Chatham-Kent

DETAILED ASSET MANAGEMENT PLAN 2024

Public Health

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Chatham-Kent Public Health Report Card

641 well water tests in 2023

203 food premises inspected

139 mosquito traps tested

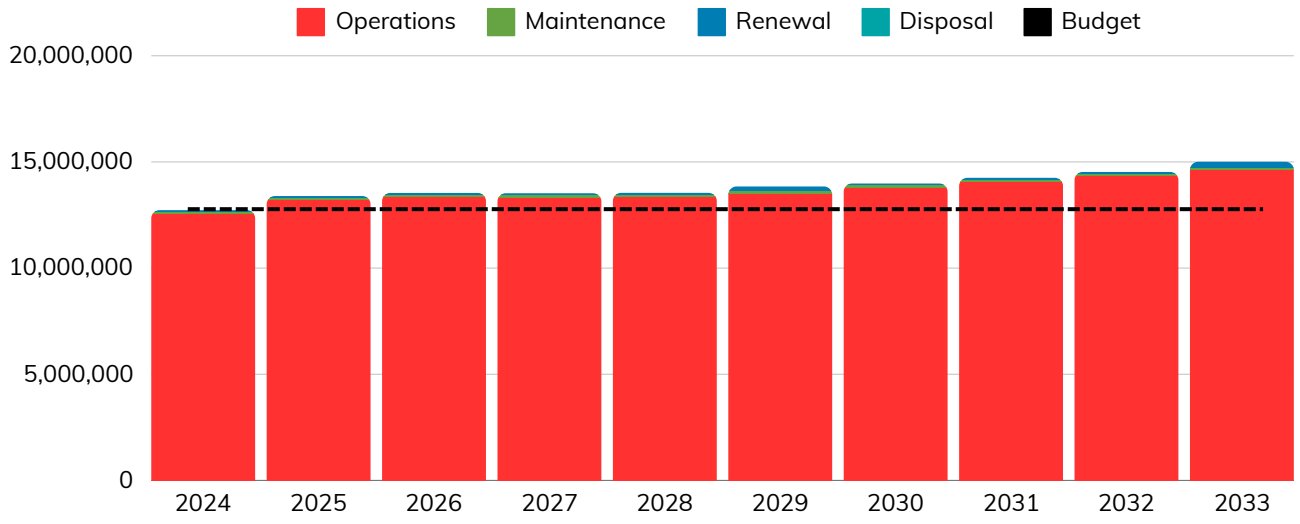
Annual Funding Gap	Asset Renewal Ratio	% of 10-Year Plan Funded
$967,000	66%	93%

Asset Summary

Assets	Items	Replacement
	Facilities	$24,243,000
	Physical Collection	$5,774,000
	Technology	$476,000
	Equipment	$21,710,000
	Vehicles	$80,000

$1.6M Total Replacement Cost

10 Year Life Cycle Forecast



Data Confidence	Low	Medium	High

2.0 INTRODUCTION

2.1 Background / Purpose of Service

All public health boards in Ontario, including Chatham-Kent Public Health (CKPH)are governed by the Health Protection and Promotion Act. The Act defines which services and programs Chatham-Kent Public Health must offer to the community. CKPH is required to provide programming in the following areas:

- Community sanitation.
- Provision of safe drinking water.
- Control of infectious diseases.
- Health promotion, health protection and disease and injury prevention.
- Family health,
- Collection and analysis of epidemiological data; and,
- Additional programs and services, as directed by the Ontario Health Regulations.

The purpose of public health is to promote health and prevent disease for a population, both for the province of Ontario as a whole, and for individual communities, such as the Municipality of Chatham-Kent. This is what is known as a “population health” approach. Public health works to promote health and prevent disease by acting in anticipation of a future outcome. Public health develops services that aim to tackle health concerns projected to affect communities, such as health conditions related to aging and the spread of infection and disease. Pursuant to the Health Promotion and Protection Act are the Ontario Public Health Standards (OPHS).

The Ontario Public Health Standards are a set of requirements for providing mandatory public health programs and services outlined in the Health Promotion and Protection Act. The program standards to address factors attributed to good health and broadly target population-based goals and program outcomes are categorized by the following:

Foundational Standards

- Population Health Assessment.
- Health Equity.
- Effective Public Health Practice; and,
- Emergency Management.

Program Standards

- Chronic Disease Prevention and Well-Being.
- Food Safety.
- Healthy Environments.
- Healthy Growth and Development;
- Immunization;
- Infectious and Communicable Disease Prevention and Control.
- Safe Water.
- School Health, and,
- Substance Use and Injury Prevention.

The OPHS uses The Public Health Accountability Framework to 'outline the parameters and requirements to hold boards of health accountable for the work they do, how they do it, and the results achieved'. The OPHS also sets out several requirements, such as:

- Organizational Requirements where reporting and/or monitoring are required to demonstrate accountability to the ministry.
- Fiduciary Requirements for using ministry funding efficiently for its intended purpose.
- Good Governance and management practices to ensure effective functioning of health and management of public health units; and,
- Public Health Practice requirements for achieving a high standard and quality of practice in the delivery of public health programs and services

To ensure boards of health are transparent and demonstrate impact, the OPHS requires the following:

- Public Health Indicator Framework for program outcomes.
- Contributions to population health outcomes; and,
- Transparency framework,
- Disclosure and reporting requirements.

The mandate of CKPH is to improve the health of the population through health promotion, disease and injury prevention and health protection. Much of the improvement in life expectancy has been due to public health measures such as ensuring safe drinking water, better housing, widescale immunization. CKPH also has a key role to play in working with other sectors to tackle underlying social, cultural, economic and environment

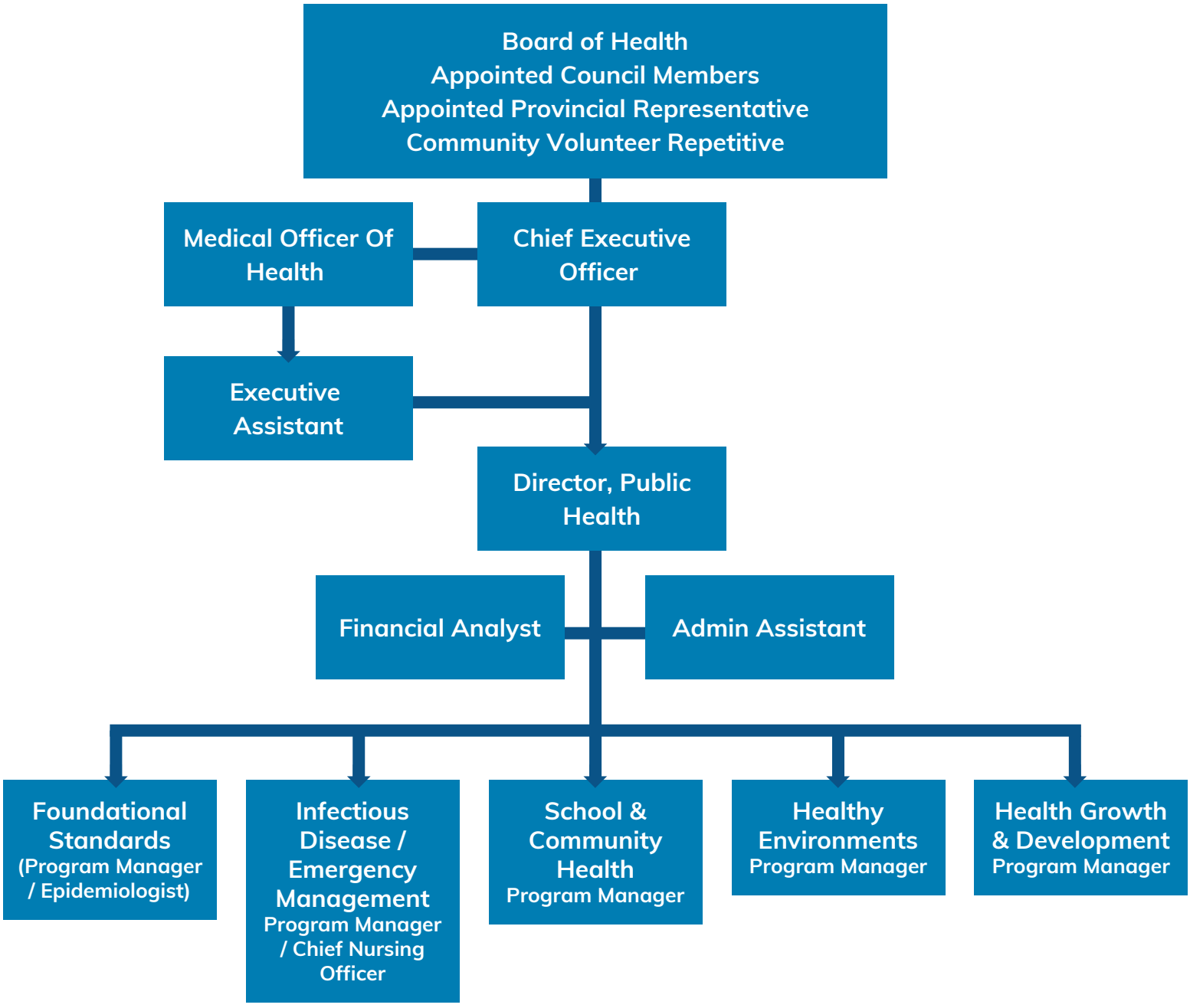
CK Public Health (CKPH) provides service throughout the community of Chatham-Kent. While it has three main offices: 435 Grand Ave W, Chatham, 177 King E, Chatham and 315 King W, Chatham (dental clinic), its work is rooted in the community. In addition to these offices, residents can access CK Public Health:

- Bi-weekly at the Wallaceburg Community Health Centre, providing sexual health services
- On the maternity floor at Chatham-Kent Health Alliance, giving support to new moms
- Every school in Chatham-Kent provides comprehensive school programs
- At the Early ON centers, working in collaboration with Children's Services to provide support to growing families
- Providing Needle Syringe Program satellite services and mobile services in partnership with Pozitive Pathways, CK Community Health Centre, the RAAM clinic, R.O.C.K., McTavish Pharmacy
- Providing service in families' homes, local businesses, farm operations, and partner community agencies

Key Stakeholder	Role in Asset Management Plan
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.
Mayor/CAO	• Advocate for and champion the adoption of asset management principles within the organization. • Guarantee the availability of sufficient resources to foster the development of staff knowledge and skills, facilitating the implementation and ongoing enhancement of asset management practices.
General Manager	• Allocate resources to meet the organization's objectives in providing services while managing risks. • Overall responsibility for Asset Management, provide leadership in influencing decision-making processes related to Asset Management.
Public Health Board	• Allocate resources to meet the organization's objectives in providing services while managing risks.
Director	• Allocate resources to meet the organization's objectives in providing services while managing risks. • Provide leadership in influencing decision-making processes related to Asset Management.
Staff	• Report when assets are failing or are in need of repairs • Take every reasonable precaution to ensure assets and equipment are in good working order
Community	• Engage in facilitated discussions to enable the municipality to comprehend the community's desired level of service.

Table 2.1:Key Stakeholders in the DAMP

CKPH organizational structure for service delivery from infrastructure assets is detailed below,



2.2 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, as well as the service level hierarchy used for service planning and delivery.

An asset registry is a single data source containing an asset data inventory, 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.). CKPH's asset registry is currently structured as an asset hierarchy, explained below.

Chatham-Kent is working towards establishing a functional asset hierarchy, which means the hierarchy has been established based on what the asset owner needs or wants the asset or system to do. Generally, assets and systems are organized according to their primary function. The service hierarchy is shown in **Table 2.2.2.**

Table 2.2.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objectives
Medical Equipment	Reliable medical equipment must be kept in good working order to ensure CKPH can provide medical services to the community
Technology / Software	Reliable technology equipment and software must be kept in good working order to ensure CKPH deliver programs and services efficiently
Program Equipment	Reliable program equipment must be kept in good working order to support program interventions

2.3 Asset Registry

Table 2.2.1 shows the assets covered by this DAMP. These include all communications, technology, software, equipment, and supplies required for Chatham-Kent to deliver its service to the community.

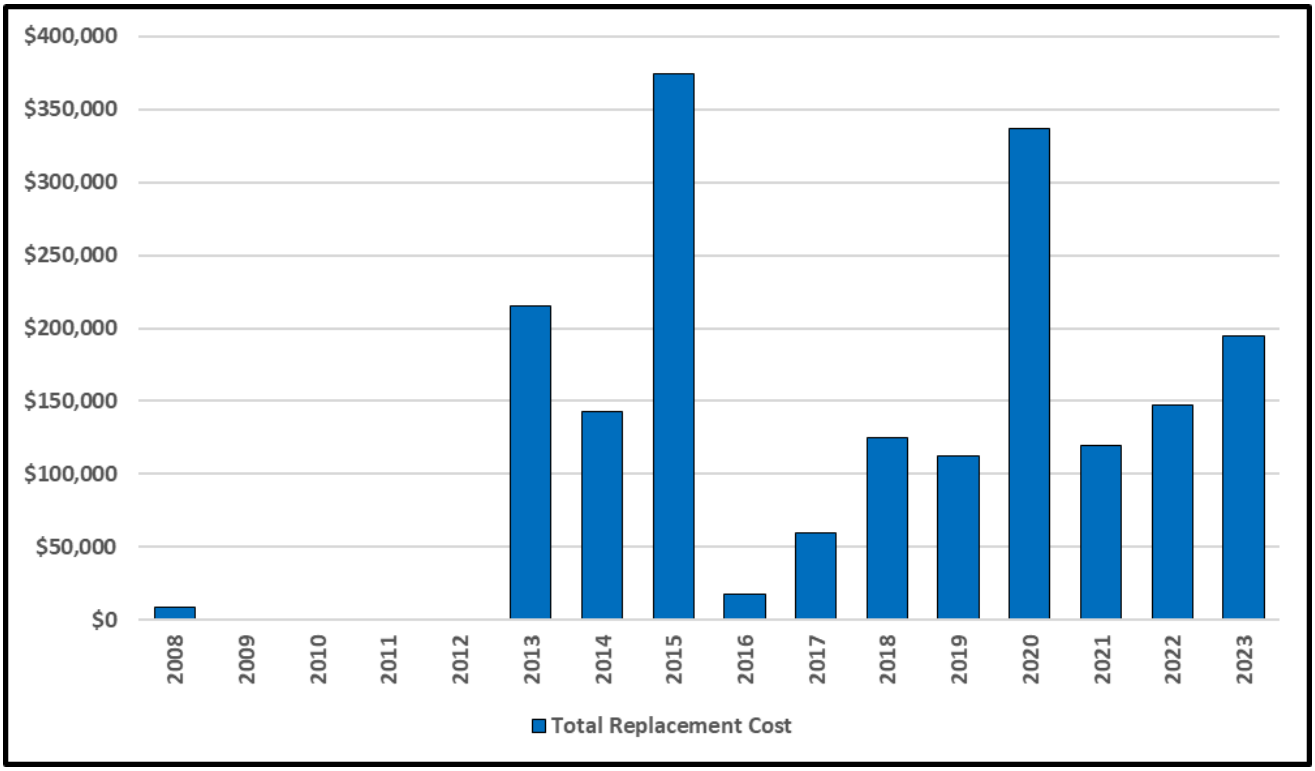
Table 2.1.1: Service Assets

Asset Category	Description	Age or Average Age	Average Condition	Avg Estimate Service life Remaining	Current Replacement Value
Hardware / Software	Laptops, Screens, Computer Components, Software	3	Good	4	$616,000
Medical Equipment	Vaccine Regrigerators, Extreme Temperature Freezers, BP Monitors, Storage Shelves	8	Good	12	$344,000
Dental Equipment	Dental chairs, Portable dental systems, X-ray Equipment, Oral Cameras, Sterilization Bay	4	Good	16	$397,000
Program Equipment	Breast Pumps, Program Supplies,	10	Good	10	$76,000
Admin Equipment	Tables, Desks, Chairs, Filing Cabinets	Varies	Good	Varies	$171,000
				Total Rep Value	$1,604,000

All figure values are shown in 2024 dollar value.

The age of an asset plays a crucial role in asset management, serving as a basis for planning. Assets typically have an estimated service life (ESL) that guides their replacement schedule. Assets with lower costs or criticality may be renewed based on age, serving as an interim measure for condition assessment until more robust methodologies are developed. However, it's essential to recognize that asset condition assessments based solely on age are generally regarded as low-confidence indicators. Age is a mandatory measurement required by O.Reg. 588/17. The age profile of the assets included in this DAMP is shown in **Figure 2.2.1.**

Figure 2.2.1 Assets Age Profile Graph



All figure values are shown in 2024 dollar value.

Most costs depicted in this chart are various forms of equipment (dental, medical, programming) as well as computer-related hardware and software required for CKPH to provide its service. The large spikes in investment are often related to significant spikes in renewal requirements in the future. Ideally, CKPH would consider altering renewal patterns to create a smoother, stable age profile and ease the spikes in renewals in the future.

2.2.1 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.

At this time, no CKPH asset has undergone a formal condition assessment. All rating were assumed utilizing age and estimated service life as a proxy methodology until a formal condition rating can be established and undertaken.

Conditions will be measured using a 1 – 5 grading system in future iterations of the plan, as detailed in **Table 2.1.3**. 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.

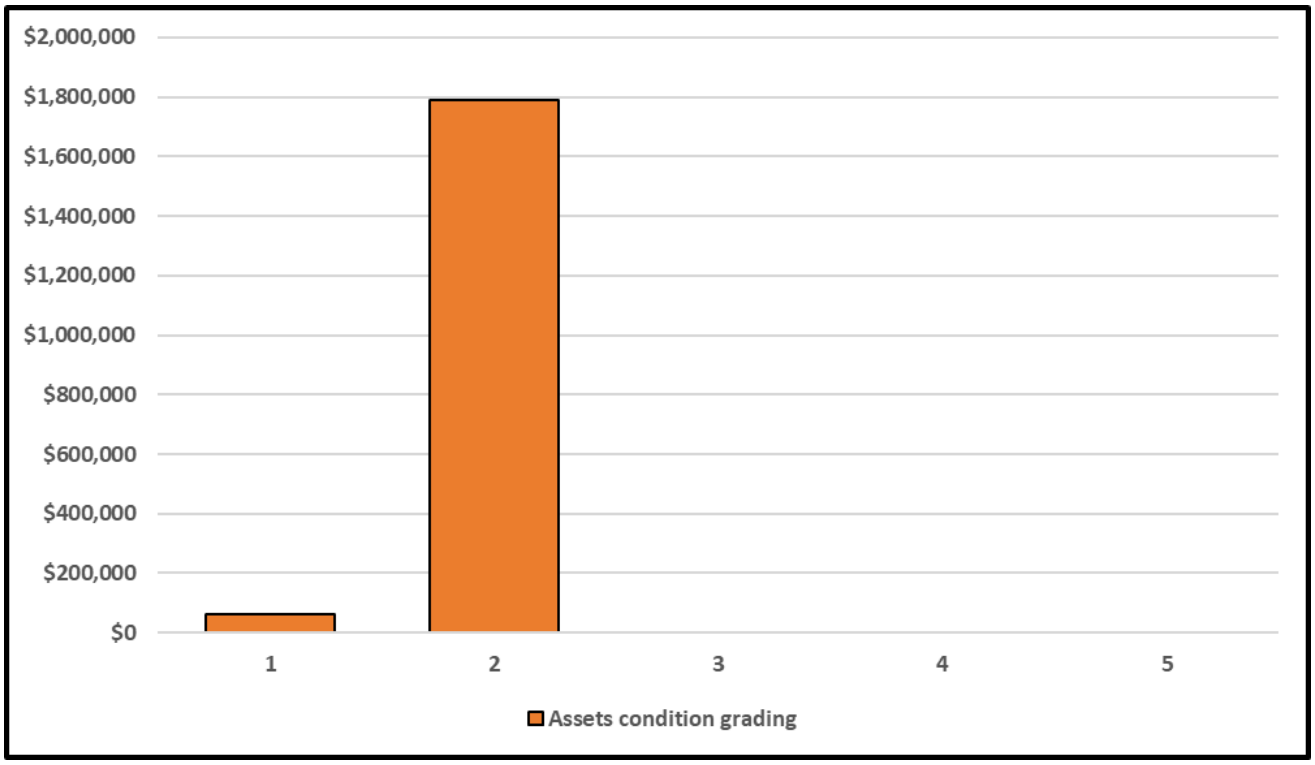
Table 2.1.3: Condition Grading System

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

The condition profile of our assets is shown in Figure 2.1.3.

The condition profile of CKPH assets is shown in **Figure 2.1.3.**

Figure 2.1.3: Asset Condition Profile



All figure values are shown in 2024 dollars.

On average, most assets in the CKPH registry are deemed to be in good condition. However, this does not imply that all assets are in good condition. Maintaining CKPH assets in good condition is vital for the service, as it heavily depends on their availability and state. For instance, if most maintenance activities were postponed for ten years, the dental equipment's condition rating would deteriorate from good to very poor in less than nine years. In future iterations of the DAMP, CKPH will further expand on the condition of assets as the AM knowledge matures.

2.2.2 Asset capacity and performance

Assets are generally provided to meet design standards where available. At this time, there are no known deficiencies. Future iterations of the DAMP will continue to review asset conditions and identify when there are service deficiencies that would affect the service's ability to perform as expected.

3.0 LIFECYCLE

The lifecycle management plan will detail how CKPH 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. It is budget-based but will evolve into a full lifecycle approach by 2027, where appropriate.

Once CKPH 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, CKPH 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

Acquisitions reflect new assets that did not previously exist or works that will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, and social or environmental needs. Any asset donated to CKPH is also considered an acquisition.

3.1.1 Selection criteria

Proposed acquisition of new assets and upgrade of existing assets are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrades and new works should be reviewed to verify that they are essential to CKPH's needs. The proposed upgrade 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. The priority ranking criteria are detailed in **Table 3.1.1.**

Table 3.1.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Legislative Requirements or Obligations	70%
Increase to Level of Service	20%
Emerging Technology	10%
Total	**100%**

Summary of future asset acquisition costs

At this time, CKPH has no known acquisitions. There may be additional acquisitions over the 10-year planning horizon in the future; however, they will be included in future iterations of the DAMP.

3.2 Operations Plan

Operations encompass critical and routine tasks to support CKPH in delivering its various services. Everyday operational activities include staff costs, cleaning spaces, program delivery, administrative activities, software licensing, insurance, public engagement, facility utility expenses, obtaining program supplies, dental x-ray costs, fees, and conducting training sessions. These tasks and activities are essential for the service's daily operations.

CKPH is a service driven by its personnel, while the facilities that provide space for the service are secondary in consideration. A significant portion of the budget is associated with employees and the costs of delivering critical public health programs within Chatham-Kent. For CKPH to function efficiently and effectively, substantial staffing with a variety of skills, education and specializations is required. These staffing positions are not only critical, but necessary to attain the desired service level. Currently, CKPH employs as full time equivalents;

- **1** Administrative Assistants
- **1** Community Outreach/Public Relations Officer
- **1** Coordinator, youth engagement
- **2** Dental Assistants
- **2** Dental Hygienist
- **0.6** Dentist
- 1 Dietician

- 1 Director, Public Health
- 0.5 Epidemiologist
- Financial Analyst
- 1 Health Data Analyst
- 4.7 Health Educators
- 0.8 Medical Officer of Health
- 2 Nutritionists
- 0.29 Outreach workers
- 1 Planning & Evalution Specialist
- 10 Program Assistants
- 4.5 Program Managers
- 9 Public Health Inspectors
- 29.4 Public Health Nurses
- 1 Registered Nurse
- 1 Tobacco Enforcement Officer

The CKPH staff provides support through day-to-day operational activities to ensure everyone in Chatham-Kent has the opportunity to reach optimal health and a high quality of life. CK Public Health improves the health of CK residents by:

Prevention of chronic diseases within the community by:

- providing dental screening in schools, and free dental care to low-income seniors and children
- providing information, training, support and resources about tobacco use prevention and youth engagement along with cessation counselling
- enforcing the smoke-free Ontario act
- Seniors Dental Program – providing eligible seniors with access to free dental care including examinations, preventive services, restorative services, endodontics, and oral surgery.
- creating environmental and systems changes to help individuals make food choices that work for them
- building nutrition and food literacy awareness, knowledge and skills
- supporting CK student nutrition programs
- working with partners to promote physical literacy
- working with partners to prevent injuries and reduce the amount of alcohol and drug misuse

Protecting the community against environmental health hazards by:

- conducting inspections of public food premises, personal service settings, recreational water facilities, and making the information available on-line
- providing safe food handler courses and promoting food safety alerts and recalls
- Sampling recreational water at beaches
- Monitoring public drinking water safety and issuing boil water advisories as needed
- Following up on all public complaints of possible health hazards
- advocating for healthy built environments (healthy community design, land use planning, walkable communities, climate change impacts, green spaces, active transportation, affordable housing

Preventing epidemics and the spread of infectious diseases by:

- managing and preventing the spread of tuberculosis in the community
- Conducting vaccine surveillance and immunize the public against vaccine preventable diseases
- ensuring rabies surveillance and control by investigating all reports of human exposures to animals
- testing and following up on sexually transmitted/ blood borne infections
- providing needles and supplies and safe needle disposal options
- providing overdose prevention/ naloxone kits
- monitoring West Nile virus and Lyme disease and mosquito control conducting surveillance of mosquitoes and ticks responding to public health emergencies including food borne illnesses, disease outbreaks, natural disasters

Promoting and encouraging healthy growth and development for families and children by:

- helping parents to plan a healthy pregnancy and prevent low-birth -weight babies
- providing prenatal classes
- supporting new moms during the postpartum period
- providing home visits to families with babies and young children to support with: adjusting to parenthood, infant feeding, monitoring the baby's growth and development, establishing infant care routines, connecting with community resources
- providing information and resources to support students, staff and parents in creating healthy school communities

Over the 10-year planning period, CKPH forecasts it will need to invest;

- **$97,513,000** in staff wages
- **$2,918,000** for facility operating costs (Energy costs, cleaning, inspections, facilities allocation)
- **$12,736,000** project costs, consultants and purchase of services, which can include program staffing
- **$4,264,000** for public health-related materials, supplies, etc.
- **$178,000** for software support and maintenance fees
- **$713,000** to publicly advertise public health information

Multiple factors can affect operational costs, including labour Provincial funding levels or changes in priorities, labour negotiations and recruitment costs, Council funding or changes in priorities, rising energy costs, rising food costs, and inflationary impacts. All of these factors will impact the future costs of CKPH and the services it can and will provide.

A significant portion of operational costs are funded by the provincial government annually; however, it is not practical or logical to assume that the funding envelopes will keep pace with rising costs. Historically, the Provincial government has been slow to react to funding change requirements, and the burden falls on the Municipality to absorb the rising costs.

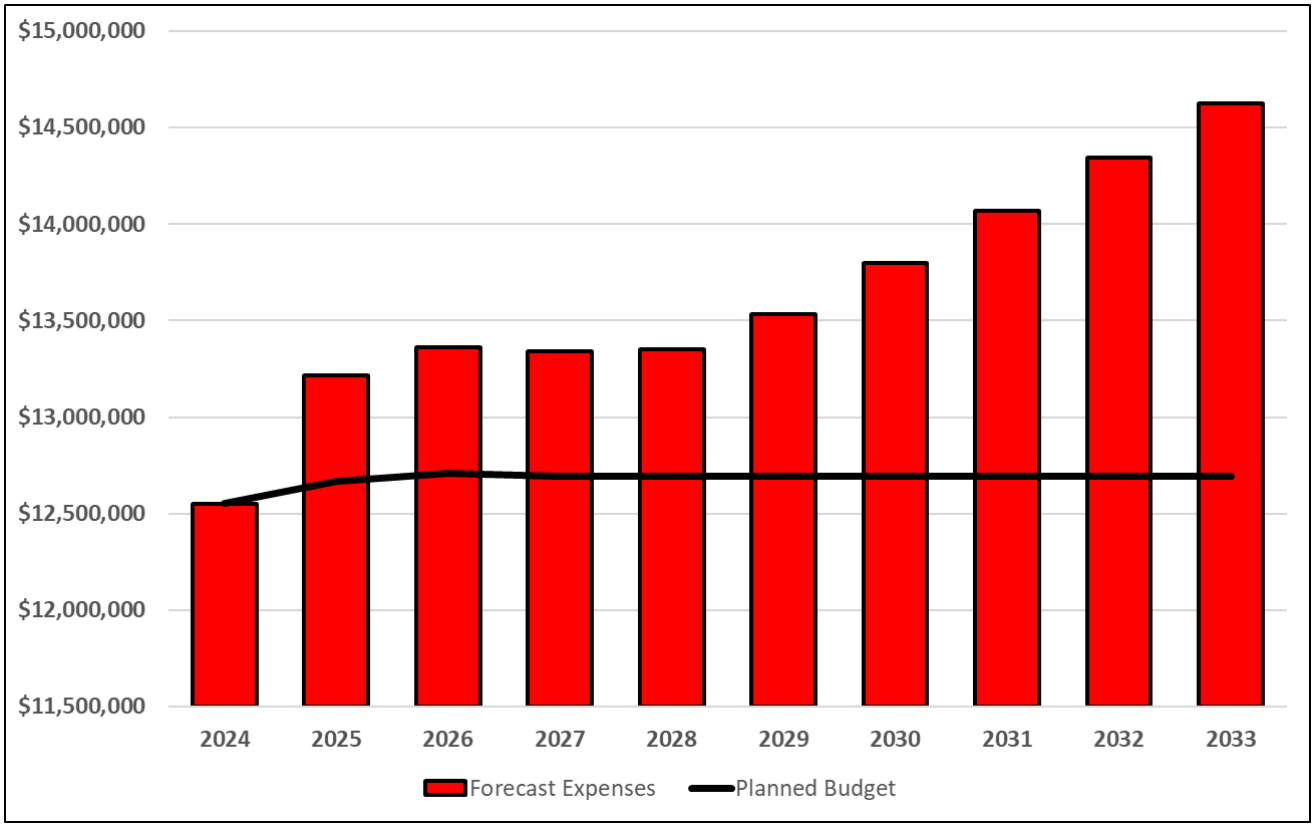
At the time of writing this DAMP, due to CK's financial accounting structure, it was impossible to adequately separate some of the costs to detail how much is invested each year for specific programs. Over the next three years, CKPH will work with the Asset and Quality Management (AQM) division to separate the operational programs and costs, ensure that they can be included in the operational explanations and connect the costs to specific technical levels of service.

Summary of forecast operations costs

Forecast operations costs are expected to vary according to the total value of the asset and operational staffing needs. If additional assets or staffing are acquired, future operations costs are forecast to increase. If assets are disposed of, forecast operation costs are expected to decrease. Changes in levels of service directed the board and approved by the council will also affect the operational forecasts.

Figure 3.2 shows the forecast operations costs relative to the proposed operations Planned Budget.

Figure 3.2: Operations Summary



All figure values are shown in 2024 dollars.

At this time, there is enough funding allocated to maintain most of the planned operations for CKPH; however, budgetary impacts will begin to affect operations as early as 2025, where there is an operational gap, which is anticipated to increase to $1,934,000 annually by 2033. These costs may be offset by increased provincial support for some funding. The future level of provincial funding is challenging to predict as the Ministry of Health and the Provincial Government have been rapidly changing goals, funding envelopes, and targets recently which creates an increasing amount of uncertainty, significantly when predicting funding.

These cost variances between funding and CKPH's forecast of financial needs may impact operating hours, staff levels, and program delivery. Options to manage the costs over time could include increasing council investment, grants, or other financial options. CKPH will consider these options, amongst others, to work towards a sustainable level of service.

To maintain the projected service levels over the ten-year planning horizon, the operational budget requires an increase. This adjustment is necessary to accommodate the anticipated 2% annual inflation beyond 2027, mirroring the reality of escalating costs. A primary concern is the inflation-related rise in energy costs for all the facilities. Managing operational costs is a persistent challenge for CKPH. It will be addressed in subsequent versions of the DAMP to ensure the defined service level is met and to clearly convey the ramifications of an inadequate budget once the 2025 service levels are set.

Table 3.2.1: Operations Budget Trends

Year	Operational Budget
2024	$12,553,000
2025	$12,665,000
2026	$12,709,000
2027	$12,692,000

All figure values are shown in 2024 dollars.

Operational budget levels are considered inadequate to meet the projected level of service. Where operational budget allocations are such that they will result in a lower level of service, some of the service consequences and service risks have been identified. The DAMP highlights service risks, and the Infrastructure Risk Management Plan considers service risks. Staff evaluate and prioritize operational necessities based on their expertise and opinion on the subject matter. Subsequent versions of the DAMP will explore and elaborate on the operational repercussions and the effects of these deficiencies on service levels

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.

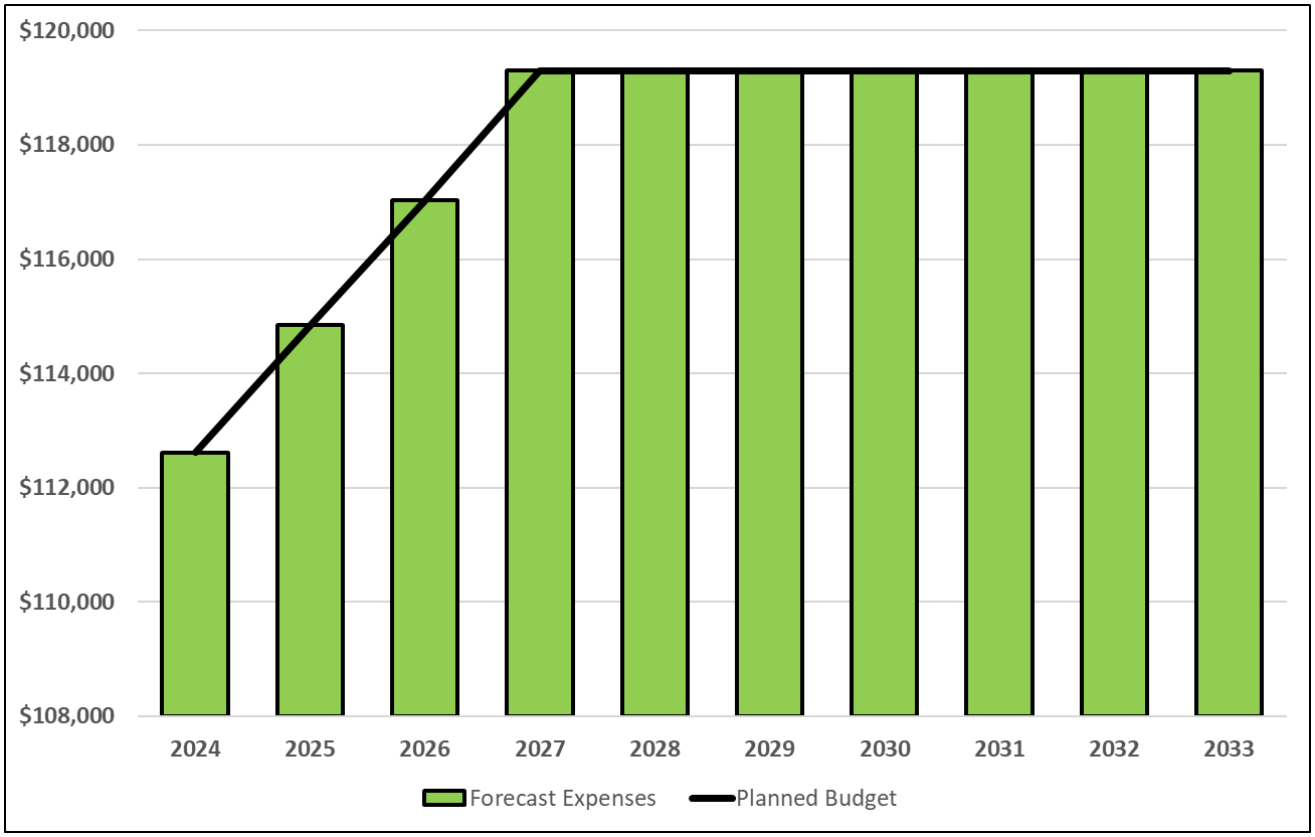
Proactive maintenance planning dramatically diminishes the need for reactive maintenance, which carries a greater risk to human safety and incurs higher financial costs. It is crucial for Chatham-Kent to strategically plan and adequately fund its maintenance activities to guarantee the reliability of CKPH assets and the achievement of the expected service level.

Examples of typical maintenance activities include general facility maintenance, HVAC component replacement, vaccine fridge repairs, and dental equipment repairs, along with the appropriate staffing and material resources required to perform these activities.

Summary of forecast maintenance costs
Forecast maintenance costs are expected to vary depending on the total value of the asset stock. If additional assets are acquired, future maintenance costs are forecast to increase. If assets are disposed of, forecast maintenance costs are expected to decrease. Currently, CKPH allocates approximately **$114,000** annually to the maintenance of facility space and various equipment.

Figure 3.3 shows the forecast maintenance costs relative to the proposed maintenance Planned Budget. At this time, CKPH shares three physical locations within CK, which will be reviewed in 2024 - 2025 to determine if there are additional maintenance needs that have not yet been identified.

Figure 3.3: Maintenance Summary



All figure values are shown in 2024 dollars.

Maintenance budget levels need to be aligned with forecast costs to meet projected service levels. Where maintenance budget allocations are such that they will result in a lower level of service, the service consequences and service risks have been identified. At this time, staff assess and prioritize reactive maintenance using experience and judgment.

Any maintenance that cannot be funded will be deferred. Deferred maintenance (i.e., works identified for maintenance activities that need to be completed due to available resources). There is a facilities reserve that can be utilized to offset some current and future costs; however, there is insufficient funding in the reserves to be allocated to all municipal services that require facility maintenance works. This issue will be addressed in future iterations of this plan and the projected LTFP.

In future iterations of DAMP (2025—Ongoing), CKPH will develop lifecycle models to guide maintenance activities and report on the associated costs for those assets. This will offer enhanced clarity on expenditures and inform future acquisitions, budgeting, reserve allocations, and reporting obligations. The trend in maintenance budgets is shown in **Table 3.3.1.**

Table 3.3: Maintenance Budget Trends

Year	Maintenance Budget
2024	$112,613
2025	$114,845
2026	$117,028
2027	$119,300

3.4 Renewal Plan

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

Assets requiring renewal are identified from the asset register data to project the renewal costs (replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year). Table 3.4 shows the typical useful lives of assets used to develop projected asset renewal forecasts**.** Asset useful lives related to CKPH were last reviewed on **May 1st, 2024.**

Asset (Sub) Category	**Useful Life** (average)
Computer Hardware	4 - 5 Years
Clinical Software	20 Years
Dental Equipment & Technology	10 - 15 Years
Medical Equipment & Technology	15 Years
Program Equipment & Technology	15 Years

Table 3.4: Useful Lives of Assets

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

3.4.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a Facility with one of similar size and capacity) or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. purchasing broken medical equipment).

CKPH 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.

The ranking criteria used to determine the priority of identified renewal proposals is detailed in **Table 3.4.1.**

Criteria	Weighting
Critical Asset Condition	30%
Legislative Requirements	30%
Lifecycle Cost Savings	20%
Council Strategic Priorities	20%
Total	100%

Table 3.4.1: Renewal Priority Ranking Criteria

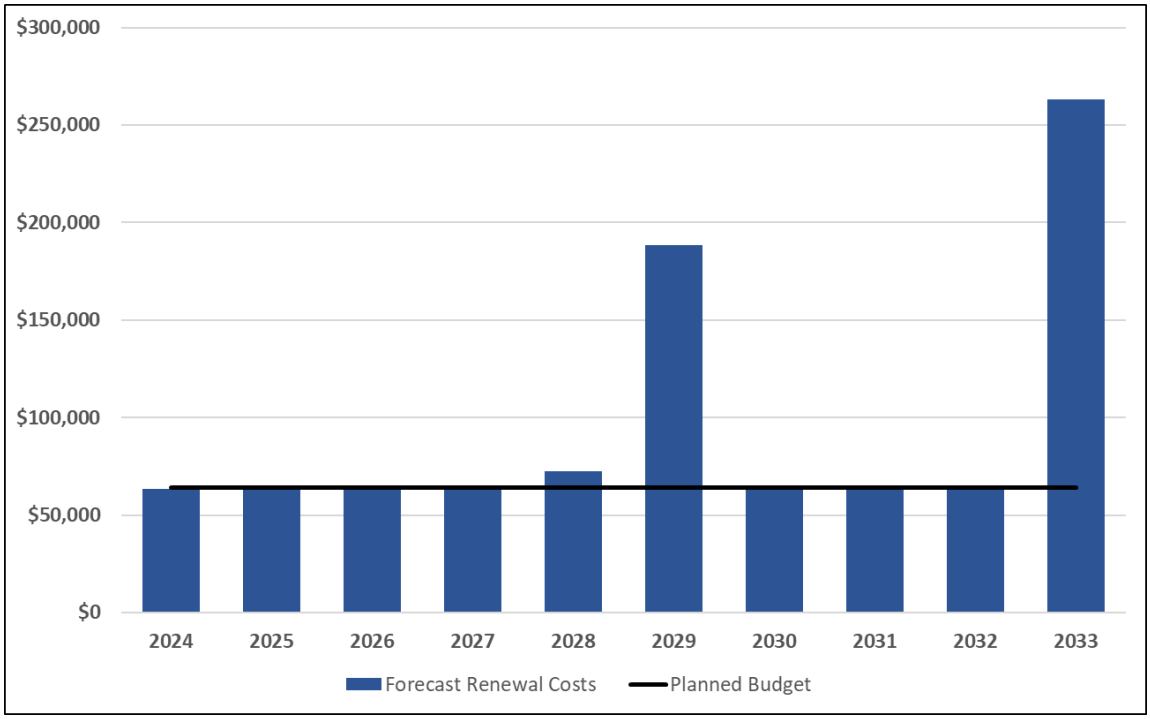
3.5 Summary of future renewal costs

Over the next 10-year planning window, the CKPH service must invest approximately **$964,000** to renew its assets as planned. This will include;

- **$658,000 to renew hardware such as laptops**
- **$181,000 to renew dental equipment**
- **$65,000 to renew medical equipment**
- **$60,000 to renew program equipment**

Assets maintained beyond their expected useful life are marked as backlog items on the graph, which may increase operational and maintenance costs if their service is extended. This ESL plan is based on legislative requirements or industry best practices. Lifecycle models will be developed to confirm these assets' optimal ESL and evaluate their current lifespans.

Figure 3.5.1: Forecast Renewal Costs



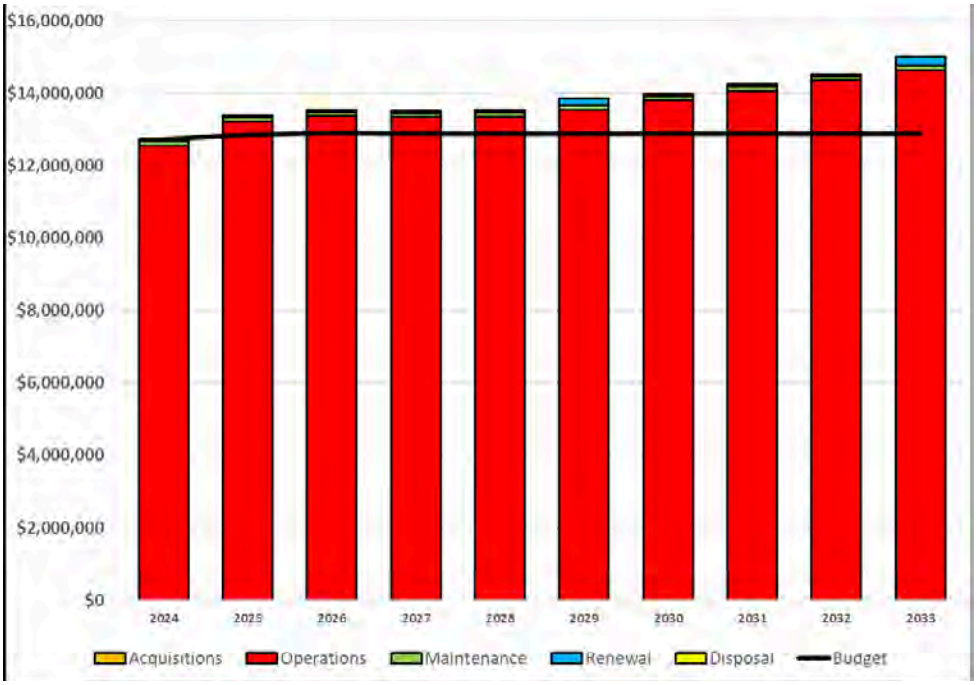
All figure values are shown in 2024 dollars.

The graph shown in **Figure 3.5.1** shows the intended renewals. Currently, insufficient funds are allocated over the entire 10-year planning horizon to complete all planned renewals. There are also insufficient funds and reserves allocated over the life of the plan. With projected rising costs, it is reasonable to forecast insufficient funding over the entire planning period.

3.6 Disposal Plan

Disposal includes any activity associated with disposing of a decommissioned asset, including sale, demolition or relocation. Currently, there are no known disposals over the 10-year planning horizon. Future iterations of the plan will consider and report on the implications of disposals as they arise.

Figure 3.7.1: Lifecycle Summary



All figure values are shown in 2024 dollars.

During most of the planning period, there are insufficient funds to operate without some impact on the levels of service provided. Early in the planning period, there are minor variances in operational costs; however, as the plan progresses, there is likely to be some significant impact on public health outcomes. There will likely be support from other levels of government to mitigate the gap detailed in the DAMP; however, it should still be noted that if the support from the province does not increase, there will be a significant gap.

Deferring renewal costs may even further exacerbate the operational shortfalls, as deferrals often lead to higher planned and reactive maintenance costs and even operational cost increases. Lifecycle models will help to inform the lifecycle projections and will be completed between 2024 and 2027. Eventually, these tradeoffs will impact CKPH levels of service, such as hours of operation and response time goals.

4.0 LEVELS OF SERVICE

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

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

4.1 Legislative Requirements

Meeting legislative requirements should be the 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. There are many legislative requirements relating to asset management. Legislative requirements that impact the delivery of the CKPH are outlined in **Table 4.1**.

Table 4.1: Legislative Requirements

Legislation or Regulation	Requirement
Health Protection & Promotion Act	This Act empowers Boards of Health with the legal mandate to deliver public health programs and services, prevent the spread of disease, and promote and protect health.
Ontario Public Health Standards	This is a companion document to the HPPA that holds boards accountable for the work they do
Childcare & Early Years Act	This Act allows the Medical Officer of Health to provide recommendations to Centers regarding the health and well-being of a child receiving childcare
Personal Health Information Protection Act	This Act sets out the rules for the collection, use and disclosure of personal health information

Legislation or Regulation	Requirement
Immunization of School Pupils Act	This Act requires children under 18 to receive certain vaccinations unless they have a valid exemption
Healthy Menu Choices Act	This Act requires regulated food service premises to post calories for food and drink items they serve. CKPH enforces this on a complaint-basis
Smoke Free Ontario Act	This Act regulates the sale, supply, display and promotion of tobacco and vapour products. CKPH inspects establishments to determine compliance
Skin Cancer Prevention Act	This Act prohibits youth under the age of 18 from using tanning beds in Ontario- CKPH enforces this on a complaint basis
Safe Drinking Water Act	This act ensures the safety of drinking water in Ontario by setting standards for water quality, regulating drinking water systems, and requiring municipalities to do regular testing and reporting.

4.2 Customer Research and Expectations

This DAMP is prepared to help facilitate consultation before CKPH adopts levels of service. Future revisions of the DAMP will incorporate customer consultation on service levels and costs required to provide CKPH. This will assist the Council and stakeholders in matching the necessary level of service required service risks and consequences with the customer's ability and willingness to pay for the service.

4.3 Customer Value

Service levels are defined in 4 ways: legislative compliance, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

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

Table 4.3: Customer Values

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
Parental support programs should meet individual needs	Annual Customer Engagement survey	TBD in 2025 - 2027	TBD in 2025 - 2027
Wait Times for Dental services should be shorter	Annual Customer Engagement survey	TBD in 2025 - 2027	TBD in 2025 - 2027
Public Health inspections should be effective to ensure food safety and safe drinking water	Annual Customer Engagement Survey	TBD in 2025 - 2027	TBD in 2025 - 2027

4.4 Customer Levels of Service

The Customer Levels of Service are considered in terms of:
Condition: How good is the service ... what is the condition or quality of the service?
Function: Is it suitable for its intended purpose .... Is it the right service?
Capacity/Use: Is the service over or underused... does CKPH need more or less of these assets/programs?

In **Table 4.4,** under each service measure type (Condition, Function, Capacity/Use), there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation. While these measures are subjective, they are important inputs for the DAMP as they inform the desired level of service.

Table 4.4: Customer Level of Service Measure

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Ensure CKPH has well maintained and reliable equipment	Annual Customer Engagement Survey	TBD 2025	TBD 2025
Function	Ensure that CKPH provides mandatory health services/programs	Annual Customer Engagement Survey	TBD 2025	TBD 2025
Capacity	Ensure the public has access to all public health programming and services	Annual Customer Engagement Survey	TBD 2025	TBD 2025

4.5 Technical Levels of Service

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

These are measures of fact related to the service delivery outcome (e.g., the number of occasions when service is unavailable or the proportion of replacement value by condition percentages) to provide a balance compared to the customer perception, which may be more subjective.

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

Acquisition – the activities to provide a higher level of service (e.g. purchase of a dental bus) or a new service that did not exist previously (e.g., a new community awareness program).

Operation – the regular activities to provide services (e.g. providing educational programs, vaccine clinics, training, service programs, total staff hours, cleaning costs, energy costs, etc.

Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. fixing equipment/building),

Renewal – the activities that return an asset's service capability to what was initially provided (e.g., replacing software, workstations, dental equipment, vaccine refrigerators).

Service and asset managers plan, implement, and control technical service levels to influence service outcomes. **Table 4.5** shows the activities expected under the current 10-year Planned Budget allocation and the Forecast activity requirements recommended in this DAMP.

Table 4.5: Technical Levels of Service

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Operation	CKPH will administer the Ontario Seniors Dental Care Program	# of appointments provided to OSDCP client @ CKPH dental clinic annually	637 as of August 2024	1,000
Operation	CKPH will administer the Ontario Seniors Dental Care Program	Wait time for new patient Exams	4 Months	1-3 Month
		Wait time for Cleanings	6 Months	1-3 Months
		Wait time for Emergency Exams	2 Weeks	1 week
Operation	CKPH will inspect food presmises to ensure they meet health standards	# of inspections completed (2023)	213	As many as required to meet legislative requirements
Operation	CKPH will inspect food presmises to ensure they meet health standards	% of high-risk food premises inspected once every 4 months while in operation	71%	95%
Operation	CKPH will provide up to date extreme weather or climate/air quality warnings	% of Environment Canada mandatory public notifications issued completed withing required timeline	100%	100%

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Operation	CKPH will provide up to date extreme weather or climate/air quality warnings	% of Environment Canada mandatory public notifications issued completed withing required timeline	100%	100%
Operation	CKPH will provide services and support a pregnancy and healthy growth and development program for children 0-6	% of HBHC postpartum screens completed (2023)	100%	90%
Operation	CKPH will provide services and support a pregnancy and healthy growth and development program for children 0-6	# of breastfeeding consultations given annually (2023)	696	2,500
Operation	CKPH will provide services and support a pregnancy and healthy growth and development program for children 0-6	Complete annual Provincial Nutritious food basket survey	100%	100%

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Operation	CKPH will assess student immunization records annually	% of students in accordance with the Immunization of School Pupils Act (IPSA)	98.4%	100%
Operation	CKPH will provide IPAC support to long term care and retirement homes	% of required facilities to receive an on-site IPAC visit within 48 hours of an outbreak being declared	New program for 2024	75% in 2024
Operations	CKPH will provide the Safe Drinking Water program that encourages private well water testing	# of private well water samples submitted to PHOL annually. (2023)	641	TBD in 2025
Operations	CKPH will administer the Safe Recreational Water program	% of recreacdtion water facilities that recived required annual inspections	100%	100%
Operations	CKPH will deliver services to provide Vector born Disease Control program	# of Mosquito Traps submitted to lave server per seeason	139	TBD in 2025
Operations	CKPH will deliver services to provide Vector born Disease Control program	# of active tick surveillance sessions completed annually.	4	TBD in 2025

Lifecycle Activity	Level of Service Statement	Activity Measure	Current Performance	Recommended Performance
Operations	CKPH will investigate all reports of potential rabies exposure within legislatively required time	% of rabies exposure reports investigeted within required time	100%	100%
Operations	CKPH will provide Healthy Babies Healthy Children program	# of parents enrolled in program (2023)	TBD in 2025	TBD in 2025
Operations	CKPH will meet legislative compliance with Provincial reporting requirments	CKPH iwll complete the food affordability process and reporting	100% Complete (2023)	TBD in 2025
Operations	CKPH will provide prenatal support within Chatham-Kent	Provide Prenatal Supports within community	TBD in 2025	TBD in 2025
Maintenance	Ensure equipment is in good working order at all times	Condition or annual inspection program	TBD in 2025	TBD in 2025

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

5.0 FUTURE DEMAND

5.1 Demand Drivers

Drivers affecting demand include population change, population health needs, public health emergencies, regulations, demographic changes, seasonal factors, vehicle ownership rates, consumer expectations, technological changes, economic factors, environmental awareness, etc.

5.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and asset use have been identified and documented. **Table 5.5** shows the impact of demand drivers that may affect future service delivery and asset use.

Demand for new services will be managed by managing and upgrading existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks, and managing failures. **Table 5.5** shows opportunities identified for demand management to date. Future revisions of this DAMP will develop further opportunities.

5.3 Council Strategic Priorities for Public Health

Future iterations of the DAMP will detail the Council's strategic priorities and how they will impact service levels. The priorities will be operationalized through the DAMP and its continuous improvement initiatives.

5.4 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and asset use have been identified and documented. This section of the DAMP will require significant improvement over the next three years.

5.5 Demand Impact and Demand Management Plan

Demand for new services will be managed by managing existing assets, upgrading existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures. **Table 5.5** shows the impact of demand drivers that may affect future service delivery and asset use.

Table 5.5: Demand Managment Plan

Demand Driver	Current Position	10 Year Projection	Impact on services	Demand Management Plan
Population Growth	107,000	112,800	Increased demand for all CKPH programs and services	Incorporate increased costs with budgeting requests. Consider staffing and program options
Legislative Demands from the Province	Working towards complaince	Full compliance	Several new demands from the Ministry may require increases to staffing and budget other resrouces	Monitor changes and report to council, review staffing allocations annually
Workforce Turnover Staff Departures due to retirement, pressures or other opportunities	70.79 full time staff equivalents	TBD in 2025	Knowledge will become evident, and efficiencies lost as senior or experienced staff leave Increased work load on current staff to cover duties with vacant positions Staff burn out or possible departures due to increased stress	Monitor changes and report to council, review staffing allocations annually Seek to create capacity before individuals retire Improve internal process documents and handover materials to ensure a faster onboarding process with new staff

One of the precise drivers of demand for CKPH comes from the legislative responsibilities of both the Province and the Ministry of Health. As the Province changes its goals and reporting requirements, it places significant pressure on CKPH to pivot quickly and respond to changes, often with little resourcing, while being expected to keep pace with current expectations. Shifting legislative demand pressures are seen in the following programs;

- Food Safety
- Mental Health
- Alcohol, Cannabis and Other Drugs
- Healthy Environments
- Smoke-Free Ontario
- Safe Drinking Water
- Safe Recreational Water
- Vector born Disease Control
- Rabies Control
- Oral Health & School Health
- Healthy Smiles/Seniors Dental
- Menu Labelling
- Infection prevention and control
- Tanning Salon
- Infectious/Communicable diseases
- Immunization
- Healthy Growth and Development
- Healthy Eating
- Healthy Babies, Healthy Children
- Prenatal Nutrition Program
- Health Equity
- Population Health Assessment

CKPH manages a significant volume of programs, and it cannot be understated that shifting Provincial priorities, a chronic shortage in public health staff capacity across Ontario may be one of the most impactful drivers Public Health is a people-oriented service, and its success requires significant expertise across multiple health fields, which creates a considerable demand for Chatham-Kent.

CKPH will use its Strategic Plan and other essential documents to steer future decisions when identifying and assessing demands within the DAMP. Any demands in section 5.1 not covered in the Master Plan or essential documents will be incorporated into the DAMP to guarantee their consideration.

5.6 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Acquiring new assets, such as a new mobile health vehicle, would commit CKPH to ongoing operations, maintenance, and renewal costs for the period for which the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the LTFP in the finance section of the report.

CKPH will use its Strategic Plan and other essential documents to steer future decisions when identifying and assessing demands within the DAMP. Any demands in **section 5.1** not covered in the Mater Plan or important documents will be incorporated into the DAMP to guarantee their consideration.

6.0 RISK MANAGEMENT PLANNING

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

Chatham Kent is developing and implementing a formalized risk assessment process to identify service delivery risks and mitigate risks to tolerable levels. The assessment will identify risks that will result in:

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

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. It will also include developing a risk rating, evaluating the risks, and developing a risk treatment plan for unacceptable risks.

6.1 Critical Assets

Critical assets are defined as those with a high consequence of failure, causing significant loss or service reduction. Critical assets have been identified, and their typical failure mode and the impact on service delivery are summarized in **Table 6.1.** Failure modes may include physical failure, collapse, or essential service interruption.

Critical Asset(s)	Failure Mode	Impact
Vaccine Refrigerators	Wear & Tear, Power outages Manufacturing defect, technological issues	• Loss of Vaccine Inventory • Unable to fill physical orders • Delay in public receiving immunizations
Critical Data and Software	Cyber Attack	• Loss of public health services • Breach of patient privacy

Table 6.1 Critical Assets

By identifying critical assets and failure modes, CKPH can ensure that investigative activities, condition inspection programs, maintenance, and capital expenditure plans target essential assets. This is not an exhaustive list of all critical assets. Future iterations of the DAMP will expand on the necessary assets to ensure they are documented and considered over the 10-year planning horizon.

6.2 Risk Assessment

The risk management process used by Chatham-Kent is an analysis and problem-solving technique designed to provide a logical process for selecting treatment plans and management actions to protect the community against unacceptable risks. The process is based on the fundamentals of **International Standard ISO 31000:2018**. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, the development of a risk rating, the evaluation of the risk and the development of a risk treatment plan for non-acceptable risks.

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

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the infrastructure risk management plan. Table 6.2 shows the residual risk and treatment costs of implementing the selected treatment plan. These critical risks and expenses must be reported to management and the council. This list is neither exhaustive nor comprehensive of all risks associated with CKPH. Subsequent versions of this DAMP will elaborate on risks and determine the associated treatment costs.

Risk to Providing the Service	What can Happen	Risk Rating	Existing controls	Treatment Cost
Facilities	HVAC systems break down, roof leaking, vandalism etc.	Medium	Building Condition Assessment as well as planned facilities inspections, reactive repairs by facilities	TBD in 2025
Vaccine Refrigerators Malfunction would result in wastage of all stored vaccine	Mechanical breakdown, electrical issue, component failure	Medium	Backup generator, agreement with hospital for emergency vaccine storage if capacity allows, regular fridge maintenance	TBD in 2025

Table 6.2: Risks and Treatment Plans

Risk to Providing the Service	What can Happen	Risk Rating	Existing controls	Treatment Cost
CKPH's ability to deliver all services	Provincial funding levels are inadequate to meet service demands	High	Review program and financial data to ensure cost effective delivery of services Advocate for funding at senior levels of government	TBD in 2025
Shortage of Infectious and Communicable Diseases Staff Inadequate staffing levels to carry out requirements of prevention, case and contact management and outbreak management of Diseases of Public Health Significance (DOPHS.)	Increased prevalence of infectious and communicable diseases creates staffing pressure Inability to complete case and contact management of positive cases of DOPHS Inadequate outbreak declaration and management in high-risk facilities	Medium	Manage recruitment for vacant positions as able Monitor and report on staff shortages to ensure council is aware of impacts	TBD in 2025
Cyber Security Risk	Unauthorized external access to Public Health documents, health records, Target of ransomware attacks, Non Compliance with Privacy regulations	High	Continue to educate CKPH staff, Utilize ITT monitoring and software to mitigate risks of attacks	TBD in 2025

Risk to Providing the Service	What can Happen	Risk Rating	Existing controls	Treatment Cost
Shortage of Emergency Management Staff	Unable to staff CHPH to effectively prepare for future public health emergencies and to be able to respond effectively to a large-scale public health emergency.	Medium	• Manage recruitment for vacant positions as able and • Reassign staff to new roles during an emergency as staffing levels allow.	TBD in 2025
Dental Clinic Equipment	Breakdown of equipment	Medium	• Monitor condition of equipment and plan renewal timing • Ensure proactive maintenance and inspections are completed to ensure reliability of equipment	TBD in 2026
Information Systems Public data needs to be secured and protected	Breaches in privacy, cyber-attacks, phishing. scams	High	• Software and Hardware devices utilized to prevent cyber attacks • ITT proactively and passively monitors for suspicious activity	TBD in 2026

Risk to Providing the Service	What can Happen	Risk Rating	Existing controls	Treatment Cost
Staff Shortage • Epidemiology & Analytics • Vector borne Disease Control • School & Community Health • Oral Health • Healthy Eating • Tabacco Control • Menu Labelling Enforcement • Rabies Control • Safe Recreational Water • Safe Drinking Water • Healthy Environments • Infectious & Communicable Disease	Increasing Workload Demands and Inadequate staffing levels to carry out requirements • prevention, through surveillance, monitoring and administration of vaccines. • Meet Ministry Requirements • Respond to a large-scale public health emergency • Carry out regulatory enforcement	High	• Reassign staff during emergencies • Report on Staffing Shortages and the impacts to the service • Monitor Changes in ministry mandates and legislation • Monitor local landscape and risk factors • Manage recruitment where possible	TBD in 2026

This is not an exhaustive list of all risks associated with CHPH. As the DAMPs develop over time, this area will be expanded and demonstrated, demonstrating how much the existing controls mitigate the risk and at what cost. This will inform future budget and risk management choices.

6.3 Infrastructure Resilience Approach

The resilience of the CKPH's critical infrastructure is vital to delivering its service. To adapt to changing conditions, Chatham-Kent needs to understand its capacity to 'withstand a given level of stress or demand' and respond to possible disruptions to ensure continuity of service: resilience recovery planning, financial capacity, climate change risk assessment, and crisis leadership. CKPH does not currently measure resilience in service delivery in alignment with the AM process. This will be included in future iterations of the DAMP as further investigations are completed.

6.4 Service and Risk Trade-Offs

The adoption of this DAMP is guided by the goal of maximizing benefits from existing resources. Given that resources are not unlimited, some risks will inevitably remain unmitigated. Chatham-Kent will continue to review its risk registry and recognize the necessary trade-offs to maintain an acceptable level of risk tolerance.

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

- Unable to expand service in line with population growth
- Unable to improve service response time for emergency requests as the population grows

6.4.1 What cannot be done

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

- Increase the levels of operation, maintenance and renewal activities beyond currently approved increases.
- Ensure that all future renewals outside the planning period can be completed, as the plan's scope is limited to a 10-year planning horizon.
- Renewing equipment in alignment with the desired ESL
- Improve the current levels of service without increased funding
- Allocate total maintenance costs within the DAMP that are part of the operational contract
- Ensure there are sufficient reserves to complete all projected renewals

7.0 Climate Change Adaptation

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

At a minimum, CKPH 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

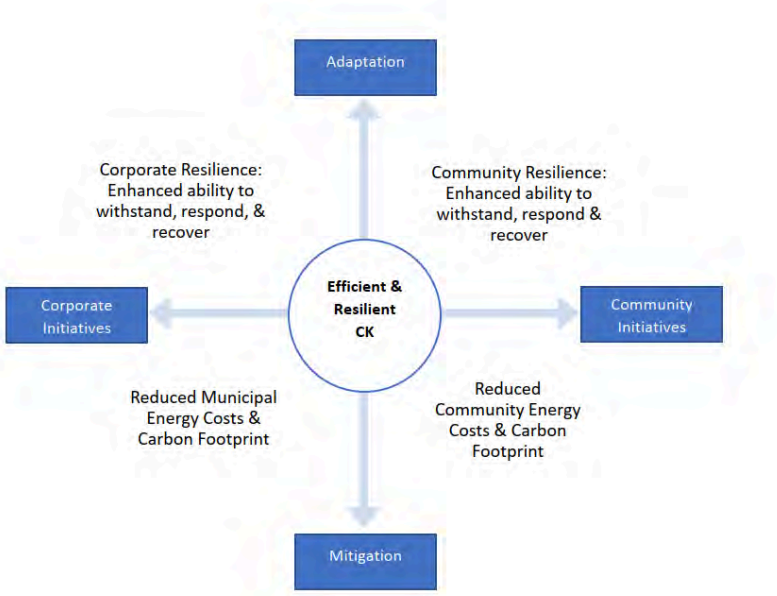
In the Asset Management Planning process, climate change can be considered a future demand and a risk.

The impacts of climate change on assets will vary depending on the location and the type of services provided, as will how CKPH 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.

Recognizing these continuing climate change impacts, 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).

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



Based on the Climate Atlas of Canada, historical climate patterns show that CCK's climate has become hotter, wetter, and wilder over the last six decades. This trend is expected to continue.

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

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

Wilder: Rainstorms have increased in frequency and severity, and seasonal precipitation patterns have changed, and this is expected to continue.
" From 1983 to 2008, insurers spent on average $400 million yearly on catastrophic claims; since 2009, the yearly average has risen to almost $2 billion. These" once in 100 years" events are happening more frequently and becoming more severe and costly" Statistics Canada, 2024)

Risks and opportunities identified to date are shown in **Table 7.0.1**

The impacts of climate change are connected to many health outcomes of public health importance and will impact population health assessment and surveillance activities. Climate change may result in:

1. Increased incidence of vector-borne and other infectious diseases in the population.
2. Acute adverse health outcomes related to extreme heat or cold, poor air quality, flooding, drinking water, road safety, and mental well-being can exacerbate outcomes among those most vulnerable, including those who are socially or materially deprived, older adults and those with chronic conditions, including mental illness, respiratory disease, heart disease.
3. Changes to the frequency and timing of communicable and infectious diseases. For instance, the usual pattern of influenza outbreaks, typically from October to April, may shift. It is highly probable that these 'seasons' could begin sooner and last beyond the conventional end, influencing case management and surveillance requirements.

It is important for population health assessment and surveillance activities to describe the connection between climate change and population health and identify population groups that are most at risk.

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

Climate Impact (Assets level or Service level)	Projected Position (in 10 years)	Potential Impact on Assets & Services	Climate Management Plan
Annual Precipitation (mm) increase	+45mm annually	Roadways impassable resulting in Public Health programs being delayed or cancelled when staff cannot arrive due to poor road conditions	Increase staffing and resources, which will allow for more efficient and effective response. Proactively monitor weather to communicate anticipated changes due to weather conditions

Climate Impact (Assets level or Service level)	Projected Position (in 10 years)	Potential Impact on Assets & Services	Climate Management Plan
Significant Heat Events	More than 3 per year	Increased temperatures and changes in precipitation increase incidences of infectious diseases and vector-borne diseases as a result of longer activity periods or changes in the geographic distribution of disease vector	Increase surveillance, public awareness, and detection of climate sensitive vector-borne diseases to reduce the incidence of vector borne diseases.
Extreme Weather	Intensity to increase	Extreme weather may present travel safety challenges for Public Health Inspectors (PHIs) conducting food safety inspections. Rising ambient temperature trends may make food preparation spaces hotter, presenting additional challenges for temperature control of hazardous foods in cold storage, potentially resulting in bacterial or toxin growth.	PHIs may be tasked with managing emerging public health risks associated with food safety exacerbated by climate change. Food safety inspections may take longer, requiring additional capacity to complete core work. There may be new and unique food safety knowledge needed by PHIs, increasing the need for professional skill development

Additionally, how CKPH 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
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint.

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

8.0 FINANCIAL SUMMARY

8.1 Financial Sustainability and Projections

This section outlines the financial requirements derived from the data in the preceding sections of this DAMP. The financial forecasts will be refined through ongoing discussions about the desired service levels and as Asset Management expertise within Chatham-Kent matures. It is crucial to align the budgeting process, the LTFP, and the DAMPs to address all CKPH's needs. At the same time, the municipality establishes a definitive financial strategy with measurable goals and targets.

Effective asset and financial management will enable CKPH to ensure its services provide the appropriate level of service for the community to achieve its goals and objectives. Reporting to stakeholders on service and financial performance ensures Municipality fulfills its stewardship accountabilities transparently. The LTFP is critical for the CKPH service to ensure the network lifecycle activities, such as renewals, operations, maintenance, and acquisitions, can happen optimally.

8.1.1 Sustainability of service delivery

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

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

Asset Renewal Funding Ratio (ARFR)

Asset Renewal Funding Ratio **66%**

The Asset Renewal Funding Ratio (ARFR) is an important indicator that illustrates that over the next ten years, Chatham-Kent expects to have 66**%** of the funds required for optimal asset renewal.

Lower ARFR typically occurs due to;

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

The ARFR is considered a stewardship measure that indicates whether Chatham-Kent is achieving intergenerational equity. Correcting this funding ratio so that it can meet its financial target over time is essential to ensuring the CKPH service is considered sustainable.

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 CKPH’s reputation and risk of fines or legal costs

The shortage of renewal resources will be tackled in upcoming DAMPs to ensure alignment with the LTFP. This approach will enable staff to devise options and strategies for addressing the challenges of long-term renewal rates. Chatham-Kent plans to reassess its renewal allocations after verifying and consolidating the entire inventory.

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

The current **10-year Lifecycle Financial Ratio is 93%**

This DAMP identifies the forecast operations, maintenance, and renewal costs required to provide an agreed-upon and affordable level of service to the community over ten years. This includes input into 10-year financial and funding plans to deliver the required services sustainably. This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance, and renewal costs over the 10-year planning period are **$128,589,000 or $12,859,000** average per year. The proposed (budget) operations, maintenance, and renewal funding is **$11,892,000** on average per year, giving a 10-year funding shortfall or 'Gap' of **$967,000 per year.**

This indicates that **93%** of the forecast costs needed to provide the services documented in this DAMP are accommodated in the proposed budget.

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 CKPH 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.

8.2 Forecast Costs (outlays) for the long-term financial plan

A gap between the forecast outlays and the amounts allocated in the financial plan indicates that further work is required to review service levels in the DAMP and/or financial projections in the LTFP. The initial DAMP only attempts to quantify the financial gap for the service. Future plans will focus on managing that gap over time to achieve sustainable services and intergenerational equity.

Chatham-Kent will manage any 'gap' by developing this DAMP, which will guide future service levels and resources required to provide these services in consultation with the community. **Table 8.2.2** shows the forecast costs (outlays) required for consideration in the 10-year LTFP. Providing services in a financially sustainable manner requires balancing the forecast outlays needed to deliver the agreed service levels with the planned budget allocations in the LTFP.

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2024	-	$12,553,000	$113,000	$64,000	-
2025	-	$13,215,000	$115,000	$64,000	-
2026	-	$13,359,000	$117,000	$64,000	-
2027	-	$13,342,000	$119,000	$64,000	-
2028	-	$13,352,000	$122,000	$64,000	-
2029	-	$13,536,000	$124,000	$189,000	-
2030	-	$13,800,000	$127,000	$64,000	-
2031	-	$14,070,000	$129,000	$64,000	-
2032	-	$14,345,000	$132,000	$64,000	-
2033	-	$14,626,000	$134,000	$263,345	-
Total	**-**	**$136,197,000**	**$1,232,000**	**$882,000**	**-**

Table 8.2.2: Forecast Costs (outlays) for the Long-Term Financial Plan

8.4 Funding Strategy

The proposed asset funding is detailed in Chatham-Kent's multi-year budget and LTFP. These operational and capital budgets outline the provision of funds incorporated into the DAMP. The DAMP details the expenditure timeline and associated service and risk implications. Subsequent versions of the DAMP will offer service delivery choices and alternatives to optimize limited financial resources.

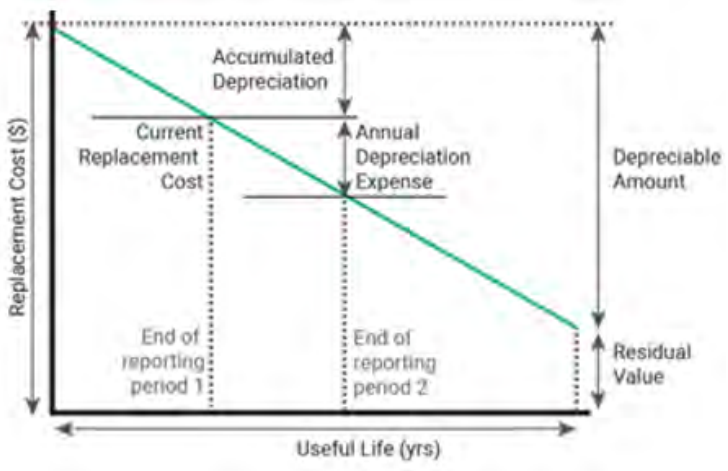
A large portion of CKPH funding comes from the Province of Ontario. CKPH has a funding agreement with the Province to cost share approximately 75% of the costs for CKPH. The Province contributes 75% of most budgeted items while Council funds the remaining portion through tax dollars. There are some programs in which the Province funds 100% however some of those also have caps or limits. Over the 10 year planning horizon it is anticipated the Province will provide $97,000,000 to CKPH. The plan does not account for any further increased funding from the Province as often funding envelopes change rapidly along with expected outcomes.

CKPH contributes annually to reserves to assist in long-term costs for the renewal of equipment (IT, programming,). However, the reserves have insufficient funds to accommodate all forecast costs detailed within this plan. Future iterations will focus on the sustainability of the PH service and determine how much is required to be contributed to the reserve and be available for future needs.

8.5 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the service. As projections improve and are validated with market pricing, net valuations will likely increase significantly over the 10-year planning horizon. Additional assets will increase operations and maintenance costs in the longer term and future renewal costs.

Any asset disposals would decrease operations and maintenance needs in the longer term and remove the high-cost renewal obligations. At this time, it is not possible to separate the disposal costs from the renewal or maintenance costs; however, this will be improved for the next iteration of the plan. The best available estimate of the value of assets included in this DAMP is shown below.



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

Replacement Cost (Gross)	**$ 1,191,725**
Depreciable Amount	**$ 1,191,725**
Current Replacement Cost	**$ 657,023**
Annual Depreciation Expense	**$ 113,345**

8.6 Key Assumptions Made in Financial Forecasts

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

- Assumptions were made regarding the existing and planned budget for maintenance and renewal, using professional judgement.
- Omission of select disposal assets during this budget period; small projects will have a minor impact on disposal projections
- Budgets have been allocated based on the best available data on assets
- A 2% annual inflationary amount has been applied to the operational and maintenance forecast to reflect the projections that costs will increase over time
- Replacement costs are based on current market pricing and are determined to be a like-for-like replacement
- There may be additional assets not included in the forecasts or planned budget due to the timing of the plan creation and resource constraints in delivering the initial plan.
- Maintenance forecasts are based on the current budget allocated and require further refinement to align the costs with technical levels of service.
- Operational forecasts are based on current budget allocations and encompass anticipated needs that are known

8.7 Forecast Reliability and Confidence

This DAMP's forecast costs, proposed budgets, and valuation projections are based on the best available data. Current and accurate information is critical for effective asset and financial management. Data confidence is classified on an A-E scale by **Table 8.2.1.**

Table 8.2.1: Data Confidence Grading System

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

The estimated confidence level for and reliability of data used in this DAMP is shown in **Table 8.2.2.**

Table 8.2.2: Data Confidence Assessment for Data used in this DAMP

Data	Confidence Assessment	Comment
Demand drivers	Low	Future plans require further development to ensure drivers are known and measured appropriately
Growth projections	Medium	Standardized growth projections
Acquisition forecast	Medium	Possible growth in the future creates uncertainty and will be reviewed annually to improve quality
Operation forecast	Medium	Will improve once growth is established and continuous improvement items are completed
Maintenance forecast	Low	Requires further analysis of costs to ensure allocation for maintenance is correct
Renewal forecast - Asset value	Medium	Requires alignment with reserve contributions and ESL. Market price information to be updated annually.
-Asset useful lives	Medium	Most align TCA practices. This will be improved and vetted annually
Condition modeling	Low	Requires investigation and resources to align assets to the 5-point condition scale required for system alignment across the municipality
Disposal forecast	Medium	This requires further discussion to document current process and administration of Disposals

The estimated confidence level and reliability of data used in this DAMP are considered **low-medium**.

9.0 PLAN IMPROVEMENT AND MONITORING

Status of Asset Management Practices

ISO 55000 Refers to this as the Asset Management System

9.1.1 Accounting and financial data source

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

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

9.1.2 Asset management data sources
Improvement Plan

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

The Improvement Plan, **Table 9.2,** highlights proposed improvement items requiring further discussion and analysis to determine feasibility, resource requirements and alignment to current work plans. Future iterations of this DAMP will provide updates on these improvement plans. The costs and resources to complete each task have not been included in the lifecycle models to data, and resource requirements would need to be reviewed for internal resource-driven projects.

The improvement plan generated from this DAMP is shown in **Table 9.2.**

Task	Task	Responsibility	Resources Required	Timeline
1	**Develop survey to measure customer input, values and satisfaction annually**	CKPH, AQ&M	30 Hours FTE	Ongoing
2	**Update asset registry for all CKPH assets to include Mandatory AM Information**	CKPH, AQ&M	40 FTE Hours	Ongoing
3	**Develop condition reporting method for CKPH assets during regular inspection activities**	CKPH, AQ&M	10 FTE Hours (within existing capacity)	2024 - 2027
4	**Develop CKPH LTFP to link lifecycle phases to budget activities**	CKPH, AQ&M, Finance	10 FTE Hours annually	2024 - 2027
5	**Develop Condition methodology for significant or critical assets**	CKPH, AQ&M	10 FTE Hours (within existing capacity)	2024 - 2027
6	**Perform age condition analysis to identify peaks in investment timing**	CKPH, AQ&M	15 FTE Hours (within existing capacity)	2024 - 2027
7	**Complete lifecycle models for all major assets**	CKPH, AQ&M	15 FTE Hours (within existing capacity)	2024 - 2027

Table 9.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
8	**Annual update of response time performance for Technical LOS**	CKPH, AQ&M	4 Hours FTE	Q1 2025
9	**Define Level of Service for 2025 DAMP**	CKPH, AQ&M	15 Hours FTE	Q2 2025
10	**Develop and implement an internal SharePoint site to improve internal communications, digital collaboration and document organization**	Public Health. ITT	within existing resources	2025
11	**Develop an internal communications framework which includes communications during an emergency**	Public Health	within existing resources	2024
12	**Upgrade and launch new external website for improved public health information**	Public Health	within existing resources	2025
13	**All staff will complete trauma-informed care training**	Public Health	within existing resources	2024

Table 9.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
14	**Implement a strategic communications plan**	Public Health	within existing resources	2024
15	**Complete Phase 2 of the electronic medical record implementation**	Public Health	within existing resources	2024
16	**Develop topic specific reports displaying population health indicators for the CK Public Health website**	Public Health	within existing resources	2024 - 2025
17	**Develop plans to upgrade the reception area at 177 King W public health clinic**	Public Health	$25,000	2025-2026
18	**Implement a pilot Nurse-Family Partnership program for young first time mothers to improve early childhood development risk factors**	Public Health	4 PHNs, 0.5 Manager, licensing & materials $25,000	2026 -2029

Table 9.2: Improvement Plan

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

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

9.3 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 DAMP can 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	August 2024	1st Detailed Asset Management Plan	Sean Hilderley	Public Health	Council

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