Chatham-Kent

DETAILED ASSET MANAGEMENT PLAN | 2024

Municipal Fleet

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Chatham-Kent Fleet Report Card

200 abstracts checked

10 vehicles replaced

20 fuel sites owned

$500K value of parts stock

Annual Funding Gap	Asset Renewal Ratio	% of 10-Year Plan Funded
-$456,786	TBD 2025	95.42%

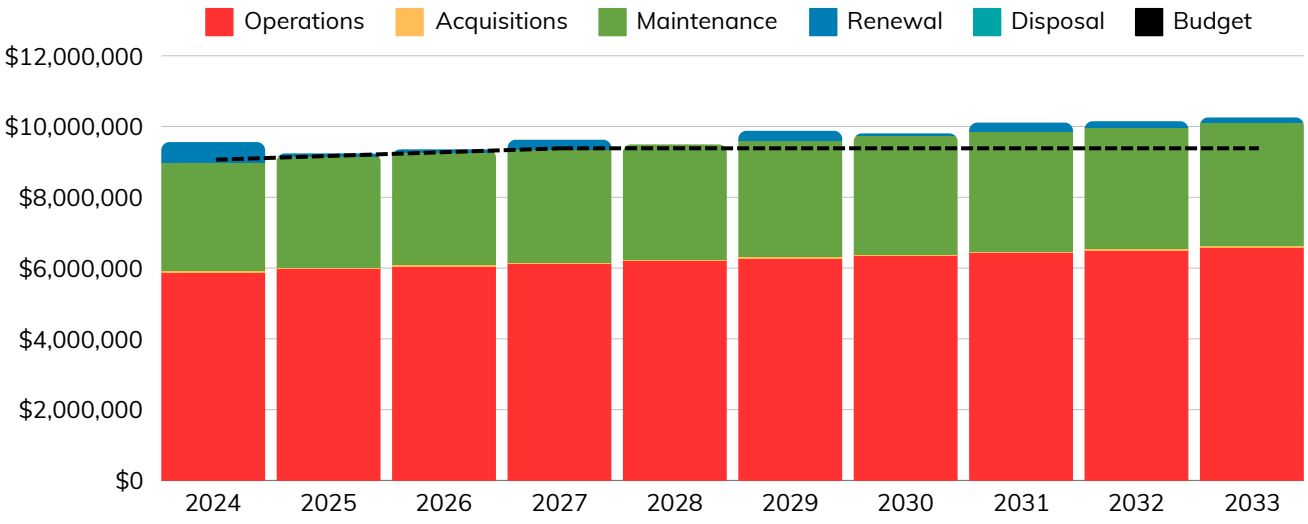
Asset Summary

Assets	Items	Replacement
	1 Fleet garage	$4,621,412
	27 vehicles	$542,000
	22 pieces of equipment	$1,130,000

Assets	Items	Replacement
	20 fuel sites	$849,500
	24 software & hardware	$265,520
	parts stock	$500,000

$7.9M+ Total Replacement Cost

10 Year Life Cycle Forecast



Data Confidence Low Medium High

2.0 INTRODUCTION

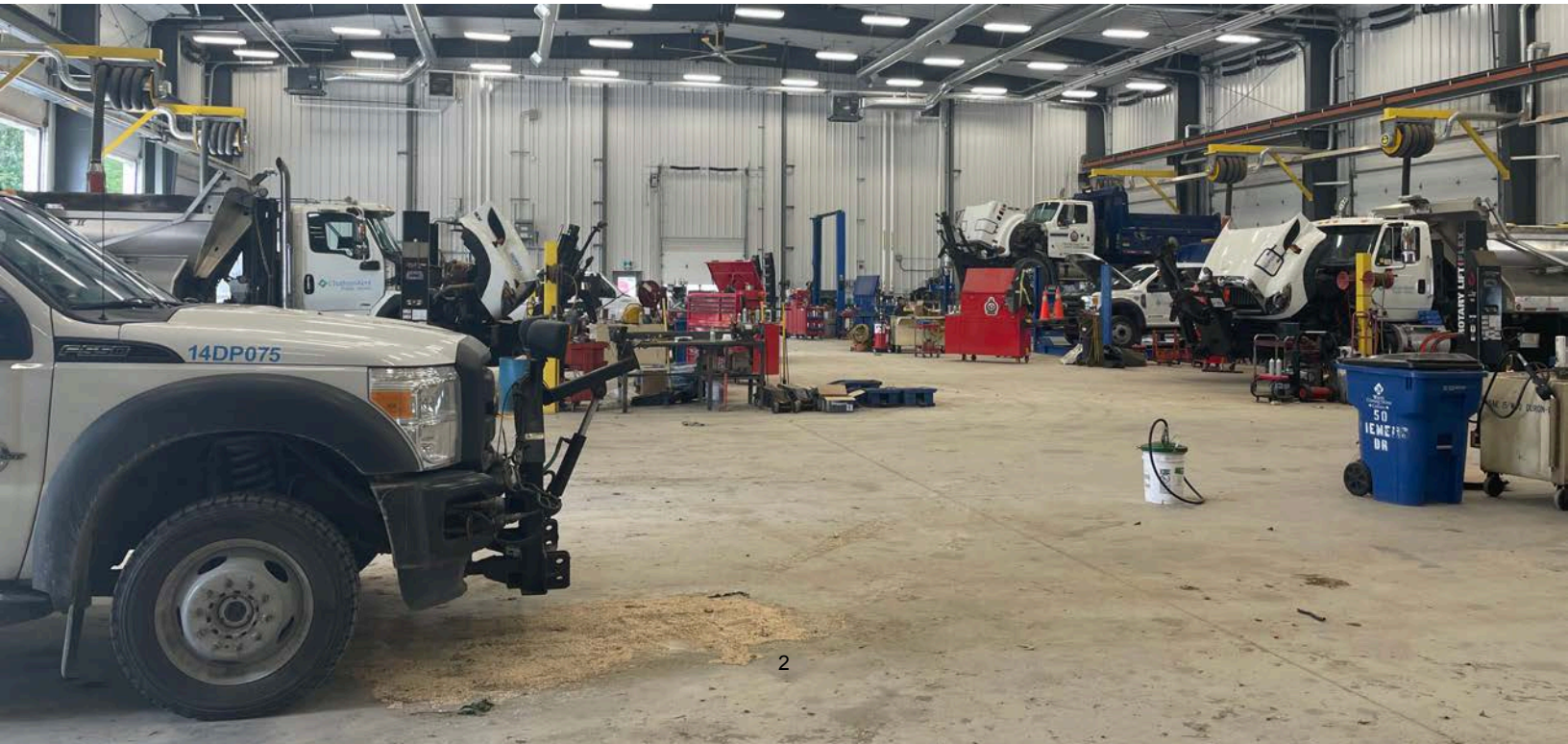
2.1 Background / Purpose of Services

Chatham-Kent Fleet (hereafter referred to as “Fleet”) plays a crucial role in the daily operations of the municipality, overseeing the efficient management and maintenance of the various department vehicles, which are comprised of multiple vehicle types for various municipal services. Fleet has 15 full-time equivalent (FTE) employees and supports multiple types of vehicles and equipment that are utilized by different municipal departments to deliver services to the public, such as;

- Emergency Services Vehicles – Ambulances, Fire Apparatus – Pumper Trucks, Ladder Trucks,
- Police – Cruisers, Support Vehicles,
- Public Works – Backhoes, Dump Trucks, Snow Ploughs, Graders, Pickup Trucks

Fleet oversees the training and compliance of equipment operations and manages the Automated Vehicle Locator (AVL) Systems and municipal fuel sites.

The central goal of this plan is to enhance the strategic management of Fleet infrastructure and related services. It outlines new and existing infrastructure to optimize long-term financial resource utilization, minimize risks, and present a prioritized approach to ensure service continuity and improvements over a 10-year planning horizon.



In the late 1990s, the Fleet emerged through the amalgamation of several former smaller municipalities that had various needs and approaches to managing their own Fleet needs. A task force was established to comprehend the operations of these prior entities, collect their data, and ultimately establish Fleet. The operational team consisted of three mechanics stationed in two garages - Chatham and Wallaceburg. Additionally, there were four administrative and management personnel.

In the 2000s, the municipality expanded the service areas, leading to a growth in Fleet assets. Consequently, Fleet hired two additional mechanics. Introducing off-site services, Fleet launched new mobile offerings. More administrative staff were recruited following changing organizational dynamics and increased administrative responsibilities to sustain the service levels necessary during that expansion. In 2009, a Fleet Compliance Officer was established, tasked with overseeing legislative and regulatory matters, along with the fueling program for the entire municipality, which introduced modern fuel sites and enabled automated fuel usage tracking.

In the 2010s, Fleet expanded by incorporating two additional mechanics to enhance service level agreements (SLA). Another service enhancement was introduced to extend mobile coverage, and additional vans were acquired to improve mobile Fleet support when vehicles needed maintenance at remote locations. Fleet procured an AVL system to monitor Fleet assets, ensure compliance, and monitor routes for cost-saving efficiencies.

Recently, Council approved the construction of a new Fleet garage in Chatham, consolidating all Fleet employees within one facility. Centralizing the Fleet location to a single garage allows the service to execute tasks more efficiently and promptly in the upgraded space through sharing expertise and a centralized parts solution.

This is the first detailed asset management plan (DAMP) for the Chatham-Kent Fleet. 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 of delivering the Fleet. The intention is to update the plan annually to ensure data quality improves and to enable and support evidence-based decisions.

This DAMP will have a **ten-year** planning horizon at a minimum and will connect fully to the Long-Term Financial Plan (LTFP) by 2027. This Fleet DAMP will communicate the requirements for the sustainable delivery of services through the management of assets,

program delivery, compliance with regulatory requirements, and funding required to provide the appropriate levels of service over the entire planning period.

The Fleet DAMP is guided by the Chatham Kent Strategic Asset Management Policy as well as other pivotal planning documents such as:

- Policies and bylaws
- municipality of Chatham-Kent – Strategic Plan 2022-2026
- 2024 - 2027 Multi-Year Budget
- Short-term and long-term financial plans

This DAMP encompasses infrastructure assets related to Chatham-Kent Fleet s, comprising Fleet vehicles, facilities, equipment, fuel yards, Information technology (IT), and office administration. Various departments utilize these assets to deliver public services.

The DAMP addresses infrastructure assets specific to Fleet, which are essential for delivering Fleet s. 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 estimated replacement value of **$7.9 Million.**

Key stakeholders in the preparation and implementation of this DAMP are shown in **Table 2.1**.

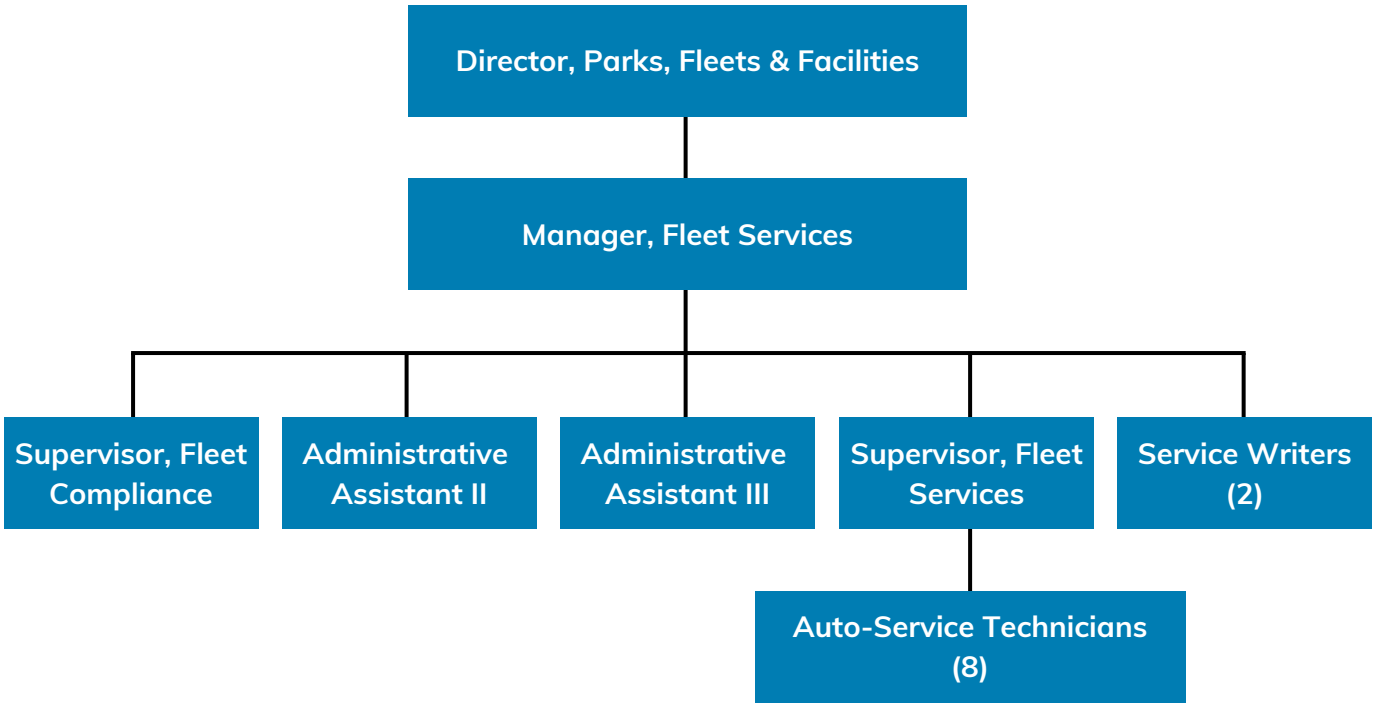
Key Stakeholder	Role in Asset Management Plan
Chatham-Kent Council	• Distribute resources to achieve planning objectives in service provision while effectively mitigating risks. • Support asset management initiatives to enhance understanding and guide decision-making. • Allocate funding to sustain the desired level of service throughout the entire life cycle. • Council priorities guide DAMP.

Key Stakeholder	Role in Asset Management Plan
Mayor / CAO	• 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.
General Manager, Infrastructure and Engineering Services	• Allocate resources to meet the organization's objectives in providing services while managing risks. • Overall responsibility for Asset Management provides leadership in influencing decision-making processes related to Asset Management.
Director, Parks, Fleets and Facilities	• Overall responsibility for Fleet, provides leadership in influencing decision-making processes related to Fleet.
Fleet Team	• Manages the regulatory requirements, safety management system, Fleet operations, and safety program. • Reviews, updates, and manages regulatory manuals and risk registers. • Support the measures outlined in the DAMP to improve asset management and service delivery. • Provide feedback to improve DAMP.
Asset and Quality Management	• Establish top-level priorities for the development of asset management and increase awareness of this function among staff and external contractors. • Assist the Asset Management-Driven budget and Long-Term Financial Plan with a 10-year horizon.
Internal users	• Engage in facilitated discussions to enable the municipality to comprehend the user's preferred level of service. • Express support for the DAMP.

Fleet Organizational Chart

The organizational structure for service delivery from infrastructure assets for Fleet 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 asset, including condition, age, replacement cost, and asset-specific information (e.g., length, diameter, material, etc.). The Fleet asset registry is currently structured as an asset hierarchy, explained below.

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

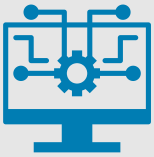
Service Hierarchy	Service Level Objective
Fleet garage, vehicles, and fuel sites.	Asset class to provide Fleet to internal customers.
Employees, Equipment, and tools, AVL, IT.	Specific components of Fleet that enable the asset class to deliver its services.

Asset Registry

The Fleet assets covered in this plan include a Fleet garage, vehicles, heavy equipment, 14 fuel pumps, 6 natural gas refueling sites, parts inventory, and other light-duty equipment to provide services to multiple internal and external municipal customers, including, but not limited to, Public Works, Fire and Emergency Services, Police Services, and the Public Utilities Commission. The assets included in this DAMP are shown in **Table 2.2.2**.

Table 2.2.2: Fleet Assets

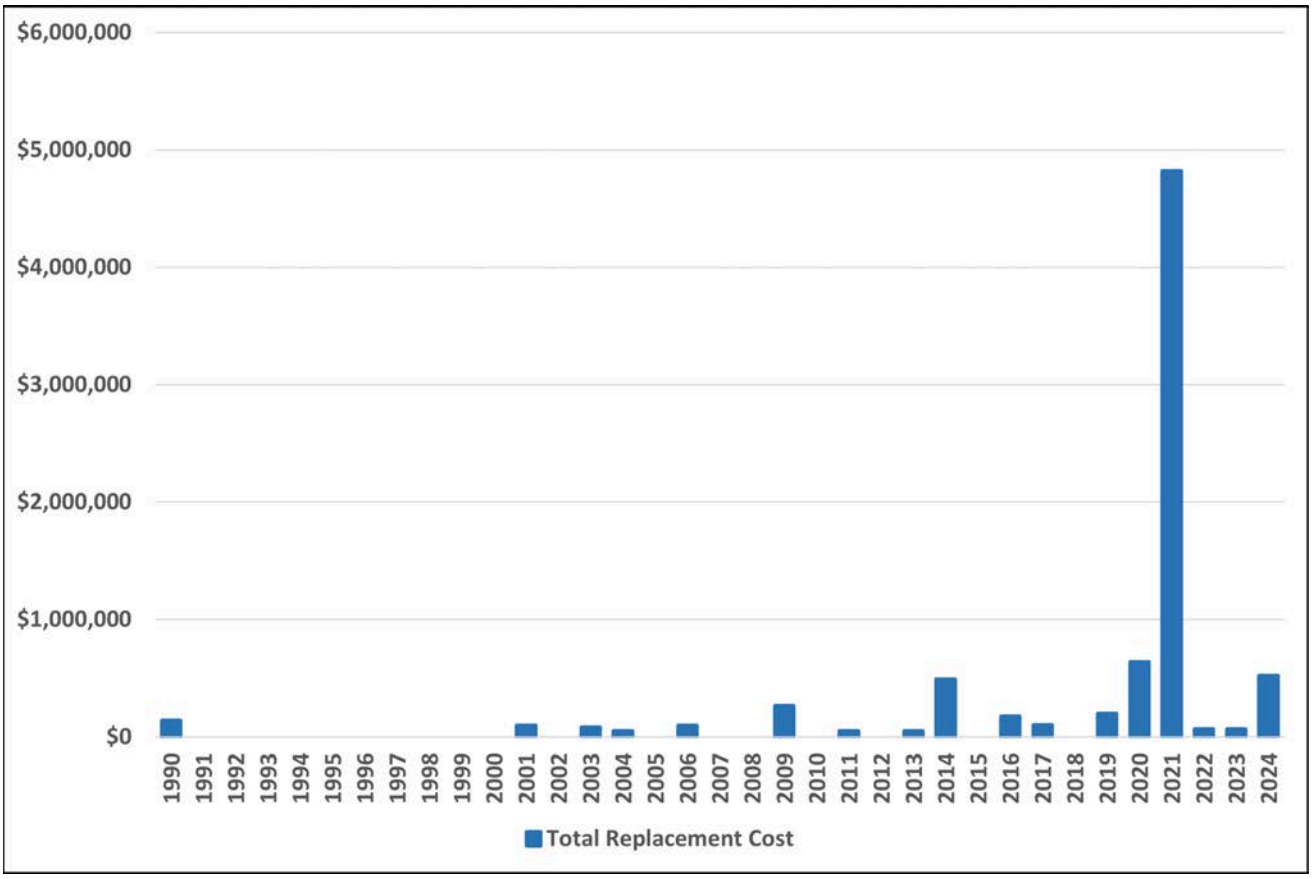
Asset Category	Description	Age or Average Age	Average Condition	Avg Estimate Service life Remaining	Current Replacement Value
 **Vehicles**	4 service van, 1 pick-up, 1 forklift, and 20 non-replaceable pick-up	8 Years	Fair	2 - 7 years	**$542,000**
 **Facilities**	1 Fleet garage	3 Years	Very Good	37 Years	**$4,621,412**
 **Equipment**	small tools, 6 lift hoist, 2 power washer, 1 compressor, and other equipment	4 Years	Fair	16 Years	**$1,130,000**
 **Fuel Sites**	14 fuel pumps	20 Years	Poor	0 Years	**$ 734,960**
	6 natural gas refueling sites	20 Years	Poor	0 Years	**$ 114,540**

Asset Category	Description	Age or Average Age	Average Condition	Avg Estimate Service life Remaining	Current Replacement Value
 **ITT & Administration Hardware**	10 laptops	5 Years	Good	3 Years	**$51,050**
	2 printers	5 Years	Good	3 Years	**TBD 2025**
	5 cell phones	5 Years	Good	3 Years	**$7,235**
	5 landline phones	5 Years	Good	3 Years	**$7,235**
 **Software**	2 software	TBD 2025	TBD 2025	TBD 2025	**$200,000**
 **Parts Inventory**	TBD 2025	TBD 2025	Very Good	TBD 2025	**$500,000**
				Total Rep Value	**$7,908,432**

All values are shown in 2024 dollar values.

The initial plan attempts to include all assets required to deliver the Fleet . However, it is acknowledged that as this is the first DAMP, additional assets will be included in the future. As the 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 plan's data confidence is sufficient to support evidence-based investment decisions. Age is a mandatory measurement required by **O.Reg. 588/17**. The age profile of the assets included in this DAMP is shown in **Figure 2.2.3**.

Figure 2.2.3 Assets Age Profile Graph



All values are shown in 2024 dollar values.

Acquisitions for the Fleet were less than **$1M** in all the years except 2021 when the spike in investment cost was allocated due to the completion of the new Fleet garage, which added **$4.6 M** in expenditures.

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. Conditions are not currently monitored, and age is the default parameter. Until condition assessments have been completed, age-based data and professional opinion will be utilized.

Although condition rating is the preferred measurement for planning, many assets in the Fleet 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.**

Conditions are measured using a 1 – 5 grading system, as detailed in **Table 2.3.1**. A consistent approach to reporting asset performance enables adequate 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 beyond rehabilitation, immediate action required

The condition needs to be consistently and formally monitored. The municipality of Chatham-Kent intends to develop a formal condition rating system for Fleet assets in 2025.

2.4 Asset Capacity and Performance

Assets are generally provided to meet design standards where these are available. However, performance deficiencies still need to be identified. Additional deliberation will occur, and further performance deficiencies will be pinpointed in subsequent versions of this DAMP.

3.0 LIFECYCLE MANAGEMENT

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

Once Fleet acquires an asset, the municipality must 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, the Fleet must approach its asset planning with a long-term view to ensure it effectively manages the asset and assists in making informed choices.

3.1 Acquisition Plan

Acquisitions are the lifecycle activities that add new assets that did not exist before 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 upgrade 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 entity's needs.

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

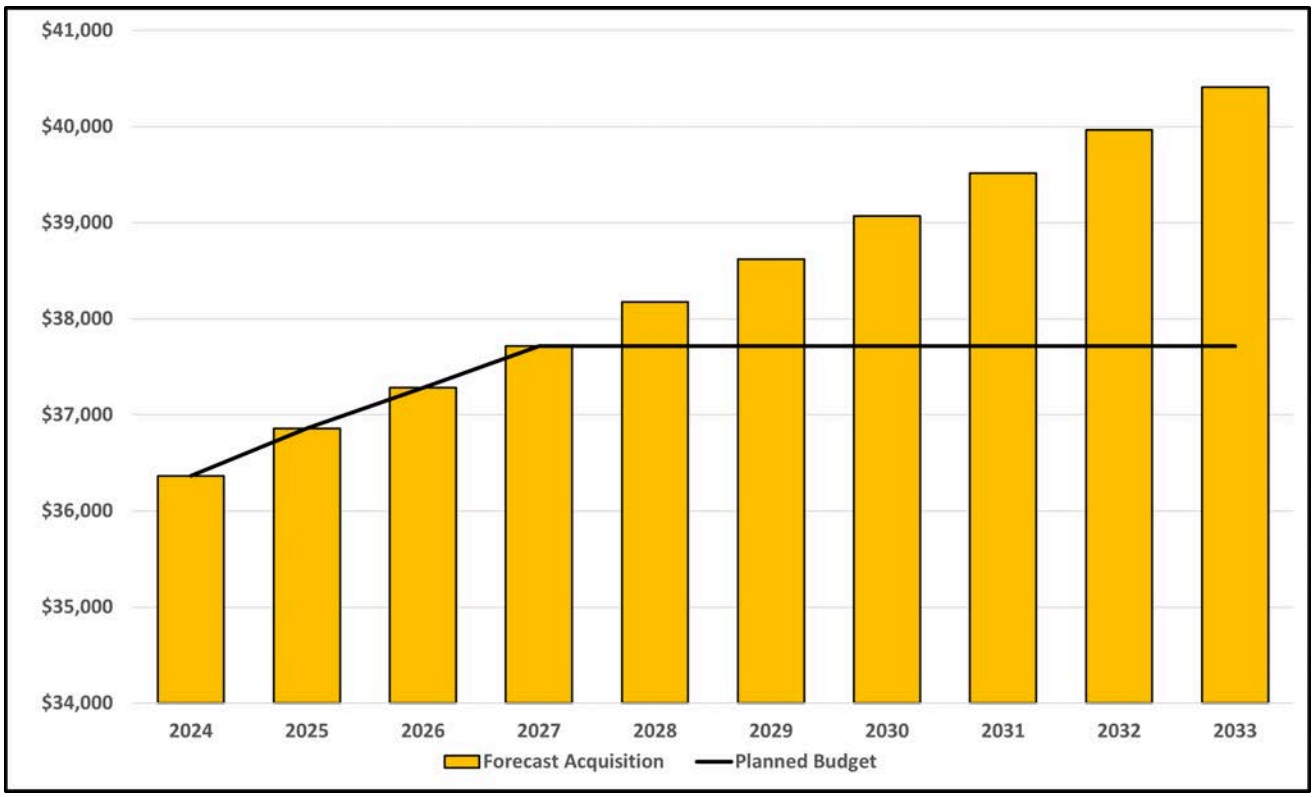
Table 3.1.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Growth donated assets	80 %
New service requests	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. **Figure 3.1.1** illustrates the acquisition costs for Fleet over a 10-year planning period. The budget line matches the required costs from 2024 to 2027, but starting from 2028, the budget falls short of the projected acquisition costs. This indicates the necessity of considering an increase in the allocated budget amount.

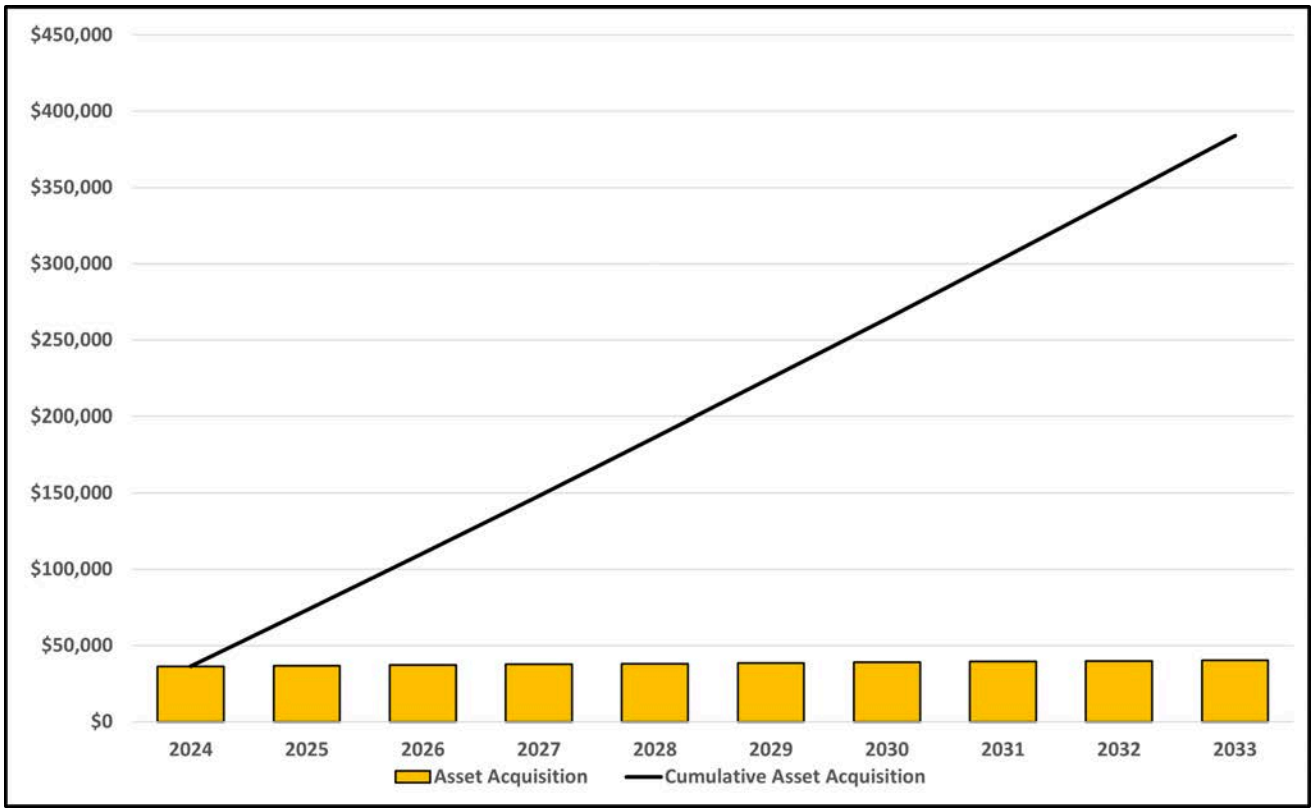
Figure 3.1.1: Acquisition (Constructed) Summary



All figure values are shown in 2024 dollar values.

When an entity commits to new assets, it must be prepared to fund future operations, maintenance, and renewal costs. Long-term sustainability must also account for future depreciation. When examining the long-term impacts of asset acquisition, it is helpful to consider the cumulative value of the acquired assets being taken on by the Entity. The cumulative value of all acquisition work, including contributed and purchased assets (constructed), is shown in **Figure 3.1.2**.

Figure 3.1.2: Acquisition Summary



All figure values are shown in 2024 dollar values.

Figure 3.1.2 illustrates asset acquisitions over a 10-year planning period, with the black line indicating cumulative asset acquisition. Each year's cumulative asset acquisition is the sum of acquisitions from previous years within the planning period. By 2033, the cumulative asset acquisition is projected to approach **$400,000**.
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.

3.2 Operations Plan

Operations include regular activities to provide services. Examples of typical operational activities of the Fleet include:

- Opening hours,
- Regular inspections on fuel sites,
- Ensuring all operators are compliant with license requirements,
- Provide necessary training to the internal users and activities required by legislative requirements.

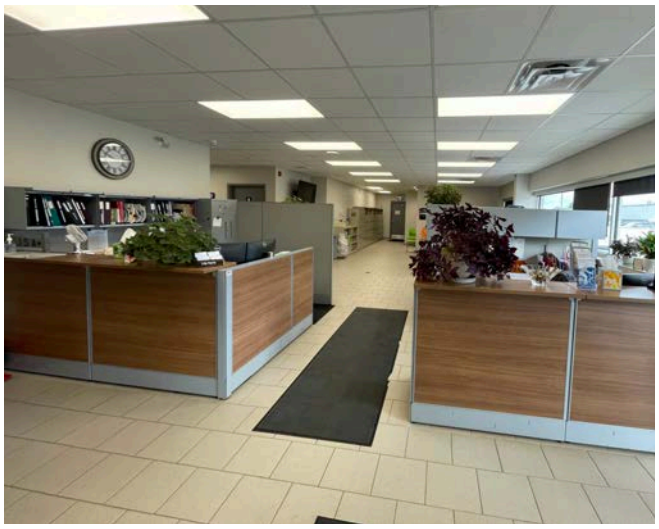
These activities are necessary for the regular day-to-day operations of the Fleet.

Fleet Garage

The Fleet garage, constructed in 2021, is a 3-year-old facility valued at **$4,621,412**, with a projected lifespan of 40 years. Regular inspections are conducted annually, including those for fire extinguishers, compressors, and hoists. A budget of **$40,438** is allocated for **2024**, with planned increases to **$41,661** in 2025, **$42,816** in 2026, and **$44,006** in 2027. The garage handles all in-house services and remains in excellent condition.

Chatham-Kent Fleet Garage

Fleet Administrative Area



Fleet Maintenance Garage

Fleet Vehicle

Fleet relies on Fleet vehicles, including four well-equipped service vans, for daily operations, each with a useful life of **8 years** and a replacement cost of approximately **$100,000**. These vans were acquired in 2014, 2017, and two in 2019. Additionally, there are several pickup trucks in the Fleet.

Fleet Van

Fleet Pick-up

Compliance and Training

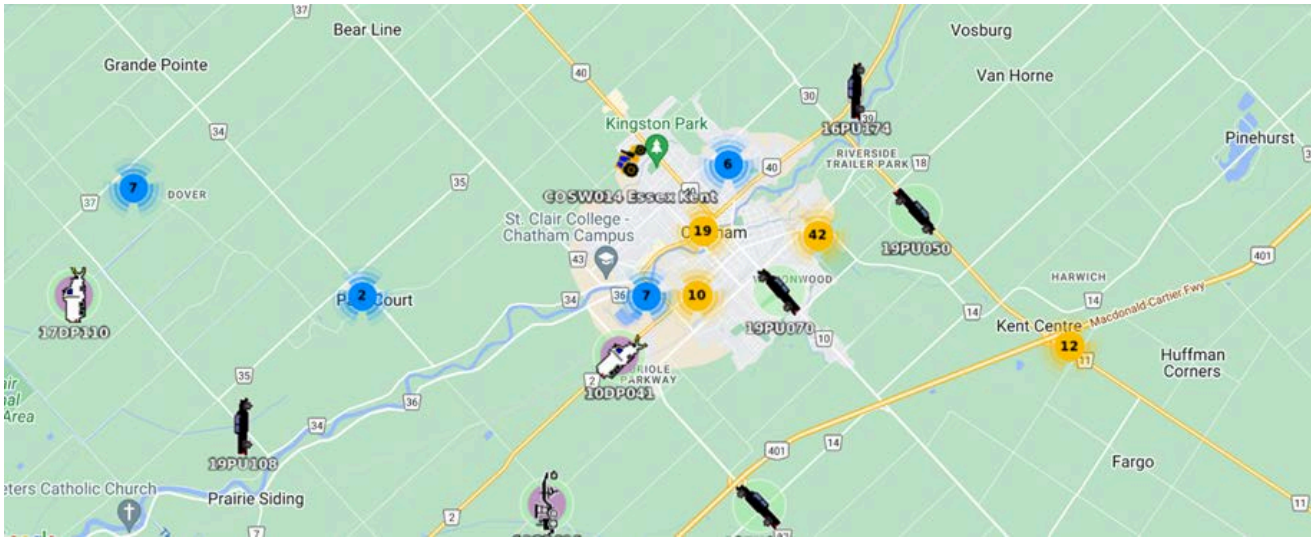
Fleet prioritizes ensuring all municipal Fleet drivers hold valid licenses and meet the Ministry of Transportation Ontario (MTO) standards. This involves conducting thorough checks on the driver abstracts of all new hires to ensure adherence to regulations. Additionally, ongoing monitoring ensures that existing operators maintain driver records in compliance with municipal policies, enabling them to perform the necessary levels of service effectively.

Fleet provides and coordinate training for any employee operating municipal Fleet assets. This includes refresher training, training for new employees, and training for new assets acquired by the municipality.

AVL

AVL is a technology that automatically identifies and sends the geographical coordinates of a vehicle. These coordinates, gathered from one or more vehicles, are collected by a vehicle tracking system to give an overview of vehicle movement. About **60%** of the Fleets vehicles are equipped with AVL. Reports can be generated as needed, serving purposes such as monitoring driver conduct. About **$100,565** is budgeted in the year **2024** for AVL radio airtime.

Figure 3.2.2 AVL Monitoring



Fuel Sites

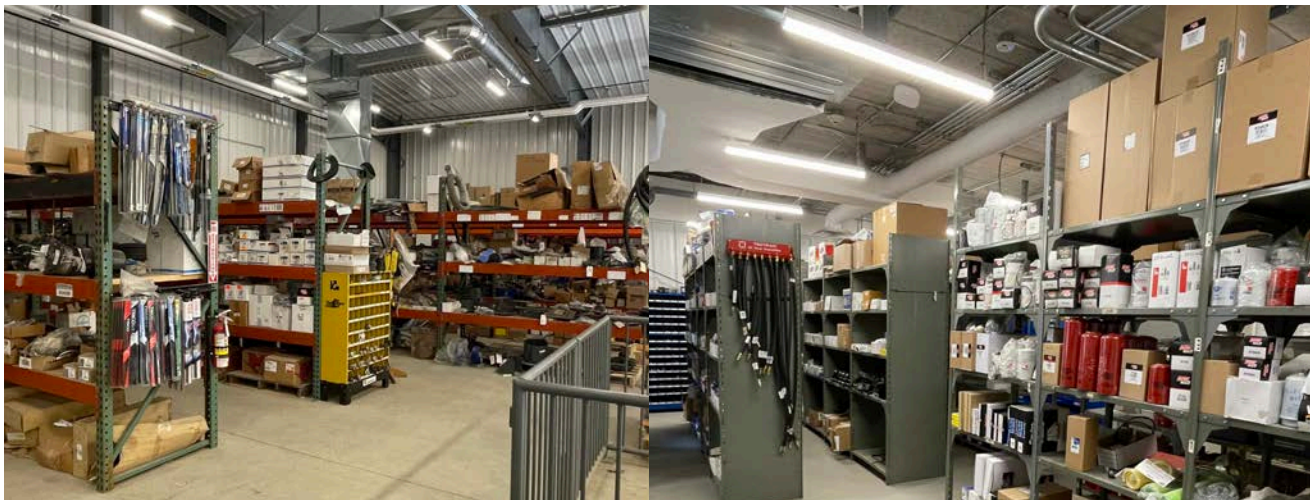
Fleet oversees and administers municipal fuel sites throughout Chatham-Kent, including 6 natural gas refuelling sites with a replacement value of $114,540 and 14 fuel pumps valued at $734,960. The fuel pumps are installed on concrete pads above the ground surface to mitigate the risk of soil pollution and enhance inspection efficiency.

As these fuel sites are near the end of their service life, plans are underway to renew them in 2025 and 2027. These upcoming developments aim to ensure continued fuel service provision and adherence to environmental standards.

Chatham-Kent Fuel Pump

Inventory

Parts inventory is important for the smooth operation of the municipal Fleet. Parts availability helps minimize downtime and optimize the maintenance schedule.



Parts Inventory

Shop Equipment

In addition to facilities and vehicles, Fleet have an array of equipment, including power washers, diagnostic tools, pro jacks, lift hoists, trolley jacks, bottle jacks, plasma cutters, compressors, and toolboxes for the auto technician staff. These inventories enhance the capability of Fleet to carry out all necessary operations.

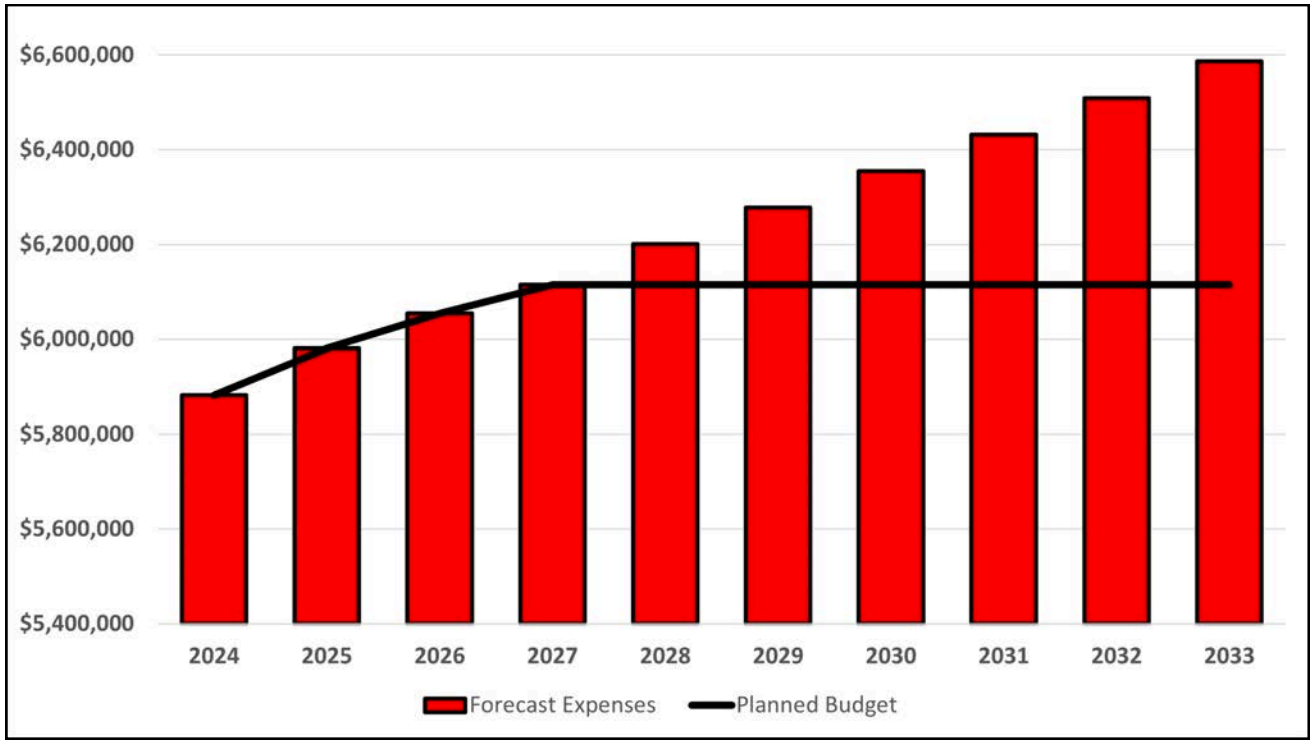
Inspections

Fleet conducts essential inspections on all municipal vehicles, the Fleet garage, and municipal fuel sites. These inspections ensure that all Fleet vehicles requiring MTO annual inspection are assessed consistently and under regulations. This proactive approach helps maintain the safety and operational efficiency of the Fleet and associated facilities.

Summary of Forecast Operations Costs

Forecast operations costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, future operations and maintenance costs will increase. If assets are disposed of, the forecast operation 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 inadequate to meet projected service levels over the 10-year planning period. In the initial years of the plan (2024 - 2028), operations are funded adequately enough that there will be little to no impact on service levels. Across the entire planning period, however, the projected allocation is insufficient funding to meet all operational obligations.

Future iterations of the DAMP will need to consider obligations to prioritize required safety and regulatory operational activities. With more operational dollars in the 10-year planning horizon, more must be done to ensure a higher level of service.

Table 3.2.2: Operations Budget Trends

Year	Operation Budget
2024	$5,883,000
2025	$5,981,000
2026	$6,054,000
2027	$6,114,000

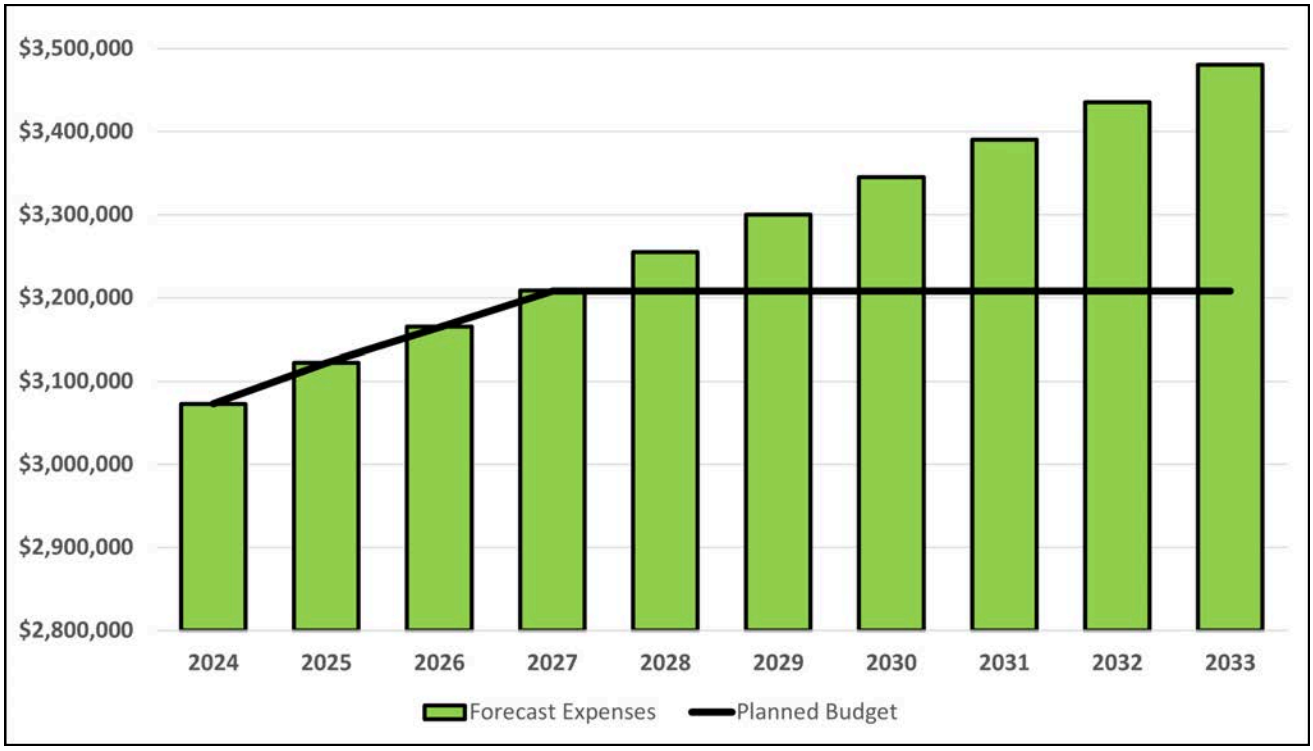
3.3 Maintenance Plan

Maintenance budget levels are considered adequate to meet projected service levels, which may be less than or equal to current service levels. 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. They are highlighted in this DAMP, and service risks are considered in the Infrastructure Risk Management Plan.

Summary of Forecast Maintenance Costs

Forecast maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, future maintenance costs will increase. If assets are disposed of, the forecast maintenance costs are expected to decrease. **Figure 3.3.1** 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 inadequate 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 little to no impact on service levels. Across the entire planning period, however, the projected allocation is insufficient funding to meet all maintenance obligations.

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 highlighted in this DAMP, and service risks are considered in the Infrastructure Risk Management Plan.

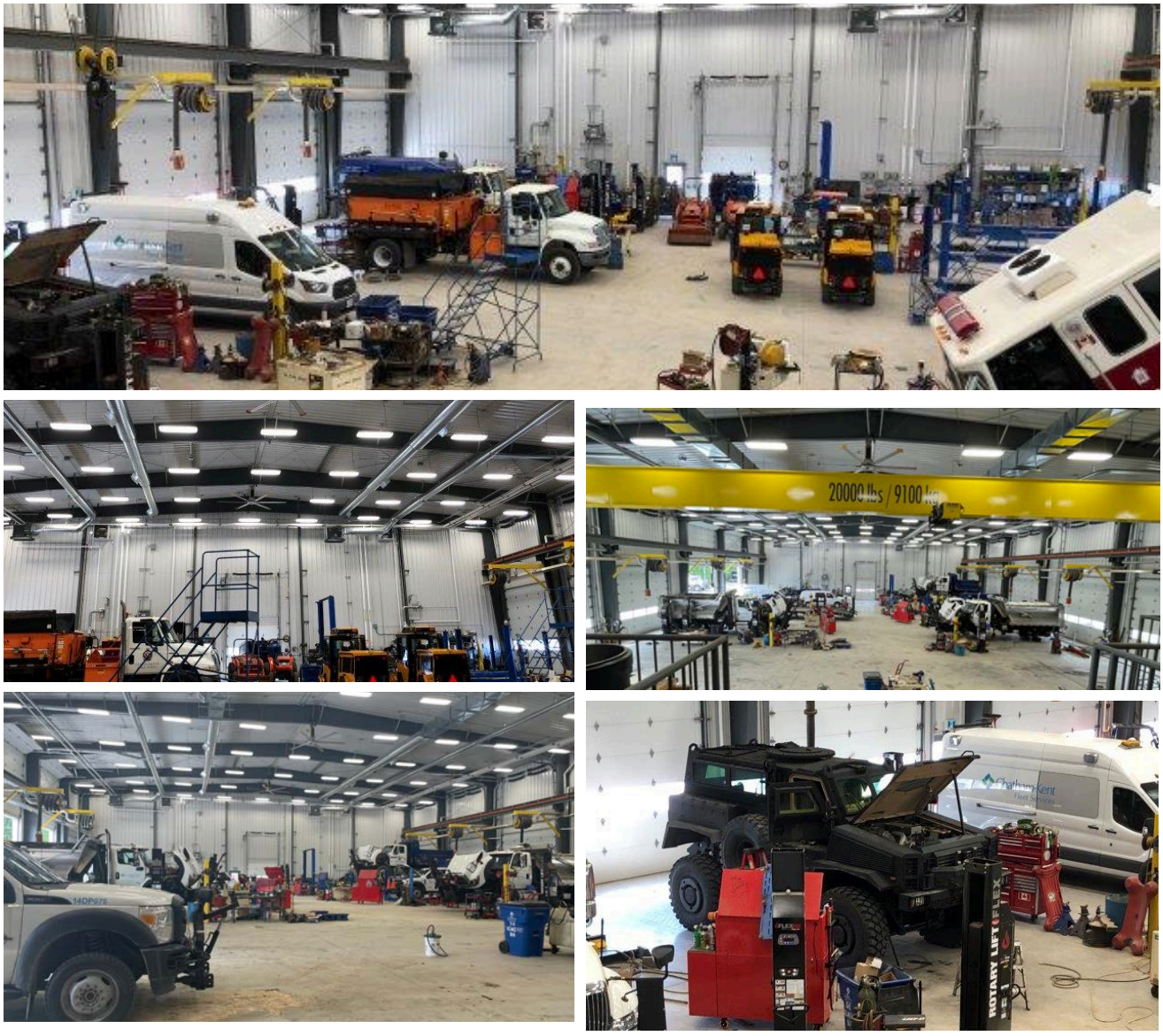
Staff assess and prioritize reactive maintenance using experience and judgment.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating. Typical maintenance activities include oil changes, brake service, and other repairs.

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

Table 3.3.2: Maintenance Budget Trends

Year	Maintenance Budget
2024	$3,073,000
2025	$3,122,000
2026	$3,165,000
2027	$3,208,000



Repair Facility in Fleet Building

3.4 Renewal Plan

Renewal is major capital work that 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 beyond 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). **Table 3.4.1** shows the typical useful lives of assets used to develop projected asset renewal forecasts**.** Asset useful lives related to the Fleet were last reviewed on **May 1, 2024.**

Table 3.4.1: Useful Lives of Assets

Asset (Sub) Category	Useful Life
Fleet garage	40 years
Vehicles • Passenger vehicles/Pick-up trucks • Forklift • Service Van	 7-8 years 20 years 8 years
Fuel sites	20 years
Equipment • Power Washer • Bottle Jack • Iv Ironworker • Compressor • Lift Hoist	 10 years 10 years 10 years 20 years 20 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 assets to deliver the service (e.g. renewal of Fleet van)
- To ensure the asset is of sufficient quality to meet the service requirement

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

- A 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 a comparable service

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

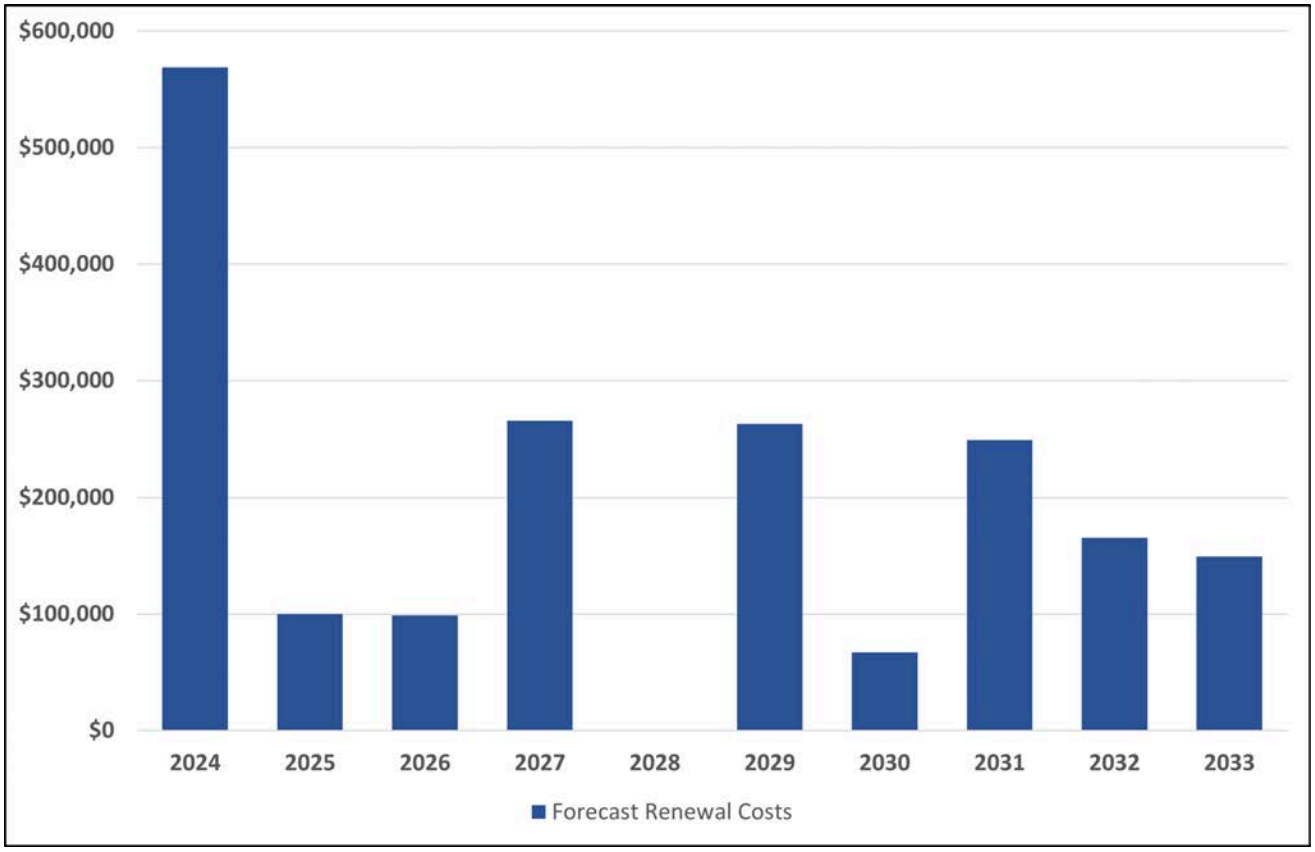
Table 3.4.3: Renewal Priority Ranking Criteria

Criteria	Weighting
Condition is 4 or less (Grading scale 2.1.3)	80 %
Capacity Improvement	10 %
Asset Failure	5 %
Coordinated with other asset replacement	5 %
Total	**100%**

3.5 Summary of future renewal costs

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

Figure 3.5.1: Forecast Renewal Costs 2024 - 2033



All figure values are shown in 2024 dollar values.

Figure 3.5.1 displays the expenses for renewing Fleet assets between 2024 and 2033. The renewal costs in 2024 are notably higher compared to other years due to the backlog of assets needing renewal from previous years. The funding for renewing Fleet assets primarily comes from the Fleet reserve.

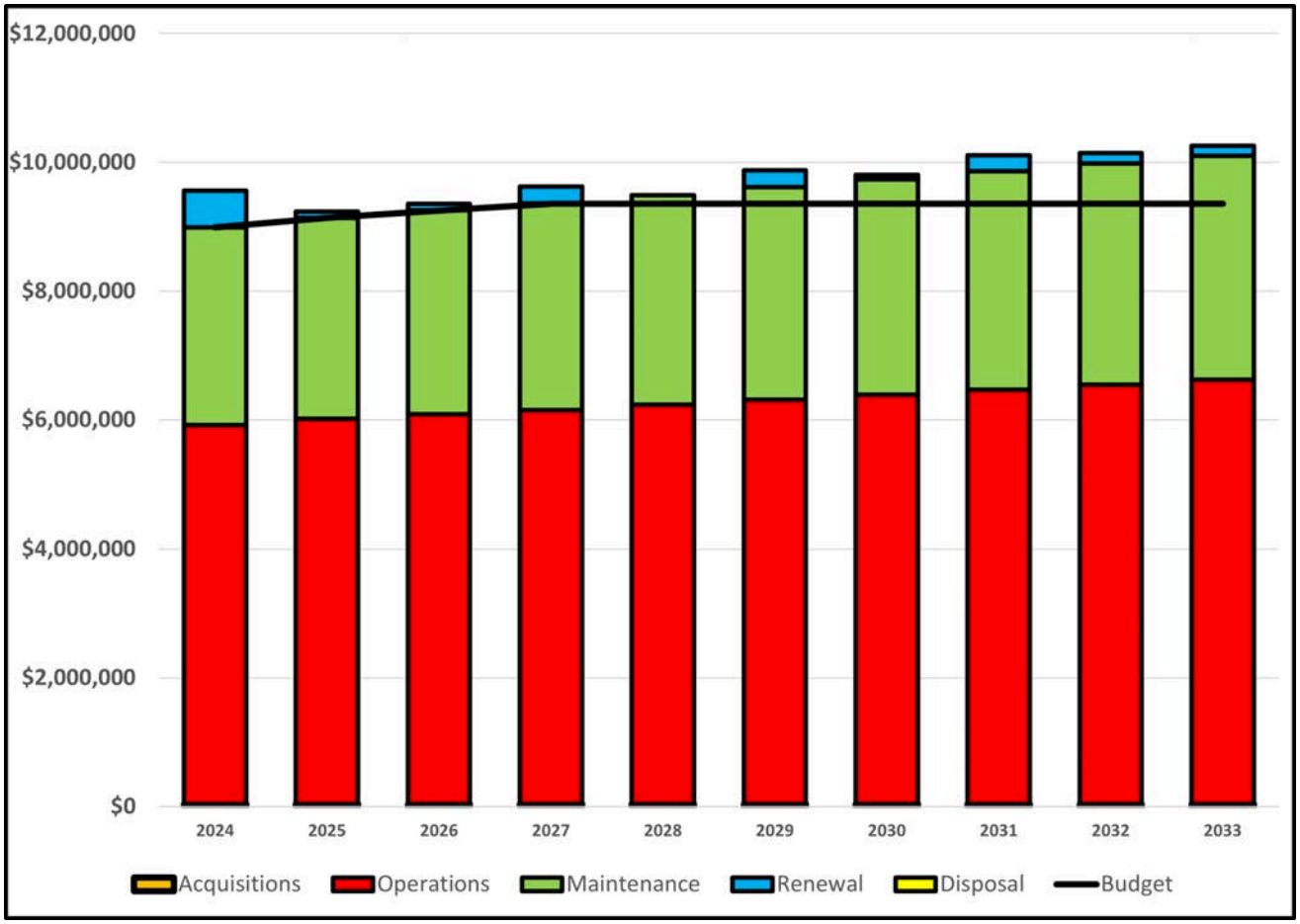
3.6 Disposal Plan

Disposal includes any activity associated with disposing a decommissioned asset, including sale, demolition or relocation. Currently, Fleet don't have any disposal plan for the desired period. The long-term financial plan would include any costs or revenue gained from asset disposals. In the future, if there are any disposals identified, it will be communicated 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 acquisition, operation, maintenance, renewal, and disposal costs. 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 estimated amount of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving a balance between costs, levels of service and risk to achieve the best value outcome.

Figure 3.7.1: Life Cycle Summary



All figure values are shown in 2024 dollar values.

Figure 3.7.1 presents a lifecycle summary for Fleet over a **10-year** planning period, encompassing operation, maintenance, renewal, acquisition, disposal, and budget.

Acquisition begins at **$36,366** in 2024 and gradually increases to **$40,412** by the planning period's end. Operational and maintenance costs rise steadily each year, starting at **$5,883,095** and **$3,072,999**, respectively, in 2024 and reaching **$7,055,185** and **$3,749,282** by 2033.
Renewal costs vary over the years, with no renewals planned in 2028. The high renewal cost in 2024 is due to backlogged renewals from previous years. There are no asset disposals scheduled during the planning period.

Budget constraints persist throughout the period due to backlogged renewals and increased operational and maintenance costs.

4.0 LEVELS OF SERVICE

Levels of service describe the value Fleet provide to the community and are typically spoken about in ‘measures.’ Utilizing service measures allows decision-makers to understand the outcome of investments, allowing 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 about the cost of the services 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 complies with all legislation, from Federal to Provincial or even Chatham-Kent's bylaws. There are many legislative requirements relating to asset management. Legislative requirements that impact the delivery of Fleet are outlined in **Table 4.1.1**.

Table 4.1.1: Legislative Requirements

Legislation	Requirement
Ontario Regulation (O. Reg) 239/10, Automobile Insurance Reporting Information	All municipal vehicles are required to have current Commercial Insurance
O. Reg. 174/22, Classes Of Vehicles Requiring Annual and Semi-Annual Inspections	Vehicles with combined GRWR over 4500 kg require an Annual Inspection Sticker
O. Reg. 169/22, Vehicle Emissions	Auxiliary Emissions Control devices on Commercial vehicle must be tested annually.
O. Reg. 398/16, Road-Building Machines	Defines 'Road Building Machinery' and provides regulations for Ontario Roads
O. Reg. 473/07, Licenses for Driving Instructors and Driving Schools	Provides the requirements for Driving Instructors for the issuance and renewal of licenses
O.Reg.199/07, Commercial motor vehicle inspections	Commercial Motor Vehicle Inspections are to be performed daily in accordance with Ontario Schedule 1 inspection criteria.
O.Reg.413/05, Vehicle weights and dimensions- for safe, productive, and infrastructure-friendly vehicles	Provides Vehicle Weight Tables and rules for different combinations of vehicles.
O.Reg.363/04, Security of Loads	Compliance with National Standard for Requirements for Cargo Securement System
O.Reg.209/01, Elevating devices	The Occupational Health and Safety Act (OHSA) Industrial Establishment regulation (Reg 851) requires lifting devices to be inspected at least once a year

Fleet comply with the above-noted regulations, most of which are under the **Highway Traffic Act (HTA)**. The HTA is legislation in Ontario, Canada, overseeing vehicle licensing, traffic offence classification, load administration, vehicle classification, and other transportation matters. The Act, originating in 1923 to address rising accidents during the early days of motoring in Ontario, replaced prior legislation like the Highway Travel Act.

The regulations listed above relate to the following:

- Classes of vehicles necessitating annual and semi-annual inspections
- Vehicle emissions, emission control systems, and the obligatory annual testing of auxiliary emissions control devices for commercial vehicles
- Road-building machines, encompassing graders, scrapers, loaders, rollers, compactors, tracked and wheeled tractors, off-road excavators, and off-road mobile cranes
- Driving instructor's licenses and their requirements
- Insurance for all vehicles

CK Fleet also ensures the fire department complies with some of its required regulations. This includes conducting annual inspections and certifications of all fire department chassis-mounted aerial devices as per O. Reg 714/94, and testing fire pumps annually at full rated capacity to verify their ability to deliver the rated flow as per O. Reg. 213/07.

4.2 Customer Research and Expectations

The preparation of this DAMP aims to facilitate consultation before the municipality of Chatham-Kent adopts specific levels of service. Subsequent revisions to the DAMP will include customer consultation regarding service levels and the associated costs. This approach will aid the council and stakeholders in aligning the required level of service, potential risks, and consequences with the customer's capacity and willingness to support the service financially.

Currently, there is no existing research on customer expectations. However, this aspect will be explored and examined for future updates to the DAMP.

4.3 Customer Value

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 and
- the likely trend over time based on the current budget provision

Community consultation will be undertaken to identify Customer values and expected trends regarding the planned budget and outcomes of the consultation. The values will be addressed in 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 or less of these assets?

In **Table 4.4.1,** under each service measure type (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., the number of occasions when service is unavailable or the proportion of replacement value by condition percentages) to provide a balance compared to the customer perception, which 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	Safe and accessible Fleet facility to perform required Fleet functions without interruption	Lifecycle analysis on the Fleet garage building	The building meets all necessary service standards, being only three years old.	Analysis will be performed in the future
	Confidence levels		High	Medium
Function	Fleet meets user's needs without interruption of services	Based on customer satisfaction surveys	Limited feedback from user groups	Survey being conducted in the future.
	Confidence levels		High	Medium
Capacity	Number of employees in Fleet to perform required work	Resource plan	15	15
	Confidence levels		High	Medium

Future versions of this plan will incorporate measures related to internal customers, as they are currently not included in this report. Incorporating Fleet maintenance software and enhancing performance measurement will enable the recording of customer feedback in the future. This data will be valuable in evaluating whether Fleet effectively meet the needs of internal users without interruptions. Additionally, integrating a lifecycle analysis of the Fleet garage into future plan iterations will be crucial for maintaining the building's condition and ensuring it sustains the desired level of service. The Fleet garage is a newly constructed building, completed in 2021 and now three years old. Its replacement cost is estimated at **$4,621,412**, and it is expected to have a useful life of 40 years. Considering the anticipated growth in the number of internal customers in the future, it is essential to ensure that the Fleet possess enough employees to deliver the required levels of service.

4.5 Technical Levels of Service

Technical Levels of Service -Technical levels of service describe how a service performs from the provider's point of view. They are quantified using metrics that relate directly to an asset or the service; however, these metrics are related to items that a customer would likely need to be made aware of. 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., purchasing fire trucks or pick-up trucks for various departments) or a new service that did not exist previously (e.g., a new Municipal Fleet vehicle).

Operation – the regular activities to provide services (e.g., opening hours, inspection of fire trucks and other municipal vehicles, inspections on fuel sites, 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., Municipal Fleet assets repairs, Fleet garage building maintenance),

Renewal – the activities that return the service capability of an asset up to that which it had initially been provided (e.g., renewal of municipal Fleets and Fleet garage component replacement),

Service and asset managers plan, implement, and control technical service levels to influence the service outcomes.

Service and asset managers plan, implement, and control technical service levels to influence service outcomes. **Table 4.5.1** shows the activities expected under the current 10-year Planned Budget allocation and the Forecast activity requirements 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	Acquire vehicles for new levels of service	Purchase vehicle for waste management by 2024	Vehicle schedule to be tendered	Vehicle tendered by end of 2024
		Budget	$ 62,000	$ 62,000
Acquisition	Successfully following municipal purchase bylaws during acquisition	Director reviews all RFP for compliance	100%	100%
Operation	AVL system to provide information and analytic for all operations	Percentage vehicles with AVL installed	60%	100%
		Budget	$300 per vehicle	$300 per vehicle
Operation	Ensure Municipal Fleet Operators are compliant with licensing requirement (new and current)	Total number of driver abstracts checked in 2023.	200	Increase in the future

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Operation	AVL system to provide information and analytic for all operations	Generating reports of various operational activity such as winter control and driver behaviour and other activities	100 %	100%
		Budget	50 FTE Hrs	50 FTE Hrs
Operation	Ensure Municipal Fleet Operator are compliant with licensing requirement (new and current)	All new hires have their driver abstract checked to meet licensing requirement	100%	100%
		Budget	35 FTE Hrs	35 FTE Hrs
Operation	Ensure that MTO annual inspection are being done	Inspect and repair all vehicles requiring MTO annual inspection	100%	100%
		Budget	1600 FTE Hrs in a year	Increase in the future
Maintenance	Maintenance work on the Fleet vehicles to ensure the required levels of service	vehicles undergone maintenance in 2023	100% of the repairs requested	100% of the repairs requested
		Budget	$2.37 M	Approved for variable inflationary increase for 2024 to 2027

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Maintenance	Maintenance work on the Fleet garage building to ensure the required levels of service	Annual preventative maintenance inspection performed	100%	100%
		Budget	$ 40,438	Approved for variable inflationary increase for 2024 to 2027
Renewal	Ensure the Fleet has quality vehicles to ensure less reactive maintenance	Number of vehicles that are being renewed in 2024 using Fleet reserve funding	10	TBD
		Budget	$ 3.76 M	TBD
Renewal	Ensure the fuel sites are environmentally safe and fit for use	Number of sites to be renewed in the next 10-years using Fleet reserve funding	None this year	3 sites by 2027
		Budget	50,000 per fuel site	50,000 per fuel site
Renewal	Exploring possibilities of replacing assets with assets that produce lower GHG	Identify assets that are financial and environmentally sustainable for municipal operations	TBD in future	

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Disposal	Ensure all outfitting and municipal signage are removed prior to sending Fleet to auction	Ensured by walk-thru inspections by mechanics on the vehicle/equipment	100%	100%
		Budget	On average 2 FTE Hrs per Vehicle	On average 2 FTE Hrs per Vehicle
Disposal	Responsibly disposal of hazardous materials	Frequency of pick up for hazardous materials	Twice every year	Twice every year
		Budget	$2000 per year	$2000 per year

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

5.0 FUTURE DEMAND

5.1 Demand Drivers

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

5.2 Purpose Statement

This DAMP is prepared under the direction of the Municipality of Chatham-Kent's vision, mission, goals and objectives.

The Municipality of Chatham-Kent's vision is:
A welcoming, healthy, prosperous community that is culturally rich and naturally innovative.

The Municipality of Chatham-Kent's mission is:
The Corporation of the Municipality of Chatham-Kent is a proud, proactive, progressive team committed to innovation and leadership through the provision of services that enhance the quality of life in our community.

The Chatham-Kent Council has set strategic goals. **Table 5.2.1** summarizes the relevant goals and objectives and how these are addressed in this DAMP.

Table 5.2.1: Goals and how these are addressed in this Plan

Council strategic priorities	Objectives	How Goal and Objective are addressed in the DAMP
Deliver excellent service	Improve the level of services to achieve desired outcome required to maintain the Fleet in good working order	• This plan will provide Council with sufficient information to inform investment decisions and seeks to achieve the proper value for money across the planning horizon. • A lifecycle approach to asset management will also help Council achieve financial sustainability and intergenerational equity over time.
Grow our community	Strategic investments to diversify, rationalize assets and level of services	An assessment of demand drivers was conducted as part of a DAMP to effectively respond to the growth of the community and the municipal internal users.

Council strategic priorities	Objectives	How Goal and Objective are addressed in the DAMP
Ensure environmental sustainability	Reduce climate footprint and increase resiliency of municipal operations.	Proactive Environmental mitigation strategies will be addressed in the Climate Change section
Community Engagement	The voice of the community is reflected in municipal decision-making.	Customer feedback will be noted in the customer Level Of Service (LOS).

5.3 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.

5.4 Demand Impact and Demand Management Plan

Table 5.4.1 shows the impact of demand drivers that may affect future service delivery and asset use.

Demand for new services will be managed by managing existing assets, upgrading existing assets and providing new assets to meet demand and demand management. 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 5.4.1**. Further opportunities will be developed in future revisions of this DAMP.

Table 5.4.1: Demand Management Plan

Demand Driver	Current Position	Projection	Impact on services	Demand Management Plan
Population	105, 529	120,000	Expanding acquisitions are being pursued to counteract the consequences of increase in service levels.	Ensure that forthcoming acquisitions are proportionate and well-suited to the size of the population.
Growing Services	15 full-time employees	15 full-time employees	Inability to manage services in-house effectively will need to enlist the support of external vendors.	Addition of new mechanic(s) based on need.
Environmental Sustainability/ Regulations	None	Number of electric/hybrid vehicles will increase	Failure to add electric/hybrid vehicles will increase dependence on fossil fuels and GHG emissions.	Ensuring municipality can fund green growth
Technological Advancement	Fleet currently utilizes various applications as part of its day-to-day operations.	Increasing reliance on technology for better data collection and analysis for increased efficiency.	Technology should enhance Fleet operations.	Ensuring employees are trained to use it to get the best out of it.

The population significantly influences Fleet s' service delivery. The current population in the municipality of Chatham-Kent stands at **105,529** and is projected to be **120,000** in a 10-year horizon, resulting in an increased service area for all the departments. This will demand Fleet to expand acquisitions. With the population growth, the Fleet size is expected to increase, potentially leading to challenges in performing services in-house and an increased reliance on external vendors.

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 Mt CO2 eq, constituting **1.5%** of global GHG emissions. In response, the municipality of Chatham-Kent aims to diminish its carbon footprint by augmenting the use of electric/hybrid vehicles in the future.

Integrating technology in Fleet will furnish valuable data, facilitate informed decision-making, and enhance efficiency. Technological advancements are poised to drive demand for Fleet s, emphasizing the need for comprehensive employee training to harness new technologies effectively and manage their implementation.

5.5 Asset Programs to meet Demand

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

Acquiring new assets will commit the Fleet to ongoing operations, maintenance, and renewal costs for the period for which 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

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. ISO 31000:2018 defines risk management as ‘coordinated activities to direct and control with regard to risk’.

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. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event happen. The risk assessment should also include the development of a risk rating, evaluating the risks and developing a risk treatment plan for those risks deemed unacceptable.

6.1 Critical Assets

Critical assets are defined as those with a high consequence of failure, causing significant loss or reduction of service. Critical assets have been identified, and 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	Accident/tornado/fire	• Failure to be able to deliver service. • Higher cost to contract out service temporarily. • Higher building cost. • Increased operational cost.
Winfuel	System / hydro failure	• Seeking other fuel sources. • Higher operational cost.
Skyhawk	System failure	• One-time replacement cost. • Failure to meet legislative compliance.

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 selecting treatment 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, the development of a risk rating, the evaluation of the risk and the 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 the residual risk and treatment costs of implementing the selected treatment plan**.** It is essential that these critical risks and costs are reported to management and the council.

Table 6.2.1: Risks and Treatment Plans

Asset Providing the Service	What can Happen	When can it occur	Existing controls	Risk Rating	Treatment Cost
Fuel Sites	Leakage in fuel sites causing soil pollution.	Any time	- Estimating the accurate service life of the Fuel sites. - Continuous inspections monthly to ensure the safety of the fuel sites.	Low	**Unknown**
Employees	Retirement	Any time	Knowledge transfer to current and new employees.	Low	**70 FTE hrs**

Asset Providing the Service	What can Happen	When can it occur	Existing controls	Risk Rating	Treatment Cost
Skyhawk	Device failure	Any time	Replace AVL system on Fleet asset.	Low	**$ 300 per vehicle**
Winfuel	System failure	Any time	Informing ITT	Low	**Unknown**
Service van	Breakdown / Accident	Any time	Replace / Repair asset	Very Low	**$100,000**
Hoist	Breakdown	Any time	Replace / Repair asset	Very Low	**$100,000**
Parts Inventory	Parts unavailable	Any time	Find another source	Very Low	**Unknown**

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions, we must understand our capacity to 'withstand a given level of stress or demand' and respond to possible disruptions to ensure continuity of service.

We do not currently measure our 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 achieving the optimum benefits from the available resources.

6.4.1 What cannot be done

Some operations and maintenance activities and capital projects cannot be undertaken within the next ten years. These include:

- Fully fund capital upgrades and replacements
- Increase operations, maintenance, and renewal activities to achieve industry-standard benchmarks.
- Meet maintenance requirements of any new assets acquired by donation or because of a transfer of responsibility cannot be funded under current budgets.
- Mitigate all risks.

6.4.2 Service trade-off

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

- The condition of Fleet garage, Fleet vehicles, and infrastructure will continue to deteriorate, resulting in a lower level of service.
- Lack of maintenance and renewal may compromise intergenerational equity.

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:

- As the condition of assets deteriorates, they may become unsafe.
- If Fleet assets do not meet current standards, the Authority could be at risk of litigation should an incident occur.
- We must prioritize maintenance and renewal works on components with very high safety risks and defer work on low- to medium safety risks.

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 may significantly impact the assets we manage and the services we provide. In the Asset Management Planning process, climate change can be considered a future demand and a risk.

The impacts of climate change on assets will vary depending on the location and the type of services provided, as will the way in which we respond to and manage those impacts.
At a minimum, we consider how to manage our existing assets, given the potential climate change impacts for our region.

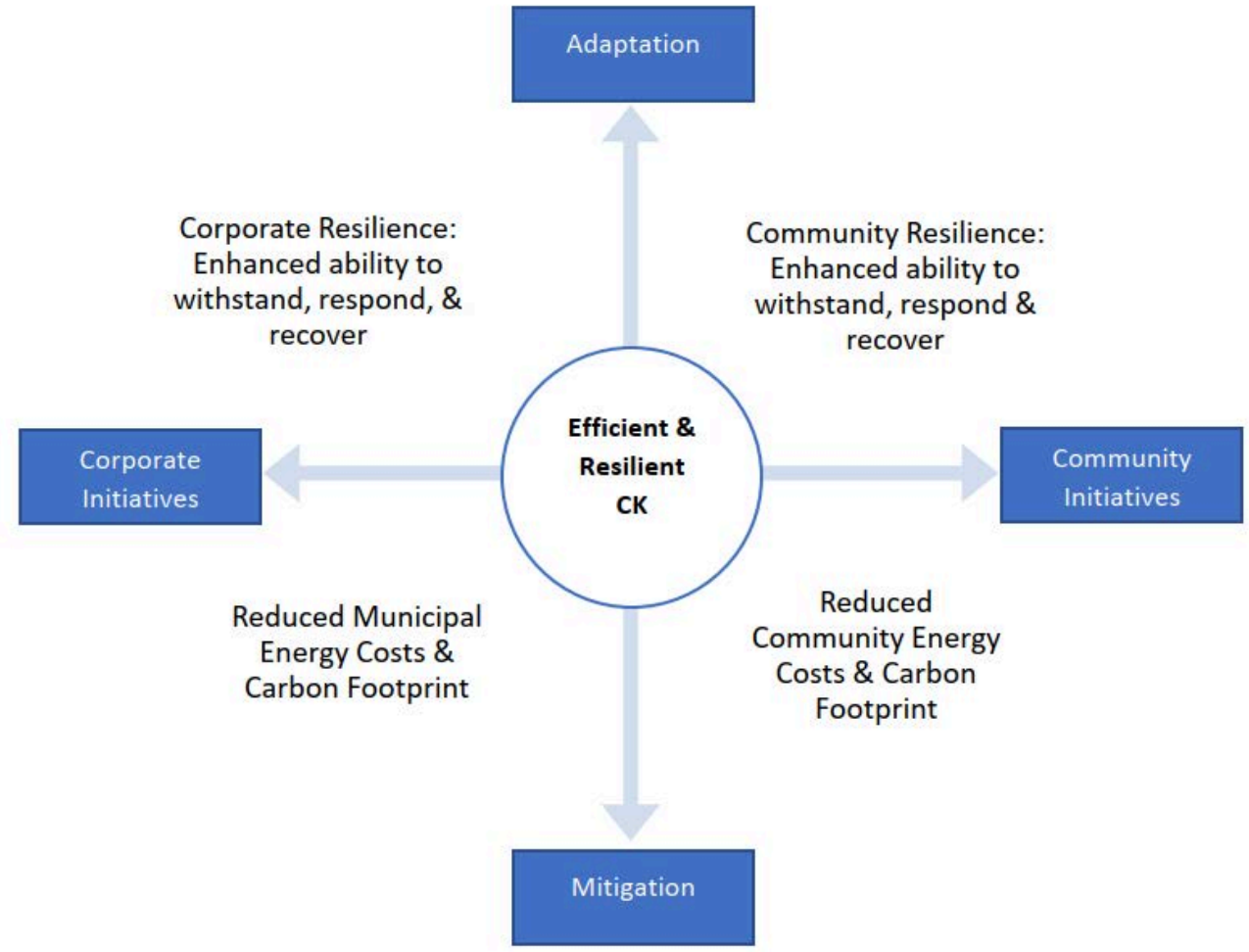
Climate change may significantly impact the assets CK manages and its services. In the Asset Management Planning process, climate change can be considered a future demand and a risk.

The impacts of climate change on assets will vary depending on the location and the type of services provided, as will the way in which CK responds to 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; and
- 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, to name a few.

Recognizing these continuing climate change impacts, the 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 completing its CCAP, which will be presented to the Council and the public by the end of 2024. The CCAP actions presented in the CCAP report document will inform the Climate Section of the DAMPs in 2025. The CCAP actions will also be presented within the departments 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 six decades, and this trend is expected to continue.

Hotter: Average annual temperatures have risen by 0.5°C and are expected to increase 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 grow between 78mm and 127mm (5in) by the 2080s.

Wilder: Rainstorms 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) Risks and opportunities identified to date are shown in **Table 7.0.1.**

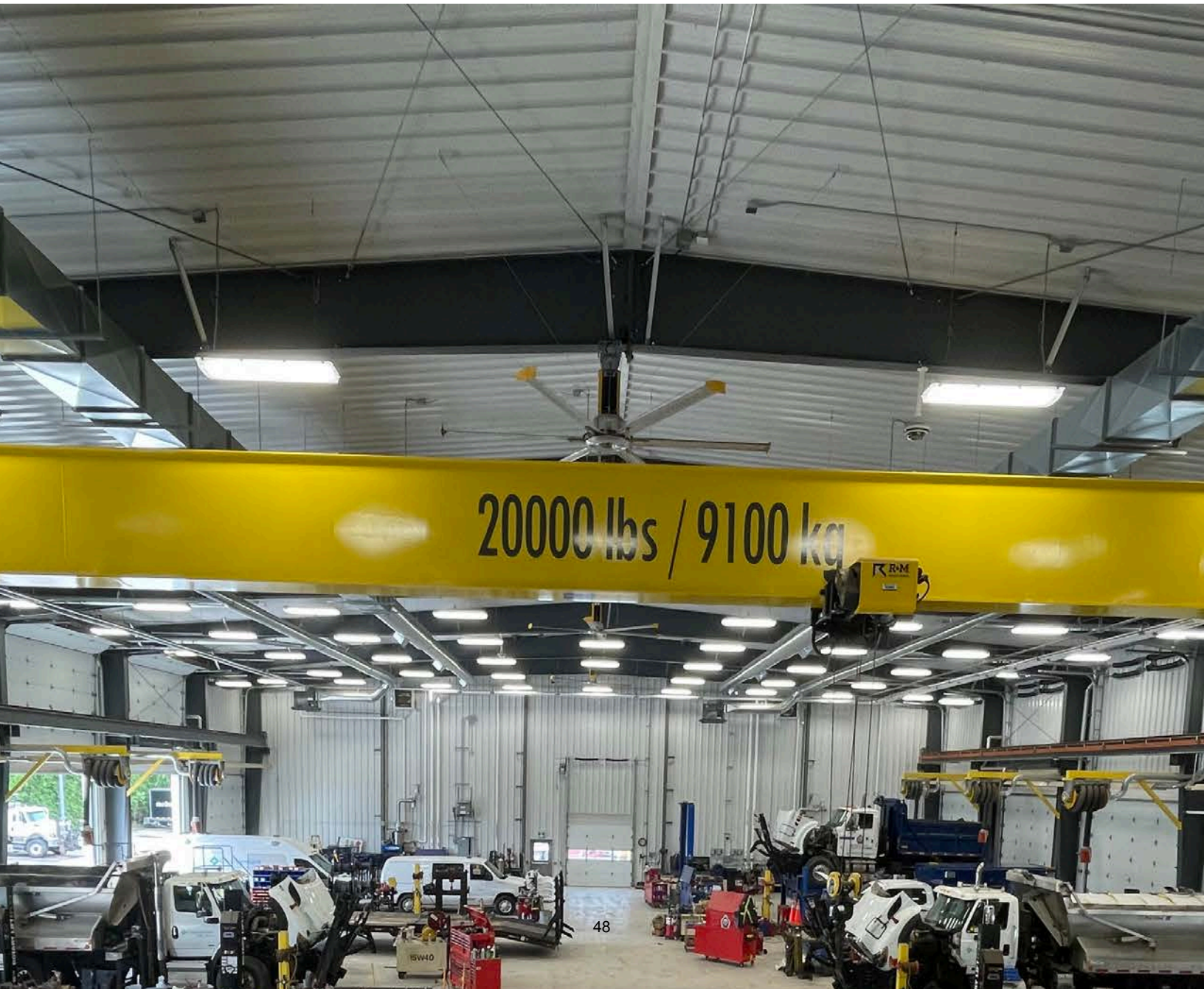
Table 7.0.1 Managing the Impact of Climate Change on the Assets and Services

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	• Overflows can potentially cause flooding resulting in damage to equipment, accident, injury, and potential disruption of services. • Potential road washouts could affect service levels, like response times.	Continuously monitor weather conditions to minimize potential impacts effectively.
Annual Very Hot Days, (+30 degrees Celsius), increase	+20 days, annually	High temperature days can impact thermal comfort of Fleet garage, and reduce expected service life of assets	Renew or upgrade building environmental systems to ensure they adapt to temperature variations.
Increase in Green House Gases (GHG) in the atmosphere	Canada targets 26% reduction in emissions as compared to 2005.	Legislations/Regulations to switch over to green vehicles or alternative fuel vehicles to achieve zero and/or reduced emissions and reducing overall energy usage.	Switch municipal Fleets over to environmentally sustainable fuel source.

Additionally, how 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, and
- Assets that can endure may 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 contains the financial requirements resulting from the information presented in the previous sections of this DAMP. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

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), and
- **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) - TBD 2025

Asset renewal funding ratio for Fleet will be determined in the future as the reserves are consolidated and time and effort are required to separate the funding.

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. As Fleet asset information improves and time passes future renewal requirements will be required. As the DAMP evolves, the planning period will extend to 20 years; at that time, significant renewal items may be identified.

Lifecycle Funding Ratio – 10-year financial planning period

The current **10-year Lifecycle Financial Ratio is 95.42%**

This DAMP identifies the forecast operations, maintenance and renewal costs required to provide an agreed, affordable level of service to the community over ten years. This provides input into 10-year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.
The forecast operations, maintenance and renewal costs over the 10-year planning period are **$9,970,707** annually.

The proposed (budget) operations, maintenance and renewal funding is **$9,513,921** on average per year, giving a 10-year funding shortfall of **$-456,786** or **$45,679** yearly. This indicates that **95.42%** of the forecast costs needed to provide the services documented in this DAMP are accommodated in the proposed budget. Note that these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires managing 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.

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 balancing 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 that further work is required to review service levels in the DAMP and/or financial projections in the LTFP. 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 Current Gap for 10-year planning period is **$456,786 or $45,679** annually.

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.

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

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2024	$ 36,366	$ 5,883,095	$ 3,072,999	$ 568,712	-
2025	$ 36,859	$ 5,981,443	$ 3,122,539	$ 100,000	-
2026	$ 37,283	$ 6,054,531	$ 3,165,248	$ 98,928	-
2027	$ 37,716	$ 6,115,508	$ 3,208,851	$ 265,520	-
2028	$ 38,175	$ 6,286,589	$ 3,300,746	-	-
2029	$ 38,622	$ 6,440,299	$ 3,390,444	$ 262,932	-
2030	$ 39,069	$ 6,594,013	$ 3,480,146	$ 67,000	-
2031	$ 39,517	$ 6,747,734	$ 3,569,853	$ 249,464	-
2032	$ 39,964	$ 6,901,457	$ 3,659,565	$ 165,520	-
2033	$ 40,412	$ 7,055,185	$ 3,749,282	$ 149,464	-
Total	**$383,983**	**$64,059,854**	**$33,719,673**	**$1,927,540**	**-**

All figure values are shown in 2024 dollar values.

8.3 Funding Strategy

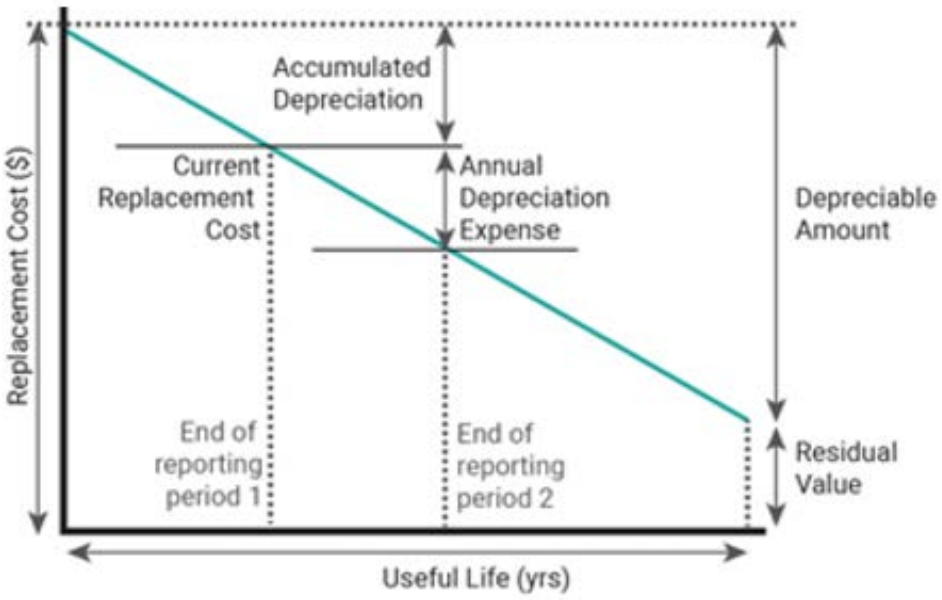
The proposed funding for assets is outlined in the operational budget and 10-year capital budget. These operational and capital budgets determine how funding will be provided, whereas the DAMP typically communicates how and when this will be spent, along with the service and risk consequences. Future iterations of the DAMP will provide more detailed service delivery options and alternatives to optimize limited financial resources.

8.4 Valuation Forecasts

8.4.1 Asset valuations

Asset values are forecast to increase as additional assets are added to the service. Net valuations will increase significantly as projections improve and can be validated with market pricing. In the longer term, additional assets will increase operations and maintenance needs and 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 remove the high-cost renewal obligations. At this time, it is impossible to separate the disposal costs from the renewal or maintenance costs; however, this will be improved for the next iteration of the plan. The best available 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)	**$7,908,432**
Depreciable Amount	**$7,908,432**
Current Replacement Cost	**$5,996,244**
Annual Depreciation Expense	**$ 340,935**

8.5 Key Assumptions Made in Financial Forecasts

Some assumptions were necessary to compile this DAMP. This section details the key assumptions made in its development and should provide readers with an understanding of the confidence level in the data behind the financial forecasts.

Key assumptions made in this DAMP are:

- Using professional judgment, assumptions were made regarding the existing and planned operation, maintenance, and renewal budget.
- The omission of disposal assets during this budget period and 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
- Replacement costs are based on current market pricing and are determined to be a like-for-like replacement
- Maintenance forecasts are based on the current budget allocated and require further refinement to align the costs with technical levels of service
- Operational forecasts are based on current budget allocations and encompass anticipated needs that are known

8.6 Forecast Reliability and Confidence

This DAMP's forecast costs, proposed budgets, and valuation projections are based on the best available data. Current and accurate information is critical for effective asset and financial management. Data confidence is classified on an **A-E scale** under **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, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B. High	Data based on sound records, procedures, investigations and analysis, 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. Dataset is complete and estimated to be accurate ± 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 ± 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 ± 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	High	Based on subject matter expert opinions
Growth projections	Medium	Demographics trending analaysis would improve data quality
Acquisition forecast	High	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	High	Requires alignment with reserve contributions and estimated service life improvement items
Asset useful lives	Medium	Most align with purchasing practices but should be improved and vetted annually
Condition modeling	Low	Age based with minimal condition inspection data
Disposal forecast	Medium	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
- 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

Chatham-Kent must recognize areas within the DAMP and its planning processes requiring 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, financial planning, and plans to enhance the assets physically.

The improvement plan, **Table 9.3.1**, highlights proposed improvement items requiring further discussion and analysis to determine feasibility, resource requirements and alignment to current work plans. Future iterations of this DAMP will provide updates on these improvement plans. The costs and resources to complete each task have yet to be 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	**Strategies for vehicles that are now being used by summer students seasonally.**	Fleet, asset & quality management (AQM)	20 full-time equivalent (FTE) hours (HRS)	2024
2	**Staffing capacity due to the retirement of experienced mechanics, investigate apprenticeship program and investing in staff (training) with Fleet and HR.**	FLEET, HR	20 FTE HRS	2024
3	**Using HRIS to make Fleet attendance/payroll efficient (all staffs trained)**	Fleet, HR	60 HRS FTE	2024
4	**Asset Management Plan (LOS, LTFP, updating plan annually)**	Fleet, AMP, Finance, User group	80 FTE HRS PER YR	2024
5	**Fleet Review: Review and Revise Policies as needed and look for efficiencies within each role.**	Fleet	80 Internal staff HRS	2024-2025
6	**Better collaboration/ communication with internal customers**	Fleet, AQM, COMMUNICATIONS	20 FTE HRS PER YR	2024-2033
7	**Green Initiative Study (EV research and alternative fuel options), Municipal EV charging station strategy, Emissions Review & Reduction Strategy**	Fleet and User Groups	CONSULTANT - 40K $	2025

Task	Task	Responsibility	Resources Required	Timeline
8	**Internal annual review on newly acquiring assets**	Fleet, AQM	10 FTE HRS PER YR	2025
9	**Identify/Implement a Fleet Maintenance Software and Inventory Management Software, Use of data and technology for better reporting and management.**	Fleet, ITT	30 HRS PER YR	2025-2027
10	**Complete lifecycle models of Fleet facilities**	FLEET, AQM, FACILITIES	10 FTE HRS	2027

The detailed improvements are intended to ensure that Fleet can achieve sustainable service over time. Some initiatives are required to meet legislative requirements, and others improve service or data quality. While not legislative, some initiatives are intended to find financial efficiencies or are required for other operational improvements.

Upon council approval, certain improvements can be accomplished within staffing capacity and should be included as work plan items for the Fleet s. 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 resulting from 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 Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The DAMP has a maximum life of 4 years and is due for complete revision and updating within one year of each Municipality of Chatham-Kent election.

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 Management Plan	Akshara Pallippadan	Director of Parks, Fleet and Facilities	Chatham-Kent Council

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