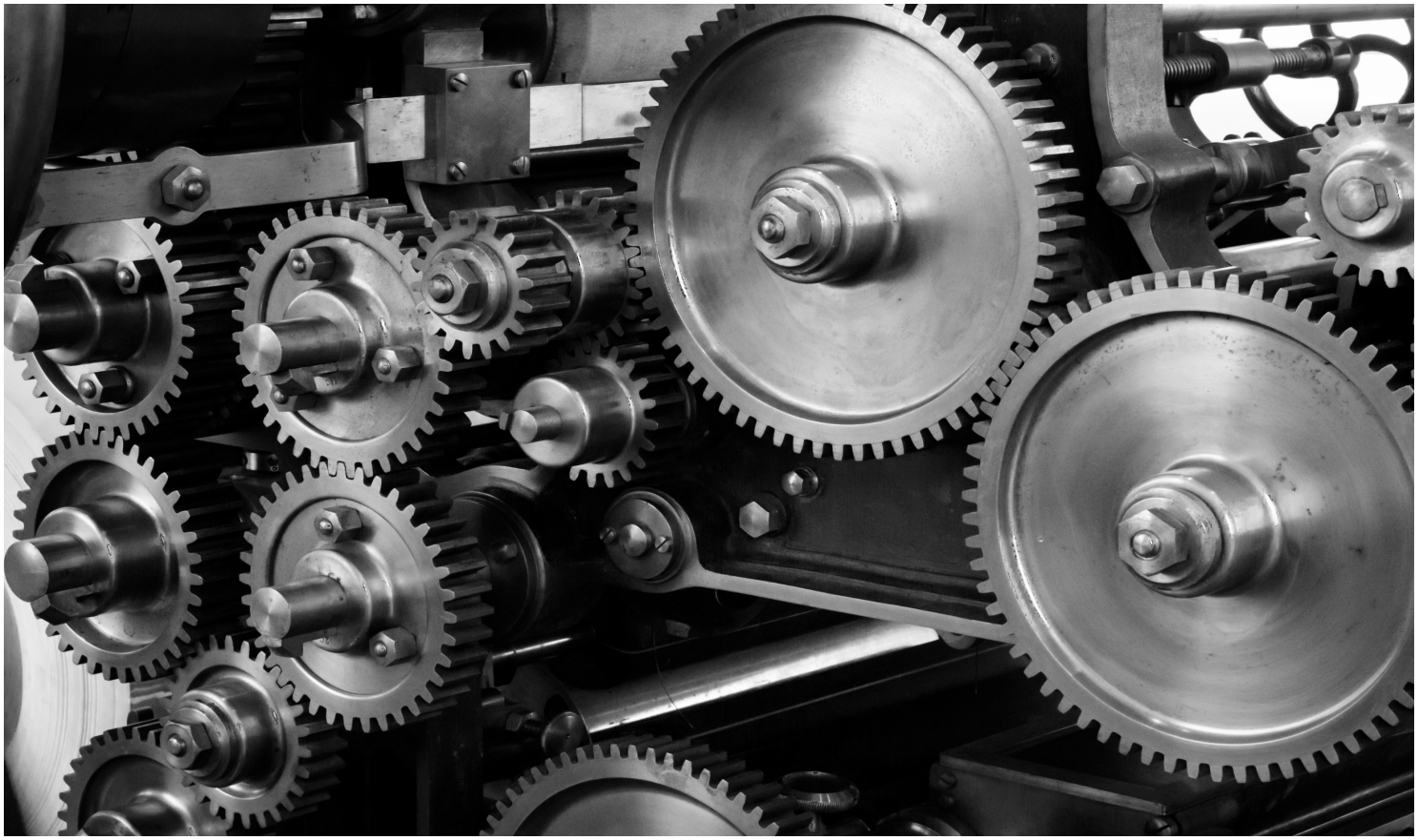

CHATHAM-KENT STRATEGIC ASSET MANAGEMENT POLICY 2023

Chatham-Kent
Cultivating Growth, Shore to Shore

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1.0 Strategic Asset Management Policy

1.1 Policy Purpose

The purpose of the Strategic Asset Management Policy (SAMP) is to ensure that Chatham-Kent creates a robust, effective and data driven Asset Management System (AMS) to support initiative-taking stewardship of its infrastructure related assets that support service delivery. The system will ensure that Chatham-Kent understands the long-term and cumulative stewardship implications and costs of its infrastructure assets. The SAMP will guide the creation of the AMS and detail the content of the Detailed Asset Management Plans (DAMP's) for all divisions within the municipality.

The AMS is designed to ensure that the Public, Council, Staff, and decision makers have sufficient evidence and understanding to make informed choices regarding the long-term and cumulative costs and responsibilities of delivering public infrastructure and services. Through the continued development of its overall AMS; Chatham-Kent will ensure that it has the appropriate data, education, and processes in place to implement a successful AM system.

The SAMP document is an essential cornerstone of Chatham-Kent's AMS. It ensures the municipality will have an effective and transparent method of managing its assets and services today while achieving the strategic long-term planning and financial objectives.

The *Policy* section of the SAMP establishes clear direction for Chatham-Kent to deliver its services in a mature, socially, economically, and environmentally responsible manner and to ensure intergenerational equity can be achieved.

The *Strategic* section of the SAMP details the approach and AM practices Chatham-Kent will adopt to deliver its AMS and to bring about sustainable service delivery by understanding the trade-offs between risks, costs, and service performance.

The Strategic Asset Management Policy will clearly define:

- Chatham-Kent's Asset Management foundational principles and objectives
- Chatham-Kent's approach to delivering its Asset Management system
- Chatham-Kent's direction to continuously develop and improve the organizational AMS
- Chatham-Kent's requirements for all AM Plans

1.2 Policy Statement

The Strategic Asset Management Plan is a requirement of O.Reg. 588/17. The Municipality of Chatham-Kent will ensure that it follows the regulation and will commit to continuously improving its Asset Management System, knowledge and practices and it will proactively integrate them across the entire municipality to demonstrate good stewardship and initiative-taking planning.

1.3 Policy Scope

Per O. Reg 588/17, the scope of this policy applies to all municipal assets owned or funded wholly or in part by the Municipality of Chatham-Kent.

1.4 Strategic Asset Management Policy Definitions

Term	Meaning
Policy	A statement of the municipalities attitude and direction.
Asset	An item, thing or entity that has potential or actual value to Chatham-Kent. It can be tangible or intangible, financial and includes consideration of risks and liabilities.
Asset Management	The coordinated activities of the municipality to manage its assets over their entire lifecycle. This is done by balancing costs, risk, and performance to deliver an agreed upon level of service.
Asset Management Plan	A service specific plan developed to communicate information about the assets that support and enable service delivery. This plan contains an individual long-term financial plan, risk and demand analysis, lifecycle information and will form all planned activities for the asset and service. It will clearly define current levels of services as well as future levels.
Asset Management Strategy	A document that details how Chatham-Kent will develop, implement, and maintain its asset management system. This document connects the municipality's attitude and preferences listed within the policy and informs how these will be implemented through the Asset Management System and become the output of the Detailed Asset Management Plans.
Long Term Financial Plan	A long-term financial planning document that contains financial strategies and performance indicators that Chatham-Kent will consider when making significant strategic decisions about resource allocation. It will inform the budget and budget process for current and future years by connecting the needs of the Detailed Asset Management Plans directly to the budget process.

2.0 Asset Management Policy

2.1 Policy Guiding Principles

Chatham-Kent will create an Asset Management System to achieve its strategic and service level objectives while ensuring that adequate provisions are made for the long-term stewardship responsibilities of managing public infrastructure. Chatham-Kent's Asset Management Policy is based on the following principles that will guide the ongoing management of service-related infrastructure assets. Chatham-Kent will:

1. **Implement a Life Cycle Approach** – Chatham-Kent will apply a whole of life methodology for managing infrastructure assets and making investment decisions.
2. **Endorse evidence-based decision making** – Improve asset planning and decision making by utilizing current infrastructure information that will be considered when comparing options and informing investment decisions.
3. **Adopt Levels of Service** – Service levels will be clearly defined, communicated and fact based. Chatham-Kent will balance costs, risks and performance while considering social and cultural outcomes to deliver the optimum level of service.
4. **Ensure Intergenerational Equity**- Chatham-Kent will create intergenerational equity by setting appropriate, sustainable, and realistic levels of service that can be funded appropriately and ensure future generations will not be unfairly burdened.
5. **Effectively Manage Demand & Risk –** Proactively understanding current and future risks and demands are essential to ensuring they are managed proactively and effectively.

The above noted foundational principles of Chatham-Kent's Asset Management System will be supported by the rest of the Strategic Asset Management Policy and within the output of the Detailed Asset Management Plans (DAMP). The province also has several mandatory principles as pursuant to O.Reg 588/17 and will be attached as an Appendix A to the SAMP.

2.2 Asset Management Objectives

The AM objectives will guide Chatham-Kent's strategy to ensure that the municipality is meeting desired outcomes for public infrastructure and services. These high-level objectives listed below will be operationalized through the supporting strategy and will be critical makers in determining the success of the AMS. The objectives are:

1. **Provide infrastructure and services that will sustain Chatham-Kent communities over the long-term with agreed upon level of service:**
   - Facilitate infrastructure investment to support the ever-changing needs of communities within Chatham-Kent.
   - Enhance the resilience and sustainability of infrastructure to ensure that services and assets remain available and viable through changing environments.
2. **Ensure that service delivery needs are the primary driver for infrastructure asset management practices by:**
   - Establishing, monitoring, and reporting on levels of service for each asset class through the Detailed Asset Management Planning process.
   - Identifying, mitigating, and monitoring service and assets level risks for each class within each services DAMP.
   - Regularly engaging with the public to determine what their current and future desired needs are to ensure their demands are incorporated in the DAMP's.
3. **Document each services assets life-cycle approach to managing assets:**
   - Asset planning decisions are based on an evaluation of alternatives that consider the 'whole of life' costs of assets through all lifecycle phases.

- Municipal assets are planned and provided for in a manner that respects financial, economic, and environmental sustainability across their entire lifecycle.

4. **Implement an integrated decision support system to:**
   - Provide the knowledge necessary to achieve policy related or strategic outcomes.
   - Proactively model data to support inform effective infrastructure decisions.
   - Minimize risk of organizational knowledge and data loss.
   - Manage information efficiently through strong process and reduce duplication of effort.
5. **Ensure compliance with legislative requirements:**
   - Implement business processes to ensure that compliance is monitored and reported through the DAMPs.
   - Ensure that sufficient financial resources are in place to manage assets in a way that will ensure Chatham-Kent is legislatively compliant and prepared for the future.
   - Follow relevant legislative and regulatory requirements which includes meeting asset management related legislative requirements.
6. **Develop and implement 'optimal value' AM practices that:**
   - Encourage a flexible and scenario-based approach to investment decisions through systems and plans to allow for innovative use of assets.
   - Acknowledge climate change adaptation and environmental protections are essential and fundamental to consider for sustainable AM planning to be effective.
   - Improve and develop service knowledge across the municipality and to provide education for staff to ensure that planning and decision models are evidence based.
   - Incorporate sustainability criteria into prioritization and procurement of infrastructure.
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:**
   - Establish a long-term financial plan that aligns and connects the needs detailed within in the DAMP to the financial realities of the budget.
   - Infrastructure decisions <u>will</u> utilize whole life costing to ensure optimal value is achievable and that future generations will not be unfairly burdened by future costs.
   - Over time Chatham-Kent will manage the infrastructure gap by developing its DAMP's and long-term financial plan to ensure services are sustainable for future generations.

- Develop a standardized methodology for prioritizing projects to ensure that the right projects are being completed at the right time to optimize budgets and reduce reactive maintenance.

8. **Ensure service levels are understood and communicated effectively:**
   - Establish, measure, and communicate both the current and desired service levels along with associated costs implication both today and over the long-term.
   - Appropriately measuring performance and determining need through community consultation to ensure that Chatham-Kent is delivering the appropriate LOS.
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:**
   - Establishing a demand management framework to predict future demands and the cost implications of levels of service being increased or decreased.
   - Integrate a standardized risk framework across all asset classes to ensure that risk process is utilized through the DAMP's.

These objectives will guide the development of the AMS throughout Chatham-Kent and ensure good stewardship for infrastructure-based services for current and future generations.

2.3 Asset Management Responsibilities

Mayor & Council are responsible for:

- Adopting the SAMP, allocating resources, and providing high level oversight of the delivery of Chatham-Kent's various DAMP's.
- Setting and supporting the current and proposed Levels of Service (LOS).
- Regularly reviewing of the intentions and objectives of the DAMP's, long-lerm financial plans, and the SAMP, particularly when opportunities arise or when circumstances change.
- Ensure appropriate funding and resources are committed to deliver the infrastructure services as outlined in the DAMP' in accordance with the LOS.
- Acting as responsible stewards for municipal service delivery and the required infrastructure assets that support those services without compromising the success and health of future generations.
- Approve resolutions for adopting DAMPs.

CAO is responsible for:

- Championing the AMS integration across the entire organization to ensure that AM practices and priorities are adopted.
- Endorse each DAMP.

General Managers are responsible for:

- Championing the AMS integration across their departments to ensure AM practices and methodologies are integrated and adopted.
- Advocating for sufficient resources to ensure legislative compliance is achievable while meeting the defined LOS within each DAMP.
- Endorsing each DAMP within their division.

Manager of Asset & Quality Management is responsible for:

- Overseeing the creation of the corporate wide AMS and its ongoing growth and maintenance.
- Developing and maintaining asset management strategies, training, plans and procedures for Chatham-Kent.
- 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.

Management/Staff is responsible for:

- 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.

2.3 Related Documents

- Community Strategic Plans.
- Asset Management Plans.
- Long-Term Financial Plan.
- Annual Budget.
- Asset Management Data Standards.
- Master Plans.

3.0 Asset Management Strategy

3.1 Asset Management Planning Background

Chatham-Kent will regularly prepare and adopt detailed asset management plans (DAMP) to demonstrate how the municipality provides its services and how it intends to manage its existing infrastructure assets to support of the delivery of those services. The DAMP's will provide an explanation of how Chatham-Kent will meet the demands for infrastructure and

plan how it will ensure the desired level of service is achievable and sustainable for future generations.

Asset Management 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 DAMPs are key documents that are required to plan for the future and to provide an explanation of the **value** the services being provided by Chatham-Kent today, and in the future.

Historically, Chatham-Kent has viewed AM from a lens of "managing assets" which involved specific activities such as completing inventories, performing condition assessments, and estimating future budget needs. While those activities are essential elements of AM, if the activities are not coordinated and strategic objectives are not defined, the municipality will experience disconnects between the activities being completed and the service expectations of the customers.

The SAMP will provide the structure to create an effective AM system and to begin shifting the conversation from performing separate AM activities, to a more holistic and complete 'Whole Life' perspective of AM. Chatham-Kent acts as a steward for the assets that enable the delivery of municipal services which are paid for and are in service for the customer. It is the steward's responsibility to manage assets in the best interests of the customer, consult customers on their values with respect to these services, and use our technical expertise to set and achieve expectations, in the form of levels of service.

Chatham-Kent faces some unique service and infrastructure problems that the AMS will seek to solve. The problems are:

- Many assets are multi-generational and often have an expected life stretching out decades upon decades and require ample resources to operate, maintain and renew over their entire life.
- Asset ownership comes with significant risks which need explicit and continuous monitoring.
- Many decisions will have long-lasting and financially impactful consequences.
- There is a finite amount of money available for Chatham-Kent to spend. Competing needs require the municipality to have a standardized way of prioritizing and investing in a manner that is connected to easily definable levels of service.

AM utilizes an evidence-based approach to inform decisions which requires a structured methodology that <u>all</u> services can implement and follow consistently. By considering the assets over their 'whole life' it will allow Chatham-Kent to improve outcomes, plan more effectively and budget in a way that addresses the infrastructure gap that currently exists.

A key objective of AM is to define and communicate the **value** of the services that are being delivered and to ensure that the proper investment decisions are made to provide effective and sustainable service delivery. This will require a shift in how Chatham-Kent plans, funds, operates, and maintains it services as well as how it engages with the public about the levels of services that are provided.

3.2 Strategic Approach

Beyond legislative compliance there are further benefits to the establishment of an AMS and the creation of DAMPs for Chatham-Kent. The DAMP will provide an opportunity to gain perspective on the current service levels being rendered to the community and identify the infrastructure needs to maintain current service levels or achieve proposed service levels. A sound policy along with a robust DAMP provides council and staff new tools and information to make better AM decisions, by offering:

- A clear depiction of 'what a dollar buys,' especially related to asset investment, growth-related infrastructure, or service improvements.
- A clear picture of projects that may be deferred or should not proceed at this time due resource constraints.
- Development of planned maintenance practices rather than high-cost reactive projects.
- A shift towards a whole life perspective to help assets reach or exceed the expected useful life, rather than focusing on reconstruction.

AM planning is part of a strategic process that will be integrated with budgeting processes, O&M planning, acquisition decisions, renewal investments and long-term financial planning. Sound and reasonable AM planning will guide Chatham-Kent to make well-informed and evidence-based decisions about the municipality's infrastructure assets.

AM is of the shared responsibility of all of Chatham-Kent from the public and Council to Executive Management and the subject matter experts who will support enhanced infrastructure decision-making. It is an organizational shift from Chatham-Kent's historical perspective in managing its services and assets in the past and focuses on eliminating or minimizing silo effects. AM achieves this by coordinating activities across the municipality to exchange information and share resources freely and effectively.

Based on an approved SAMP, the DAMP's will allow staff to continue with AM initiatives, including updates to asset condition information, infrastructure lifecycle analysis, levels of service assessments, financial forecasting, continuous improvement initiatives and costs to achieve proposed target levels of service.

3.3 Detailed Asset Management Plans

The DAMPs are created to ensure that Chatham-Kent has a standardized approach for how it reports how services and assets are managed while still being able to address the uniqueness of each service. Chatham-Kent has standardized its approach to the DAMP to ensure there is:

- A consistent methodology to compare services through a common approach.
- Standardized method to measure levels of service and report on how the services and assets are managed.
- Consistent information being delivered to Council, Public and Staff to ensure the costs, risks and performance of the assets and services are understood.

Each plan utilizes the same approach to ensure that assets and services can be considered using the same language and allowing them to be compared in the same way. This will allow the readers of the plans to clearly understand the implications and outcomes of investment decisions and how that will affect current and future levels of service.

Detailed Asset Management Plan Content

Each plan will contain eight unique but interconnected sections to provide a complete view of the service being provided and the assets that support them. Each department will measure and report on their service and assets in the exact same way although each departments level of detail will depend on resources available to collect, update, maintain and process data. AM is an evidence-based approach to decision making and therefore is dependent on quality data to be able to make informed choices.

Each plan will contain a section as follows:

1. **Background & Inventory**
   Within this section, asset owners will detail the purpose of the services and provide context to the readers of the plan as to history of the service, service function, users of the service, and unique service challenges that will help contextualize and communicate the value of the service. This section will also focus on the details of the assets that support the delivery of service. The details will be reported and measured to ensure the service is being carefully planned for and funded across the entire lifecycle. AM will collect and report on an asset's:

   Estimated Useful Life – Each service will determine how long their infrastructure asset will be in service before it is required to be renewed or disposed of.

   Replacement Cost – The cost 'today' that would be required to replace the asset with a similar asset with similar capacity.

   Age – It is a Provincial requirement to collect the age data of assets whenever possible.

   Condition – This is a measure of an asset's performance and is its leading indicator of maintenance. Asset owners will measure condition of assets with a standardized 5-point scale like the one shown in **Figure 1** below. Each asset Class will define its scale with the AM department to ensure it is useful and usable.

Figure 1 – Sample Condition Scale

EQUIVALENT CONDITION GRADING	CONDITION DESCRIPTION	% REMAINING SERVICE LIFE
1-Very Good	The asset is new, recently rehabilitated, or very well maintained. Preventative maintenance required only.	>79.5%
2-Good	The asset is adequate and has slight defects and shows signs of some deterioration that has no significant impact on asset's usage. Minor/preventative maintenance may be required.	69.5% – 79.4%
3-Fair	The asset is sound but has minor defects. Deterioration has some impact on asset's usage. Minor to significant maintenance is required.	39.5% - 69.4%
4-Poor	Asset has significant defects and deterioration. Deterioration has an impact on asset's usage. Rehabilitation or major maintenance required in the next year.	19.5% -39.4%
5-Very Poor	Asset has serious defects and deterioration. Asset is not fit for use. Urgent rehabilitation or closure required.	<19.4%

The core measurements listed above are essential to developing service knowledge of the assets and will be used to support decisions. Each service will be required to ensure resources are available to update, improve and ensure these core measurements are of sufficient quality to be able to inform the lifecycle analysis.

Each plan will define its assets in a summary and will detail its confidence of the data quality to ensure decision makers understand how dependable the data is from which to make an informed choice. The data confidence scales all plans will utilize is below in **Figure 2**. Further details of the measurement and reporting of data quality can be found in the Asset Management Data Standards document.

Figure 2 – Asset Management Data Confidence Scale

Data Confidence Grading Scale		
Confidence Grade	**Reliability**	**Accuracy**
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% extrapolated data and accuracy estimate +/- 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.	Dataset does not exist or very little accuracy.

2. Lifecycle

In alignment with the Policy principles, Chatham-Kent will apply a whole life methodology for managing infrastructure assets. The DAMP's will detail how the municipality plans to manage and operate the assets at the agreed levels of service across its entire lifecycle. These costs are categorized by lifecycle phases which includes acquisition, operations, maintenance, renewal, and disposals. See **Figure 3** below:

Figure 3 – Lifecycle Model of Lifecycle Stages

Once Chatham-Kent acquires an asset it immediately becomes obligated to fund the remaining lifecycle costs such as its operations, maintenance, and inevitable renewal. These other lifecycle costs are far more significant than the initial construction or purchase cost and are often multigenerational. Since lifecycle costs are spread across multiple decades, it is essential that Chatham-Kent approach its asset planning over the long-term to ensure it effectively manages the asset and inform choices.

Each plan will analyze the phases of asset ownership allowing Chatham-Kent to consider with a whole-life view and allow Asset Managers to understand how services are currently managed. Chatham-Kent will model and explore options and opportunities to optimize service delivery in the future. Chatham-Kent will focus on providing solutions to utilize the right type of asset, for the right reasons, at the right time and at the lowest overall whole life cost. Each asset group will measure assets across all the lifecycle phases listed below.

Lifecycle Phases

Acquisitions – Assets are acquired by Chatham-Kent in a variety of ways which can include construction, purchase, donation, or expansion. It is critical that Chatham-Kent understand all the resources required to obtain the assets and which will include costs such as staff time, consulting, design, pre-assumption inspections, public engagement, and purchase costs.

Operations – Once an asset is purchased there is an ongoing commitment by Chatham-Kent to operate it properly so that it can be used in the delivery of services. These costs include operational staff costs, inspections, cleaning, energy costs, cleaning. Operational costs are recuring and will be modeled out over the estimated service life.

Maintenance – Once an asset is owned, Chatham-Kent will need to maintain the asset over its estimated useful life to be able to provide the expected level of service. Maintenance is considered the ongoing management of deterioration and these activities restore an asset to a working or acceptable condition.

The investment costs to keep and asset functioning can be significant, and AM will model the costs out to ensure sufficient resources are available for both planned and reactive maintenance costs. These costs include staff costs, parts, contractors, rentals, design, and other applicable costs.

Renewal – When an asset reaches its useful life, and the service intends to continue then the asset will need to be renewed. Renewal is considered replacing an asset with another asset of comparable size, capacity, and functional ability or 'like for like.'

AM will focus on analyzing the optimal time for renewal and will consider all costs associated with the renewal. These costs will include design, renewal, removal of

materials, construction or purchase costs and all staff time required to complete the renewal.

Disposal – When an asset is no longer required, or the service is to be discontinued then Chatham-Kent will remove the asset and eliminate the future risks and ongoing costs to care for the asset. Disposal costs will include staffing costs, permits, soil remediation, environmental cleanup, vendor costs, material removal and transportation costs.

Lifecycle models are an important output of AM to ensure that Chatham-Kent understands its current obligations and its future obligations to fund the service appropriately across their whole life. The models will also allow Chatham-Kent to consider different options for future acquisitions by providing a systematic manner to review whole life costs and determine what is the optimal choice for the municipality.

3. Levels of Service (LOS)

Chatham-Kent will utilize a standardized approach to communicating and measuring its LOS that the public receives. AM will report on its current LOS for each service as well as the proposed levels that the community wants and is willing to pay for. This can either be to maintain the level, improve the level or to offer an alternative at a lesser level then previously delivered.

Chatham-Kent will engage with the public on a regular basis through a variety of outreach opportunities to ensure their input is integrated into asset management planning. There will be a formal survey for each municipal service which will be conducted on a regular basis to ensure the publics input is current. Each plan will detail the plans frequency of engagement and will either be annual, biennial, or quadrennial. The public will also have other opportunities to engage with the municipality to provide input into AM planning which can include:

- Public Engagement events for projects.
- Communication with Councilors or Staff.
- Engagement through Chatham-Kent's website.
- Input through local community groups.

Chatham-Kent will utilize the public engagement to determine **customer value** and utilize the information to determine what is the customer values about the service. This will include:

- The aspects of the service that are important to the customer.
- Whether the customer sees value in what is currently provided.

The AMPs will also report on both customer LOS as well as the technical LOS.

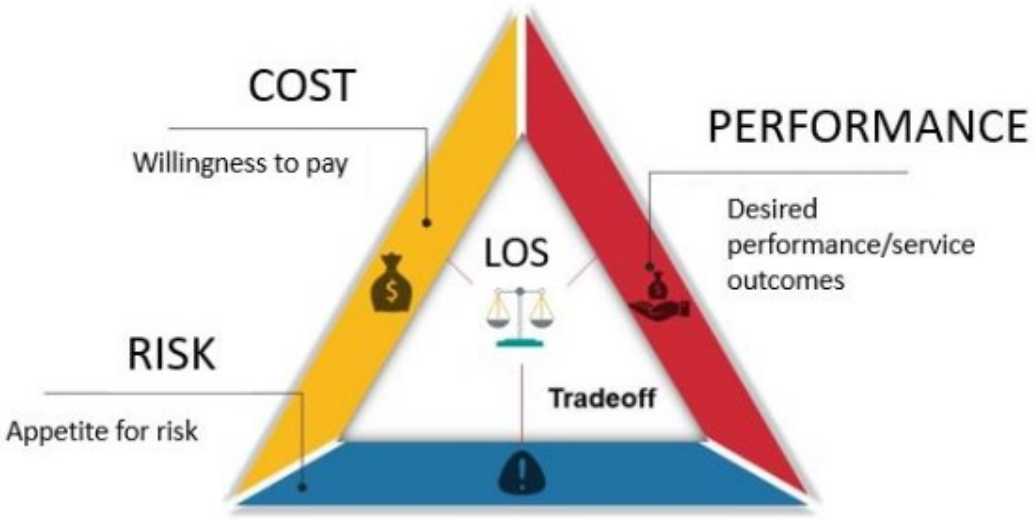
Customer LOS determine how the customer feels about the assets and services as they relate to:

- **Condition –** How good is the service? What is the quality of the service?
- **Function -** Is the service suitable for its intended service? Is it the right service?
- **Capacity –** Is the service over or under used? Does Chatham-Kent need more or less of these types of assets?
- **Technical LOS** are considered 'Stewardship' measures as they demonstrate how effectively the service is performing. These measures will report on budget performance, legislative compliance, energy usage, response times and other useful metrics to help service managers understand where there are opportunities to improve and identify areas of excellence.

Setting Levels of Service

Levels of service themselves are determined by how a service provider balances **Costs, Risks** and **Performance.** It is critical that services have sufficient knowledge of these three factors to clearly define what level of service is being delivered today and what the municipality can deliver in the future as shown below in **Figure 4**.

Figure 4 - Level of Service Balance



Level of Service Balance

Once each department understands the connected relationship between these three drivers of the LOS then they will be able to begin to connect options for seeking the **optimal** delivery of service. **Optimization** occurs when the service has found an agreement between the level of service the public desires at the cost, they are willing to pay for it.

4. Demand Management

Each AM plan will regularly measure the demand for each service to ensure that there is an accurate view of their impacts to the service and to ensure that the service can adjust proactively to changes in the measured demand. Each plan will measure the impacts of following types of demand:

- Council Priorities.
- Growth, Financial/Economic Factors.
- Social & Cultural Inputs.
- Risk.
- Environmental Commitments & Legislative Requirements.
- Climate/Seasonal Factors.
- Reputation.
- Technological Changes.
- Customer Preferences & Expectations.

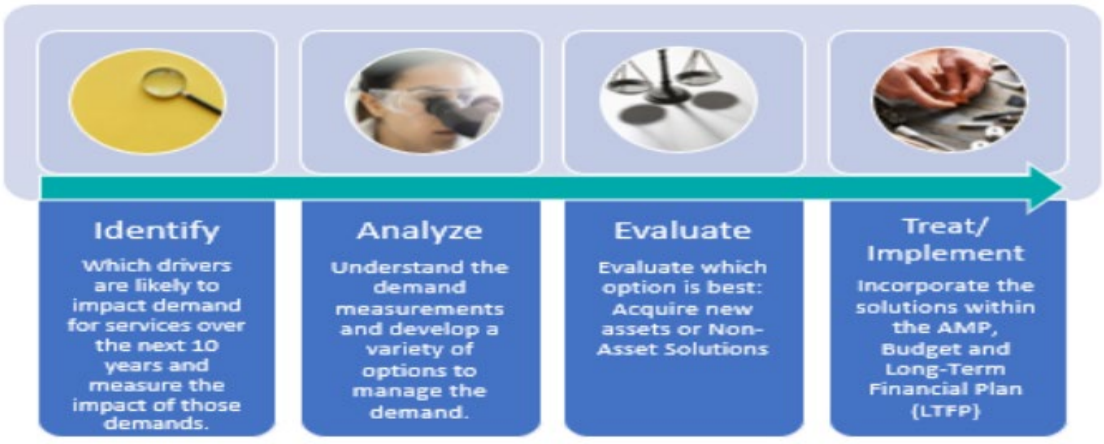
To manage demand Chatham-Kent must plan and take action to influence demand for services or usage of assets. Demand will inevitably change over time and will impact the needs and desires of the community in terms of the quantity of services and types of service required.

Each service will formally measure these demands (at minimum) during each iteration of their AM plan to help determine what solutions may be required to affect the demand pressures which can be either:

- **Asset solutions:** Build more assets, improve current assets, or dispose of assets.
- **Non-Asset solutions:** Change – pricing, availability, operations, regulations/by-laws, incentives, education

When quantifying demand in the DAMP's, Chatham-Kent will utilize the four-step process shown below to develop a high-level demand management plan for the key demand drivers. See **Figure 5** below:

Figure 5 – Demand Management Process Model



- **Identify** – Each department will identify which drivers are likely to impact demand for their services over the planning period.
- **Analyze** - Each department will quantify and seek to understand the demand measurements and develop a variety of likely impacts based on the demand analysis.
- **Evaluate -** Each service department will consider options for solutions on managing the demand.
- **Treat –** Each service will implement treatment plan and monitor the effectiveness of the plan.

By frequently reviewing the demands on each service Chatham-Kent will be able to provide assurance to the public that it is proactively considering demand during its infrastructure planning process and demonstrating good stewardship of the assets and services.

5. Risk Management

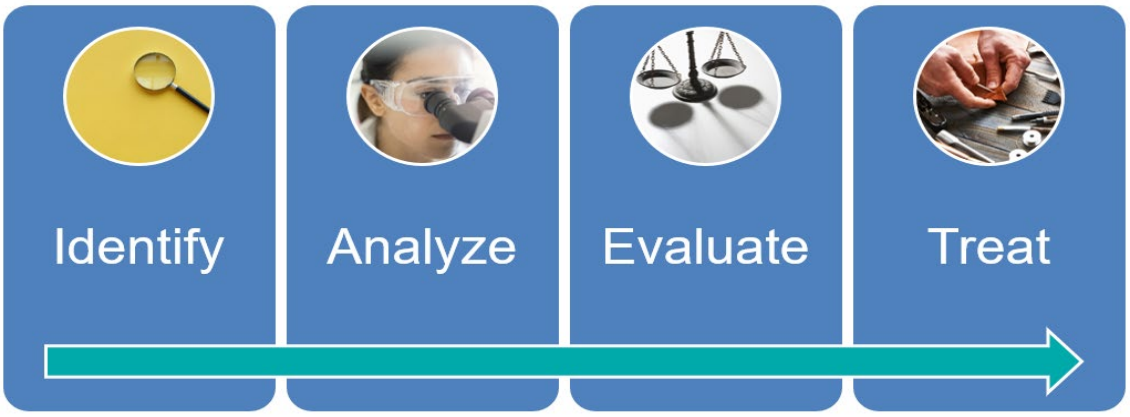
As owners of tremendous amounts of infrastructure assets, Chatham-Kent has a responsibility to continually consider and monitor risks that can affect the municipality and the public it serves. Risk is an essential underpinning concept for asset management as it will inform many decisions and provide a mechanism for managing uncertainty in a structured and controlled way.

Risk management ensures that risk is **explicitly** reviewed annually at a bare minimum and that there is a standardized repeatable process to report what has been identified, analyzed, evaluated, and mitigated plus what the resources are required to mitigate those risks.

Services will create a risk register to document the departments' risks and how they are managing and mitigating those risks for the benefit of the service and the community. These risks will also be utilized to inform future planning decisions and provide options to manage services and assets differently across their lifecycle. Creating a risk register will ensure that Chatham-Kent has a robust and standardized approach for risk assessment, risk management and contingency planning.

Chatham-Kent will utilize a standardized risk process within each DAMP as detailed below in **Figure 6** to ensure it can report on risk within consistently. 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.

Figure 6 - Risk Management Process Model



Risk Management Process

Each service will follow this process for risk to generate a risk register that will be used in all DAMP updates and service planning exercises:

- **Identify –** What could happen to cause it not to work? What would impact service delivery? Why might that event happen? Do controls currently exist? Is the risk credible?
- **Analyze –** How frequently might this occur? What is the likelihood of it happening? What are the impacts if it does occur? How severe are the impacts?
- **Evaluate –** What is the current level of risk? What solutions will mitigate the risk? How much will the solutions reduce the risk by? What are the costs to mitigate?
- **Treat –** Create a treatment plan that will be implement and then monitored on a regular basis for effectiveness and improvement opportunities.

Chatham-Kent will measure the following types of risks within each DAMP:

- **Financial.**
- **Environmental.**
- **Human Safety.**
- **Interruption or Reduction of service.**
- **Reputation and Legal.**
- **Cultural & Social Outcomes.**

To ensure a consistent approach to risk, Chatham-Kent has standardized its scales for both consequence and likelihood as shown in the **Figure 7 and 8** below. Each service will customize the scale and ensure that they accurately reflect what the Municipality believes is appropriate to consider.

Figure 7 – Risk Consequences Scale

	Reduction/Interruption of Service	Financial	Safety	Reputation	Environmental
Insignificant 1	Asset Failure - Little to No Interruption to service.	< $10,000 or <0.1% of operating budget	Potential for Minor Injury	Minimal to no concern	Negligible Impact (restored within 1 week)
Minor 2	Asset Failure - Minor Interruption to service. 4 Hours Downtime	$10K - $30K or 0.2 - 2.0% of operating budget	Lost Time Incident, WSIB, Minor Injuries to few people	Internal Concerns, few complaints from the public, minor Council questions	Minor Impact (Restored within 1 month)
Moderate 3	Asset Failure - Serious Interruption to service. 4 - 24 Hours Downtime	$30k - 250K 2.1 - 4.9% of operating budget	Permanent Injury	Large volume of phone calls, emails, major Council questions	Significant Short Term Impact (up to 2 Months)
Major 4	Asset Failure - Major Interruption to service. 2 Day-1 Week Downtime	$250K - $2.5 Million 5% - 10% of operating budget	Disabling Injury or Casualty	Local News, TV, Social Media	Significant Long Term Impact (up to 1 Year)
Catastrophic 5	Asset Failure - Catastrophic Interruption to service. > 1 Week of Downtime	> $2.5 Million >10% of operating budget	Multiple Casualties, Long Term Hospitalizations	National/International News Coverage	Major Long Term Impact (< 1 year/permanent)

Figure 8 – Risk Likelihood Scale

Score	Likelihood	Probability/ Frequency
1	Rare	<1 per 100 years
2	Unlikely	Once in 11-100 years
3	Possible	Once in 3-10 years
4	Likely	>10 times per year to Once in 2 years
5	Almost Certain	Over 10 times per year

The risk scores output a final risk rating shown in **Figure 9** below based on the Likelihood Score multiplied by the Consequence Score:

Figure 9 – AM Risk Rating Scale

REVISED ASSET MANAGEMENT RISK MARCH 2023							
			CONSEQUENCE				
			INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC
			1	2	3	4	5
Likelihood	Almost Certain	5	Medium (5)	High (10)	High (15)	Very High (20)	Very High (25)
	Likely	4	Low (4)	Medium (8)	High (12)	High (16)	Very High (20)
	Possible	3	Low (3)	Medium (6)	High (9)	High (12)	High (15)
	Unlikely	2	Very Low (2)	Low (4)	Medium (6)	Medium (8)	High (10)
	Rare	1	Very Low (1)	Very Low (2)	Low (3)	Low (4)	High (5)

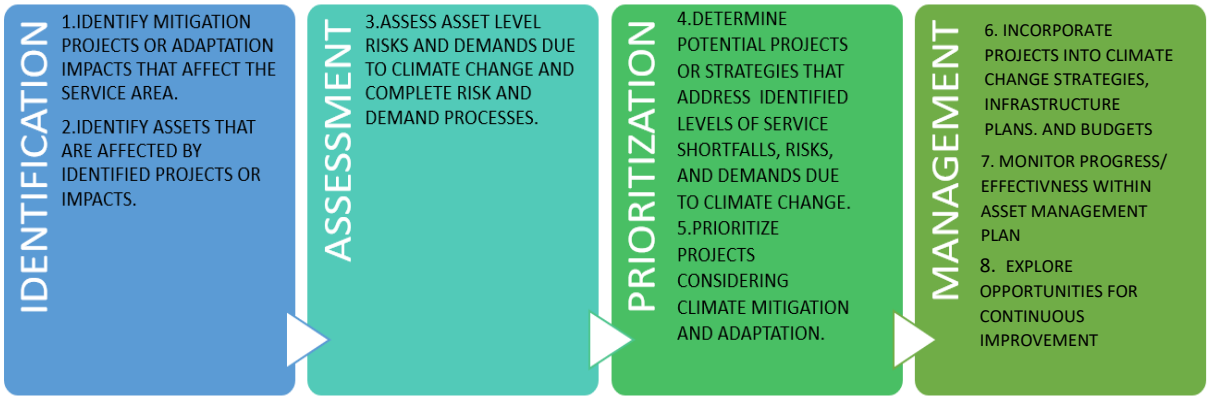
6. Climate Change

Standardizing Chatham-Kent's approach to climate change mitigation and adaptation, and its effects on infrastructure decisions, is critical to AM planning because it ensures that Chatham-Kent can meet the climate goals set by Council and demonstrates responsible stewardship to the public.

Each iteration of a DAMP will consider climate change impacts for a service/asset to ensure that climate change is being addressed in an initiative-taking manner and will include **mitigation** and **adaptation** considerations and solutions for both engineered and natural assets.

Each service will measure and report on climate mitigation and adaptation within their respective AMP by utilizing the following Climate Change Framework, which is based on the Federation of Canadian Municipalities (FCM) Asset Management Climate Change Framework in **Figure 10**:

Figure 10 – Asset Management Climate Change Framework



For the purposes of the DAMP, the focus will be on completing the climate change process outlined above to ensure the Climate is prioritized and mitigation efforts can be undertaken. For Climate Change Mitigation Demands, the following steps will be taken:

1. **Identification**: Identify projects that will future proof our community and ensure it sets and meets Energy and Emissions targets for a service/asset.
2. **Assessment**: Outline how this asset/service will be affected by the modelled target using the demand process.
3. **Prioritization**: Create a preliminary demand management plan for how these impacts might be managed and identify projects and potential costs. Following the asset management plan, prioritize identified strategies/projects.
4. **Management**: Following the asset management plan, incorporate climate change demand mitigation projects into budgets, monitor effectiveness in future AMP, and explore opportunities for continuous improvement.

Once climate mitigation and adaptation projects are identified for both demand and risk, performance metrics will be incorporated into the levels of service metrics, and that lifecycle costs for assets will be updated to incorporate the proposed change in how the asset is acquired, operated, maintained, renewed, and disposed.

7. Financial Plan

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

Without funding asset activities properly for its asset networks, Chatham-Kent 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.

10 - 30 Year Projections

Each initial plan will contain a financial forecast with a 10-year horizon for its service. This projection will include all costs for acquisitions, operations, maintenance, renewals, and any disposals for the timeline. Future iterations of the plans will strive to plan further out to a 30-year projection, especially those services with long lived assets that have an Estimated Service Life of 50 + years.

Managing the Funding Gap

Chatham-Kent's current infrastructure position represents a social investment that has been built up progressively over the last 200 years. The main contributors to the funding gap have been a historical underinvestment, including a lack of permanent infrastructure funding from senior levels of government, amalgamation, and large spikes of growth throughout the years. Chatham-Kent's challenge is to determine how it will manage the gap over the long-term to ensure that the municipality can continue to deliver its services sustainably today and across future generations.

Each service will identify its current Funding Gap. The funding gap is the difference between the amount Chatham-Kent is currently spending and how much Chatham-Kent needs to spend to ensure the service can be delivered at its desired LOS. Each DAMP will clearly detail the current funding gap and inform choices how best to manage that gap over time. The five basic solutions are to:

- Do nothing and accept the consequences.
- Improve funding (fee's, taxation, grants, etc.).
- Reduce the level of service.
- Increase debt (accept a higher debt level).
- Stop delivering the service.

Financial Ratios – Financial Sustainability Indicators

Chatham-Kent has adopted three key ratios that function as sustainability indicators to measure each service areas financial health when it comes to the assets within its portfolio. These key indicators will provide important context as to how services are managing their assets and services.

1. **Asset Renewal Funding Ratio** – This ratio is a measure of asset renewal performance. It communicates whether the service is renewing its infrastructure in an optimized and cost-effective way. It will communicate if Chatham-Kent is renewing assets in a timely manner and help inform choices of how much Chatham-Kent should be renewing to ensure long-term sustainability.

2. **Operating Surplus Ratio** – This ratio provides a measure of the financial performance of the department. The ratio determines if Chatham-Kent has sufficient operating income to meet the desired level of service.
3. **Net Financial Liabilities Ratio** - This measure the significance of the net amount owed by the service. This ratio determines if the service's position to meet its debt obligations is strengthening or decreasing.

Long-Term Financial Plan - Connection to the Budget

Creating a Long-Term Financial Plan (LTFP) that connects the Budget process to the DAMP process is critical for Chatham-Kent. The LTFP will ensure that the various networks lifecycle activities such as renewals, operations, maintenance, and acquisitions will happen at the optimal time. Chatham-Kent 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. The LTFP is an essential tool the ensure the budget is reflective of the needs of the services over the long term and align with the messaging of the AMP's.

Chatham-Kent will develop an integrated Long-Term Financial Plan by 2027 to ensure that the DAMP's are effectively connected to the budget process as they are two interrelated, but distinct processes and their alignment is essential for effective service delivery.

Alignment with Budget Process

The DAMPs are intended to improve the Budget process and ensure that the budget clearly connects the level of service being delivered and the future needs of the service. DAMP's will be updated frequently (a minimum of every 4 years) to ensure that evidence-based decisions are made with a high degree of confidence and can inform the budget appropriately.

The process to align the AM Plans with budget are as follows:

- The service will prepare its DAMP through the AM department prior to budgetary discussions.
- Council will approve the AM Plan.
- The AM Plan will inform the Long-Term Financial Plan and the Budget Process.
- The AM department will utilize the approved budget to update the AM plan with the inputs from the budget to reflect the realities of the funding and update the next plan accordingly.

The cyclical pattern of preparing, reviewing, and updating the AM Plans, Budget and Long-Term Financial Plan ensures that the budget aspires to deliver the level of service outlined within the plans while ensuring that the DAMP's reflect the fiscal realities of the Budget.

Capitalization Thresholds

The Municipality of Chatham-Kent will not utilize the internal TCA thresholds when determining what to include within the DAMP's. Asset inclusion will be determined by the AM department in conjunction with the service provider to ensure that assets are tracked based on criticality to the service and to ensure that costing aligns with AM standards which may not align with existing TCA processes and parameters.

8. Continuous Improvement

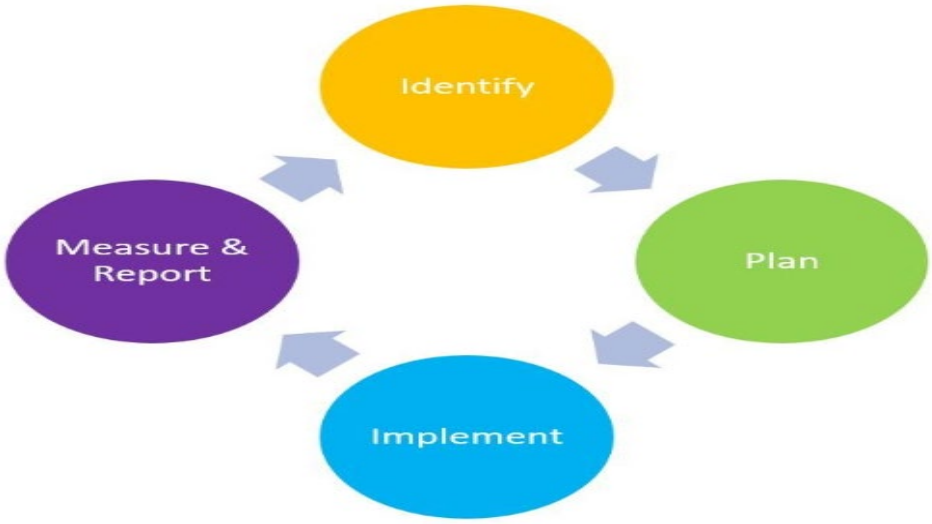
A key function the AMS is to ensure that Chatham-Kent achieves state of continuous improvement. Each plan will include identified improvements for the service which will identify:

- The purpose of the improvement is being made.
- The expected outcome and benefit of the improvement.
- Who is responsible for the implementation and delivery of the improvement?
- What resources are required to complete the improvement?
- When the improvement will be completed.

Each year the plan will update the improvements and report on either the success of the improvements or detail what further refinements or resources are required to implement the improvement.

Through its AMS, Chatham-Kent will adopt a continuous improvement model **Figure 11** to ensure it is being applied across the entire municipality during each the development of each plan. This process will be repeated, at minimum whenever each plan is updated to ensure that identified improvements have been implemented and that new improvements can be prioritized and resourced appropriately. This process is intended to ensure that Chatham-Kent is actively and continuously improving its approach to AM and service delivery.

Figure 11 - Continuous Improvement Model



The 4-step continuous improvement process all DAMPs will follow are:

Identify - Each service department will determine which areas required focused improvement and can include data quality, risk management, operational plans, lifecycle assessments, budgeting etc.
Plan – Each service department will determine the resourcing and staffing required to complete the improvement task in a defined timeline.
Implement – Once resourcing has been approved then each service department will ensure the improvement plan is put into motion and completed.
Measure and Report – Each DAMP will report on the success of the process and will monitor the effectiveness of the task to see if further effort is required.

Engaging in a culture of continuous improvement will allow Chatham-Kent to proactively and systematically ensure that progress is being made over time. It is an essential and critical part to an effective Asst Management System.

Detail Asset Management Planning Endorsement and Approval Process

The DAMPs are the blueprints to how services are delivered and how the assets the support the delivery of those services is managed over time. It is essential that Chatham-Kent continuously develop and improve the plans to ensure that they can be effectively used when making decisions and to inform the budget process.

The approval process to for each DAMP planning and approval is follows:

1. The DAMP's will be created or updated by the Asset Management Department in conjunction with the service provider and include all necessary stakeholders

such as finance, planning, IES, ITT and any additional stakeholders where appropriate.
2. Plans will be endorsed by the Executive Management Team for each service.
3. Plans will be Approved by Council by resolution as per O.Reg 588/17

3.4 Council Involvement and Detail Asset Management Planning Updates

Plans will be updated regularly and will be updated either annually or biennially and will be completely rewritten and approved before each 4-year budget process to ensure decision makers have the necessary information to make evidence-based decisions.

Council Involvement

A successful Asset Management system relies on Council to provide direction and to ensure that sufficient funding resources are allocated to deliver the desired level of service. Council is responsible for endorsing each asset management plans which will detail:

- The level of service provided by each service.
- The funding allocations required to deliver the level of service.
- How the assets are managed across the lifecycle.
- Risk management strategies for the service.
- Demand management strategies.
- Climate Management strategies.

Council will utilize the AM plans to help inform their budget decisions and to ensure that sufficient resources are allocated to the services to be able to deliver the agreed upon level of service. Beginning in 2025 and for each year after Council will endorse each plan with a resolution.

Detailed Asset Management Planning & Legislative Deadlines

1. July 1st, 2024 – Council to approve all services DAMP's prepared to current levels of services.
2. July 1st, 2025 – Council to approval all service DAMP's prepared to proposed level of service with known costs over a 10-year planning horizon.
3. July 1st, 2027 – Council to approve all service DAMP's prepared to proposed level of service with known costs over a minimum of 10-year planning horizon.
4. Every 4 Years (ongoing) - Council to approve all service DAMP's prepared to proposed level of service with known costs over a minimum of 10-year planning horizon.
5. Annual Council Update – Beginning in 2025 Council will receive an annual update before July 1 of each year that will review:
   - Chatham-Kent's progress in implementing its AM systems and plans.
   - Any factors impeding Chatham-Kent's ability to implement the AM system and plans.
   - The Strategy Chatham-Kent will implement to address the factors outlined in Clause B.

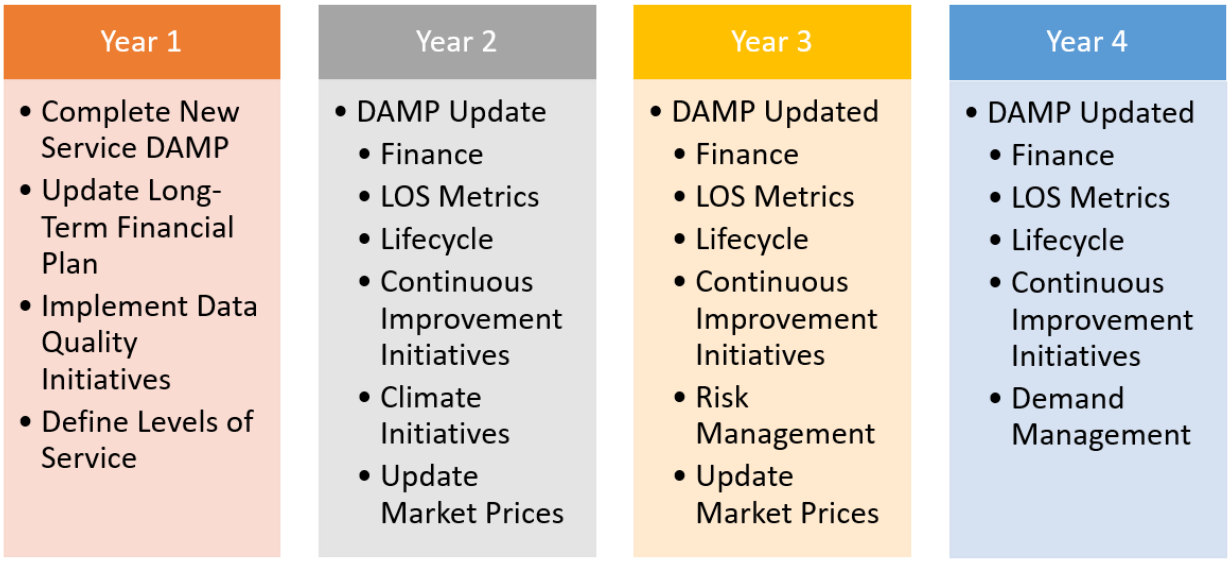
Other Regular Updates

In 2026, Council will receive either annual or biennial summary reports to provide an update on each services progress through their DAMP. The report will update Council to:

- Progress on approved continuous improvement initiatives.
- Completion of planned projects (Capital/Operating).
- New projects over the 10-year planning horizon.
- Management of Infrastructure Gap.
- Any changes to LOS.

The agreed upon frequency cycle of a services DAMP will determine what is reported in the annual report and will align with **Figure 12** below:

Figure 12 – Annual Detailed Asset Management Plan Update Schedule



The plans themselves will be compliant with all applicable legislation.

Legislative Compliance – O.Reg. 588/17

Chatham-Kent delivers public services that are critical to its citizens and these services rely on well-planned and well-maintained infrastructure. There is an ever-increasing pressure on all municipalities across Ontario to ensure the long-term sustainability of its infrastructure and as such the province enacted the *'Asset Management Planning for Municipal Infrastructure Regulation 588/17'*, under the *'Infrastructure for Jobs and Prosperity Act'*. This act and regulation prescribe the requirements for an Asset Management Policy and the Detailed Asset Management Plans. It requires that Chatham-Kent have a comprehensive detailed asset management plans (DAMP) in place by July 1, 2024, and plans that detail the proposed level of service and their strategy to fund that level of service over time by July 1, 2025.

The Act also outlines the ongoing expectations from continued asset management planning with requirements to report to Council on an annual basis for the progress made in implementing the AM program and what roadblocks are slowing its progress as well as the efforts required to remove those roadblocks. The regulation requires that each DAMP will be re-written in its entirety by at a minimum of every five years however Chatham-Kent will re-write them every 4 years to align with the 4-year budget process. Chatham-Kent will also provide council and the public with annual updates to each DAMP on an annual basis to ensure:

- Linking the DAMP's, the budget process (Capital and Operating).
- Stewardship measures such as technical levels of service and KPI's are measured and reported frequently.
- Data is collected and data quality is improved and maintained.
- Provide assurance to the public and decisions makers that continuous improvement goals are being met and that services are managing their assets in a sustainable and affordable manner.

3.5 Co-ordinated Planning with other Municipalities & External Stakeholders

There are many instances where Chatham-Kent works as partners regarding public infrastructure with other neighboring municipalities, Governments, or community stakeholders. When there is joint responsibility, it is critical that the costs of ownership are included within the asset management plans. Chatham-Kent staff will ensure when there is joint ownership or joint interest in an asset that it will consider AM where either:

1. Chatham-Kent owns the asset but shares the lifecycle costs with another Government, organization, or community stakeholder.
2. Chatham-Kent does not own the asset but is obligated to shares in the lifecycle costs with another Government, organization, or community stakeholder.

Staff will engage with all stakeholders of jointly owned assets or assets that have a common responsibility to ensure that the costs are communicated effectively and can be incorporated within all parties AM plans and their budgets.

3.6 Strategic Asset Management Policy Review Date

This policy has a life of 4-years or less at the discretion of the current Council. After its adoption by Council in 2023 the Policy will next be reviewed by November 2027.