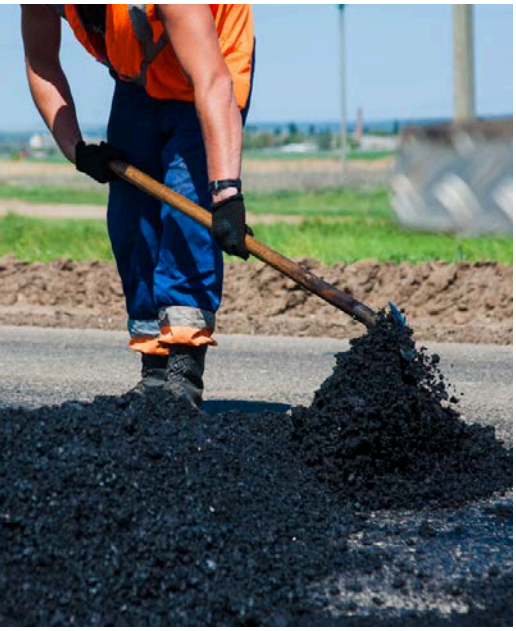
Chatham-Kent

DETAILED ASSET MANAGEMENT PLAN 2024

Overview Document



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1.0 Background & Purpose of the Overview Document

1.1 Background of the Overview Document

Chatham-Kent is a single-tier municipality located in Southwestern Ontario, established in 1998 through the amalgamation of various communities, including Blenheim, Bothwell, Camden, Chatham, the Township of Chatham, Dover, Dresden, Erie Beach, Erieau, Harwich, Highgate, Howard, Orford, Raleigh, Ridgetown, Romney, Thamesville, Tilbury East, Tilbury, Wallaceburg, Wheatley, and Zone. Covering an area of 2,458 square kilometers, Chatham-Kent ranks as the ninth largest municipality by area in Canada and is the largest in southwestern Ontario, with a population of around 108,000.

Over the past 150 years, Chatham-Kent has accumulated various assets that demand considerable effort and resources for their operation, maintenance, renewal, and eventual disposal. These assets play a vital role in delivering essential and critical services that enhance the community's well-being, safety, and prosperity. It is essential for CK to uphold its stewardship responsibilities to effectively manage these assets over time, ensuring that the community continues to benefit from the services it depends on.

In 2017, the Province of Ontario introduced *O.Reg 588/17 Asset Management Planning for Municipal Infrastructure* as part of the *Jobs and Prosperity Act, 2015*. This legislation compels Chatham-Kent to develop and integrate an Asset Managment System (AMS) within each municipality and the regulation outlines various required goals, obligations and actions.

Asset Management (AM) is defined as the **coordinated activities** of an organization to **achieve objectives** through the **balancing of costs, risks, and performance** to deliver an agreed upon **level of service**. The Detailed Asset Managment Plans (DAMP's) are key documents that are required to provide an explanation of the value the services being provided by Chatham-Kent today, and in the future.

Both the AMS and the DAMP's are intended to guide future investment decisions, manage the infrastructure gap sustainably and ensure intergenerational equity for both the current community and future generations.

The first iteration of the DAMP's utilizes the Federation of Canadian Municipalities (FCM) approach to asset management (AM) in partnership with the Institute of Public Works Engineering Australasia (IPWEA), the Institue of Asset Managment (IAMs) and NAMS (National Asset Management System) Canada framework for AM.

This overview document is intended for 2 main purposes.

1. Provide and executive summary and consolidation of the DAMPs
2. To provide an explanation of methodology utilized to create the DAMPs

1.2 Purpose of Asset Management

The primary purpose of the initial set of DAMP's is to kickstart the development of CK's AMS and to ensure that CK complies with Ontario Regulation 588/17. These foundational DAMP's are created by the Asset & Quality Management Division (A&QM), with significant contributions and support from non-core asset owners and key stakeholders across the Municipality. The DAMP's play a crucial role as an evidence-based decision-making tool for council. The DAMP's are intended to help decision makers understand the long-term and cumulative effects of their investment choices and to keep the public informed about CK's stewardship efforts in delivering services to its residents and customers.

As detailed in the Strategic Asset Management Policy adopted by Council in 2023, the main objectives of the plans are to ensure that Chatham-Kent will;

1. Provide infrastructure and services that will sustain Chatham-Kent communities over the long-term with agreed upon levels of service
2. Ensure that service delivery needs are the primary driver for infrastructure asset management practices
3. Document each service's asset life-cycle approach to managing assets
4. Implement an integrated decision support system
5. Ensure compliance with legislative requirements
6. Develop and implement 'optimal value' AM practices
7. Provide a sustainable funding model that will align with Chatham-Kent's long- term budget and planning and ensure intergenerational equity is achieved over time
8. Ensure service levels are understood and communicated effectively
9. Continually manage demand and risks in an effective and initiative-taking manner to ensure the sustainability of the services they impacts are prioritized and mitigated

The primary deliverable of the AMS consists of service-specific DAMP's, which will be updated and revised annually. This ensures that decision-makers have access to up-to-date information with a planning horizon of at least 10 years, supporting in investment decisions and clarifying the levels of service to be provided.

The DAMP's also specify which costs are optional and which are legally required, providing a comprehensive overview of the current costs associated with delivering each service. Additionally, the plan will also project future expenses necessary to sustain the existing level of service.

Another major component of the AMS is the Long-Term Financial Plan (LTFP), which links the DAMP's directly to the budgeting process. In the upcoming three years, CK will develop a LTFP that aligns current tax and rate financing strategies with the DAMP's and the service levels CK can deliver. Formulating the LTFP is essential for Chatham-Kent to facilitate timely renewals, maintain legislative compliance, and establish sustainable service levels.

The ongoing development of the AMS will enable CK to evolve from merely identifying costs to making evidence-based investment decisions that account for lifecycle costs, demand pressures, risks, financial sustainability, service levels, and climate change. The AMS provides a comprehensive framework that helps decision-makers understand the value and outcomes of their investments, ensuring they are allocated for the right services, at the right time, and at the right cost.

1.3 Key Stakeholders

Throughout the development of the AMS, it is crucial for everyone involved to understand their roles and responsibilities. They must be clearly communicated and understood to facilitate the successful implementation and maintenance of the AMS. The chart below details the high-level responsibilities for those involved in the AM process.

Table 1.3.1: Key Stakeholders in the DAMP

Key Stakeholder	Role in Asset Management Plan
Mayor & Chatham-Kent Council	• Distribute resources to achieve planning objectives in service provision while effectively mitigating risks. • Back asset management initiatives to enhance understanding and guide decision-making. • Allocate funding to sustain the desired level of service throughout the entire life cycle. • Represent the needs of the community
CAO	• Advocate for the adoption of asset management principles within the organization. • Advocating for sufficient resources to foster the development of staff knowledge and skills, facilitating the implementation and ongoing enhancement of asset management practices.
General Managers	• Championing the AMS integration across departments and divisions to ensure Asset Managment practices and methodologies are integrated and adopted. • Endorsing each DAMP within their divisions • Advocating for sufficient resources to ensure legislative compliance and to meet agreed upon levels of service

Key Stakeholder	Role in Asset Management Plan
Manager of Asset & Quality Management	• Overseeing the creation of the corporate wide AMS and its ongoing growth and maintenance. • Developing and maintaining asset management strategies, training, plans and procedures • Ensuring DAMPs are delivered in a regular and timely manner to support evidence-based decision and long-term financial planning. • Regularly reporting on the status and effectiveness of asset management within the Municipality of Chatham-Kent
Managment & Staff	• Participating in AM training and development opportunities to create and sustain AM awareness across the municipality. • Supporting the ongoing development of the AMS by adopting best in practice AM activities and procedures. • Assisting in the development of DAMPs through the continuous improvement initiatives and continued growth of asset knowledge. • Adopt an evidence-based approach to asset planning that incorporates costs, risk, and performance across the entire lifecycle.
Community	• Engage in facilitated discussions to enable the municipality to comprehend the community's desired level of service.
Province of Ontario	• Establish Legislation for Asset Managment • Recognize funding gaps to ensure it develops programming to ensure the needs of Municipalities are met.

2.0 Asset Registry & Hierarchy

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 and the service level hierarchy used for service planning and delivery.

The asset registry is intended to be 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.).

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.

Currently, CK does not possess a complete asset registry for all DAMPs. Historically, CK's collection and maintenance of infrastructure data have not been in line with the new legislative expectations set forth in O.Reg. 588/17, as these standards were not established until 2018. Critiquing CK's historical practices would be unjustified, given the absence of such expectations or requirements.

The A&QM division worked with each service to establish their initial registry however it became evident during the process that each registry would not be 100% accurate and that ongoing enhancements are necessary. Over time, A&QM, in collaboration with each service, will improve the asset registries' quality by collecting current data and vetting it to ensure the accuracy of all essential attribute measurements, provided that resources are available.

2.1 Asset Registry Replacement Costs

Each DAMP offers a more detailed accounting than what is presented in this overview document. This overview document aims to provide a high-level summary of all DAMPs, and has summarized the replacement costs for all non-core services below in **Table 2.1.1.**

Table 2.1.1: Asset Registry Replacement Costs by Service Area

Service	Replacement Costs
Airport	$11,148,000
Ambulance	$14,020,000
Arts & Culture	$124,456,000
Cemeteries	$7,209,000
Facilites Services	$1,178,000
Fire Service	$118,458,000
Fleet Services	$7,908,000
ITT	$24,911,000
Library Services	$43,686,000
Parking Services	$9,300,000
Parks & Horticulture	$75,091,000
Police Service	$42,445,000

Service	Replacement Costs
Public Health	**$1,854,000**
Recreation Facilities	**$271,057,000**
Riverview Gardens	**$61,218,000**
Social Housing	**$268,000,000**
Trails	**$11,198,000**
Transit	**$8,467,000**
Unallocated Assets	**$230,552,000**
Waste Management Service	**$21,494,000**
Total Replacement Cost	**$1,353,650,000**

Each year, the asset registry data will be refreshed to incorporate any missing assets and to adjust replacement costs according to current market values. The data will be vetted annually for to improve its quality and accuracy and to ensure data is being maintained where appropriate.

While undertaking the DAMP process it became clear that there were significant assets that are too challenging to allocate without further investigation. An example is determining which plan a facility belongs that has multiple services sharing a space such as the Civic Centre. These multiple use facility assets, while significant in cost were intentionally categorized as 'Unallocated Assets' to ensure that;

1. The Asset Managment Steering Committee had sufficient time to consider the assets and allocate them appropriately
2. CK will meet legislative requirements of recognizing the assets for O.Reg 588/17

2.1 Asset Condition

The condition rating communicates the necessary maintenance for an asset to either return to an improved state, remain operational or achieve its expected lifespan. Condition is the leading indicator for maintenance activities planning. Chatham-Kent currently employs multiple methods to monitor the condition of its assets with multiple different outputs.

A&QM will standardize the outputs from all methods of assessing condition to ensure;

- Asset condition is universally understood across the organization
- Enable the use of condition when defining levels of service
- Assist in future financial forecasting for levels of service

In future iterations of the plan, conditions will be measured using a 1 – 5 grading system, as detailed in **Table 2.2.1**. A consistent approach must be used in reporting asset performance, enabling 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.

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

Table 2.1.1: Condition Grading System

3.0 Lifecycle Management

The lifecycle management plan details how CK plans to operate the assets at the agreed-upon levels of service by managing its lifecycle costs. These costs are categorized by lifecycle phases: **acquisition, operations, maintenance, renewal, and disposal.** Currently, CK's approach to lifecycle costing is budget-focused, but will transition to a comprehensive lifecycle strategy by 2027, where applicable.

Adopting a full lifecycle approach is critical to ensure CK considers the entire lifecycle cost or 'whole life' cost when it acquires assets. Often assets are acquired without understanding the long-term and cumulative costs of ownership that it will place on future generations. Considering the 'whole life' cost will promote evidence-based choices and improve intergenerational equity.

Once CK 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, Chatham-Kent must approach its asset planning with a long-term view to ensure it effectively manages the assets and assists in making informed choices.

3.1 Acquisition Plan

Acquisition reflects new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. Acquistions can be the result of growth, demand, legal obligation, donation, social or environmental needs.

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 annually by each service to verify that they are essential. Proposed upgrades and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled for future work programs.

Each service is developing a priority ranking criteria to ensure can be compared by its impact to the desired level of service.

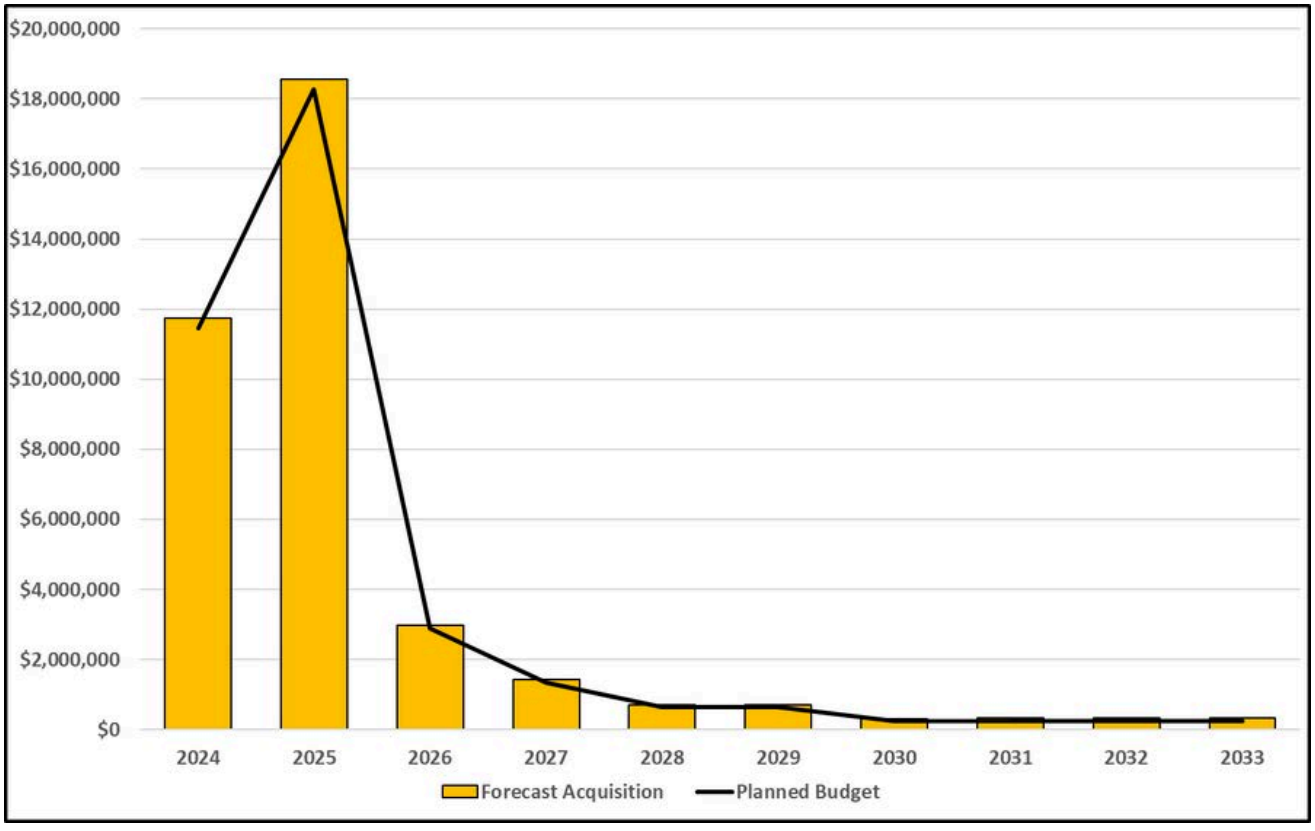
Acquisitions are activities that either add new assets that did not exist before or improve an existing assets capability or function. The costs and activities that are included as part of the acquisitions and include: design, training, consulting, purchase costs and staff time to ensure the asset is ready for service and can be put into use. Chatham-Kent acquires assets by constructing assets, assuming assets through development agreements or through donations to the municipality.

Summary of future asset acquisition costs

Over the 10 year planning horizon CK is forecasting it will need to invest **$37,451,000** for new acquisitions which are summarized in **Figure 3.1.1.** and shown relative to the proposed acquisition budget. Some of CK's major planned acquisitions over the 10-year planning period include:

- **$6.4 Million for Bear Line Park**
- **$19.9 Million for Social Housing projects**
- **$1.3 Million for Heavy Rescue Apparatus**
- **$1 Million for Police monitoring cameras**
- **$950 Thousand for Airport aprons and taxiways**

Figure 3.1.1: Acquisition (Constructed) Summary



All figure values are shown in 2024 dollars.

When reviewing the graph, it is obvious that the majority of the known acquisitions are within the first 3 years of the plan. This should not be interpreted that there will be little to no acquisitions across remainder of the 10-year planning period. At this time there are few services that have concrete plans beyond 2-3 years to be able to identify as planned future acquisitions. As CK matures in its AM knowledge and its long-term planning there will be improvements to forecasting future acquisitions.

At this time, CK has sufficient budget for its planned constructed acquisitions. It is critical for decision makers to understand that through the construction or assumption of new assets, Chatham-Kent will be committing to funding the ongoing operations, maintenance and renewal costs which are very significant.

CK will need to address what is considered affordable, how to best fund these ongoing costs as well as the costs to construct the while seeking the highest level of service possible. Future DAMP's will focus on improving the understanding of Whole Life Costs and funding options however, at this time the plan is limited on those aspects. Expenditure on new assets and services will be accommodated in the long-term financial plan but only to the extent that there is available funding.

CK is reviewing its acquisition process through the regular updates of the DAMP's to ensure that it proactively understands what assets are being acquired over the planning period and to ensure they are considered and funded properly across their lifecycle. Improved knowledge of both constructed and donated assets will allow multiple departments across the Chatham-Kent to plan for the assets properly such as:

- A&QM to forecast the long-term needs and obligations of the assets;
- Operations and maintenance can include the assets in their planned activities (inspections, legislative compliance activities); and,
- Finance can ensure that assets are properly captured and recognized appropriately (Audited Financial Statements, TCA process, Provincial reporting such as the FIR

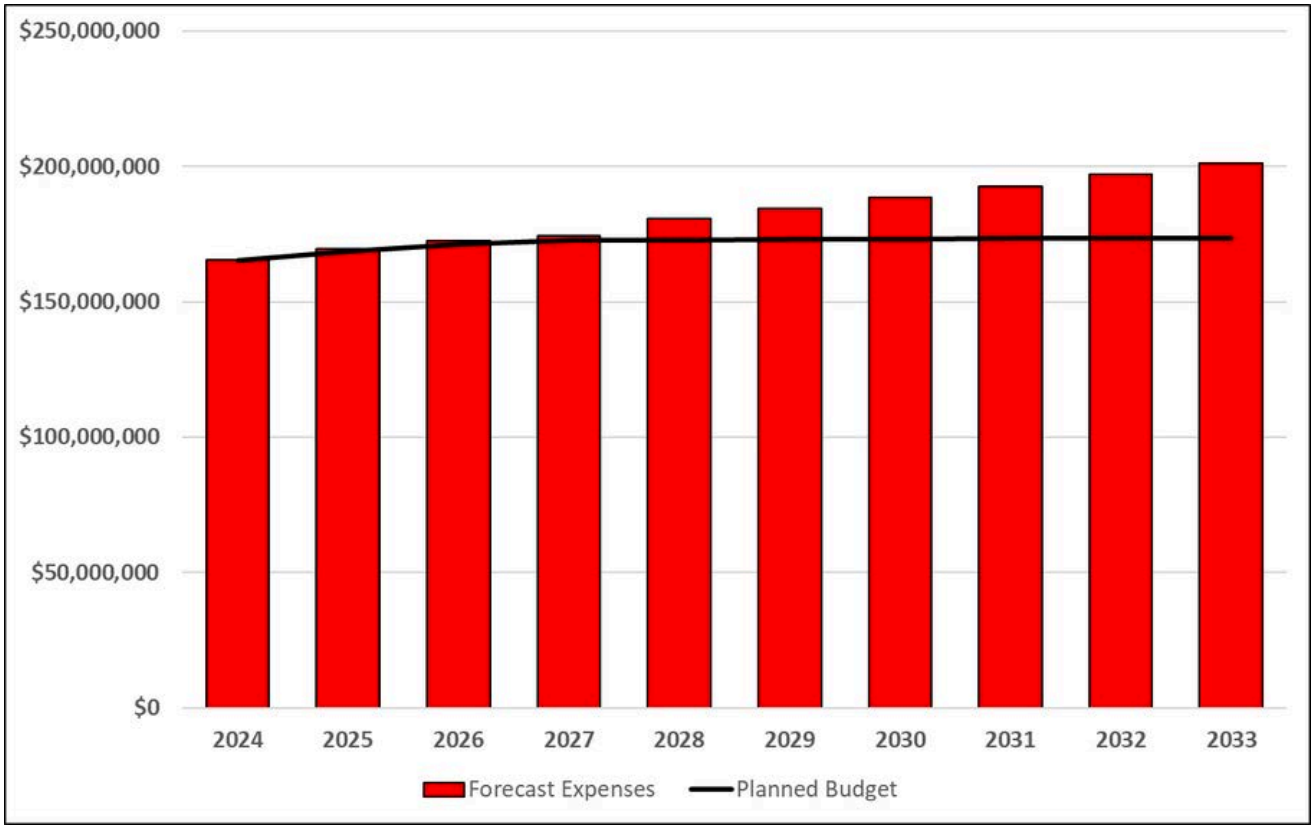
3.2 Operations Plan

Operations encompass critical and routine tasks to support CK in delivering its services. Operations include all regular activities to provide services. Examples of typical operational activities include cleaning facilities, licensing and insurance, fuel, utility expenses, annual software fees, training sessions, snow ploughing, and any necessary staffing resources required to perform these and other activities. These activities are essential for the service's daily operations.

Summary of forecast operations costs

Over the 10-year planning horizon CK is forecasting it will need to invest **$1,823,803,000** for operational costs. These costs are summarized in **Figure 3.2.1.** and shown relative to the proposed operational budget. Operational costs are expected to vary depending on the total value of the asset stock. If additional assets are acquired, future operations costs will increase. If assets are disposed of, the forecast operation and maintenance costs are expected to decrease.

Figure 3.2.1: Operations Summary



All figure values are shown in 2024 dollars.

Currently there is a gap of **$108,531,000** identified between forecast costs and planned budgets over the 10-year planning horizon. This is partly due to inflationary projections of 2% each year past 2027 to reflect the realities of rising costs. Other factors were also considered in the forecasting such as anticipated wage negotiations, and rising energy and fuel costs. Operational gaps between forecasted costs and projected budget allocations may lead to reduced service levels, and are associated with other service consequences and risks, which wherever possible, have been identified within each service DAMP.

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; it is the actions necessary to enable assets to meet their expected lifespan by restoring them to a preferred 'improved' condition.

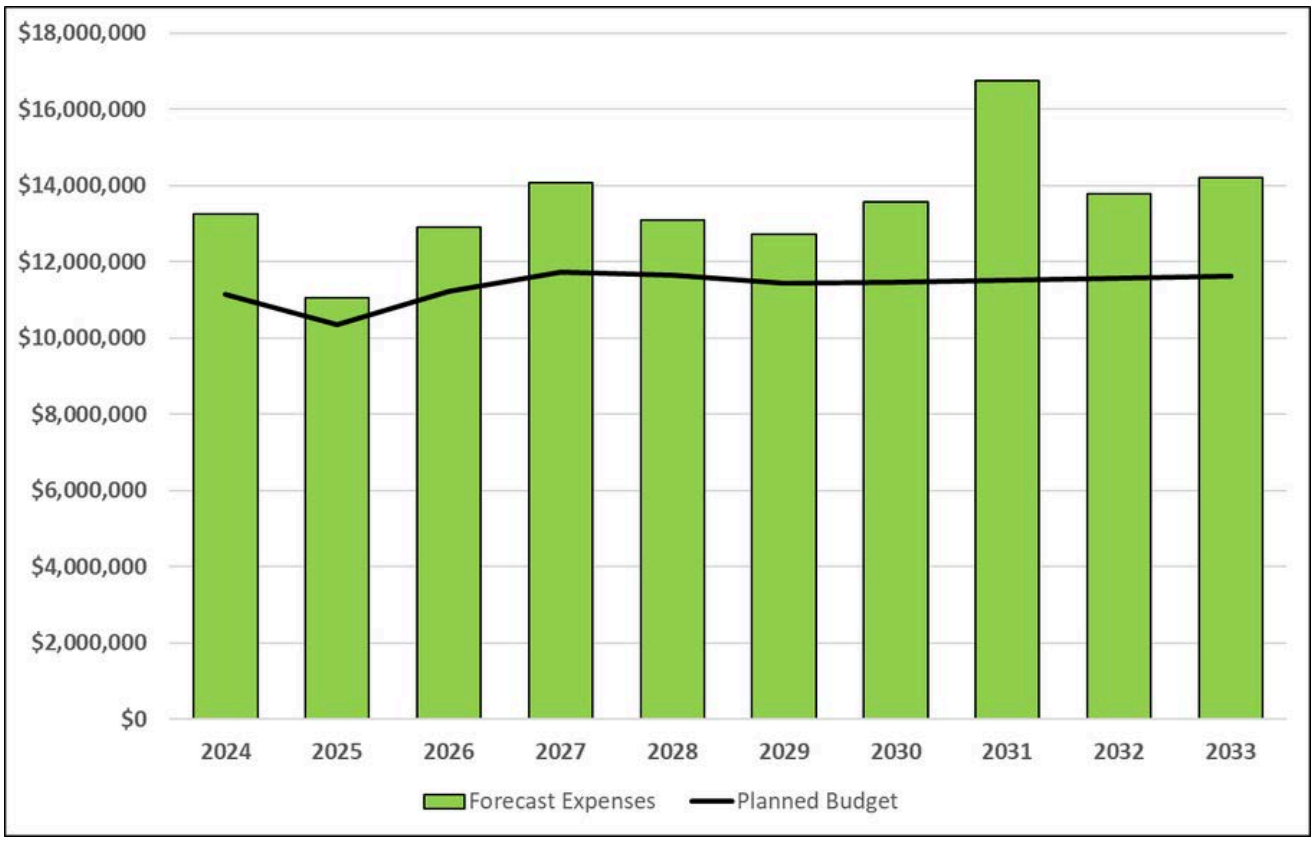
Proactive maintenance planning dramatically reduces the need for reactive maintenance, which carries a greater risk to human safety and incurs higher financial costs. It is crucial for CK to strategically plan and adequately fund its maintenance activities to ensure the reliability of its assets and to achieve the expected service level.

Examples of typical maintenance activities include oil changes/general maintenance on vehicles, replacing HVAC units, repairing tennis court surface, along with the appropriate staffing and material resources required to perform these activities. Planned maintenance dramatically reduces the need for reactive maintenance, which is often associated with greater risks to human safety and increased financial costs. CK will need to strategically plan and adequately finance its maintenance activities to maintain the desired service level.

Summary of forecast maintenance costs

Over the 10-year planning horizon CK is forecasting it will need to invest **$135,380,000** for maintenance costs. These costs are summarized in **Figure 3.3.1.** and shown relative to the proposed planned maintenance budget. Maintenances costs are expected to vary depending on 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: Maintenance Summary



All figure values are shown in 2024 dollars.

Currently there is a gap of **$21,674,000** identified between forecast costs and planned budgets over the 10-year planning horizon. This is partly due to inflationary projections of 2% each year past 2027 to reflect the realities of rising costs. The majority of the significant difference between the planned and forecasted budgets is the result of new information received thorough Building Condition Assessments (BCA's) 2024 that identified previously unidentified maintenance work. Gaps between forecasted costs and projected budget allocations may lead to reduced service levels for customers and users, and are associated with other service consequences and risks, which wherever possible, have been identified within each service DAMP.

3.4 Renewal Plan

Renewal is major capital work that does not significantly alter the original service capabilities provided by the asset but restores, rehabilitates, replaces, or renews an existing asset to its original service potential. Work that expands its service potential is considered an acquisition.

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 an arena with one of similar size or,
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. purchasing a Patrol Car or Radios).

CK will prioritize renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Having high use and the subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs and
- It can reduce lifecycle costs by being replaced with a modern equivalent asset that provides the equivalent service.

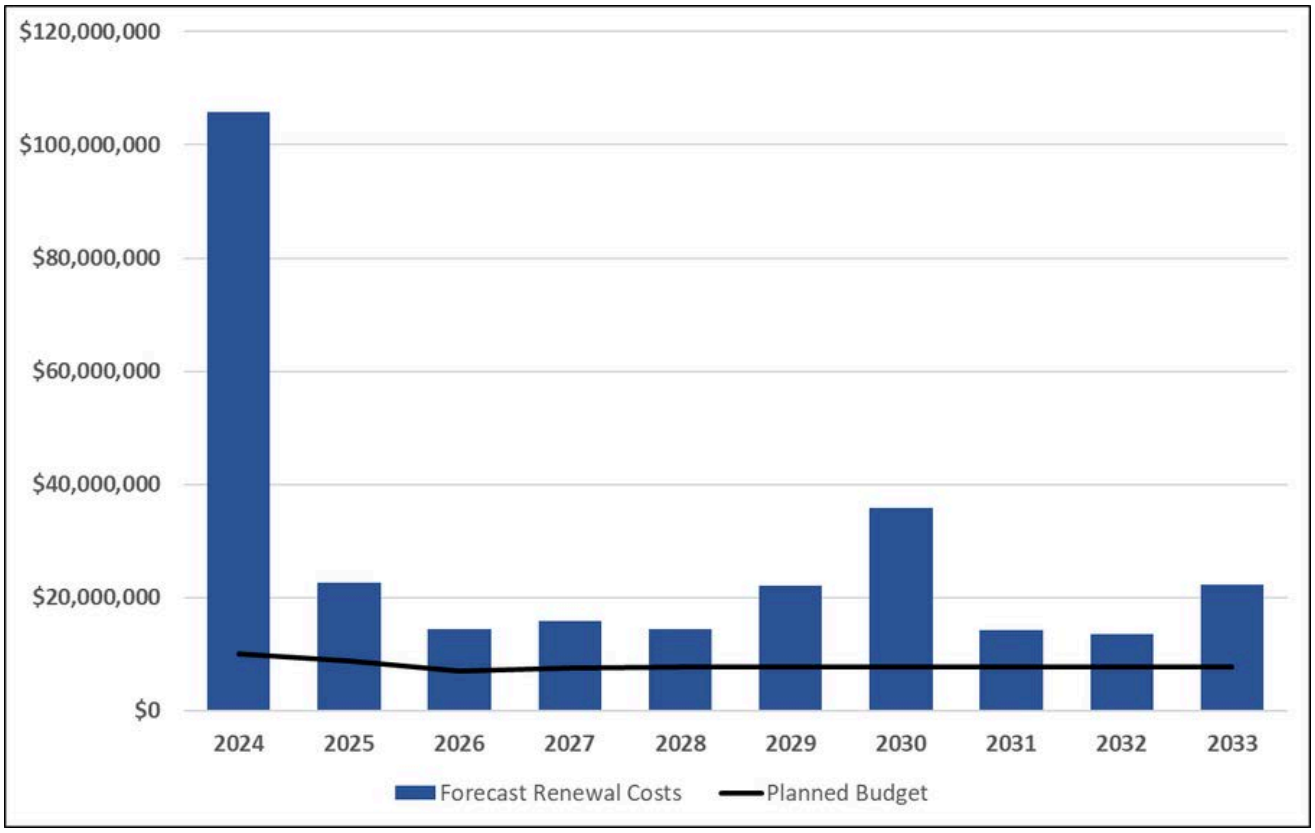
3.5 Summary of future renewal costs

Over the next 10-year planning window CK forecasts it must invest approximately **$281,442,000** to renew its assets and will include;

- **$58.7 Million** to renew fire apparatus
- **$13.8 Million** to renew ambulances
- **$14.6 Million** to renew transit buses
- **$24.5 Million** to renew software and hardware
- **$25.6 Million** to renew park and horticulture assets
- **$21.9 Million** to renew police vehicles and equipment
- **$3.2 Million** to renew public parking assets
- **$7.8 Million** to renew Riverview Garden assets
- **$1.9 Million** to renew fleet services assets
- **$1.3 Million** to renew waste services assets

The upcoming 10-year planning horizon contains a substantial number of renewals. Without proactive financial planning to accommodate these renewal costs, there could be considerable repercussions on the service levels that CK can sustainably offer. As CK matures in its asset management expertise, there will be an ongoing commitment to adjust renewal timelines based on better-informed assessments based on factors such as asset condition, useful life, and the financial realties the municipality faces.

Figure 3.5.1: Renewal Summary



All figure values are shown in 2024 dollars.

Currently, there is a financial shortfall of **$201,856,000** identified between the projected costs and the allocated budgets over the 10-year planning period. This gap is partially attributed to annual inflation projections of 2% beyond 2027, reflecting the reality of rising expenses. Additionally, the notable surge in asset renewals anticipated in 2024 is connected to a backlog of assets that have been identified for renewal but have not yet been addressed.

Portions of the gap exist due to the significant impacts of the pandemic which has significantly increased cost and delivery times for certain assets such as ambulances, fire apparatus and medical equipment. Other factors contributing to this considerable renewal gap in renewals includes deferring renewal projects and funding constraints.

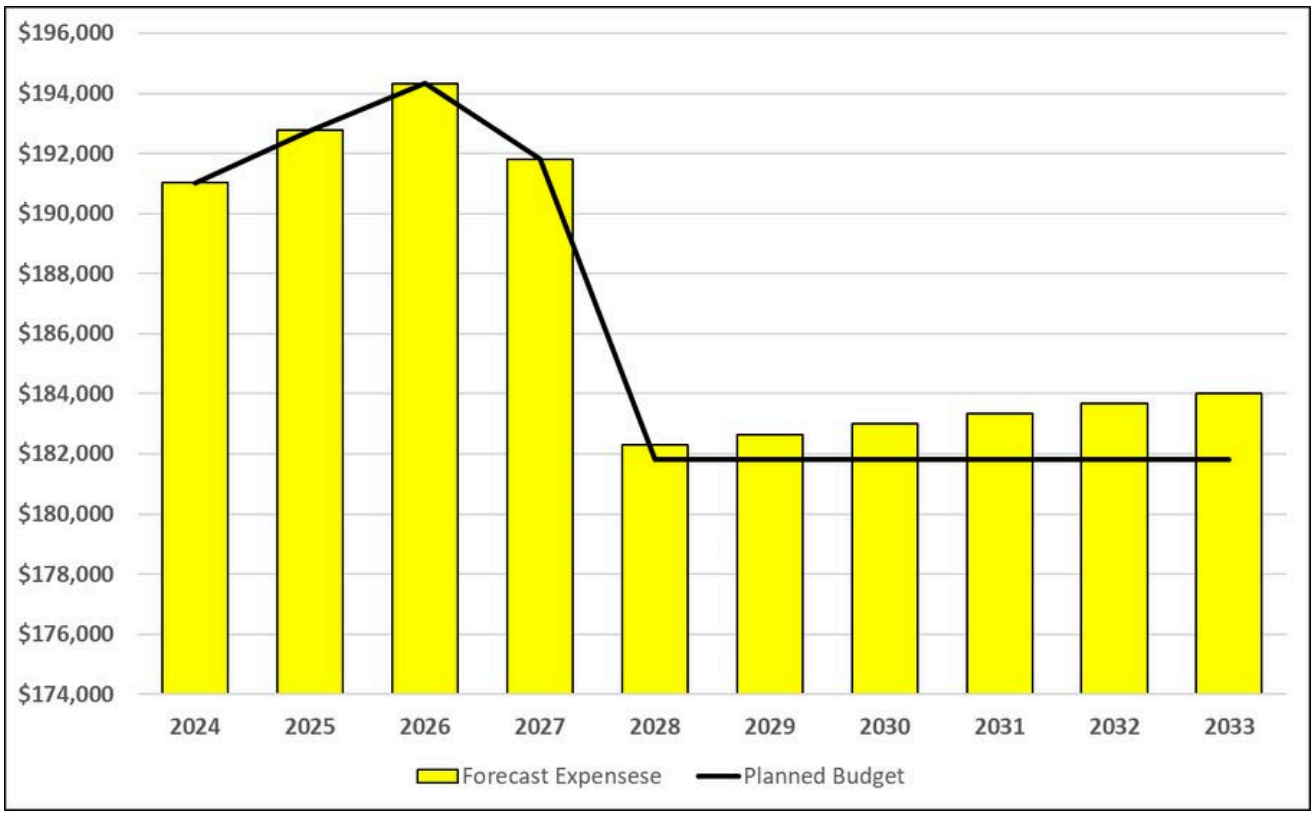
3.6 Disposal Plan

Disposal includes any activity associated with disposing of a decommissioned asset, including sale, demolition or relocation. This only occurs when and asset or service will no longer be replaced.

Summary of future disposal costs

Over the next 10-year planning window CK forecasts it must invest approximately **$1,869,000** to renew its assets as planned for minor assets and decommissioning software applications.

Figure 3.6.1: Disposal Summary



All figure values are shown in 2024 dollars.

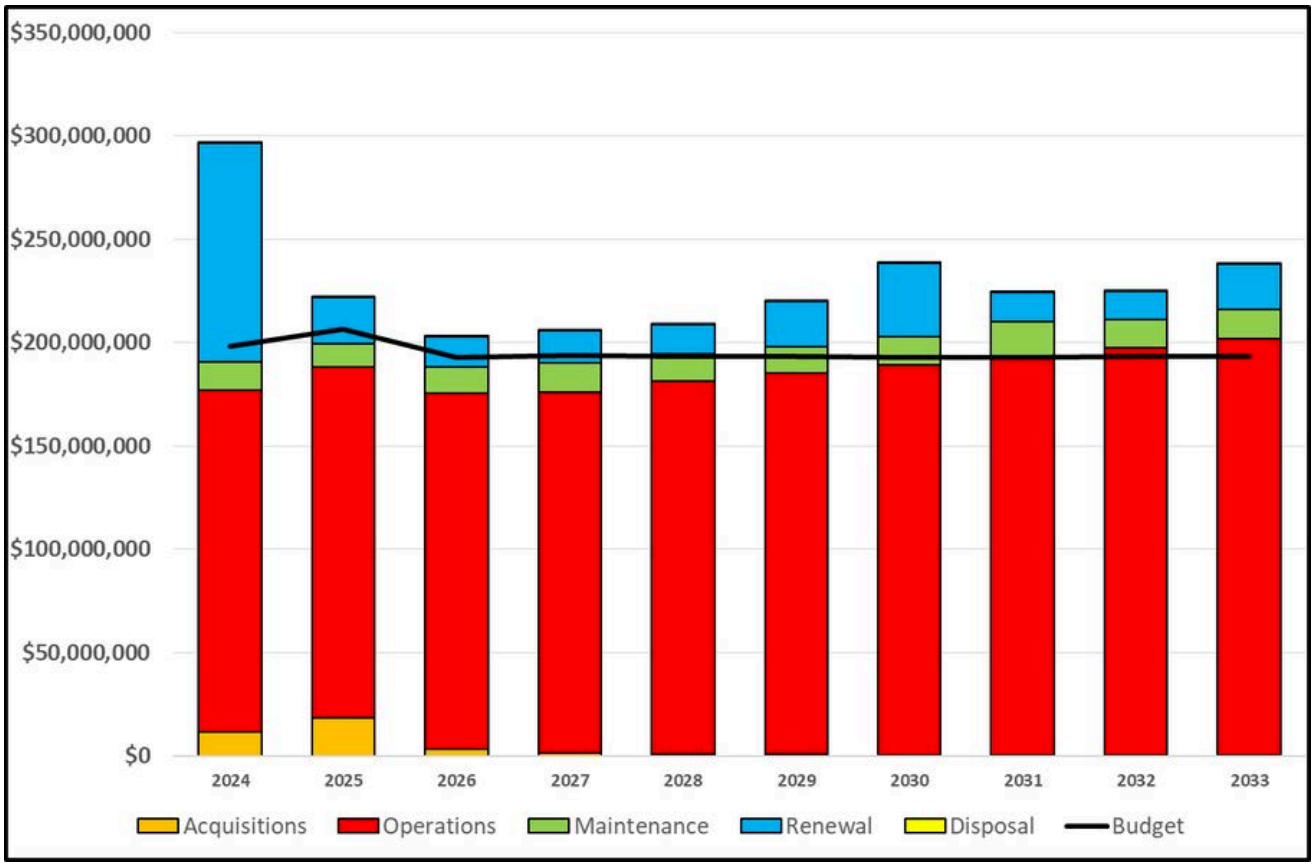
3.7 Summary of Asset Forecast Costs

Summarizing all lifecycle costs allows for decision makers to have a complete picture of how resources are being invested over the 10-year planning period. 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 which 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 the 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 dollars.

There is a notable disparity between the forecasted costs and the allocated budget which is referred to as the 'gap'. Chatham-Kent is in a particularly challenging position as the current 'gap' only measures the non-core assets. The next set of DAMP's in 2025 will combine both the core and non-core and is anticipated to increase the gap significantly. At this time, it is clear that over the planning period there is insufficient resources to be able to sustain the levels of service currently being provided.

Most 'operational' costs can be managed until 2031 without significant resources shifts however maintenance activities begin to be impacted in 2028, and it is clear that not all renewal activities will be able to be undertaken across every year of the plan. The 10-year planning horizon highlights that the current service levels are untenable and unsustainable. Consequently, the level of service will inevitably decline, while the associated risks and costs are likely to escalate.

4.0 Levels of Service

Levels of service (LOS) are measures for what CK provides to its customers, residents and visitors. Service levels are best described as the link between providing the outcomes the community wants, and the way that Chatham-Kent provides those services. Ideally, the municipality should provide the levels of service that the current and future community both want and are prepared to pay for. 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 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 Chatham-Kent's bylaws. Each service DAMP outlines it's major actions or activities that are considered mandatory because of legislation.

4.2 Customer Levels of Service

As stewards of resident's municipal services, it is critical that CK understands what level of service customers desire and what they are willing to pay for. CK will engage with its residents and customers to inform its customer levels of service.

Customer levels of service are created considering four main components:

1. **Customer values -** These are what customers find valuable aspects to the services they receive for the cost (either taxes or fees) and are considered in terms of service aspects. I.e. (timeliness, accessibility, affordability, responsiveness, quantity, reliability, safety etc.)
2. **Level of service statements** - Level of service statements utilize objectives to spell out exactly what the customer can expect from their tax/rate dollars or fees and connect the customer and technical levels of service together.
3. **Customer performance** - Relate to how the customer feels about the service, and so these measurements can be tangible and intangible. These should also be written in “customer speak” and are considered in terms of three (3) factors:

- **Condition -** How good is the service? Are the assets of sufficient quality to reliably meet service expectation of the customer
- **Function -** Is it suitable for its intended purpose? Is it the right service?
- **Capacity-Kent/Usage** - Is the service over or under used? Should there be more or less of the assets or service?

4.**Technical performance -** Relate to what activities CK preforms to deliver the services and are tangible measurements. These will be used internally to measure performance against customer service levels and are 'levers' that the municipality can use to change customer perceptions.

At the time of writing the DAMP's there was insufficient customer engagement to include customer levels of service and preferences within the DAMPs. To ensure that customer measures can be understood properly, A&QM along with all municipal services will undertake a customer engagement exercise in 2025 to obtain a baseline measure of the customer performance and seek input on the publics desired level of service. Regular customer engagement will be required to ensure that as customer preferences change over time that CK will be aware of the changes and can make proactive decisions to address the ever-changing landscape.

4.3 Technical Levels of Service

Tehncial levels of service are measure designed to demonstrate good stewardship to the public and to measure success internally for each service. These measures are intended to identify areas that require improvement in performance and to determine if resourcing is sufficient to achieve the desired levels of service. When creating and revising technical performance metrics, CK will utilize the SMART criteria. The acronym is defined below:

Criteria	Definition
Specific	Provide a clear description of what needs to be achieved
Measurable	Provide a metric with a target that indicates success
Attainable	Set agreed upon realistic targets
Relevant	Ensure metrics are useful
Time Based	Establish clear timeframes to achieve the outcome

During the DAMP process A&QM in conjunction with asset owners identified **181** technical levels of service measures in total from across all non-core assets plans. These technical measures will be updated annually to demonstrate how each service is currently performing and to support investment decisions for setting the appropriate levels of serivce.

5.0 Future Demand

In AM, demand is defined as the desire customers have for assets or services they use and that they are willing to pay for. These are the desires for either: new assets or services or current assets and services.

Demand for services is typically measured considering how many customers use the assets. In order to manage demand, the CK must plan and take action to influence demand for services or usage of assets. In addition, demand will inevitably change over time and will impact the needs and desires of the community in terms of the quantity of services (e.g. assumption of assets due to development growth) and types of service required (e.g. different assets are required to meet consumer preference).

5.1 Demand Drivers

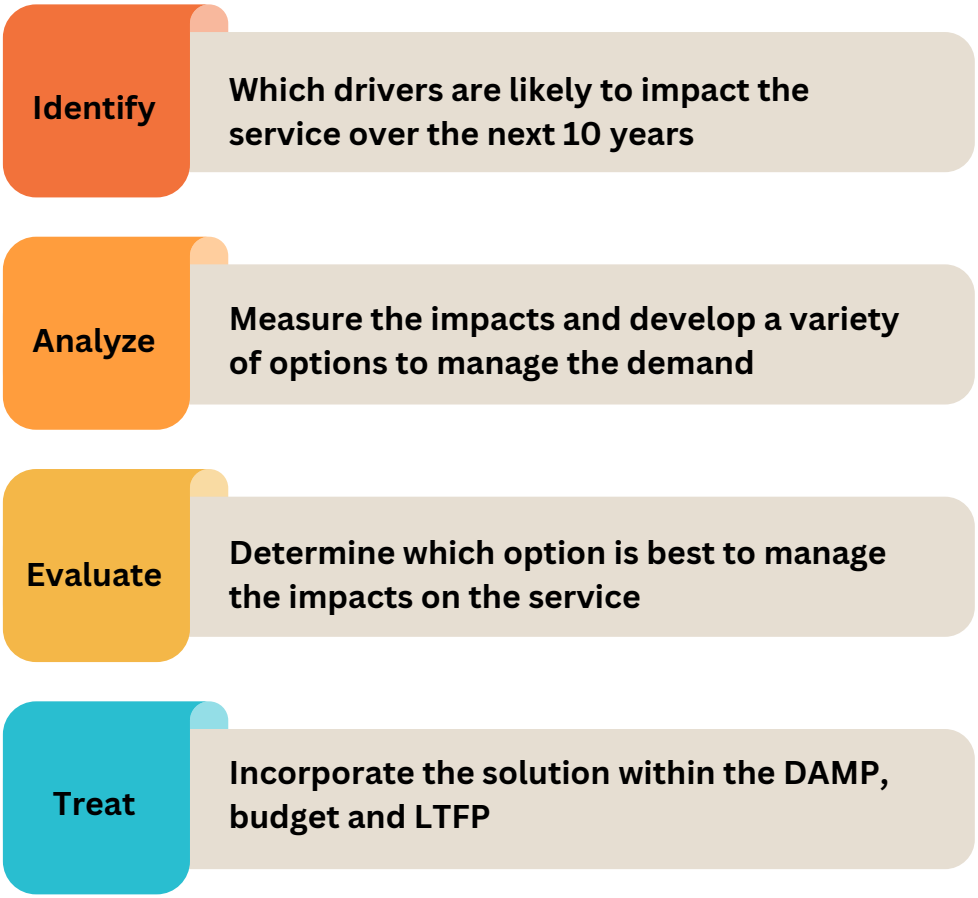
Some key demand drivers identified throughout the AM Plans are:

- Population change;
- Regulatory changes/obligations;
- Changes in demographics;
- Seasonal factors;
- Consumer preferences and expectations;
- Technological changes;
- Economic factors; and,
- Environmental awareness/commitments.

5.2 Demand Managment Process

When quantifying demand in the AM plans, the four-step process shown in **figure 5.2.1** below was used to develop a high-level demand management plan for key demand drivers identified for the service area.

Figure 5.2.1. - Demand Management Process



Each services DAMP details the unique demand drivers that apply to only that service along with common drivers, such as population growth, that affect all services. Each driver will impact each service differently and require unique approaches to address the various demands.

6.0 Risk Managment Plan

With asset ownership comes inherent risk. It is unavoidable. Risk is defined as ‘the effect of uncertainty on Chatham-Kent’s service objectives’. Managing risk is a crucial aspect of effective infrastructure AM, and CK will address risks and opportunities via a structured risk analysis procedure.

Through continuous application and expansion of the risk process, CK will ensure that it explicitly and continually considers risks to its objectives. This process will be completed as part of the AM planning process and will enable CK to address risk proactively versus reactively.

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.

Risk in itself is dynamic, iterative, and responsive to change. To manage risk effectively, CK will need to continuously monitor and consider risk to ensure the appropriate mitigation efforts are applied. By continuously monitoring risk CK:

- Ensures evaluation of risk is an integral part of normal business process and part of the decision making process;
- Tailors its risk management to meet community needs and includes human, cultural and social factors;
- Ensures transparency in our decisions; and,
- Explicitly address the uncertainty that is incumbent on asset owner

6.1 Risk Managment Process

Chatham-Kent has adopted an infrastructure-based risk process to ensure that all assets will be reviewed utilizing a standardized approach. This will ensure that CK is able to measure and compare risks consistently across a broad spectrum of assets and services. Each year, each service will conduct a risk review to identify new risks and to ensure known risks are mitigated as needed.

6.2 Risk Assessment Process

The risk assessment process seeks to identify 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 delivery of service will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences.

Each step in the risk review process ensures specific questions are answered and a decision is made on how to resolve or mitigate the known risk with identified costs. To ensure a consistent approach to risk, CK has standardized its scales for measuring risk consequences and likelihood. CK will continue to improve the scales and ensure that they accurately reflect what is appropriate to consider.

CK will utilize standardized risk categories across the municipality with respect to its assets and services. The risk categories are:

- Injury/Human Safety;
- Legal/Legislative (included in risk evaluation criteria);
- Environmental;
- Interruption/Reduction of services;
- Social & Cultural Outcomes (included in risk evaluation criteria);
- Financial; and,
- Reputational.

Chatham-Kent will explicitly document its risk consideration within the DAMP’s to demonstrate how it actively considers risk with regards to its assets and the services that are provided to the community. CK will utilize various risk measurements including impact, probability, frequency, and consequences of these risks to inform decisions and optimize choices by either reducing, removing, mitigating or accepting the risk.

Chatham-Kent has begun to undergo a shift in how it evaluates risk in accordance with its infrastructure planning. For the initial iteration of the DAMPs staff helped inform a high-level risk evaluation that was utilized to assist staff with becoming familiar with the risk process and to develop a basic risk profile for the asset classes covered within this iteration of the DAMPs. The plans currently identify:

- Which assets are deemed to be critical;
- Assessment of some know high level risks;
- Risk mitigation and control efforts; and,
- Resilience approach.

During the DAMP process, A&QM in partnership with each service was able to identify a total of **102** risks that are included within the various plans.

6.3 Service & Risk Tradeoff

At this time, the Chatham-Kent does not have sufficient data to present risks and tradeoffs. This information will be presented in the 2025 AM Plan regarding proposed levels of service. The service risks will be identified and updated each year to ensure there is a rigorous risk review taking place regularly and to update impacts and mitigation approaches as they change over time.

7.0 Climate Change

Navigating the climate crisis has to be a key area of focus for the Chatham-Kent due to the significant effects on the population as well as the significant challenges and financial impacts that are incurred by the CK. Within Asset Management, climate change is acknowledged as both a risk and a catalyst for demand. Consequently, the implications of climate change and the necessary mitigation and adaptation strategies have warranted a dedicated section within the plan to guarantee adequate attention.

Climate change will have a significant impact on the assets the CK manages and the services they provide to the public. Recognizing these continuing climate change impacts, the Council declared a climate emergency in Chatham-Kent on July 15, 2019. It 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 resilience to climate change (known as climate adaptation).

Within each of the DAMP's, a high-level climate change management plan for key climate change drivers were identified for the service area and will be updated within the 2025 plans to align with the upcoming Corporate Climate Action Plan (CCAP). The CCAP will detail how Chatham-Kent will respond to and manage climate related impacts.

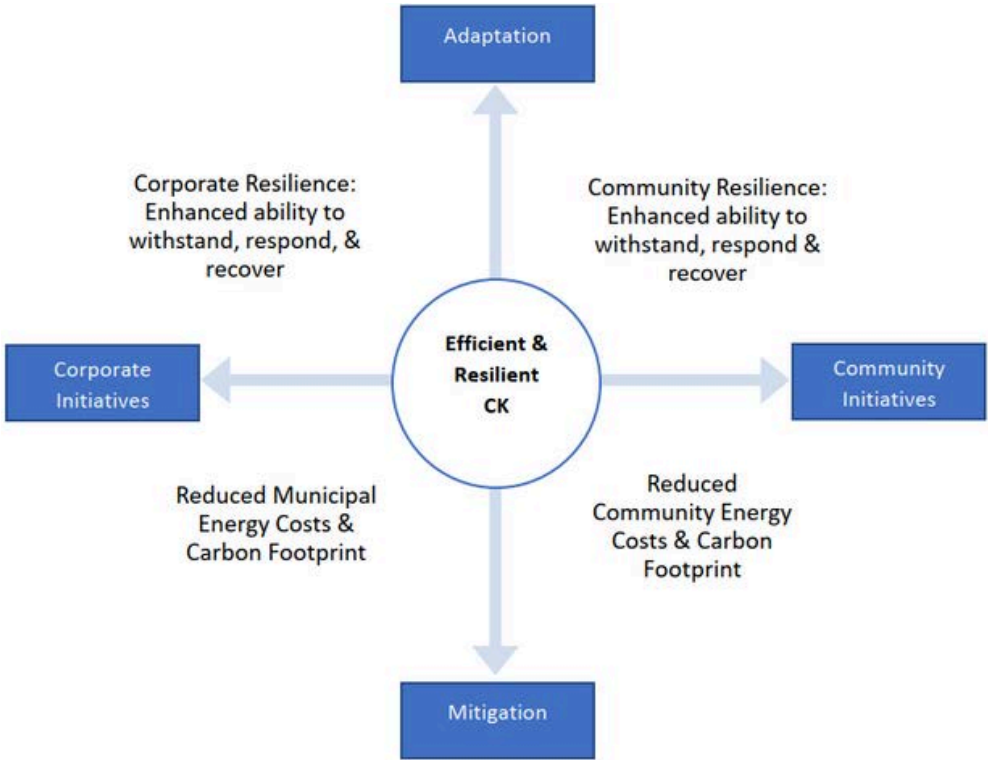
At a minimum, CK will consider how to manage its existing assets, given the potential climate change impacts on the region. The effects of climate change may significantly impact the assets CK manages and the services it provides. This can include;

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

The impacts of climate change on assets will vary depending on the location and the type of services provided, as will how CK's services 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 significant erosion and flooding in the community.

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.



Additionally, how Chatham-Kent constructs or acquires 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 effects of climate change;
- Services can be sustained, and
- Potentially lower the lifecycle cost for assets and to 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 each services DAMP.

8.0 Financial Summary

Effective asset and financial management will enable CK to ensure its asset networks will provide the appropriate level of service for the CK to achieve its goals and objectives. Reporting to stakeholders on service and financial performance ensures the CK is transparently fulfilling its stewardship accountabilities.

Creating a Long-Term Financial Plan (LTFP) that connects the Budget to the DAMP's is critical for CK to ensure that the various networks lifecycle activities such as renewals, operations, maintenance and acquisitions can and do happen at the optimal time. CK is under increasing pressure to meet the wants and needs of its customer while keeping costs at an affordable level and maintaining its financial sustainability. Without funding asset activities properly for its asset networks, CK will have difficult choices to make in the future which will include options such as higher cost reactive maintenance and operational costs, reduction of service and potential reputational damage.

Future iterations of the plan will ensure that Chatham-Kent:

- Creates and utilizes a LTFP that connects the budget to the DAMP's;
- Provide accurate costs within the planning horizon (30 years);
- Detail the costs to ensure a defined level of service can be achieved;
- Plan how to manage the financial gap that currently exists; and,
- Detail what cannot be done and the effects of underfunding infrastructure.

Chatham-Kent will be seeking to fully incorporate its asset networks into the LTFP. Aligning the LTFP with the DAMP's is critical to ensure all the network's needs will be met while CK is finalizing a clear financial strategy with measurable financial targets. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

Currently, the CK uses a 10-year planning horizon to meet the requirements of O. Reg. 588/17. Certain DAMPs have been identified as needing to have the planning horizon increased to 20 or 30 years to ensure the benefits of long-term planning can be realized. The DAMP's that require and extended planning horizon are the services that are long lived such as roads, bridges, and water related assets. A longer planning horizon ensures visibility beyond capital budgeting timing and provides greater transparency for the future.

Most services replacement costs are identified at a low - medium confidence level and as such both the 'gap' and the financials for the AM Plan are also at a low-medium confidence level. As data improves, the financial projections will also improve. In addition, future iterations of the plan will ensure that CK creates and updates the replacement costs to ensure that as costs rise, they are reflected within the planning document.

8.1 Financial Stewardship and Sustainability Ratios

Over the next 3 years Chatham-Kent will incorporate 3 main sustainability measures in the financial section of each DAMP. The financial ratios will indicate how sustainable a service and provide tangible stewardship measures. The ratios provide an easy-to-understand figure that allows the reader to quickly assess if the service is considered to be in a good position or one that requires further investigation. These ratios are;

1. Asset Renewal Funding Ratio (ARFR)
2. Lifecycle Funding Ratio (LFR) - to be implemented in 2025
3. Operating Surplus Ratio (OSR) - to be implemented in 2026

The ARFR measures how well Chatham-Kent is preparing for asset renewals in an optimal manner from both a timing and funding perspective. It measures whether a service has enough funds planned or saved to be able to renew an asset (arena, fire truck, road) at the appropriate time. The ARFR is considered to be a true stewardship measure as it indicates if future generations will be burdened with unachievable funding levels and forced to consider service reductions or elimination.

Table 8.1.1. outlines each non-core services current ARFR ratio. Ideally for a service to be considered sustainable the ARFR would be between **90 - 110%**. If assets are not renewed at the appropriate timing, 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 CK's reputation and risk of fines or legal costs

Table 8.1.1: Asset Renewal Funding Ratio by Service

Service	ARFR
Airport	100%
Ambulance	65%
Arts & Culture	29%
Cemeteries	100%
Facilites Services	13%
Fire Service	41%
Fleet Services	TBD 2025
ITT	56%
Library	47%

Service	Asset Renewal Funding Ratio
Parks & Horticulture	23%
Parking Services	31%
Police Service	16%
Public Health	66%
Recreation	0%
Riverview Gardens	87%
Social Housing	49%
Trails	100%
Transit	31%
Waste Service	0%

8.2 Infrastructure Gap

The most significant measure of stewardship for CK is the infrastructure ‘Gap’. The gap is term that quantifies the difference between what CK currently spends and what CK needs to spend to maintain the current level of service. Currently the 10 year ‘Gap’ for the non core assets is **$407,150,000**. This amount will only be compounded further once the core 5 DAMPs are completed.

Funding an annual funding shortfall or funding 'Gap' cannot be addressed immediately. The overall ‘Gap’ in funding for each of Chatham-Kents' services will require vetting, planning, and resources to begin incorporating 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; and,
- Influence level of service - managing expectations or influencing demand drivers.

These options and others will allow CK to manage the gap appropriately and ensure the level of service outcomes the community desires. Providing sustainable services from infrastructure requires managing service levels, risks, forecast outlays, and financing to eventually achieve a financial indicator of 90-110% for the first years of the DAMP and ideally over the 10-year life of the LTFP.

The chart below identifies each services ‘Gap’ on a 10-year horizon as well as the annual cost.

Table 2.1.3: Identified Financial Gaps by Service

Service	Annual Gap	10-Year Gap
Airport	-	-
Ambulance	$1,641,000	$16,410,000
Arts & Culture	$527,000	$5,270,000
Cemeteries	-	-
Facilites Services	$31,200	$312,000
Fire Service	$4,708,000	$47,080,000
Fleet Services	$45,773	$457,730
ITT	$1,242,000	$12,420,000
Library Services	$1,898,000	$18,980,000
Parks & Horticulture	$2,179,000	$21,790,000
Parking Services	$241,000	$2,414,000
Police Service	$5,313,000	$53,130,000
Public Health	$967,000	$9,670,000

Service	Annual Gap	10-Year Gap
Recreation	$8,743,000	$87,430,000
Riverview Gardens	$3,204,000	$32,040,000
Social Housing	$4,009,000	$40,090,00
Trails	$118,000	$1,180,000
Transit	$1,051,000	$10,512,000
Waste Service	$796,000	$7,960,000
Total	**$40,715,000**	**$407,150,000**

8.3 Data Confidence

Every DAMP begins with the collection of data related to assets (e.g. replacement costs, condition, age etc.) for the asset registry. In many cases, formal asset registries did not exist or contained significant gaps (e.g. for many assets, age or condition was not known). Significant amounts of asset related data are currently outdated, duplicated and incomplete due to historical practices.

A data confidence scale has been created to help quantify the existing data quality and confidence levels for key figures within all DAMP's. This scale offers decision-makers insight into the quality of the data and information in the plans, while also providing a tool to setting targets for achieving specific quality standards in each service's data.

Table 8.3.1: 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.

At the time of writing the overview document, there is no DAMP that exceeds a **low-medium** confidence regarding its asset related data utilized to build the plans.

9. Plan Improvement & Monitoring

9.1 Approach to Continuous Improvement

Committing to an ongoing culture of continuous improvement will enable CK to optimize service delivery and uncover potential cost-saving opportunities. A&QM will continue to develop and improve each service DAMP to ensure all services include continuous improvement initiatives which will reported on annually.

The initial DAMP process identified **207** opportunities for improvement which will require further discussion and analysis to determine feasibility, resource requirements and alignment to current workplans. Annually, the improvements will be reported to council as part of the DAMP process to ensure that identified improvements are completed by each service as planned.

9.2 Planned Data & Information Improvements

In the initial DAMP process, A&QM pinpointed three key areas for improvement that affected most, if not all, services. To guarantee the successful implementation of the AM system, A&QM, in collaboration with each service, will need to focus on enhancing the following information:

Asset Condition - Understanding asset conditions is a key element for good AM. Without proper condition assessments, estimated service life (ESL) and age are used to approximate condition which can lead to over or underestimate the actual condition leading to inaccurate forecasts. Each service will identify areas where condition assessments are required and necessary.

Replacement Costs - Current and accurate replacement costs are a key challenge for most service. A&QM will work with each service to formalize a process to provide a consistent and reliable market price costing for all asset registries. Establishing consistency and process definition overall has been identified as important next steps and will occur through the development of the AM system.

Asset Ownership - Certain assets exist where ownership is unclear due to the complex nature of the Chatham-Kents many assets and their interconnectivity between divisions and departments. At this time there are **$230,552,000** of unassigned assets that will require further investigation to ensure they are apportioned correctly. Clarification will occur as AM governance and standardized processes are developed.

9.3 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 LTFP or will be incorporated into the LTFP once completed.

The DAMP has a maximum life of one year and will be updated annually. This plan will be completely revised and updated in 2027 to prepare CKPH for the 2028 four-year budget process.

9.4 Performance Measures

The effectiveness of this AM system will be measured in the following ways:

- The degree to which the required forecast costs identified in this DAMP are incorporated into the LTFP,
- 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
1.0	October 21st, 2024	1st DAMP Overview Document	Sean Hilderley	AM Steering Committee	Council