ASSET MANAGEMENT PLAN

Municipality of Shuniah
Vehicles & Equipment - 2025

Document Control	Asset Management Plan				
Document ID : V & E					
Rev No	**Date**	**Revision Details**	**Author**	**Reviewer**	**Approver**
1	March 2025	First Vehicle & Equipment Plan	SM	PG	Res 106-25

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan (AM Plan) details information about infrastructure 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 2023-2032 year planning period. The AM Plan will link to a Long-Term Financial Plan which typically considers a 10-year planning period.

1.2 Asset Description

This plan covers the infrastructure assets that provide fleet support for both Public Works and Fire Services

The Municipality has 53 assets in our network which comprises:

- Public works − 28 vehicles and equipment
- Fire Department − 25 vehicles and equipment

The above infrastructure assets have replacement value estimated at $5,543,000.

1.3 Levels of Service

The allocation in the planned budget is sufficient to continue providing existing services at current levels for the planning period.

The main service consequences of the Planned Budget are:

- Adjusting of the services the Municipality can provide.
- Adjusting the condition of the vehicle and equipment assets.

1.4 Lifecycle Management Plan

1.4.1 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 the equipment and vehicles is estimated as $7,861,712.00 or $786,171.00 on average per year.

1.5 Financial Summary

1.5.1 What we will do

Estimated available funding for the 10 year period is $4,754,100.00 or $475,410.00 on average per year as per the Long-Term Financial plan or Planned Budget. This is 60% 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. The Informed decision making depends on the AM Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for Vehicles & Equipment leaves a shortfall of $310,761 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

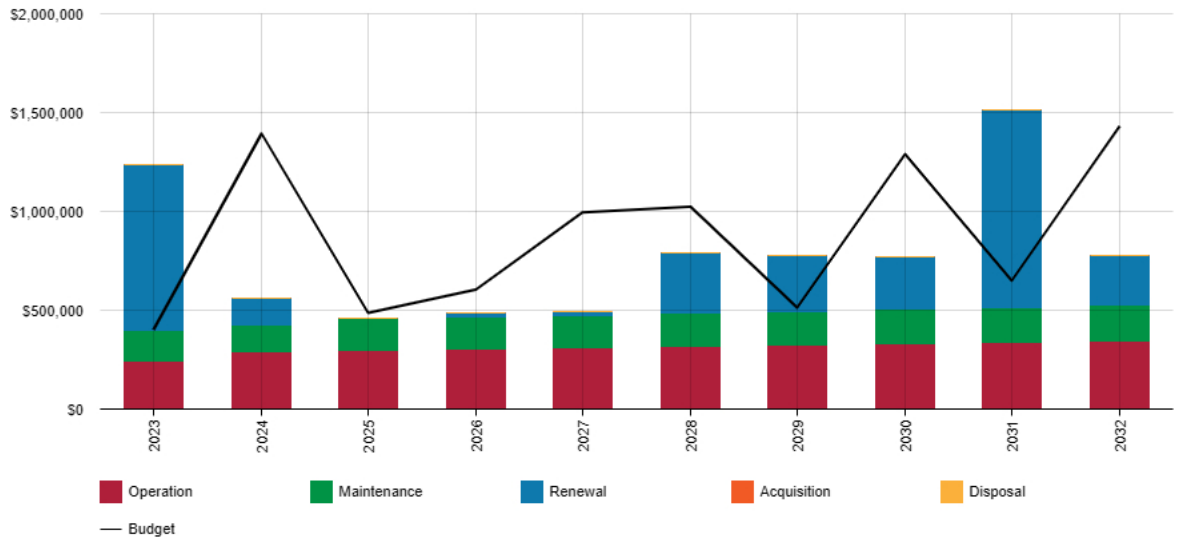


Figure Values are in current dollars.

We plan to provide Vehicles & Equipment services for the following:

- Operation, maintenance, renewal and acquisition of Vehicles & Equipment to meet service levels set by The Municipality of Shuniah in annual budgets.
- Extrication equipment, replace fire chief truck, replace 3 plow trucks, replace power washer, dump trailer, enclosed trailer, snowplow blades, lawnmower, replace fire vehicle and other pieces of equipment within the 10-year planning period.

1.5.2 What we cannot do

We currently allocate enough budget to sustain the present services at the proposed standard but unable to replace equipment and vehicles sometimes when recommended in the asset management plan.

1.5.3 Managing the Risks

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

The main risk consequences are:

- Increase in prices due to inflation

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

- Investing in reserve funds
- Monitoring prices
- Apply for grants if available

1.6 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

- Age of vehicles and equipment
- Condition of vehicles and equipment
- Continue maintenance schedules
- Reliability of vehicles and equipment
- Maintenance and repair costs

Assets requiring renewal are identified from the asset register.

- 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 Asset Register was used to forecast the renewal lifecycle costs for this AM Plan.

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

1.7 Monitoring and Improvement Program

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

- Community levels of service
- Current asset conditions
- Long-term financial planning/budget numbers
- Continually update data

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.

The AM Plan is to be read with the Municipality of Shuniah's planning documents. This should include the Asset Management Policy and Asset Management Strategy, along with other key planning documents:

- Strategic Plan

The infrastructure assets covered by this AM Plan include all vehicles and equipment for both public works and fire department. For a detailed summary of the assets covered in this AM Plan refer to Table in Section 5.

These assets are used to provide emergency services and all public work services for roads, which includes snow plowing, repairs to road and bridges and park services.

The infrastructure assets included in this plan have a total replacement value of $5,543,000.

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
Mayor/Councillors	■ Represent needs of community/shareholders, ■ Allocate resources to meet planning objectives in providing services while managing risks, ■ Ensure service sustainable.
CAO/Clerk/Treasurer	■ Provide financial expertise & oversight ■ Provide insights into community
Operations Manager	■ Provide insight to the required vehicles and equipment required to perform expected level of services
Fire Chief	■ Provide insight to the required vehicles and equipment required to perform expected level of services

2.2 Goals and Objectives of Asset Ownership

Our goal for managing infrastructure 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 infrastructure 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
- 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,
- 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.

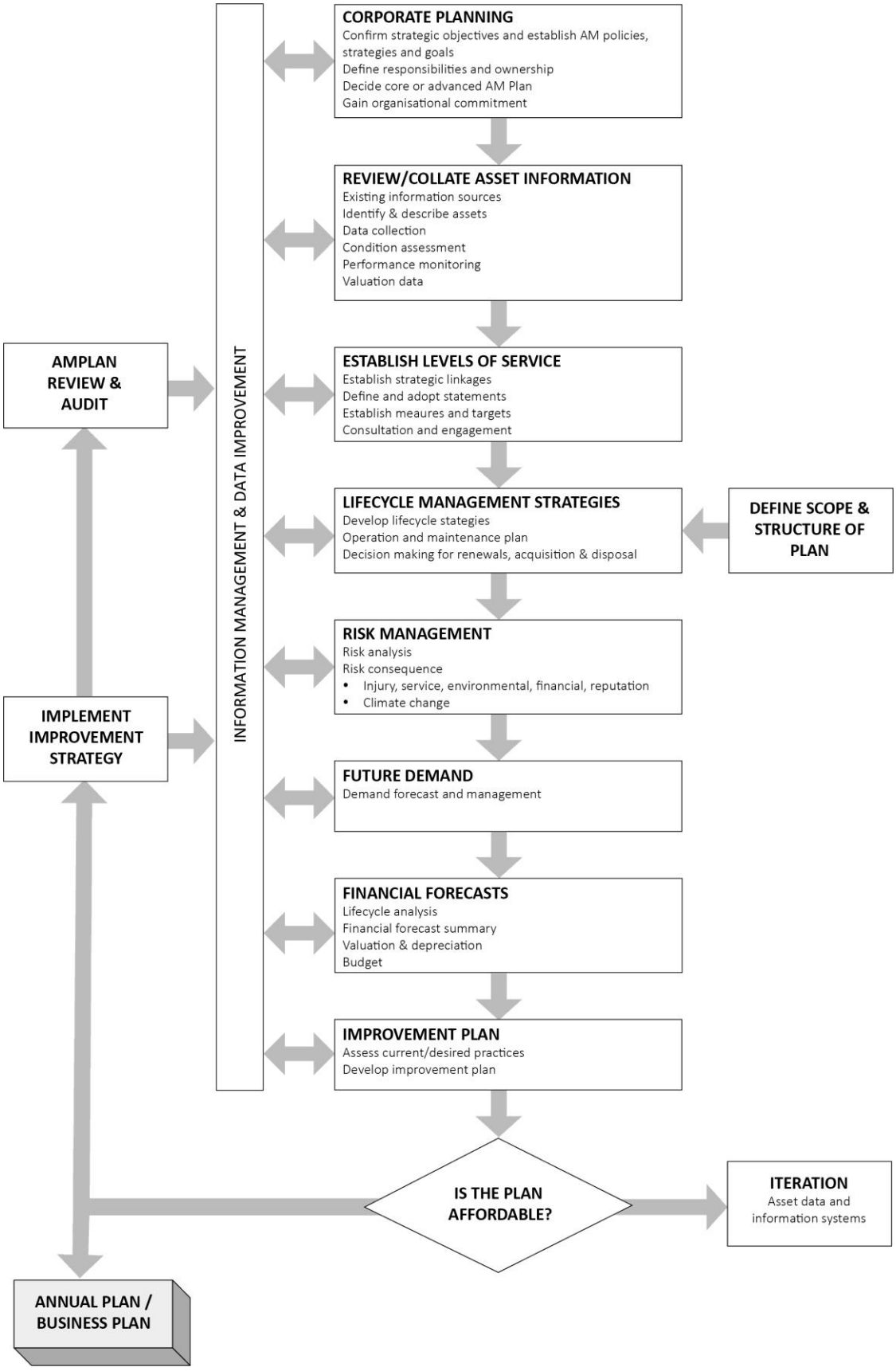
Other references to the benefits, fundamentals principles and objectives of asset management are:

- 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

This AM Plan is prepared to facilitate consultation prior to adoption of levels of service by the Council of the Municipality of Shuniah. Future revisions of the AM Plan will incorporate customer consultation on service levels and costs of providing the service. This will assist the Council and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

We currently have no research on customer expectations. This will be investigated for future updates of the AM Plan.

3.2 Strategic and Corporate Goals

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

Our vision is:

Shuniah's municipal leaders and staff will strive to ensure that our actions and initiative under the direction of our new Strategic Plan are inspiring, sustainable, pro-active, collaborative, and accessible to our community.

Our mission is:

Shuniah is committed to providing the highest quality of life by building a healthy rural community through the delivery of essential services provided by responsible leadership, planning and effective management of municipal resources.

Strategic goals have been set by the Council of the Municipality of Shuniah. The relevant goals and objectives and how these are addressed in this AM Plan are summarised below:

- Manage the impact of growth through demand management and infrastructure investment
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term to meet the level of services.
- Identifying, assessing , and appropriately controlling risks and
- Linking to a long-term financial plan that identifies affordable forecast costs and how replacements are allocated.

Key elements of the planning framework include

- Current condition and replacement value of vehicle and equipment assets
- Asset management strategies like risk, disposal, lifecycle, and future demand and how this affects managing both the present and future assets
- Continuous improvement and monitoring to ensure that objectives are met which includes increasing asset management maturity, identifying new technologies for vehicles and equipment.

3.3 Legislative Requirements

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

Table 3.3: Legislative Requirements

Legislation	Requirement
Compliance with MTO (Ministry of Transportation)	- Drivers licensing and MTO requirements for general and CVOR fleet - Commercial vehicles inspections O. Reg. 199 - Safety Inspections – O. Reg. 611
Ontario Highway Traffic Act	Drivers to follow the regulation
Ontario Regulation 555/06	Compliance of "Hours of Service" on use of Municipal vehicles

3.4 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** –purchase of item that did not exist previously.
- **Operation** – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, 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. road patching, unsealed road grading, building and structure repairs),
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),

Table 3.6 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.

Table 3.4: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Purchase item not previously in inventory	Contracting for the job is not feasible	Adequate	Adequate
Operation	Vehicle and equipment inspections	Daily	Adequate	Adequate
Maintenance	Oil changes, replace tires, repairs as required and safety checks	As required for regular maintenance, yearly safety inspections	Adequate	Adequate
Renewal	Replace current vehicles and equipment	Age, condition, cost	Adequate	Adequate
Disposal	Surplus vehicles and equipment not in use	Replaced with newer item	Adequate	Adequate

Note: * Current activities related to Planned Budget.

** Expected performance related to forecast lifecycle costs.

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, levels of service for fire department 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

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 will be developed in future revisions of this Asset Management Plan.

4.4 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 on 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.

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 Change Description	Projected Change	Potential Impact on Assets and Services	Management
Severe snowstorms	Stable	Services may take longer to provide, and asset condition could deteriorate sooner	Monitor services and asset conditions purchase more vehicles if needed.
Severe flooding, rains	Stable	Services may take longer to provide, and asset condition could deteriorate sooner	Monitor services and asset conditions purchase more vehicles if needed or contract services

Additionally, the way in which we construct new assets should recognise 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 impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this AM Plan.

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Municipality of Shuniah 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.

The assets covered in this plan are all vehicles and equipment for both public works and fire department. Fire department equipment and vehicles are stored between 3 different fire halls in the community. The public works department vehicles and equipment are stored at the municipal garage with some items at the 2 landfills.

Table 5.1.1: Assets covered by this Plan

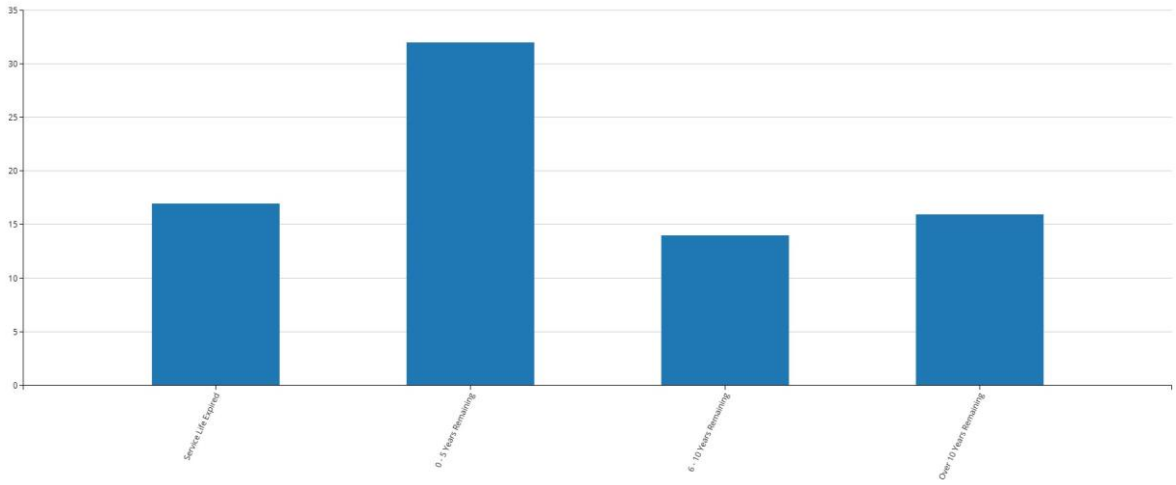
Asset Category	Dimension	Replacement Value
Public Works Vehicles	Includes dump/plow trucks, grader, excavator, loader, backhoe and plow blades	$2,815,000.00
Fire Department Vehicles	Includes prevention van, 2 tanker trucks, 2 pumper trucks, rescue vehicle, fire chief truck and rapid attack truck	$1,951,000.00
Public Works Equipment	Includes power washer, dump trailer, enclosed trailer, lawnmower, signs, UTV, and generator	$389,950.00
Fire Department Equipment	Weather stations, quad, snow machine, thermal imagers, 3 sets extrication equipment, air bags small and large	$386,500.00
TOTAL		**$5,542,450.00**

All figure values are shown in current day dollars.

The age profile of the assets included in this AM Plan are shown in Figure 5.1.2.

Asset Age Condition

The asset age condition on the graph indicates that the 1st column is service life expired. This is based on age only. For an asset to be expired age is not the only factor. Condition of asset both inside, outside and mechanically is considered.



Add discussion about the age asset profile. Outline how past peaks of investment that may require peaks in renewals in the future. Comment on the overall age versus useful lives of the assets.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there are no deficiencies currently.

5.1.3 Asset condition

Condition is currently monitored by age, visual inspections, mechanical inspections and annual safties.

Condition is measured using a 1 – 5 grading system[3] as detailed in Table 5.1.3. 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.

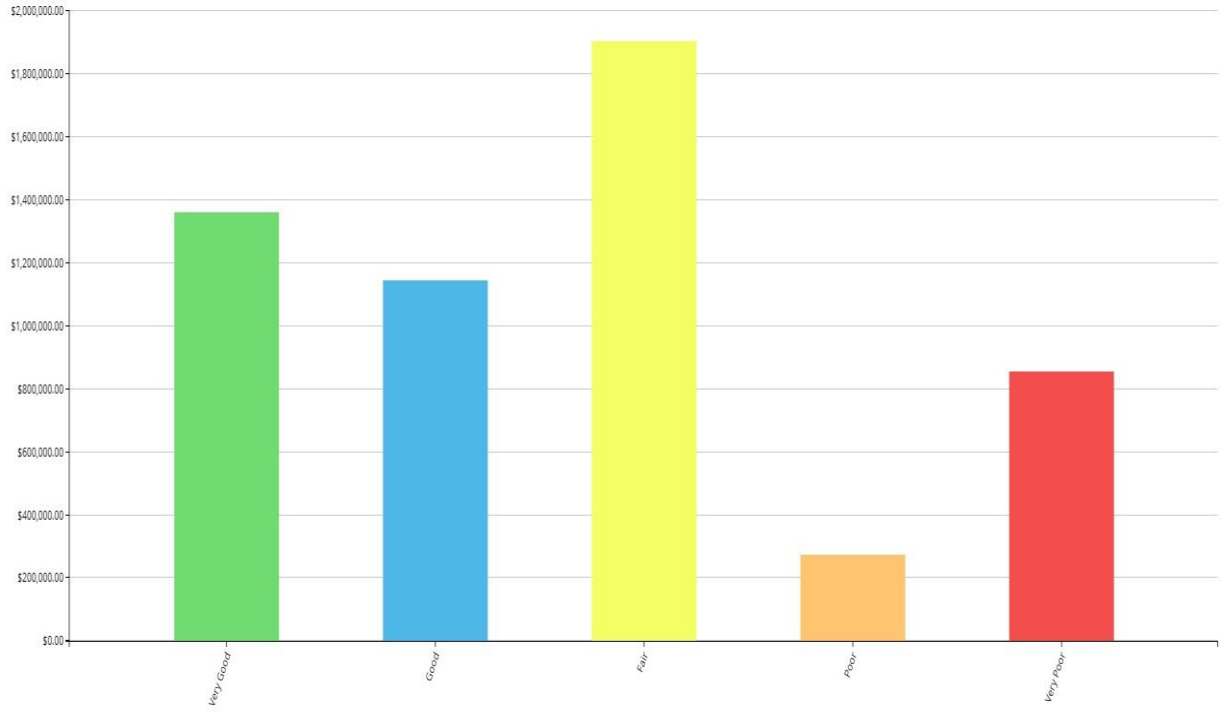
Table 5.1.3: Condition Grading System

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

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

The condition profile of our assets is shown in Figure 5.1.3.

Figure 5.1.3: Asset Condition Profile



All figure values are shown in current day dollars.

The asset conditions are for all municipal vehicles and equipment. The very poor category is scheduled to be replaced in the next few years.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, fuel costs, asset inspection, and utility costs.

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 tires, oil changes, and equipment repairs.

Maintenance budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

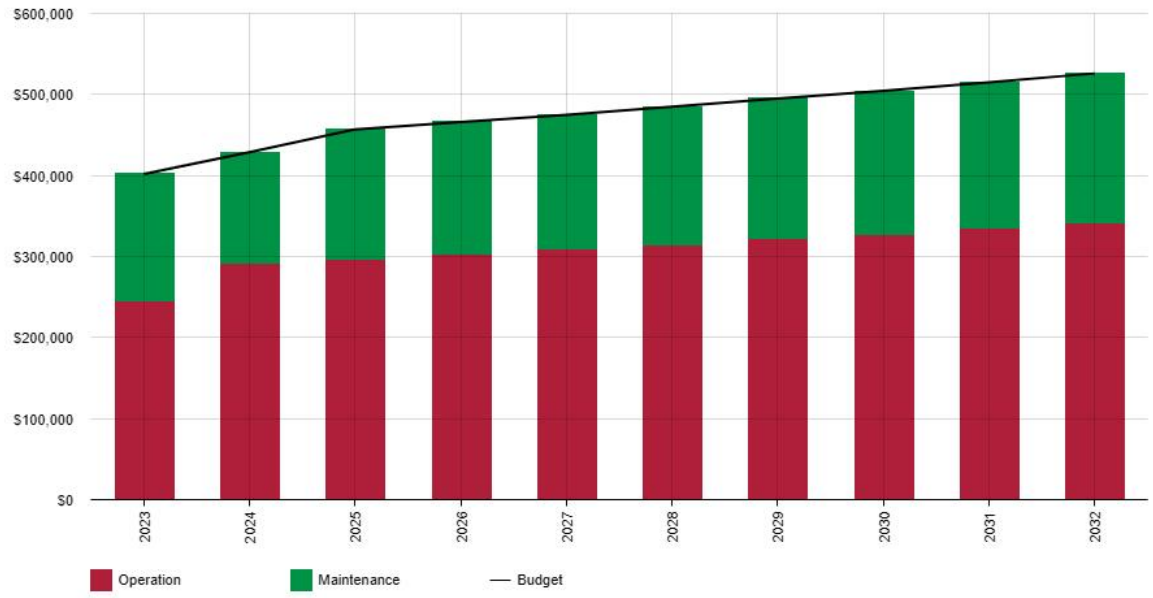
Assessment and priority of reactive maintenance is undertaken by staff using experience and judgement.

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 forecast 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 current day dollars.

Operations and maintenance costs will vary depending on the age, condition and other issues that could arise with vehicles and equipment as they age.

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 (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.

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Fire vehicles & equipment	5 to 20 years
Public Works vehicles & equipment	5 to 20 years
Computers & servers	5 to 10 years

The estimates for renewals in this AM Plan were based on the asset register.

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. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).[4]

It is possible to prioritise 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
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[5]

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 estimates on what cost maybe in the future.

Forecast and renewal costs vary as when forecasting to replace an asset the date of replacement may change due to the condition of the asset.

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 Municipality of Shuniah.

5.5.1 Selection criteria

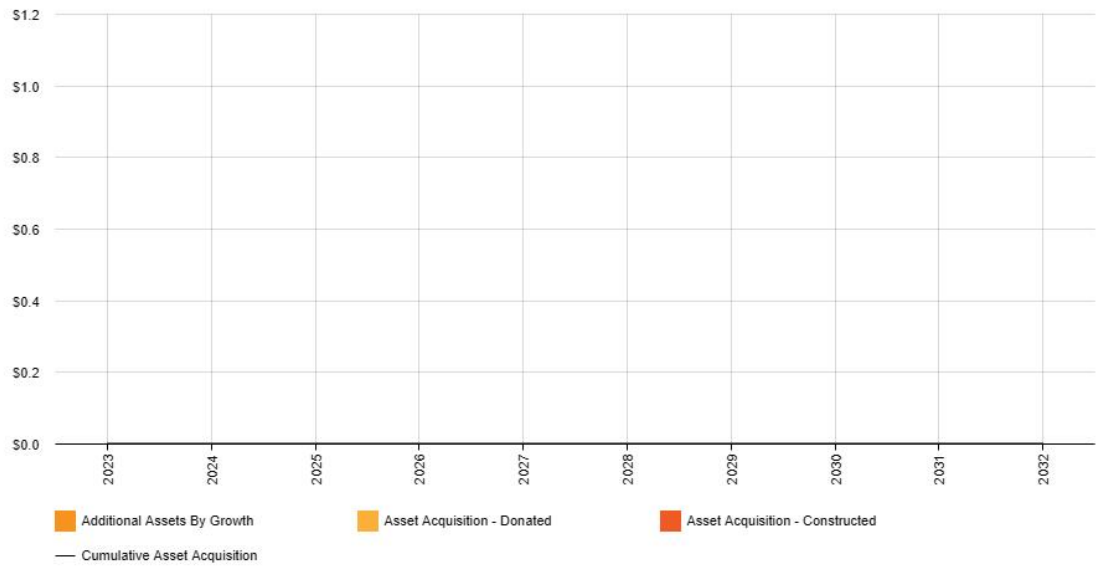
Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others and the asset management policy and plan. Potential upgrade and new works should be reviewed to verify that they are essential to the Municipality'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.

[4] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.
[5] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised / summarized in Figure 5.5.1 and shown relative to the proposed acquisition budget. At this time there are no projected new acquisitions.

Figure 5.5.1: Acquisition Summary



All figure values are shown in current day 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.

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. Currently, there is no proposed acquisitions of new assets.

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

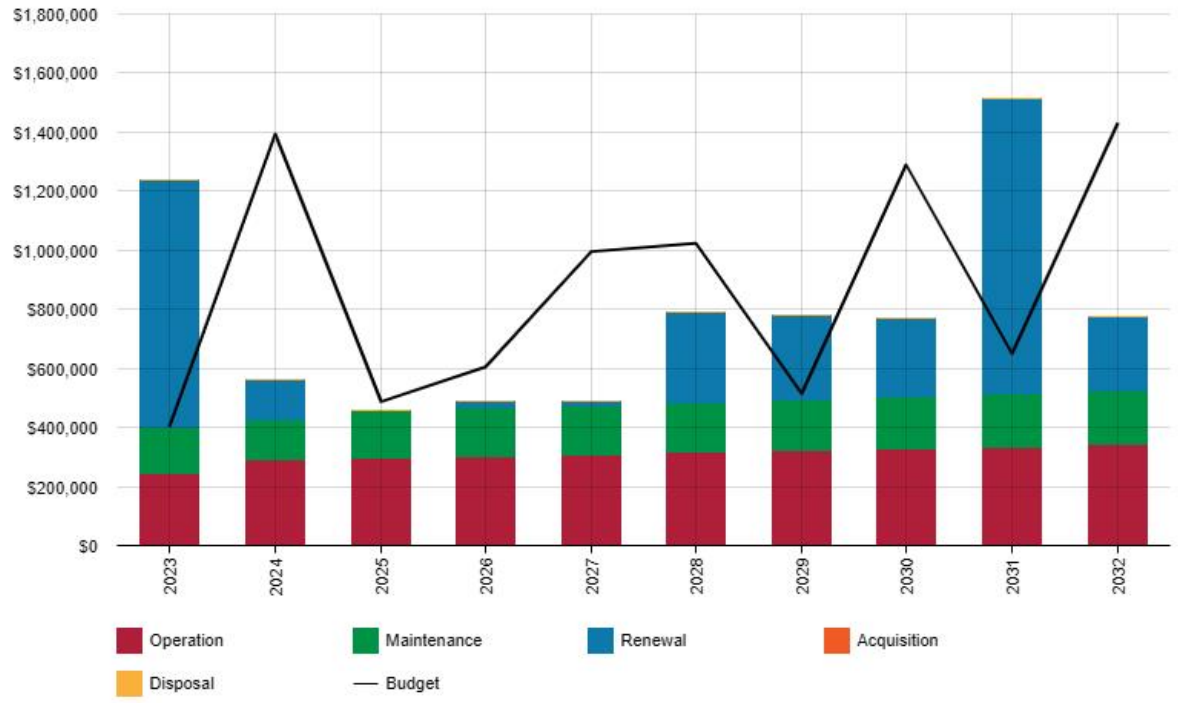
Asset	Reason for Disposal	Timing	Operations & Maintenance Annual Savings
Plow/dump truck	Replaced	2025	$5,000
Fire Chief Truck	Replaced	2024	$6,000
Prevention Van	Replaced	2028	$5,000

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 minimise 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 current day dollars.

Forecast costs are an assumption based on current prices plus inflation, condition of asset, age of asset and the services that the asset provides.

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'[6].

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 summarised 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
Plow Trucks	Service interruption	Longer to plow roads
Fire Vehicles	Service interruption	No able to attend incidents

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

[6] ISO 31000:2009, p 2

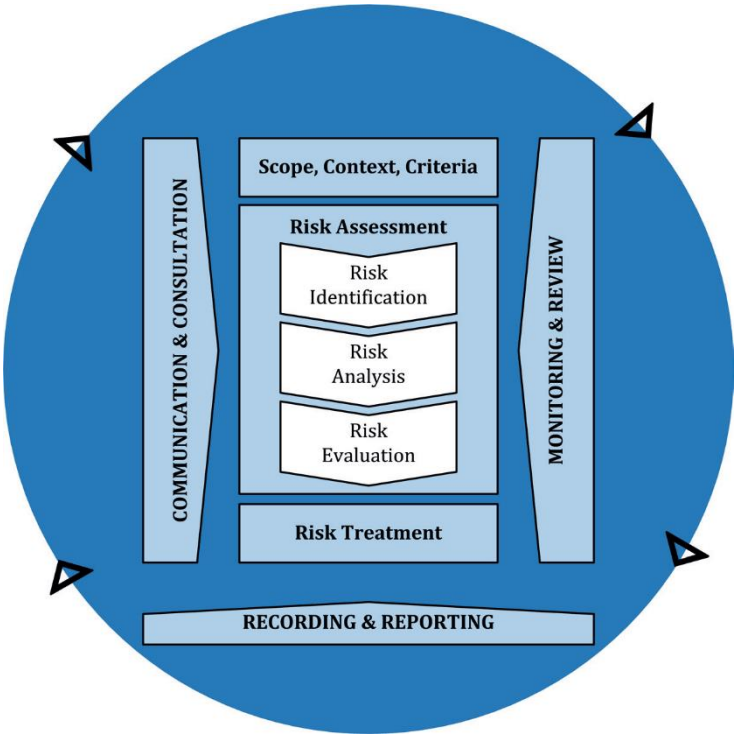


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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.

6.2 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 recovery planning, financial capacity, climate change risk assessment and crisis leadership.

We do not currently measure our resilience in service delivery. This will be included in future iterations of the AM Plan.

6.3 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.

6.3.1 What we cannot do

At this point in time there are no operations and maintenance activities and capital purchases that are unable to be undertaken within the next 10 years.

6.3.2 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:

- Not having roads plowed within service guide
- Fire vehicles not being able to attend incident

6.3.3 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:

- Not having roads plowed within service guide
- Fire vehicles not being able to attend incident

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 / proposed renewal outlays for the next 10 years shown in the AM Plan), and
- Lifecycle Funding Ratio (proposed lifecycle budget for the next 10 years / proposed lifecycle outlays for the next 10 years shown in the AM Plan).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio 123.32%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 123.32% of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall where one exists, is illustrated in Appendix D.

Lifecycle Funding Ratio – 10 year financial planning period

This AM Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed, and affordable 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 $746,713 on average per year.

The proposed (budget) operations, maintenance and renewal funding is $475,410 on average per year giving a 10 year funding shortfall of $310,761 per year. This indicates that 106.00% 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.

7.1.2 Forecast Costs (outlays) for the 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 and/or financial projections in the LTFP.

We will manage any ‘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.

7.2 Funding Strategy

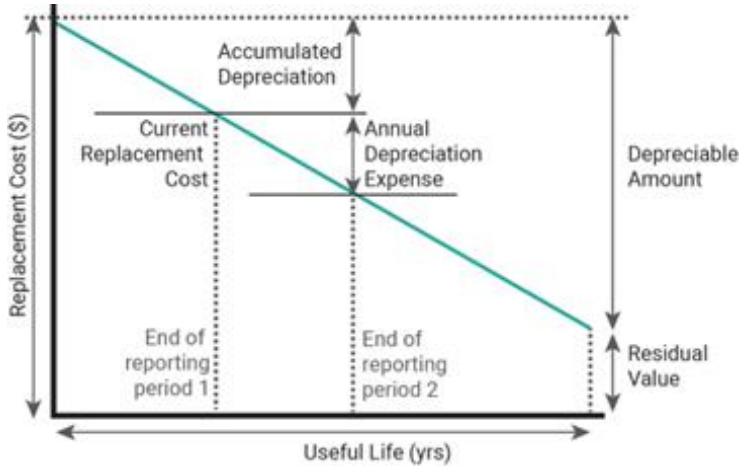
The proposed funding for assets is outlined in the Entity's budget and Long-Term financial plan.

The financial strategy of the entity 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.

7.3 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 purchase cost.

Replacement Cost (Gross)	$4,827,290
Depreciable Amount	$2,682,671
Current Replacement Cost	$5,432,055
Annual Depreciation Expense	$271,648

7.3.2 Valuation forecast

Asset values are forecast to increase or as additional assets are added or removed from 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:

- Replacement dates
- Inflation rates
- Conditions
- Risks

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[7] in accordance with Table 7.5.1.

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	High	Could be some minor shortcomings
Growth projections	High	Confident little to no growth
Acquisition forecast	High	With little to no growth minimal acquisitions
Operation forecast	High	Consistent
Maintenance forecast	High	Consistent and planned for large maintenance costs
Renewal forecast - Asset values	Medium	Inflation and condition deterioration affect the value
- Asset useful lives	High	Consistent useful lives have been reliable
Disposal forecast	High	When replacing an asset disposal occurs

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

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

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices

8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is compiled from Asyst and PSD software..

8.1.2 Asset management data sources

This AM Plan also utilises asset management data. The source of the data is PSD Software, discussions with management and asset management policy.

8.2 Improvement Plan

It is important that an entity recognise 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.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Community Levels of Service	Management	Survey/town hall	Within 2 years
2	Current asset conditions	Asset manager and department managers	Maintenance reports and analysis	Yearly
3	Long-term financial plan/budget numbers	Asset Manager	Reports	Yearly
4	Continually update data	Asset manager	Input from managers	On going

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

The AM Plan has a maximum life of 5 years and is due for complete revision and updating within 1 year of each Municipal Council election.

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 Organisational target is 1.0.

9.0 REFERENCES

- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Strategic Plan 2016- 2020
- Annual Budget 2022- 2023

10.0 APPENDICES

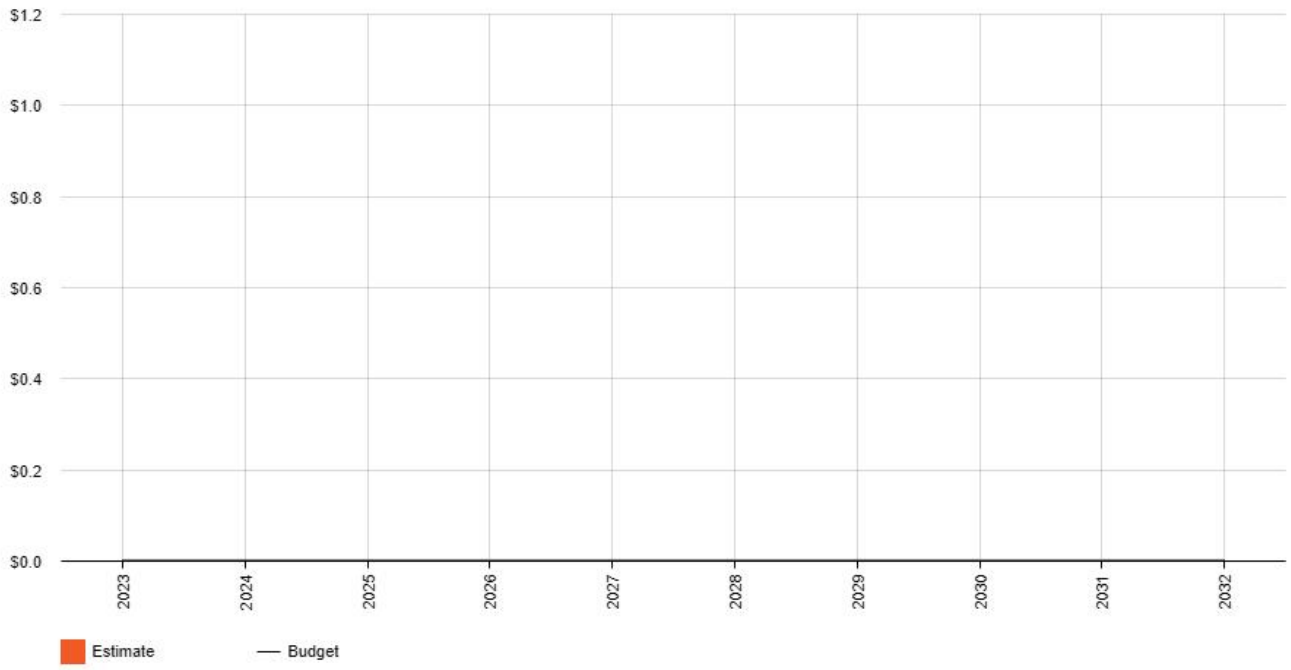
Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

Acquisitions for vehicles and equipment would be required if a larger fleet is required to provide the services. At this time there is no plan to increase the service levels.

A.2 – Acquisition Forecast Summary

Table A3 - Acquisition Forecast Summary



Appendix B Operation & Maintenance Forecast

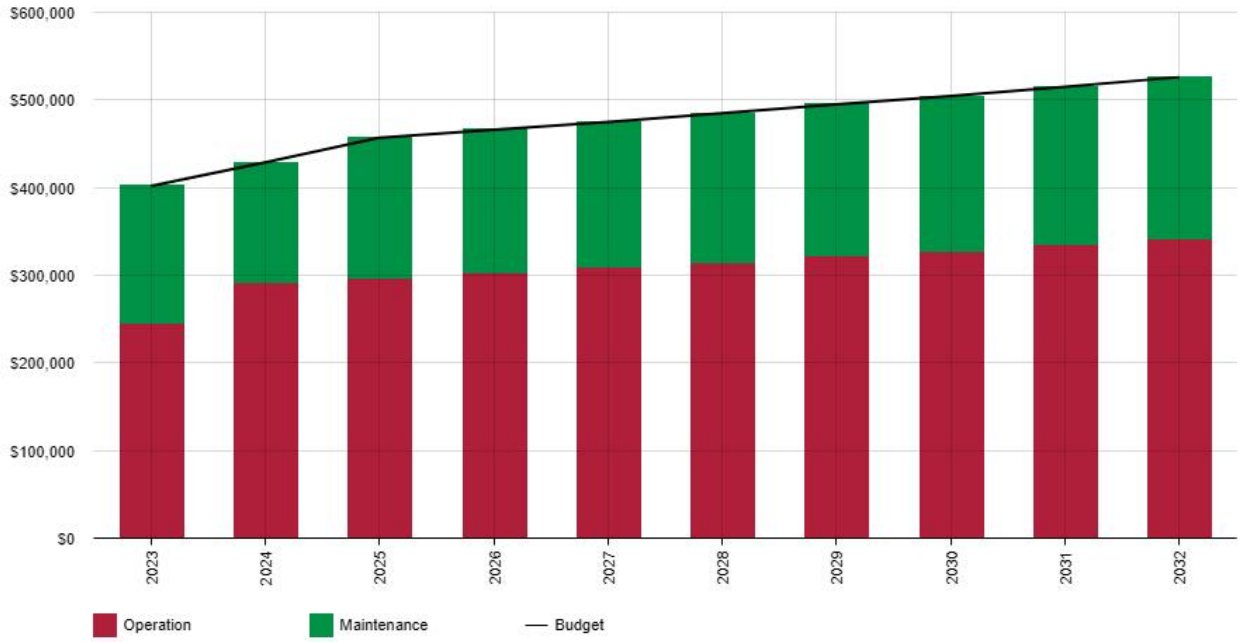
B.1 – Operation and Maintenance Forecast Assumptions and Source

The assumptions for the operation forecast are based on past operational costs, vehicle and equipment usage and inflation.

Maintenance forecasts are based on hourly usage and conditions of both vehicles and equipment.

B.2 – Operation Forecast Summary

Table B2 - Operation Forecast Summary



Appendix C Renewal Forecast Summary

C.1 – Renewal Forecast Assumptions and Source

Renewal forecast assumptions are based on the year, condition, and service life available for the vehicle or equipment.

C.2 – Renewal Project Summary

List of possible renewals in the next 10 years.

Table C3 - Renewal Forecast Summary

Asset Name	Remaining Life	Register Renewal Year	Forecast Renewal Year	Renewal Cost	Useful Life
2019 CATERPILLAR EXCAVATOR	-13	2010	2023	250,000	10
THERMAL IMAGER P51	-13	2010	2023	10,000	10
POWER WASHER / STEAMER UNIT SPARE	-9	2014	2023	15,000	7
2001 INTERNATIONAL PLOW SANDER TRUCK #35 -SPARE	-8	2015	2023	232,470	14
VETTER AIR BAGS LARGE	-8	2015	2023	3,000	15
MT BALDY PRIMARY COMMUNICATION REPEATER	-7	2016	2023	40,498	8
TANDEM AXLE DUMP TRAILER #11	-3	2020	2023	9,432	10
#R1 POLARIS SNOWMOBILE	-2	2021	2023	11,655	10
SCBA	-2	2021	2023	75,000	16
BULLEX TRAINING PROGRAM	-1	2022	2023	18,264	10
CHEVY 1/2 TON UTILITY TRUCK #25 - SURPLUS	-1	2022	2023	45,000	10
2012 FAST SPEED MONITOR TRAILER	-1	2022	2023	14,985	10
TANDEM AXLE FLOAT TRAILER #14	0	2023	2023	26,829	10
#59 - PREVENTION VAN	0	2023	2023	38,017	10
POWER WASHER / STEAMER UNIT SPARE	-17	2023	2030	15,000	7
COMMUNICATION REPEATER - MIRROR LAKE	0	2023	2023	21,199	10
QUAD TRAILER #02	0	2023	2023	4,000	10
THERMAL IMAGER - P54	0	2023	2023	10,537	5
SHUNIAH ENTRANCE SIGNS	0	2023	2023	10,531	5
#50 GMC FIRE CHIEF TRUCK - COMMAND	1	2024	2024	53,549	10
2014 -FORD ONE TON SERVICE UTILITY VEHICLE #26	1	2024	2024	80,000	10
TORO LAWNMOWER	3	2026	2026	10,000	10
ENCLOSED UTILITY TRAILER	3	2026	2026	8,500	10
VETTER AIR BAGS SMALL	3	2026	2026	3,000	15
WESTERN SNOWPLOW BLADE	4	2027	2027	8,454	10
EATON GENERATOR	4	2027	2027	7,128	10

REC CENTRE ELECTRONIC SIGN	5	2028	2028	37,631	10
2018 POLARIUS UTV	5	2028	2028	10,086	10
2018 FREIGHTLINER P/S #36	5	2028	2028	237,204	10
2018 FLOE ALUMINUM SNOWMOBILE TRAILER	6	2029	2029	4,855	10
40' STORAGE CONTAINER	6	2029	2029	10,000	10
2022 INTERNATIONAL P/S #32	6	2029	2029	264,372	10
Fire Hall 3 - Weather Station	6	2029	2029	1,500	10
Fire Hall 1- Weather Station	6	2029	2029	1,500	10
Fire Hall 2 - Weather Station	6	2029	2029	1,500	10
#56 - TANDEM TANKER TRUCK 1	7	2030	2030	248,119	20
#54 - 2011 INTERNATIONAL COMBINATION PUMPER	8	2031	2031	401,202	20
#53 - RESCUE/COMMAND	8	2031	2031	145,848	20
#52 - 2011 FORD - RAPID ATTACK	8	2031	2031	94,781	20
2012 INTERNATIONAL PLOW SANDER TRUCK #37	8	2031	2031	264,000	20
2021 GMC 3/4 TON #23	8	2031	2031	51,000	10
#48 PRESSURE WASHER/STEAMER	9	2032	2032	10,400	10
2012 JOHN DEERE GRADER #43	9	2032	2032	240,000	20

Appendix D Disposal Summary

D.1 – Disposal Forecast Assumptions and Source

Disposal assumptions are based on the replacement of current assets. When an asset is replaced, the old asset is declared surplus and sold. This occurs for all vehicles and large equipment.

Appendix E Budget Summary by Lifecycle Activity

Assumptions for lifecycle activities is based on useful life, conditions, service levels, previous costs, and inflation.

Table E1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Budget
2023	0	245,000	157,000	836,417	0	402,000
2024	0	291,600	137,000	133,549	0	1,393,090
2025	0	297,000	160,000	0	0	487,000
2026	0	303,000	163,000	21,500	0	605,000
2027	0	309,000	166,000	15,582	0	995,600
2028	0	315,000	170,000	305,989	0	1,024,000
2029	0	322,000	173,000	283,727	0	514,000
2030	0	328,000	176,500	263,119	0	1,289,500
2031	0	335,000	180,000	997,329	0	650,000
2032	0	342,000	184,000	250,400	0	1,431,300