

DETAILED ASSET MANAGEMENT PLAN

2024



Municipal Airport



Contents

1.0 ASSET REPORT CARD	1
2.0 INTRODUCTION	
2.1 Background/Purpose of Service	2
2.2 Asset Hierarchy & Registry	6
2.3 Asset Condition	9
2.4 Asset Capacity and Performance	11
3.0 LIFECYCLE MANAGEMENT	
3.1 Acquisition Plan	11
3.2 Operations Plan	14
3.3 Maintenance Plan	17
3.4 Renewal Plan	20
3.5 Summary of Future Renewal Costs	21
3.6 Disposal Plan	22
3.7 Summary of Asset Forecast Costs	23
4.0 LEVELS OF SERVICE	
4.1 Legislative Requirements	24
4.2 Customer Research and Expectations	25
4.3 Customer Values	25
4.4 Customer Level of Service	26
4.5 Technical Levels of Service	28

5.0 FUTURE DEMAND

5.1 Demand Drivers	31
5.2 Demand Forecasts	31
5.3 Demand Impact and demand management plan	31
5.4 Asset Programs to meet Demand	32

6.0 RISK MANAGEMENT PLANNING

6.1 Critical Assets	33
6.2 Risk Assessment	34
6.3 Infrastructure Resilience approach	38
6.4 Service & Risk Trade-Offs	38

7.0 CLIMATE CHANGE ADAPTATION

39

8.0 FINANCIAL SUMMARY

8.1 Financial Sustainability and Projections	43
8.2 Forecast Costs for Long-Term Financial Plan	46
8.3 Funding Strategy	48
8.4 Valuation Forecasts	48
8.5 Key Assumptions made in Financial Forecasts	49
8.6 Forecast reliability and Confidence	50

9.0 PLAN IMPROVEMENT AND MONITORING

9.1 Accounting and financial data source	52
9.2 asset management Data Source	52
9.3 Continuous Improvement Plan	52
9.4 Monitoring and Review Procedures	54
9.5 Performance Measures	54

Chatham-Kent Airport Report Card



7,490

aircraft
movements



243,900

litres of
fuel sales



1,579

wildlife
sightings



4

bird
strikes

Annual Funding Gap

\$0

Asset Renewal Ratio

100%

% of 10-Year Plan Funded

100%

Asset Summary

Assets



Items

1 runway

Replacement

\$5,475,977



2 taxiways

\$1,055,000



2 aprons

\$1,000,000



1 weather
observatory

\$1,000,000

Assets



Items

airfield
lighting

Replacement

\$850,000



1 terminal
building

\$750,000

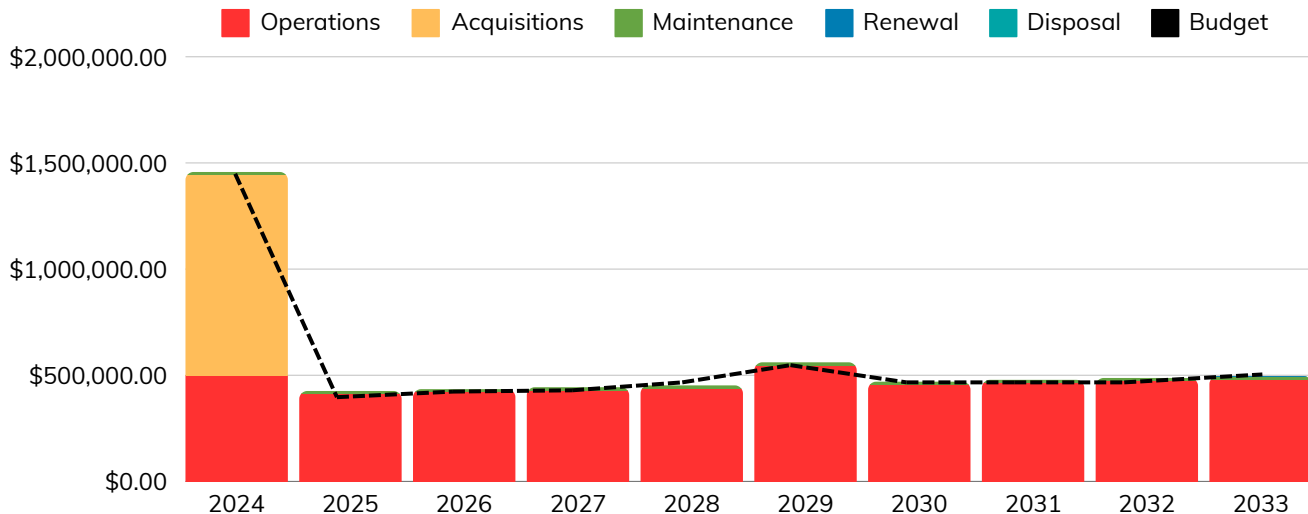


2 fuel pumps

\$247,000

\$11.2M Total Replacement Cost

10 Year Life Cycle Forecast



Data Confidence

Low

Medium

High

2.0 INTRODUCTION

2.1 Background / Purpose of Service

The Chatham-Kent Municipal airport is approximately 12.5 kilometres southeast of the City of Chatham and is a certified aerodrome that caters to the Chatham-Kent community. The Municipality of Chatham-Kent owns and is responsible for all the assets listed within the Detailed asset management Plan (DAMP) and contracts out the airport's operational management to a 3rd party contractor.

The airport's property spans approximately 426 acres, with a significant portion of that land being leased to local farmers. As a port of call for air carriers providing chartered passenger services, the airport serves private and commercial fixed-wing aircraft operators. The airport also accommodates various private hangars for individuals and businesses.

Most of the airport land at Chatham-Kent Municipal airport is zoned as agriculture, however, zoning by-laws permit aviation-related uses on land specifically designated for airport purposes. The airport serves as a base for a few private and corporate business jets; however, it does not offer commercial jet services at this time.

The Director of Public Works is responsible for overseeing airport operations and the budget. The airport's Accountable Executive is the municipality's Chief Administrative Officer (CAO), who also champions the adoption of asset management principles within the organization.

The primary objective of the airport DAMP is to document the strategic management of the municipalities' airport infrastructure and associated airport services. This plan aims to provide direction for both new and existing infrastructure, optimize the long-term utilization of financial resources, minimize risks, and offer a prioritized perspective for ensuring service continuity and enhancements over a 10-year planning horizon.



This is the first DAMP for Chatham-Kent Airport. Future iterations of this document will see significant data improvements; as asset management knowledge matures across Chatham Kent, the breadth and scope of the plans will be refined to ensure they capture the full cost to deliver the airport service. The plan is updated annually to ensure data quality improves to enable and support evidence-based decisions.

This DAMP will have a minimum ten-year planning horizon and will connect fully to the Long-Term Financial Plan by 2027. This airport DAMP will communicate the requirements for the sustainable delivery of services through asset management, program delivery, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the entire planning period.

The DAMP is to be read in combination with the other Chatham-Kent documents, which should include the *Strategic asset management Policy*, along with these other key planning documents:

- Chatham-Kent Municipal airport Master Plan Draft
- Municipality of Chatham-Kent – Strategic Plan 2022-2026
- 2024 - 2027 Multi-Year Budget
- Short-term and long-term financial plans

Understanding the DAMP within the context of these documents ensures a comprehensive perspective of the Airport's management and development for today and into the future.

The infrastructure assets covered within this DAMP include the major components required to deliver an effective airport service for the customers. The airport's infrastructure includes:

- 22 private airport hangars situated on the airport land
- Municipal terminal building with the associated parking lot
- Field electric building
- airport fuel system
- Weather observation system
- Runways, taxiways, lighting and aprons

The DAMP addresses infrastructure assets specific to the Chatham-Kent Municipal airport that are essential for delivering airport services. For a comprehensive overview of the assets outlined in this DAMP, please refer to **Table 2.2.2**. It provides a detailed summary.

The infrastructure assets included in this plan have a total replacement value of **\$11.2 million**. Key stakeholders in the preparation and implementation of this DAMP are shown in **Table 2.1**.

Table 2.1:Key Stakeholders in the DAMP

Key Stakeholder	Role in asset management Plan
Chatham-Kent Council	<ul style="list-style-type: none"> • Distribute resources to achieve planning objectives in service provision while effectively mitigating risks. • Support asset management initiatives to enhance understanding and guide decision-making. • Allocate funding to sustain the desired level of service throughout the entire life cycle.
Mayor/CAO	<ul style="list-style-type: none"> • Advocate for and champion the adoption of asset management principles within the organization. • Guarantee the availability of sufficient resources to foster the development of staff knowledge and skills, facilitating the implementation and ongoing enhancement of asset management practices. • CAO acts as an accountable executive for the airport.
General Manager, Infrastructure and Engineering Services	<ul style="list-style-type: none"> • Allocate resources to meet the organization's objectives in providing services while managing risks. • Overall responsibility for Asset Management, provide leadership in influencing decision-making processes related to Asset Management.
Director, Public Works	<ul style="list-style-type: none"> • Delivering nominated renewal, upgrade projects, • Reviews, updates, and plan long-term projects.

**Asset & Quality
Management**

- Establish top-level priorities for the development of asset management and increase awareness of this function among staff and external contractors.
- Provide support for the measures outlined in the DAMP aimed at improving asset management and service delivery.
- Support the Asset Management-Driven budget and Long-Term Financial Plan with a 10-year horizon.

**Service Operator
(Contractor)**

- Ensuring the airport is safe, secure, and compliant with its certification to remain open for business and ensure the customer experience and services are a high priority.
- Ensure assets are well maintained.

Community

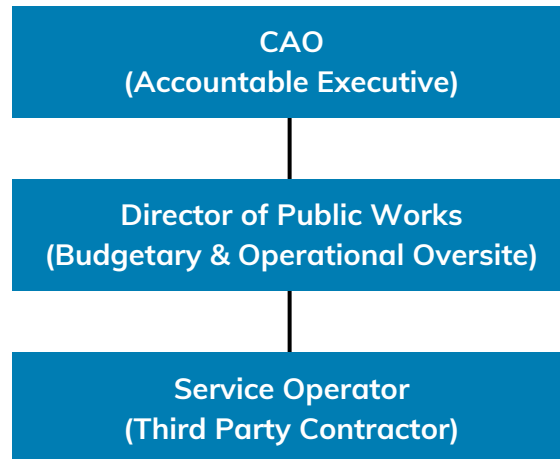
- Engage in facilitated discussions to enable the municipality to comprehend the community's preferred level of service.



Airport Organizational Chart

The organizational structure for service delivery from infrastructure assets for Chatham-Kent Municipal airport is detailed below in **figure 2.1**.

Figure 2.1: Service Assets



2.2 Asset Hierarchy & Registry

An asset hierarchy provides a framework for structuring data in an information system to assist in data collection, reporting, and decision-making. The hierarchy includes the asset class and components used for asset planning and financial reporting, as well as the service level hierarchy used for service planning and delivery.

An asset registry is a single data source containing an inventory of asset data, including attribute information for each asset. This attribute information includes a record of each individual asset, including condition, age, replacement cost, and asset-specific information (e.g., length, diameter, material, etc.). Currently, the airport asset registry is structured in the form of an asset hierarchy, explained below.

The asset hierarchy provides a framework for structuring data in an information system to assist in data collection, reporting, and decision-making. Chatham-Kent is working towards establishing a functional asset hierarchy, which means the hierarchy has been established based on what the asset owner needs or wants the asset or system to do. Generally, assets and systems are organized according to their primary function.

The service hierarchy is shown in **Table 2.2.1**.

Table 2.2.1: Asset Service Hierarchy

Service Hierarchy	Service Level Objectives
Runway, Field Lighting, Taxiway, Apron	Provide quality, functional runway to ensure safe air travel
Communications Equipment	Provide high-quality communications to ensure safe air traffic control and minimize risk of accidents
airport Terminal & Parking Facilities	Provide clean, safe and adequate space for parking vehicles and conducting business within terminal



Asset Registry

The airport assets covered in this plan include all facilities, runway and movement areas, vehicles, technology, parking lots, fuel sites and tools required for Chatham-Kent to deliver its airport Service to the community and its customers. The assets included in this DAMP are shown in **Table 2.2.2**.

Table 2.2.2: airport Service Assets

Asset Category	Description	Average Age	Average Condition	Average Estimate Service Life Remaining	Current Replacement Value
 Site & Facilities	One Terminal Building, One Parking Lot, Perimeter Fencing	21 Years	Fair	18 Years	\$985,000
 Runway & Movement Areas	Air Strip, Aprons, Taxiway, Field Lighting, Safety markers	9 years	Very Good	21 Years	\$8,631,000
 Technology	Weather Observatory, Field Electrical Centre Building	11 Years	Good	39 Years	\$1,250,000
 Fuel Site	Jet A Fuel Tank and Pumps 11,000 Octane Tank and Pump	Tanks 26 Years Pumps 14 Years	Fair	Tanks 18 Years Pumps 4 Years	\$247,000
 Vehicles, Equipment, Tools	Service/Inspection Vehicle, Miscellaneous tools & equipment	10 Years	Fair	5 Years	\$35,000
				Total	\$11,148,000

All values are shown in 2024 dollar values.

The initial plan attempts to include all assets required to deliver the airport service. However, it is acknowledged that as this is the first DAMP, additional assets will likely be included in the future. As assets are acquired, disposed of, discovered or considered material enough, they will be included in future plans. Various asset parameters such as age, condition, estimated service life and replacement costs will be updated regularly to ensure the data confidence of the plan is sufficient to support evidence-based investment decisions.

2.3. Asset Condition

Condition is the preferred measurement for planning lifecycle activities to ensure assets deliver the agreed-upon levels of service and reach their expected useful life. The airport will outline the existing condition assessment methodology (if available) for each of the asset classes within this DAMP.

Although condition rating is the preferred measurement for planning, many assets at the airport do not yet have a process to determine condition. For assets where a condition program exists and a condition score was output, those conditions were converted to the scale below in **Table 2.3.1**

For assets without known condition information or inspections that were not output in a way that could be converted, the condition was assumed based on remaining service life. In the future, the airport will investigate how to complete condition assessments for assets without a program. For some assets, condition assessments are not economical, but for many assets, regular inspections occur to ensure these assets are in working order.

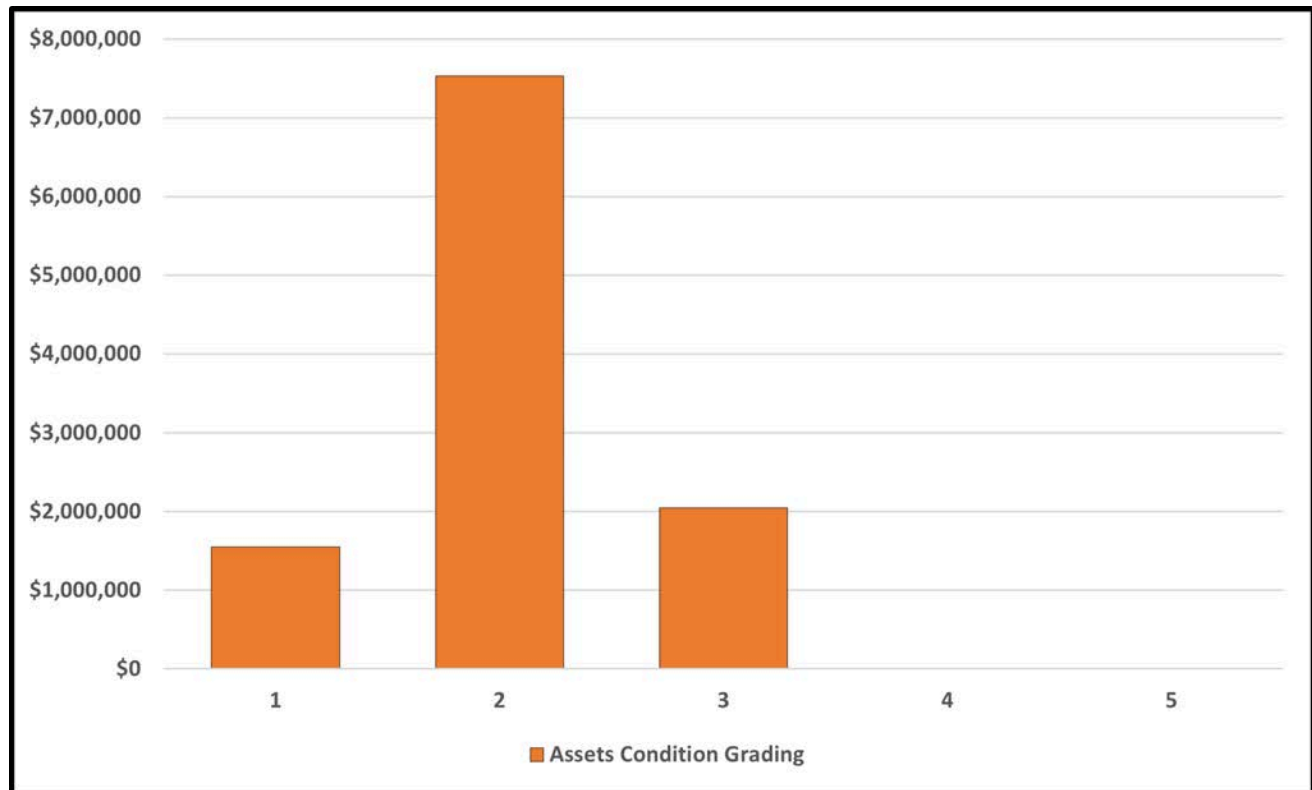
Currently, conditions are monitored through both formal and informal methodologies. Fuel tanks, pumps and runways regularly utilize a formalized inspection program, whereas most other assets are monitored informally or through observations and subject matter expert opinion. In the future, conditions will be measured using a 1 – 5 grading system, as detailed in **Table 2.3.1**. It is important that a consistent approach is used in reporting asset performance, enabling effective decision support. A finer grading system may be used at a more specific level. However, for reporting in the DAMP, results are translated to a 1 – 5 grading scale for ease of communication.

Table 2.3.1: Condition Grading System

Condition Grading	Description of Condition
1	Very Good: free of defects, only planned and/or routine maintenance required
2	Good: minor defects, increasing maintenance required plus planned maintenance
3	Fair: defects requiring regular and/or significant maintenance to reinstate service
4	Poor: significant defects, higher order cost intervention likely
5	Very Poor: physically unsound and/or beyond rehabilitation, immediate action required

The condition profile of airport assets is shown in **Figure 2.3.2**.

Figure 2.3.2: Asset Condition Profile in Replacement Dollars



All figure values are shown in 2024 dollar values.

The majority of the airport's assets are considered to be in either good or fair condition. The methodology for measuring condition varies from an aged-based calculation compared against the asset's estimated useful life or condition is measured through formalized inspection processes for more critical assets such as the runway. There is a legislative standard required for the runway condition, and as such, it is monitored daily.

2.4. Asset capacity and performance

Assets are generally provided to meet design standards where available. Whenever there are insufficient resources to address all known deficiencies, they will be outlined in this section of the plan. At this time, there are no known service deficiencies that cannot be addressed or funded through the current budget allocation.



3.0 LIFECYCLE MANAGEMENT

The lifecycle management plan will detail how the airport service plans to operate the assets at the agreed-upon levels of service by managing its lifecycle costs. These costs are categorized by lifecycle phases, which include **acquisition, operations, maintenance, renewal, and disposal**. It is a budget-based approach but will evolve into a full lifecycle approach by **2027**, where appropriate.

Once Chatham-Kent's airport acquires an asset, the municipality becomes obligated to fund the remaining lifecycle costs, such as operations, maintenance and likely inevitable renewal. These other lifecycle costs are far more significant than the initial construction or purchase cost and are often multigenerational. Since lifecycle costs are spread across multiple decades, it is essential that the airport services approach its asset planning with a long-term view to ensure it effectively manages the assets and assist in making informed choices.

3.1 Acquisition Plan

Acquisitions are lifecycle activities that add new assets or improve an existing asset's capability or function. These acquisitions may result from growth, council priorities, donation, demand, or social or environmental needs. The costs associated with acquisitions include design, training, consulting, purchase costs, and staff time to ensure the asset is ready for service and can be considered 'fit for use'.

3.1.1 Selection Criteria

Proposed acquisition of new assets and upgrades of existing assets are identified from various sources, such as community requests, proposals identified by strategic plans, or partnerships with others. Potential upgrades and new works should be reviewed to verify that they are essential to the airport's needs.

Proposed upgrades and new work analysis will also include developing a preliminary renewal estimate to ensure that the services are sustainable over the long term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programs. The priority ranking criteria are detailed in **Table 3.1.1**.

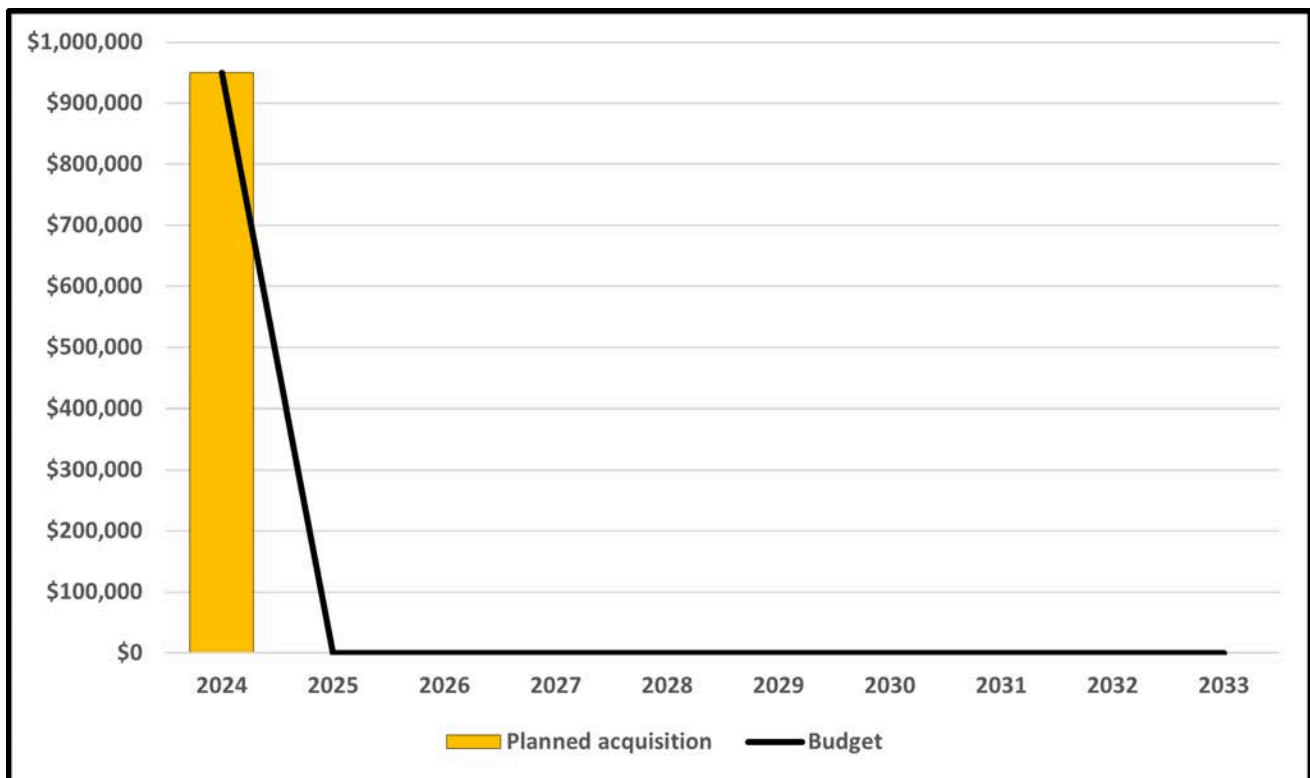
Table 3.1.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Customer Demand	80%
Council Strategic Priorities	20%
Total	100%

Summary of Future Asset Acquisition Costs

Forecast acquisition asset costs are summarized in **Figure 3.1.1** and shown relative to the proposed acquisition budget. The airport initiated the construction of a new taxiway in 2023, with ongoing lighting installations slated for completion by 2024. Reflectors have been installed in the newly constructed areas as temporary safety measures. These reflectors will be illuminated by aircraft landing lights, ensuring safe movement on the taxiway. A budget of **\$200,000** has been allocated for this planned acquisition project. The airport also plans to build a new maintenance facility in 2024. This building, spanning approximately 800 square feet, will provide storage space for airport equipment and support maintenance and operational requirements. The construction costs of **\$750,000** will be funded by the current airport reserve.

Figure 3.1.1: Acquisition Summary



All figure values are shown in 2024 dollar values.

The long-term financial plan will accommodate expenditures on new assets and services in the capital works program, but only to the extent that funding is available. The **\$950,000** acquisition costs are funded by airport reserves, ensuring adequate funding. The DAMP section will be updated annually for reporting new acquisitions.



2024 Acquisition's - Additional taxiway space for private hangers being constructed.

3.2 Operations Plan

Operations include regular activities to provide services. These activities are necessary to complete the regular day-to-day operations of the airport. Examples of typical operational costs and activities at the airport include:

- Grass cutting, utility costs, cleaning services
- Runway and taxiway inspections
- Fuel services
- Master plans
- Operating Automated Weather Observing System (AWOS)
- Contractor costs related to managing airport operations and activities required by legislative requirements

Fuel sites

The airport owns and operates a fuel service for the convenience of its customers. The airport offers two different types of fuel: 100LL and Jet-A fuel pumps. The table below details the fuel sales for both fuel types for the years 2021, 2022, and 2023.

Year	100LL Fuel Sold (Liters)	Jet-A Fuel Sold (Liters)
2021	71,274	116,633
2022	62,451	181,807
2023	62,071	181,829

Despite a decline in the sales of 100LL fuel from 2021 to 2023, an upward trend is noted in the sales of Jet-A fuels during the same period.

airport Weather Observation System (AWOS)

The Municipality of Chatham-Kent owns an AWOS, whose maintenance is contracted out to NAV Canada. NAV Canada, a privately run non-profit corporation, oversees Canada's civil Air Navigation System (ANS). All AWOS equipment owned by the Municipality of Chatham-Kent is insured and operated by NAV Canada. The airport budget has allocated **\$51,850** in **2024** for this purpose.

airport Daily Inspections

As part of the 3rd party operational contact, there are 2 inspections performed on the runway each day when the airport is operational. The legislative standard for inspections is that an inspection is performed once every 8 hours when the airport is operational. As the airport operates for 9 hours a day, it is required that the contractor inspect the runway twice per day.

100 LL Fuel Sites



Field Electric Centre



Jet A Fuel Sites



Weather Observatory System

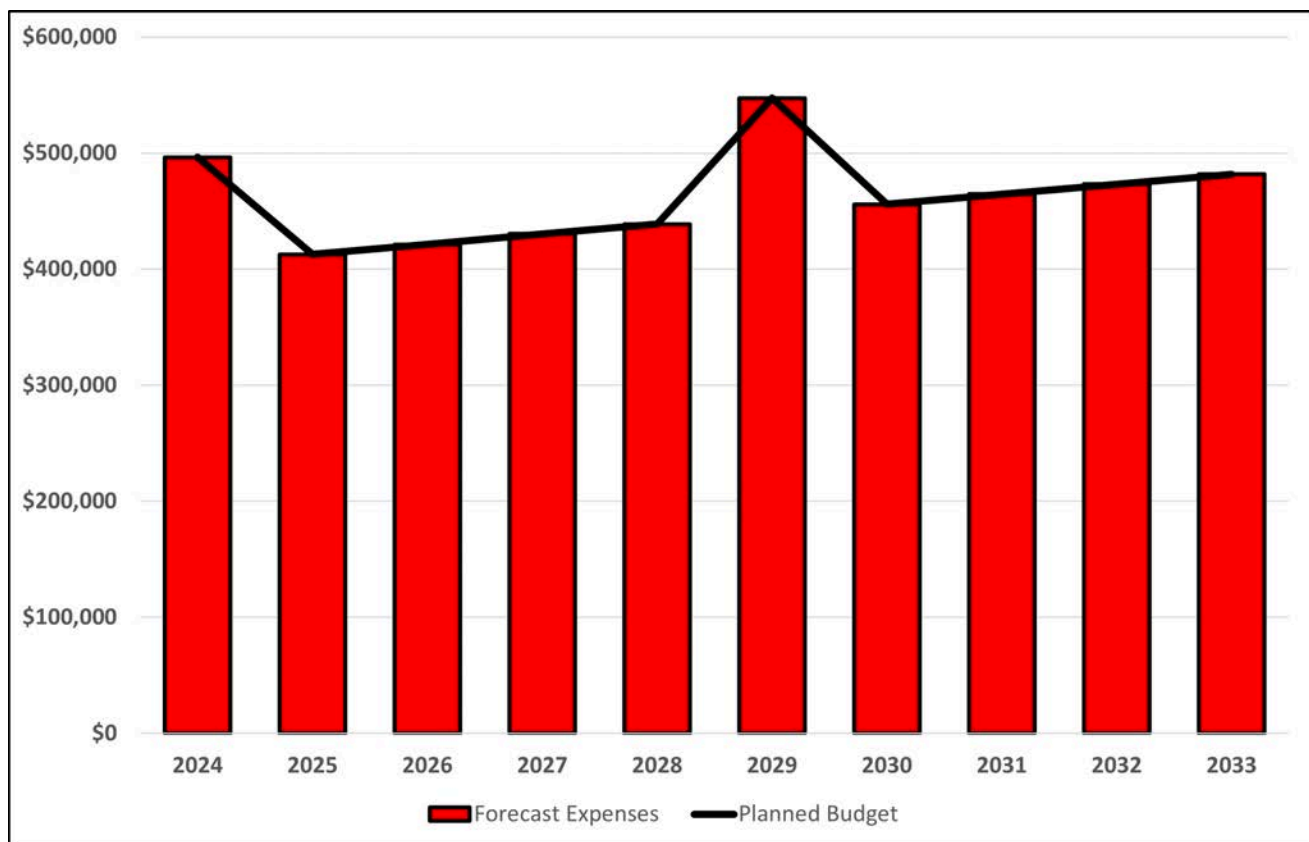


Summary of forecast operations costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease.

Figure 3.2.1. shows the forecast operations costs relative to the proposed operations planned budget.

Figure 3.2.1: Operations Summary



All figure values are shown in 2024 dollar values.

Operational budget levels are considered to be adequate to meet projected service levels over the entire 10-year planning period. In the initial years of the plan (2024 - 2027) operations are funded adequately enough that there will be no impact on service levels. For the remaining planning horizon airport will be required to draw upon its reserves to ensure the service is sustainable and able to complete all forecasted operational activities.

Future iterations of the DAMP will need to consider obligations to ensure that required safety and regulatory operational activities are prioritized.

Table 3.2.2: Operations Budget Trends

Year	Operational Budget
2024	\$496,000
2025	\$412,000
2026	\$421,000
2027	\$430,000

3.3 Maintenance Plan

Maintenance should be viewed as the ongoing management of deterioration. The goal of planned maintenance is to proactively apply the appropriate interventions to assets, ensuring they achieve their intended useful life. Maintenance doesn't substantially prolong the life of an asset, they are the actions necessary to enable assets to meet their expected lifespan by restoring them to a preferred 'improved' condition.

Examples of typical maintenance activities include runway repairs, equipment repairs, facilities repair etc. along with appropriate staffing and material resources required to perform these activities.

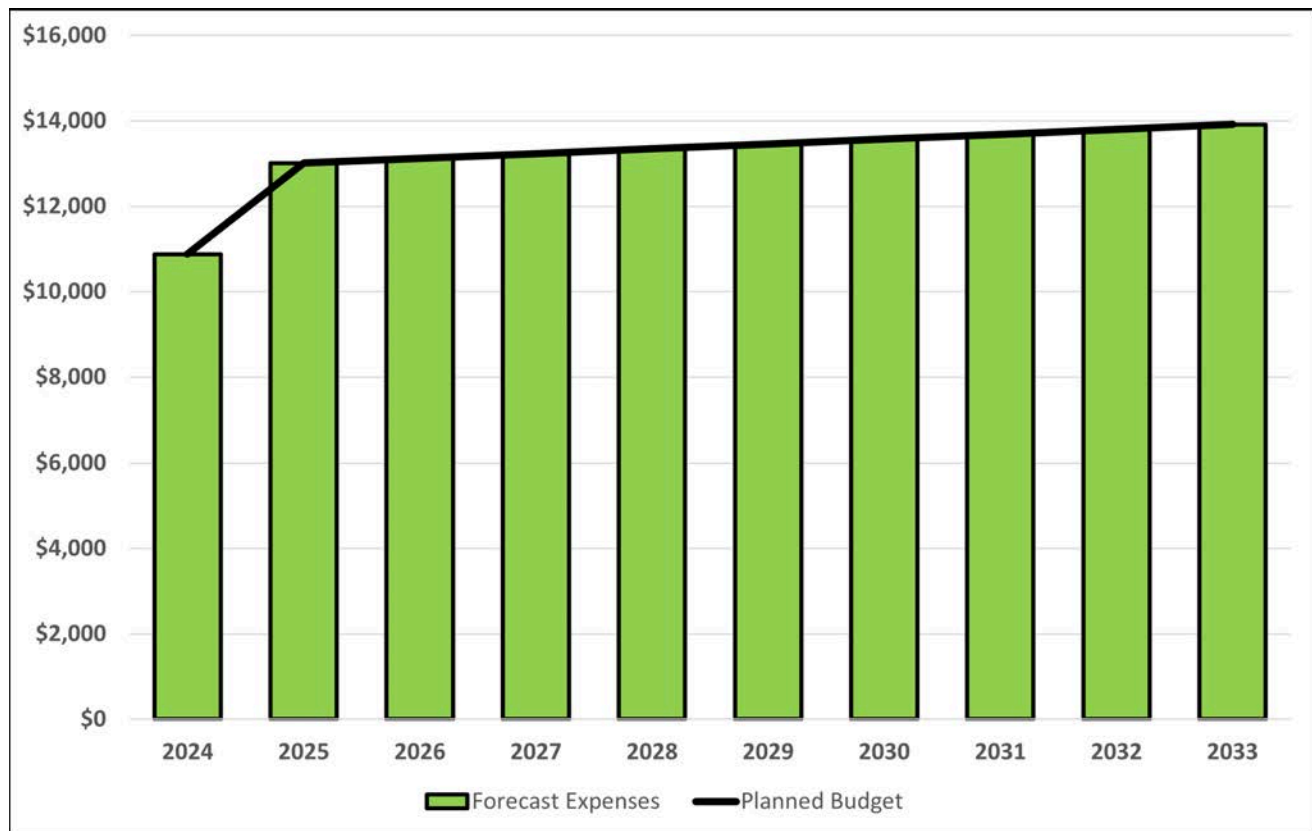
Planned maintenance greatly reduces the need for reactive maintenance, which is often associated with greater risks to human safety and increased financial costs. The airport is strategically planned and can adequately finance its maintenance activities through its reserve to maintain the desired service level.

Summary of Forecast Maintenance Costs

Forecast operations and maintenance costs are expected to vary with the total value of the asset stock. If additional assets are acquired, future maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease.

Figure 3.3.1 below, shows the forecasted maintenance costs relative to the proposed maintenance planned budget.

Figure 3.3.1: Maintenance Summary



All figure values are shown in 2024 dollar values.

Maintenance budget levels are considered to be adequate to meet projected service levels over the entire 10-year planning period. The initial years of the plan (2024 - 2027) are funded adequately enough that there will be no impact on service levels. For the remaining planning horizon airport will be required to draw upon its reserves to ensure the service is sustainable and able to complete all forecasted maintenance activities.

Future iterations of the DAMP will need to consider obligations to ensure that required safety and regulatory maintenance is prioritized. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this DAMP and service risks considered in the Infrastructure Risk Management Plan.

Assessment and priority of reactive maintenance is undertaken by staff using experience and judgement.

At this time, the majority of the 2024 and future maintenance allocations are for the following actions and activities:

- Ensuring the runway is kept at the legislatively required condition
- Pothole Patching, Crack Sealing, Repairing Runway Lighting
- Ensuring the airport Terminal is kept in a good state of repair
- Maintaining other assets at the airport including parking lots and fencing
- Equipment Repairs

One consideration for maintenance is to recognize that rising costs across most if not all maintenance activities. Since 2020, prices have been rising aggressively across the industry and careful analysis will be required to ensure that sufficient funds are put into place to ensure future maintenance activities can be completed.

The trend in maintenance budgets are shown in **Table 3.3.2** below.

Table 3.3.2: Maintenance Budget Trends

Year	Maintenance Budget
2024	\$10,000
2025	\$13,000
2026	\$13,000
2027	\$13,000



3.4 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to its original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified from the asset register data to project the renewal costs (replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year). The typical useful lives of assets used to develop projected asset renewal forecasts are shown in **Table 3.4.1**. Asset useful lives related to the airport were last reviewed on **May 1, 2024**.

Table 3.4.1: Useful Lives of Assets

Asset Sub-Category	Useful Life
Runway, Apron and Taxiway	40 Years
Terminal Building	50 Years
Parking Lot	20 Years
Fencing, Signage	20 Years
Vehicle	10 Years
Fuel Sites	40 Years
Airfield Lighting	30 Years

The estimates for renewals in this DAMP are based on the asset register method.

3.4.2 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing the airport Terminal)
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. quality of the runway)

The airport prioritizes its renewals by identifying assets or asset groups that have:

- High consequence of failure
- High use and subsequent impact on users would be significant
- Higher than expected operational or maintenance costs
- Potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service

The ranking criteria used to determine the priority of identified renewal proposals is detailed in **Table 3.4.3**.

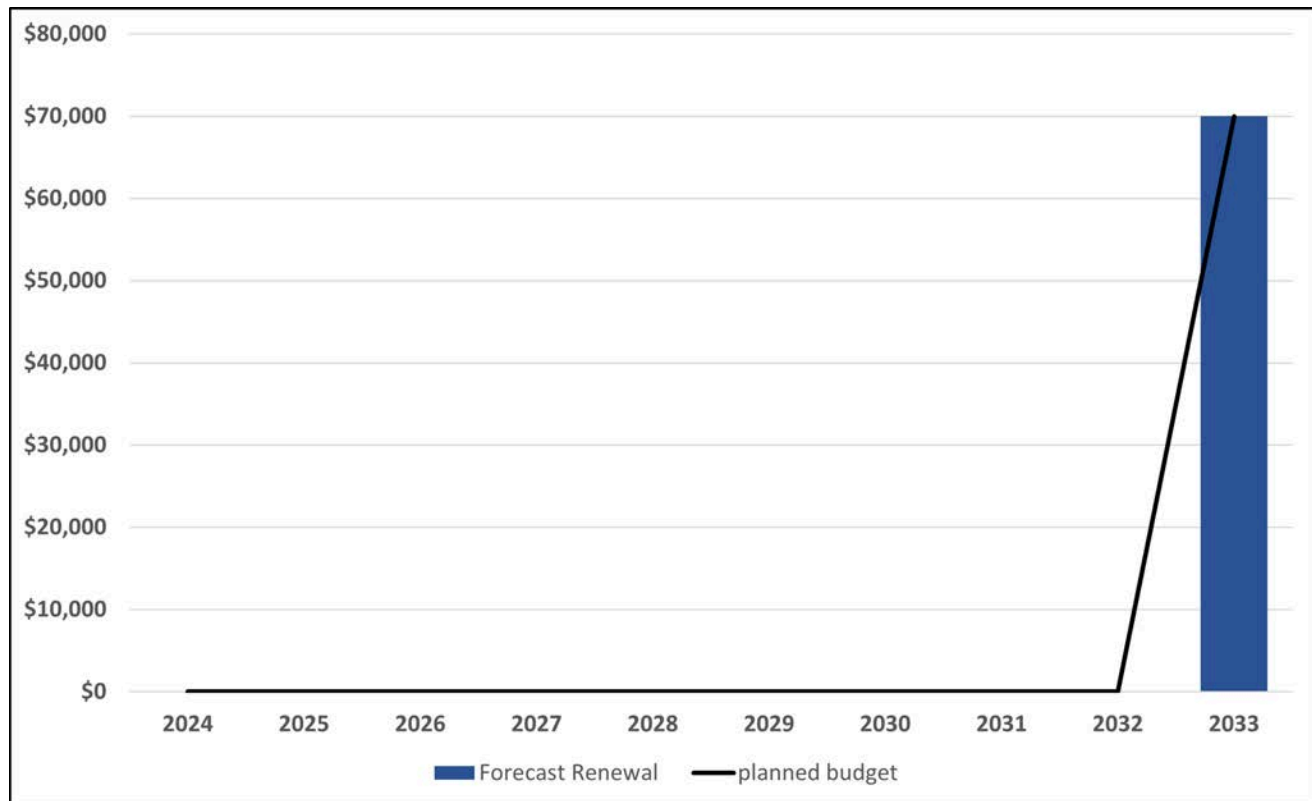
Table 3.4.3: Renewal Priority Ranking Criteria

Criteria	Weighting
Critical Asset Condition	60%
Legislative Requirements	20%
Demand Drivers (Such as need for expansion)	10%
Lifecycle Cost Savings	10%
Total	100%

3.5 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in **Figure 3.5.1**.

Figure 3.5.1: Forecast Renewal Costs (2024 - 2033)



All figure values are shown in 2024 dollar values.

Within the planned period, Chatham-Kent Municipal airport requires to renew the parking lot, service/inspection vehicle, and perimeter fencing by 2033 for **\$70,000**. Currently there are sufficient funds in the reserve to renew the airport assets at the appropriate time.

3.6 Disposal Plan

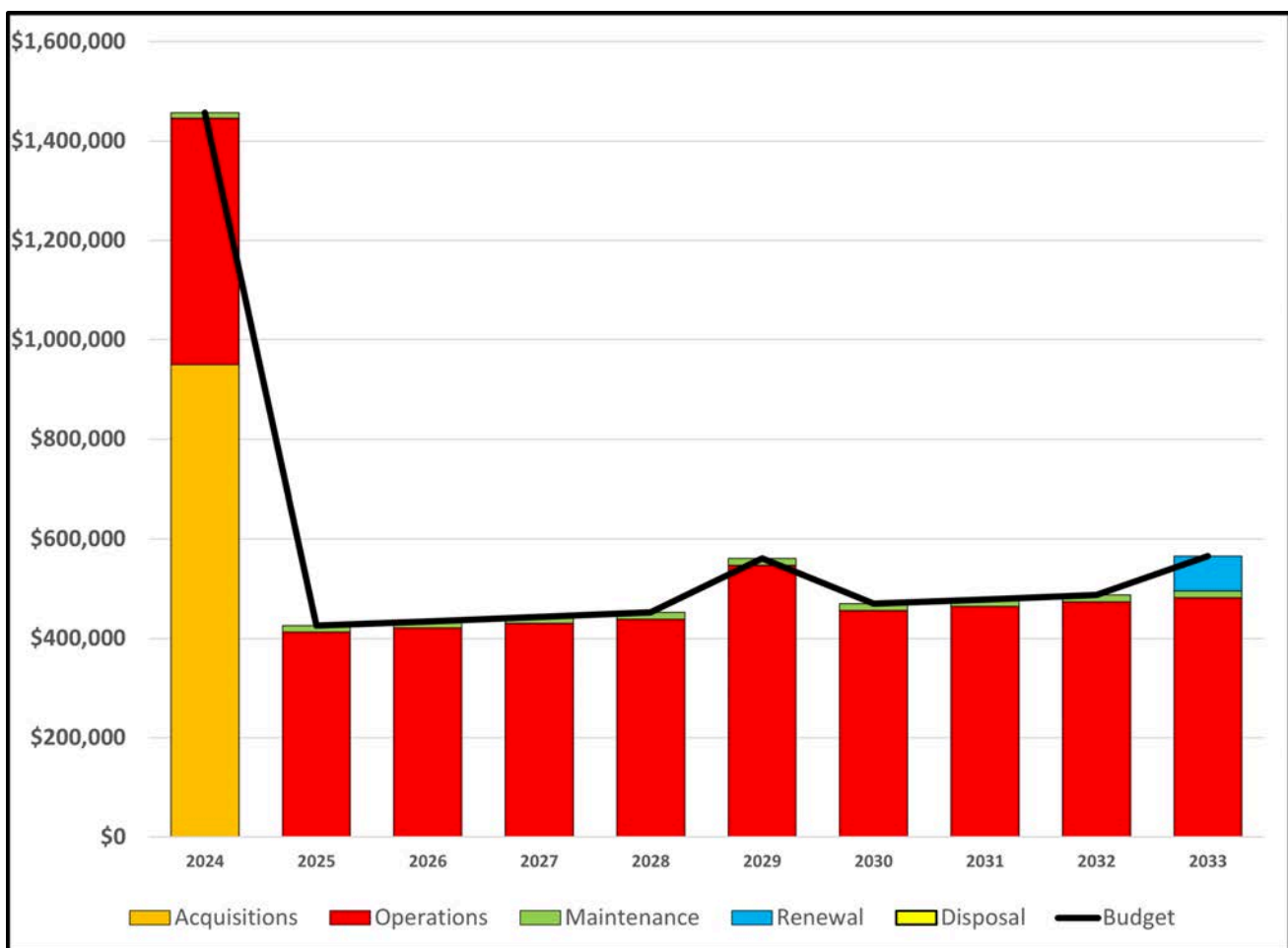
Disposal encompasses activities related to the decommissioning of assets that are not slated for renewal. These activities include the sale, demolition, environmental testing and remediation, soil and asbestos remediation, and relocation. Presently, the airport has no disposal plans within the 10-year planning horizon. Any costs or revenues from asset disposals will be accounted for in the long-term financial plan. Should any disposals be identified in the future, they will be reported in this section of the DAMP.

3.7 Summary of Asset Forecast Costs

The financial projections from this asset plan are shown in **Figure 3.7.1**. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimize the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 3.7.1: Lifecycle Summary



All figure values are shown in 2024 dollar values.

With the current budget and available reserve funds, the airport possesses ample resources to finance all scheduled lifecycle tasks for the entire 10-year planning period.

4.0 LEVELS OF SERVICE

Levels of service describe the value that airport provides to the community and are typically spoken about in ‘measures’. Utilizing service measures allow decision makers to understand what the outcome of investments will be to allow those making choices to clearly understand how a dollar, more or less will impact Chatham Kent’s ability to deliver its services. These measures also allow Chatham Kent to communicate with the public as to the cost of the services that they receive today and will be able to afford in the future.

Service levels are defined in four ways; legislative compliance, customer values, customer levels of service and technical levels of service.

4.1 Legislative Requirements

Meeting legislative requirements should be the bare minimum level of service Chatham Kent provides. These requirements often drive many lifecycle costs and staff tasks to ensure that Chatham Kent is compliant with all legislation that range from Federal to Provincial or even Chatham Kent’s own bylaws. There are many legislative requirements relating to the management of airport assets. Legislative requirements that impact the delivery of the airport service are outlined in **Table 4.1.1**.

Table 4.1.1: Legislative Requirements

Legislation	Requirement
Aeronautics Act	Security and Zoning Regulations and inspections of the airport area.
Canadian Aviation Regulations	Confirm airport meets the regulations - inspections/audits, training, testing, maintenance requirements, licensing requirements, and equipment requirements.
B836:22 Fueling Standard	Confirm fueling meets the standards - inspections, required equipment, licensing requirements, required signage, training, maintenance requirements.
Accessibility for Ontarians with Disabilities Act	Confirm municipal buildings meet AODA compliance.

The Aeronautics Act assigns the Minister of Transport the responsibility for overseeing the development and regulation of aeronautics in Canada, including matters related to security, zoning regulations, and inspections of airport areas. The Canadian Aviation Regulations (CARs), which came into effect on October 10, 1996, replaced the previous Air Regulations and Air Navigation Orders.

These regulations, established under the authority of the Aeronautics Act, ensure that airports adhere to various requirements such as inspections, audits, training, testing, maintenance, licensing, and equipment standards.

Specific regulations are in place to ensure that Jet A and 100LL fuel sites at the airport meet the necessary requirements. Additionally, the Canada Labour Code ensures that legislative requirements and regulations are upheld.

4.2 Customer Research and Expectations

The 1st DAMP is intended to provide a snapshot of the current level of service provided by the airport. Future consultations with the public and the airport customers must be undertaken before the Municipality of Chatham-Kent can adopt the planned level of service. Future iterations of the airport DAMP will involve customer consultation, focusing on service levels and associated costs. This approach aims to assist Council and stakeholders in aligning the required level of service, potential service risks, and consequences for the customers' capacity and willingness to financially support the service.

The airport's annual meeting will be utilized each year to engage in community consultation and discussions. Community consultation will be undertaken to identify customer values and expected trends in the planned budget and outcomes of the consultation and the values will be addressed in the future iterations of this plan.

4.3 Customer Values

Service levels are defined in three ways: customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service are important to the customer
- whether they see value in what is currently provided
- the likely trend over time based on the current budget provision

The airport service will undertake community consultation in 2024-2025 to better identify customer values and expected trends on the planned budget and outcomes of the consultation and the values will be addressed in the future iterations of this plan.

4.4 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition - How good is the service ... what is the condition or quality of the service?

Function - Is it suitable for its intended purpose Is it the right service?

Capacity/Use - Is the service over or underused... do we need more/less of these assets?

In **Table 4.4.1** under each of the service measure types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition percentages) to provide a balance in comparison to the customer perception that may be more subjective.



Table 4.4.1: Customer Level of Service Measure

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Ensure that the runway is well maintained to ensure the safety of the aircrafts and users.	% or respondents satisfied with Runway Condition	TBD 2025 Future Annual Customer Survey	TBD 2025 Future Annual Customer Survey
Function	airport facilities meet users' needs without interruption of services.	% of Customers satisfied with airport Facilities	TBD 2025 Future Annual Customer Survey	TBD 2025 Future Annual Customer Survey
Capacity	Adequate parking and terminal space.	% of Customers Satisfied with Parking at terminal	TBD 2025 Future Annual Customer Survey	TBD 2025 Future Annual Customer Survey
Capacity	Ensure the availability of airport staff on site to help the users.	% of Customers Satisfied with airport Hours 9 hours operating 24 hours on call	TBD 2025 Future Annual Customer Survey	TBD 2025 Future Annual Customer Survey

Further investigation will be necessary to ensure that customer service levels are regularly measured, allowing Chatham-Kent Municipal airport to consider various options to meet the community's evolving needs and expectations. The goal is to consistently engage in developing baseline community measurements and to continue the process of creating trend analysis data that will guide future decisions.

4.5 Technical Levels of Service

Technical Levels of Service – To deliver the customer values and impact, the achieved customer levels of service are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

These represent lifecycle performance measures that gauge how the airport intends to attain desired customer outcomes, showcasing effective performance, legislative compliance, and management. These metrics should illustrate the alignment of the Airports service delivery with customer values and act as potential levers to affect and influence Customer Levels of Service. The airport will track specific lifecycle activities to evidence service performance in meeting the desired service level and to shape customer perceptions of the services received from the assets.

To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance. Technical service measures are linked to the activities and annual budgets covering:

Acquisition – the activities to provide a higher level of service (e.g., widening a runway, additional parking spaces) or a new service that did not exist previously (e.g., a new airport terminal building).

Operation – the regular activities to provide services (e.g., operating hours, cleaning, mowing grass, utilities, inspections, etc).

Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g., crack sealing, building and structure repairs),

Renewal – the activities that return the service capability of an asset up to that which it had originally provided (e.g., runway resurfacing, parking lot reconstruction, and building replacement),

Service and asset managers plans implement and control technical service levels to influence the service outcomes. **Table 4.5.1** shows the activities expected to be provided under the current 10-year planned budget allocation, and the forecast activity requirements being recommended in this DAMP.

Table 4.5.1: Technical Levels of Service

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Acquisition	Provide appropriate infrastructure for the safe and sustainable delivery of airport services	New taxiway and airport lighting, by 2024	60%	100% by end of 2024
		Budget	\$200,000	
Acquisition	Ensure adequate number of infrastructure assets to deliver airport services	New airport maintenance building by 2024	100% by end of 2024	100% by end of 2024
		Budget	\$750,000	
Operations	airport assets will be kept in good working condition	Regular runway, apron, and taxiway inspections. Obstacles cleared as needed	Twice per day	Twice per day
		Budget	Part of 3rd Party Contract	Part of 3rd Party Contract
Operations	Provide appropriate infrastructure for the safe and sustainable delivery of airport services	Fuel sales(in L) for the year 2023	Jet-A fuel: 181,829 L 100LL fuel: 62,071 L	TBD 2025

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Operations	Provide safe and secure airport operations	Number of airport movements for 2023	4,790 movements	Increase in future (TBD in 2025)
Maintenance	Provide appropriate infrastructure for the safe and sustainable delivery of airport services	airport runway and field are maintained to meet Transport Canada regulations	100% of required maintenance completed	100% of required maintenance completed
		Budget	\$6,200	TBD 2025
Maintenance	Provide appropriate infrastructure for the safe and sustainable delivery of airport services	Regular maintenance works done on the terminal building to maintain good condition	100%	100%
		Budget	\$4,700	TBD 2025

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

5.0 FUTURE DEMAND

5.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

5.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

5.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in **Table 5.3.1**.

Demand for new services will be managed through a combination of managing and upgrading existing assets and providing new assets to meet demand. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in **Table 5.3.1**. Further opportunities will be developed in future revisions of this DAMP.

Table 5.3.1: Demand Management Plan

Demand Driver	Current Position	Projection 10 Years	Impact on Services	Demand Management Plan
Population	105,110	112,800	Expanding population will see an increase of users of the airport and its services	Monitor increase usage and expand when there is sufficient customers to afford expansion
Growing services	22 airport hangers	Increase in the future	Increase of customers requires increased operational and maintenance costs	Ensure whole life costs models are completed to ensure new hangers are affordable

Demand Driver	Current Position	Projection	Impact on Services	Demand Management Plan
Climate Change	Environmental obligations are compliant with legislation	Maintain compliance when growth occurs	Expanding population will likely see an impact on users of the airport and its services	Monitor increase usage and expand when there is sufficient customers to afford expansion

The rise in Chatham-Kent's population may necessitate the airport to expand its services. The growing population could drive the demand for additional airport infrastructure and services. This plan aims to anticipate and address future needs comprehensively. However, the current infrastructure resources are limited, and financial sustainability may prove insufficient over the entire planning period as such expansion would not be recommended if sustainability cannot be achieved.

The expected increase in the number of airport hangars will further highlight the need for additional acquisitions in the future. Construction of more aprons, taxiways, and other services will be essential to meet the desired serviceability levels and accommodate the increasing demand.

The escalating release and concentration of greenhouse gases (GHGs) in the atmosphere contribute to climate change, affecting the environment, human health, and the economy. According to a study by Environmental and Climate Change Canada, Canada's emissions in 2019 amounted to **737 Million Tonnes** of carbon dioxide equivalent, constituting **1.5%** of global GHG emissions. In response, the airport will aim to implement a number of sustainable practices and strategies to reduce its carbon footprint.

5.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed.

Acquiring new assets will commit the airport to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan.

6.0 RISK MANAGEMENT PLANNING

Risk Management is defined in ISO 31000:2018 as: 'Coordinated activities to direct and control with regard to risk'. The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Chatham Kent is developing and implementing a formalized risk assessment process to identify risks associated with service delivery and to mitigate risks to tolerable levels.

The assessment will identify risks that will result in:

- loss or reduction in service
- personal injury
- environmental impacts
- a 'financial shock'
- reputational impacts
- other consequences

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment will also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarized in **Table 6.1.1**. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Facility & Site	Significant Accident/ Tornado/Fire	<ul style="list-style-type: none">• Reduced level of service or temporary closure• High reactive costs
Runway, Taxiway and Apron	Physical damage/ Deterioration	<ul style="list-style-type: none">• Temporary reduction of level of service• Reactive costs increase
Technical or communication equipment	System failure	<ul style="list-style-type: none">• Temporary closure until resolved

By identifying critical assets and failure modes an organization can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

6.2 Risk Assessment

The risk management process used by Chatham Kent is an analysis and problem-solving technique designed to provide a logical process for the selection of response plans and management actions to protect the community against unacceptable risks. The process is based on the fundamentals of **International Standard ISO 31000:2018**.

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the infrastructure risk management plan. **Table 6.2.1.** shows initial asset registry risk assessment completed for the DAMP. Future iterations of the risk assessment will include residual risk and treatment costs of implementing the selected treatment plan. It is essential that these critical risks and expenses are reported to management and the council.



Chatham-Kent Municipal airport Terminal Building-Interior

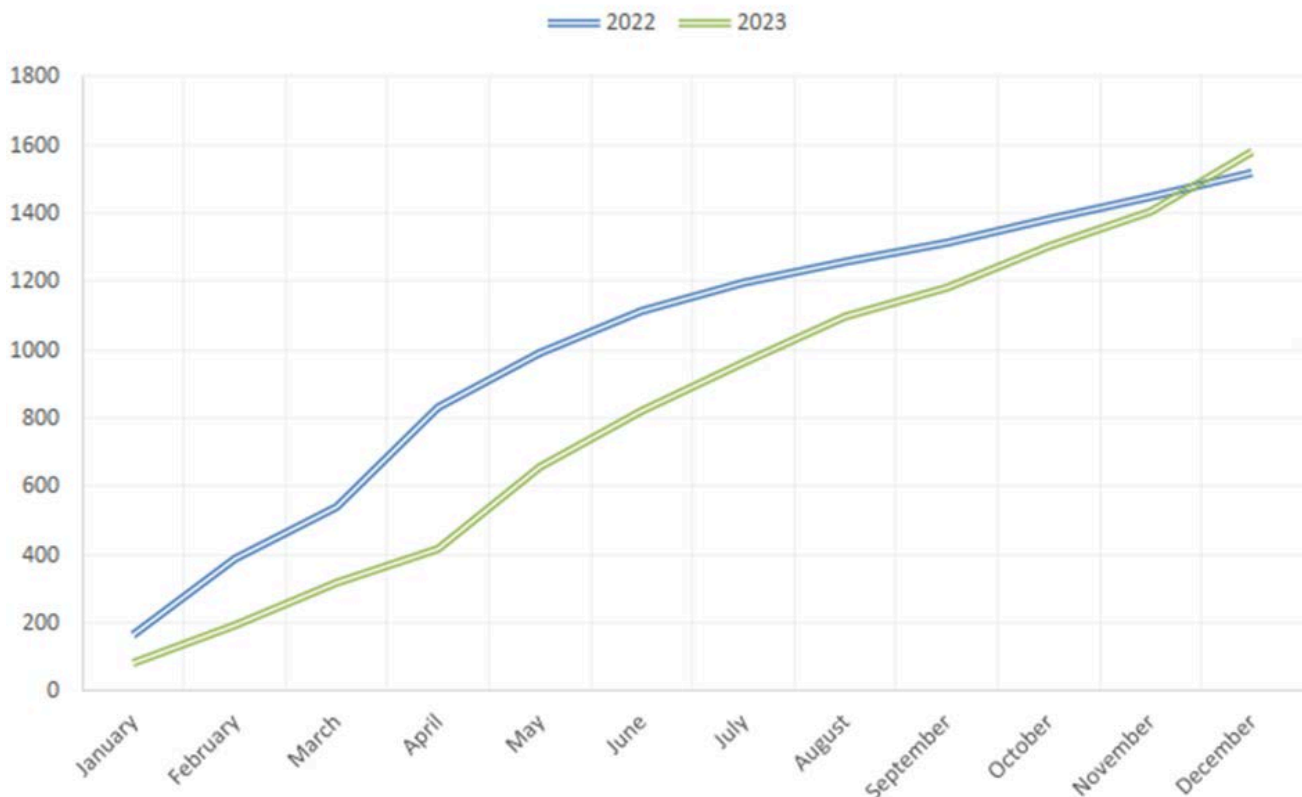
Table 6.2.1: Risks and Treatment Plans

Asset Providing the Service	What can Happen	Risk Rating	Possible Cause	Existing controls	Likelihood
Facility & Site	Aircraft incident	High	Bird strikes, weather condition, mechanical Issue	airport emergency plan, emergency service response	Low
Facility & Site	Damage due to natural disaster	Medium	Extreme weather conditions	Disaster mitigation plan, emergency management plan	Low
Facility & Site	Plane struck by wildlife	Medium	Wildlife	Wildlife Control Plan, Proactive Inspections	Low
Fuel system damage	Fire, accident	Medium	High winds, vehicle contact, condition of fuel tank	Aircraft emergency plan, staff training, regular inspections	Low

Wildlife risk

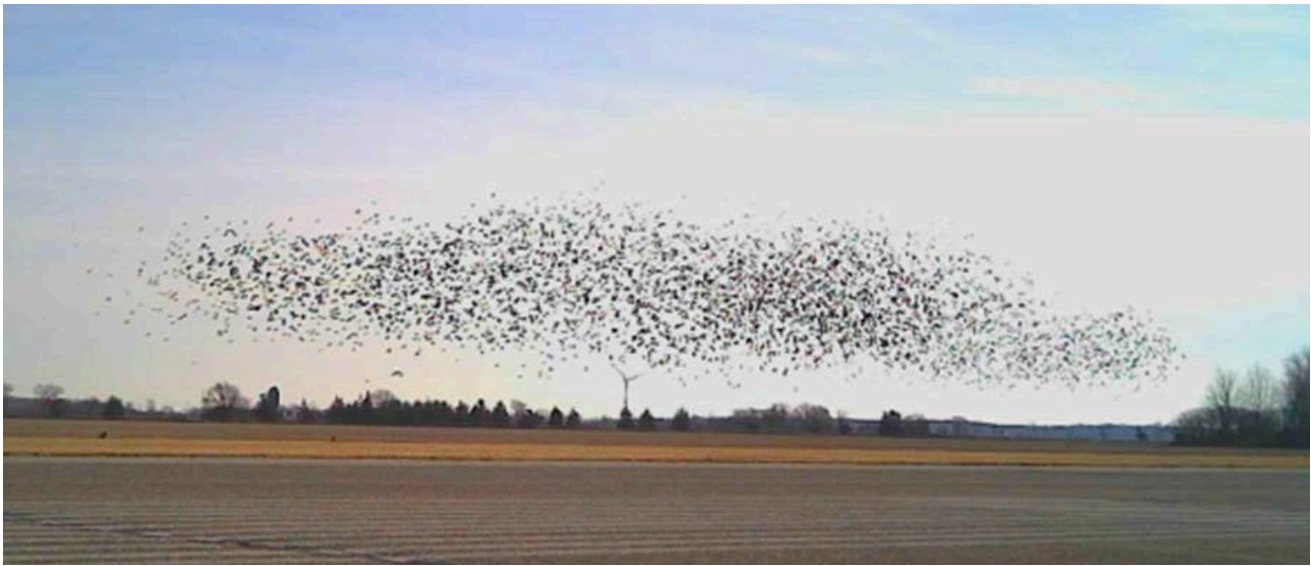
Wildlife poses a significant risk at the airport, as outlined in the Wildlife Management Plan. Key hazards include Canada Geese, Gulls, American Crows, Hawks, White-Tailed Deer, and Coyotes. There was a slight increase in wildlife sightings from **1,517** in 2022 to **1,579** in 2023. Bird sightings increased from **960** reports to **1,011** reports, while mammal sightings increased from **557** reports to **568** reports. Rabbits accounted for **207** of the mammal sightings.

TOTAL WILDLIFE SIGHTINGS



These hazards were identified following a risk assessment based on factors such as mass/flocking hazard, relative abundance, hazardous behavior, and aircraft types. These observations underscore the ongoing importance of wildlife management efforts to mitigate potential risks to aircraft safety. The pictures of the wildlife sighted at the Chatham-Kent Municipal airport are added below.





Increase in the wildlife sighting in airport area will increase the risk of wildlife strikes and aircraft accidents. There were four bird strikes reported in the year of 2023, which was four times more than in the 2022.



6.3 Infrastructure Resilience Approach

The resilience of the airport's critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions Chatham-Kent needs to understand its capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership. Currently, the airport does not measure the resilience in service delivery. This will be included in future iterations of the DAMP.

6.4 Service and Risk Trade-Offs

The decisions made in adopting this DAMP are based on the objective to achieve the optimum benefits from the available resources.

6.4.1 What Cannot Be Done

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Increase the levels of operation, maintenance and renewal activities
- Mitigate all risks
- Ensure all reactive maintenance projects can be fully funded
- Ensure that all future renewals outside of the planning period can be completed due to the scope of the plan being limited to a 10-year planning horizon

6.4.2 Service Trade-Off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences could include:

- As the condition of buildings and infrastructure continue to deteriorate it will result in a lower level of service
- Limiting hours of operations if facilities fall into a poor condition
- Unable to expand hours of operation
- Limiting future development for future customers

6.4.3 Risk Trade-Off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Over the long-term without sufficient funding and as the condition of assets deteriorates, they may become unsafe
- If buildings and land improvement assets do not meet current standards, the Municipality could be at risk of litigation should an incident occur

These actions and expenditures are considered and included in the forecast costs, and where developed, the risk management plan.

7.0 Climate Change Adaptation

Climate change will have a significant impact on assets and the services they provide. In the context of the asset management planning process climate change can be considered as both a future demand and a risk. How climate change impacts assets will vary depending on the location and the type of services provided, as will how the airport responds to and manages those impacts.

As a minimum, the airport will consider how to manage its existing assets given potential climate change impacts for the region. The impacts of climate change may have a significant impact on the assets CK manage and the services they provide. This can include:

- Impacting Asset Lifecycle Costs
- Affect the level of service that can be provided
- Increase demand for services
- Impact Risks involved with delivering services

In the context of the asset management Planning process climate change can be considered as both a future demand and a risk.

The impacts of climate change may have a significant impact on the assets CK manage and the services they provide. In the context of the asset management Planning process climate change can be considered as both a future demand and a risk.

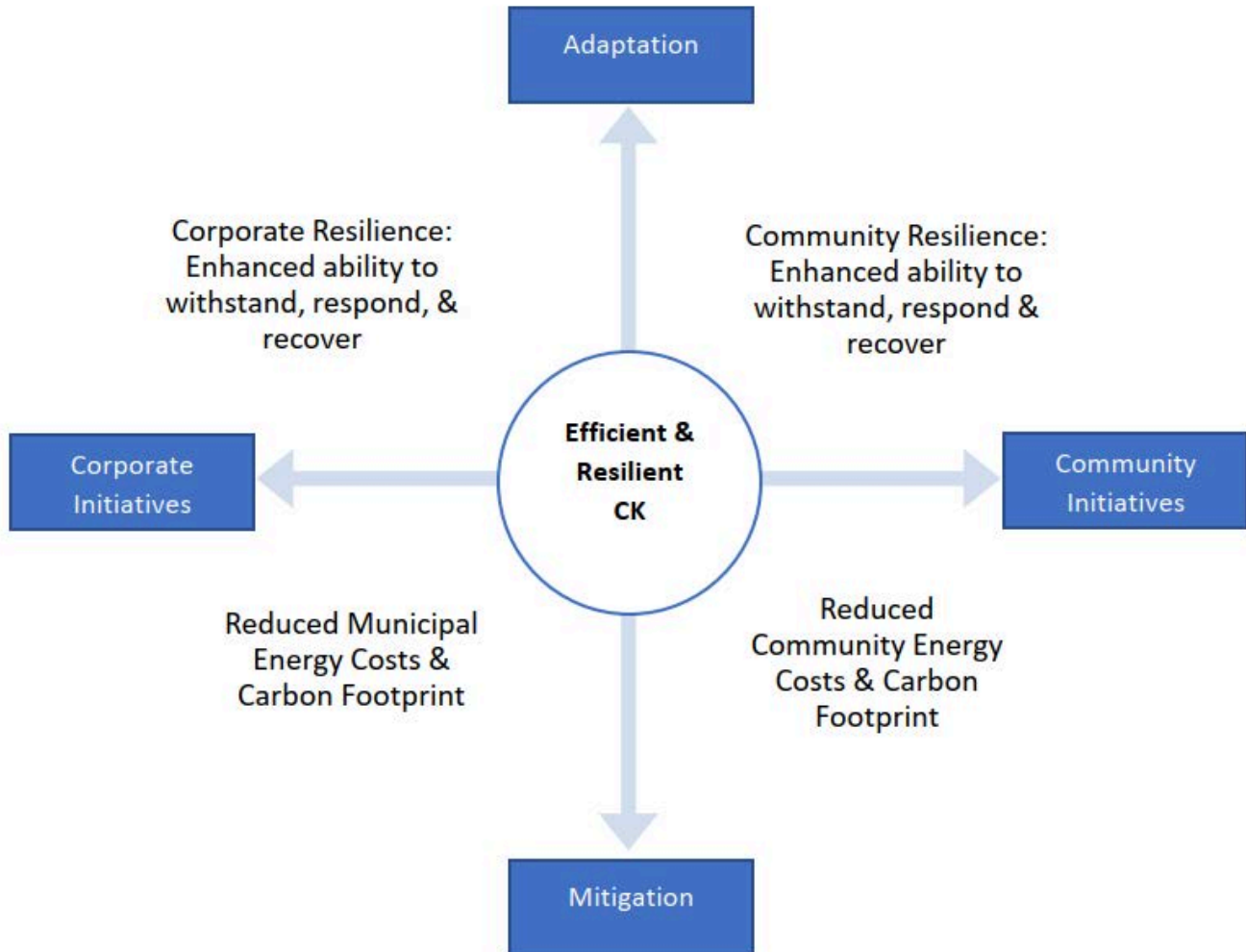
How climate change impacts on assets will vary depending on the location and the type of services provided, as will the way in which CK responds and manages those impacts.

There have been many weather and climate-related impacts on the CK community, including the following:

- Extended summer heat waves in 2017 and 2018
- Severe rain storms of 2018 (and related flooding)
- Unseasonably wet spring and fall of 2019, which impacted crop production
- Record-breaking water levels within river systems and the Great Lakes in 2019 and early 2020 caused major erosion and flooding issues in the community. This included the closures of Erie Shore Drive, the Talbot Trail, and Rose Beach Line, etc.

Recognizing these continuing climate change impacts, Council declared a climate emergency in Chatham-Kent on July 15, 2019 and directed municipal staff to develop a climate change action plan (CCAP) to reduce CK's contribution to climate change (known as climate mitigation) and to enhance the community's resiliency to climate change (known as climate adaptation).

The Municipality of Chatham-Kent is currently in the process of completing its CCAP, which will be presented to Council and the public by the end of 2024. The CCAP actions that will be presented in the CCAP report document will be used to inform the Climate Section of the DAMPs in 2025. The CCAP actions will also be presented within the departments that will be responsible for their completion.



Based on the Climate Atlas of Canada, historical climate patterns show that CK's climate has become hotter, wetter and wilder over the last 6 decades and this trend is expected to continue in the future.

Hotter: Average annual temperatures have risen by 0.5°C and are expected to rise between 3.5°C and 5.8°C by the 2080s.

Wetter: Average annual precipitation has increased by 49.8mm (1.96in) and is expected to increase between 78mm and 127mm (5in) by the 2080s.

Wilder: Rain storms have increased in frequency and severity and seasonal precipitation patterns have changed and this is expected to continue.

“From 1983 to 2008, insurers spent on average \$400 million yearly on catastrophic claims; since 2009, the yearly average has risen to almost \$2 billion. These "once in 100 years" events are happening more frequently and are becoming more severe and more costly.”(Statistics Canada, 2024)

Risk and opportunities identified to date are shown in **Table 7.0.1**.

Table 7.0.1 Managing the Impact of Climate Change on the Assets and Services

Climate Impact (Assets level or Service level)	Projected Position (in 10 years)	Potential Impact on Assets & Services	Climate Management Plan
Annual Precipitation (mm) increase	+45mm annually	<ul style="list-style-type: none"> Insufficient drainage system capacity to manage flood events. Overflows can potentially cause flooding resulting in damage to equipment, accident, injury, and potential disruption of services. 	Develop strategies to manage flood events and prevent overflows
Annual Very Hot Days, (+30 degrees Celsius), increase	+20 days, annually	<ul style="list-style-type: none"> High-temperature days can impact the thermal comfort of buildings, and runway surface conditions and reduce the expected service life of assets 	Renew or upgrade building environmental system to ensure they adapt to temperature variations.

Climate change has become a pressing issue, impacting various elements of the airport, including its natural assets and the surrounding wildlife. Existing aircraft and infrastructure are primarily designed to accommodate current or past climate conditions. However, significant shifts due to climate change could necessitate restrictions on aircraft operations or modifications to airport infrastructure. Changes in temperature, precipitation, storm patterns, and wind patterns are some of the keyways in which climate change is expected to affect aviation.

Rising temperatures are a critical aspect of climate change. As temperatures increase, air density decreases, making it more challenging for aircraft to generate the lift needed for take-off. This may result in some runways being too short for certain aircraft to safely take off. Additionally, aircraft operators may need to reduce the take-off weight of planes and helicopters to compensate for reduced lift.

Wind patterns are also changing due to climate change, with research indicating a general slowdown in winds and shifts in prevailing directions. Lower wind speeds can affect landing and take-off distances, requiring longer runway distances or reduced aircraft weight for safe operations. Moreover, decreased wind speeds can increase turbulence and cause disruptions during flight. These climate-induced changes pose significant challenges for the aviation industry and necessitate adaptation strategies to ensure safe and efficient operations in the face of evolving climate conditions.

Additionally, the way in which Chatham-Kent constructs new assets should recognize that there is an opportunity to build resilience to climate change impacts. Building resilience can have the following benefits:

- Assets will withstand the impacts of climate change
- Services can be sustained
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this DAMP.

8.0 FINANCIAL SUMMARY

8.1 Financial Sustainability and Projections

This section outlines the financial requirements derived from the data in the preceding sections of this DAMP. The financial forecasts will be refined through ongoing discussions about the desired service levels and as asset management expertise within Chatham-Kent matures. It is crucial to align the budgeting process, the Long-Term Financial Plan, and the Detailed asset management Plans to ensure that all the Airports needs are addressed while the municipality establishes a definitive financial strategy with measurable goals and targets.

Effective asset and financial management will enable the airport to ensure its services are providing the appropriate level of service for the community to achieve its goals and objectives. Reporting to stakeholders on service and financial performance ensures the Municipality is transparently fulfilling its stewardship accountabilities. Long-term financial planning (LTFP) is critical for the airport to ensure the networks lifecycle activities such as renewals, operations, maintenance, and acquisitions can happen at the optimal time.

Reporting on service and financial performance to stakeholders guarantees that the Municipality is fulfilling its stewardship responsibilities with transparency. Long-term financial planning (LTFP) is essential for the airport to ensure that the asset network lifecycle activities, including renewals, operations, maintenance, and acquisitions, occur at the optimal times.

8.1.1 Sustainability of service delivery

Two key indicators of sustainable service delivery are considered in the DAMP for this service area. The two indicators are the:

- **Asset Renewal Funding Ratio** (proposed renewal budget for the next 10 years / proposed renewal outlays for the next 10 years shown in the DAMP)
- **Lifecycle Funding Ratio** (proposed lifecycle budget for the next 10 years / proposed lifecycle outlays for the next 10 years shown in the DAMP)

Asset Renewal Funding Ratio (ARFR) - 100%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years Chatham-Kent has no major renewals planned within the current planning period for the Airport. As the airport asset information improves and as time passes there will be future renewal requirements that will be required. As the DAMP evolves the planning horizon will extend from 10 years to 20 years and at that time there may be significant renewal activities identified.

A high ARFR generally indicates that service levels are achievable, however if the expenditures are below this level, then it indicates the desired level of service is not achievable. Each year the airport DAMP will be updated to acknowledge the financial realities of the available budget and how those realities will impact the current level of service set by council.

Lower ARFR typically occurs due to:

- Chronic underinvestment
- A lack of permanent infrastructure funding from senior levels of government
- A freeze on funding allocations from senior levels of government
- Large spikes of growth throughout the years

The ARFR is considered to be a stewardship measure and is an indicator in determining if Chatham-Kent is achieving intergenerational equity. Ensuring sufficient financial resources are allocated to renewing assets is essential to achieve sustainability. Funding the ARFR over time so the airport can meet its financial target is essential to ensuring the service is considered sustainable.

If assets are not renewed at the appropriate time, it will inevitably require difficult trade off choices that could include:

- A reduction of the level of service and availability of assets;
- Increased complaints and reduced customer satisfaction;
- Increased reactive maintenance and renewal costs; and,
- Damage to airport reputation and risk of fines or legal costs

Future airport DAMPs will align with the planned LTFP. This approach will enable staff to devise options and strategies for address future long-term renewal rates challenges. Chatham-Kent plans to reassess its renewal allocations after the full inventory is verified and consolidated.

Lifecycle Funding Ratio – 10 year financial planning period - (LFR)

The current **10-year Lifecycle Funding Ratio is 100%.**

This DAMP identifies the forecast operations, maintenance and renewal costs required to provide an agreed, and affordable level of service to the community over a 10-year period. This provides input into 10-year financial and funding plans aimed at providing the required services in a sustainable manner. This forecast work should be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The 10-year Lifecycle Financial Ratio evaluates the Planned Budget against the Lifecycle Forecast to ensure optimal operation, maintenance, and renewal of assets, aiming to deliver a consistent level of service over the 10 -year planning period. As with the Asset Renewal Funding Ratio (ARFR), the ideal range for this ratio is between **90-110%**. A ratio below this range suggests that the funding for assets is not sufficient to fulfill the organization's commitments to risk management and service levels.

The forecast operations, maintenance and renewal costs over the 10-year planning period is **\$577,503** on average per year. The proposed (budget) operations, maintenance and renewal funding is **\$577,503** on average per year indicating that there is no shortfall over the 10-year planning horizon. This indicates that **100 %** of the forecast costs needed to provide the services documented in this DAMP are accommodated in the proposed budget and available reserves. Note, these calculations exclude acquired assets.

Funding an annual funding shortfall or funding 'gap' cannot be addressed immediately. The overall gap in funding for each of Chatham-Kent's services will require vetting, planning and resources to begin to incorporate gap management into future budgets. This gap will need to be managed over time to reduce it sustainably and limit financial shock to customers.

Options for managing the gap include:

- Financing strategies – increased funding, grant opportunities, envelope funding for specific lifecycle activities, long-term debt utilization
- Adjustments to lifecycle activities – increase/decrease maintenance or operations, increase/decrease frequency of renewals, extend estimated service life, limit acquisitions or dispose of underutilized assets
- Influence level of service expectations or demand drivers

These options and others will allow the airport to ensure the gap would be managed appropriately if one existed and to ensure the level of service outcomes the customers desire are achieved. Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to eventually achieve a financial indicator of **90-110%** for the first years of the AM Plan and ideally over the 10-year life of the Long-Term Financial Plan.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the DAMP and ideally over the 10-year life of the Long-Term Financial Plan (LTFP).

8.2 Forecast Costs (outlays) for the Long-Term Financial Plan

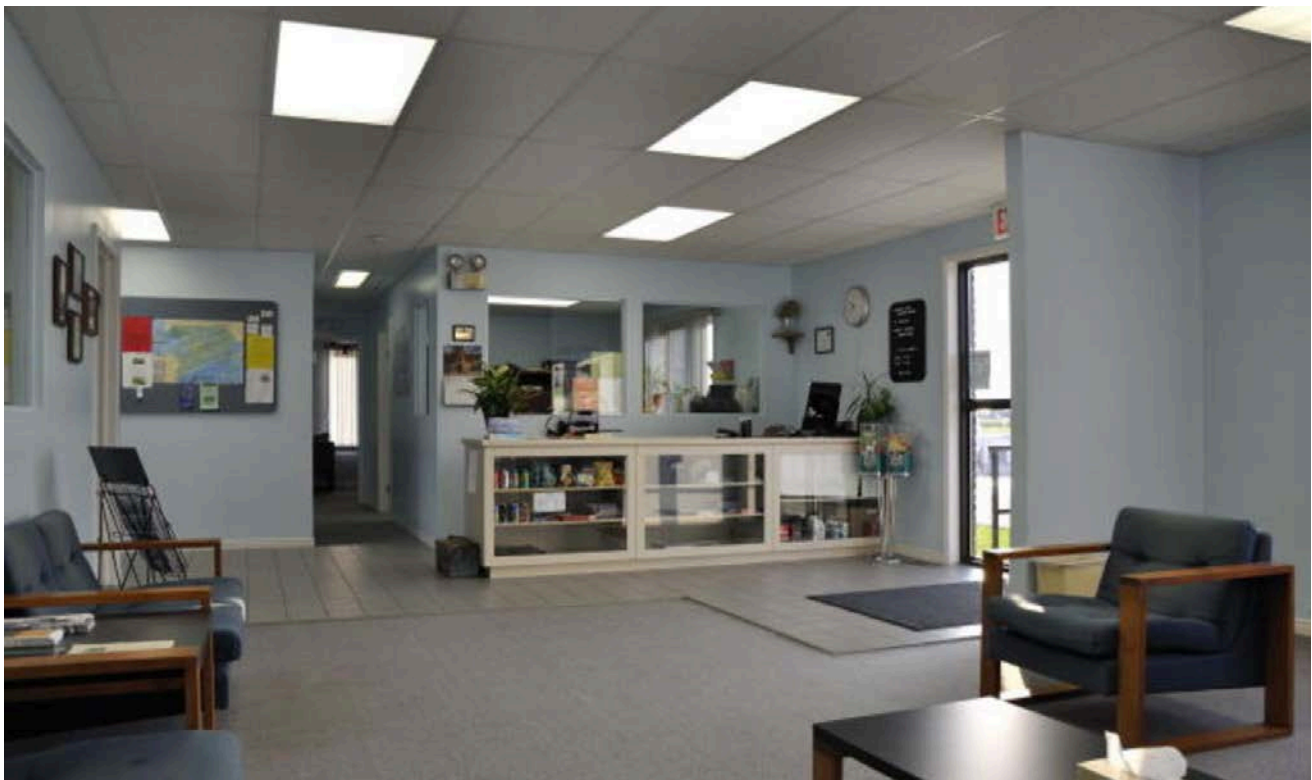
Table 8.2.1 shows the forecast costs (outlays) required for consideration in the 10-year long-term financial plan (LFTP).

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the long-term financial plan.

Any gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the DAMP and/or financial projections in the LFTP. The initial DAMP only attempts to quantify the financial gap for the service and future plans will focus on the methods and strategies to manage that gap over time to achieve sustainable services and intergenerational equity.

The forecast costs needed to provide airport services documented in this DAMP are accommodated in the proposed budget and available reserves, and hence there is no Current Gap for the 10-year planning period.

Chatham-Kent will manage any 'gap' by developing this DAMP to provide guidance on future service levels and resources required to provide these services in consultation with the community.



Chatham-Kent Municipal airport Terminal Building-Interior

Table 8.2.1: Forecast Costs (outlays) for the Long-Term Financial Plan 2024 - 2033

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2024	\$950,000	\$496,470	\$10,881	-	-
2025	-	\$412,805	\$13,010	-	-
2026	-	\$421,316	\$13,118	-	-
2027	-	\$430,368	\$13,226	-	-
2028	-	\$438,791	\$13,345	-	-
2029	-	\$547,411	\$13,459	-	-
2030	-	\$456,032	\$13,573	-	-
2031	-	\$464,652	\$13,687	-	-
2032	-	\$473,273	\$13,802	-	-
2033	-	\$481,893	\$13,916	\$70,000	-
Total	\$950,000	\$4,126,541	\$132,017	\$70,000	-

All figure values are shown in 2024 dollar values.

8.3 Funding Strategy

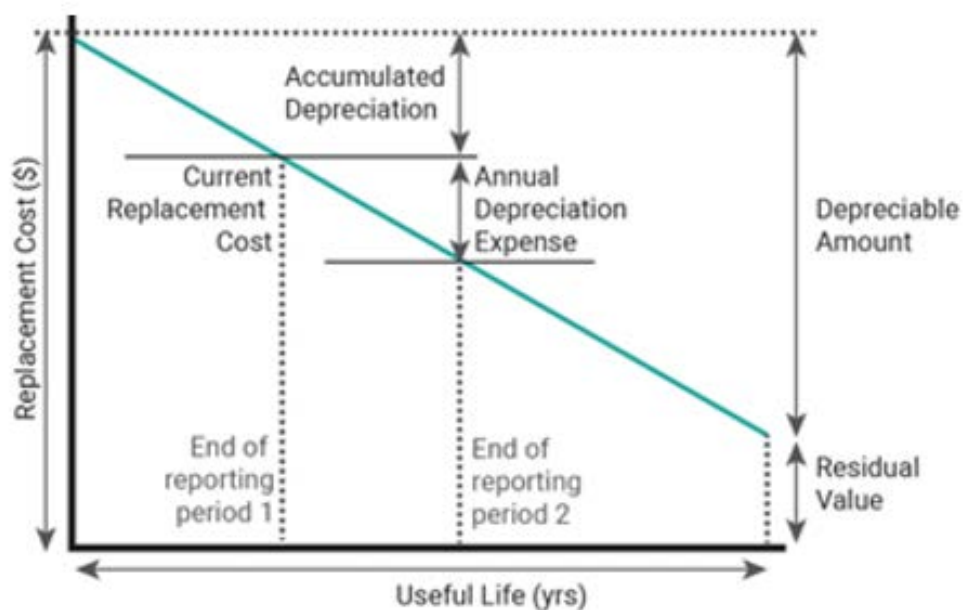
The proposed funding for assets is outlined in the operational budget and 10-year capital budget. These operational and capital budgets determine how funding will be provided, whereas the DAMP typically communicates how and when this will be spent, along with the service and risk consequences. Future iterations of the DAMP will provide more detailed service delivery options and alternatives to optimize limited financial resources. By 2023, the airport held approximately **\$1,000,000** in reserves and CK continues to add **\$129,000** annually to this fund. However, there is a lack of designated funds for the airport budget, resulting in an annual withdrawal from the reserve for planned lifecycle activities. It is recommended to review the reserve and its contributions once the Council approves the Level of Service, to determine the appropriate yearly contributions and allocations for both operational and capital budgets.

8.4 Valuation Forecasts

Asset values are forecast to increase as additional assets are added into service. As projections improve and can be validated with market pricing the net valuations will increase significantly. Additional assets will add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs for future renewals. Any additional assets will also add to future depreciation forecasts. Any disposals of assets would decrease the operations and maintenance needs in the longer term and would remove the high costs of renewal obligations. At this time, it is not possible to separate the disposal costs from the renewal or maintenance costs however this will be improved for the next iteration of the plan.

8.4.1 Asset valuations

The best estimate of the value of assets included in this DAMP are shown below.



The assets are valued utilizing Current Replacement Cost (Market Prices Index).

Table 8.4.2 Asset valuation table

Assets Valuation	Financial Value
Replacement Cost (Gross)	\$11,148,000
Depreciable Amount	\$11,148,000
Current Replacement Cost	\$ 7,932,000
Annual Depreciation Expense	\$ 281,000

8.5 Key Assumptions Made in Financial Forecasts

In compiling this DAMP, it was necessary to make some assumptions. This section details the key assumptions made in the development of this DAMP and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this DAMP are:

- Assumptions were made regarding the existing and planned budget for maintenance, and renewal, using professional judgement.
- Omission of select disposal assets during this budget period; small projects will have a minor impact on disposal projections.
- Budgets have been allocated based on the best available data on assets.
- A 1% annual inflationary amount has been applied to the operational and maintenance forecast to reflect the projections that costs will increase over time



8.6 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this DAMP are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a **A - E level scale** in accordance with **Table 8.6.1**.

Table 8.6.1: Data Confidence Grading System

Confidence Grade	Description
A. Very High	Data based on sound records, procedures, investigations and analysis, were documented properly and agreed as the best method of assessment. The dataset is complete and estimated to be accurate $\pm 2\%$.
B. High	Data based on sound records, procedures, investigations and analysis, is documented properly but has minor shortcomings, for example, some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. The dataset is complete and estimated to be accurate $\pm 10\%$.
C. Medium	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$.
D. Low	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy $\pm 40\%$.
E. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this DAMP is shown in **Table 8.6.2**.

Table 8.6.2: Data Confidence Assessment for Data used in DAMP

Data	Confidence Assessment	Comment
Demand drivers	Low	Based on subject matter expert opinions and limited and out of date information
Growth projections	Medium	Demographics trending analysis would improve data quality
Acquisition forecast	Medium	Based on current budget plan and historical trend
Operation forecast	Medium	Based on subject matter expert opinions, budget forecast and historical trends
Maintenance forecast	Medium	Data available on the existing operation expenditures used to set future budget
Renewal forecast - asset value	Low	Requires alignment with reserve contributions and estimated service life improvement itAirport
Asset useful lives	Medium	Most align with purchasing practices these should be improved and vetted annually
Condition modeling	Low	Age based with minimal condition inspection data
Disposal forecast	Low	This requires improvement to process and administration of disposals

The estimated confidence level for and reliability of data used in this DAMP is considered to be **low-medium** Confidence Level.

9.0 PLAN IMPROVEMENT AND MONITORING

Status of asset management Practices

ISO 55000 Refers to this as the asset management System

9.1. Accounting and financial data source

This DAMP utilizes accounting and financial data. The source of the data is

- Chatham-Kent 2024 - 2027 Multi-Year Budget (Capital & Operating)
- Internal Market Price Valuations
- AM Software Multi-Year Forecasting Models
- Council Reports
- Financial Exports from various systems.
- Fleet procurement documents

9.2. asset management data sources

This DAMP also utilizes asset management data. The sources of the data are;

- Asset Registers
- asset management Data Collection Templates
- Insurance Data
- Tangible Capital Asset Data
- Building Condition Assessment Data
- Fleet Vehicle Data
- Inspection Logs
- Subject Matter Expert Knowledge and Anecdotal Information

9.3. Continuous Improvement Plan

It is important that Chatham-Kent recognizes areas within the DAMP and within its planning processes that require future improvements to ensure effective asset management and informed decision making. The tasks listed below are essential to improving the DAMP and the Municipality's ability to make evidence based and informed decisions. These improvements span from improved lifecycle activities, improved financial planning, and plans to physically improve the assets.

The improvement plan, **Table 9.3.1**, highlights proposed improvement items that will require further discussion and analysis to determine feasibility, resource requirements and alignment to current workplans. Future iterations of this DAMP will provide updates on these improvement plans. The costs and resources to complete each of these tasks has not been included in the lifecycle models to data, and resource requirements would need to be reviewed for internal resource driven projects

The improvement plan generated from this DAMP is shown in **Table 9.3.1**.

Table 9.3.1: Continuous Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Identification for funding for capital projects	airport Staff, Finance, AQ&M	15 Hours FTE Time	Ongoing
2	Assess criticality of assets	airport Staff, AQ&M	30 Hours FTE Time	2024
3	Undertake condition assessment of all-critical assets and document in asset management System	airport Staff, AQ&M	GIS Apps, Building condition assessment	2024-2025
4	Complete customer satisfaction surveys to inform levels of service	airport Staff, AQ&M	40 Hours of FTE time (Within Existing Capacity)	2024-2025
5	Prepare Infrastructure Risk Management Plan	airport Manager, AQ&M	8 Hours FTE time (Within Existing Capacity)	2024-2027
6	Completed Lifecycle models for movement area	airport Staff, AQ&M	8 Hours FTE time (Within Existing Capacity)	2025
7	Complete regulated airport inspections,	airport Manager	TBD in 2025	2025
8	Link future DAMPS to the budget process and the long-term financial plan	airport Staff, Finance, AQ&M	40 Hours of FTE (Within Existing Capacity)	2025-2027
9	Lifecycle model for Terminal building	airport Staff, AQ&M	8 Hours FTE time (Within Existing Capacity)	2026
10	Lifecycle model for airport fuel system	airport Staff, AQ&M	8 Hours FTE time (Within Existing Capacity)	2027

The improvements detailed above are intended to ensure that the airport is able to achieve a sustainable service over time. Some of the initiatives are required to meet legislative requirements and other initiatives are to improve service or data quality and while not legislative, are intended to find financial efficiencies or are required for other operational improvements.

Certain improvements can be accomplished within staffing capacity and should be included as work plan for the airport upon council approval. Other initiatives necessitate resources beyond those allocated in the current budget. Should resources be inadequate for the identified items, the strategy is to postpone them. Annually, the DAMP will be revised to align Continuous Improvement items with the opportunities and constraints of the budgetary provisions.

9.4 Monitoring and Review Procedures

This DAMP will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The DAMP will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the LTFP or will be incorporated into the LTFP once completed.

The DAMP has a maximum life of 1 year and will be updated annually. This plan will receive a complete revision and update in 2027 to enable the Chatham Kent airport to be prepared for the 2028 four-year budget process.

9.5 Performance Measures

The effectiveness of this DAMP can be measured in the following ways:

- The degree to which the required forecast costs identified in this DAMP are incorporated into the long-term financial plan.
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' work program trends provided by the DAMP.
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans.
- The Asset Renewal Funding Ratio achieves the Organizational target (this target is often 90 – 100%).

Document Control

Rev No	Date	Revision Details	Author	Reviewer	Approver
1	August 2024	1st Detailed Asset Managment Plan	Akshara Pallippadan	Director, Public Works	Chatham-Kent Council

For more information, email
To view all the asset management plans, visit
www.chatham-kent.ca/assetplans