Northumberland county

ASSET MANAGEMENT PLAN

Corporate Facilities

Document Control	Asset Management Plan
Document ID :	

Rev No	Date	Revision Details	Author	Reviewer	Approver
V1	May 29, 2024	Document creation	Cora Bevan, Manager, GIS/Asset Management	Denise Marshall, Director, Public Works; Matthew Nitsch, Accounting Services Manager/Deputy Treasurer; Adam McCue, Associate Director of Operations; Rob O'Neil, Manager of Facilities	County Council

The preparation of this project was carried out with assistance from the Government of Canada and the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them."

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan (AM Plan) details information about corporate facility assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 20 year planning period. The AM Plan links to the County of Northumberland's Long-Term Financial Plan which typically considers a 10-year planning period.

1.2 Asset Description

The County of Northumberland (County) is a thriving, south-eastern Ontario community strategically positioned along Highway 401 to access both Toronto and Kingston within a 1 to 1.5 hour drive. Northumberland County offers a range of living experiences from historic towns to scenic rolling rural areas to spectacular water settings on Rice Lake, the Trent River and Lake Ontario. The County is an upper tier level of municipal government that owns and manages physical assets in numerous service areas which are used to deliver services to over 89,365 (2021 Census) residents. The County weaves together seven diverse, yet complementary municipalities that manage assets and deliver services to the community. The seven municipalities are:

- Township of Alnwick/Haldimand
- Municipality of Brighton
- Town of Cobourg
- Township of Cramahe
- Township of Hamilton
- Municipality of Port Hope
- Municipality of Trent Hills

This AM Plan has been developed for the County's Corporate Facilities. The County's Corporate Facilities are comprised of:

- 3 Administrative Buildings
- 10 Buildings at Three (3) Community Recycling Centres
- 5 Paramedic Bases
- 16 Buildings at Road Operations Bases
- 1 Plant (Ontario Agri-Food Venture Centre)
- 1 Communications Tower

The above assets have a replacement value estimated at $51,675,750.

1.3 Levels of Service

The allocation in the planned budget is insufficient to continue providing existing services at current levels for the 20-year planning period.

The main service consequences of the Planned Budget are:

- Asset condition deterioration due to lack of renewal funding from 2028 onward.

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Increasing Population
- Climate Change
- Economic Development

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures. The strategies that will be used to manage these demands include:

- On-going implementation of recommendations and completion of additional studies, as required.
- Researching, piloting, and implementing new methods and materials to address changing climate.
- Future design and facility construction will take into consideration increasing visitor numbers and population, climate change and economic development.
- Consideration of alternative rehabilitation/construction strategies and construction staging for economic efficiencies.
- Continued inspections to determine condition, capacity, and function.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AM Plan is the forecast of 10-year total outlays, which for all assets is estimated as $96,651,312 or $9,665,131 on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is $94,378,208 or $9,437,821 on average per year as per the Long-Term Financial plan or Planned Budget. This is 98% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. Informed decision making depends on the AM Plan emphasizing the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for all assets leaves a shortfall of $227,310 on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets

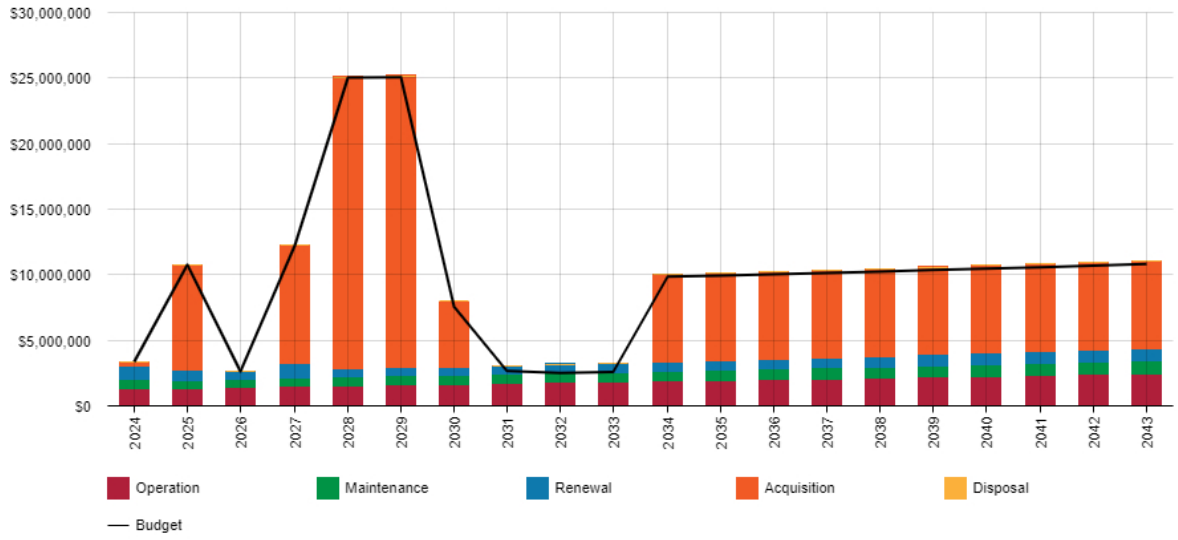


Figure Values are in 2024 dollars.

We plan to provide facility asset services for the following:

- Prioritized operation, maintenance, renewal and acquisition of Corporate Facilities to meet service levels set by the County in annual budgets.
- Replacement of scale houses at Community Recycling Centres (CRC's), construction of Brighton Paramedic Base and Joint Operations Base within the 10-year planning period

1.6.2 What we cannot do

We currently do **not** allocate enough budget to sustain these services at the proposed standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Complete all recommended renewal activities within the first 10 years, including all required replacements, to meet lifecycle demands.

1.6.3 Managing the Risks

Our present budget levels are insufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Failure of asset and/or use restrictions (i.e. closure of part or entire facility, limited access)
- Reduced lifespan due to deteriorating condition

- Increased maintenance and repair resulting from assets not being renewed as required
- Decreased levels of service (LOS)

We will endeavour to manage these risks within available funding by:

- Continuing to complete inspections
- Prioritizing repair, maintenance, upgrades and rehabilitation work to mitigate risks.
- Researching and implementing viable alternative construction strategies and/or staging for economic efficiencies

1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are identified below.

General Assumptions:

- Asset Register was not used for capital renewal but rather reliance was on technical estimates and staff knowledge.
- The last 10 years of projected expenditures maintains the year 10 need or expenditure and applies year over year inflation of 2% in keeping with the Bank of Canada forecast and good financial principles.
- The last 10 years of projected expenditures has an additional 1% increase to accommodate growth considerations.
- Depreciated values assumed based on current replacement costs of assets and percentage currently consumed.
- Assumed function and capacity were the same as condition in the asset register.
- Acquisition budget and forecast for last 10 years uses average of the first 10 years.

Corporate Facility Assumptions:

- Condition rating provided for architectural/structural components and mechanical/electrical components at each facility.
- Replacement cost assumed based on cost per square foot by building type based on a recent study and/or recent technical construction estimates and does not include land purchase, completion of studies, landscaping, site servicing or premiums for sustainable design standards.
- Golden Plough Lodge (GPL) is not included in this AM Plan as a new build is currently under construction and will have it’s own AM Plan once completed and operational
- Rented spaces (i.e. Campbellford Community Paramedicine Base, existing Brighton Paramedic Base and CRC field office) are excluded from the asset register and current replacement cost values as they are not owned by Northumberland County.
- Northumberland County Housing Corporation (NCHC) buildings are excluded from this AM Plan. Please reference the Northumberland County Housing Corporation Asset Management Plan (2023) for information pertaining to these assets.

Our systems to manage assets include:

- Cityworks (CW) Asset Management Software
- Geographic Information System (GIS)
- Microsoft Excel Spreadsheets
- Great Plains Fixed Asset Module

Assets requiring renewal are identified from either the asset register or an alternative method.

- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge.

The Alternate Method was used to forecast the renewal lifecycle costs for this AM Plan.

This AM Plan is based on a reliable level of confidence information.

1.8 Monitoring and Improvement Program

The next steps resulting from this AM Plan to improve asset management practices are:

- Further development of asset registers to enhance data set (completeness and accuracy) and incorporation of all data into the County's GIS database and Cityworks software
- Additional lifecycle modelling for facilities using historical data collected through Cityworks to further inform asset condition, performance, reliability, and asset life
- Further public consultation on LOS/risk and financial considerations
- On-going costing updates as information becomes available from Cityworks (CW)
- Breakdown of facilities to include the various components (i.e. roof, windows, doors, security, HVAC, plumbing etc.) in Cityworks and future versions of this plan.
- Discussion between Facilities, GIS/AM and Finance to better understand how assets are valued, tracked and amortized
- Monitor asset resilience and complete resilience assessment and plan
- Develop a more robust risk management plan
- Review asset condition evaluation process for facilities and update accordingly
- Incorporation of recommendations from County's Greenhouse Gas (GHG) Emission Reduction Plan anticipated to be completed in 2024 and any subsequent climate action plans or reports
- Review of expenditure thresholds for the capitalization of assets
- Improved tracking of capital projects in Cityworks.

2.0 INTRODUCTION

2.1 Background

This AM Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period. In summary, asset management involves balancing asset lifecycle costs, performance and risk with a goal of delivering the required performance or level of service at the best possible cost over the life of the asset within an acceptable level of risk.

The AM Plan is to be read in conjunction with the County of Northumberland planning documents including the Asset Management Policy (2019), and the following key planning documents:

- Northumberland County Strategic Plan 2023-2027
- Northumberland County Official Plan
- Northumberland County Budget and Long-Term Financial Plan
- Northumberland County Housing Corporation Asset Management Plan (2023)

Since 2009, the revised Public Sector Accounting Board (PSAB) standards have been in place. These standards required that clear definitions of capital be adopted by Municipalities and the County established the acquisition or historic value (PSAB value) for each asset grouping as well as the replacement values in current dollars. The County began developing of a long term 10-year plan as part of the 2012 budget process, which continues to be in place.

In 2014, Northumberland County Council (Council) adopted its first formal AM Plan, in accordance with Funding requirements set out in the Ministry of Infrastructure's *Building Together* standard. Federal Gas Tax funding was modified in 2016 to also include a requirement for municipalities to have a detailed asset management plan. In April 2019, as per O.Reg. 588/17 requirements, Council adopted the Northumberland County Asset Management Policy. The policy outlines the following objectives:

- Provide a consistent framework for implementing asset management throughout the organization.
- Provide transparency and accountability and to demonstrate to stakeholders the legitimacy of decision-making processes which combine strategic plans, budgets, service levels and risks.

This AM Plan has been developed for all Corporate Facilities assets as per O.Reg. 588/17 and will be used for development of annual and long term financial planning moving forward.

The assets covered by this AMP include corporate building assets. For a detailed summary of the assets covered in this AM Plan refer to Table 5.1.1 in Section 5.

These assets are the foundation of the County's daily operations which plays an integral role in creating employment, providing connections to neighbouring communities, maintaining the County's other assets and contributing to the social and health needs of the community.

The corporate facility assets (buildings only) included in this plan have a total replacement value of $51,675,750.

Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
County Council	▪ Represent needs of community/shareholders, ▪ Allocate resources to meet planning objectives in providing services while managing risks, ▪ Ensure organization is financially sustainable.
CAO and Senior Management Team	▪ Endorse the development of asset management plans and provide the resources required to complete this task ▪ Set high level priorities for asset management development and raise the awareness of this function among staff and contractors ▪ Support the implementation of actions resulting from this plan and prepared to make changes for better ways to manage assets and deliver services ▪ Support an asset management driven budget and LTFP
Public Works and Finance	▪ Collection, consolidation, and analysis of the asset register and ensuring asset valuations are accurate based on the available data ▪ Prepare all aspects of the AMP including technical and customer levels of service, planned and future activities, risk management, monitoring and improvement program ▪ Development of supporting policies ▪ Includes GIS and administrative support
External Parties	▪ Provide input through public survey on customer values, levels of service, etc.

2.2 Goals and Objectives of Asset Ownership

Our goal for managing facility assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing, and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are:

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management – identifies critical infrastructure, potential risk events, and provides mitigation measures to manage risk both proactively and reactively
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

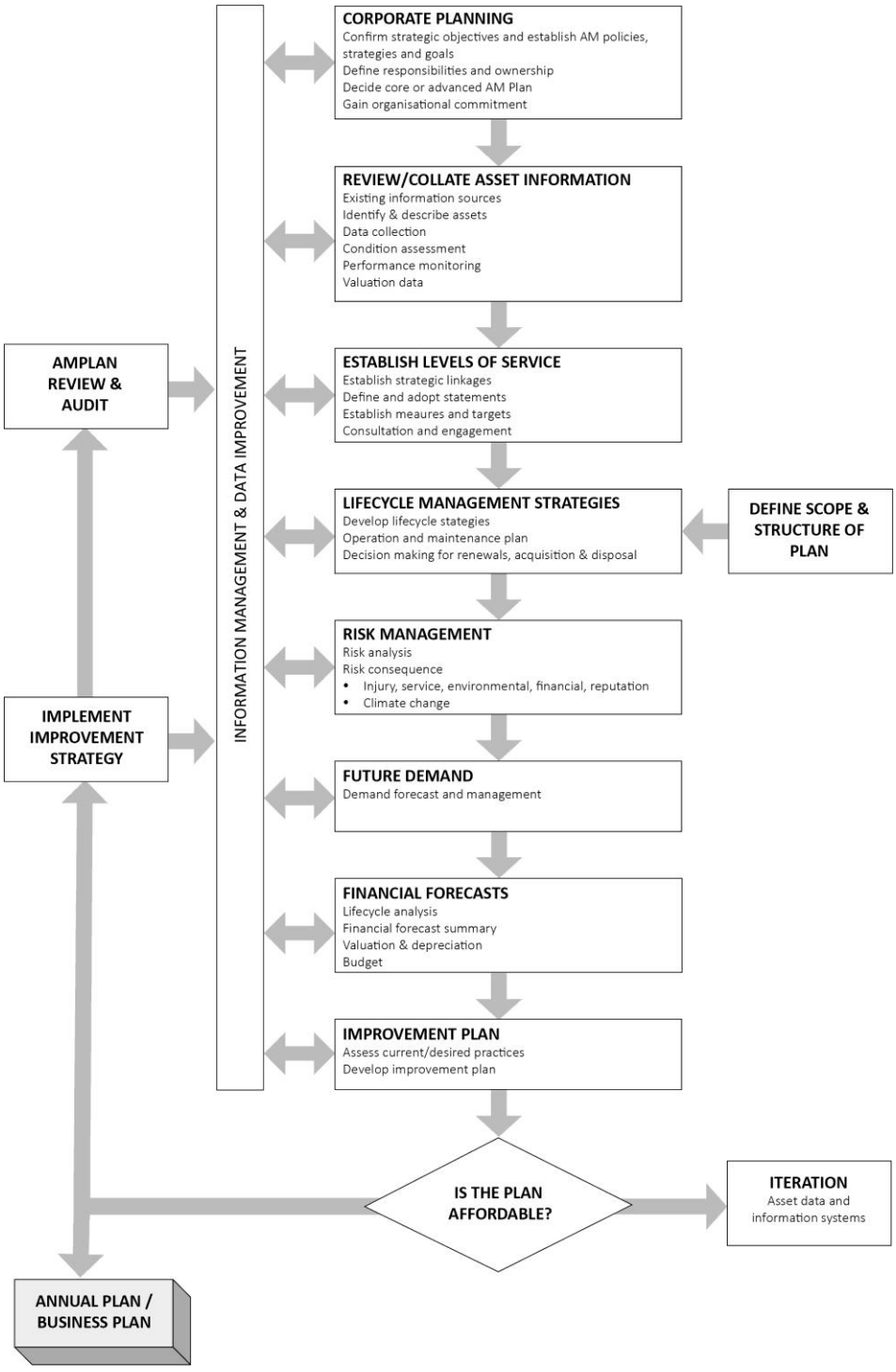
- International Infrastructure Management Manual 2015 [1]
- ISO 55000[2]

A road map for preparing an AM Plan is shown below.

[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13
[2] ISO 55000 Overview, principles and terminology

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

The County pursued feedback from the public on the current condition, capacity and function of assets, including corporate facilities, along with expectations for future maintenance and renewal through an online survey over a three (3) week period in late 2023. Table 3.1 below illustrates the overall responses.

Table 3.1: Customer Response Survey Levels

Performance Measure	Very Satisfied	Fairly Satisfied	Neutral	Somewhat Satisfied	Not Satisfied
Overall condition of corporate facilities	16%	54%	28%	1%	0%
Overall function of corporate facilities	12%	36%	50%	2%	0%
Overall capacity of corporate facilities	14%	46%	36%	3%	1%

The results from the survey have informed the customer values section of the AM Plan. The community satisfaction information is also one of the factors used to develop strategic plans and prioritization and allocation of funds in annual and long-term budgets.

3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of the County of Northumberland's vision, mission, goals and objectives.

Our vision is:

Northumberland is recognized as a vibrant and connected twenty-first century county. We embrace innovation, respect our natural environment, celebrate diversity and care for one another. Together, we are shaping an inclusive, prosperous, and thriving community for all.

Our mission is:

To be a best practices leader of County Government and a collaborative partner with our member municipalities and community partners.

Five strategic pillars have been set by the County. The relevant pillars and objectives and how these are addressed in this AM Plan are summarised in Table 3.2.

Table 3.2: Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
Propel Sustainable Growth	To provide safe and sustainable Corporate Facilities which meets or exceeds expectations and promotes the movement of goods and services within the County of Northumberland.	Developing a sustainable renewal program as well as operational and maintenance programs to maintain the current corporate facility assets and address future expansion requirements and the natural environment.
Innovate for Service Excellence	Ensures a fiscally responsible organization through a proactive approach to management of assets	Development of an AM Plan that not only meets legislative requirements but meets corporate objectives and ensures a fiscally responsible organization.
Innovate for Service Excellence	Gather feedback from the public on LOS related to our facilities and service delivery and educate the public on budget considerations and the consequence of selecting different options/priorities.	Inclusion of further public consultation and education as part of the improvement plan to further inform all aspects of the AM Plan.
Ignite Economic Opportunity	Ensuring investment in all assets and services to support movement of goods and services in the County today and in the future.	Inclusion of growth forecasts in the AM Plan and ensuring levels of service account for current and future economic development opportunities.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of included assets are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
The Municipal Act	Compliance with the Act with respect to ownership and responsibilities of its infrastructure.
Building Code O.Reg 163/24 under Building Code Act, 1992	Compliance with the Act with respect to ownership and responsibilities of the County when constructing new/existing buildings.

Infrastructure for Jobs and Prosperity Act, 2015	To develop a Strategic Asset Management Policy as well as an Asset Management Plan in accordance with the technical requirements set out in O. Reg. 588/17
Ontario Fire Code O.Reg 213/07	Compliance with the Act with respect to a set of minimum requirements for fire safety within and around existing buildings and facilities.
Elevating Devices O.Reg 209/01 under Technical Standards and Safety Act, 2000	Compliance with the Act and regulation with respect to ownership and responsibilities of elevating devices including, but not limited to, annual inspections and licensing.
Commercial Tenancies Act, R.S.O 1990	Compliance with the Act with respect to the relationship, rights and obligations between commercial landlords and tenants as we do have lease agreements in place with various businesses.
Electrical Safety Code O.Reg 164/99 under Electricity Act, 1998	Compliance with the Act and regulation with respect to ownership and responsibilities of buildings including, but not limited to, annual inspections.
Development Charges Act	States municipalities may impose development charges through a by-law on land to pay for increased capital costs because of additional needs for services due to development in the area(s) the by-law applies.

3.4 Growth Considerations

The Northumberland County Official Plan (OP) is currently being updated to guide growth and development in Northumberland over the next 30 years. These updates align with Provincial legislation that requires municipalities to review and update their Official Plan every few years.

Current population and employment forecasts indicate that Northumberland County will grow to 122,000 people and 44,000 jobs by the year 2051. Most of this growth is expected to be concentrated in fully serviced urban areas however, there will be some housing growth in the rural areas. As a result, there will be added pressure on existing assets and the potential need for upgrades or expansion. The updated Official Plan will include updated maps and policies related to long-term growth and land needs within Northumberland.

The County has also completed a County-wide Development Charge (DC) Study that recommended new Development Charges and policies for Northumberland as another mechanism to fund growth related infrastructure needs (By-law 2020-36).

Review and update of this AM Plan will be required once the OP update is complete to incorporate any changes with respect to future facility needs identified as a result of growth and development.

3.5 Customer Values

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

Customer Values indicate:

- what aspects of the service is 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 3.5: Customer Values

Service Objective: Provide safe, functional, and well-maintained corporate facilities.

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
The County will maintain corporate facilities to minimize physical deficiencies and protect the safety of users	Annual # of customer service requests relating to facility condition; AMP Public Input Survey	Average of 131 Cityworks (CW) Service Requests (SR) a year regarding facility condition; 70% of survey respondents rated condition of facilities as good or very good.	Remain the same or slight increase in complaints based on current funding gap and lack of renewal funding in the future.
County facilities will provide reliable services with minimal disruptions for their users.	Annual # of customer service requests relating to facility closures or service disruption; AM Public Input Survey	Few to no complaints regarding facility closures; 60% of survey respondents noted being satisfied or very satisfied.	Remain the same or increase in complaints if use restrictions/closures are put in place on facilities due to condition.
The County will provide corporate facilities that meet service needs and all users.	Annual # of customer service requests/complaints requesting corporate facilities are improved from a function perspective	Few to no complaints received regarding function of corporate facilities; 48% of survey respondents satisfied or very satisfied with function or corporate facilities	Remain the same or increase in complaints if current facilities cannot accommodate increasing demands.

Service Objective: Effectively communicate construction and/or maintenance works with users while considering the environment and sustainability.

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
The County will keep its customers informed about its activities and respond promptly to inquiries and complaints.	Annual # of service requests related to facility closures, construction, and maintenance activities.	Few to no complaints regarding facility closures and maintenance activities; 41% of survey respondents are satisfied or very satisfied with communication	Remain the same or improve as communication team continues to use various means (social media, radio, press releases) to inform the public/users and Communications Master Plan is completed.
The County will consider the environmental impacts of asset maintenance, operations, and construction projects	Annual # of service requests related to environmental issues/complaints (i.e. dust, water body contamination, wildlife, environmental sustainability etc.)	Few to no complaints a year regarding environmental concerns	Remain the same.
Demonstrate leadership in sustainable asset management and invest in preventative maintenance and rehabilitation when most beneficial.	What we hear from Council, our superiors, public? Comments/concerns during PICs, service requests regarding specific projects, request for memos, request for information/clarification/presentations/etc.	Few inquiries annually regarding budgeting process and facilities capital plan.	Remain the same or potential increase with increasing community expectations and as facilities continue to age.

3.6 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 under used? Do we need more or less of these assets?

Communication Are impacts to the service communicated to the public? Is the public aware of service changes?

Environmental Impacts How is the environment impacted? Do service activities consider this?

Sustainability How is the budget allocated to services? How are works prioritized?

In Table 3.6 under each of the service measures types (Condition, Function, Capacity/Use, Communication, Environmental Impacts, Sustainability) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

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

Table 3.6: Customer Level of Service Measures – Corporate Facilities

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Organizational measure	Descriptions and/or images that illustrate building conditions, Cityworks WO's, building condition inspections and known problem areas	Architectural/Structural: 53% in good condition, 33% in fair condition and 14% in poor condition; Mechanical/Electrical: 68% in good condition, 21% in fair condition and 11% in poor condition	Building Conditions anticipated to remain the same or condition decrease slightly as work is deferred if pace of renewal funding is not increased to match needs.
	Confidence levels		Medium Professional judgement	High Professional judgement supported by analysis of data and current funding versus forecasted funding levels
Function	Organizational measure	Description, which may include maps, of the location of services (CRC's, Paramedic Bases, Corporate Buildings) in the County and studies/feasibility studies (Joint Operations Base).	GIS mapping; 3 administrative offices, 10 CRC's buildings, 16 road operations buildings and 5 paramedic bases across 1,907sq. kms.	Changes anticipated as feasibility studies and reports wrap up and further information becomes available.
	Confidence levels		High Supported by extensive road network data in the County's GIS	High Supported by previous studies and reports, staff knowledge

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Capacity	Organizational measure	Visitor data, paramedic call data	134,435 incoming loads at CRC's in 2023, 37,790 calls in Northumberland	Increased need for capacity at various facilities as population increases and services/resources expand.
	Confidence levels		Medium	Medium
Communication	Organizational measure	Notice of building closures or business hour changes, Notice of study commencement, Notice of rehabilitation work	29 social media posts and/or media releases in 2022; 40 social media posts and/or media releases in 2023; 14 social media posts and/or media releases to date in 2024	Anticipate increased public communication with increasing capital works program, studies and EA's. through various means.
	Confidence levels		High Based on data collected through Communications Department for project notification, public consultation, social media, etc.	High Increase in Communications Department Staff for Major Projects; increasing public consultation requirements and expectations for projects and studies

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Environmental Impacts	Organizational measure	Description of the measures in place to minimize the environmental impacts of construction works, commitment to reducing Greenhouse Gas Emissions etc.	Required permits are obtained from local conservation authorities for scheduled work; implementation control measures where necessary; using various methodologies to reduce waste and re-use existing material where feasible; LEED certification on projects	Remain the same or reduction in environmental impacts as new buildings are LEED certified and GHG Reduction Plan is implemented.
	Confidence levels		High Implementing required environmental mitigation measures on projects through documented permits and regulatory approvals as well as following best management practices for construction	Medium Continue to implement best management construction practices and follow legislative requirements; could be potential future changes based on policy or legislative changes
Sustainability	Organizational measure	Long-term plan, lifecycle models, purchasing protocol	10 year long-term financial plan is in place and updated annually; Development and approval of AMP; Purchasing by-law in place	AMP will be approved, additional AM data will be available through CW for assets and more complex lifecycle modelling will have been completed.

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
	Confidence levels		Medium Based on engineering judgement and compilation, review, and analysis of existing data	Medium Availability of additional data, however, resourcing may be required to complete more complex lifecycle modelling and analysis

3.7 Technical Levels of Service

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

Technical service measures are linked to the activities and annual budgets covering:

- **Acquisition** – the activities to provide a higher level of service (e.g. addition to existing facility, upgrading systems) or a new service that did not exist previously (e.g. a new facility).
- **Operation** – the regular activities to provide services (e.g. utilities, janitorial and landscaping contracts, inspections etc.)
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. reactive or minor repairs).
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. replacement of major components such as windows or roof, structural repairs, retrofits),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.[3]

Table 3.7 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

[3] IPWEA, 2015, IIMM, p 2|28.

Table 3.7: Technical Levels of Service- Corporate Facilities

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
Acquisition	New corporate facilities being built	Number based on 10-year plan; Studies completed	0-1/year	0-1/yr
	Upgrade to systems (Security, HVAC, etc.)	Number based on 10-year plan	1-2/year	1-2/year
		Budget* **	***$6,684,738***	***$6,684,738***
Operation	Cleaning	Frequency of cleaning facilities	5/times a week (corporate offices) 2/times a week (CRC's, roads depots and paramedic bases)	Remain the same or increase as new facilities are added.
	Utilities	Annual costs of corporate facilities	$800,000/year	Expected to increase as new assets are added and utility costs continue to increase
	Landscaping and Winter Maintenance	Landscaping and winter maintenance contracts	Once a week for grass cutting/gardening; snow removal as needed	Remain the same or increase as new facilities are added.
	Inspections (Condition, H&S Inspections, ESA, Fire etc.)	Meet best practice or legislated requirements for building inspections	Complete all legislated inspection requirements; Conduct condition inspections by in house staff/consultant on an as needed basis	Conduct all legislated inspection requirements and annual condition inspections of all components through combination of in-house and/or consultants
		Budget* **	***$1,577,484***	***$1,577,484***
Maintenance	General Repairs and Preventative Maintenance	Reactive to complaints and preventative	Complete minor repairs as needed	Remain the same
		Budget* **	***$663,516***	***$663,516***
Renewal	Retrofit facilities	Number/year	1-2/year	2-3/year

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	Major component replacements	Number/year	1-2/year	2-3/year
		Budget* **	***$512,082***	***$739,392***
Disposal	Disposal of facilities	Number/year	*0-1/year*	*1-2/year*
		Budget* **	***$1,300***	***TBD - Further discussion required***

Note: * Current activities related to Planned Budget.

** Expected performance related to forecast lifecycle costs, engineering estimates, and professional judgement.

*** Average per year based on 10-year planning period, unless otherwise noted.

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

4.0 FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecasts

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

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

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

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this AM Plan and climate change is addressed in Section 4.5.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population Change	Current population is 89,365 (Statistics Canada, 2021 Census Data), an increase of 4.4% since 2016.	Increase to 122,000 by 2051 (current Provincial Forecasts)	An increase in the population is expected to increase the intensity and frequency of facility use and community needs.	Condition inspections, visitor data, planning and building for expansion.

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Economic Factors	Building Condition Price Index (BCPI) has increased 4.6% from Q1 2023 to Q1 2024 for non-residential buildings on average across the 11 census metropolitan areas.	Continue a steady increase in to the future.	Higher costs due to increases in the cost of materials, labour, equipment, overhead etc.	Procurement strategies to ensure competitive pricing.
Environmental Awareness	The current impacts of climate change are at the forefront for many individuals.	Increase in environmentally conscious behaviour by residents, staff and Council; GHG Reduction Plan to be finalized in 2024.	Higher construction/renewal costs associated with LEED certification.	Future facility design and rehabilitation will consider environmental factors, LEED certification and/or other approaches to sustainable design; GHG Reduction Strategy

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.5.

Acquiring new assets will commit the County to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change Adaptation

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

How climate change impacts assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.[4]

As a minimum we consider how to manage our existing assets given potential climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Impact Description	Projected Change	Potential Impact on Assets and Services	Management
Increasing temperatures and more frequent temperature fluctuations between hot and cold	Summer temperatures are expected to be hotter with more extreme heat days and winter temperatures are also rising.	Deteriorating asset condition due to increasing temperatures and increasing frequency of rapid temperature fluctuations between hot and cold; increase pressures on mechanical components (i.e. HVAC); reduction in service live of certain building materials (i.e. asphalt shingles).	Modify maintenance activities and schedules to meet conditions. Review and implementation of various materials that are more resilient to fluctuating temperatures. Increased inspection frequency. Review of appropriate sizing/capacity of HVAC units to ensure they are capable of meeting cooling requirements associated with rising temperatures in the summer months.
Heavy Precipitation Days	Increase in the number of heavy precipitation days falling as rain, freezing rain and/or snow.	Heavy precipitation events can create many challenges, including flooding, erosion/washouts, ice and/or snow buildup.	Modify operations and maintenance activities to meet needs including vegetation maintenance, landscaping and winter maintenance activities. Ensure adequate stormwater management for renewal, upgrade/new and new developments meet stormwater guidelines for all storm events.

[4] IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

Intense storms	Increased frequency and intensity of storms resulting in high winds and severe weather.	Damage to assets, closures and cleanup due to debris and power outages.	Modify operations and maintenance activities to meet needs, vegetation management to reduce likelihood of trees damaging assets, rely on contractors to assist.

Additionally, the way in which we construct new assets should recognize that there is opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

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

The County is currently finalizing a Greenhouse Gas (GHG) Emissions Reduction Plan which is expected to recommend the development of a Climate Adaptation and Resilience Plan. As a result, strategies for building resilience to climate change will be established through these recommendations and included in future revisions of this Asset Management Plan.

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the County plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this AM Plan are shown in Table 5.1.1.

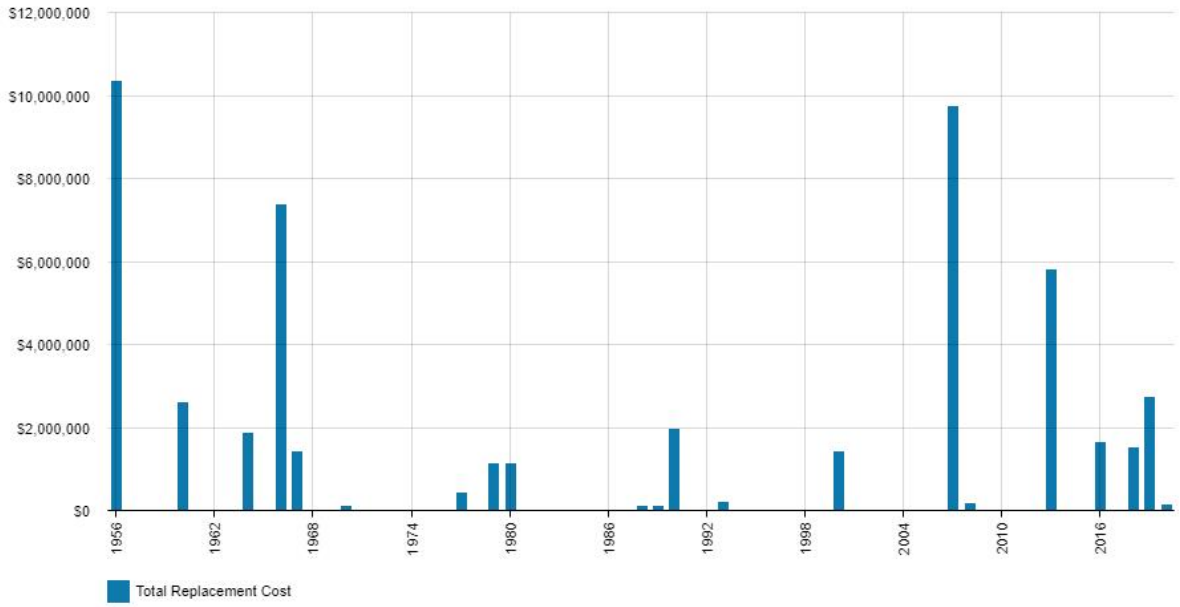
These assets included are all County owned corporate facilities.

The age profile of the assets included in this AM Plan are shown in Figure 5.1.1.

Table 5.1.1: Assets Covered by this Plan

Asset Category	Number of Buildings	Replacement Value
Administrative Buildings	3	$22,781,000
Community Recycling Centres (CRC's)	10	$2,170,350
Paramedic Base	5	$10,500,000
Road Operations Buildings	16	$11,205,500
Plant	1	$4,910,400
Tower	1	$108,500
TOTAL	**36**	**$51,675,750**

Figure 5.1.1: Asset Age Profile – Constructed Date



All figure values are shown in 2024 dollars.

Figure 5.1.1 above illustrates the date corporate facility assets covered in this plan were constructed and it is evident that there are clear peaks in 1956 (860 William Street Administrative Building), 1966 (600 William Street Administrative Building), 2007 (555 Courthouse Road Administrative Building) and 2013 (Cobourg Depot Addition and OAFVC). This indicates past investments in construction of these facilities which will be require on-going maintenance activities and renewal in the coming years as some begin to approach the end of their useful life.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Community Recycling Centre - Bewdley	Current facility is undersized with inadequate capacity to meet current and future demands. Condition of scale house is poor and is planned for replacement as part of the Joint Operations Base Feasibility Study.
Community Recycling Centre - Seymour and Brighton	Current condition of scale houses at these locations are in poor condition affecting service delivery and will be replaced in 2024.
Administrative Building - 860 William Street	Ventilation concerns have been identified and HVAC system upgrades are required to rectify, among other things, humidity control issues.
All Administrative Buildings	There is a significant lack of office workspace to accommodate current and future staffing levels across all departments. To provide additional workspaces, current storage space is being converted which, in turn, is creating storage issues for some operation departments (i.e. Facilities). Shipping containers and storage units are being rented as storage facilities.
Road Operations Buildings – Cobourg and Morganston Depots	Existing facilities do not meet current and future needs with inadequate garage and vehicle storage space. As a result, completing routine fleet maintenance is under pressure and efficiency and functionality is lacking.
Road Operations Buildings and CRC's - Accessibility	Morganston Depot and Bewdley CRC were identified through the Joint Operations Base Feasibility Study as lacking accessibility to various spaces and impacting the level of service provided.
Environmental Sustainability	The lack of environmental sustainability has been noted through the Joint Operations Base Feasibility Study across various corporate facilities.
All Facilities - Renewal budget	Inadequate funding in the budget from 2028-2033 to meet the upcoming renewal needs of Corporate Facilities.

The above service deficiencies were identified from inspections, staff knowledge, data analysis, previous studies, and available historical data.

5.1.3 Asset condition

Corporate facility conditions are monitored by the Manager of Facilities, in addition to assessing maintenance data entered in Cityworks, age of facility and major components, and any studies completed. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AM plan results are translated to a 1 – 5

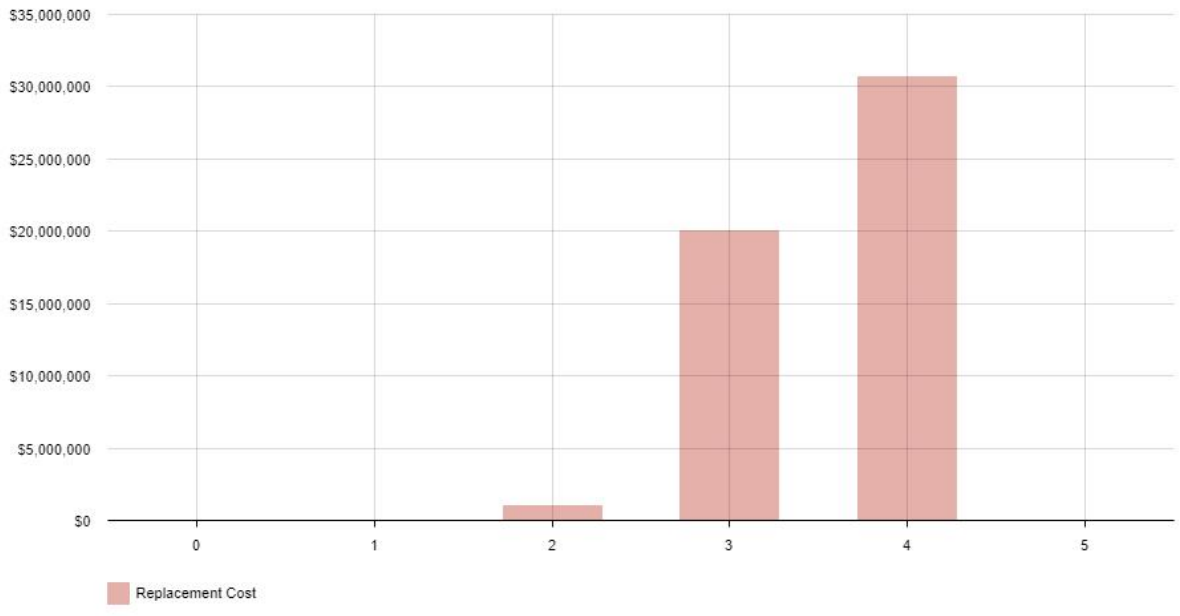
grading scale for ease of communication. Facility condition is measured using a 1 – 5 grading system[5] as detailed in Table 5.1.3.

Table 5.1.3: Condition Grading System for Corporate Facilities

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

The condition profile of our facility assets is shown in Figures 5.1.3 and 5.1.4.

Figure 5.1.3: Asset Condition Profile – Structural/Architectural

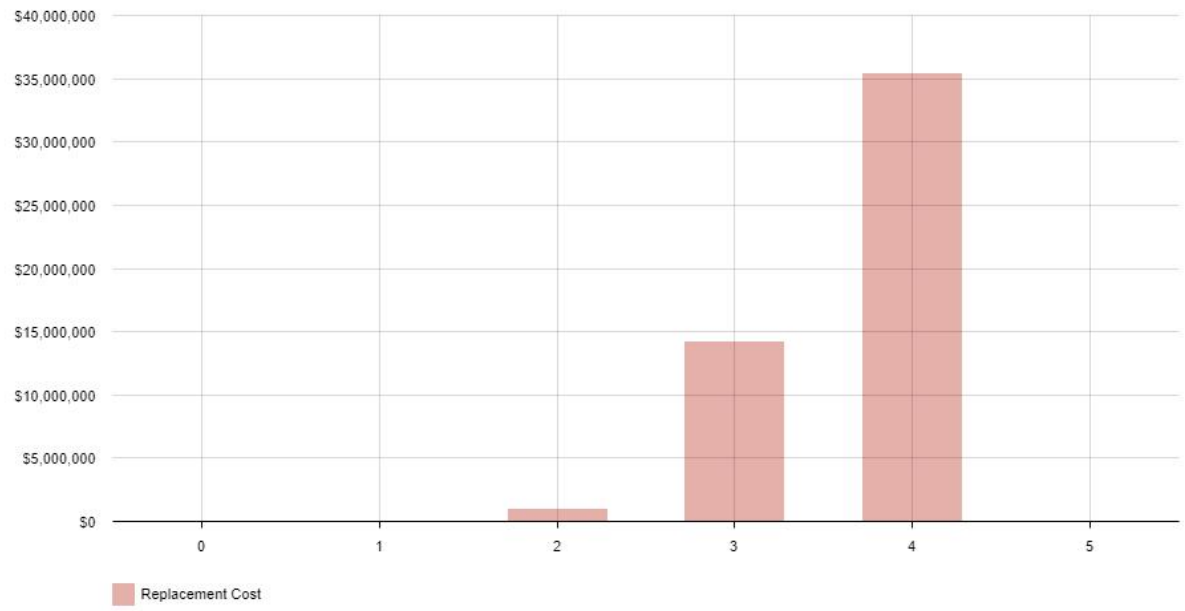


All figure values are shown in 2024 dollars.

[5] IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

The figure above illustrates the condition of the architectural/structural components of our facilities and it is evident that a significant portion are in fair (33%) or good (53%) condition at this time due to past investment in operations, maintenance and renewal works.

Figure 5.1.4: Asset Condition Profile – Mechanical/Electrical



All figure values are shown in 2024 dollars.

The figure above illustrates the condition of the mechanical and electrical components of our facilities and it is evident that the majority of these components are in good condition (68%) at this time due to past investment in operations, maintenance and renewal works.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, landscaping, inspections and utility cost.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include minor repairs and painting.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget $
2023	$592,243
2024	$705,500

2025	$573,150

Maintenance budget levels are considered to be in line to meet current and projected service levels and the spike in 2024 can be attributed to the need for funds for security/safety works. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AM Plan and service risks considered in the Asset Risk Management Plan.

Assessment and priority of reactive maintenance is undertaken by staff using experience and judgement of severity and risks associated in relation to the available budget.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

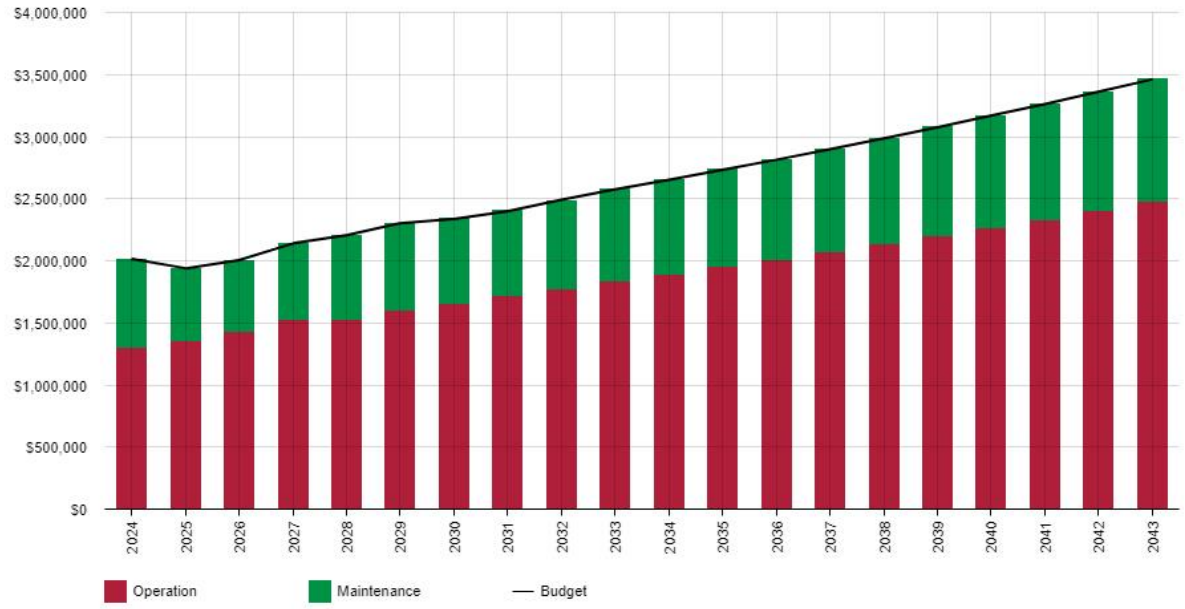
The County does not currently have a formal hierarchy framework in place however, several factors are considered when making decisions related to service planning and delivery of corporate facility assets. Information provided from inspections, staff knowledge, studies and Cityworks are key components that are evaluated. Social and political feedback, as well as development pressures, are also taken into consideration.

Additionally, legislative requirements impact the delivery of these assets and outline the responsibility of the County to complete the required maintenance and operations work.

Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecasted to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2: Operations and Maintenance Summary



All figure values are shown in 2024 dollars.

The current and future operations and maintenance forecasts are in line with the current annual and forecasted budgets over the period 2024-2033 for existing corporate facilities, as shown in the above figure. The County owns, operates, and maintains 36 corporate facilities and the operational and maintenance activities are prioritized based on the criticality of the asset and balancing the legislative requirements and user needs and expectations. It is critical to meet the required operational and maintenance needs to extend service lives and to reduce lifecycle costs. However, it is important to note that needs may change as existing facilities are upgraded or new assets are constructed, and disposal of existing facilities doesn't occur.

5.3 Renewal Plan

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

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed through the development of this plan.

Table 5.3: Useful Lives of Assets

Asset Category	Asset (Sub)Category	Useful Life – Architectural/Structural	Useful Life – Mechanical/Electrical
Administrative Buildings	Office Space	80	25
Community Recycling Centres	Scale House/Field Office	50	25
	Storage Building	75	25
Paramedic Bases	Office	80	25
	Vehicle Storage	75	25
Ontario Agri-Food Venture Centre	Plant	75	25
Road Operations Depots	Office	80	25
	Equipment/Vehicle Storage	75	25
	Salt Shed/Sand Dome	75	20
Tower (Communications)	Tower	50	50

The estimates for renewals in this AM Plan were based on the Alternate Method.

5.3.1 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. retrofitting a facility to meet service needs, HVAC replacement etc.), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a facility).[6]

It is possible to prioritize renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and

[6] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

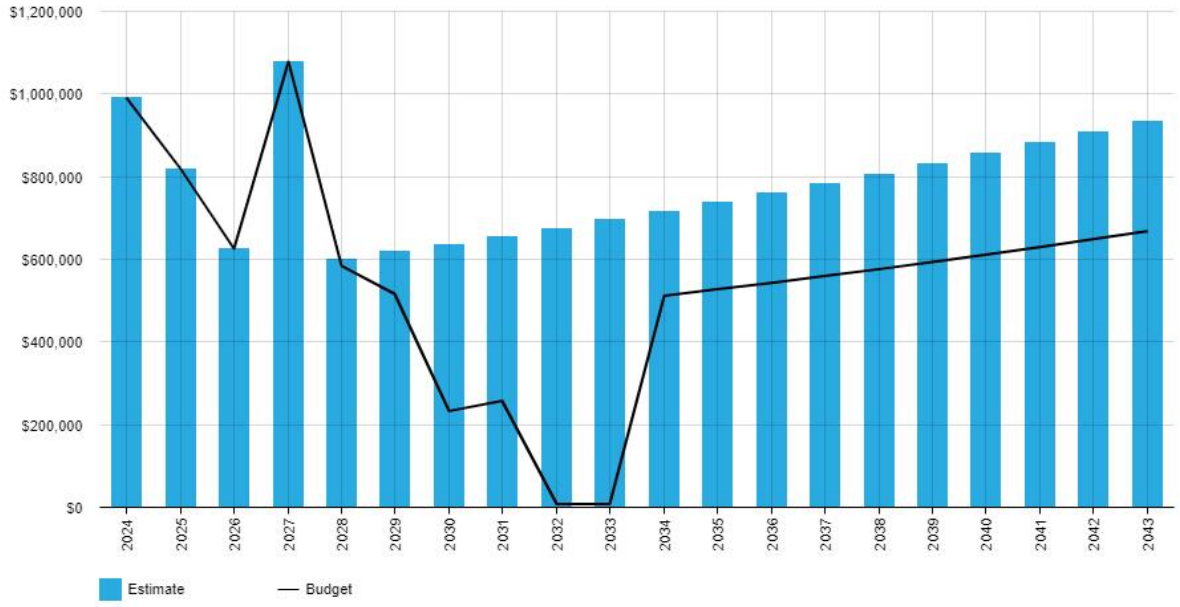
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[7]

Currently, the County does not have a formal ranking criteria to determine priority of identified renewal and replacement proposals for corporate facility assets. However, information provided from inspections, age, average annual visitor counts, consultant recommendations, studies and staff knowledge are used to determine renewal and replacement schedules.

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix C.

Figure 5.4.1: Forecast Renewal Costs



All figure values are shown in 2024 dollars.

The figure above demonstrates that the County's planned asset renewal investment strategies will not sustain the current levels of service and the forecasted renewal needs beyond 2027. Although budget is in line with forecast renewal needs in 2024-2027, there is an average shortfall of $378,851 a year between 2028-2034, with the most significant in 2032/2033.

It is important to note that, as a result of the recommendations from Joint Operations Base Feasibility Study completed in 2023, major renewal works for those included facilities are not represented in the budget or forecast. If the consolidated facility is not constructed,

[7] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

significant renewal will be required at these facilities and the renewal shortfall will be larger if budgets are not adjusted to account for this.

The risks associated with deferring assets identified for renewal but not scheduled in the capital works program are addressed in Section 6.0 of this plan.

5.5 Acquisition Plan

Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the County.

5.5.1 Selection criteria

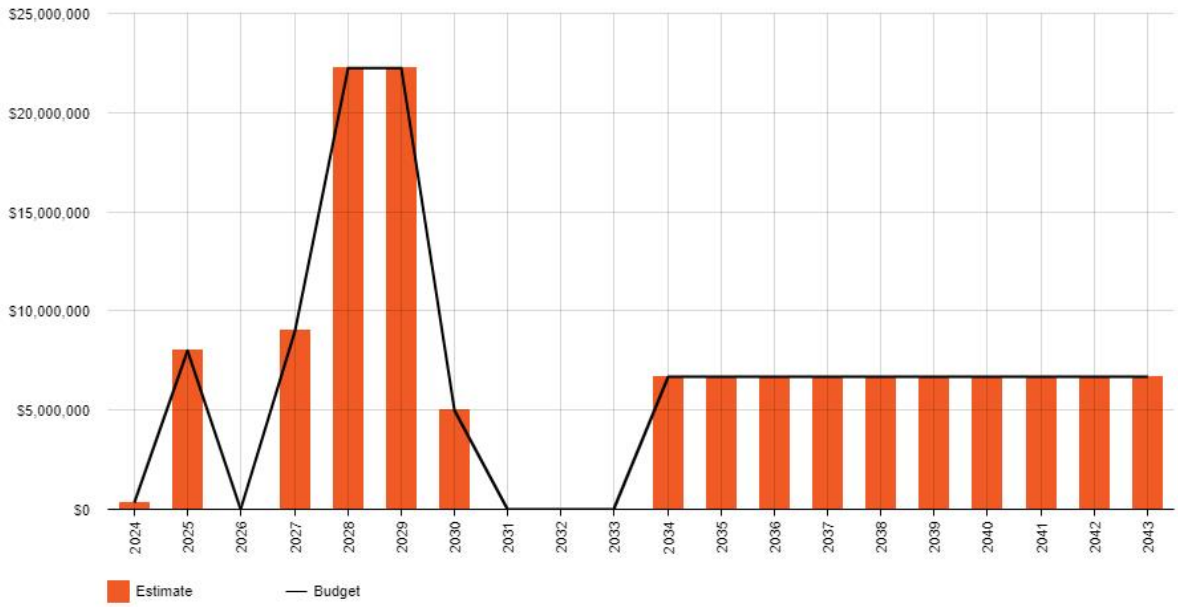
Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans and various studies, Environmental Studies (EA's) or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to the County's needs. 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 in future works programs.

It is important to note that the County currently has a Countywide Development Charges by-law in place. These development charges assist in providing the infrastructure required by future development in the County through the establishment of a viable capital funding source to meet the County's financial requirements.

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarized in Figure 5.5.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

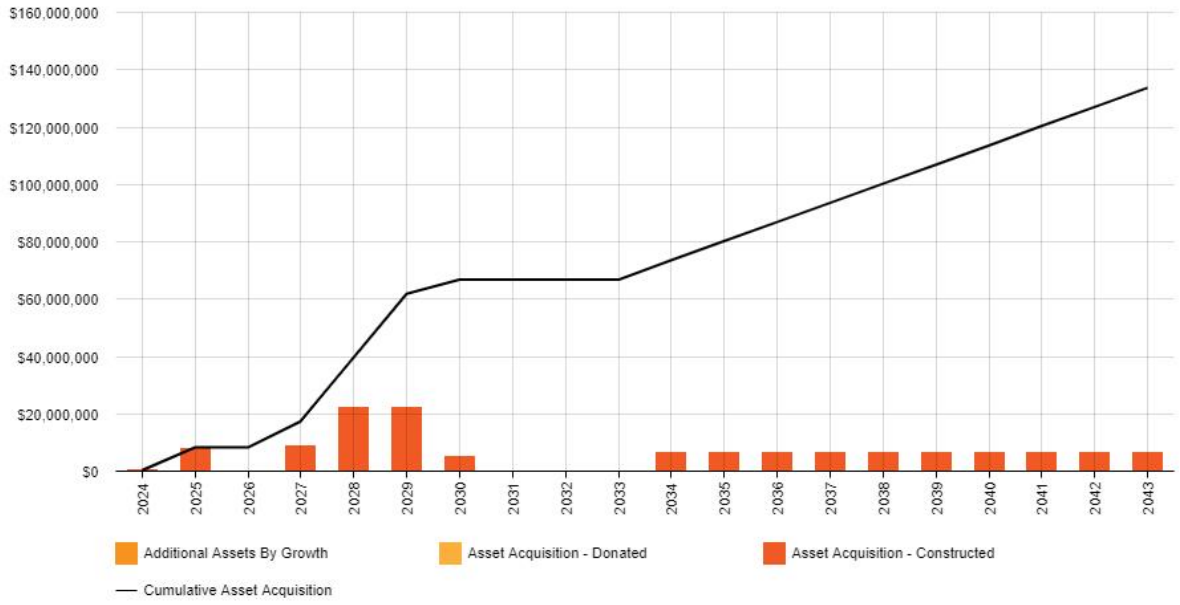
Figure 5.5.1: Acquisition (Constructed) Summary



All figure values are shown in 2024 dollars.

When an Entity commits to new assets, they must be prepared to fund future operations, maintenance, and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by the Entity. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.5.2.

Figure 5.5.2: Acquisition Summary



All figure values are shown in 2024 dollars.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

Planned acquisition over the 20-year planning horizon as depicted in Figure 5.5.2 includes the security upgrades to all facilities and scale house replacements in 2024, the new Brighton Paramedic Base in 2025 and the Joint Operations Base between 2027 and 2030. The new facilities will address existing capacity, efficiency, condition, and safety issues identified through previous studies and analysis. In addition to the capital costs for construction, these will require on-going maintenance, operations and renewal activities and costs going forward however, these will be offset if some existing assets are disposed of in the future.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

Table 5.6: Assets Identified for Disposal

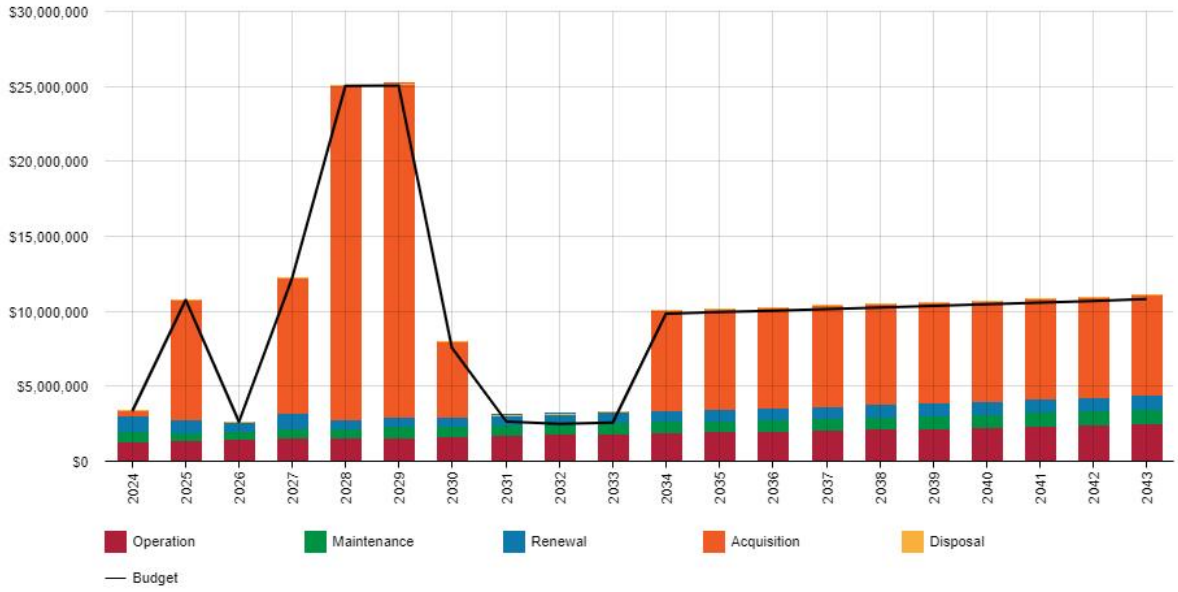
Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings	Capital Expenditure Savings in next 10 years
Communications Tower	No longer required.	2024	$13,000	N/A	$108,500
Various Facilities	Consolidation into a Joint Operations Base	2030 and beyond (as determined by Council)	TBD based on facilities to be disposed of	TBD based on facilities to be disposed of	TBD base on facilities to be disposed of

5.7 Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.7.1. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

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

Figure 5.7.1: Lifecycle Summary



All figure values are shown in 2024 dollars.

The figure above illustrates that although significant improvements have been made in recent years to County facilities, the County does not have sufficient funds in the budget, represented by the black line, to meet the forecasted needs over the planning period. Over the first 10-year planning period, there is a shortfall of $227,310 on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the planned budget. The shortfall have particularly been seen for renewal works beginning in 2027 and beyond. The aging assets and addition of new assets acquired will further exacerbate this shortfall if maintenance, operations and renewal budgets are not adjusted to account for this. As a result, specific renewal activities will continue to be deferred moving forward.

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 with regard to risk'[8].

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

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

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Administration Buildings (555 Courthouse Road, 860 William Street, and 600 William Street, including Food 4 All)	Closure or use restrictions due storm damage, fire etc.	These facilities provide a variety of services to residents, visitors and businesses across the County. Closure of these facilities would result if significant disruption of services.
Community Recycling Centers (CRC's)	Closure or use restrictions due to fire, storm damage, environmental spill etc.	Average of 200 visitors a day during off peak and 500 visitors a day during peak times. Closure or use restrictions at one or more sites would impact service delivery for both residents and businesses of Northumberland County.

[8] ISO 31000:2009, p 2

Critical Asset(s)	Failure Mode	Impact
Road Operations Depots (Cobourg and Morganston)	Closure or use restrictions due to fire, environmental spill, storm damage etc.	Road operations depots are the hub for maintenance and operation activities of our infrastructure assets and closure of these facilities may impact service delivery and safety along County roads.
Paramedic Bases	Closure or use restrictions due to fire, storm damage etc.	Paramedic bases are strategically placed throughout the County to provide efficient response times to calls. There is the potential for fatalities and serious injury if one or more of these bases are not in operation, resulting in longer response times.

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

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of 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.

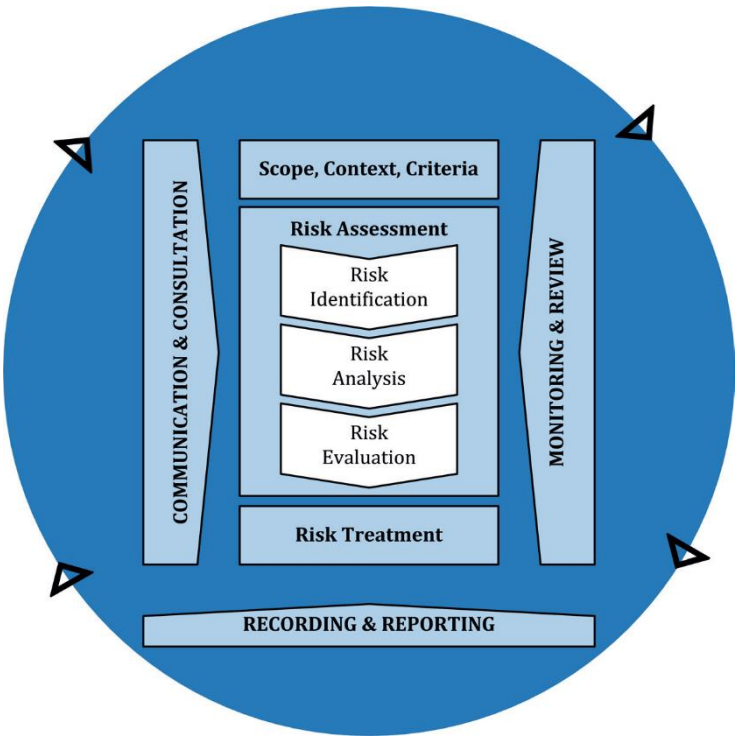


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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

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

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and County Council.

Table 6.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Current Risk Treatment Plan	Current Residual Risk	Preferred Risk Treatment Plan	Residual Risk *	Treatment Costs
Facilities	Facility Closure	VH	Some repairs, maintenance and renewals completed as accommodated in budget; hire contractors to complete works when required	M	Complete all priority repairs, maintenance and renewal as identified through inspections; ensure Business Continuity Plans are in place.	L	Staff time and resources; contracted services
Facilities	Use restrictions	H	Some repairs, maintenance and renewals completed as accommodated in budget; hire contractors to complete works when required	M	Complete all priority repairs, maintenance and renewal as identified through inspections; ensure Business Continuity Plans are in place.	L	Staff time and resources; contracted services

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Current Risk Treatment Plan	Current Residual Risk	Preferred Risk Treatment Plan	Residual Risk *	Treatment Costs
Facilities	Fire	H	Fire system inspections and evacuation drills; all necessary maintenance and renewal works completed	M	Continue to complete fire system inspections and evacuation drills; complete all required maintenance , renewal or upgrades required; ensure Business Continuity Plans are in place.	M	Staff time and resources; operational and capital budget to complete any necessary maintenance, renewals or upgrades
Facilities	Storm Damage	H	Regular inspections; vegetation management around facilities; hire contractors to complete works when required	M	Regular inspections; vegetation management around facilities; hire contractors to complete works when required; ensure Business Continuity Plans are in place	L	Staff time and resources; contracted services

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented.

6.3 Infrastructure Resilience Approach

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

Resilience is built on aspects such as response and recovery planning, financial capacity, climate change risk assessment and crisis leadership.

We do not currently formally measure our resilience in service delivery. This will be included in future iterations of the AM Plan as further plans are developed.

6.4 Service and Risk Trade-Offs

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

6.4.1 What we cannot do

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

- Complete all recommended renewal activities within the first 10 years, including all required replacements, to meet lifecycle demands.

6.4.2 Service trade-off

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

- Failure of asset and/or use restrictions (i.e. closure of part or entire facility, limited access)
- Reduced lifespan due to deteriorating condition
- Increased maintenance and repair resulting from assets not being renewed in a timely manner
- Decreased level of service (LOS) for residents and visitors of the County

6.4.3 Risk trade-off

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

- Potential loss of service and decreased life span of assets due to deterioration due to deferred renewal works
- Public disappointment and decreased levels of service
- Increased lifecycle costs for not completing timely repairs and replacements

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AM Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AM Plan for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- medium term proposed budget/forecast costs (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[9] 69%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 69% of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix C.

Medium term – 10 year financial planning period

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

This forecast work 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 is $2,980,393 on average per year.

The proposed (budget) operations, maintenance and renewal funding is $2,753,083 on average per year giving a 10 year funding shortfall of $227,310 per year. This indicates that 92% of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

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

[9] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

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

Table 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

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

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the AM Plan (including possibly revising the long-term financial plan).

We will manage the 'gap' by developing this AM Plan to provide guidance on future service levels and resources required to provide these services in consultation with the community.

Forecast costs are shown in 2024 dollar values.

Table 7.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2024	$347,384	$1,309,400	$705,500	$990,886	$13,000
2025	$8,000,000	$1,363,550	$576,150	$818,040	$0
2026	$0	$1,437,300	$567,300	$625,852	$0
2027	$9,000,000	$1,530,346	$610,180	$1,078,101	$0
2028	$22,250,000	$1,532,996	$672,339	$600,000	$0
2029	$22,250,000	$1,603,845	$698,639	$618,000	$0
2030	$5,000,000	$1,655,870	$681,520	$636,540	$0
2031	$0	$1,718,359	$679,701	$655,636	$0
2032	$0	$1,780,630	$711,027	$675,305	$0
2033	$0	$1842546	$732,808	$695,564	$0
Total	**$66,847,384**	**$15,774,842**	**$6,635,164**	**$7,393,924**	**$13,000**

7.2 Funding Strategy

The proposed funding for assets is outlined in the County's budget and Long-Term financial plan. The financial strategy of the County determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.2.1 Budget Overview and Background

Northumberland County adopted its first multi-year budget for the years 2024 to 2026. The multi-year budget will allow staff and council to focus on longer term planning. The 2024 - 2026 budget and long-term financial plan is aligned with the County's Strategic Plan 2023 - 2027. The existing strategic plan identifies four strategic priorities:

1. Innovate for Service Excellence

2. Ignite Economic Opportunity
3. Foster a Thriving Community
4. Propel Sustainable Growth
5. Champion a Vibrant Future

The property tax levy increase approved by council for the 2024 budget year is 8.57%. After growth, the increase to the existing property owner is 6.57%. This increase includes a 1% increase for the dedicated infrastructure levy and another 1% increase for a new dedicated social housing levy. Growth in the 2024 - 2026 budget was estimated at 2.0%.

Inflation has been a significant issue for the county operating and capital budgets. Inflation rose sharply in 2021 and 2022 and has remained somewhat elevated since then. Consumer prices rose during this time at their fastest rate since 1991. These increases in inflation are being driven by sustained housing prices, substantial supply chain constraints, and geopolitical conflicts. The Consumer Price Index measure of inflation has only recently dropped to 2.9% (12 month change) in March of 2024.

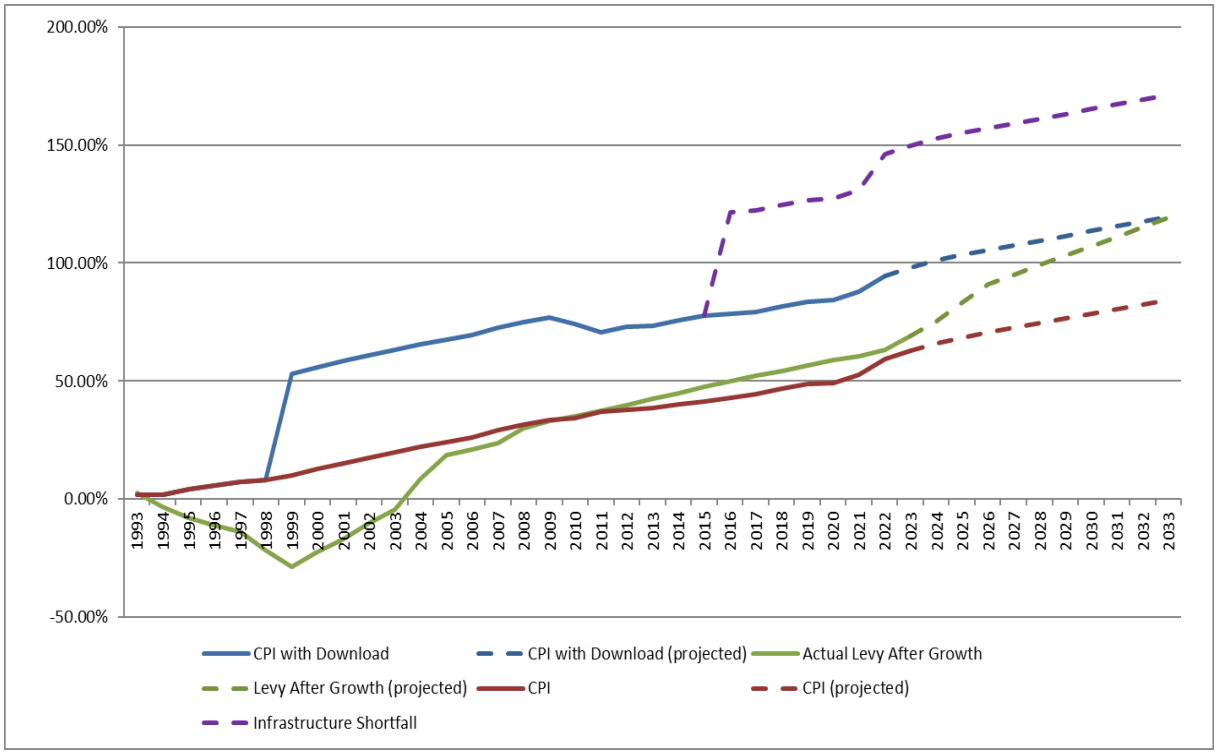
However, many of the goods and services purchased by the County move independently of the general rate of inflation as determined by a consumer basket of goods; therefore, CPI is not necessarily indicative of inflationary pressures experienced by the County. Expenditures such as construction and insurance for the County are impacted by other factors not typical of household consumers and far exceed the headline CPI index. The annual Non-residential Building Construction Index at the 4th quarter 2023 was 5.5% and for the Greater Toronto Area. This represents a more indicative measure of costs related to County infrastructure construction projects. These increases exceed the County's dedicated annual increase to infrastructure investment within the 2024 - 2025 budget and the long-term plan. Impacts from price escalations related to construction type activities are being realized by the County currently with several recent tender awards coming in overbudget; therefore, requiring additional financing to initiate the works. These price escalations represent a significant risk to the County with several major construction projects underway and others contemplated in the near term and within the long term financial plan.

As mentioned, many of the County's expenditures move independently of inflation as measured by the headline CPI. Additionally, the County has not fully re-established sustainable budgets for all departments such as transportation, waste and social housing. The ongoing trend of heightened inflationary pressures within the economy for construction type activities, as evidenced by the Non-residential Construction Price Index, will make it increasingly difficult to continue to limit tax levy increases without impacting capital intensive programs or seeing the infrastructure deficit worsen.

The chart below has been included in budget presentations over the past several years. It continues to be relevant as it provides a clear picture of the actual changes in the County levy compared to inflation and program changes. The green line shows the major decrease in the County levy through the 1990's when budgets were slashed across all departments. However, program responsibilities such as County Roads stayed the same so by 2000 the County's programs were all seriously underfunded. From 1998-2001, a range of former Provincial and Federal programs, such as Social Housing, several roads and EMS, were downloaded to the County with significant financial costs. From 2000-2005, the levy

increases were steep as Council struggled to meet its responsibilities to fund and operate all of the former and new downloaded services. The red line represents the Consumer Price Index (CPI) and shows how, theoretically, the County levy should have been increased to sustain its original program responsibilities only. The blue line is a theoretical line showing how the levy should have been increased from 1993 to today to handle both the original and downloaded program responsibilities. The purple dashed line reflects the additional investment in capital (for all County asset categories) that was recommended in the County's 2014 and 2022 Asset Management Plans. While this chart shows significant financial challenges in the past, the County is much more financially stable as we have made up much of the ground previously lost.

Levy vs Consumer Price



We have continued to project stable increases over the next several years. However, as we continue on the path of financial rebuilding, annual levy increases need to address the perpetual shortfall in infrastructure funding particularly in light of increased inflationary pressures for construction type activities which will erode financial capacity in future years with not keeping pace.

The Federal Gas Tax is the primary source of infrastructure funding available to the County. Ongoing Federal Gas Tax funding is an important part of the County Construction funding strategy. Any changes to this program would have a significant impact on the County's core asset renewal capabilities.

The Province introduced the formula based Ontario Community Infrastructure Fund (OCIF) program in 2014 for small, rural and northern communities to use on core infrastructure assets. In 2024 the province will distribute a total of $400M in OCIF funding to eligible municipalities based on the current replacement value of their core assets.

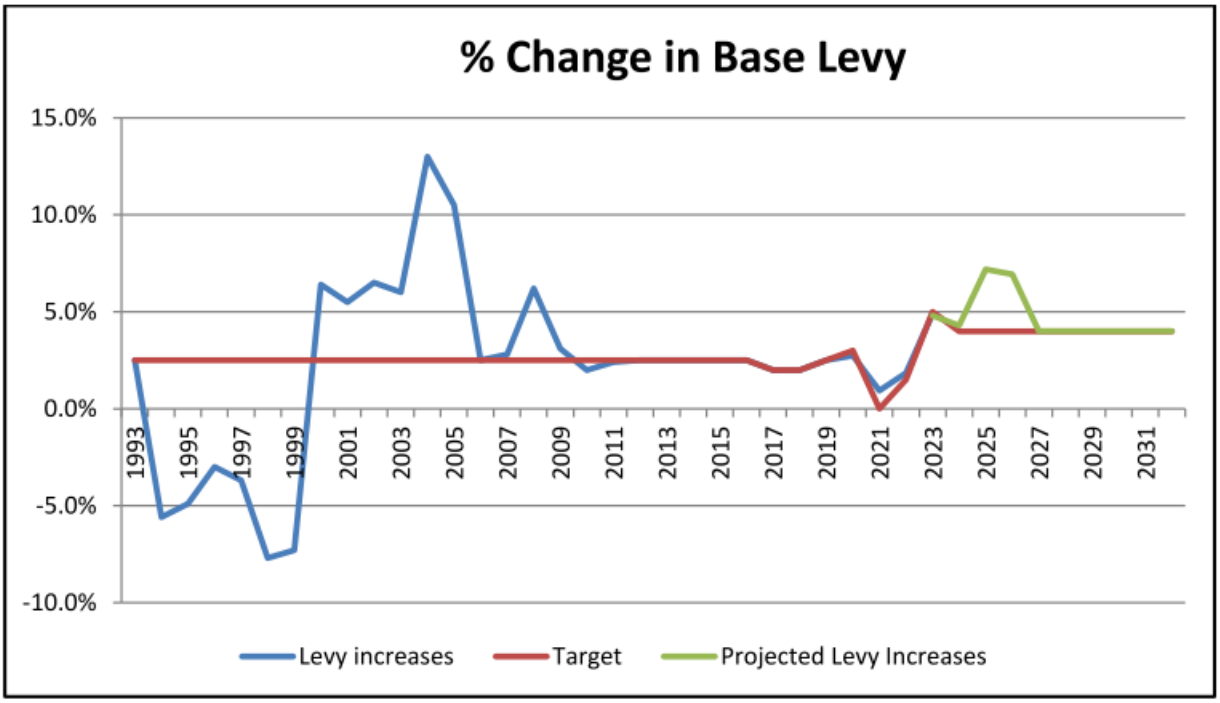
Application based funding programs are sporadic and require competition with other municipalities. In an environment where almost all municipalities are in need of infrastructure investments, the competition is fierce to chase relatively small pots of funding. Therefore, the level of annual increases is being reconsidered for future budgets as we develop plans to reach sustainable funding levels for both operating and capital budgets.

7.2.2 Long Term Financial Planning Framework

In recognition of the many competing priorities and budget pressures, the County developed a long-term financial plan in 2012. Since then, County staff have prepared the ten-year financial planning model, that is aligned with the County's strategic plan, and accordance with methodologies derived under the adopted Long-Term Financial Planning Framework (LTFPF).

The County has adopted a financial strategy within this framework that is focused on long term needs and challenges, as opposed to focusing solely on the current budget year levy impact. In order to ensure consistent and modest levy increases over time, this framework adopts a philosophy of establishing a targeted annual increase within the current year budget and the nine-year forecast.

In prior years the County experienced significant volatility in annual levy decreases/increases. Since adopting the LTFPF, the County has realized stable annual levy increases and this approach carries forward within the long-term financial model as displayed below:



* Prior to 2020, the Base Levy excluded the Dedicated Infrastructure Levy; however, included the annual increase for the Transportation Construction Program. Effective 2021, calculation methodology changed whereby the base levy also excludes the annual increase for the Transportation Construction Program now treated as Dedicated Infrastructure Investments. The 2020 target was set by Council as inclusive of the Base Levy and Dedicated

Infrastructure Investments. 2021 Target represents Council request for feasibility review of a 0.0% increase. Hospital grants are excluded from base levy.

This chart helps to display how each year is interlinked and how decisions focusing on the short term can impact on future years. In the '90's the County experienced levy rate reductions and then in subsequent years implemented significant increases trying to rebuild operating and capital budgets particularly in light of Provincial downloads. In conjunction with this, reserves were depleted as a means for financing routine capital items and in some instances, projects were completed and recorded as unfinanced capital within the Financial Statements. Working capital was minimal and the operating line of credit was frequently utilized to maintain cash flow requirements.

Prudent long-term focused planning under the existing framework allows for improved financial positioning by building upon reserves. Minimization of debt servicing costs is achieved with the issuing of debt for only larger, non-routine capital projects or projects where debt is available at exceptionally low rates that allow project funds to be stretched further. Striving towards a more sustainable financial model, escalation of annual capital budgets is a key priority.

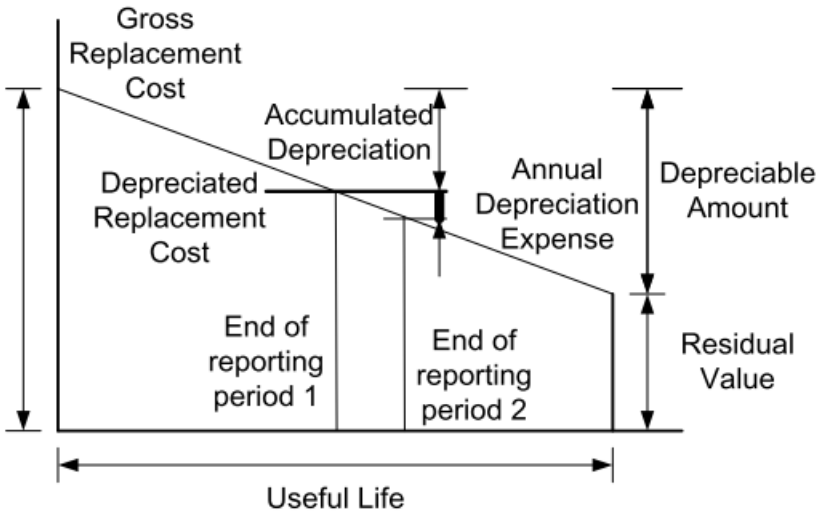
The County continues to work towards addressing the infrastructure deficit. Much of the infrastructure the County owns was downloaded from the Province in the form of roads, bridges and social housing. In many instances, this infrastructure is nearing the end of useful life and is inefficient and costly to operate and maintain. In 2016, the County introduced a dedicated infrastructure levy. Even with the implementation of this special purpose levy, infrastructure spending is only marginally gaining ground relative to the need that relates to the desired level of service. Adoption of a County-wide D.C. has increased financial capacity towards advancing expansion related infrastructure projects within the Transportation Department given the significant funding gap identified in this area.

For a detailed review of the budget background and its components please refer to the Financial section of the Northumberland County Core Infrastructure Asset Management Plan.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at current replacement costs derived from engineering estimates.



Replacement Cost (Current)	$51,675,750
Depreciable Amount	$50,666,424
Depreciated Replacement Cost[10]	$26,200,504
Depreciation	$665,188

7.3.2 Valuation forecast

Asset values are forecast to increase as additional assets are added into service.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this AM Plan are:

General Assumptions:

- Asset Register was not used for capital renewal but rather reliance was on technical estimates and staff knowledge.
- The last 10 years of projected expenditures maintains the year 10 need or expenditure and applies year over year inflation of 2% in keeping with the Bank of Canada forecast and good financial principles.
- The last 10 years of projected expenditures has an additional 1% increase to accommodate growth considerations.

[10] Also reported as Written Down Value, Carrying or Net Book Value.

- Depreciated values assumed based on current replacement costs of assets and percentage currently consumed.
- Assumed function and capacity were the same as condition in the asset register.
- Acquisition budget and forecast for last 10 years uses average of the first 10 years.

Corporate Facility Assumptions:

- Condition rating provided for architectural/structural components and mechanical/electrical components at each facility.
- Replacement cost assumed based on cost per square foot by building type where recent technical estimates were unavailable and does not include land purchase, completion of studies or site servicing.
- Golden Plough Lodge (GPL) is not included in this AM Plan as a new build is currently under construction and will have its own AM Plan once completed and operational
- Rented spaces (i.e. Campbellford Community Paramedicine Base, existing Brighton Paramedic Base and CRC field office) are not included in the asset register and current replacement cost values as they are not owned by Northumberland County.
- Northumberland County Housing Corporation (NCHC) buildings are excluded from this AM Plan. Please reference the Northumberland County Housing Corporation Asset Management Plan (2023) for information pertaining to these assets.
- Asset Register was not used for capital renewal but rather reliance was on technical estimates.
- The last 10 years of projected expenditures maintains the year 10 need or expenditure and applies year over year inflation of 2% in keeping with the Bank of Canada forecast and good financial principles.
- Depreciated values assumed based on current replacement costs of assets and percentage currently consumed.
- Assumed function and capacity were the same as condition in the asset register.
- Does not account for works that should be completed but are being deferred due to budget constraints.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale[11] in accordance with Table 7.5.1.

[11] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Table 7.5.1: 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 AM Plan is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	Medium	Demand drivers have been identified through various studies and staff discussion and knowledge.
Growth projections	Medium	Growth projections were obtained from Statistics Canada, in correlation with the County's Official Plan update which will help guide growth and development in Northumberland over the next 30 years.
Acquisition forecast	Medium	Acquisition forecasts were determined through previous studies, investigations, in addition to staff judgement/knowledge.
Operation forecast	Medium	Operation forecasts were determined using staff judgement/knowledge and current costs.
Maintenance forecast	Medium	Maintenance forecasts were determined through a variety of sources including needs identified, past expenditures and staff judgement/knowledge.
Renewal forecast - Asset values	Medium	Asset values were determined using the Current Replacement Costs (CRC) assigned through technical estimates or approximate price per sq ft where estimates unavailable.
- Asset useful lives	Medium	Useful lives were determined using industry standards and staff judgement/knowledge.
- Condition modelling	Low	Condition modelling was determined through visual inspections and staff judgement/knowledge.
Disposal forecast	Medium	Information on the disposal of assets is based on previous studies and investigations.

The estimated confidence level for and reliability of data used in this AM Plan is considered to be Medium.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[12]

8.1.1 Accounting and financial data sources

The County's asset register was not used for the purposes of this plan due to a lack of confidence in the information contained in the register. The County currently tracks the historical acquired costs of assets, as well as any costs associated with major rehabilitation, maintenance, operation work and amortization costs. For the purposes of this Asset Management Plan, the budget data was obtained from the 10-year capital plan and the County's Finance department (approved annual budget and the long term financial plan). Current replacement costs were derived from technical engineering estimates provided in studies or reports completed by external consultants and internal staff.

8.1.2 Asset management data sources

Corporate facility assets, including those in this plan, are stored in the County's Geographic Information System (GIS) and rehabilitation, maintenance and operations works are tracked against each asset using Cityworks.

8.2 Improvement Plan

It is important that an entity recognize areas of their AM Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this AM Plan is shown in Table 8.2.

[12] ISO 55000 Refers to this as the Asset Management System

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Further development of asset register for each asset to confirm year acquired, current replacement costs etc.	Facilities and GIS/AM Department Staff	Staff time	On-going
2	Additional lifecycle modelling for facilities assets using Cityworks data to further inform asset condition, performance, reliability and asset life	Facilities and GIS/AM Department Staff; Consultants	Staff time; Funding for development of lifecycle models	On-going
3	Further public consultation on LOS/risk and financial considerations	All Departments	Staff time	1-5 years
4	Breakdown of facilities to include the various components in Cityworks and future versions of this plan and complete Building Condition Assessments (Facility Condition Assessments) using Uniformat II Standard.	Facilities and GIS/AM Department Staff; Consultants	Funding; Staff time	1-5 years
5	Further implementation and ongoing use of Cityworks to better understand operational, maintenance and capital work that has been completed and associated costs.	Facilities and GIS/AM Staff	Staff time	On-going
6	Discussions between Facilities, GIS/AM and Finance staff to better understand how assets are valued, tracked and amortized.	Facilities, GIS/AM and Finance Departments	Staff time	1-2 years
7	Formalized facilities renewal ranking criteria weighting	Facilities Staff	Staff time	1-5 years
8	Monitor asset resilience and complete a resilience assessment and plan	Facilities and GIS/AM staff	Staff time	1-2 years
9	Develop a more robust risk management plan	All Departments	Staff time	1-5 years
10	Review asset condition evaluation process for facilities and update accordingly	Facilities Staff	Staff time	1-2 years

Task	Task	Responsibility	Resources Required	Timeline
11	Incorporation of recommendations from County's GHG Emissions Reduction Plan and any subsequent climate action plans or reports	GIS/AM Staff	Staff time	1-2 years
12	Review of expenditure thresholds for capitalization of assets	Finance, Facilities and GIS/AM Staff	Staff time	1-2 years

8.3 Monitoring and Review Procedures

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

The AM Plan will be reviewed and updated periodically to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

8.4 Performance Measures

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

- The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AM Plan,
- 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 achieving the Organizational target (this target is often 90 – 100%).

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
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- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- 'Northumberland County Strategic Plan 2019 – 2022',
- 'Annual Public Works Capital Plan and Budget'

10.0 APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

Assumptions relating to the acquisition forecast include:

- The last 10 years of projected expenditures maintains the year 10 need or expenditure and applies year over year inflation of 2% in keeping with the Bank of Canada forecast and good financial principles.
- The last 10 years of projected expenditures has an additional 1% increase to accommodate growth considerations.
- Security Card Reader upgrade included here is the cost difference between replacing like-for-like vs. those with enhanced security features.
- Joint Operations Base estimate includes land purchase, studies, design, construction, and contingency.
- Brighton Paramedic Base is a high-level estimate.
- Last 10 years budget and forecast use average of the first 10 years.

A.2 – Acquisition Project Summary

Significant acquisition projects included in this AM Plan are identified here.

Asset	Year	Acquisition Project	Forecast
Corporate Facilities	2024	Security Card Reader Upgrade	$27,384
	2024	CRC Scale House Replacements	$200,000
	2024	Accessible Ramps at 555 Courthouse Road	$20,000
	2024-2025	Brighton Paramedic Base	$1,600,000
	2025-2030	Joint Operations Base	$65,000,000

A.3 – Acquisition Forecast Summary

Table A3 - Acquisition Forecast Summary

Year	Constructed
2024	$347,384
2025	$8,000,000
2026	$0
2027	$9,000,000
2028	$22,250,000
2029	$22,250,000
2030	$5,000,000

Year	Constructed
2031	$0
2032	$0
2033	$0
2034	$6,684,738
2035	$6,684,738
2036	$6,684,738
2037	$6,684,738
2038	$6,684,738
2039	$6,684,738
2040	$6,684,738
2041	$6,684,738
2042	$6,684,738
2043	$6,684,738

Appendix B Operation and Maintenance Forecast

B.1 – Operation and Maintenance Forecast Assumptions and Source

Assumptions relating to the operation and maintenance forecast include:

- The last 10 years of projected expenditures maintains the year 10 need or expenditure and applies year over year inflation of 2% in keeping with the Bank of Canada forecast and good financial principles.
- The last 10 years of projected expenditures has an additional 1% increase to accommodate growth considerations.
- Includes various operations and maintenance works such as inspections, cleaning and landscaping contracts, utility costs, minor repairs etc.
- Forecasted costs based on technical estimates, historical expenditures and staff knowledge.

B.2 – Operation and Maintenance Forecast Summary

Table B2 – Operation and Maintenance Forecast Summary

Year	Operation Forecast	Maintenance Forecast	Total Forecast
2024	$1,309,400	$705,500	$2,014,900
2025	$1,363,550	$576,150	$1,939,700
2026	$1,437,300	$567,300	$2,004,600
2027	$1,530,346	$610,180	$2,140,526
2028	$1,532,996	$672,339	$2,205,335
2029	$1,603,845	$698,639	$2,302,484
2030	$1,655,870	$681,520	$2,337,390
2031	$1,718,359	$679,701	$2,398,060
2032	$1,780,630	$711,027	$2,491,657
2033	$1,842,546	$732,808	$2,575,354
2034	$1,897,822	$754,792	$2,652,614
2035	$1,954,757	$777,436	$2,732,193
2036	$2,013,400	$800,759	$2,814,159
2037	$2,073,802	$824,782	$2,898,584
2038	$2,136,016	$849,525	$2,985,541
2039	$2,200,096	$875,011	$3,075,107
2040	$2,266,099	$901,261	$3,167,360
2041	$2,334,082	$928,299	$3,262,381
2042	$2,404,105	$956,148	$3,360,253
2043	$2,476,228	$984,833	$3,461,061

Appendix C Renewal Forecast Summary

C.1 – Renewal Forecast Assumptions and Source

Assumptions relating to the renewal forecast include:

- The last 10 years of projected expenditures maintains the year 10 need or expenditure and applies year over year inflation of 2% in keeping with the Bank of Canada forecast and good financial principles
- The last 10 years of projected expenditures has an additional 1% increase to accommodate growth considerations
- Includes various building improvements such as replacing windows, siding and door, lights and fixtures, carpet and tile replacement, plumbing etc.
- All forecasted costs based on technical estimates

C.2 – Renewal Forecast Summary

Table C3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2024	$990,886	$990,886
2025	$818,040	$818,040
2026	$625,852	$625,852
2027	$1,078,101	$1,078,101
2028	$600,000	$584,656
2029	$618,000	$516,596
2030	$636,540	$233,039
2031	$655,636	$257,728
2032	$675,305	$7,882
2033	$695,564	$8,040
2034	$716,431	$512,082
2035	$737,924	$527,444
2036	$760,062	$543,268
2037	$782,864	$559,566
2038	$806,350	$576,353
2039	$830,540	$593,643
2040	$855,457	$611,453
2041	$881,120	$629,796
2042	$907,554	$648,690
2043	$934,780	$668,151

Appendix D Disposal Summary

D.1 – Disposal Forecast Assumptions and Source

Currently, the County's Communication Tower is approved for disposal in 2024.

It is important to note that there are several facilities that may be disposed of in the future following the construction of the Joint Operations Base, if approved by County Council.

D.2 – Disposal Project Summary

Planned disposals are included here.

Year	Disposal
2024	The County's Communications Tower is being disposed of as it is no longer required.

It is important to note that there are several facilities that may be disposed of in the future following the construction of the Joint Operations Base, if approved by County Council.

D.3 – Disposal Forecast Summary

Table D3 – Disposal Activity Summary

Year	Disposal Forecast	Disposal Budget
2024	$13,000	$13,000
2025	$0	$0
2026	$0	$0
2027	$0	$0
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$0	$0
2032	$0	$0
2033	$0	$0
2034	$0	$0
2035	$0	$0
2036	$0	$0
2037	$0	$0
2038	$0	$0
2039	$0	$0
2040	$0	$0
2041	$0	$0
2042	$0	$0
2043	$0	$0

Appendix E Budget Summary by Lifecycle Activity

Assumptions relating to the budget include:

- The Long-Term Financial plan, 10-year capital plan and costs inputted in Cityworks were used to determine budget figures
- The last 10 years of projected expenditures maintains the year 10 need or expenditure and applies year over year inflation of 2% in keeping with the Bank of Canada forecast and good financial principles
- The last 10 years of projected expenditures has an additional 1% increase to accommodate growth considerations

Table E.1 – Budget Summary by Lifecycle Activity

Table E1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2024	$347,384	$1,309,400	$705,500	$990,886	$13,000	$3,366,170
2025	$8,000,000	$1,363,550	$576,150	$818,040	$0	$10,757,740
2026	$0	$1,437,300	$567,300	$625,852	$0	$2,630,452
2027	$9,000,000	$1,530,346	$610,180	$1,078,101	$0	$12,218,627
2028	$22,250,000	$1,532,996	$672,339	$584,656	$0	$25,039,992
2029	$22,250,000	$1,603,845	$698,639	$516,596	$0	$25,069,080
2030	$5,000,000	$1,655,870	$681,520	$233,039	$0	$7,570,429
2031	$0	$1,718,359	$679,701	$257,728	$0	$2,655,788
2032	$0	$1,780,630	$711,027	$7,882	$0	$2,499,539
2033	$0	$1,842,546	$732,808	$8,040	$0	$2,583,394
2034	$6,684,738	$1,897,822	$754,792	$512,082	$0	$9,849,435
2035	$6,684,738	$1,954,757	$777,436	$527,444	$0	$9,944,375
2036	$6,684,738	$2,013,400	$800,759	$543,268	$0	$10,042,165
2037	$6,684,738	$2,073,802	$824,782	$559,566	$0	$10,142,887
2038	$6,684,738	$2,136,016	$849,525	$576,353	$0	$10,246,632
2039	$6,684,738	$2,200,096	$875,011	$593,643	$0	$10,353,489
2040	$6,684,738	$2,266,099	$901,261	$611,453	$0	$10,463,551
2041	$6,684,738	$2,334,082	$928,299	$629,796	$0	$10,576,916

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2042	$6,684,738	$2,404,105	$956,148	$648,690	$0	$10,693,681
2043	$6,684,738	$2,476,228	$984,833	$668,151	$0	$10,813,949