORE	WEIGHTED AVG CONDITION DESCRIPTION
16.1K	59.4M	60	49	1.0	Good

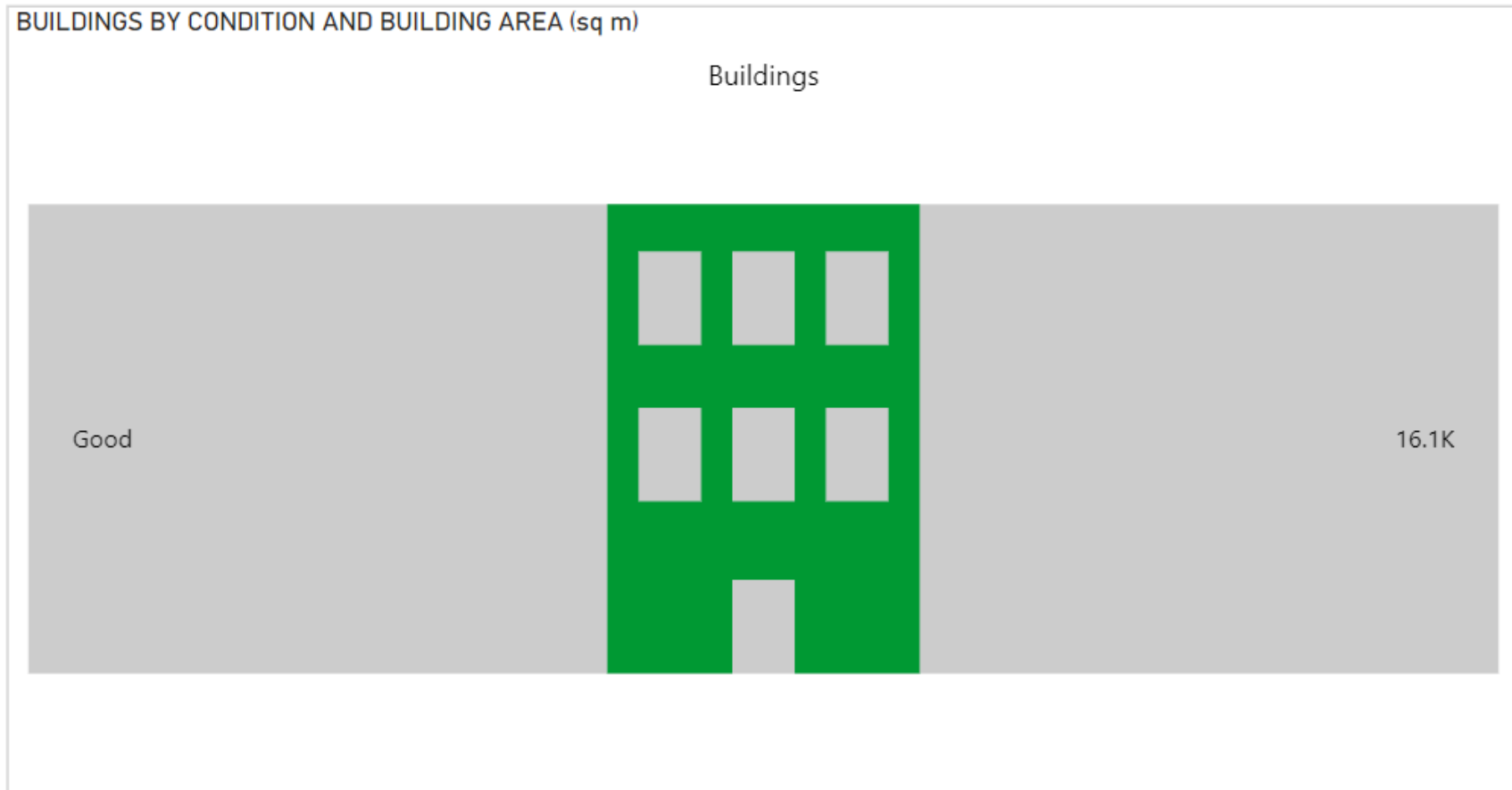


Figure 1: Buildings Asset Summary by Structure

### **1.3.3 FITTINGS & EQUIPMENT**

Furniture & Amenities are limited and the inventory available is incomplete. The terminal building is owned and maintained by a 3<sup>rd</sup> party and the only other structure in use by City staff is a maintenance building. The other City owned buildings are hanger buildings used to store and maintain aircraft which are rented unfurnished to 3<sup>rd</sup> parties. An inventory of furniture & amenities in the maintenance building is recommended to be completed in future for this asset class.

While a **Figure 2** caption has been included below, no Figure 2 exists at this time due to their being no current inventory of furniture & amenities assets within the airport buildings. The caption has been retained for future iterations of the plan when it is anticipated that a more complete inventory will be developed.

An overall average cost of \$1.3M has been estimated based on an industry standard costing guide which attributes 2.2% of the total replacement value to fittings & equipment.

**Figure 2: HOLD for Future AMP**

### **1.3.4 AIRSIDE SITE WORKS**

Airside refers to the area of an airport where aircraft operations take place. Assets within the Airside Site Works group includes: runways, taxiways, aprons, aircraft parking areas and tie downs, instruments, runway lighting and signage.

The Airside includes 228 lights, 40 tie downs, 17.6 km of underground wiring, 14 instruments, 28.7K sq m of parking lots, 80 sq m of pathways, 58.8K sq m of apron pavement, 96.5K sq m of runway pavement and 33.7K sq m of taxiway pavement with a total replacement cost of \$16.2M. Assets are typically in Fair condition with a weighted average condition score of 1.9, the breakdown of condition by asset subtype is shown in **Figure 3**. The values are weighted based on estimated replacement value.

The average age for the City's Airside Assets is 37 years which is 86% of the average estimated service life of 43 years for all airside assets.

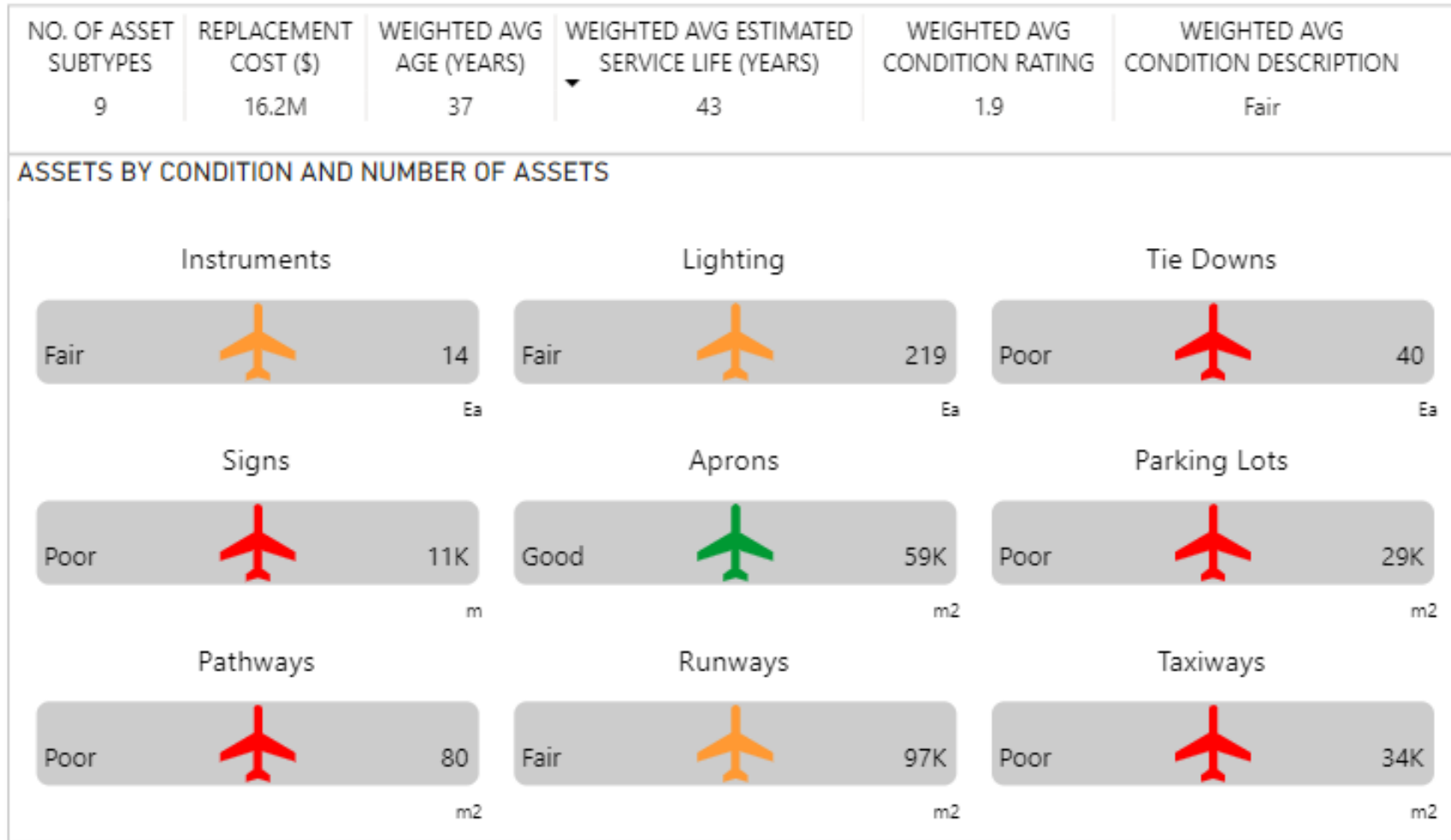


Figure 3 Airside Asset Summary by Condition and Number of Assets

### **1.3.5 GROUNDSIDE SITE WORKS**

Groundside refers to the area of an airport which is accessible to the public including passengers, visitors, airport staff and pilots. Assets within the Groundside Site Works group include: parking lots, pathways, fencing, signage and parking lot lighting.

The Groundside includes 7.1 km of perimeter fencing, 17.6K sq m of parking lots, and 106 sq m of pathways with a total replacement cost of \$1.5M. Assets are in overall poor condition with a weighted average condition score of 2.7, the breakdown of condition by asset subtype is shown in **Figure 4**. The values are weighted based on estimated replacement value.

The average age for the City's Airside Assets is 68 years which is greater than the average estimated service life of 28 years for all groundside assets.

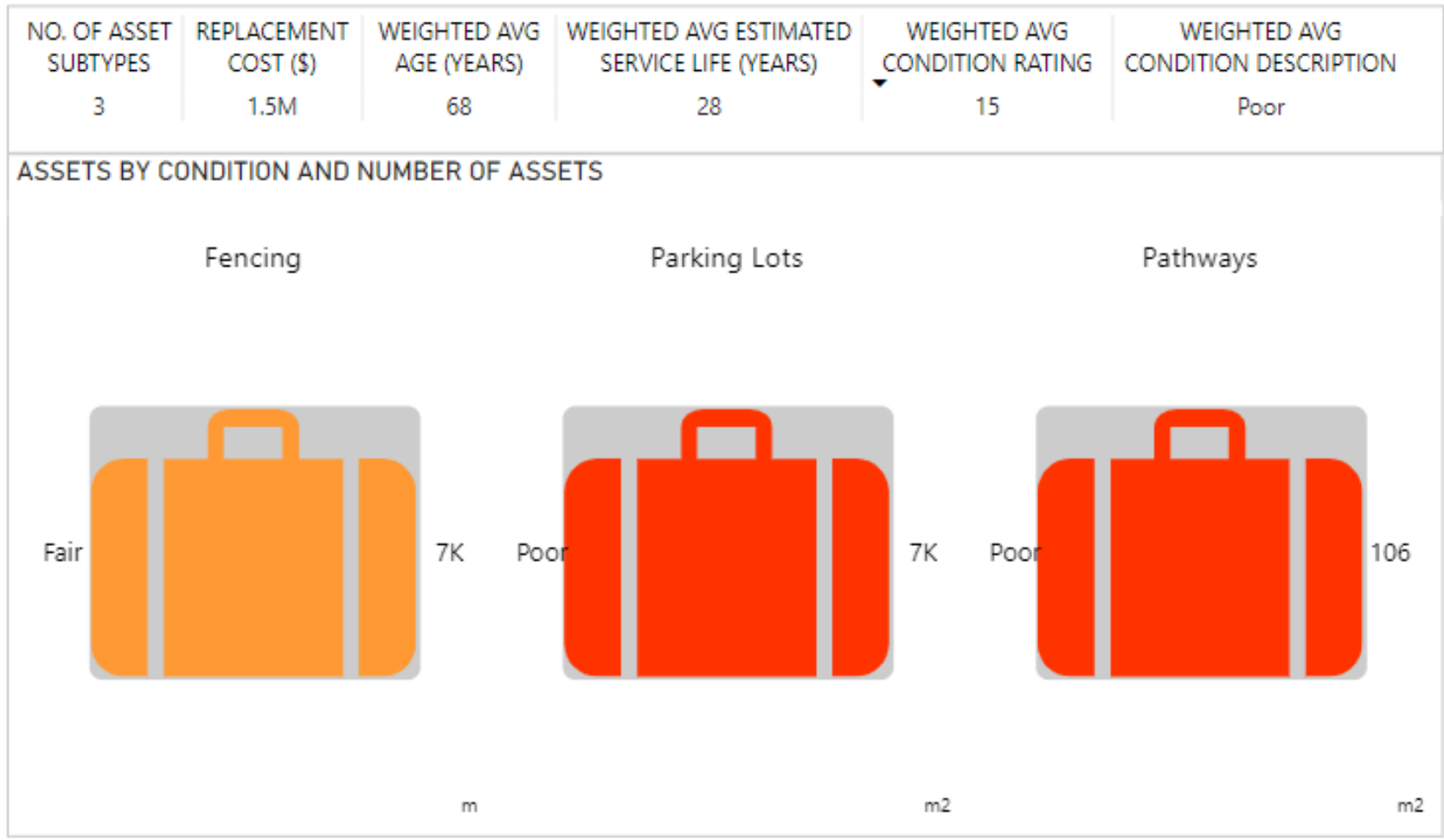


Figure 4 Groundside Assets Summary by Condition and Number of Assets

## 1.4. LIFECYCLE OF AIRPORT ASSETS

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

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

### 1.4.1 KEY LIFECYCLE STAGES OF AIRPORT 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 Airport assets specifically our general process is as follows:

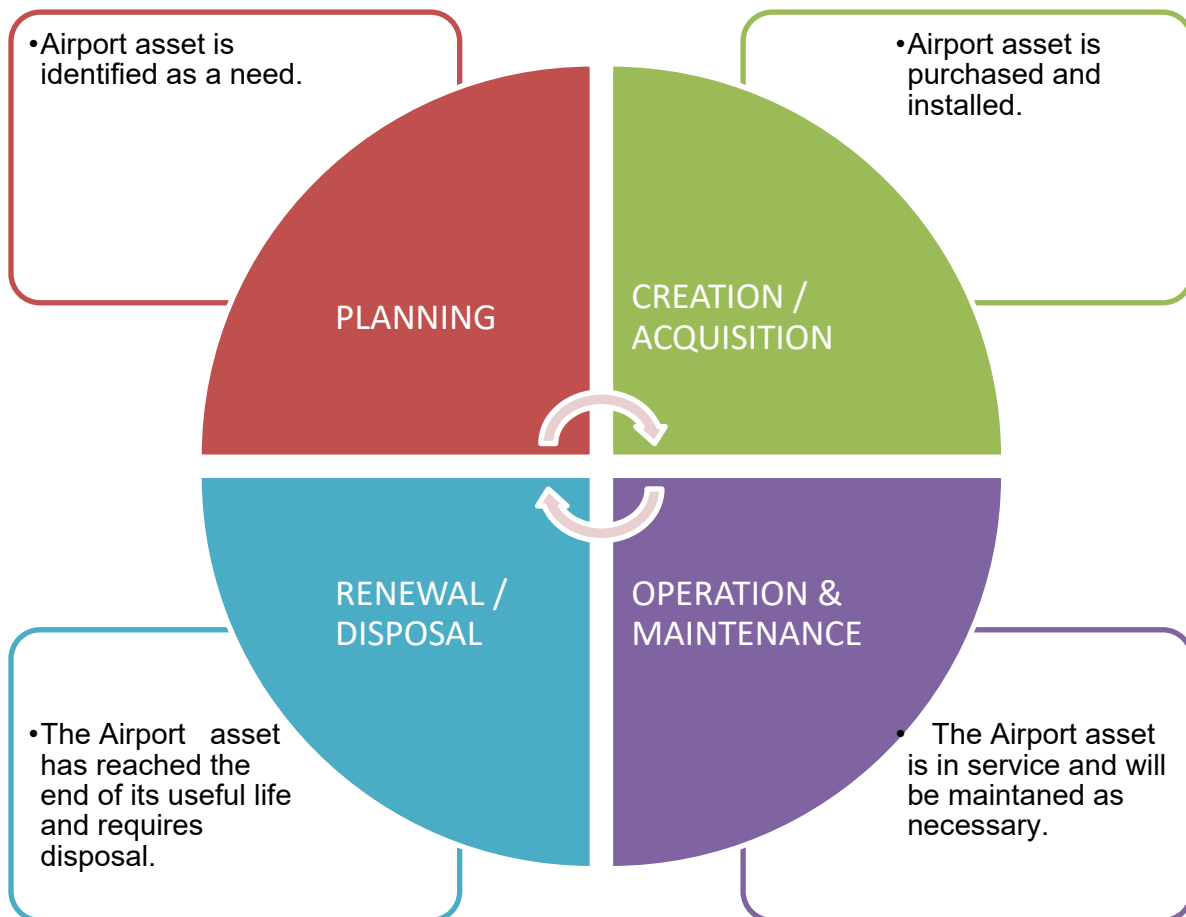


Figure 5: Lifecycle Stages of Airport Assets

1. **Planning** –The Airport asset has been identified as a need. The asset is purchased considering all needs, City policies and Master Plans.

2. **Creation / Acquisition / Replacement** – The cost and requirements for the new asset are defined considering all City needs and policies. The asset is purchased and installed/planted.
3. **Operation and Maintenance** – The Airport asset has been installed/planted and is providing benefits to the community. Maintenance (Lifecycle) Activities are completed on the asset at specific time intervals as shown in **Table 6** to prevent premature failures of the asset. Additional monitoring and potential improvements are evaluated during this process.
4. **Renewal / Disposal** – The Airport asset has reached the end of its useful life, or has been replaced 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.



### 1.4.2 LIFECYCLE ACTIVITIES

A list of the planned Lifecycle Activities, annual cost, and frequency for each Airport Asset Type can be found in **Table 6** below. These activities are currently being undertaken to maintain these Airport assets and therefore maintain the current levels of service.

**Table 6: Lifecycle Activities for Airport Assets**

Asset Type	Lifecycle Activity	2024 Annual Cost*	Frequency	Completed by
<b>Buildings</b>	Building Operations Utilities	\$43,000	Daily	Airport Operations
	Inspections	\$2,000	Annual/As Requested	Airport Operations
	Repairs	\$15,000	Based on removal activity	Contracted Service - Airport Operations
<b>Fittings &amp; Equipment</b>	Cleaning	N/A	As Required	Airport Operations
	Repair	N/A	As Required	Airport Operations
<b>Airside Site Works</b>	Line & Symbol Painting	\$45,000	3 years	Contractor
	Obstacle Survey	\$15,000	5 years	Contractor
	Tree Clearing/Maintenance	\$2,000	As required	Contractor
	Crack Filling	\$15,000	5 years	Contractor
	Bulb Replacement	\$2,000	2-3 years	Airport Operations
	Inspections	\$13,000	Daily – Instruments, Hangar Exteriors Other – Annual/As Required	Airport Operations
	Repair	\$1,000	As Required	Airport Operations/Contractor
	Landscaping	\$8,000	Seasonal - As Required	Airport Operations
	Winter Control	\$85,000	Seasonal - As Required	Contractor
<b>Groundside Site Works</b>	Inspections	\$2,000	Annual/As Required	Airport Operations
	Repair	\$2,500	As needed	Contractor
	Line Painting	\$5,000	3 years	Contractor
	Bulb Replacement	\$1,000	As Required	Contractor
	Landscaping	\$2,000	Seasonal - As Required	Airport Operations
	Winter Control	\$5,000	Seasonal - As Required	Contractor

\*2024 Annual Cost is typically based on an average of the 4 year cost estimates presented in the 2024 Operating Budget.

Lifecycle activities occur on each of our Airport assets classes. Airport assets are maintained by Airport Operations staff or contractors and activities are currently tracked through a combination of email, excel and the City's customer relationship management system. Work tracking for the Airport Buildings is expected to migrate to the City's work management software. Data is then expected to improve over time after implementation into the new system is completed.

### 1.4.3 RISKS OF LIFECYCLE ACTIVITIES

The identified lifecycle activities in **Table 6** above are historical activities taken on by Airport Operations staff or hired contractors. Some risks associated with these activities include:

- **Short Term Operational Disruption** – Depending on the scope of maintenance or repair activities they could result in normal operations being unable to continue while the work is in progress. This can be mitigated by completing maintenance and repairs at the correct time of year, and by appropriately coordinating with tenants and airside users.
- **Safety Hazards** – Even with proper safety protocols in place, a different approach is required for repairs on an active airside. Improperly conducted activities could pose risks to workers, aircraft and passengers/pilots.

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

- **Long Term Operational Disruption** due to maintenance or repair activities being delayed until the scope has increased beyond the initial issue resulting in a more time consuming or costly repair;
- **Safety Hazards to Aircraft and People** due to undetected issues posing safety risks if inspections were not completed in a timely fashion or safety risks which were not removed promptly;
- **Regulatory Non-Compliance** due to failure to maintain instrumentation, lighting or runway pavement resulting in regulatory standards which are not met; and
- **Increased Cost** due to reactive actions which could have been prevented with preventative maintenance.

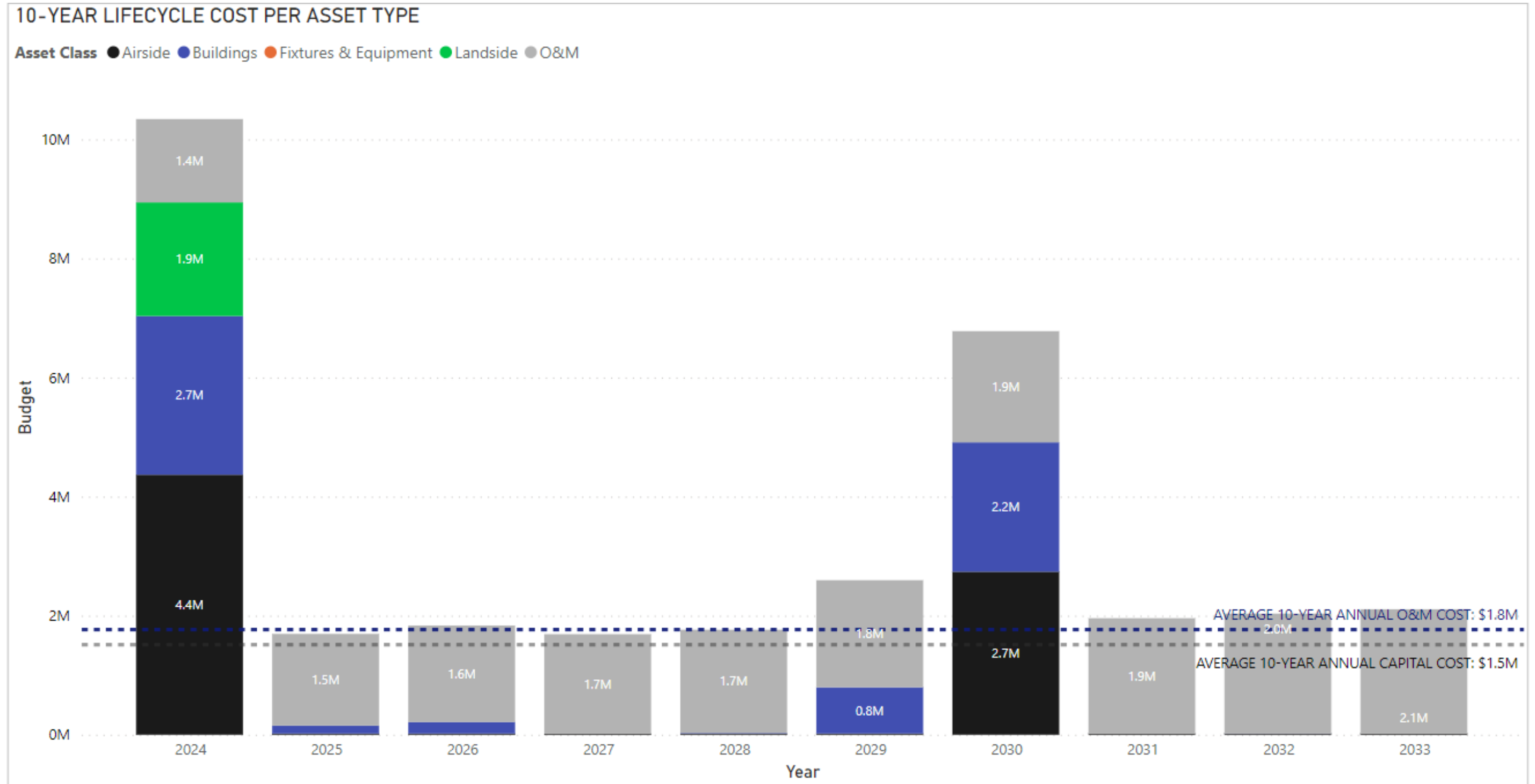
#### **1.4.4 10 YEAR LIFECYCLE COSTS OF AIRPORT ASSETS**

**Figure 6** below outlines the 10 year lifecycle costs of Airport assets.

Although there are a number of assets needing to be replaced over the 10 years, the average annual cost for Operation and Maintenance of Airport Assets outweighs the capital cost for this infrastructure.

An update to the Airport Master Plan is currently planned for 2025. After this plan is completed it is anticipated that the capital costs will be updated.

Based on the information presented in the figure below, the total annual average capital cost for the next 10 years needed to maintain the state of good repair of these Airport assets is \$1.5M, and the average annual Operation and Maintenance cost to maintain the current state of good repair is \$1.8M. Therefore, it is recommended that the City invest \$3.3M in Airport assets annually to maintain the state of good repair.

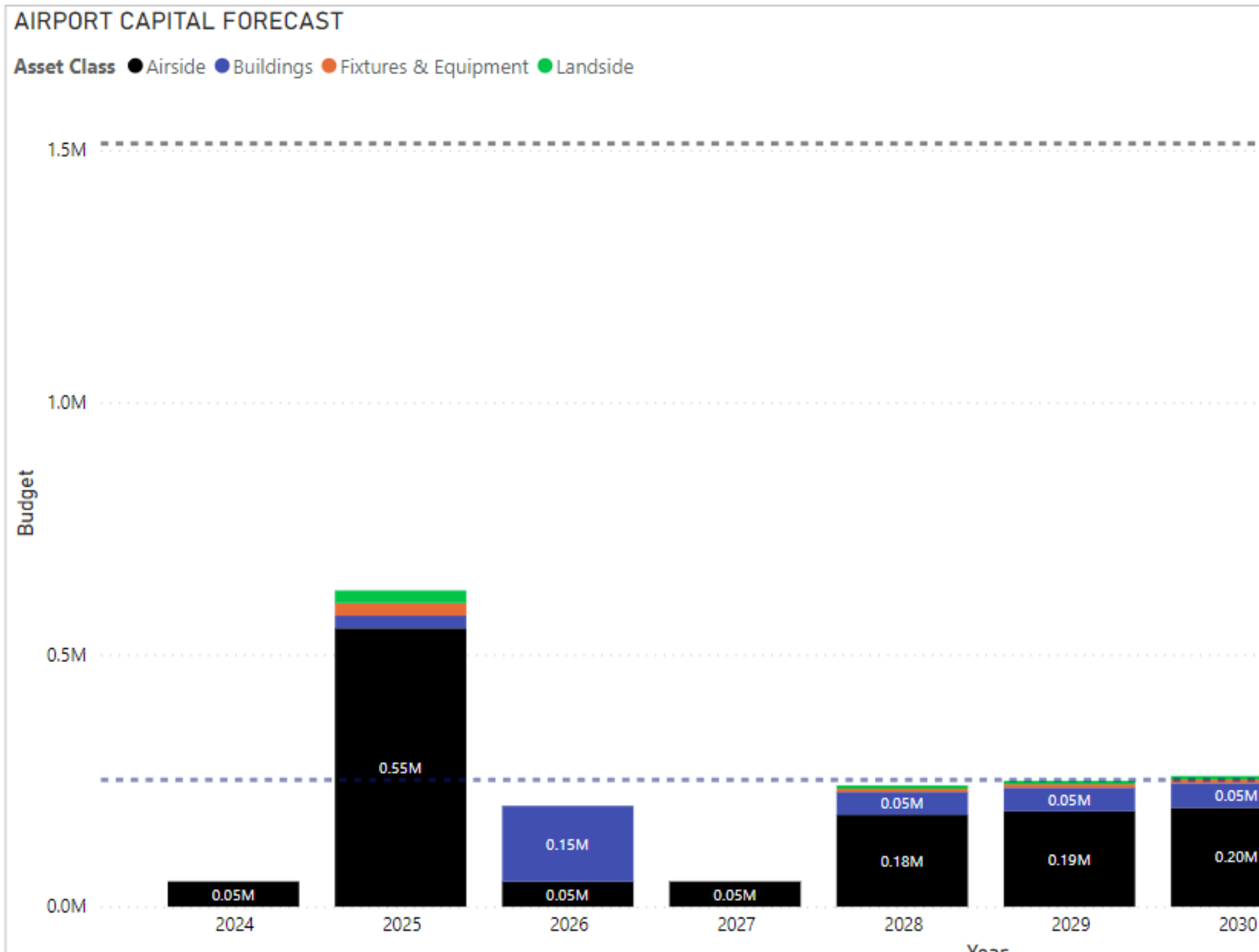


**Figure 6: 10-Year Lifecycle Cost Per Airport Asset Type**

Notes:

1. Operation and Maintenance Costs are estimated based on the 2024 Operating Budget and are inflated by 3.8% each year.
2. For assets where no formal capital forecast was available, the replacement year is based on the estimated remaining service life of each asset or the condition assessment of each asset, as applicable.
3. Reimbursements and revenues are ignored in order to capture total cost/expenses.

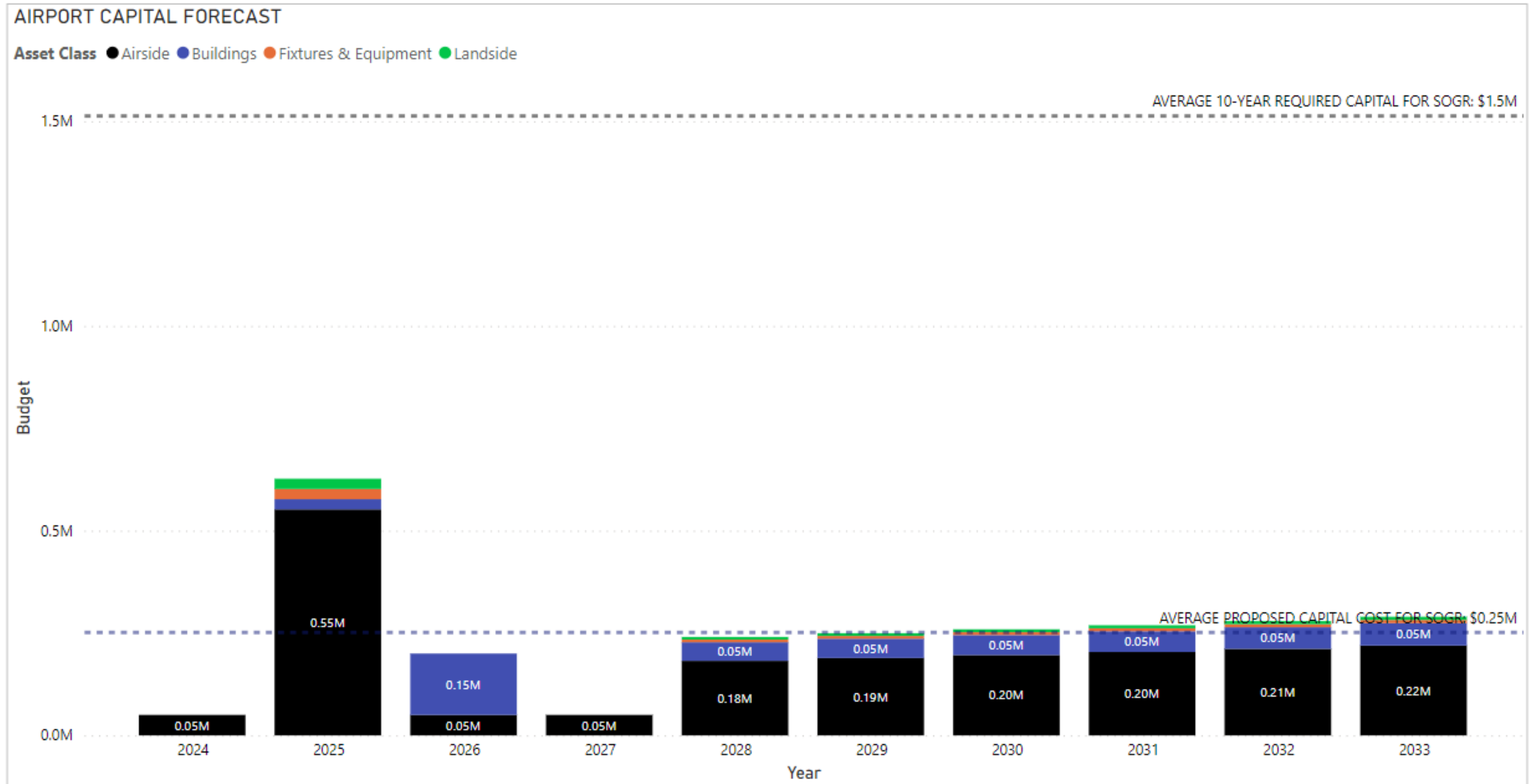
Airport AMP  
June 2024  
Per



**Figure 7** below, the existing 10-year forecast from 2024 – 2033, 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 \$0.25M on Airport assets capital work annually, and as noted above, the required 10-year average amount is \$1.5M for these assets, which indicates there is an annual 10-year funding gap of \$1.25M for Airport 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.

It is important to note that currently the City does not have access to detailed data on Capital or Operation and Maintenance costs for Airport assets, on a single job or asset 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 7: Existing Capital Budget Forecast from 2024 – 2033 for Airport Assets**

Notes:

- Costs from 2024-2017 are based on 2024 capital budget. Costs from 2028-2033 are based on an average of the first 4 years. A return to full 10-year budgeting for airport capital is anticipated in future iterations of the AMP.



## **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 within this plan. This section will be kept for future plan iterations should O. Reg 588/17 be updated and require 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 Airport assets, the asset specific interpretation of these levels of service is defined below in **Table 7**.

Table 7: Municipally Defined Customer Levels of Service

<b>Customer Level of Service</b>	<b>Definition</b>
<b>Accessibility</b>	Airport assets should be available to and easily accessed by the local population.
<b>Quality</b>	Airport assets should deliver their intended services at a certain quality.
<b>Cost Efficiency</b>	Airport assets should meet the needs of the user at an affordable cost to the City.
<b>Safety</b>	Airport assets should not endanger people or property.
<b>Environmental Sustainability</b>	Airport assets shall consider measures to improve energy and environmental performance.
<b>Reliability</b>	Airport assets should be available as needed.
<b>Responsiveness</b>	Requests for repair or access to Airport assets should be completed as quickly as safely practical. 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 Airport assets have been developed 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 Key Performance Indicators (KPI) metrics are defined in **Table 8**. Due to a low response rate on customer surveys conducted from 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 the City will look for opportunities to gather and include this information for future iterations of this AMP.

**Table 8 Technical Levels of Service KPIs**

Customer Level of Service	Technical LOS	2016 KPI	2024 KPI	Units
Accessibility**	Local Population vs Aircraft Movements	170:1	N/A	Ratio
Quality*	Citizen Assessment of Value for Money	N/A	N/A	% of survey responses on value for money indicating an assessment of average or higher
Cost Efficiency	Annual Cost per sq. m of Active Runway	N/A	\$21.24	\$ per sq.m
Safety	N/A	N/A	N/A	N/A
Environmental Sustainability	N/A	N/A	N/A	N/A
Reliability	N/A	N/A	N/A	N/A
Responsiveness	N/A	N/A	N/A	N/A

\*Information obtained from external surveys conducted in 2023/2024, more details available in Overview Document. Note due to the low level of respondents and most respondents indicating can't say for items in this question, no KPIs could be calculated based on this year's results.

\*\*Information from the 2016-2035 Airport Master Plan

## 1.6. CURRENT ASSET PERFORMANCE

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

- Energy Performance; and
- Operating Performance

### 1.6.1 AIRPORT ASSETS 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.

Under the CEMP, annual energy management data is reported, but has a reporting delay of two (2) years. **Table 9** contains data from the 2020 Corporate Energy Management Report which is available on the City’s website. Information was not available for all buildings at the airport, partly due to not all buildings being heated and partly due to data gaps. Where buildings are serviced, additional information will be added in future years. The weighted average energy intensity by area for all City buildings is 41.25 ekWh/sq ft.

In addition runway lights are not LED and could benefit from an upgrade. To avoid optical variations being presented to landing traffic, all runway lights would need to be converted to LED at the same time. Energy usage for runway lights alone was not available; availability will be reviewed for future iterations of the AMP.

**Table 9: Current Energy Performance of Airport Facilities\***

Building	Address	Avg Hours Per Week	Electricity (kWh)	Natural Gas (m3)	GHG Emissions (kg)	Energy Intensity (ekWh/sq ft)
190 Airport	51 York Rd	40	22,313.3	5,187.0	10,374.5	5.53

\*Based on information provided in the 2022 Corporate Energy Management Report

## 1.6.2 AIRPORT ASSETS CURRENT OPERATING PERFORMANCE

**Table 10** contains criteria by which the City’s airport operating performance can be assessed. The City does not currently collect data regarding arriving and departing aircraft movements which means KPIs cannot easily be calculated based on aircraft volume at this time.

**Table 10: Airport Operating Performance**

<b>Criteria</b>	<b>Current Performance</b>	<b>Possible Improvement</b>
Design Aircraft meets current demand	Cessna Citation 560XL Max Range of 1,850nm (nautical miles) with limitation on weight during hot weather	Lengthen to accommodate larger aircraft if demands change in future.
Runway Capacity	Estimated saturation capacity of 56 to 60 movements	None required at this time
Aircraft Parking Weight Limit on Apron	During hot weather cannot park heavier aircraft for prolonged periods.	Design a section of apron to support larger, heavier aircraft
Airside Signage meets current wayfinding needs	Difficult to assess as movements not tracked. Airport staff recommend updating/replacement.	Update/replace existing signage.
Groundside Parking	At or near capacity during peak periods.	Create additional parking near hangars so pilots do not use parking near terminal.
Hangar Dimensions match Aircraft in use	Older hangars width and height are becoming an issue for modern composite aircraft and float based aircraft.	Plan to replace with larger hangar spaces.
Perimeter Gates and Fencing provide adequate security	Does not meet current needs as wildlife and public have access to airside in some areas.	Repair/Replace
Aircraft Tie Downs can secure aircraft not stored in hangars	Does not meet current needs, and frequently acquires plow damage. Limits number of aircraft that can be stored at the airport impacting growth.	Replace

## 1.7. DISCUSSION AND CONCLUSIONS

In conclusion, the City of Brantford operates and maintains many Airport assets. These assets are in overall Good condition with a total estimated replacement cost of approximately \$78.4M. The asset inventory and condition data confidence for Airport is typically at a Low to Medium level which will improve with the Airport Master Plan proposed for 2025.

The lifecycle stages for Airport assets includes: Planning, Creation, Operation and Maintenance, and Disposal. During the Planning stage, the City identifies the need for the asset; during the Creation stage, the asset is purchased and installed/planted or deployed; during the Operation and Maintenance stage, the asset is operating and lifecycle activities (i.e. maintenance) occur on each of our assets to maintain the state of good repair; and the Disposal stage is when the asset has reached the end of its useful life, has died prematurely or is underperforming and requires disposal.

Lifecycle activities are currently typically tracked through a combination of email, excel and the City's customer relationship management system. For more information on key database applications and work order management, please refer to **Section 4.2** respectively, in the **AMP Overview** document. As staff continue to track data and review opportunities to improve tracking, the frequency and costs associated with specific activities will be better represented.

It is estimated based on the average annual cost in the 10 Year Life Cycle Costing that the City should be spending an average \$1.5M annually for capital Airport asset costs and will be spending an average of \$1.8M on Operating and Maintenance on these assets. The City is currently proposing to spend an average of \$0.25M annually on capital for Airport assets' state of good repair, resulting in a deficit of \$1.25M from the forecasted capital need.

While some Current Levels of Service have been identified, additional metrics have been identified as a need for Airport 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.

Asset performance is separated into operating and energy performance in the City's AMPs. Currently only one of the Airport buildings is tracked as part of the Corporate Energy Management report. In 2020 building 190 had an energy intensity of 5.53 ekWh/sq ft. The City does not currently collect data regarding arriving and departing aircraft movements which means KPIs cannot easily be calculated based on aircraft volume at this time. The 2016 Airport Master Plan included a number of operating performance aspects that could be improved including: adjusting the length of the runway to accommodate larger aircraft, designing a section of the apron to support

larger, heavier aircraft for longer periods in the hotter months, updating and replacing existing signage, creating additional car parking, improving the fencing and upgrading the older hangar spaces to match the dimensions of modern aircraft. The performance aspects related to industry trends will need to be monitored over time to determine when projects are required to address the performance limitations. The aspects relating to current asset condition will be addressed through future capital projects.