



Asset Management Plan

BRIDGES

2025

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Responsible officer	Manager Strategic Assets
Department/Section	Strategic Assets
Category	Financial & Asset Management
Community Strategic Plan Priority	Goal 2 Protected Environment Goal 4 Quality Infrastructure
	SO 2.1 Advocate for, facilitate and support programs that protect and sustain our diverse environment for future generations SO 4.4 Upgrade and maintain the road network and bridges

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1 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 over the 10 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 bridge and major culvert infrastructure assets that are crucial part of the transportation network. The primary objective for managing bridge infrastructure is to facilitate the movement of vehicular and pedestrian traffic for the local community, businesses, industries, and visitors, both within the Council region and to neighbouring areas.

The Bridge network comprises:

- 65 Concrete Bridges
- 16 Timber Bridges
- 2 Steel Bridges
- 53 Major Culverts
- 9 Pedestrian Bridges

The above infrastructure assets have replacement value estimated at \$121,907,000.

1.3 Levels of Service

The allocation in the planned budget is insufficient to continue providing existing services at current levels for the planning period. When compared to depreciation, this plan will show a lower than 100% renewal ratio, which is a result of the conflict between asset management planning, and the prevailing accounting standards.

The main service consequences of the Planned Budget are:

- Reliance on grant funding to deliver new and upgraded bridge infrastructure
- Reliance on grant funding to deliver renewal and replacement of existing bridge infrastructure assets
- Reduction in serviceability such as restrictions to vehicle loads, widths and travel times.
- Increased maintenance costs due to unfunded preventative maintenance practices
- Shortened asset lives due to Climate Change impacts (refer to Section 5.5)

1.4 Future Demand

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

- Increase in community expectations
- Population growth or decline
- Changes in transportation route requirements
- Changes in Technology
- Climate Change

These demands will be managed using a combination of administration of the 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.
- Communication of services Council can sustainably deliver to community
- Implementation of changes to be assessed on merit and applied where a reduction in construction and maintenance costs, improved efficiency, quality and WH&S can be achieved
- Significant spending required to maintain access and condition (though generally funded)

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 the bridges asset class is estimated as \$2,076,124 on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is \$1,141,052 on average per year as per the Long-Term Financial plan or Planned Budget. This is 54.96% 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.

Forecast Lifecycle Costs and Planned Budgets

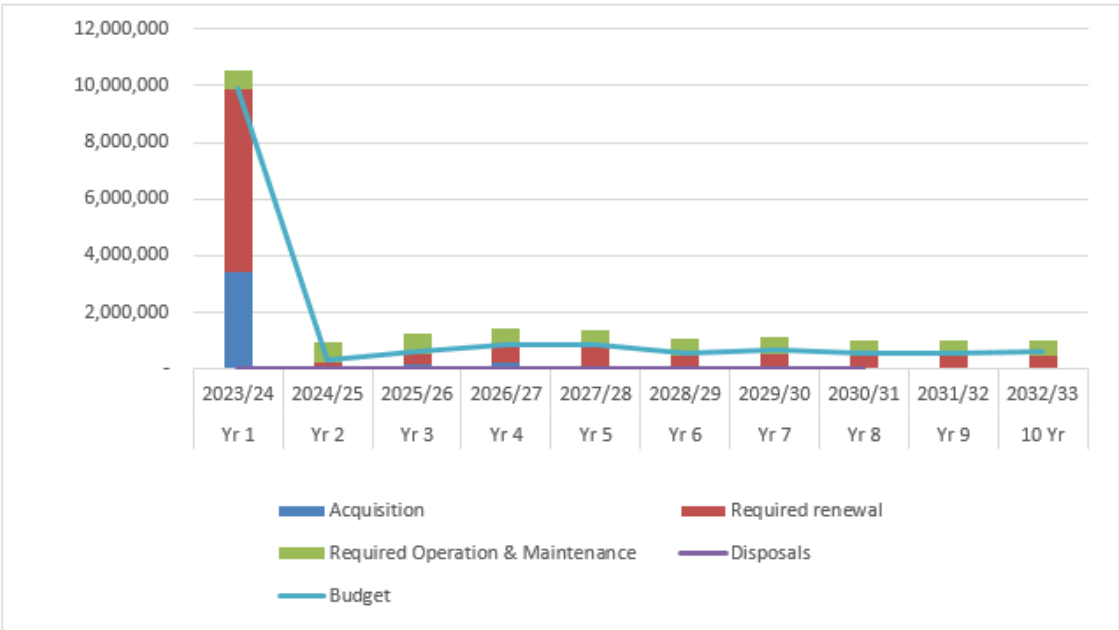


Figure Values are in current dollars.

We plan to provide bridge infrastructure services for the following:

- Operation, maintenance, renewal and acquisition of bridge infrastructure assets to meet service levels set by Upper Hunter Shire in annual budgets.

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:

- Assess and improve all bridge safety concerns
- Major upgrade works on the local and regional bridge network

1.6.3 Managing the Risks

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

The main risk consequences are

- Deterioration of the bridge network due to heavier vehicles
- Increased traffic movements
- Warmer temperatures with reduced rainfall
- More frequent significant rain events
- Litigation from property damage
- Litigation from public injury/fatality

We will endeavour to manage these risks by:

- Prioritise works based on
 - Traffic volumes
 - Heavy vehicle and school bus routes
- Continually seek external funding for further works
- Bridge Safety Audits

1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

- Council's current asset register is complete
- Current valuation data is accurate

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:

- Complete the comprehensive condition survey of all bridge assets
- Implement adequate resourcing and capability for updating the bridge infrastructure asset inventory, collection of asset repair data, and updating asset condition assessment records Review the currently used asset useful lives prior to the next major asset revaluation
- Develop an Emergency Response Plan for the critical bridge assets
- Maintenance Service Agreement – review current levels of service, covering maintenance activities and service

2 INTEGRATED PLANNING AND REPORTING FRAMEWORK

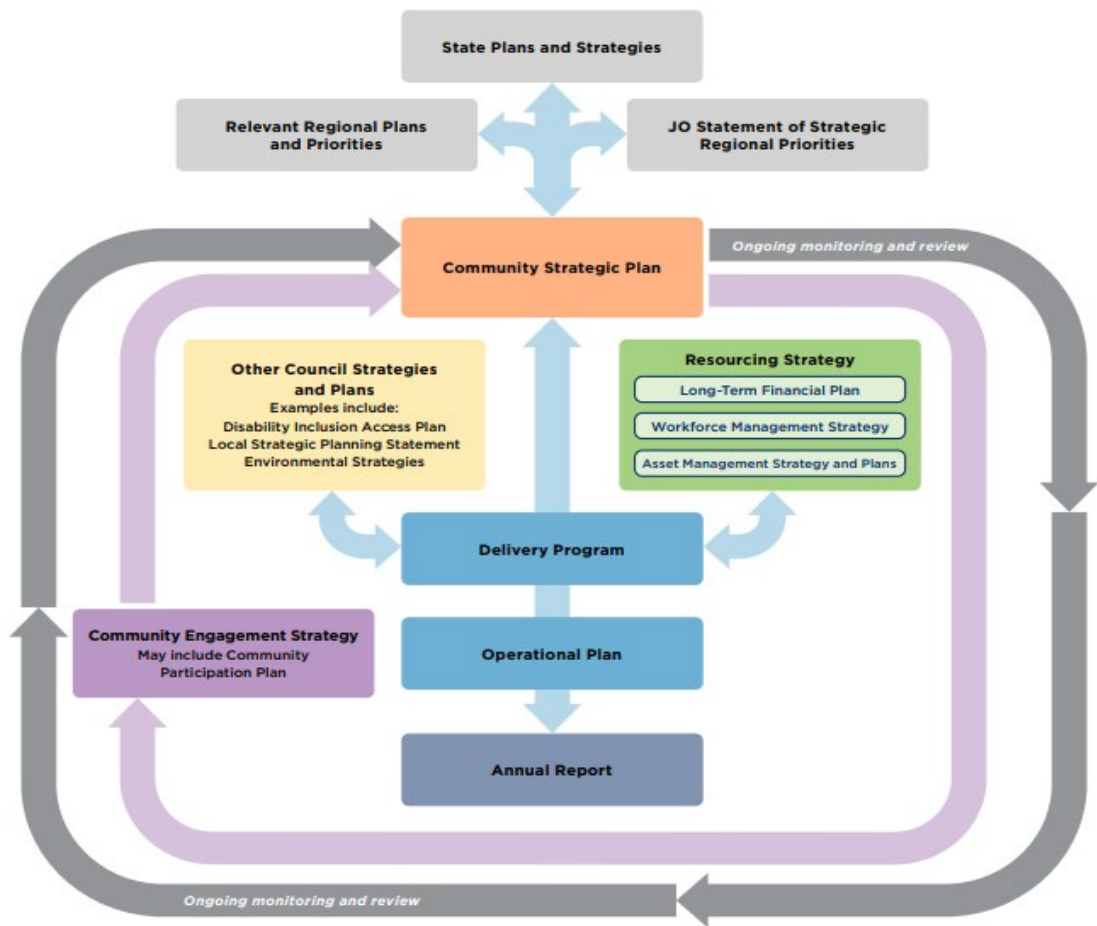
The Local Government Integrated Planning and Reporting (IP&R) Framework aims to ensure a more sustainable Local Government sector. The Local Government Act 1993 requires Council to work with the community to review the Community Strategic Plan and other documents within the Integrated Planning and Reporting Framework after the commencement of each four-year elected Council term.

Councils need to take a long term view and consider social, economic and environmental aspects and the needs of the current and future generations when making decisions. This underpins the Integrated, Planning and Reporting Framework. The importance of Civic Leadership and accountability and transparency in decision making should also underpin the Plan.

All NSW Councils are required to develop a Community Strategic Plan along with a Delivery Program (4 years) and Operational Plan (1 year). The CSP 2032 and its strategic objectives provide a foundation for our Delivery Program and Operational Plan. The Delivery Program and Operational Plan detail how each service addresses the CSP 2032 objectives, ongoing activities, priority projects and the strategies supporting this work.

These documents are informed by a Resourcing Strategy that is made up of a Long Term Financial Plan, Asset Management Strategy and Plans and Workforce Management Strategy. In order to achieve the integration envisaged by the IP&R Framework, there is an alignment between the CSP 2032, Delivery Program, Operational Plan and the other key documents. This is identified in the Upper Hunter Shire Integrated Planning and Reporting Framework.

The essential elements of the IP&R Framework are:



3 INTRODUCTION

3.1 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 Upper Hunter Shire Council planning documents. This should include the Asset Management Policy and Asset Management, along with the following key planning documents:

- Community Strategic Plan 2032
- Long Term Financial Plan 2020-2030
- Delivery Program 2022-2025 and Operational Plan 2023-2024
- Workforce Management Strategy 2022-2025

The infrastructure assets covered by this AM Plan include a bridge infrastructure network comprising of concrete and timber structures and culverts greater than 6m in length in the towns of Aberdeen, Merriwa, Murrurundi, Scone and the villages in the local government area as shown in Figure 1.

The infrastructure assets included in this plan have a total replacement value of \$121,907,000 .



Figure 1: Map of Upper Hunter Shire Towns and Villages

Key stakeholders in the preparation and implementation of this AMP are shown in Table 3.1.

Table 3.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Councillors	• Represent needs of community/shareholders • Endorsement of the asset management policy and plans • Allocate financial resources to meet planning objectives in providing services while managing risks • Ensure service is sustainable
General Manager	• Provide leadership and coordination for the implementation of asset management across the business units • Raise awareness and provide education of asset management across Council
Director Infrastructure Services	• Allocate human resources to meet planning objectives in providing services while managing risks • Ensure all staff are educated in asset management and that responsibilities are communicated to staff
Manager Strategic Assets	• Develop, review and oversee the Asset Management Policy and Asset Management Plans • Implement the improvement activities identified within the plan • Ensure that all asset data is kept up to date and inspections are undertaken in accordance with the agreed levels of service • Develop 10 year Capital Works plans and budgeting
Manager Works Delivery and Manager Water and Sewer	• Operations and maintenance management to meet agreed service levels • Liaison internally with Senior Management with regard to asset prioritisation and planning
UHSC Staff	• Verify the size, location and condition of assets • Provide local knowledge detail on all infrastructure assets • Capital Works, Operations and Maintenance management to meet agreed service levels • Liaison with Managers with regard to asset condition, prioritisation and planning
Community	• Be aware of service levels and costs • Participate in consultation processes • Provide feedback on services • End user of the assets

3.2 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
- 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
- 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:

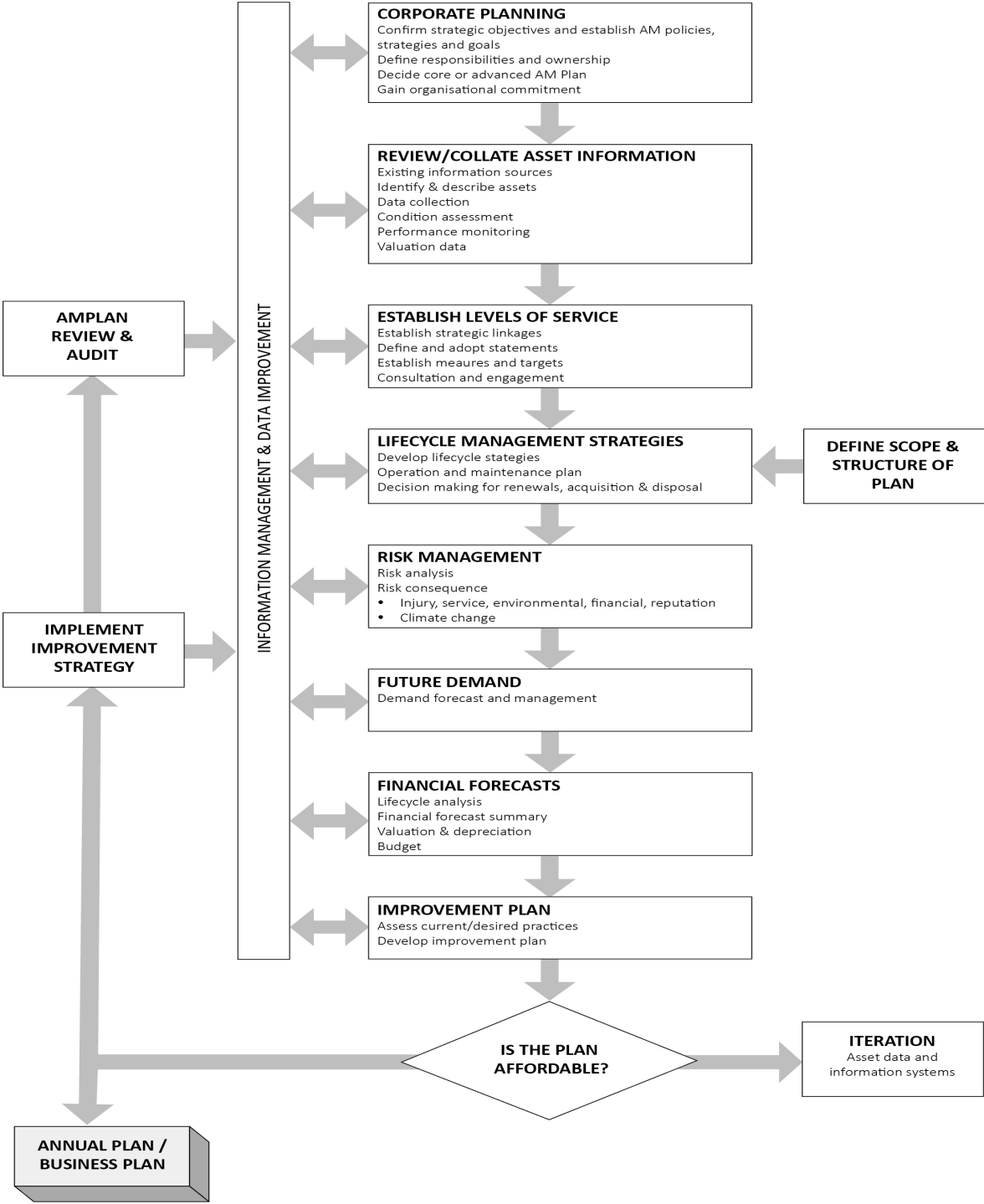
- International Infrastructure Management Manual 2015 ¹
- ISO 55000²

¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 21 13

² ISO 55000 Overview, principles and terminology

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

Road Map for preparing an Asset Management Plan
Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



4 LEVELS OF SERVICE

4.1 Customer Research and Expectations

This AM Plan is prepared to facilitate consultation prior to adoption of levels of service by the Council. 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.

In a broader attempt to assess the priorities and service expectations of our wider community, across all areas of performance, Council has commissioned detailed surveys through the company Micromex Research Consultants.

This survey concentrated on establishing the community's assessment of the importance of, and their satisfaction with, a number of services (52 in total). A scale of 1 to 5 was used in all rating questions where 1 was the lowest importance or satisfaction, and 5 was the highest importance or satisfaction.

Respondents in the survey did not make any specific reference to bridge maintenance/construction matters and most road maintenance concerns appeared to be related to maintenance of unsealed roads.

4.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of the Upper Hunter Shire Council vision, mission, goals and objectives.

Our vision is:

"A quality rural lifestyle in a vibrant, caring and sustainable community" Our values are:

- Mutual respect for all people and cultures
- Ensure staff and community safety
- Efficient, effective and reliable service
- Honest, open and accountable
- Deliver on our commitments
- Improved Environmental Responsibility

Strategic goals have been set by the Upper Hunter Shire Council Community Strategic Plan 2032. The relevant goals and objectives and how these are addressed in this Asset Management Plan are summarised in Table 4.2.

Table 4.2: Goals and how these are addressed in this Plan

Goal	Strategic Objective	How Goal and objectives are addressed in the AM Plan
Protected Environment Ensuring the ongoing protection of our environment and natural resources	2.1 Advocate for, facilitate and support programs that protect and sustain our diverse environment for future generations	By proactively surveying the asset condition of our bridge network we will understand and make long term plans for a sustainable infrastructure
Quality Infrastructure Maintaining and developing our infrastructure network to meet the ongoing needs of our population	150.1 Upgrade and maintain the road network and bridges	By providing for the cost effective development, upgrade, renewal and maintenance of bridge infrastructure assets in the Shire.

4.3 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations as shown in Table 4.3.

Table 4.3: Legislative Requirements

Legislation	Requirement
Local Government Act 1993 and Local Government (General) Regulation 2021	Sets out the role, purpose, responsibilities and powers of local governments including the preparation of a long-term financial plan supported by asset management plans.
Roads Act 1993 and Roads Regulation 2008	Sets out the responsibilities and powers of Roads Authorities to undertake works on, and maintenance of, public roads. Council is a Roads Authority for all roads within the shire (excluding Crown Roads)
Civil Liability Act 2002	To manage negligence, elements of a claim, duty of care, standard of care and causation and to address the requirements of sections 42 and 45.
National Asset Management Framework	Focuses on long-term financial sustainability and provides a mandate to have long-term strategy, financial statements and annual reporting mechanisms. AM plans are likely to be audited.
Integrated Planning and Reporting (IP&R) Framework	Key requirement is to integrate community plans with operational and delivery plans.

Protection of the Environment Operations (POEO) Act 1997	Under the POEO Act, it is an offence for the operator of any facility to cause pollution, including odour.
Waste Avoidance and Resource Recovery (WARR) Act 2001	Establishes the need to avoid/minimise waste, increase resource use efficiency/reduce natural resource consumption, and minimise environmental impact through ecologically sustainable development and sustainable waste management systems.
Environmental Offences and Penalties Act 1989	Details Council's environmental responsibilities and the penalties to be applied if these are not met
Work Health & Safety Act 2011	Council must ensure a safe workplace for all workers and other persons.

4.4 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 4.4: Customer Values

Service Objective:			
Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
That roads and bridges are suitable for heavy vehicles	Number of roads/bridges load limited, number of roads available for higher productivity vehicles	Increasing higher productivity vehicles is desired across the shire	Improvement in number of roads available for higher productivity vehicles

4.5 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?

In table 4.5 under each of the service measure types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

There 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 4.5: Customer Level of Service Measures

Type of Measure	Level of Service	Performance measure	Current Performance	Expected Trend Based on Planned Target	Target
Condition	Bridges are well maintained	Total value of maintenance undertaken/total maintenance budget	46%	50% maintenance completed	90% of maintenance completed
		Number of customer requests received concerning condition of bridge network	20 as at 30/06/2023	20 requests per annum	20 requests per annum
	Confidence levels		High	High	Medium
Function	Bridge network is of suitable geometric width and load capacity adequate to meet road class	Inspect 87 bridges annually	87 bridges inspected as at 30/06/2023	>87 Bridges	>87 Bridges
	No bridges with load limits imposed	Number of bridges	7	The number of load limited bridges will decrease	1
	Confidence levels		High	High	Medium
Capacity	Bridges are structurally capable of handling heavy vehicle loads	Number of bridges load limited	7	The number of load limited bridges will decrease	1
	Confidence levels		High	High	High

4.6 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 in the annual budgets covering:

- **Acquisition** – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library)
- **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),

Asset managers plan, implement and control technical service levels to influence the customer service levels¹

Table 4.6 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 4.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance	Recommended Performance
Acquisition	Construct concrete causeways	Value of acquisition works completed / bridge depreciation	4.14	>1.10
Operation	Bridge inspections	Timber bridge – annually Concrete bridge – biannually Culverts – biannually	All bridges inspected as per programme	All bridges inspected as per programme
Maintenance	Repair damaged bridge	Value of maintenance works completed / value of maintenance works required	46%	>100%
Renewal		Infrastructure Renewal Ratio (Value of bridge asset renewal	1218%	>100%

	Bridge replacement	completed / bridge depreciation		
		Infrastructure Backlog Ratio (Estimated Cost to bring assets to satisfactory / Closing value of assets	1.97	<2

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.

It must be noted that all these ratios are purely based on financial information not the physical infrastructure that has been renewed. That is to say, that although Council may be financially meeting the benchmark of renewals Council may in fact not be physically, due to the increased cost of renewals. For example due to the Fixing Country Bridges program bridge construction rates increased from approximately \$4,000m² to over \$15,000m² in a twelve month timeframe.

The Infrastructure Renewal Ratio (Renewals/Depreciation) for 2022/23 for Bridge and Culvert assets is 1218%, which is considerably higher than the benchmark of 100%. This is due to the amount of State and Federal Government grant funding received. Renewals planned over the next three years will reach benchmarks if the Planned Budget is maintained.

The Infrastructure Backlog Ratio (Cost to Bring to Satisfactory/Written Down Value) for 2022/23 for Bridge and Culvert assets is 1.97 which is lower than the benchmark of 2. The cost to bring to satisfactory is calculated by using a percentage of the replacement cost for assets in condition three (3.59%) and four (1.94%). An increase in capital expenditure with a clear focus on renewal programs and/or an increase in operational expenditure with a strategic emphasis on efficient and effective planned maintenance regimes should assist in reducing this for the future.

The Asset Maintenance Ratio (Asset Maintenance Expense/Required Maintenance) for 2022/23 for Bridge and Culvert assets is 30% which is lower than the benchmark of 100%. This indicates that an increase in operational expenditure is required to ensure the assets are maintained to an acceptable level of service and that premature renewals are not required. If this is not rectified the assets will have a declining condition and require much higher investments in asset renewals.

The Acquisition Expenditure Ratio (Capital Expenditure/ Depreciation) for 2022/23 for Bridge and Culvert assets is 4.14 and is significantly higher than the benchmark of 1.10. The Infrastructure Renewal Ratio will continue to meet the benchmark over the next four years due to an increase in capital expenditure reliant on State and Federal Government grant funding received.

5 FUTURE DEMAND

5.1 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.

5.2 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.

5.3 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 5.3.

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 5.3. Further opportunities will be developed in future revisions of this AM Plan.

Table 5.3: Demand management Plan

Demand Driver	Current Position	Projection	Impact on services	Demand Management Plan
Increase in community expectations	Moderate expectations with increased road safety awareness and advances in technology	Increased expectations of safe, smooth travel	Increased maintenance, operation, acquisition and renewal costs	Clear, concise communication with residents about affordability of their expectations
Changes in Technology	Continual improvements in bridge infrastructure	Changes in construction and maintenance techniques. Introduction of new machinery, plant and equipment Asset data capture by video inspection and the transportation of this information onto Council's GIS	Spatial location and condition of assets able to be verified from GIS reducing the need for reactive inspections	These changes will be assessed on merit and applied where a reduction in construction and maintenance costs, improved efficiency, quality and WH&S can be achieved

Climate Change	Extremes increasing	Higher intensity rainfalls in storm events	Increased flooding resulting in road closures and potential property damage	Significant spending required to maintain access and condition (though generally funded)
Market Demands	Civil construction market experiencing excessive investment	This will continue for the foreseeable future given State, Federal and private investment and funding	Significant impact in being able to deliver capital works, maintenance and operational programs on a yearly basis	Prioritise internal recruitment and training of existing staff to deliver these programs

5.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed.

The cumulative value of new contributed and constructed asset values have not been considered in any detail in this plan, as the historical and expected growth rates for Council have not been particularly high, and would not be considered to have any significant impact in the 10-year horizon of this plan.

Acquiring new assets will commit Council 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 6).

5.5 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 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.³

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 5.5.1

Table 5.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
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³ IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

Temperature change	Increase in temperatures	Increasing temperatures affects road maintenance techniques and deterioration rates	Monitor with regular condition assessments
Storm intensity	More extreme weather events	Localised flooding	Ensure maintenance of kerb and gutter and roadside drainage
Less frequent rainfall, increased drought longevity, increased evaporation	Reduced secure yield from water sources	Possible reduced level of service	Ensure Drought and Emergency Response Management Plan is up to date. Augmentation of water sources, potential bulk water supply from neighbouring councils

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
- 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.

6 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council plans to manage and operate the bridge infrastructure assets at the agreed levels of service (Refer to section 4) while managing the life cycle costs.

6.1 Background Data

6.1.1 Physical parameters

The assets covered by this AM Plan are shown in Table 6.1.1.

This covers all bridge infrastructure assets under the management of Upper Hunter Shire Council.

Table 6.1.1: Assets covered by this Plan

Asset Category	Replacement Value
Bridges	\$77,425,000
Major Culverts	\$44,482,000
Total	\$121,907,000

Source: Council’s Asset Register (as at 30 June 2023)

All figure values are shown in current day dollars.

The age profile of the bridge and culvert assets generally range from the 1930’s to present. The oldest still functional bridge was built in 1917 which verifies the adopted useful life of 100 years and may in fact indicate that these structures, maintained correctly could have longer useful lives.

Based on the age profile it could be expected that there will be renewal and maintenance expenditure required over the modelling period.

6.1.2 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 6.1.2.

Table 6.1.2 – Known Service Performance Deficiencies

Location	Service Deficiency
Local Rural and Urban Roads	Some bridge widths are below the desirable width for road classification.
	Some bridges have load limit restrictions

Location	Service Deficiency
	Some bridges and culverts are subject to inundation

The above service deficiencies were identified from customer requests, condition assessments and technical investigations.

6.1.3 Asset condition

Condition is currently monitored through failure statistics, routine maintenance inspections and customer requests.

The frequency of condition assessments will depend on a number of factors including the age, life, risk and criticality of the asset. In taking these factors into account and the current revaluation cycle for assets Council has determined a condition inspection frequency for each asset class. The following inspection frequency has been adopted for each asset class for future condition surveys:

- Timber Bridge – Annually
- Concrete Bridges – Biannually
- Culverts – Biannually

At present the condition of an asset is gauged by a visual rating system that assigns a condition rating on the asset based on how it appears to be functioning in providing its service to the community.

Condition is measured using a 1 – 5 grading system⁴ as detailed in Table 6.1.3. 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 6.1.3: Condition Grading System

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

The condition profile of our assets is shown in 6.1.4. This table shows the condition profile for all Councils bridge infrastructure. Note that the percentages are based on replacement costs.

⁴ IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

Table 6.1.4: Asset Condition Profile

Bridge Infrastructure Assets Component	Asset condition grade				
	1	2	3	4	5
Bridges	61.2%	30.3%	5.2%	3.3%	0.0%
Culverts	83.8%	16.2%	0.0%	0.0%	0.0%

6.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, 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 pipe repairs, asphalt patching and equipment repairs.

The trend in maintenance budgets are shown in 6.2.1.

Table 6.2.1: Maintenance Budget Trends

Year	Maintenance Budget
2022/23	\$280,250
2023/24	\$285,000
2024/25	\$296,025

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.

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.

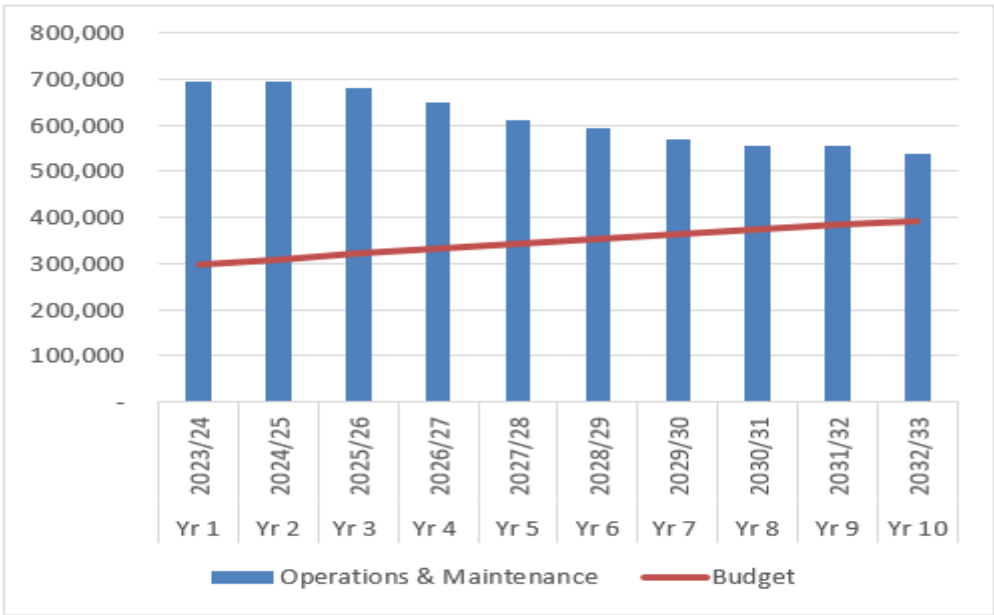
Council does not currently have an adopted service hierarchy, this will be developed as part of the next review of this AM Plan.

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 6.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 6.2: Operations and Maintenance Summary



All figure values are shown in current day dollars.

Planned/cyclic maintenance work is approximately 20% of total maintenance expenditure depending on the frequency and intensity of natural disasters which occur during the year. It is Council’s goal to increase this amount progressively and reduce the amount of reactive maintenance, which should then provide operational cost savings, and maximised asset performance.

There is currently a backlog of works, which indicates existing maintenance expenditure levels are not adequate to meet required service levels.

6.3 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 6.3. Asset useful lives were last reviewed on June 2020.

Table 6.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Bridges & Culverts	80 – 100 years

The estimates for renewals in this AM Plan were based on the alternate method.

6.3.1 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).⁵

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.⁶

Council currently prioritises renewals on its higher-class assets based on condition assessment that takes into account failures and other defects.

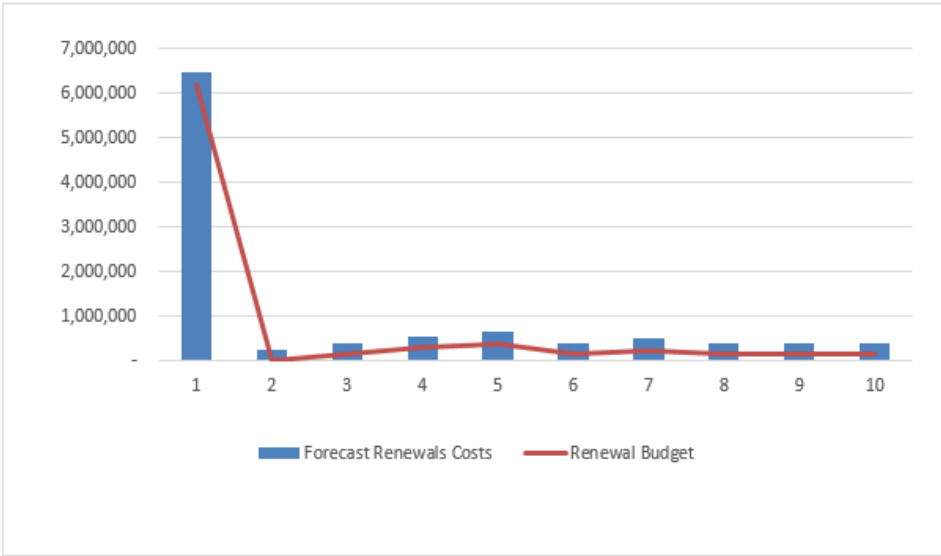
6.4 Summary of future renewal costs

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 6.4.1. A detailed summary of the forecast renewal costs is shown in Appendix C.

⁵ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

⁶ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

Figure 6.4.1: Forecast Renewal Costs



All figure values are shown in current day dollars.

In figure 6.4.1 year one is skewed due to the Fixing Country Bridges program, which funded the replacement of 14 timber bridges over 2022-2024. This funding is sent to be expended in the 2023/24 financial year.

Renewal works identified in terms of renewal strategies may be deferred if the cost (or aggregate cost) is beyond the current financial ability to fund it. This can occur when there are short term renewal profile peaks, or higher priority works are required on other infrastructure asset groups.

When renewal works are deferred, the impact of the deferral on the assets ability to still provide the required level of service will be assessed. Although the deferral of some renewal works may not impact significantly on the short-term operation of the assets, repeated deferral will create a liability (backlog) in the longer term.

6.5 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 Upper Hunter Shire Council.

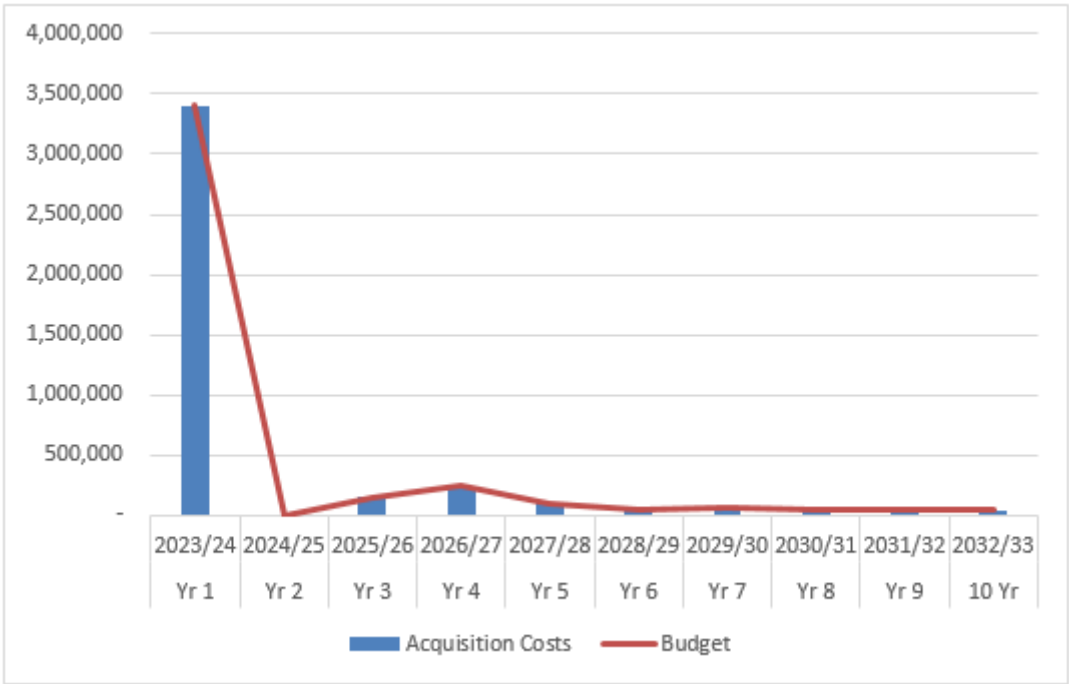
6.5.1 Selection criteria

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. Potential upgrade and new works should be reviewed to verify that they are essential to Council’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 programmes. Council does not currently have criteria for the ranking of acquisitions.

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised / summarized in Figure 6.5.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

Figure 6.5.1: 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.

6.6 Disposal Plan

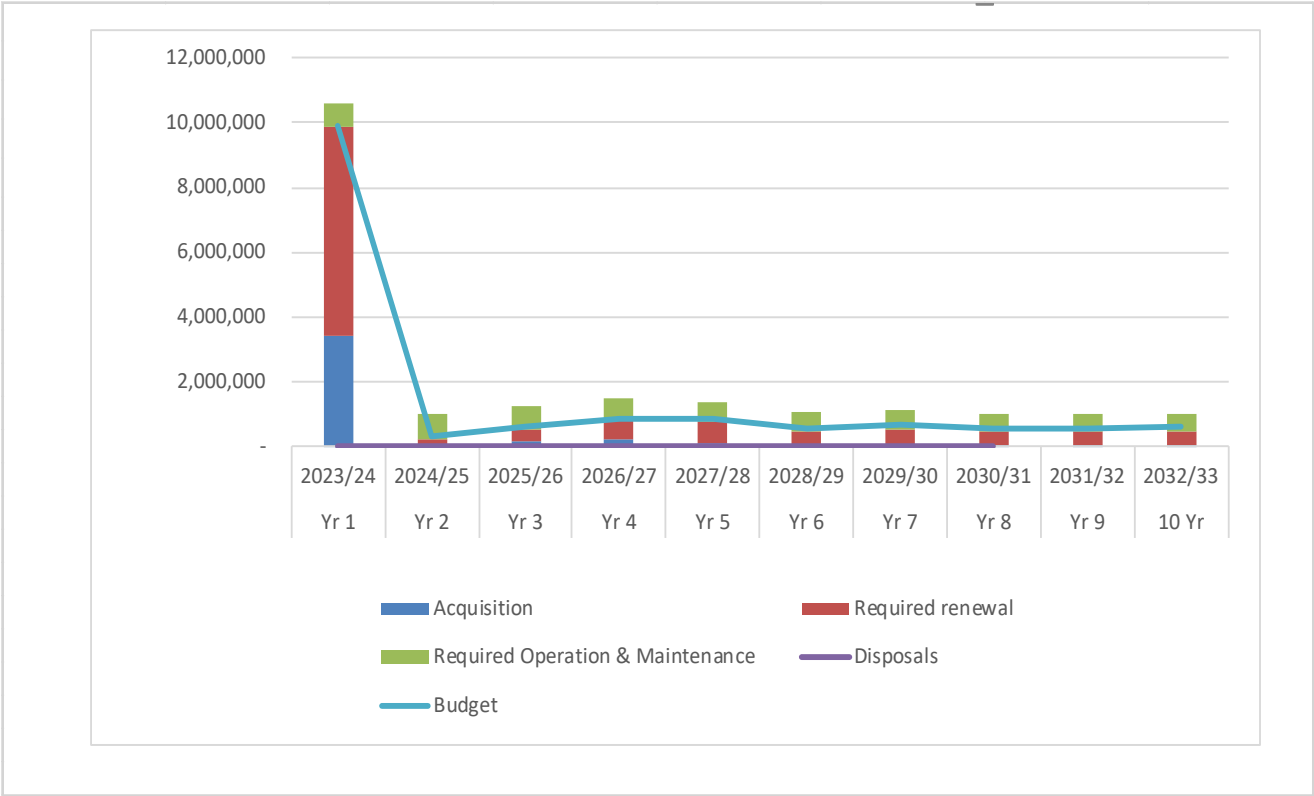
Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 6.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 6.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

6.7 Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 6.7.1. 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 6.7.1: Lifecycle Summary



All figure values are shown in current day dollars.

As this plan is based on the alternate method, the budget levels are very stable. Without accurate condition data, it is likely that some renewals may need to be deferred to manage Council’s cashflow. Deferral will be based on condition assessment, with Council prioritising the poorest condition assets for renewal.

7 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’⁷.

An assessment of risks⁸ 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.

7.1 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 7.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 7.1 Critical Assets

Critical Assets	Failure Mode	Impact
Bridges/culverts	Failure of structural component and collapse	Potential road closure
Guardrails/safety components	Weather/vehicle impact damages	Restrictions and temporary bridge/footpath closures

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.

7.2 Risk Assessment

The risk management process used is shown in Figure 7.2 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.

⁷ ISO 31000:2009, p 2

⁸ Appendix E – Bridge Infrastructure Risk Register

The process is based on the fundamentals of International Standard ISO 31000:2018.

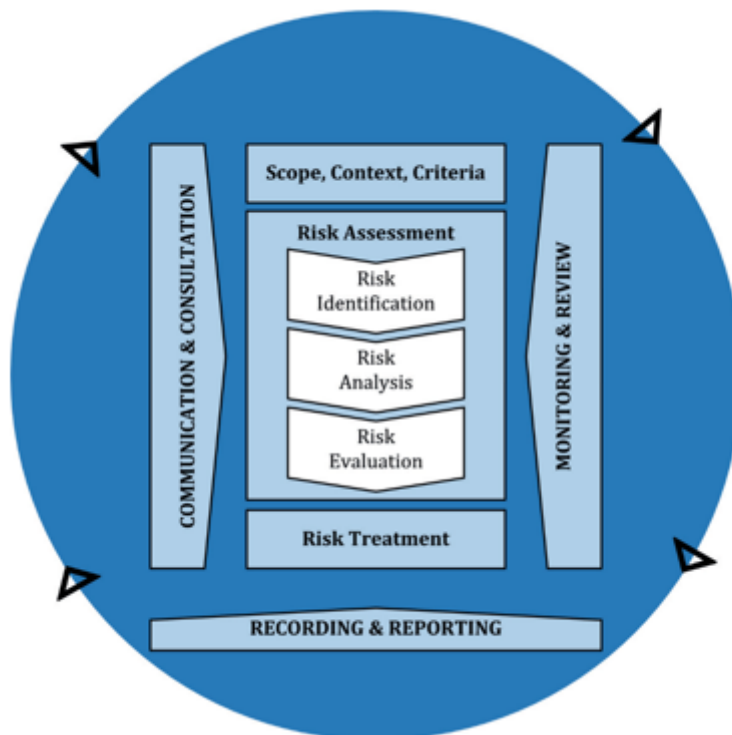


Fig 7.2 Risk Management Process – Abridged

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 risks⁹ 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 7.2. It is essential that these critical risks and costs are reported to management and Council.

Table 7.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *
Deteriorated timber bridge or	Structure fails without warning	M	Regular inspection and repair as required.	M

⁹ Appendix E – Bridge Infrastructure Risk Register

load limited bridge failure				
Bridge/large culvert network	Lack of maintenance leading to water ponding, poor delineation/signage, tree/vision obstructions, rough deck surface	H	Annual inspections identify maintenance and works carried out promptly.	M
	Increased public liability	H	Prioritise urgent works identified in 2015-2016 survey and program other repair works, as budget permits from annual inspections.	M
	Inadequate information to make required financial renewal decisions	M	Condition inspections carried out on regular five-year cyclic basis	M
Bridge network	Overloading of structures and associated reduced asset life and load capacity	M	Inspections identified bridges that should undergo a Level 2 inspection. Recommendations on load limit to be undertaken.	M

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

7.3 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 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.

7.4 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.

7.4.1 What we cannot do

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

- Major upgrade works on the local and regional bridge network

7.4.2 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:

- Reduction in service level due
- Potential load limiting of bridges
- Restriction of access for Higher Productivity Vehicles

7.4.3 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:

- Increasing reactive maintenance costs
- Exposure to claims and litigation against Council for public liability breaches
- Political pressure for improved levels of service
- Lower performance on asset and financial indicators

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

8 FINANCIAL SUMMARY

This section contains the financial requirements resulting from all 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.

8.1 Financial Sustainability and Projections

8.1.1 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 forecast costs/proposed budget (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹⁰ 100%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 75.61% 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 \$1,664,511 on average per year.

The proposed (budget) operations, maintenance and renewal funding is \$1,141,052 on average per year. This indicates that 68.55% 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.

¹⁰ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

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

Table 8.1.2 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).

Forecast costs are shown in 2023/24 dollar values.

Table 8.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Acquisition	Operation & Maintenance	Renewal	Disposal
2023/24	3,401,129	695,603	6,462,355	2,556,019
2024/25	0	695,603	256,136	0
2025/26	150,000	680,603	406,136	650,000
2026/27	245,000	650,103	561,136	653,153
2027/28	100,000	610,103	656,136	1,129,297
2028/29	40,000	594,103	416,136	1,568,427
2029/30	60,000	570,103	496,136	1,969,367
2030/31	40,000	554,103	416,136	1,376,411
2031/32	40,000	554,103	416,136	1,970,046
2032/33	40,000	538,103	416,136	1,750,000

8.2 Funding Strategy

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

The financial strategy of Council 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.

8.3 Valuation Forecasts

8.3.1 Asset valuations

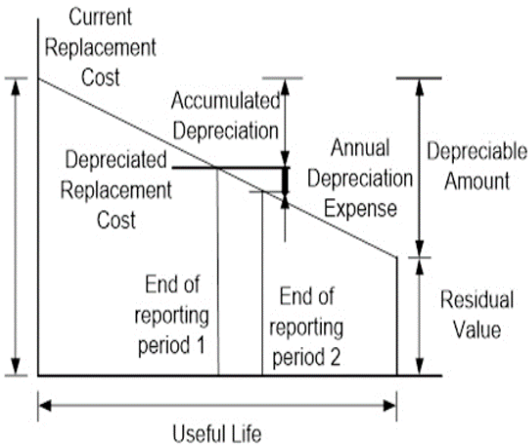
The best available estimate of the value of assets included in this AM Plan are shown below. The assets are values at \$121,907,000 as at June 2023.

Current (Gross) Replacement Cost	\$ 121,907,000
Depreciable Amount	\$ 121,907,000
Depreciated Replacement Cost ¹¹	\$ 93,065,000
Annual Depreciation	\$ 858,302

8.3.2 Valuation Forecast

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



8.4 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:

- Council’s current asset register is complete
- That Council will be able to undertake the renewals ‘in house’
- Current valuation data is accurate

8.5 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 scale¹² in accordance with Table 8.5.1.

¹¹ Also reported as Written Down Value, Carrying or Net Book Value.

¹² IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Table 8.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Very High	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$
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 $\pm 10\%$
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 $\pm 25\%$
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 $\pm 40\%$
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 8.5.2.

Table 8.5.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment	Comment
Demand drivers	B	Derived from Census data and looking at historical drivers
Growth projections	B	Multiple scenarios developed and considered during 30 year financial modelling
Acquisition forecast	A	Currently planned acquisitions, minimal gifted assets
Operation forecast	B	Current levels generally known and recorded, scenarios considering additional resourcing need to be developed
Maintenance forecast	B	Based on historic expenditure, however maintenance history not recorded at asset ID level. Need to start recording work history to asset lengths in CONFIRM to improve renewal planning
Renewal forecast		
- Asset values	B	Asset revaluation completed in June 2020. Major revaluation scheduled for every five years and due 2025

- Asset useful lives	B	Useful lives were last reviewed in June 2020 and will be reviewed in 2024/25 prior to the major asset revaluation planned for 2025
- Condition modelling	D	There has been limited condition information collected and therefore no modelling undertaken to date
Disposal forecast	A	No disposals expected

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

9 PLAN IMPROVEMENT AND MONITORING

9.1 Status of Asset Management Practices¹³

9.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is Authority.

9.1.2 Asset management data sources

This AM Plan utilises asset management data. The source of the data is excel database, supplemented by spreadsheets and Content Manager documentation. There is a need to transfer this into Confirm so that all asset classes will be into this asset management system. There is also a need to increase the skills and training of a number of Council officers who either presently, or could in future, use the Confirm system. Currently, there is no link between asset management systems and accounting systems.

9.2 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 9.2.

Table 9.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Undertake ground rothing of asset register to confirm assets owned by Council	Strategic Assets	Internal allocations	2024/25
2	Implement adequate resourcing and capability for updating the bridge infrastructure asset inventory, collection of asset repair data, and updating asset condition assessment records	Strategic Assets	Internal allocations	2024/25
3	Undertake bridge revaluation	Strategic Assets	Internal allocations	2024/25
4	Develop an Emergency Response Plan for the critical bridge assets.	Strategic Assets, Internal Auditor/Risk Co-coordinator	Internal allocations	2024/25

¹³ ISO 55000 Refers to this as the Asset Management System

5	Undertake proactive and regular analysis of the bridge and culvert blockages and overflow history	Strategic Assets, Operations Services	Internal allocations	2024/25
6	Revise and improve the effectiveness of the current bridge renewal program	Strategic Assets	Internal allocations	2024/25
7	Maintenance Service Agreement – review current levels of service, covering maintenance activities and service standards to reflect the work undertaken with the current budget	Strategic Assets, Information Technology, Operations Services	Internal allocations	2024/25

9.3 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, projected 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 4 years and is due for complete revision and updating within 1 year of each Council election.

9.4 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this AMP are incorporated into the long-term financial plan,
- The degree to which 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 target of 100%.

10 REFERENCES

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- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Strategic Plan 2032
- Delivery Program 2022 – 2025 Operational Plan 2023 – 2024



11 APPENDICES

Appendix A – Projected 10 year Capital Renewal, Replacement and New Works Program

PROJECT	Type of Works			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL 10 YEARS
	Improved Level of Service	Growth	Renewals	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	
BRIDGES CAPITAL PROJECTS														
4696. Barton St Causeway	50%		50%	-	-	300,000	250,000	-	-	-	-	-	-	550,000
4870. Dry Creek Road Causeways	50%		50%	-	-	-	200,000	-	-	-	-	-	-	200,000
4871. Murulla Street Causeway Upgrade	100%		0%	1,100,000	-	-	-	-	-	-	-	-	-	1,100,000
4873. Timor Road Causeway Upgrade	20%		80%	-	-	-	-	100,000	-	100,000	-	-	-	200,000
4877. Stewarts Brook Causeways	20%		80%	-	-	-	100,000	200,000	-	-	-	-	-	300,000
4880. Warlands Bridge No2	20%		80%	455,839	-	-	-	-	-	-	-	-	-	455,839
4881. Warlands Bridge No3	20%		80%	451,374	-	-	-	-	-	-	-	-	-	451,374
4882. Warlands Bridge No4	20%		80%	460,223	-	-	-	-	-	-	-	-	-	460,223
4883. Warlands Bridge No5	20%		80%	502,927	-	-	-	-	-	-	-	-	-	502,927
4884. Scotts Creek Bridge No3	20%		80%	50,000	-	-	-	-	-	-	-	-	-	50,000

Asset Management Plan – Bridges



4885. Scotts Creek Bridge No2	20%		80%	418,798	-	-	-	-	-	-	-	-	-	418,798
4886. Blues Bridge	20%		80%	50,000	-	-	-	-	-	-	-	-	-	50,000
5166. Dartbrook Bridge	50%		50%	1,998,866	-	-	-	-	-	-	-	-	-	1,998,866
5234. Lapstone Gully Bridge 2km	20%		80%	1,075,797	-	-	-	-	-	-	-	-	-	1,075,797
5237. Bobialla Creek Bridge	20%		80%	1,263,766	-	-	-	-	-	-	-	-	-	1,263,766
5238. Ashford's Bridge	20%		80%	1,019,407	-	-	-	-	-	-	-	-	-	1,019,407
5239. Albano Bridge	20%		80%	760,351	-	-	-	-	-	-	-	-	-	760,351
5437. Concrete Causeway Upgrades	20%		80%	-	-	-		200,000	200,000	200,000	200,000	200,000	200,000	1,200,000
TOTAL CAPITAL WORKS EXPENDITURE PROPOSED FOR TEN YEAR PERIOD				9,607,348	-	300,000	550,000	500,000	200,000	300,000	200,000	200,000	200,000	12,057,348



Appendix B – Operational & Maintenance Expenditure

Table B.1: Operational & Maintenance Expenditure Summary

BRIDGES	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10	10 YEAR TOTAL
	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	
Administration	12,380	12,813	13,262	13,715	14,092	14,468	14,854	15,250	15,644	16,048	142,526
Bridge and Culvert Maintenance	285,000	296,025	307,479	318,108	328,828	338,551	348,562	358,870	367,995	377,353	3,326,771
Total	297,380	308,838	320,741	331,823	342,920	353,019	363,416	374,120	383,639	393,401	3,469,297
Indirect Asset Costs											
Depreciation	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136	2,561,360
Loan Interest – Bridges Loan	55,538	50,030	43,900	37,286	30,365	22,358	14,073	5,145	-	-	258,695
Loan Interest – Bridge Loan 2	531	-	-	-	-	-	-	-	-	-	531
Corporate Admin Overheads	267,197	276,549	286,228	296,246	303,652	311,244	319,025	327,000	335,175	343,555	3,065,871
Total	876,782	891,553	907,005	921,491	933,073	942,757	952,650	962,401	974,950	993,092	9,355,754

Appendix C – Renewal Forecast Summary

C.1 – Renewal Forecast Assumptions and Source

The renewals forecast is based on expected renewal quantities required given the useful lives of the asset components. It is assumed that prioritisation will be undertaken each financial year to ensure the assets with most need are renewed as required.

This is subject to our annual review as new works are identified or as budgets and priority change.

C.2 – Renewal Forecast Summary

C2 – Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2023/24	\$6,462,355	\$6,206,219
2024/25	\$256,136	\$0
2025/26	\$406,136	\$150,000
2026/27	\$561,136	\$305,000
2027/28	\$656,136	\$400,000
2028/29	\$416,136	\$160,000
2029/30	\$496,136	\$240,000
2030/31	\$416,136	\$160,000
2031/32	\$416,136	\$160,000
2032/33	\$416,136	\$160,000

Appendix D – Disposal Summary

D.1 – Disposal Forecast Summary

D1 – Renewal Forecast Summary

Year	Disposal Forecast	Disposal Budget
2023/24	\$2,556,019	\$2,213,772
2024/25	\$0	\$0
2025/26	\$650,000	\$150,000
2026/27	\$653,153	\$150,000
2027/28	\$1,129,297	\$150,000
2028/29	\$1,568,427	\$50,000
2029/30	\$1,969,367	\$100,000
2030/31	\$1,376,411	\$50,000
2031/32	\$1,970,046	\$50,000
2032/33	\$1,750,000	\$50,000



Appendix E – Activity Risk Register

Risk	Consequence	Likelihood	Risk Rating	Proposed Treatment	Responsibility	Completion Date
Damage affecting structural performance	Moderate	Likely	High	SEPs are inspected on an annual basis and several proactive litter management programs are in place. A register of known flooding issues also exists in Council's GIS that can be prioritised in terms of importance and remedied.	Operation Services	Ongoing
Load Limit signs missing, illegible or damaged making signs substantially ineffective.	Major	Possible	High	Annual Flood Mitigation Program	Engineering, Strategy and Assets	Ongoing
Broken timber deck plan	Moderate	Possible	High	Kerb renewal works and flood mitigation works	Engineering, Strategy and Assets	Ongoing

Appendix F – Budget Summary by Lifecycle Activity

The budget is based on known approved grants.

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation & Maintenance	Renewal	Disposal	Total
2023/24	3,401,129	297,380	6,206,219	2,213,772	12,118,500
2024/25	0	308,838	0	0	308,838
2025/26	150,000	320,741	150,000	150,000	770,741
2026/27	245,000	331,823	305,000	150,000	881,973
2027/28	100,000	342,920	400,000	150,000	992,920
2028/29	40,000	353,019	160,000	50,000	603,019
2029/30	60,000	363,416	240,000	100,000	763,416
2030/31	40,000	374,120	160,000	50,000	624,120
2031/32	40,000	383,639	160,000	50,000	633,639
2032/33	40,000	393,401	160,000	50,000	643,401

Appendix G – Forecast of Asset Ratios to Local Government Benchmarks

		2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33
		Actuals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
INFRASTRUCTURE RENEWAL												
Asset Renewals		2,981,823	6,206,219	0	150,000	305,000	400,000	160,000	240,000	160,000	160,000	160,000
Depreciation Expense		401,095	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136
INFRASTRUCTURE BACKLOG												
Estimated Cost to bring back to Satisfactory		1,830,000	541,242	541,242	532,242	513,942	489,942	480,342	465,942	456,342	456,342	446,742
Closing Value of Assets		93,065,000	86,858,781	86,858,781	86,708,781	86,403,781	86,003,781	85,843,781	85,603,781	85,443,781	85,443,781	85,283,781
ASSET MAINTENANCE												
Asset Maintenance Expense		232,000	285,000	296,025	307,479	318,108	328,828	338,551	348,562	358,870	358,870	367,995
Required Asset Maintenance		775,000	695,603	695603	680603	650103	610103	594103	570103	554103	554103	538103
ACQUISITION EXPENDITURE												
Annual Capital Expenditure		1,013,905	963,023	3,401,129	0	150,000	245,000	100,000	40,000	60,000	40,000	40,000
Annual Depreciation Expense		401,095	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136	256,136
SS7 Data												
Gross Replacement Cost (GRC)		121,907,000	118,276,002	118,574,022	118,499,022	118,421,522	118,314,022	118,134,022	117,974,022	117,834,022	117,814,022	117,714,022
% Infrastructure Condition 4 and above		2.10%	1.64%	1.63%	1.62%	1.60%	1.56%	1.55%	1.53%	1.52%	1.52%	1.51%
% Infrastructure Condition 3 and above		5.40%	2.94%	2.93%	2.87%	2.74%	2.58%	2.51%	2.42%	2.35%	2.35%	2.29%
RATIOS BASED ON 3YR AVERAGE		Benchmark										
Infrastructure Renewal	100%	743.42%	1116.96%	1005.95%	827.19%	59.21%	111.27%	112.57%	104.11%	72.88%	70.28%	70.28%
Infrastructure Backlog	2%	1.97%	1.29%	1.09%	0.62%	0.61%	0.59%	0.57%	0.56%	0.55%	0.54%	0.53%
Asset Maintenance	1.00	0.30	0.38	0.38	0.43	0.45	0.49	0.53	0.57	0.61	0.62	0.65
Acquisition Expenditure	1.10	2.53	2.16	5.89	5.68	4.62	0.51	0.64	0.50	0.26	0.23	0.18
ACTUAL RATIO MEETING BENCHMARK												
Infrastructure Renewal		✓	✓	✓	✓	✗	✓	✓	✓	✗	✗	✗
Infrastructure Backlog		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Asset Maintenance		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Acquisition Expenditure		✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗

Version History

Rev No	Date	Revision Details	Author	Reviewer	Approver
1	May 2011	Initial draft	JB/GD	JB	JB
2	February 2013	Update asset inventory and financial data	JB/GD	JB	JB
3	March 2017	Update asset inventory and financial data	JB – GNS	JB WP ST	
4	April 2019	Update asset inventory and financial data	GNS/AG	JB WP	
5	June 2020	Update asset inventory and financial data	GNS/KW	JB WP	
6	June 2021	Update asset inventory and financial data	KW	JB	
7	April 2022	Update asset inventory and financial data	KW	JB	
8	May 2023	Update asset inventory and financial data	KW	JB	
9	June 2025	Update asset inventory and financial data	KW	JB	RVU